OMRON

Machine Automation Controller NJ/NX-series

Troubleshooting Manual

NX701-1□□□
NX502-1□□□
NX102-1
NX102-9□□□
NX1P2-1
NX1P2-9
NJ501-□□□□
NJ301-1□□□
NJ101-10□□
NJ101-90□□



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Introduction

Thank you for purchasing an NJ/NX-series CPU Unit.

This manual contains information that is necessary to use the NJ/NX-series CPU Unit. Please read this manual and make sure you understand the functionality and performance of the NJ/NX-series CPU Unit before you attempt to use it in a control system.

Keep this manual in a safe place where it will be available for reference during operation.

Intended Audience

This manual is intended for the following personnel, who must also have knowledge of electrical systems (an electrical engineer or the equivalent).

- Personnel in charge of introducing FA systems.
- · Personnel in charge of designing FA systems.
- Personnel in charge of installing and maintaining FA systems.
- · Personnel in charge of managing FA systems and facilities.

For programming, this manual is intended for personnel who understand the programming language specifications in international standard IEC 61131-3 or Japanese standard JIS B 3503.

Applicable Products

This manual covers the following products.

- NX-series CPU Units
 - NX701-1
 - NX502-1□□□
 - NX102-100
 - NX102-9
 - NX1P2-10000
 - NX1P2-9
- NJ-series CPU Units
 - NJ501-□□□□
 - NJ301-1
 - NJ101-10
 - NJ101-90□□

Part of the specifications and restrictions for the CPU Units are given in other manuals. Refer to *Relevant Manuals* on page 2 and *Related Manuals* on page 19.

Relevant Manuals

The following table provides the relevant manuals for the NJ/NX-series CPU Units. Read all of the manuals that are relevant to your system configuration and application before you use the NJ/NX-series CPU Unit.

Most operations are performed from the Sysmac Studio Automation Software. Refer to the *Sysmac Studio Version 1 Operation Manual (Cat. No. W504)* for information on the Sysmac Studio.

										Mai	nual									
				sic inf																
Purpose of use	NX-series CPU Unit Hardware User's Manual	NX-series NX502 CPU Unit Hardware User's Manual	NX 102 User's	NX-series NX1P2 CPU Unit Hardware User's Manual	NJ-series CPU Unit Hardware User's Manual	NJ/NX-series CPU Unit Software User's Manual	NX-series NX1P2 CPU Unit Built-in I/O and Option Board User's Manual	NJ/NX-series Instructions Reference Manual	NJ/NX-series CPU Unit Motion Control User's Manual	NJ/NX-series Motion Control Instructions Reference Manua	NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual	NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual	NJ/NX-series CPU Unit OPC UA User's Manual	NX-series CPU Unit FINS User's Manual	NJ/NX-series Database Connection CPU Units User's Manual	NJ-series SECS/GEM CPU Units User's Manual	NJ-series Robot Integrated CPU Unit User's Manual	NJ-series NJ Robotics CPU Unit User's Manual	NJ/NY-series NC Integrated Controller User's Manual	NJ/NX-series Troubleshooting Manual
Introduction to NX701 CPU Units	0																			
Introduction to NX502 CPU Units		0																		
Introduction to NX102 CPU Units			0																	
Introduction to NX1P2 CPU Units				0																
Introduction to NJ-series Controllers					0															
Setting devices and hard- ware																				
Using motion control	1								0											
Using EtherCAT	0	0	0	0	0						0									
Using EtherNet/IP]											0								
Using robot control for OMRON robots																	0			

										Ма	nual									
			Bas	sic in		tion														
Purpose of use	NX-series CPU Unit Hardware User's Manual	NX-series NX502 CPU Unit Hardware User's Manual	NX-series NX102 CPU Unit Hardware User's Manual	NX-series NX1P2 CPU Unit Hardware User's Manual	NJ-series CPU Unit Hardware User's Manual	NJ/NX-series CPU Unit Software User's Manual	NX-series NX1P2 CPU Unit Built-in I/O and Option Board User's Manual	NJ/NX-series Instructions Reference Manual	NJ/NX-series CPU Unit Motion Control User's Manual	NJ/NX-series Motion Control Instructions Reference Manua	NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual	NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual	NJ/NX-series CPU Unit OPC UA User's Manual	NX-series CPU Unit FINS User's Manual	NJ/NX-series Database Connection CPU Units User's Manual	NJ-series SECS/GEM CPU Units User's Manual	NJ-series Robot Integrated CPU Unit User's Manual	NJ-series NJ Robotics CPU Unit User's Manual	NJ/NY-series NC Integrated Controller User's Manual	NJ/NX-series Troubleshooting Manual
Software settings																				
Using motion control						1			0											
Using EtherCAT						1					0									
Using EtherNet/IP						1						0								
Using OPC UA						1							0							
Using FINS						1								0						
Using the database connection service															0					
Using the GEM Serv- ices						0										0				
Using robot control for OMRON robots																	0			
Using robot control by NJ Robotics function																		0		
Using numerical con- trol																			0	
Using the NX1P2 CPU Unit functions							0													
Writing the user program																				
Using motion control	-		-	-		1	-	1	0	0			-			+	-			
Using EtherCAT			-	-		1	-	1	\vdash	\vdash	0	-	-	-	-		-			
Using EtherNet/IP		1				-		1	-		Ť	0								
Using OPC UA	-		-	-		-	-	1		-			0				-			
Using FINS		-				-		1	-					0						
Using the database connection service															0					
Using the GEM Serv-																0				
Using robot control for OMRON robots						0		0									0			
Using robot control by NJ Robotics function						1												0		
Using numerical con- trol																			0	
Programming error processing																				0
Using the NX1P2 CPU Unit functions							0													

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					forma															
Purpose of use	NX-series CPU Unit Hardware User's Manual	NX-series NX502 CPU Unit Hardware User's Manual	NX-series NX102 CPU Unit Hardware User's Manual	NX-series NX1P2 CPU Unit Hardware User's Manual	NJ-series CPU Unit Hardware User's Manual	NJ/NX-series CPU Unit Software User's Manual	NX-series NX1P2 CPU Unit Built-in I/O and Option Board User's Manual	NJ/NX-series Instructions Reference Manual	NJ/NX-series CPU Unit Motion Control User's Manual	NJ/NX-series Motion Control Instructions Reference Manua	NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual	NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual	NJ/NX-series CPU Unit OPC UA User's Manual	NX-series CPU Unit FINS User's Manual	NJ/NX-series Database Connection CPU Units User's Manual	NJ-series SECS/GEM CPU Units User's Manual	NJ-series Robot Integrated CPU Unit User's Manual	NJ-series NJ Robotics CPU Unit User's Manual	NJ/NY-series NC Integrated Controller User's Manual	NJ/NX-series Troubleshooting Manual
Testing operation and de- bugging										_										
Using motion control									0											
Using EtherCAT						1					0									
Using EtherNet/IP												0								
Using OPC UA													0							
Using FINS														0						
Using the database connection service															0					
Using the GEM Serv- ices						0										0				
Using robot control for OMRON robots																	0			
Using robot control by NJ Robotics function																		0		
Using numerical con- trol																			0	
Using the NX1P2 CPU Unit functions							0													
Learning about error management and correc- tions ^{*1}																				0
Maintenance																				
Using motion control		0							0											
Using EtherCAT	10		0	0	0						0									
Using EtherNet/IP	1											0								1

*1. Refer to the *NJ/NX-series Troubleshooting Manual (Cat. No. W503)* for the error management concepts and the error items. However, refer to the manuals that are indicated with triangles for details on errors corresponding to the products with the manuals that are indicated with triangles.

Manual Structure

Page Structure



This illustration is provided only as a sample. It may not literally appear in this manual.

Special Information

Special information in this manual is classified as follows:

Precautions for Safe Use

Precautions on what to do and what not to do to ensure safe usage of the product.

Precautions for Correct Use

Precautions on what to do and what not to do to ensure proper operation and performance.



Additional Information

Additional information to read as required. This information is provided to increase understanding or make operation easier.

Version Information

Information on differences in specifications and functionality for Controller with different unit versions and for different versions of the Sysmac Studio is given.

Precaution on Terminology

In this manual, "download" refers to transferring data from the Sysmac Studio to the physical Controller and "upload" refers to transferring data from the physical Controller to the Sysmac Studio. For the Sysmac Studio, "synchronization" is used to both "upload" and "download" data. Here, "synchronize" means to automatically compare the data for the Sysmac Studio on the computer with the data in the physical Controller and transfer the data in the direction that is specified by the user.

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Warranty, Limitations of Liability

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NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIP-MENT OR SYSTEM.

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Change in Specifications

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

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It shall be the users sole responsibility to determine and use adequate measures and checkpoints to satisfy the users particular requirements for (i) antivirus protection, (ii) data input and output, (iii) maintaining a means for reconstruction of lost data, (iv) preventing Omron Products and/or software installed thereon from being infected with computer viruses and (v) protecting Omron Products from unauthorized access.

Safety Precautions

Refer to the following manuals for safety precautions.

- NX-series CPU Unit Hardware User's Manual (Cat. No. W535)
- NX-series NX502 CPU Unit Hardware User's Manual (Cat. No. W629)
- NX-series NX102 CPU Unit Hardware User's Manual (Cat. No. W593)
- NX-series NX1P2 CPU Unit Hardware User's Manual (Cat. No. W578)
- NJ-series CPU Unit Hardware User's Manual (Cat No. W500)

Precautions for Safe Use

Refer to the following manuals for precautions for safe use.

- NX-series CPU Unit Hardware User's Manual (Cat. No. W535)
- NX-series NX502 CPU Unit Hardware User's Manual (Cat. No. W629)
- NX-series NX102 CPU Unit Hardware User's Manual (Cat. No. W593)
- NX-series NX1P2 CPU Unit Hardware User's Manual (Cat. No. W578)
- NJ-series CPU Unit Hardware User's Manual (Cat No. W500)

Precautions for Correct Use

Refer to the following manuals for precautions for correct use.

- NX-series CPU Unit Hardware User's Manual (Cat. No. W535)
- NX-series NX502 CPU Unit Hardware User's Manual (Cat. No. W629)
- NX-series NX102 CPU Unit Hardware User's Manual (Cat. No. W593)
- NX-series NX1P2 CPU Unit Hardware User's Manual (Cat. No. W578)
- NJ-series CPU Unit Hardware User's Manual (Cat No. W500)

Regulations and Standards

Refer to the following manuals for regulations and standards.

- NX-series CPU Unit Hardware User's Manual (Cat. No. W535)
- NX-series NX502 CPU Unit Hardware User's Manual (Cat. No. W629)
- NX-series NX102 CPU Unit Hardware User's Manual (Cat. No. W593)
- NX-series NX1P2 CPU Unit Hardware User's Manual (Cat. No. W578)
- NJ-series CPU Unit Hardware User's Manual (Cat No. W500)

Versions

Hardware revisions and unit versions are used to manage the hardware and software in NJ/NX-series Units and EtherCAT slaves. The hardware revision or unit version is updated each time there is a change in hardware or software specifications. Even when two Units or EtherCAT slaves have the same model number, they will have functional or performance differences if they have different hardware revisions or unit versions.

Refer to the following manuals for versions.

- NX-series CPU Unit Hardware User's Manual (Cat. No. W535)
- NX-series NX502 CPU Unit Hardware User's Manual (Cat. No. W629)
- NX-series NX102 CPU Unit Hardware User's Manual (Cat. No. W593)
- NX-series NX1P2 CPU Unit Hardware User's Manual (Cat. No. W578)
- NJ-series CPU Unit Hardware User's Manual (Cat No. W500)

Unit Versions of CPU Units and Sysmac Studio Versions

The events that can occur depend on the unit versions of the NJ/NX-series CPU Unit, the EtherCAT slaves, and the NX Units. You must use the corresponding version of Sysmac Studio to display events that were added for version upgrades when troubleshooting from the Sysmac Studio or from the Troubleshooter on an HMI.

Refer to the product manuals for information on the unit versions of the CPU Unit, EtherCAT slaves, and NX Units, and for the relationship with the version of the Sysmac Studio.

Related Manuals

Manual name	Cat. No.	Model numbers	Application	Description
NX-series CPU Unit Hardware User's Manual	W535	NX701-□□□□	Learning the basic specifications of the NX701 CPU Units, including introductory information, design- ing, installation, and maintenance. Mainly hardware in- formation is provided.	 An introduction to the entire NX701 system is provided along with the following information on the CPU Unit. Features and system configuration Introduction Part names and functions General specifications Installation and wiring Maintenance and inspection
NX-series NX502 CPU Unit Hardware User's Manual	W629	NX502-□□□	Learning the basic specifications of the NX502 CPU Units, including introductory information, design- ing, installation, and maintenance. Mainly hardware in- formation is provided.	 An introduction to the entire NX502 system is provided along with the following information on the CPU Unit. Features and system configuration Introduction Part names and functions General specifications Installation and wiring Maintenance and inspection
NX-series NX102 CPU Unit Hardware User's Manual	W593	NX102-□□□	Learning the basic specifications of the NX102 CPU Units, including introductory information, design- ing, installation, and maintenance. Mainly hardware in- formation is provided.	 An introduction to the entire NX102 system is provided along with the following information on the CPU Unit. Features and system configuration Introduction Part names and functions General specifications Installation and wiring Maintenance and inspection
NX-series NX1P2 CPU Unit Hardware User's Manual	W578	NX1P2-□□□	Learning the basic specifications of the NX1P2 CPU Units, including introductory information, design- ing, installation, and maintenance. Mainly hardware in- formation is provided.	 An introduction to the entire NX1P2 system is provided along with the following information on the CPU Unit. Features and system configuration Introduction Part names and functions General specifications Installation and wiring Maintenance and inspection
NJ-series CPU Unit Hardware User's Manual	W500	NJ501-□□□ NJ301-□□□ NJ101-□□□	Learning the basic specifications of the NJ-series CPU Units, including introductory information, design- ing, installation, and maintenance. Mainly hardware in- formation is provided.	 An introduction to the entire NJ-series system is provided along with the following information on the CPU Unit. Features and system configuration Introduction Part names and functions General specifications Installation and wiring Maintenance and inspection
NJ/NX-series CPU Unit Software User's Manual	W501	NX701-	Learning how to pro- gram and set up an NJ/NX-series CPU Unit. Mainly software infor- mation is provided.	 The following information is provided on a Controller built with an NJ/NX-series CPU Unit. CPU Unit operation CPU Unit features Initial settings Programming based on IEC 61131-3 language specifications

The followings are the manuals related to this manual. Use these manuals for reference.

Manual name	Cat. No.	Model numbers	Application	Description
NX-series NX1P2 CPU Unit Built-in I/O and Option Board User's Manual	W579	NX1P2-□□□	Learning about the details of functions only for an NX-series NX1P2 CPU Unit and an introduction of functions for an NJ/NX-series CPU Unit.	Of the functions for an NX1P2 CPU Unit, the fol- lowing information is provided. • Built-in I/O • Serial Communications Option Boards • Analog I/O Option Boards An introduction of following functions for an NJ/NX-series CPU Unit is also provided. • Motion control functions • EtherNet/IP communications functions • EtherCAT communications functions
NJ/NX-series Instructions Reference Manual	W502	NX701 NX502 NX102 NX1P2 NJ501 NJ301 NJ101	Learning detailed specifications on the basic instructions of an NJ/NX-series CPU Unit.	The instructions in the instruction set (IEC 61131-3 specifications) are described.
NJ/NX-series CPU Unit Motion Control User's Manual	W507	NX701 NX502 NX102 NX1P2 NJ501 NJ301 NJ101	Learning about mo- tion control settings and programming concepts.	The settings and operation of the CPU Unit and programming concepts for motion control are described.
NJ/NX-series Motion Control Instructions Reference Manual	W508	NX701-000 NX502-000 NX102-000 NX1P2-000 NJ501-000 NJ301-000 NJ101-0000	Learning about the specifications of the motion control in- structions.	The motion control instructions are described.
NJ/NX-series CPU Unit Built-in EtherCAT [®] Port User's Manual	W505	NX701- NX502- NX102- NX102- NX1P2- NJ501- NJ501- NJ301- NJ301- NJ101-	Using the built-in EtherCAT port on an NJ/NX-series CPU Unit.	Information on the built-in EtherCAT port is pro- vided. This manual provides an introduction and pro- vides information on the configuration, features, and setup.
NJ/NX-series CPU Unit Built-in EtherNet/IP [™] Port User's Manual	W506	NX701-000 NX502-000 NX102-000 NX1P2-000 NJ501-000 NJ301-000 NJ101-000	Using the built-in EtherNet/IP port on an NJ/NX-series CPU Unit.	Information on the built-in EtherNet/IP port is pro- vided. Information is provided on the basic setup, tag data links, and other features.
NJ/NX-series CPU Unit OPC UA User's Manual	W588	NX701 NX502 NX102 NJ501-1-00	Using the OPC UA.	Describes the OPC UA.
NX-series CPU Unit FINS Function User's Manual	W596	NX701-020 NX502-000 NX102-000	Using the FINS func- tion of an NX-series CPU Unit.	Describes the FINS function of an NX-series CPU Unit.
NJ/NX-series Database Connection CPU Units User's Manual	W527	NX701-□20 NX502-□00 NX102-020 NJ501-020 NJ101-020	Using the database connection service with NJ/NX-series Controllers.	Describes the database connection service.
NJ-series SECS/GEM CPU Units User's Manual	W528	NJ501-1340	Using the GEM Serv- ices with NJ-series Controllers.	Provides information on the GEM Services.

Manual name	Cat. No.	Model numbers	Application	Description
NJ-series Robot Integrated CPU Unit User's Manual	O037	NJ501-R□□□	Using the NJ-series Robot Integrated CPU Unit.	Describes the settings and operation of the CPU Unit and programming concepts for OMRON ro- bot control.
Sysmac Studio Robot Integrated System Build- ing Function with Robot Inte- grated CPU Unit Operation Manual	W595	SYSMAC-SE2 SYSMAC- SE200D-64	Learning about the operating procedures and functions of the Sysmac Studio to configure Robot Inte- grated System using Robot Integrated CPU Unit.	Describes the operating procedures of the Sys- mac Studio for Robot Integrated CPU Unit.
Sysmac Studio Robot Integrated System Build- ing Function with IPC Applica- tion Controller Operation Man- ual	W621	SYSMAC-SE2 SYSMAC- SE200D-64	Learning about the operating procedures and functions of the Sysmac Studio to configure Robot Inte- grated System using IPC Application Con- troller.	Describes the operating procedures of the Sys- mac Studio for IPC Application Controller.
Sysmac Studio 3D Simulation Function Opera- tion Manual	W618	SYSMAC-SE2 SYSMAC-SA4 -64	Learning about an outline of the 3D sim- ulation function of the Sysmac Studio and how to use the func- tion.	Describes an outline, execution procedures, and operating procedures for the 3D simulation func- tion of the Sysmac Studio.
NJ-series NJ Robotics CPU Unit User's Manual	W539	NJ501-4□□ NJ501-R□□□	Controlling robots with NJ-series CPU Units.	Describes the functionality to control robots.
NJ/NY-series NC Integrated Controller User's Manual	O030	NJ501-5300 NY532-5400	Performing numerical control with NJ/NY- series Controllers.	Describes the functionality to perform the numeri- cal control.
NJ/NY-series G code Instructions Reference Manual	O031	NJ501-5300 NY532-5400	Learning about the specifications of the G code/M code in- structions.	The G code/M code instructions are described.
NJ/NX-series Troubleshooting Manual	W503	NX701-000 NX502-000 NX102-000 NX1P2-000 NJ501-000 NJ301-000 NJ101-000	Learning about the errors that may be detected in an NJ/NX-series Con- troller.	Concepts on managing errors that may be detect- ed in an NJ/NX-series Controller and information on individual errors are described.
Sysmac Studio Version 1 Operation Manual	W504	SYSMAC -SE2□□□	Learning about the operating procedures and functions of the Sysmac Studio.	Describes the operating procedures of the Sys- mac Studio.
NX-series EtherCAT [®] Coupler Unit User's Manual	W519	NX-ECC	Learning how to use the NX-series Ether- CAT Coupler Unit and EtherCAT Slave Terminals.	The following items are described: the overall system and configuration methods of an Ether- CAT Slave Terminal (which consists of an NX-ser- ies EtherCAT Coupler Unit and NX Units), and in- formation on hardware, setup, and functions to set up, control, and monitor NX Units through EtherCAT.
NX-series Data Reference Manual	W525	NX-00000	Referencing lists of the data that is re- quired to configure systems with NX-ser- ies Units.	Lists of the power consumptions, weights, and other NX Unit data that is required to configure systems with NX-series Units are provided.

Manual name	Cat. No.	Model numbers	Application	Description
NX-series	W521	NX-ID	Learning how to use	Describes the hardware, setup methods, and
NX Units		NX-IA	NX Units.	functions of the NX Units.
User's Manual		NX-OC		Manuals are available for the following Units.
		NX-OD		Digital I/O Units, Analog I/O Units, System Units,
		NX-MD		Position Interface Units, Communications Inter-
	W522	NX-AD		face Units, Load Cell Input Unit, and IO-Link Mas-
		NX-DA		ter Units.
	W592	NX-HAD		
	W566	NX-TSDDDD	1	
		NX-HB		
	W523	NX-PD1		
		NX-PF0		
		NX-PC0		
		NX-TBX01		
	W524	NX-EC0	1	
		NX-ECS		
		NX-PG0		
	W540	NX-CIF		
	W565	NX-RSDDDD	1	
	W567		-	
NX-series	Z930			Describes the herdware, setup methods, and
Safety Control Unit	2930	NX-SLOOO	Learning how to use NX-series Safety	Describes the hardware, setup methods, and functions of the NX-series Safety Control Units.
User's Manual		NX-SO	Control Units.	Inclines of the NA-series Salety Control Offics.
	7024			Describes the instructions for the Cofety CDU
NX-series Safety Control Unit	Z931	NX-SL	Learning about the specifications of in-	Describes the instructions for the Safety CPU Unit.
Instructions Reference Manual			structions for the	Ont.
			Safety CPU Unit.	
IO-Link System	W570	NX-ILM	Learning everything	Provides an overview of IO-Link Systems and ex-
User's Manual	VV370	GX-ILM	from an introduction	plains the system configuration, communications
			to details about IO-	specifications, communications methods, I/O da-
			Link Systems, includ-	ta, parameters, models, Support Software, and
			ing mainly software	troubleshooting.
			information common	5
			to all IO-Link mas-	
			ters, Support Soft-	
			ware operating meth-	
			ods, and trouble-	
			shooting.	
GX-series EtherCAT Slave	W488	GX-ID	Learning how to use	Describes the hardware, setup methods and
Units		GX-OD	the EtherCAT remote	functions of the EtherCAT remote I/O terminals.
User's Manual		GX-OC	I/O terminals.	
		GX-MD		
		GX-AD		
		GX-DA		
		GX-EC		
		XWT-ID		
		XWT-OD		
MX2/RX Series	1574	3G3AX-MX2-ECT	Learning how to con-	Describes the following information for the
Inverter		3G3AX-RX-ECT	nect a 3G3AX-MX2-	3G3AX-MX2-ECT and 3G3AX-RX-ECT EtherCAT
EtherCAT Communications			ECT or 3G3AX-RX-	Communications Unit for MX2/RX-series Inver-
Unit			ECT EtherCAT Com-	ters: installation, parameter settings required for
User's Manual			munications Unit for	operation, troubleshooting, and inspection meth-
			MX2/RX-series Inver-	ods.
			ters.	
AC Servomotors/Servo Drives	1586	R88M-1	Learning how to use	Describes the hardware, setup methods and
1S-series with		R88D-1SND-ECT	the Servomotors/	functions of the Servomotors/Servo Drives with
Built-in EtherCAT [®] Communi-	1621	R88M-1AL□/ -1AM	Servo Drives with	built-in EtherCAT Communications.
cations User's Manual			built-in EtherCAT	
		R88D-1SAN□-ECT	Communications.	

Manual name	Cat. No.	Model numbers	Application	Description				
AC Servomotors/Servo Drives G5 Series with	1576	R88M-K□ R88D-KN□-ECT	Learning how to use the AC Servomotors/	Describes the hardware, setup methods and functions of the AC Servomotors/Servo Drives				
Built-in EtherCAT [®] Communi-	1577	R88L-EC-	Servo Drives with	with built-in EtherCAT Communications.				
cations User's Manual		R88D-KN□-ECT-L	built-in EtherCAT	The Linear Motor Type models and dedicated				
			Communications.	models for position control are available in G5-				
				series.				
EtherCAT Digital-type Sensor	E413	E3X-ECT	Learning how to con-	Provides the specifications of and describes ap-				
Communication Unit			nect E3X-series EtherCAT Slave	plication methods for E3X-series EtherCAT Slave Units.				
Operation Manual			Units.					
E3NW-ECT EtherCAT Digital	E429	E3NW-ECT	Learning how to con-	Provides the specifications of and describes ap-				
Sensor Communications Unit			nect E3NW EtherCAT	plication methods for E3NW EtherCAT Slave				
Operation Manual			Slave Units.	Units.				
Vision System	Z342	FH-DDDD	Learning how to con-	The functions, settings, and communications				
FH/FZ5 Series		FH-000-00	nect FH/FZ5-series	methods to communicate with FH/FZ5 -series Vi-				
User's Manual for Communica-		FZ5-000-00	Vision Systems	sion Systems from a PLC or other external device are described.				
tions Settings		FZ5-000						
		FZ5-000-00						
Displacement Sensor ZW-ser-	Z332	ZW-CE1	Learning how to use	Describes the hardware, setup methods and				
ies			the ZW-series Dis-	functions of the ZW-series Displacement Sen-				
Confocal Fiber Type Displace-			placement Sensors.	sors.				
ment Sensors User's Manual								
CJ-series	W490	CJ1W-AD	Learning how to use	The methods and precautions for using CJ-series				
Special Unit Manuals	VV490		CJ-series Units with	Units with an NJ-series CPU Unit are described,				
For NJ-series CPU Unit		CJ1W-MAD42	an NJ-series CPU	including access methods and programming in-				
	W491	CJ1W-TC	Unit.	terfaces.				
	W492	CJ1W-CT021		Manuals are available for the following Units.				
	W498	CJ1W-PDC15		Analog I/O Units, Insulated-type Analog I/O Units, Temperature Control Units, ID Sensor Units,				
		CJ1W-PH41U		High-speed Counter Units, Serial Communica-				
		CJ1W-AD04U		tions Units, DeviceNet Units, EtherNet/IP Units				
	W493	CJ1W-CRM21		and CompoNet Master Units.				
	W494	CJ1W-SCU						
	W495	CJ1W-EIP21						
	10/407	CJ1W-EIP21S						
	W497 Z317	CJ1W-DRM21 CJ1W-V680						
NA-series			Learning the aposifi	Information is provided on NA sorias Programma				
NA-series Programmable Terminal	V117	NA5-00W0000	Learning the specifi- cations and settings	Information is provided on NA-series Programma- ble Terminal specifications, part names, installa-				
Hardware			required to install an	tion procedures, and procedures to connect an				
User's Manual			NA-series Program-	NA Unit to peripheral devices. Information is also				
			mable Terminals and	provided on maintenance after operation and				
			connect peripheral	troubleshooting.				
NA sorios Programmable Tar	\/110	NA5-00W0000	devices. Learning about NA-	Department the pages and shipst functions of the				
NA-series Programmable Ter- minal	V118	(-V□)	series PT pages and	Describes the pages and object functions of the NA-series Programmable Terminals.				
Software User's Manual			object functions.					
NS-series Programmable Ter-	V073	NS15-0000	Learning how to use	Describes the setup methods, functions, etc. of				
minals		NS12-0000	the NS-series Pro-	the NS-series Programmable Terminals.				
Programming Manual		NS10-0000	grammable Termi-					
			nals.					
		NS5-0000	WE22 before Cat No. W					

*1. NX-TS

Revision History

A manual revision code appears as a suffix to the catalog number on the front and back covers of the manual.



Revision code	Date	Revised content
01	July 2011	Original production
02	March 2012	 Added information related to the upgrade to CPU unit version 1.01, made additions and changes to events related to the addition of devices that can be connected. Corrected mistakes.
03	May 2012	 Added information related to the upgrade to CPU unit version 1.02, made additions and changes to events related to the addition of devices that can be connected. Corrected mistakes.
04	August 2012	 Made additions to events and changes to the contents related to the up- grade to CPU unit version 1.03. Corrected mistakes.
05	February 2013	 Made additions to events and changes to the contents related to the up- grade to CPU unit version 1.04. Corrected mistakes.
06	April 2013	• Made additions to events and changes to the contents related to the up- grade to CPU unit version 1.05, and corrected mistakes.
07	June 2013	• Made additions to events and changes to the contents related to the up- grade to CPU unit version 1.06, and corrected mistakes.
08	September 2013	• Made additions to events and changes to the contents related to the up- grade to CPU unit version 1.07, and corrected mistakes.
09	December 2013	• Made additions to events and changes to the contents related to the up- grade to CPU unit version 1.08, and corrected mistakes.
10	July 2014	Corrected mistakes.
11	January 2015	 Made additions to events and changes to the contents related to the up- grade to CPU unit version 1.10. Corrected mistakes.
12	April 2015	 Made additions to events and changes to the contents related to the addition of the NX701-DDD and NJ101-DDD. Corrected mistakes.
13	April 2016	 Made changes to the contents related to the upgrade to CPU unit version 1.11. Corrected mistakes.
14	July 2016	Made changes to the contents related to the upgrade to CPU unit version 1.12.

· Corrected mistakes.

Revision code	Date	Revised content
15	October 2016	 Made changes to the contents related to the upgrade to CPU unit version 1.13. Corrected mistakes.
16	April 2017	 Made changes to the contents related to the upgrade to CPU unit version 1.14. Corrected mistakes.
17	October 2017	 Made changes to the contents related to the upgrade to CPU unit version 1.16. Added an error log table for CJ-series Special Units. Corrected mistakes.
18	January 2018	• Made changes to the contents related to the upgrade to CPU unit version 1.17.
19	April 2018	 Made changes to the contents related to the addition of NX-series NX102 CPU Units. Made changes to the contents related to the upgrade to CPU unit version 1.18 and 1.30. Collected descriptions on event codes and errors of each function module of NJ/NX-series CPU Units to this manual. Moved descriptions on the followings from Section 3 to Appendices. a) Tables of the errors (events) that can occur in models other than the standard CPU Units b) An Error Log Table for CJ-series Special Units c) Events in Order of Event Codes Corrected mistakes.
20	July 2018	 Added information related to the upgrade to CPU unit version 1.31, made additions and changes to events related to the addition of devices that can be connected. Corrected mistakes.
21	January 2019	Made changes to the contents of CPU Unit events.
22	April 2019	 Made additions and changes to events related to the upgrade to an NX102-□□□ CPU Unit with unit version 1.32. Made additions and changes to events related to the upgrade to an NX1P2-□□□□ CPU Unit, NJ501-1□00 CPU Unit, NJ301-□□□ CPU Unit, and NJ101-□□00 CPU Unit with unit version 1.21. Corrected mistakes.
23	July 2019	 Made additions and changes to events related to the upgrade to an NX10200 CPU Unit, NX1P20 CPU Unit, NJ501-100 CPU Unit, NJ3010 CPU Unit, and NJ101000 CPU Unit with unit version 1.40. Made additions and changes to events related to the upgrade to an NX7010 CPU Unit, NJ501-4_000 CPU Unit, NJ501-4_10 CPU Unit, NJ501-1340 CPU Unit, and NJ501-5300 CPU Unit with unit version 1.21. Made additions and changes to events related to the addition of devices that can be connected. Corrected mistakes.
24	October 2019	 Added information on the NX1P2-9B
25	July 2020	Corrected mistakes. Corrected mistakes.
	July 2020	
26	August 2020 October 2020	 Made changes to the contents related to the addition of NJ501-R□□□. Made changes to events related to the upgrade to CPU unit version 1.42.

Revision code	Date	Revised content
28	January 2021	 Made changes to the contents related to the upgrade to an NX102-□□00 and NJ501-1□00 CPU Unit with unit version 1.43. Made changes to the contents related to the upgrade to an NX102-□□20 CPU Unit with unit version 1.36. Made changes to the contents related to the upgrade to an NX701-1□□ CPU Unit with unit version 1.24.
29	July 2021	 Added information on the functions supported by unit version 1.45 of the NX1P200, NJ30100, and NJ10100. Added information on the functions supported by unit version 1.25 of the NJ501-1_20, NJ501-1340, NJ501-4, NJ501-5300, and NJ101-1_20. Added information on the functions supported by unit version 1.43 of the NJ501-R_00. Added information of the SD Memory Card.
30	November 2021	 Added information related to the hardware revision D of the NJ-series CPU Unit and the hardware revision A of the NX701-DDD.
31	April 2022	Corrected mistakes.
32	April 2022	Added information to Terms and Conditions Agreement.
33	June 2022	• Added information on the hardware revision B of NX701-□□□□.
34	October 2022	 Made changes accompanying the release of unit version 1.50 of the NJ-series, NX102, and NX1P2 CPU Units. Corrected mistakes.
35	November 2022	 Made changes accompanying the release of unit version 1.60 of the NJ-series, NX102, and NX1P2 CPU Units. Made changes accompanying the release of unit version 1.32 of NX701 CPU Units.
36	January 2023	Corrected mistakes.
37	April 2023	Added information on the NX502-1
38	July 2023	Revised for the release of automation playback function.
39	October 2023	 Made changes accompanying the release of unit version 1.64 of the NJ-series, NX502, NX102, and NX1P2 CPU Units. Made changes accompanying the release of unit version 1.35 of NX701 CPU Units.
40	January 2024	 Made changes accompanying the release of unit version 1.65 of NX502 CPU Units. Corrected mistakes.
41	October 2024	 Added information related to connection of CJ1W-EIP21S to the NJ-series CPU Unit. Corrected mistakes.
42	February 2025	Corrected mistakes.
43	February 2025	Corrected mistakes.
44	April 2025	 Made changes accompanying the release of unit version 1.68 of NX502 CPU Units. Corrected mistakes.
45	July 2025	 Made changes accompanying the release of unit version 1.69 of the NJ-series, NX502, NX102, and NX1P2 CPU Units. Made changes accompanying the release of unit version 1.36 of NX701 CPU Units. Corrected mistakes.

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Overview of Errors

This section provides information that is required to troubleshoot errors. It introduces the types of errors that can occur on an NJ/NX-series, the operation that occurs in response to errors, and the methods you can use to check for errors. Refer to *Section 2 Error Troubleshooting Methods* on page 2-1 for information on troubleshooting errors.

Overv	iew of NJ/NX-series Errors	
1-1-1	Types of Errors	
1-1-2		
Fatal E	Errors	
1-2-1	Types of Fatal Errors	
1-2-2		
Non-fa	atal Errors	1-12
1-3-1	Types of Non-fatal Errors	
1-3-2		
1-3-3		
1-3-4	Errors Related to the Motion Control Function Module	1-34
1-3-5	Errors Related to the EtherNet/IP Function Module	1-38
1-3-6	Errors Related to the EtherCAT Master Function Module	1-4 1
	1-1-1 1-1-2 Fatal I 1-2-1 1-2-2 Non-fa 1-3-1 1-3-2 1-3-3 1-3-4 1-3-5	1-1-2 CPU Unit Status Fatal Errors

1-1 Overview of NJ/NX-series Errors

You manage all of the errors that occur on the NJ/NX-series Controller as events. The same methods are used for all events. This allows you to see what errors have occurred and find corrections for them with the same methods for the entire range of errors that is managed (i.e., CPU Unit, NX Units, NX-

series Slave Terminals, EtherCAT slaves,^{*1} and CJ-series Units).

*1. Only Sysmac devices are supported. For information on EtherCAT slaves that are Sysmac devices, refer to the *NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505)*.



You can use the troubleshooting functions of the Sysmac Studio or the Troubleshooter on an HMI to quickly check for errors that have occurred and find corrections for them.

To perform troubleshooting from an HMI, connect the HMI to the built-in EtherNet/IP port on the CPU Unit.

You can also use the Network Configurator to check the network status of EtherNet/IP. For the procedure to check network status, refer to the methods of communications status check and troubleshooting for the EtherNet/IP network described in the *NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506).*



Precautions for Correct Use

- The only CPU Units on which CJ-series Units can be mounted are the NJ-series CPU Units.
- The only CPU Units on which NX Units can be mounted are the NX502 CPU Units, NX102 CPU Units, and NX1P2 CPU Units.
- Refer to the appendices of the *A-5 Applicable Range of the HMI Troubleshooter* on page A-295 for the applicable range of the HMI Troubleshooter.

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1-1-1 Types of Errors

There are two main types of errors (events) depending on whether the NJ/NX-series can manage them or not.

• Fatal Errors

These errors are not detected by the event management function of the NJ/NX-series because the CPU Unit stops operation.

You cannot identify or reset these errors with the Sysmac Studio or an HMI.

Refer to *1-2 Fatal Errors* on page 1-9 for error types and confirmation methods of fatal errors in the CPU Unit.

Non-fatal errors

These errors are detected and managed with the event management function of the NJ/NX-series. You can confirm these errors with the Sysmac Studio or an HMI.

Refer to *1-3 Non-fatal Errors* on page 1-12 for error types and confirmation methods of non-fatal errors in the CPU Unit.

1-1-2 CPU Unit Status

You can check the operating status of the CPU Unit with the PWR/POWER, RUN, and ERROR indicators on the front panels of the Power Supply Unit and CPU Unit.

• NX-series CPU Units

NX701 CPU Unit



NX502 CPU Unit



NX102 CPU Unit



NX1P2 CPU Unit



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The following table shows the status of front-panel indicators, the status of user program execution, and the ability to connect communications to the Sysmac Studio or an HMI during startup, during normal operation, and when errors occur.

(O:Lit/●:Not lit/⊙:Flashing)

CPU Unit operating status		Power Supply Unit/CPU Unit	CPU Units		User pro- gram execu-	Communications with Sysmac Stu-
	PWR/ POWER (green)	RUN (green)	ERROR (red)	tion status	dio or HMI	
Startup		0	 (2-s inter- vals fol- lowed by 0.5-s in- tervals) 	•	Stopped.	Not possible.
Normal operation	RUN mode	0	0	•	Continues.	Possible.
Normal operation	PROGRAM mode	0	•	•	Stopped.	
	Power Supply Error*1	•	•	•	Stopped.	Not possible.
	CPU Unit Reset ^{*1*2} / Hardware Initialization Error ^{*1*3}	0	•	•	Stopped.	
Fatal error in CPU Unit	CPU Unit Error ^{*1}	0	• or • (2- s intervals or 0.5-s intervals)	0	Stopped.	
	System Initialization Er- ror ^{*1}	0	●(2-s inter- vals) for30 s orlonger	٠	Stopped.	
	Major Fault ^{*4}	0	•	0	Stopped.	Possible.
Non-fatal error in	Partial fault ^{*4}	0	0	⊙ (1-s inter- vals)	Continues.*5	(Communications can be connected from an HMI if
CPU Unit	Minor Fault ^{*4}	0	0	⊙ (1-s inter- vals)	Continues.	EtherNet/IP is op- erating normally.)
	Observation ^{*4}	0	0	•	Continues.	

*1. Refer to 1-2 Fatal Errors on page 1-9 for information on individual errors.

*2. This error can occur for NX701 CPU Units or NX502 CPU Units. If the status of indicators shown above continues 30 seconds or longer, this error exists.

*3. This error can occur for NX102 CPU Units or NX1P2 CPU Units. If the status of indicators shown above continues 30 seconds or longer, this error exists.

*4. Refer to 1-3 Non-fatal Errors on page 1-12 for information on individual errors.

*5. The function module where the error occurred stops.

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Precautions for Correct Use

When an NX502, NX102 or NX1P2 CPU Unit is used, a power shortage may occur at the CPU Rack depending on the configuration of NX Units mounted to the CPU Unit. If one of the followings occurs, use the Sysmac Studio to check if the power consumed by the Units on the CPU Rack exceeds the supplied power.

- The CPU Unit is operating but the mounted NX Units do not operate.
- Power is supplied to the CPU Unit, but the CPU Unit does not turn ON.

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NJ-series CPU Units



The following table shows the status of front-panel indicators, the status of user program execution, and the ability to connect communications to the Sysmac Studio or an HMI during startup, during normal operation, and when errors occur.

(O:Lit/●:Not lit/⊙:Flashing)

CPU Unit operating status		Power Supply Unit	CPU Unit		User pro- gram execu-	Communications with Sysmac Stu-
		PWR (green)	RUN (green)	ERROR (red)	tion status	dio or HMI
Startup		0	⊙ (1-s inter- vals)	•	Stopped.	Not possible.
Normal aparation	RUN mode	0	0	•	Continues.	Possible.
Normal operation	PROGRAM mode	0	•	•	Stopped.	1
	Power Supply Error ^{*1}	•	•	•	Stopped.	Not possible.
	CPU Unit Reset ^{*1}	0	•	•	Stopped.	
Fatal error in CPU Unit	Incorrect Power Supply Unit Connected ^{*1}	0	⊙ (3-s inter- vals)	0	Stopped.	
	CPU Unit Watchdog Timer Error ^{*1}	0	•	0	Stopped.	
	Major Fault ^{*2}	0	•	0	Stopped.	Possible.
Non-fatal error in CPU Unit	Partial fault ^{*2}	0	0	⊙ (1-s inter- vals)	Continues.*3	(Communications can be connected from an HMI if
	Minor Fault ^{*2}	0	0	⊙ (1-s inter- vals)	Continues.	EtherNet/IP is op- erating normally.)
	Observation ^{*2}	0	0	•	Continues.	

*1. Refer to 1-2 Fatal Errors on page 1-9 for information on individual errors.

*2. Refer to 1-3 Non-fatal Errors on page 1-12 for information on individual errors.

*3. The function module where the error occurred stops.
1-2 Fatal Errors

1-2-1 Types of Fatal Errors

This section describes the errors that cause the CPU Unit of the NJ/NX-series to stop. The errors that can occur depend on the CPU Unit.

Communications with the Sysmac Studio or an HMI are not possible if there is a fatal error in the CPU Unit.

(O: Error that can occur)

		CPU Unit				
Error name	NX701	NX502	NX102 NX1P2	NJ-series Controller		
Power Supply Error	0	0	0	0		
CPU Unit Reset	0	0		0		
Hardware Initialization Error			0			
Incorrect Power Supply Unit Connected				0		
CPU Unit Error	0	0	0			
CPU Unit Watchdog Timer Error				0		
System Initialization Error	0	0	0			

Power Supply Error

Power is not supplied, the voltage is outside of the allowed range, or the Power Supply Unit or power supply section is faulty.

CPU Unit Reset

The CPU Unit stopped operation because of a hardware error. For an NJ-series CPU Unit, this error can also occur for reasons other than hardware failures, as given below.

- The power supply to an Expansion Rack is OFF.
- The I/O Connecting Cable is incorrectly installed.
 - The IN and OUT connectors are reversed.
 - The connectors are not mated properly.
- There is more than one I/O Control Unit on the CPU Rack or there is an I/O Control Unit on an Expansion Rack.

Hardware Initialization Error

This error can occur for an NX102 CPU Unit or NX1P2 CPU Unit. It indicates a data error in minimum programs required to initialize the hardware. Only the POWER indicator will be lit while the CPU Unit is starting, but if it is lit for 30 seconds or longer, then this error occurs.

Incorrect Power Supply Unit Connected

There is a CJ-series Power Supply Unit connected to the NJ-series CPU Unit. The operation of the Controller is stopped.

• CPU Unit Watchdog Timer Error

This error can occur for an NJ-series CPU Unit. This error occurs when the watchdog timer times out because of a hardware failure or when temporary data corruption causes the CPU Unit to hang.

• CPU Unit Error

This error can occur for an NX-series CPU Unit. It indicates that there is a hardware failure or that the CPU is running out of control due to temporary data corruption.

• System Initialization Error

This error can occur for an NX-series CPU Unit. It indicates a hardware failure or data error. The RUN indicator will flash at 2-second intervals while the CPU Unit is starting, but if it flashes for 30 seconds or longer, then this error occurs.

1-2-2 Checking for Fatal Errors

You can identify fatal errors based on the status of the PWR/POWER, RUN, and ERROR indicators, as well as by the ability to connect communications to the Sysmac Studio.

Refer to *Section 2 Error Troubleshooting Methods* on page 2-1 for information on identifying errors and corrections.

• NX-series CPU Units

(O:Lit/●:Not lit/⊙:Flashing)

Indicators		Communications		
PWR/POWER (green)	RUN (green)	ERROR (red)	with Sysmac Studio	CPU Unit operating status
•	•	•	Not possible.*1	Power Supply Error
0	•	•		CPU Unit Reset/Hardware Initialization Error
0	● or ⊙ (at 2-s intervals or 0.5-s inter- vals)	0	-	CPU Unit Error
0	 ⊙ (2-s intervals) for 30 s or lon- ger 	•		System Initialization Error

*1. An online connection to the Sysmac Studio is necessary to differentiate between CPU Unit Resets/Hardware Initialization Errors, CPU Unit Errors, and non-fatal errors in the CPU Unit. Power Supply Errors and System Initialization Errors can be differentiated with the indicators. There is no need to see if you can go online with the CPU Unit from the Sysmac Studio.

• NJ-series CPU Unit

(O:Lit/●:Not lit/⊙:Flashing)

	Indicators	_	Communications	CPI Unit operating status
PWR (green)	RUN (green)	ERROR (red)	with Sysmac Studio	CPU Unit operating status
•	•	•	Not possible.*1	Power Supply Error
0	•	•		CPU Unit Reset
0	۲	0		Incorrect Power Supply Unit
	(3-s intervals)			Connected
0	•	0		CPU Unit Watchdog Timer
				Error

*1. An online connection to the Sysmac Studio is necessary to differentiate between CPU Unit Resets, CPU Unit Watchdog Timer Errors, and non-fatal errors in the CPU Unit. Power Supply Errors and Incorrect Power Supply Unit Connected errors can be differentiated with the indicators. There is no need to see if you can go online with the CPU Unit from the Sysmac Studio.

1-3 Non-fatal Errors

1-3-1 Types of Non-fatal Errors

Non-fatal errors that occur in the NJ/NX-series Controller are managed as events. You can check the event to find out what type of error occurred.

Controller Events

The Controller automatically detects these events. Controller events include events for the function modules in the CPU Unit, NX Units, X Bus Units, NX-series Slave Terminals, EtherCAT slaves, and CJ-series Units.



Additional Information

- You cannot check the error logs that are managed independently by EtherCAT slaves on Sysmac Studio because they are not for Controller events. Refer to relevant manuals for the slaves for the procedures to read error logs and correct errors.
- Error causes and corrections are not displayed on the Controller Event Log Tab Page in the Sysmac Studio, although error codes, which are registered in the error logs that are managed independently by CJ-series Special Units, are displayed. Refer to relevant manuals for the Units for the procedures to read error logs and correct errors.

User-defined Events

These are events that occur in applications that the user developed.

This manual does not describe user-defined events. Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information on user-defined events.

Overview of Controller Events (Errors and Information)

You use the same methods to manage all of the events that occur on the NJ/NX-series Controller. The events that occur are saved in the CPU Unit or NX-series Slave Terminals.

You can use the Sysmac Studio or an HMI to confirm current Controller events and the log of events that occurred before. This log is called an event log.

To use an HMI to check events, connect the HMI to the built-in EtherNet/IP port on the CPU Unit. To check events in the NX502 CPU Unit using an HMI, connect the HMI to the built-in EtherNet/IP port of the NX502 CPU Unit or to the EtherNet/IP port of an NX-series EtherNet/IP Unit connected to the NX502 CPU Unit.

The event management for NX-series Units is shown below.



*1. The event logs are saved in battery-backup memory in the NX701 CPU Unit. The event logs are saved in the non-volatile memory in the NX502 CPU Unit, NX102 CPU Unit and NX1P2 CPU Unit.

Precautions for Correct Use

The only CPU Units on which NX Units can be mounted are the NX502 CPU Units, NX102 CPU Units, and NX1P2 CPU Units.

The event management for NJ-series Units is shown below.





Additional Information

For an NX-series or NJ-series CPU Unit, use the following information to handle errors that occurred in an EtherCAT Slave Terminal or EtherCAT slave.

- Refer to the manual for the Communications Coupler Unit for details on the event log in a Slave Terminal.
- When there is an emergency message that notifies an error from an EtherCAT slave to the CPU Unit, it is recorded in the event log of the EtherCAT Master Function Module as the Emergency Message Detected (64200000 hex) event.
- You cannot confirm the event log for an EtherCAT slave that has no event log. To record an error history as an event, you have to change the setting of the EtherCAT slave to notify emergency messages, then the Emergency Message Detected (64200000 hex) event is recorded. However, errors which cannot be notified by emergency messages from EtherCAT slaves are not recorded in the event log.

Meanwhile, there is a way to display error history of some EtherCAT slaves that do not have the event log, on the Sysmac Studio version 1.15 or higher as the event log. Refer to relevant manuals for EtherCAT slaves for the possibility to display error history as the event log.

• Refer to relevant manuals for the slaves for the procedures to read error history of EtherCAT slaves.

Details on Controller Events (Errors and Information)

• Controller Event Times

The time of occurrence is recorded when an event occurs.

The times of occurrence are based on the CPU Unit's built-in clock data.

For events that occur in EtherCAT Slave Terminals, the times of occurrence are recorded based on the CPU Unit's built-in clock data that the EtherCAT Slave Terminal receives from the CPU Unit. If the EtherCAT Slave Terminal cannot obtain the clock data from the CPU Unit, the time of occurrence on the Sysmac Studio is displayed as ----/--/--. For an event occurred before the Ether-CAT Slave Terminal obtains the clock data from the CPU Unit, the time of occurrence is also displayed as ----/--/-- ---:--.

The time of occurrence for an event is displayed on the Sysmac Studio or HMI.

Version Information

If the EtherCAT Slave Terminal cannot obtain the clock data from the CPU Unit or an event occurred before the EtherCAT Slave Terminal obtains the clock data from the CPU Unit, the time of occurrence is displayed as 1970/1/1 0:00:00 with Sysmac Studio version 1.14 or lower.

• Sources of Controller Events

The Event source information indicates the location where an event occurred.

The event source identifies the particular function module in the CPU Unit in which the event occurred.

For some function modules, there is more detailed information about the event source. This information is called the Source details.

Event source	Source details
PLC Function Module	Instructions, power supply, built-in I/O, Option Board, I/O bus
	master, CJ-series Unit, OPC UA Server Function, DB con-
	nection service ^{*1} , or SECS/GEM ^{*2}
NX Bus Function Module *3	Master or NX Unit
X Bus Function Module ^{*4}	Master
X Bus Unit Common Function Module *4	None, X Bus Unit
Motion Control Function Module	Common, axis, or axes group
EtherCAT Master Function Module	Communications port, EtherCAT master, EtherCAT Coupler
	Unit, NX Unit, or EtherCAT slave
EtherNet/IP Function Module	Communications port, communications port 1, communica-
	tions port 2, CIP, CIP1, CIP2, FTP, NTP, or SNMP

The following information is provided as the event source details.

*1. Only for NJ/NX-series Database Connection CPU Units.

*2. Only for NJ-series SECS/GEM CPU Units.

*3. Only for NX102 CPU Units and NX1P2 CPU Units.

*4. Only for NX502 CPU Units.

Note 1. An NC Integrated Controller has the CNC Function Module. For how to check and correct errors in the CNC Function Module, refer to *NJ/NY-series NC Integrated Controller User's Manual(Cat. No. O030)*.

Note 2. The X Bus Unit has other function modules in addition to those listed above. For troubleshooting of the functional modules other than those listed above, refer to the user's manual for each X Bus Unit.

1

1-3-1 Types of Non-fatal Errors

The event source is displayed on the Sysmac Studio or HMI.

• Levels of Controller Events (Errors and Information)

The following table classifies the levels of Controller events according to the effect that the errors have on control. All events in impact levels as errors are collectively called Controller errors. All other events that are not classified into errors but mean information are called Controller information.

No.	Level	Level name	Classification
1	High	Major fault level	Controller errors
2		Partial fault level	
3		Minor fault level	
4		Observation	
5	Low	Information	Controller informa-
			tion

Errors with a higher level have a greater impact on the functions that the NJ/NX-series Controller provides, and are more difficult to recover from.

When an event occurs, the Sysmac Studio or HMI will display the level name.

Level	Description
Major fault level	These errors prevent control operations for the entire Controller. When the CPU Unit detects a major fault, it immediately stops the execution of the user program and turns OFF the loads of all slave, including remote I/O. With EtherCAT slaves, some NX Units, and some CJ-series Special Units, you can set the slave settings or Unit settings to select whether outputs will go OFF or retain their previous status. You cannot reset major fault level errors from the user program, the Sysmac Studio or an HMI. To recover from a major fault level error, remove the cause of the error, and either cycle the power supply to the Controller, or re- set the Controller from the Sysmac Studio.
Partial fault level	 These errors prevent control operations in a certain function module in the Controller. The NJ/NX-series CPU Unit continues to execute the user program even after a partial fault level error occurs. You can include error processing in the user program in order to stop equipment safely. After you remove the cause of the error, execute one of the following to return to normal status. Reset the error from the user program, the Sysmac Studio, or an HMI. Cycle the power supply. Reset the Controller from the Sysmac Studio.
Minor fault level	These errors prevent part of the control operations in a certain function module in the Controller.The troubleshooting for minor fault level errors is the same as the processing for partial fault level errors.
Observations	These errors do not affect the control operations of the Controller. The observation notifies you of potential problems before they develop into a minor fault level error or worse.
Information	Events that are classified as information provide information that do not indi- cate errors.

Each event level is described below.

You can change the event level for some events. Refer to *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for details on changing event levels. Refer to *Section 3 Error Descriptions and Corrections* on page 3-1, *A-1 Other Errors (Events) That Can Occur in the CPU Units* on page A-2, and *A-2 Errors (Events) That Can Occur in Connected Devices* on page A-80 in this manual to see the events for which you can change the event level.

• Operation for Each Level

The way that the Controller operates when an event occurs depends on the level of the Controller event.

		Level of current event					
	ltem		Controller in- formation				
		Major fault level	Partial fault level	Minor fault level	Observation	Information	
Definitio	'n	These errors are serious er- rors that pre- vent control operations for the entire Con- troller.	These errors prevent all of the control in a function mod- ule other than PLC Function Module.	These errors prevent part of the control op- erations in a certain func- tion module.	These errors do not affect system control operations.	These are not errors, but ap- pear in the event log to notify the user of specific in- formation.	
Example	e of events	 Non-volatile Memory Da- ta Corrupted (PLC Func- tion) 	 Motion Control Period Exceeded (Motion Control Function Module) Communications Controller Error (Ether-CAT Master Function) 	 Positive Limit Input Detected (Motion Control Function Module) Low Battery Voltage (PLC Func- tion Module) 	 Packet Discarded Due to Full Re- ception Buf- fer (Ether- Net/IP Function Module) 	 Power Turned ON Power Inter- rupted Memory All Cleared 	
Front- panel indica-	PWR/ POWER (green)	Lit	Lit	Lit	Lit	Lit	
tors *1	RUN (green)	Not lit	Lit	Lit	Lit	Lit	
	ERROR (red)	Lit	Flashes at 1-s intervals.	Flashes at 1-s intervals.	Not lit	Not lit	
NJ/NX- series CPU Unit opera- tion	RUN out- put on Power Supply Unit	OFF	ON	ON	ON	ON	
	User pro- gram exe- cution sta- tus	Stops.	Continues.*2	Continues.	Continues.	Continues.	
	Outputs turned OFF	Yes	No	No	No	No	
	Error reset	Not possible.	Depends on the nature of the error.	Depends on the nature of the error.			

		Level of current event				
Item		Controller errors				Controller in- formation
		Major fault level	Partial fault level	Minor fault level	Observation	Information
	Event logs	Recorded. (Some errors are not record- ed.)	Recorded.	Recorded.	Recorded.	Recorded.
-	from Ether- /es and Ba- ut Units	Refer to I/O Operation for Major Fault Level Control- ler Errors on page 1-23	 Errors in EtherCAT Master Function Module: De- pends on settings in the slave. Errors in other func- tion mod- ules: Ac- cording to user pro- gram. 	According to user program.	According to user program.	According to user program.
Sysmac play (when o	Studio dis- nline)	Error messages are automatically displayed in the Controller Status Pane. The user can display detailed information in the Troubleshooting Dialog Box.		These items are not displayed in the error display in the Con- troller Status Pane.		

*1. If multiple Controller errors have occurred, the indicators show the error with the highest event level.

*2. Operation stops in the function module (NX Bus Function Module, Motion Control Function Module, EtherCAT Master Function Module, or EtherNet/IP Function Module) in which the error occurred.

Function module	Level of current event				
Function module	Major fault level	Partial fault level	Minor fault level	Observation	
PLC Function Module	User program exe- cution stops.		Operation continues.		
NX Bus Function Module		I/O refreshing for NX bus communi- cations stops. (NX Unit operation depends on the NX Unit settings.)	Operation contin- ues. If an NX Unit error occurs, opera- tion depends on the Fail-soft Operation Setting.	Operation contin- ues.	
X Bus Function Module		Data exchange be- tween an X Bus Unit and CPU Unit stops.	 Data exchange with an X Bus Unit stops. Data exchange with an X Bus Unit where an er- ror is occurring stops. An instruction from the user program to the X Bus function where an error is occurring ends with an error. 		
Motion Control Function Module		All axes stop. (The stop method depends on the er- ror.)	 The affected ax- is/axes group stops. (The stop meth- od depends on the settings.) The motion con- trol instruction is not executed (for instructions relat- ed to axis opera- tion.) 	 Axis operation continues. The motion con- trol instruction is not executed (for instructions not related to axis operation). 	

• Operation in the Function Module Where an Error Event Occurred

Function module	Level of current event				
Function module	Major fault level	Partial fault level	Minor fault level	Observation	
EtherCAT Master Function Module		EtherCAT commu- nications stop. (The slaves oper- ate according to the settings in the slaves.)	I/O refreshing for EtherCAT commu- nications stops or continues accord- ing to the Fail-soft Operation Setting in the master. (If I/O refreshing stops, the slaves operate according to the settings in the slaves.)(If I/O refreshing stops, the slaves operate according to the settings in the slaves.)	I/O refreshing for EtherCAT commu- nications continues.	
EtherNet/IP Func- tion Module		EtherNet/IP com- munications stop. (Online connec- tions to the Sysmac Studio and commu- nications connec- tions with an HMI is not possible.)	Part of the Ether- Net/IP communica- tions stop. (Online connec- tions to the Sysmac Studio and commu- nications connec- tions with an HMI is possible if the on- line connections or communications connection is not the cause of the er- ror.)	EtherNet/IP com- munications contin- ue.	

Note Major fault level errors occur only in the PLC Function Module.

• I/O Operation for Major Fault Level Controller Errors

The following table gives the operation of the CPU Unit and the I/O devices.

Unit	CPU Unit operation	Unit or slave operation
NX Unit mounted to the CPU	Input refreshing continues.	Depends on the settings for
Unit ^{*1}	• Updating the output values is stopped.	the NX Unit.
X Bus Unit mounted to the	Refreshing continues.	Depends on the settings for
CPU Unit *2		the X Bus Unit.
Built-in I/O ^{*3}	Depends on the Load Rejection Output	
	Setting.	
	Input refreshing continues.	
Option Boards ^{*3}	Outputs turned OFF. Output values de-	Analog I/O Option Board
	pend on the specifications of the Option Board.	Output value: 0 V
	 Input refreshing stops. 	
NX-series Slave Terminal	The NX-series Slave Terminal moves to	Depends on the NX Unit
	Safe-Operational state.	settings.
EtherCAT Slave *4	The slave is placed in the Safe-Operational	Depends on the slave set-
	state.	tings. ^{*5}
Servo Drive or NX Unit as-	Updating the command values is stopped.	All axes stop immediately.
signed to an axis		
CJ-series Basic I/O Units ^{*6}	The values of all outputs are cleared to zero.	All outputs are turned OFF.
	Input refreshing continues.	 External inputs are re- freshed.
CJ-series Special Unit ^{*6}	Refreshing continues.	Depends on the Unit operat- ing specifications.
Devices connected with Ether-	For the originators of tag data links, the	Depends on the specifica-
Net/IP	variables and I/O memory addresses for	tions of the connected devi-
	input (consume) tags are not refreshed.	ces.
	• For the targets of tag data links, operation	
	depends on the settings of the tags sets	
	for the output (produce) tags. * ⁷	

*1. This applies to the NX102 CPU Unit and NX1P2 CPU Unit.

*2. This applies to the NX502 CPU Unit.

- *3. This applies to an NX1P2 CPU Unit.
- *4. Excluding Servo Drives assigned to an axis.
- *5. Settings and setting methods depend on the slave. Refer to the manual for the slave. For a Servo Drive, operation depends on the setting of object 605E hex (Fault Reaction Option Code).
- *6. This applies to an NJ-series CPU Unit.
- *7. You can set whether to clear output or maintain the data from before the error occurred. Refer to NJ/NXseries CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506) for details.

The following table gives the operation of the CPU Unit and the I/O devices for the following errors that occur for an NJ-series Unit.

- Unsupported Unit Detected
- I/O Bus Check Error
- End Cover Missing
- Incorrect Unit/Expansion Rack Connection
- Duplicate Unit Number
- Too Many I/O Points

• I/O Setting Check Error

Unit	CPU Unit operation	Unit or slave operation
NX-series Slave Terminal	The NX-series Slave Terminal moves to Safe-Operational state.	Depends on the NX Unit settings.
EtherCAT Slaves ^{*1}	The slave is placed in the Safe-Operational state.	Depends on the slave set- tings. ^{*2}
Servo Drive or NX Unit as- signed to an axis	Updating the command values is stopped.	All axes stop immediately.
CJ-series Basic I/O Unit	Refreshing is stopped.	 All outputs are turned OFF. All inputs are turned OFF.
CJ-series Special Unit	Refreshing is stopped.	Depends on the Unit operat- ing specifications (the ERH indicator lights).
Devices connected with Ether- Net/IP	 For the originators of tag data links, the variables and I/O memory addresses for input (consume) tags are not refreshed. For the targets of tag data links, operation depends on the settings of the tags sets for the output (produce) tags. *3 	Depends on the specifica- tions of the connected devi- ces.

*1. Excluding Servo Drives assigned to an axis.

*2. Settings and setting methods depend on the slave. Refer to the manual for the slave. For a Servo Drive, operation depends on the setting of object 605E hex (Fault Reaction Option Code).

*3. You can set whether to clear output or maintain the data from before the error occurred. Refer to the *NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506)* for details.

Event Code

Events that occur in a Controller have an event code.

When an event occurs, the Sysmac Studio or HMI will display the event code.

You can use the instructions that get error status to read the error codes of current errors from the user program.

The event codes are 8-digit hexadecimal values.

The first digit of a Controller event represents its category. These categories are listed in the table below.

First digit of the code (hex)	Classification	Meaning
0	Hardware errors	An error caused by a hardware problem such as an internal part malfunction, contact failure, temperature error, undervoltage, overvoltage, or overcurrent.
1	Data errors	An error caused by incorrectly saved data or data cor- ruption in the Controller.
2	Hardware setting errors	An error caused by incorrect handling of hardware settings (e.g., hardware switches) or restrictions (e.g., Unit assignment locations).
3	Configuration errors	An error caused by incorrect parameter values, pa- rameters and hardware configurations that do not match, or configurations set by the user.
4	Software errors	An error caused by Controller software.
5	User software errors	An error that is caused by the user program. (For ex- ample, an input value to an instruction that is out of range.)
6	Observation errors	An error that was detected in monitoring operation that occurs due to user settings in the Controller. (For example, if the task period is exceeded or if a position outside of the motion range is detected.)
7	Control errors	An error caused by a control process. (For example, if the operating status does not meet the required con- ditions or if the timing is incorrect.)
8	Communications errors	An error caused by communications with an external device or host system.
9	Information	Events that are classified as information and provide information that do not indicate errors.

• Relationship between Event Codes and Error Codes

In addition to the event codes that indicate errors, the Function Modules and Units have their own error codes.

If there are corresponding event and error codes, you can tell what the other code is if you know either one of them. This allows you to know when the same error is being given when you check errors with more than one method.

The following table shows the relationship between the error codes and event codes.

Error code (4-digit hexadecimal)		Corresponding event code (8-digit hexadecimal)		Example: Event code for an error code of
Classification	Used in	Upper 4 digits	Lower 4 digits	A123 hex
Error codes for ba- sic instructions, OPC UA instruc- tions, DB Connec- tion instructions, GEM instructions, CNC instructions, and robot control in- structions	<i>ErrorID</i> output variable for each instruction	5401 hex	Error code	5401A123 hex
Error codes in the Motion Control Function Module	 <i>ErrorID</i> output variable for motion control in- structions System-defined varia- bles for motion con- trol^{*1} 	Error code	0000 hex	A1230000 hex
Error codes for NJ Robotics function.	 <i>ErrorID</i> output variable for basic instructions System-defined varia- bles for motion con- trol^{*1} 	Error code	0000 hex	A1230000 hex
Error codes in CJ- series Special Units	Error logs from CJ-series Special Units	0000 hex	Error code	0000A123 hex

*1. The following are system-defined variables for motion control:

Variable	Name
_MC_COM.PFaultLvI.Code	MC Common Partial Fault Code
_MC_COM.MFaultLvl.Code	MC Common Minor Fault Code
_MC_COM.Obsr.Code	MC Common Observation Code
_MC_AX[].MFaultLvl.Code	Axis Minor Fault Code
_MC_AX[].Obsr.Code	Axis Observation Code
_MC_GRP[].MFaultLvI.Code	Axes Group Minor Fault Code
_MC_GRP[].Obsr.Code	Axes Group Observation Code

• Exporting the Event Log

You can use the Sysmac Studio or an HMI to export the displayed event log to a CSV file. Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information on exporting event logs.

1-3-2 Checking for Non-fatal Errors

Checking Methods

What you can check
You can use the indicators to confirm the Controller error level and the error status of the EtherCAT Master Function Module and EtherNet/IP Function Module.
You can check for current Controller errors, a log of past Controller er- rors, error sources, error causes, and corrections. You can also check error logs from CJ-series Special Units. ^{*1}
You can check for current Controller errors, a log of past Controller errors, error sources, error causes, and corrections.
You can check the highest-level status and highest-level event code in the current Controller errors.
You can check the current Controller error status for each function mod- ule.
You can check the communications status (e.g., tag data link connection status) for each device on the EtherNet/IP network.
You can check the statistical information such as the number of commu- nications frames on the EtherCAT network as well as the number of frames for which errors were detected.

Use the following methods to check for non-fatal errors in the CPU Unit.

*1. Detailed information, such as error causes and corrections, is not displayed.

*2. To perform troubleshooting from an HMI, connect the HMI to the built-in EtherNet/IP port on the CPU Unit. Refer to A-5 Applicable Range of the HMI Troubleshooter on page A-295 for the applicable range of the HMI Troubleshooter.

Checking the Indicators

Checking the Level of a Controller Error

You can use the PWR/POWER, RUN, and ERROR indicators to determine the level of an error. The following table shows the relationship between the Controller's indicators and the event level. (O:Lit/•:Not lit/•:Flashing)

Indicators			
PWR/POWER (green)	RUN (green)	ERROR (red)	Event level
0	•	0	Major fault level
0	0	۲	Partial fault level
		(1-s intervals).	Minor fault level
0	0	•	Observation

• Checking the Status of EtherCAT and EtherNet/IP Ports

For the EtherCAT and EtherNet/IP ports, use the EtherCAT and EtherNet/IP NET ERR indicators to determine whether an error that affects process data communications has occurred and whether a minor fault level error or higher-level error has occurred.

The indicators let you check the status given in the following table.

Indicator	Indicated status	
EtherCAT	EtherCAT Port	Status
NET ERR	• Lit:	Errors for which normal status cannot be recovered through user ac- tions (i.e., errors for which you must replace the CPU Unit or contact your OMRON representative).
	Flashing:	Errors for which normal status can be recovered through user actions.
	Not lit:	An error that affects process data communications has not occurred.
EtherNet/IP	EtherNet/IP Port Status	
NET ERR	• Lit:	Errors for which normal status cannot be recovered through user ac- tions (i.e., errors for which you must replace the CPU Unit or contact your OMRON representative).
	Flashing:	Errors for which normal status can be recovered through user actions.
	Not lit:	There are no minor fault level or higher-level errors.

Checking with the Troubleshooting Function of Sysmac Studio

When an error occurs, you can connect the Sysmac Studio online to the Controller to check current Controller errors and the log of past Controller errors.

Current Errors

Open the **Controller Error** Tab Page to check the current error's level, source, source details,

event name, event code, username, occurrence number^{*1}, details, attached information 1 to 4, action and correction.

Observation level errors are not displayed.

*1. Displayed only for event logs generated for the NX502 CPU Unit .

Log of Past Errors

Open the **Controller Event Log** Tab Page to check the time, level, source, source details, event name, event code, username, occurrence number, details, attached information 1 to 4, action and correction of the past errors.

Error logs from CJ-series Special Units are displayed on the **Controller Event Log** Tab Page. Detailed information is not displayed. To check detailed information, use the event codes that are displayed and refer to the error codes that are given in the manual for the relevant Unit. The relationship between error codes and event codes is described in *Details on Controller Events (Errors and Information)* on page 1-15 under 1-3-1 Types of Non-fatal Errors on page 1-12.

Refer to the Sysmac Studio Version 1 Operation Manual (Cat. No. W504) for details on troubleshooting with the Sysmac Studio.

Checking with the Troubleshooter of an HMI

When an error occurs, if you can connect communications between an HMI and the Controller, you can check current Controller errors and the log of past Controller errors.

To perform troubleshooting from an HMI, connect the HMI to the built-in EtherNet/IP port on the CPU Unit.

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Precautions for Correct Use

Refer to *A-5 Applicable Range of the HMI Troubleshooter* on page A-295 for the applicable range of the HMI Troubleshooter.

Current Errors

You can check the current error's event name, event code, level, source, source details, time, details, and attached information 1 to 4.

Also, observations are not displayed as errors.

Log of Past Errors

You can check the time, level, source, source details, event name, event code, details, attached information 1 to 4 for past errors.

Refer to the relevant HMI manual for information on the HMI Troubleshooter.

Checking with Instructions That Read Error Status

You can determine the error status with the instructions that get error status provided for each function module from the user program.

These instructions get the status and the event code of the error with the highest level.

Applicable function module	Instruction name	Instruction
PLC Function Module	Get PLC Controller Error Status	GetPLCError
	Get I/O Bus Error Status	GetCJBError
NX Bus Function Module	Get NX Bus Error Status	GetNXBError
	Get NX Unit Error Status	GetNXUnitError
X Bus Function Module, X Bus	Get X Bus Error Status	GetXBError
Unit Common Function Module, X Bus Ethernet Function Module, X Bus EtherNet/IP Function Module	Get X Bus Unit Error Status	GetXBUnitError
Motion Control Function Module	Get Motion Control Error Status	GetMCError
EtherCAT Master Function Mod- ule	Get EtherCAT Error Status	GetECError
EtherNet/IP Function Module	Get EtherNet/IP Error Status	GetEIPError

Note An NC Integrated Controller has the CNC Function Module. For how to check and correct errors in the CNC Function Module, refer to *NJ/NY-series NC Integrated Controller User's Manual(Cat. No. 0030)*.

For details on the instructions that get error status, refer to the *NJ/NX-series Instructions Reference Manual (Cat. No. W502)*.

Checking with System-Defined Variables

You can check the error status variables in the system-defined variables to determine the status of errors in a Controller.

You can read the Error Status variable from an external device by using communications.

You can monitor the MC Common Variable, Axis Variables, and Axes Group Variables of the system defined variables for motion control to see if errors have occurred in the Motion Control Function Module.

Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information on system-defined variables.

Checking Communications Status with the Network Configurator

You can use the Network Configurator to check the communications status (e.g., tag data link connection status) for each device on the EtherNet/IP network. For details, refer to the methods of communications status check and troubleshooting for the EtherNet/IP network described in the *NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506)*.

Checking with the EtherCAT Diagnostic and Statistical Information on the Sysmac Studio

With the Sysmac Studio, you can check the statistical information such as the number of communications frames on the EtherCAT network as well as the number of frames for which errors were detected. For details, refer to the diagnosis and statistics information for EtherCAT described in the *NJ/NXseries CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505).*

1-3-3 Resetting Non-fatal Errors

Unless you reset an error, the Controller will retain the error status until you turn OFF the power supply to the Controller or reset the Controller.

To reset a Controller error, it is necessary to eliminate the cause of the error. The same error will occur again if you reset the error, but do not eliminate the cause of the error.



Precautions for Safe Use

Always confirm safety at the connected equipment before you reset Controller errors with an
event level of partial fault or higher for the EtherCAT Master Function Module. When the error
is reset, all slaves that were in any state other than Operational state (in which outputs are
disabled) due to the Controller error with an event level of partial fault or higher will go to Operational state and the outputs will be enabled.

Before you reset all errors, confirm that no Controller errors with an event level of partial fault have occurred for the EtherCAT Master Function Module.

• Always confirm safety at the connected equipment before you reset Controller errors for a CJ-series Special Unit. When a Controller error is reset, the Unit where the Controller error with an event level of observation or higher will be restarted.

Before you reset all errors, confirm that no Controller errors with an event level of observation or higher have occurred for the CJ-series Special Unit. Observation level events do not appear on the **Controller Error** Tab Page, so it is possible that you may restart the CJ-series Special Unit without intending to do so.

You can check the status of the _CJB_UnitErrSta[0,0] to _CJB_UnitErrSta[3,9] error status variables on a Watch Tab Page to see if an observation level Controller error has occurred.

Precautions for Correct Use

Resetting an error is not the same as eliminating the cause of the error. Always eliminate the cause of an error before you perform the procedure to reset the error.

Method	Operation	Errors that are re- set	Description
Command from Sysmac Studio	Resetting Controller errors	Resetting all errors in the entire Control- ler	Reset the Controller errors from the Sys- mac Studio's Troubleshooting Dialog Box.
		Resetting all Slave Terminal errors	Refer to the manual for the Communica- tions Coupler Unit for details on resetting errors in a Slave Terminal.
		Resetting errors for individually specified NX Units	For NX Units connected to the NX bus of the CPU Unit, reset the Controller error in- dividually from the Sysmac Studio's Trou- bleshooting Dialog Box. Refer to the manual for the Communica- tions Coupler Unit for details on resetting errors individually for NX Units mounted to a Slave Terminal.
		Resetting errors for individually specified X Bus Units	For X Bus Units connected to the X Bus of the CPU Unit, reset the Controller error in- dividually from the Sysmac Studio's Trou- bleshooting Dialog Box.
	Downloading	Resetting all errors for a specific func- tion module	After the causes of the Controller errors are removed, all Controller errors in the rele- vant function module are reset as a result. Errors are not reset when you download the Unit Configuration and Setup.
	Clear All Memory	Resetting all errors for all function mod- ules	After the causes of the Controller errors are removed, all Controller errors in all function modules are reset as a result.
	Controller reset		Errors for Slave Terminals are not reset. ^{*1} After the causes of the Controller errors are removed, all Controller errors in all function modules are reset as a result. Errors for Slave Terminals are not reset. ^{*1}
	Clear All Memory operation for Slave Terminal Restarting the Slave	Resetting all Slave Terminal errors	If the causes for the Controller errors are removed, all Controller errors in the Slave Terminals are reset.
Commands from an HMI ^{*2}	Terminal Resetting Controller errors	Resetting all errors in the entire Control- ler	Reset Controller errors from the Trouble- shooter of an HMI. You can reset errors from an HMI that is not directly compatible with the NJ/NX-ser- ies Controller or another company's HMI if you use the HMI in combination with the re- set error instruction for the function module in the user program.

Error Resetting Methods

Method	Operation	Errors that are re- set	Description
Commands from the user program	Resetting Controller errors	Resetting errors for individual function modules	 Execute the reset error instruction for the function module in the user program. For the Motion Control Function Module, you can reset all errors, errors for a particular axis, or errors for a particular axes group. For the NJ-series I/O bus, you can reset all errors or just the errors for a particular Unit. For the NX Bus Function Module, only resetting all errors is possible. For the X Bus Function Module, errors can be reset for individual Unit.
Commands from a host computer	Resetting Controller errors with CIP messages	Resetting all errors for all function mod- ules	Use a CIP message from a host computer to reset errors.
Cycling the Control- ler's power supply		Resets all errors.	After the causes of the Controller errors are removed, all Controller errors in all function modules are reset as a result.
Cycling the power supply to the Slave Terminal		Resetting all Slave Terminal errors	If the causes for the Controller errors are removed, all Controller errors in the Slave Terminals are reset.

*1. Some errors are reset when the EtherCAT communications link is established rather than when the reset operation is performed.

*2. To reset errors from an HMI, connect the HMI to the built-in EtherNet/IP port on the CPU Unit.

Refer to the *Sysmac Studio Version 1 Operation Manual (Cat. No. W504)* for details on clearing errors from the Sysmac Studio.

1-3-4 Errors Related to the Motion Control Function Module

This section describes errors related to the Motion Control Function Module (sometimes abbreviated to "MC Function Module").

Sources of Errors Related to the Motion Control Function Module

Errors can occur internally in the Motion Control Function Module, or they can occur in EtherCAT communications, which are used to connect to the Servo Drives and other slaves.

- Inside MC Function Module
- EtherCAT Master Function Module
- · Built-in EtherCAT communications port hardware
- · EtherCAT slaves



Classifications

There are the following three sources of errors in the Motion Control Function Module.

Classification	Description
MC Common Er-	If an error is detected in the common portion of the Motion Control Function Module, the
rors	corresponding bit in the MC Common Error Status variable shows the error.
Axis Error	If an error is detected for an axis, the corresponding bit in the Axis Error Status variable
	shows the error. ^{*1}
Axes Group Errors	If an error is detected for an axes group, the corresponding bit in the Axes Group Error
	Status variable shows the error.

*1. If an axis error with a minor fault level or higher level occurs, operation is also not possible for an axes group that contains the axis as a composition axis.

Note Refer to NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501) for details on status variables.

Event Source and Level

The following tables list the errors in each event level that can occur for each source.

MC Common Errors

Level	Error name
Major fault	None
Partial fault	Motion Control Parameter Setting Error
	Cam Data Read Error
	 Required Process Data Object Not Set
	Axis Slave Disabled
	Network Configuration Information Missing for Axis Slave
	 Motion Control Initialization Error
	 Motion Control Period Exceeded Error
	Absolute Encoder Home Offset Read Error
Minor Fault	Cam Table Save Error
	Other execution errors for motion control instructions
Observation	Cannot Execute Save Cam Table Instruction
	 Too Many Reset Motion Control Error Instructions
Information	Error Clear from MC Test Run Tab Page

• Axis Errors

Level	Error	rror name	
Major fault	None		
Partial fault	None		
Minor fault	 Cam Table Data Error during Cam Motion Immediate Stop Instruction Executed Positive Software Limit Exceeded Negative Software Limit Exceeded In-position Check Time Exceeded Following Error Limit Exceeded Inmediate Stop Input Positive Limit Input Detected Negative Limit Input Detected Illegal Following Error Servo OFF Error Absolute Encoder Current Position Calculation Failed Servo Main Circuit Power OFF Interrupt Feeding Interrupt Signal Missing Homing Opposite Direction Limit Input Detected Homing Direction Limit Input Detected in Both Directions Home Proximity/Homing Opposite Direction Limit Input 	 Home Proximity/Homing Direction Linit Input Detected Home Input/Homing Opposite Direction Limit Input Detected Home Input/Homing Direction Limit Input Detected Invalid Home Input Mask Distance No Home Input No Home Proximity Input Slave Error Detected MC Common Error Occurrence Latch Position Overflow Latch Position Underflow Master Sync Direction Error Slave Disconnection during Servo Official Serve Overflow Error in Changing Servo Drive Control Mode Master Axis Position Read Error EtherCAT Slave Communications Error Other execution errors for motion control instructions 	

Level	Error name	
Observation	 Following Error Warning Velocity Warning Acceleration Warning Deceleration Warning Positive Torque Warning Negative Torque Warning Command Position Overflow 	 Command Position Underflow Actual Position Overflow Actual Position Underflow Slave Observation Detected Notice of Insufficient Travel Distance to Achieve Blending Transit Velocity Other execution errors for motion con- trol instructions
Information	Slave Error Code Report	

• Axes Group Errors

Level	Error name		
Major fault	None		
Partial fault	None		
Minor fault	Axes Group Immediate Stop Instruction Executed		
	Home Undefined during Coordinated Motion		
	Axes Group Composition Axis Error		
	Other execution errors for motion control instructions		
Observation	Velocity Warning		
	Acceleration Warning		
	Deceleration Warning		
	Notice of Insufficient Travel Distance to Achieve Blending Transit Velocity		
Information	None		

Errors Related to EtherCAT Communications, EtherCAT Slaves, and NX Units

The following Motion Control Function Module error can occur due to errors in EtherCAT communications, EtherCAT slaves, or NX Units.

Error name	Event code	Cause	Operation for error
EtherCAT Slave	8440 0000 hex	A communications error occurred	The Servo is turned OFF for the
Communications		for the EtherCAT slave or NX Unit	axis with an error and operations
Error		that is allocated to an axis in the	other than error resets are not ac-
		Motion Control Function Module. *1	knowledged. *2
Slave Error De-	742F 0000 hex	An error was detected for the Ether-	The Servo is turned OFF for the
tected		CAT slave or NX Unit that is allocat-	axis with an error and operations
		ed to an axis in the Motion Control	other than error resets are not ac-
		Function Module.	knowledged.

*1. When an error occurs in communications with an EtherCAT slave, an error also occurs in the EtherCAT Master Function Module. If you assign more than one device to the same axis, a communications error occurs for the axis if a communications error occurs for even one of the devices.

*2. When an error occurs in slave communications, home becomes undefined for the axis.

Servo Drive Errors

This section describes the notification that is provided for errors that occur in OMRON 1S-series Servo Drives and G5-series Servo Drives.

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1 Overview of Errors

in the Servo Drive and when the error code is obtained from the Servo Drive. The Motion Control Function Module therefore reports different events for the error in the Servo Drive and the error code.

• Error Notification

When the Motion Control Function Module detects an error, a Slave Error Detected minor fault level error (742F0000 hex) occurs.

At this point, the Motion Control Function Module performs the error operation (i.e., it turns OFF the Servo).

• Error Code Notification

When the Servo Drive reports the error code, the Motion Control Function Module generates a Slave Error Code Report information event (94220000 hex).

The error code (the main part of the error display number) from the Servo Drive is included in the lower two digits of the attached information of the Slave Error Code Report event.

For example, if the attached information is displayed as FF13, the error with display number 13 (Main Circuit Power Supply Undervoltage) occurred in the Servo Drive.

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Precautions for Correct Use

You must change the settings to receive notification of the Slave Error Code Report event. Map object 603F hex (Error Code) in the PDO Edit Pane.

Errors Related to NX Units

Error and error code notifications are provided for errors that occur for OMRON NX-series Position Interface Units in the same way as they are for OMRON 1S-series Servo Drives and G5-series Servo Drives.

However, NX-series Position Interface Units do not have an object that corresponds to object 603F hex (Error Code), so 0000 hex is given for the Slave Error Code Report (94220000 hex) in the attached information.

Refer to the *NX-series Position Interface Units User's Manual (W524)* or the *NX-series EtherCAT Coupler Unit User's Manual (Cat. No. W519)* for details on errors that occur in NX-series Position Interface Units.

1-3-5 Errors Related to the EtherNet/IP Function Module

This section describes the errors that are related to the EtherNet/IP Function Module.

Classifications

There are the following sources of errors in the EtherNet/IP Master Function Module.

• NX701 CPU Units, NX502 CPU Units, and NX102 CPU Units

Classification	Description		
Communications	If an error is detected for EtherNet/IP communications port 1, the corresponding bit in		
port 1 errors	the Communications Port1 Error status variable shows the error.		
Communications	If an error is detected for EtherNet/IP communications port 2, the corresponding bit in		
port 2 errors	the Communications Port2 Error status variable shows the error.		
CIP communica-	If an error that is related to the tag data links or CIP message communications is de-		
tions 1 errors	tected for EtherNet/IP communications port 1, the corresponding bit in the CIP Com-		
	munications1 Error status variable shows the error.*1		
CIP communica-	If an error that is related to the tag data links or CIP message communications is de-		
tions 2 errors	tected for EtherNet/IP communications port 2, the corresponding bit in the CIP Com-		
	munications2 Error status variable shows the error.*1		
TCP application er-	If an error that is related to the FTP server, NTP, or SMNP client is detected, the corre-		
rors	sponding bit in the TCP Application Communications Error status variable shows the		
	error.		

*1. Other Ethernet communications are not affected.

NX1P2 CPU Units

Classification	Description	
Communications	If an error is detected for EtherNet/IP communications port 1, the corresponding bit in	
port 1 errors	the Communications Port1 Error status variable shows the error.	
CIP communica-	If an error that is related to the tag data links or CIP message communications is de-	
tions 1 errors	tected for EtherNet/IP communications port 1, the corresponding bit in the CIP Com-	
	munications1 Error status variable shows the error.*1	
TCP application er-	If an error that is related to the FTP server, NTP, or SMNP client is detected, the corre-	
rors	sponding bit in the TCP Application Communications Error status variable shows the	
	error.	

*1. Other Ethernet communications are not affected.

NJ-series CPU Units

Classification	Description	
Communications port	If an error is detected in overall EtherCAT communications, the corresponding bit in	
errors	the Communications Port Error status variable shows the error.	
CIP communications	If an error that is related to the tag data links or CIP message communications is	
errors	detected, the corresponding bit in the CIP Communications Error status variable	
	shows the error. ^{*1}	
TCP application er-	If an error that is related to the FTP server, NTP, or SMNP client is detected, the	
rors	corresponding bit in the TCP Application Communications Error status variable	
	shows the error.	

*1. Other Ethernet communications are not affected.

Event Source and Level

The following table gives sources and levels of the events that can occur in the EtherNet/IP Function Module.

• NX-series CPU Units

Level		Source	
Level	Communications port	CIP communications	TCP application
Major fault	None	None	None
Partial fault	EtherNet/IP Processing Error	None	None
Minor fault	 Communications Controller Error MAC Address Error IP Route Table Setting Error Basic Ethernet Setting Error IP Address Setting Error DNS Setting Error DNS Server Connection Error IP Address Duplication Error BOOTP Server Connection Error 	 Identity Error Tag Data Link Setting Error Tag Name Resolution Error Controller Insufficient Memory Warning Tag Data Link Connection Failed Tag Data Link Timeout Tag Data Link Connection Timeout Allowed Communications Bandwidth per Unit Exceeded 	 FTP Server Setting Error NTP Client Setting Error SNMP Setting Error NTP Server Connection Error
Observation	 Access Detected Out- side Range of Variable Packet Discarded Due to Full Receive Buffer Link OFF Detected 	None	None
Information	 Link Detected Restarting Ethernet Port IP Address Fixed BOOTP Client Started 	 Tag Data Link Down- load Started Tag Data Link Down- load Finished Tag Data Link Stopped Tag Data Link Started Tag Data Link All Run 	 FTP Server Started NTP Client Started SNMP Started

• NJ-series CPU Units

Laural	Source		
Level	Communications port	CIP communications	TCP application
Major fault	None	None	None
Partial fault	 Communications Controller Error MAC Address Error EtherNet/IP Processing Error Basic Ethernet Setting Error IP Address Setting Error IP Address Duplication Error BOOTP Server Connection Error 	None	None
Minor fault	 DNS Server Connection Error IP Route Table Setting Error 	 Identity Error Tag Data Link Setting Error Tag Name Resolution Error Controller Insufficient Memory Warning Tag Data Link Connec- tion Failed Tag Data Link Timeout Tag Data Link Connec- tion Timeout 	 FTP Server Setting Error NTP Client Setting Error SNMP Setting Error NTP Server Connection Error
Observation	 Access Detected Out- side Range of Variable Packet Discarded Due to Full Reception Buffer Link OFF Detected 	None	None
Information	 Link Detected Restarting Ethernet Port IP Address Fixed BOOTP Client Started 	 Tag Data Link Down- load Started Tag Data Link Down- load Finished Tag Data Link Stopped Tag Data Link Started Tag Data Link All Run 	 FTP Server Started NTP Client Started SNMP Started

1-3-6 Errors Related to the EtherCAT Master Function Module

This section describes the errors that are related to the EtherCAT Master Function Module.

Locations of Errors in the EtherCAT Master Function Module

Errors can occur internally in the EtherCAT Master Function Module, or they can occur in the built-in EtherCAT port or in EtherCAT slaves.



If an error occurs at the same time for more than one slave, only the error occurred for some slaves is registered among current errors or recorded in the event log as follows. When you clear a registered or recorded error on a slave, the error occurred on another slave may be registered or recorded. Make corrections repeatedly until the error is no longer registered or recorded.

• For Project Unit Version 1.40 or Later

Among the slaves in which the error occurs, the error for all slaves that can communicate is registered or recorded.

This applies to the following errors:

- 1. Illegal Slave Disconnection Detected
- 2. Network Configuration Verification Error (Slave Unconnected)
- 3. Network Configuration Verification Error (Mismatched Slave)

• For Project Unit Version Earlier Than 1.40

Only the error for the slave that is closest to the master among those slaves is recorded. This applies to the following errors:

- 1. Network Configuration Verification Error
- 2. Process Data Communications Error (when caused by a disconnected cable)
- 3. Slave Node Address Duplicated
- 4. Slave Initialization Error

Classifications

Classification	Description	
Communications port	If an error is detected in overall EtherCAT communications, the corresponding bit in	
errors	the Communications Port Error status variable shows the error.	
EtherCAT master er-	If the EtherCAT master detects an error in its own settings or processing, the corre-	
rors	sponding bit in the Master Error status variable shows the error.	
	If the EtherCAT master detects an error in a slave, the corresponding bit in the Maste	
	Error status variable shows the <i>error</i> .	
EtherCAT slave errors	If the EtherCAT master detects an error in a slave, the error status for the slave will	
	show that the <i>master detected an error</i> . *1*2*3	

There are the following sources of errors in the EtherCAT Master Function Module.

- *1. The EtherCAT master periodically reads error status information from the slaves. It updates the system-defined variables at the same time as the I/O data.
- *2. The EtherCAT master will set the bits for EtherCAT slaves that do not report error status to FALSE in the Slave Error Table.
- *3. If the error in the slave is corrected after it occurs, you do not need to reset it. It is reset automatically. (This applies to CPU Unit with unit version 1.05 or later.)



Additional Information

Refer to the *NX-series EtherCAT Coupler Unit User's Manual (Cat. No. W519)* for the events that can occur for an EtherCAT Slave Terminal.

Event Source and Level

The following table gives sources and levels of the events that can occur in the EtherCAT Master

Function Module. The events that can occur depend on the project unit versions^{*1}.

*1. In this manual, the unit version set for a project is called "project unit version". A project unit version is set for a project in the Select Device Area of Project Properties Dialog Box on the Sysmac Studio.

• For Project Unit Version 1.40 or Later

	Source		
Level	Communications port	EtherCAT master	EtherCAT slaves *1
Major fault	None	None	None
Partial fault	Communications Con- troller ErrorLink OFF Error	EtherCAT FaultEtherCAT Frame Not Received	EtherCAT Frame Not Re- ceived

		Source	
Level	Communications port	EtherCAT master	EtherCAT slaves *1
Minor fault	None	 Network Configuration Information Error Process Data Reception Timeout Error Process Data Transmis- sion Error Input Process Data In- valid Error Clock Synchronization Compensation Failed Network Configuration Verification Error (Incor- rect Wiring) Network Configuration Verification Error (Incor- rect Ring Wiring) Incorrect Wiring Detect- ed Wait for Cycling Power Supply 	 Slave Node Address Duplicated Network Configuration Verification Error (Incorrect Wiring) Network Configuration Verification Error (Slave Unconnected) Network Configuration Verification Error (Mismatched Slave) Slave State Transition Failed Slave AL Status Error Detected Illegal Slave Disconnection Detected Slave PDI WDT Error Detected
Observation	None	 EtherCAT Slave Backup Failed EtherCAT Slave Restore Operation Failed Ring Disconnection De- tected 	 Emergency Message Detected Illegal Mailbox Received
Information	None	 Errors Reset EtherCAT Diagnosis/ Statistics Log Started EtherCAT Diagnosis/ Statistics Log Ended 	 Slave Disconnected Slave Connected Slave Disabled Slave Enabled

*1. Slave errors that are detected by the master are listed. There will also be a master error if any of these errors occurs. For slave errors that are not detected by the master, the errors and levels are defined by the individual slaves. Refer to the manual for the slave.

Refer to the *NX-series EtherCAT Coupler Unit User's Manual (Cat. No. W519)* for the events that can occur for an EtherCAT Slave Terminal.

• For Project Unit Version Earlier Than 1.40

L surel	Source		
Level	Communications port	EtherCAT master	EtherCAT slaves *1
Major fault	None	None	None
Partial fault	 Communications Con- troller Error MAC Address Error Link OFF Error 	 EtherCAT Processing Error EtherCAT Frame Not Received 	EtherCAT Frame Not Re- ceived

Level	Source		
	Communications port	EtherCAT master	EtherCAT slaves *1
Minor fault	None	 Slave Node Address Duplicated Network Configuration Information Error EtherCAT Communica- tions Cycle Exceeded Network Configuration Error Network Configuration Verification Error Slave Initialization Error Process Data Transmis- sion Error Process Data Reception Timeout Error Input Process Data In- valid Error 	 Network Configuration Verification Error Slave Application Error Process Data Communi- cations Error Slave Node Address Duplicated Slave Initialization Error
Observation	None	 EtherCAT Slave Backup Failed EtherCAT Slave Restore Operation Failed EtherCAT Message Er- ror 	Emergency Message De- tected
Information	None	 Error Reset EtherCAT Diagnosis/ Statistics Log Started EtherCAT Diagnosis/ Statistics Log Ended 	 Slave Disconnected Slave Connected Slave Disabled Slave Enabled

*1. Slave errors that are detected by the master are listed. There will also be a master error if any of these errors occurs. For slave errors that are not detected by the master, the errors and levels are defined by the individual slaves. Refer to the manual for the slave.

Refer to the *NX-series EtherCAT Coupler Unit User's Manual* (Cat. No. W519) for the events that can occur for an EtherCAT Slave Terminal.

Error Reset of EtherCAT Master Function Module

There are three methods to reset errors of the EtherCAT Master Function Module.

- Sysmac Studio
- HMI
- Execution of the Reset EtherCAT Error (ResetECError) instruction

Refer to 2-3 *Troubleshooting Non-fatal Errors* on page 2-10 for the resetting procedures from the Sysmac Studio or an HMI.

Refer to the *NJ/NX-series Instructions Reference Manual (Cat. No. W502)* for details on the Reset EtherCAT Error (ResetECError) instruction.

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Precautions for Correct Use

The current errors in the EtherCAT Master Function Module cannot be reset during the occurrence of a Wait for Cycling Power Supply event (94520000 hex) (page 3-736).
• Resetting Errors in the EtherCAT Master Function Module

Before you reset the following errors, always make sure that the slave with the error is participating in the network.

- Resetting a Network Configuration Verification Error or Process Data Communications Error while the power supply to the slave is ON or while the cable is connected
- Resetting a Link OFF Error while the power supply is ON to the first slave where the cable was disconnected or while the cable is connected

Use the following procedure.



*1. Check the _EC_LinkStatus (Link Status) system-defined variable.

*2. Check the _EC_EntrySlavTbl[] (Network Connected Slave Table) system-defined variable.

Also, set the wait time for slave startup in the EtherCAT master settings (EtherCAT master parameter settings) long enough to allow for the power supply startup time of all of the slaves.

If you reset the error in the EtherCAT Master Function Module without using the above procedure, the EtherCAT master may access a slave with a different node address than the specified node address, or other unexpected operations may occur. Also, the error may not be reset correctly.

Resetting Slave Errors

You can reset errors in the EtherCAT Master Function Module to reset slave errors. However, process data communications between the EtherCAT master and EtherCAT slave must be active to reset a slave error.

If process data communications with the slave are not active, check the slave after you reset errors in the EtherCAT Master Function Module to see if process data communications are active. Then, to reset the error in the slave, reset errors in the EtherCAT Master Function Module again. 1

Precautions When Connecting or Disconnecting Slaves during Communications

This section describes the procedure and precautions for replacing a slave that is currently performing communications.

• Procedure for Disconnecting Slaves during Communications

Always use the following procedure to turn OFF the slave power supply or disconnect cables dur-

ing EtherCAT master communications.*

* This includes the safe-operational and operational states.

Step 1: Use the Sysmac Studio or an instruction to send a command to disconnect the slave. Step 2: Confirm that the slave was disconnected normally.

Step 3: Turn OFF the power supply to the slave or disconnect the cable.

If you turn OFF the power supply or disconnect the cable without performing steps 1 and 2, the slaves that are operating may be adversely affected.

 Prohibition to Physically Disconnecting a Slave and Resetting an Error or Connecting a Slave at the Same Time

If you perform the following operation (a) or (b) at the same time as operation (c), an error will occur.

- a. Turn OFF the power supply to the slave or disconnect the cable.
- b. Turn ON the power supply to the slave or connect the cable.
- c. Reset an error in the EtherCAT Master Function Module or connect the slave.*

* This can happen when the Reset EtherCAT Error (ResetECError) instruction or Connect Ether-CAT Slave (EC_ConnectSlave) instruction is cyclically executed in the user program.

If you perform these operations at the same time, the EtherCAT master may access a slave with a different node address than the specified node address, or other unexpected operations may occur. Therefore, never turn OFF the power supply to the slave or disconnect the cable at the same time as you reset an error or connect a slave.

Error Troubleshooting Methods

This section describes troubleshooting methods for specific errors.

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2-1 Troubleshooting Flowcharts

This section provides basic error identification and troubleshooting flowcharts. Use them when an error occurs in the NJ/NX-series Controller.

2-1-1 Checking to See If the CPU Unit Is Operating

When an error occurs in the NJ/NX-series Controller, use the following flowchart to determine whether the error is a fatal error or a non-fatal error.

Whenever possible, set the Sysmac Studio's software connection method in the flowchart to a direct USB connection if the CPU Unit has a USB (peripheral) port. If you use Ethernet, there are many reasons that prevent a communications connection for the Sysmac Studio, so time is required to determine if a fatal or non-fatal error has occurred.

If you cannot go online from the Sysmac Studio, perform *2-4-1 Troubleshooting When You Cannot Go Online from the Sysmac Studio* on page 2-24 before you assume that the error is a fatal error.



• NX-series CPU Units

*1. Refer to 2-2 Troubleshooting Fatal Errors on page 2-8.

*2. Refer to 2-1-2 Troubleshooting Flowchart for Non-fatal Errors on page 2-4.



• NJ-series CPU Units

- *1. Refer to 2-2 Troubleshooting Fatal Errors on page 2-8.
- *2. Refer to 2-1-2 Troubleshooting Flowchart for Non-fatal Errors on page 2-4.

2-1-2 Troubleshooting Flowchart for Non-fatal Errors

For a non-fatal error, use the Sysmac Studio or an HMI to troubleshoot the error with the following flowchart.

You can use the indicators to check the following:

- Level
- · Whether the error is in the EtherNet/IP port or the EtherCAT port
- If the source of the error is the EtherNet/IP port or the EtherCAT port, whether you can restore normal status yourself



- *1. Refer to the 3-4 Errors in the X Bus Function Module on page 3-446 for information on X Bus errors. For information on the X Bus Unit errors, refer to *Troubleshooting* in the user's manual for each X Bus Unit.
- *2. Refer to 2-3 Troubleshooting Non-fatal Errors on page 2-10.



Precautions for Correct Use

Refer to *A-5 Applicable Range of the HMI Troubleshooter* on page A-295 for the applicable range of the HMI Troubleshooter.

2-1-3 Flowchart to Check Error Status on EtherNet/IP Function Module

When an error occurs in the EtherNet/IP Function Module, use the following flowchart to check the error and take necessary measures.

NX701 CPU Unit and NX102 CPU Unit

To differentiate between the two communications ports in the flowchart, the port for which to isolate the error is called the relevant port.



*1. You can connect the Sysmac Studio or an HMI to the other port to confirm error details only when Ethernet communications are possible for the other port.



NX502 CPU Unit and NX1P2 CPU Unit



NJ-series CPU Units

2-2 Troubleshooting Fatal Errors

The section describes the procedure to troubleshoot fatal errors in theCPU Unit.

• Power Supply Error

Cause	Correction
Power is not being input.	Turn ON the power.
The voltage is outside of the allowable	Check the Controller's power supply system, and correct it so that
range for the power supply.	the voltage is within the allowable range.
Power supply system error caused by	Remove the Units from the CPU Rack one by one. If the error is
mounted Unit	eliminated, replace that Unit.
Power Supply Unit failure (CPU Units	If the error persists even after you make the above corrections,
other than NX102 and NX1P2)	replace the Power Supply Unit.
Power supply section failure (NX102	If the error persists even after you make the above corrections,
CPU Unit or NX1P2 CPU Unit)	replace the CPU Unit.

• System Initialization Error

Cause	Correction
A conductive object has gotten inside.	If there is conductive material nearby, blow out the CPU Unit with air.
Noise	If the error did not result from the above causes, cycle the power to the Controller and see if that resets the error. If the error occurs frequently, check the FG and power supply lines to see if noise is entering on them. Implement noise countermeasures as required.
CPU Unit failure	If the error persists even after you make the above corrections, replace the CPU Unit.

CPU Unit Reset

Cause	Correction
A conductive object has gotten inside.	If there is conductive material nearby, blow out the CPU Unit with air.
The power supply to an Expansion Rack is OFF.	Supply the correct voltage to the Power Supply Unit on the Expansion Rack.
The I/O Connecting Cable is incorrectly installed.	Correct the connection of the I/O Connecting Cable.
Noise	If the error did not result from the above causes, cycle the power to the Controller and see if that resets the error. If the error occurs frequently, check the FG and power supply lines to see if noise is entering on them. Implement noise countermeasures as required.
Power Supply Unit failure	If the error persists even after you make the above corrections, replace the Power Supply Unit.
CPU Unit failure	If the error persists even after you make the above corrections, replace the CPU Unit.

2

• Hardware Initialization Error

Cause	Correction		
A conductive object has gotten inside.	If there is conductive material nearby, blow out the CPU Unit with air.		
Noise	If the error did not result from the above causes, cycle the power to the Controller and see if that resets the error. If the error occurs frequently, check the FG and power supply lines to see if noise is entering on them. Implement noise countermeasures as required.		
CPU Unit failure	If the error persists even after you make the above corrections, replace the CPU Unit.		

Incorrect Power Supply Unit Connected

Cause	Correction
A CJ-series Power Supply Unit is con-	Connect an NJ-series Power Supply Unit to the NJ-series CPU
nected to an NJ-series CPU Unit.	Unit.

CPU Unit Error

Cause	Correction
A conductive object has gotten inside.	If there is conductive material nearby, blow out the CPU Unit with air.
Noise	If the error did not result from the above causes, cycle the power to the Controller and see if that resets the error. If the error occurs frequently, check the FG and power supply lines to see if noise is entering on them. Implement noise countermeasures as required.
CPU Unit failure	If the error persists even after you make the above corrections, replace the CPU Unit.

• CPU Unit Watchdog Timer Error

Cause	Correction
A conductive object has gotten inside.	If there is conductive material nearby, blow out the CPU Unit with air.
Noise	If the error did not result from the above causes, cycle the power to the Controller and see if that resets the error. If the error occurs frequently, check the FG and power supply lines to see if noise is entering on them. Implement noise countermeasures as required.
CPU Unit failure	If the error persists even after you make the above corrections, replace the CPU Unit.

2-3 Troubleshooting Non-fatal Errors

2-3-1 Identifying and Resetting Errors with the Sysmac Studio

Troubleshooting functions are provided by the Sysmac Studio.

You can use the troubleshooting functions to identify errors that occur in a Controller, and reset the errors.

Displaying Errors on the Sysmac Studio

If an error occurs while the Sysmac Studio is online with the Controller, the Sysmac Studio notifies the user of the error in the Controller Status Pane. From there, you can open the Troubleshooting and Event Logs Window to read detailed error information and troubleshooting methods.

Click the **Troubleshooting** Button in the toolbar, or select **Troubleshooting** from the **Tools** Menu.



The Sysmac Studio automatically collects the Controller's error information, and opens the **Troubleshooting** Dialog Box.

Troubleshooting					- • ×
Controller Errors × Controller Event L	og 🛛 🗶 User-define	d Errors X User-	defined Event Log ×	7	
Select the Display Target	4 Partial fault EtherC	ource I Source I AT Master Communicati Control Axis No. 0 et/IP Communicati	ions port Link OFF E Target Vel	Event Name Fror Ocity Setting Out of Range rver Connection Error	Event Code 11 0x84200000 0x54220000 0x840B0000
	Details	A Link OFF state occurre [Cause] (1) The Ethernet cable i (2) The Ethernet cable i (3) The Ethernet cable i	is broken between the connector is disconnect		
	Attached information 1				
	Attached information 2 Attached information 3				
	Attached information 4				
			Display Switch	Jump to Error	Error Help
				set (Selected Units)	Reset All

Checking Current Errors and the Event Logs with the Sysmac Studio

• Checking Current Errors with the Sysmac Studio

You can click the **Controller Errors** Tab in the **Troubleshooting** Dialog Box to read information on current errors in the Controller.

The **Controller Errors** Tab Page lists the current errors in order of their levels.

Troubleshooting				
Controller Errors X Controller Event Lo	og x User-define	d Errors 🛛 🗙 User-de	fined Event Log ×	
Select the Display Target	4 Partial fault EtherC	ource I Source De AT Master Communication Control Axis No. 0 let/IP Communication		
	Details Attached information 1 Attached information 2 Attached information 2	(2) The Ethernet cable con(3) The Ethernet cable is	broken between the master and slaves. nnector is disconnected.	
	Attached information 3 Attached information 4			
			Display Switch Jump to Error Reset (Selected Units)	Error Help Reset All

Displayed Item	Description		
Level	This is the event level of the error.		
Source and Source Details	This is the physical location and functional location of the error.		
Event Name	Error name		
Event Code	This is the code of the error.		

You can click the column headings in the Controller error list, such as the **Level** or **Source**, to reorder the table rows according to that heading.

For example, the following change occurs when you click the $\ensuremath{\textbf{Source}}$ heading.

Before **Source** heading is clicked.

Controller Errors	× Controller Event Log	g 🗶 Us	er-defined Errors	× User-defined Ever	nt Log X	
Select the Display Target		Level	Source	Source Details	Event Name	Event Code
All		4.Partial fault	EtherCAT Master	Communications port	Link OFF Error	0x84200000
		AMinor fault	Motion Control	Axis No. 0	Target Velocity Setting Out of Range	0x54220000
		AMinor fault	EtherNet/IP	Communications port 1	BOOTP Server Connection Error	0x840B0000

After **Source** heading is clicked.

T

Troubleshooting						- • ×
Controller Errors	× Controller Event Log	× Use	er-defined Errors	X User-defined Ever	nt Log 🛛 🛪 🔪	
Select the Display Target		Level	Source	Source Details	Event Name	Event Code
ΔΙΕ		Partial fault		Communications port	Link OFF Error	0x84200000
		AMinor fault	EtherNet/IP	Communications port 1	BOOTP Server Connection Error	0x840B0000
		AMinor fault	Motion Control	Axis No. 0	Target Velocity Setting Out of Range	0x54220000



Additional Information

Sysmac Studio provides the function to display on the network configuration information the current errors whose source is the EtherCAT Master Function Module. This function is used to identify the error slave and the cause of the error. Refer to the descriptions on identifying an error slave and cause of error in the *NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505)* for details.

Displaying Event Logs with the Sysmac Studio

With Sysmac Studio, you can check a log of the Controller events that previously occurred on the **Controller Event Log** Tab Page.

You can select the event logs and levels to display in the Display Settings Area. Information on the event that you specified are displayed in the Details Pane.

Troubleshooting						
Controller Errors × Controller Event L	og × User-def	fined Errors	× User-define	ed Event Log 🛛 🛪	\	
Select the Display Target	U004_0014S 2017 U003_0044S 2017 U003_0043S 2017 U003_0042S 2017 U003_0042S 2017 U003_0042S 2017 U003_0042S 2017 U003_0040S 2017 U003_0040S 2017 U003_0039S 2017	7/11/25 9:51:40 7/11/25 9:51:40 7/11/25 9:51:40 7/11/25 9:51:40 7/11/25 9:51:40 7/11/25 9:51:40 7/11/25 9:51:40 7/11/25 9:51:40 7/11/25 9:51:40 7/11/25 9:51:40	AMinor fault AMinor fault AMinor fault AMinor fault Observation Observation Observation Observation Observation AMinor fault	Source NX Bus NX Bus	Source Details Unit 4(Slot 4)(NX-R51 Unit 4(Slot 4)(NX-R51 Unit 3(Slot 3)(NX-AD3 Unit 2(Slot 2)(NX-AD2 Unit 2(Slot 2)(NX-AD2 Unit 2(Slot 2)(NX-AD2 Unit 2(Slot 2)(NX-AD2 Unit 2(Slot 2)(NX-AD2	201) Over Rai 208) Unit I/O 208) Unit I/O 208) Unit I/O 208) Unit I/O 208) Unit I/O 208) Unit Unc 208) Unit Unc 208) Unit Unc 203) Unit Unc 203) Unit Unc
Displayed Information System Event Log Access Event Log	C_0180S 2017	7/11/25 9:50:54 7/11/25 9:50:25		EtherCAT Master NX Bus	Communications port Master	Link OFF Register
Level	Details Attached information Attached information Attached information	[Cause] (1) An Etherr n 1 n 2	ink OFF was de net cable is brok	tected. en disconnected c	nr Innse	
Information	Attached information	n 4	odate	Print	Save	Error Help Clear
297 events	Last data logged a			Pline	Save	Clear

Error logs from CJ-series Special Units are displayed on the **Controller Event Log** Tab Page. Detailed information is not displayed. To check detailed information, use the event codes that are displayed and refer to the error codes that are given in the manual for the relevant Unit. The relationship between error codes and event codes is described in *Details on Controller Events (Errors and Information)* on page 1-15 under 1-3-1 Types of Non-fatal Errors on page 1-12.

Additional Information

- The Sysmac Studio is provided with a function for displaying logs of events whose source is the EtherCAT Master Function Module in the network configuration information. This function is used for identifying the slave where an error occurred and the cause of the error. For the description of the function, refer to the descriptions related to the identification of the slave where an error occurred and the cause of the error in the *NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505)*.
- You can also save an event log in a file and display it offline in the Event Log Viewer. For details on the Event Log Viewer, refer to the *Sysmac Studio Version 1 Operation Manual (Cat. No. W504)*.

Resetting Errors with the Sysmac Studio

You can use the Sysmac Studio to reset errors that occur in a Controller. With a CPU Unit with unit version 1.05 or later and Sysmac Studio version 1.06 or higher you can also reset errors for individual Units.

Before you attempt to reset a Controller error, isolate and remove the cause of the error.

The Troubleshooting Dialog Box displays the cause, source, and corrections for the error. You can select any of the items from the error list to display the following information about that error. Click the **Display Switch** Button to switch between displaying details and attached information and displaying actions and corrections.

Displayed item	Description
Details	Detailed information on the error is displayed, such as the probable causes.
Attached information 1 through 4	Detailed information about the source of the error is displayed.
Action and Correc- tion	Methods to correct the probable causes of the error are displayed.

After confirming the cause of the displayed error and the conditions in which it occurred, perform the displayed error corrections to eliminate the cause of the error.

Troubleshooting Controller Errors Controller Event I	.og × User-define	d Errors × User-defined	Event Log X	
Select the Display Target	4 Partial fault EtherC	surce I Source Details AT Master Communications por Control Axis No. 0 et/IP Communications por	Target Velocity Setting Out of Range	Event Code 11 0x84200000 0x54220000 0x84080000 0x84080000
	Details	A Link OFF state occurred. [Cause] (1) The Ethernet cable is broker (2) The Ethernet cable connecter (3) The Ethernet cable is not co		
	Attached information 1 Attached information 2 Attached information 3 Attached information 4			
	η	Dis	play Switch Jump to Error Reset (Selected Units)	Error Help Reset All

To eliminate the cause of the error, first select the item to perform from the Action and Correction list. When you select the appropriate step in the Action and Correction list, either the **Jump to Error** or **Error Help** Button is enabled, depending on the contents. In some cases, neither button will operate. Click the enabled button, and proceed with the displayed troubleshooting steps.

After you complete all of the troubleshooting steps for the current errors, click the **Reset (Selected Units)** or **Reset All** Button to reset all of the current errors.

If the cause of the error is not removed, or if the power supply is not cycled or the Controller is not reset as required after resetting the error, the error will occur again.

Display Switch	Jump to Error	Error Help
Res	et (Selected Units)	Reset All

Button	Description
Jump to Error	This button is enabled when the error correction involves a change in the Sysmac Studio settings. When you click the button, the Sysmac Studio will automatically switch to the Editing Pane.
Error Help	The correction methods or the attached information is displayed if it is not possible to jump to the settings display.
Reset (Selected Units)	This button resets the current errors in the selected Unit.
Reset All	This button resets all of the current errors, and reads errors again.

It is necessary to synchronize the data between the Sysmac Studio and the connected CPU Unit before you use the **Jump to Error** Button.

For details on synchronization, refer to the *Sysmac Studio Version 1 Operation Manual (Cat. No. W504)*.

If you have enabled the verification of operation authority, it is necessary to confirm your authority before you can reset Controller errors.

The Operator, Maintainer, Designer, and Administrator have the authority to reset errors. For an Operator, however, verification is required each time.

Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information on operation authority.

The Controller errors in all function modules are reset when you reset the Controller from the Sysmac Studio.

If the cause of the error is not removed, the error will occur again.

2-3-2 Identifying and Resetting Errors with an HMI

You can connect an OMRON HMI to an NJ/NX-series CPU Unit through an EtherNet/IP network, and use it to read and reset errors that occurred in the Controller. (The Troubleshooter of the HMI is used.) To perform troubleshooting from an HMI, connect the HMI to the built-in EtherNet/IP port on the CPU Unit.



Precautions for Correct Use

Refer to *A-5 Applicable Range of the HMI Troubleshooter* on page A-295 for the applicable range of the HMI Troubleshooter.

Checking for Current Errors with an HMI

You can check for errors in the Controller using the Troubleshooter of an HMI. You can also use the Troubleshooter to read detailed error information and corrections for current errors. Refer to the relevant HMI manual for details on the HMI Troubleshooter.

The following example demonstrates the procedure used to check for errors with an NA-series HMI.

You can check the names and status of all connected Controllers in the Controller Status Screen of the NJ/NX Troubleshooter of the NA-series HMI. If there is an error, *Error* is displayed as the status of the Controller.

NJ/NX Troubleshoot	er	5/13/2016 5:09:44 PM Exit
Active Events	Event Logs	
Controllers	Controller Event Status	User Event Status
new_Controller_0	Error	Normal
new_Controller_1	Normal	Normal
	Show Controller E	vents Show User Events

Select the Controller with an error and click the **Show Controller Events** Button to display the Controller Event List Screen. In the Controller Event List Screen, you can check the list of Controller errors that currently exist in the selected Controller.

IJ/NX Troub	leshooter		5/13/2016 5:10:56 PM	Exit
Active Event	s Event Logs			
Control	ler Events User Events			Back
Event Source	All		Change	
Event Level	Event Source	Event Code	Event Name	
Partial fault Partial fault Minor fault Minor fault	EtherCAT - Communications port EtherNet/IP - Communications port PLC EtherNet/IP - Communications port	0x000B0000	Link OFF Error IP Address Duplication Error Low Battery Voltage DNS Server Connection Error	
			Show Det	ail
Screen	Shot	Er	ror Reset	
RUN ne	w_Controller_0 (192.168.250.1)			

Resetting Errors with an HMI

You can use the Troubleshooter in an HMI to reset errors that occur in the Controller. Before you attempt to reset a Controller error, identify and remove the cause of the error.

The following example demonstrates the procedure used to check for errors with an NA-series HMI.

Select an event in the Controller Event List Screen and click the **Show Detail** Button to display error causes and corrections. In the Details Screen, information such as the error causes and corrections are displayed.

After you confirm the cause of the displayed error, perform the steps in the displayed correction.

NJ/NX Troubleshooter			5/13/2016 5:11:46 PM					
Event Name	IP Address Duplication Erro	r		Back				
Event Code	0x84010000	Date/Time	5/13/2016 4:28:15 PM]				
Event Source	EtherNet/IP - Communicati	EtherNet/IP - Communications port						
Event Level	Partial fault							
Detailed Information								
[Cause] The IP address of the [Attached information	is used more than once. built-in EtherNet/IP port is als n 1] s (example: 0xC0A8FA01 = add		is of another node.					
Attached Info 1	0xC0A8FA01							
Attached Info 2								
Attached Info 3								
Attached Info 4								
Screen Shot	Screen Shot							
RUN new_Co	ontroller_0 (192.168.250.1)							

After you complete all of the correction steps for the current errors, click the **Error Reset** Button in the Controller Event List Screen to reset all of the current errors.

NJ/NX Tro	ubleshooter				5/13/20	016 5:12:34 PM	Exit
Active Eve	ents	Event Logs					
Cont	troller Events	User E	vents				Back
Event Sour	ce All				Change		
Event Level	Event	Source	Ev	vent Code	Event Name		
						Show De	etail
				-			
Scre	een Shot			Err	or Reset		
RUN	new_Controller_0	(192.168.250.1)					

Return to the Controller Status Screen and check the Controller status. The status of the Controller whose errors were completely reset is displayed as "Normal".

J/NX Troubleshooter		5/13/2016 5:13:15 PM Exit
Active Events	Event Logs	\
Controllers	Controller Event Status	User Event Status
new_Controller_0	Normal	Normal
new_Controller_1	Normal	Normal
	Show Controller Ev	ents Show User Events

If the cause of the error is not removed, or if the power supply is not cycled or the Controller is not reset as required after resetting the error, the error will occur again.

Refer to the relevant HMI manual for details on the HMI Troubleshooter.

2-3-3 Identifying and Resetting Errors from the User Program

In a Controller, you can check for errors that have occurred from the user program. This feature allows you to program operations in the user program according to the error status. Special instructions are provided for this purpose.

These include instructions to get Controller error information and instructions to reset Controller errors.

Instructions That Get Controller Error Information

Determine the error status with the instruction to get error information that is provided for each function module.

The following table lists the instruction that are used to get error information for each function module.

Instruction name	Instruction	Function
Get PLC Controller Error Status	GetPLCError	Gets the status and the event code of the error with the highest level of the Controller errors in the PLC Function Module.
Get I/O Bus Error Status	GetCJBError	Gets the status and the event code of the error with the highest level of the Controller errors in the I/O bus of the NJ-series CPU Unit.
Get NX Bus Error Status	GetNXBError	Gets the highest level status of all current Controller er- rors in the NX Bus Function Module of the NX-series CPU Unit.
Get NX Unit Error Status	GetNXUnitError	Gets the highest level status and highest level event code of the current Controller errors in the specified NX bus master or NX Unit in the NX Bus Function Module of an NX-series CPU Unit.
Get X Bus Error Status	GetXBError	Gets the highest level status of the Controller errors in the X Bus Unit.
Get X Bus Unit Error Status	GetXBUnitError	Gets the highest level status and highest level event code of the current Controller errors in the Unit on the X Bus.
Get Motion Control Error Status	GetMCError	Gets the status and the event code of the error with the highest level of the Controller errors in the Motion Control Function Module.
Get EtherNet/IP Error Status	GetEIPError	Gets the status and the event code of the error with the highest level of the Controller errors in the EtherNet/IP Function Module.
Get EtherCAT Error Status	GetECError	Gets the status and the event code of the error with the highest level of the communications port errors and mas- ter errors detected by the EtherCAT Master Function Module.

Refer to *NJ/NX-series Instructions Reference Manual (Cat. No. W502)* for details on these instructions.

Example of Error Detection for the EtherCAT Master Function Module

Name	Data type	Initial value	Comment
Trigger	BOOL	FALSE	Get Condition

2-3-3 Identifying and Resetting Errors from the User Program

Name		Data type	Initial value	Comment
EC_Error		BOOL	FALSE	EtherCAT Master Error Flag
Trigger	EN		evel	EC_Error

Resetting Controller Errors with Instructions

You can use the instructions that are provided to reset errors in the user program to reset errors that occur in the Controller.

Before you attempt to reset a Controller error, isolate and remove the cause of the error. Reset the errors with the instruction provided to reset errors for each function module.

Instruction name	Instruction	Function	
Reset PLC Controller Error	ResetPLCError	Resets current Controller errors from the PLC Function Module.	
Reset I/O Bus Controller Error	ResetCJBError	Resets current Controller errors from the I/O bus of the NJ-series CPU Unit.	
Reset NX Bus Error	ResetNXBError	Resets the current Controller errors in the NX Bus Func-	
		tion Module.	
Reset X Bus Unit Error	ResetXBUnitError	Resets Controller errors in the Unit on the X Bus.	
Reset Motion Control Error	ResetMCError	Resets current Controller errors from the Motion Control	
		Function Module.	
Reset EtherCAT Error	ResetECError	Resets current Controller errors from the EtherCAT Mas-	
		ter Function Module.	

Refer to the *NJ/NX-series Instructions Reference Manual (Cat. No. W502)* for details on these instructions.

2-3-4 Checking for Errors with System-defined Variables

The system-defined variables include an Error Status variable, which shows the error status in a hierarchical structure. The system determines the error status of each level by logically ORing the error status information of the next lower level.

You can read the Error Status variable from an external device through communications.

Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information on system-defined variables.

• NX-series CPU Units

Level 1	1	Level 2	Level 3	Level 4	4
_ErrS	Sta	Error Status	variable (for th	e entire	Controller)
·		_PLC_ErrSta	Error statu	s variabl	le for PLC Function Module
		_NXB_ErrSta	Error statu	s variabl	le for NX Bus Function Module
			NXB_Mstr	ErrSta	Error status variable for NX bus master
			NXB_UnitEr	rStaTbl	Error status variable for NX Unit
		XBu_ErrSta	Error statu	s variabl	le for X Bus Function Module
			XBU_Mstr	Err	Error status variable for master
			XBU_UnitEr	r	Summary error status variable for all Units
				Xbu_	LUnitErrTbl X Bus Function Module Unit Error Status Table *1
		_MC_ErrSta	Error statu	s variabl	le for Motion Control Function Module
			MC_Com	ErrSta	Common error status variable
			MC_AX_E	FrrSta	Axis error status variable
			MC_GRP	ErrSta	Axes group error status variable
		EC_ErrSta	Error statu	s variabl	le for EtherCAT Master Function Module
			EC_PortE	rr	Error status variable for communications ports
			EC_MstrE	rr	Error status variable for master
			EC_SlavE	rr	Summary error status variable for all slaves
				EC_	_SlavErrTbl Error status variable for slaves
l		_EIP_ErrSta	Error statu	s variabl	le for EtherNet/IP Function Module
			EIP1_Port /_EIP_PortI		Error status variable for communications port 1
			EIP2_Port	Err	Error status variable for communications port 2
			EIP1_CipI /_EIP_CipE		Error status variable for CIP communications 1
			EIP2_Cip	Err	Error status variable for CIP communications 2
			EIP_TcpA	ppErr	Error status variable of the TCP application function

*1. There are device variables under this variable. Refer to the manuals for the X Bus Units for more information on device variables.

Level '	1	Level 2	Level 3 Leve	4
_ErrS	Sta	Error Status v	ariable (for the entir	e Controller)
		PLC_ErrSta	Error status varia	ble for PLC Function Module
·		CJB_ErrSta	Error status varia	ble for I/O bus
			CJB_MstrErrSta	Error status variable for master
			CJB_UnitErrSta	Error status variable for Units
		MC_ErrSta	Error status varia	ble for Motion Control Function Module
			MC_ComErrSta	Common error status variable
			MC_AX_ErrSta	Axis error status variable
			MC_GRP_ErrSt	a Axes group error status variable
		EC_ErrSta	Error status varia	ble for EtherCAT Master Function Module
			EC_PortErr	Error status variable for communications ports
			EC_MstrErr	Error status variable for master
			EC_SlavErr	Summary error status variable for all slaves
				C_SlavErrTbl Error status variable for slaves
l		EIP_ErrSta	Error status varia	ble for EtherNet/IP Function Module
			EIP_PortErr	Error status variable for communications ports
			EIP_CipErr	Error status variable for CIP communications
			EIP_TcpAppErr	Error status variable of the TCP application function

• NJ-series CPU Units

2-4 Troubleshooting When Support Software Cannot Go Online

This section describes the corrective actions when the support software cannot be connected online.

2-4-1 Troubleshooting When You Cannot Go Online from the Sysmac Studio

The section describes the procedure to troubleshoot when you cannot go online with the CPU Unit from the Sysmac Studio.

Causes and Correction When You Cannot Go Online from the Sysmac Studio

The following table lists the possible causes when you cannot go online with the CPU Unit from the Sysmac Studio.



Cause	Description	Correction
Incorrect settings or faulty communi- cations path	There is a mistake in the settings that the Sysmac Studio uses to go online with the CPU Unit. Or, the communications path is faul- ty.	Refer to <i>Troubleshooting Incorrect Settings and Faulty</i> <i>Communications Path</i> on page 2-27.

Cause	Description	Correction
Inconsistent sup- port for secure communications between Sysmac Studio and CPU Unit	For CPU Units that support se- cure communication, prepare and use Sysmac Studio that sup- ports secure communication.	 Either use the Sysmac Studio that supports secure communication, or set the DIP switch of the CPU Unit to allow connection from the Sysmac Studio or an NAseries Programmable Terminal that does not support secure communication. However, when the CPU Unit is set to secure communications version 2, setting the DIP switch to allow connection from the Sysmac Studio or an NA-series Programmable Terminal that does not support secure communication does not allow online connection. Go online using the Sysmac Studio that supports secure communications version 2. To use secure communications version 1 on a CPU Unit that is set to use secure communications version 2. To use secure communications version 1 on a CPU Unit that is set to use secure communications version 1 on a CPU Unit that is set to use secure communications version 1. Refer to the NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501) for information on the CPU Unit models and unit versions that support secure communication, and corresponding Sysmac Studio versions.
Windows version is old	On Windows 10 Version 1709 and lower, Sysmac Studio cannot connect to a CPU Unit that sup- ports secure communication.	 To connect online to a CPU Unit that supports secure communication, use Sysmac Studio on Windows 10 Version 1803 or higher OS on the computer. Or, do both of the following: Set the DIP switch of the CPU Unit to allow connections from Sysmac Studio or an NA-series Programmable Terminal that do not support secure communication, and then restart the CPU Unit. For information on setting the DIP switch, refer to the description of the DIP switch in the hardware user's manual of the CPU Unit. Restore the backup file created on a CPU Unit that does not support secure communication using an SD Memory Card to a CPU Unit that supports secure communication.
Fatal error in theCPU Unit	A fatal error occurred in the CPU Unit.	Refer to 2-1-1 Checking to See If the CPU Unit Is Op- erating on page 2-2.
High system serv- ice load ^{*1}	The system service load on the CPU Unit is too high and time to connect with the Sysmac Studio cannot be taken.	Start operation of the CPU Unit in Safe Mode. Refer to <i>Troubleshooting a High System Service Load</i> on page 2-35 for details.

*1. This applies to an NJ-series CPU Unit.

Note If the EtherNet/IP NET ERR indicator on the CPU Unit is lit or flashing, it is possible that you cannot go online through an EtherNet/IP route because of an error in the EtherNet/IP Function Module. If the CPU Unit has a peripheral (USB) port, see if you can go online with a direct USB connection. If the CPU Unit does not have a peripheral (USB) port, see if you can go online with a direct Ethernet connection.



Precautions for Correct Use

- If you connect an NX-series CPU Unit to the Sysmac Studio through an EtherNet/IP port, connect to communications port 1. You cannot connect the Sysmac Studio directly to communications port 2.
- When Packet Filter (Simple) is enabled on the NX102 CPU Unit, the following restrictions apply.
 - a) You cannot connect the Sysmac Studio installed on the computer with unregistered IP address which is not allowed to be connected. Confirm that the IP address of the computer to allow connection is registered correctly in advance.
 - b) You cannot connect the Sysmac Studio to the CPU Unit in Direct connection via Ethernet. Select Controller - Communications Setup to confirm that the connection type is Ethernet connection via a hub.
- If the **Do not use** Option for the CIP message server is selected, Sysmac Studio cannot be connected to the CPU Unit in **Remote connection via USB**.
- Incorrect setting of Packet Filter (Simple) or Packet Filter will prevent the Sysmac Studio from being connected to the CPU Unit. In that case, connect the Sysmac Studio with the NJ-series CPU Unit in direct connection via USB, and with the NX701 CPU Unit, NX102 CPU Unit, and NX1P2 CPU Unit in Safe Mode to review the setting.

You can use the status of the RUN indicator on the CPU Unit to isolate the cause. Implement the troubleshooting for the applicable cause.

O: Cause

	Cause				
RUN indicator	Incorrect settings or faulty communications path	Fatal errors in CPU Unit	High system service load ^{*3}		
• (Not lit.)	0	0			
•* 1		O*2			
(Flashing at 2-s inter- vals.)					
⊙ ^{*3} (Flashing at 3-s inter- vals.)		O (Incorrect Power Supply Unit Connected.)			
O (Lit.)	0		0		

*1. This applies to an NX-series CPU Unit.

*2. If the ERROR indicator is lit at the same time or if the RUN indicator flashes at a 2-second interval for more than 30 seconds, a fatal CPU Unit error has occurred.

*3. This applies to an NJ-series CPU Unit.

Troubleshooting for Each Cause

This section provides troubleshooting methods for *incorrect settings, fault communications paths*, and *high system service loads*.

Troubleshooting Incorrect Settings and Faulty Communications Path

Direct Connection via USB



• Direct Connection via Ethernet





For details on Safe Mode, refer to Troubleshooting Incorrect Settings of Packet Filter or Packet Filter (Simple).

2-4-1 Troubleshooting When You Cannot Go Online from the Sysmac Studio

2-4 Troubleshooting When Support Software Cannot Go Online

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Remote Connection via USB Sysmac Studio cannot connect to CPU Unit. No Is power supplied to the Controller? Turn ON the power supply to the Controller. ╈ Yes No Can the Sysmac Studio Yes End go online with CPU Unit? Are the USB cable and Ethernet cables connected properly? No Insert the cable connectors all the way at the computer and Controller. Yes No Yes Can the Sysmac Studio go online with CPU Unit? Install the USB driver. Refer to the No appendices of *Sysmac Studio Version 1 Operation Manual* (Cat. No. W504) for the Is the USB driver installed correctly? installation procedure for the USB driver. Yes No Yes Can the Sysmac Studio go online with CPU Unit? Set the Connection type to the Remote connection via USB in the Communications Setup of the Sysmac Studio. Set the Remote IP Address in the Communications Setup of Is the Connection type set to No the Remote connection via USB in the Communications the Sysmac Studio. Setup of the Sysmac Studio? Yes Yes Can the Sysmac Studio go online with CPU Unit? Is the Remote Correct the Remote IP Address in the IP Address in the Communications Setup of the Sysmac Studio set correctly and is the IP address set correctly in the destination Controller? Communications Setup of the Sysmac Studio. Correct the IP address setting in the No destination Controller. ¥ Yes No Yes Can the Sysmac Studio go online with CPU Unit?

NJ/NX-series Troubleshooting Manual (W503)





*1 For details on Packet Filter (Simple) setting and Packet Filter setting, refer to the NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual

(Cat. No. W506). *2 Incorrect setting of Packet Filter (Simple) or Packet Filter will prevent the Sysmac Studio from connecting to the CPU Unit. In that case, connect the Sysmac Studio with the NJ-series CPU Unit and the NX701 CPU Unit in direct connection via USB and with the NX502, NX102 and NX1P2 CPU Unit in Safe Mode. For details on Safe Mode, refer to Troubleshooting Incorrect Settings of Packet Filter or Packet Filter (Simple).







*1 For details on Packet Filter (Simple) setting and Packet Filter setting, refer to the NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506).

- 2 Incorrect setting of Packet Filter (Simple) or Packet Filter will prevent the Sysmac Studio from connecting to the CPU Unit. In that case, connect the Sysmac Studio with the NJ-series CPU Unit and the NX701 CPU Unit in direct connection via USB and with the NX502, NX102 and NX1P2 CPU Unit in Safe Mode. For details on Safe Mode, refer to *Troubleshooting Incorrect Settings of Packet Filter (Simple)*.
- *3 If you are connecting the Sysmac Studio to an X Bus Unit for which the Use Option is selected for Packet Filter, connect the Sysmac Studio through a built-in EtherNet/IP port in the CPU Unit and correct the Packet Filter settings of the X Bus Unit.
Troubleshooting a High System Service Load

In the NJ-series CPU Unit, a high throughput in task execution may cause the system service to enter a high-load state, and this may prevent the Sysmac Studio from connecting with the CPU Unit. If a high system service load is the problem, you will be able to go online with the CPU Unit from the Sysmac Studio if you start in Safe Mode. Use the following procedure.

1 Set on the DIP switch on the CPU Unit as shown below and then cycle the power supply to the Controller.

The CPU Unit will start in Safe Mode.



- 2 Go online with the CPU Unit from the Sysmac Studio and perform the required operation. Ensure that there is sufficient system service time to enable the Sysmac Studio to go online with the CPU Unit. To do so, either increase the period of the primary periodic task or decrease the sizes of the programs in the primary periodic task. Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information on setting the primary periodic task.
- **3** Turn OFF all DIP switch pins and then cycle the power supply to the Controller to restore normal CPU Unit operation.

• Safe Mode Operation

If the Controller is started when the CPU Unit is in Safe Mode, the CPU Unit will start in PROGRAM mode even if the startup mode is set to RUN mode. This increases the ratio of system service processing that is performed by the CPU Unit, which makes it easier for the Sysmac Studio to go online with the CPU Unit. You can also use Safe Mode when you do not want to execute the user program.

The CPU Unit will generate an observation level Controller event and record a Safe Mode event in the event log.



Additional Information

Operation in Safe Mode depends on the unit version of the CPU Unit.

ltem	Unit version of CPU Unit						
nem	1.02 or lower	1.03 or later					
Operating mode	The CPU Unit operates accord-	The CPU Unit ignores the setting					
	ing to the setting of the startup	of the startup mode and operates					
	mode.	in PROGRAM mode.					
Changing the operating mode	Not possible.	Possible.					
Controller event level	Major fault level	Observation level					

Troubleshooting Incorrect Settings of Packet Filter or Packet Filter (Simple)

Incorrect setting of Packet Filter or Packet Filter (Simple) will prevent the Sysmac Studio from connecting to the CPU Unit. Connect the Sysmac Studio to an NX502, NX102 or NX1P2 CPU Unit in Safe Mode and correct the Packet Filter settings or Packet Filter (Simple) settings.



Set the DIP switch of the CPU Unit as shown in the figure below, and then turn ON the power to the Controller again.

The CPU Unit starts up in Safe Mode.



2 Go online with the CPU Unit from the Sysmac Studio and review the Packet Filter settings or Packet Filter (Simple) settings.

For the details on the settings, refer to *Packet Filter* or *Packet Filter* (*Simple*) in the *NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual* (*Cat. No. W506*).

- **3** Turn OFF all DIP switch pins and then cycle the power supply to the Controller to restore normal CPU Unit operation.
- 4 Check whether the Sysmac Studio can go online with the CPU Unit. Select Controller - Communications Setup to confirm that Ethernet connection via a hub is selected for connection method. If Packet Filter (Simple) is enabled, you cannot connect the Sysmac Studio in Direct connection via Ethernet.

• Safe Mode Operation

If the Controller is started in Safe Mode, Packet Filter and Packet Filter (Simple) are disabled. This allows you to go online the Sysmac Studio with the CPU Unit from a computer.

The CPU Unit will generate an observation level Controller event and record a Safe Mode event in the event log.

Additional Information

The safe mode operation is given below.

Item	Operation
Operating mode	The CPU Unit ignores the setting of the startup mode and operates in PROGRAM mode.
Changing the operating mode	Possible
Controller event level	Observation level

2-4-2 Troubleshooting When You Cannot Go Online from the Network Configurator

Refer to the *NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506)* for actions to take when Network Configurator cannot go online with the CPU Unit.

2-4-3 Troubleshooting When You Cannot Go Online from the CX-Configurator FDT

Refer to the *IO-Link System User's Manual (Cat. No. W570)* or the *NXR-series IO-Link Master Unit for EtherNet/IP User's Manual (Cat. No. W619)* for actions to take when CX-Configurator FDT cannot go online with the CPU Unit.

2-4-4 Troubleshooting When You Cannot Go Online from the CX-Integrator

Refer to the CS/CJ/CP/NSJ/NJ Series CX-Integrator Operation Manual (Cat. No. W464) for actions to take when CX-Integrator cannot go online with the CPU Unit.

2-4-5 Troubleshooting When You Cannot Go Online from the CX-Protocol

Refer to the *CX-Protocol Operation Manual (Cat. No. W344)* for actions to take when CX-Protocol cannot go online with the CPU Unit.

Error Descriptions and Corrections

This section describes all of the errors (events) that can occur on NJ/NX-series CPU Units and corrections for these errors.

For errors (events) that can occur in models other than the standard CPU Units and the errors (events) that can occur in connected devices, only tables of errors are provided in *Appendices* on page A-1. Refer to the manual for the specific product for details on errors.

3-1	Interp	preting Tables	
	3-1-1	Interpreting Error Table	
	3-1-2	Interpreting Error Descriptions	
3-2	Error	s in the PLC Function Module	
• -	3-2-1	Error Tables	
	3-2-2	Error Descriptions	
	3-2-3	Other Troubles and Corrections	
3-3	Error	s in the NX Bus Function Module	
	3-3-1	Error Tables	
	3-3-2	Error Descriptions	
3-4	Error	s in the X Bus Function Module	
-	3-4-1	Error Tables	
	3-4-2	Error Descriptions	
3-5	Error	s in the X Bus Unit Common Function Module	
	3-5-1	Error Tables	
	3-5-2	Error Descriptions	
3-6	Error	s in the Motion Control Function Module	
	3-6-1	Error Tables	
	3-6-2	Error Descriptions	3-519
	3-6-3	Other Troubles and Corrections	3-658
3-7	Error	s in the EtherNet/IP Function Module	
	3-7-1	Error Tables	
	3-7-2	Error Descriptions	
	3-7-3	Other Troubles and Corrections	3-723
3-8	Error	s in the EtherCAT Master Function Module	
	3-8-1	Error Tables	
	3-8-2	Error Descriptions	
3-9	Error	s in the OPC UA Function	3-804
	3-9-1	Error Tables	

3-9-2	Error Descriptions	3-814
3-9-3	OPC UA Server-specific Troubleshooting	. 3-840

3-1 Interpreting Tables

Within each source, errors (events) are given by functional classifications. Also, events that are not errors are given.

-m

Additional Information

For descriptions of the error codes for the motion control instructions and other instructions, refer to the descriptions of the corresponding event codes. Events that occur for motion control instructions are given in 3-2 Errors in the PLC Function Module on page 3-6. Events that occur for other instructions are given in 3-6 Errors in the Motion Control Function Module on page 3-480. Refer to Relationship between Event Codes and Error Codes on page 1-26 for the relationship between event codes and error codes.

If events that occur are different according to versions, the versions for events that occur are given in the following expressions.

- For unit versions of CPU Units, "CPU Unit with unit version X.XX" or "Ver. X.XX"
- For project unit versions^{*1}, "project unit version X.XX"
- *1. In this manual, the unit version set for a project is called "project unit version". A project unit version is set for a project in the Select Device Area of Project Properties Dialog Box on the Sysmac Studio.

3-1-1 Interpreting Error Table

The contents of the error tables are described below.

Item	Description
Event code	The event code of the error in the NJ/NX-series Controller is given. The codes are given in eight hexadecimal digits.
	A version in parentheses in the Event code column is the unit version of a CPU Unit or the project unit version where an event with the relevant event code occurs.
	A model name in square brackets in the Event code column is the CPU Unit when the event occurs. The model name is not described if the event occurs in all CPU Unit.
Event name	The name of the error is given
Meaning	A short description of the error is given.
Assumed cause	The assumed cause of the error is given
Level	The level of influence on control is given.
	The abbreviations have the following meanings.
	Maj: Major fault level
	Prt: Partial fault level
	Min: Minor fault level
	Obs: Observation
	Info: Information
	The symbols have the following meanings.
	O: Event levels that are defined by the system.
	\odot : Event levels that can be changed by the user. ^{*1}
Reference	The catalog number of the manual that provides details on the event is given. The manual
	name that corresponds to the manual number is given before each error table.

*1. This symbol appears only for events for which the user can change the event level.

3-1-2 Interpreting Error Descriptions

The items that are used to describe individual errors (events) are described in the following copy of an error table.

Event name	Gives the name	of the error.		Event code	Gives the code of	of the error.				
Meaning	Gives a short de	scription of the err	or.							
Source	Gives the source	•	Source details	Gives details on the source of the error.	Detection tim- ing	Tells when the error is detect-ed.				
Error attrib- utes	Level	Tells the level of influence on control. *1	Recovery	Gives the method to re- turn to normal state after elim- inating the cause of the error.	Log category	Tells which log the error is saved in. ^{*2}				
Effects	User program	Tells what will happen to exe- cution of the user program. *3	Operation	Provides special results from the o	information on the error.	e operation that				
Indicators/ Status		ator status is given	th the built-in Ethe only for errors in	-		-				
System-de-	Variable		Data type		Name					
fined varia-	Lists the variable	e names, data type	es, and meanings	for system-defined	d variables that pr	ovide direct error				
bles	notification, that are directly affected by the error, or that contain setting				gs that cause the	error. ^{*4}				
Cause and	Assumed cause	e	Correction		Prevention					
correction	Lists the possible	e causes, correctio	ons, and preventiv	e measures for th	e error.					
Attached in- formation	This is the attach	ned information the	at is displayed by t	the Sysmac Studio	o or an HMI. ^{*5}					
Precautions/ Remarks			and supplemental covery method, op							
User name in the access log			o performed the op ents) for which the	-		-				
Partial fault: Minor fault: I Observation Information 2. One of the for System: Sys Access: Acc 3. One of the for Continues: E Stops: Exect Starts: Exec	Major fault level Partial fault level Minor fault level ollowing: stem event log ess event log ollowing:	program starts.								

Device variable: The variable name stars with a character other than an underbar (_).

*5. Refer to A-5 Applicable Range of the HMI Troubleshooter on page A-295 for the applicable range of the HMI Troubleshooter.

3-2 Errors in the PLC Function Module

The section provides tables of the errors (events) that can occur in the PLC Function Module. They are divided into the following functional classifications.

- · Self-diagnosis
- CJ-series Unit configuration
- Built-in I/O, Option Boards
- Tasks
- · Controller operation
- · FINS communications
- Instructions



Additional Information

- Instruction events are supported by CPU Units with unit version 1.02 or later.
- To create instruction events, you must select Use for Event Log Settings Instruction Error Output on the Controller Setup. With the default setting, instructions events are not output. Sysmac Studio version 1.03 or higher is required to use the Event Log Settings.

3-2-1 Error Tables

Errors for Self Diagnosis

					Level				
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00090000 hex	DIP Switch Setting Error	An error was detect- ed in the DIP switch setting.	 There is an error in the DIP switch setting. 	0					page 3-94
000D0000 hex	Internal Bus Check Error	A fatal error was de- tected on the internal bus.	 A conductive material has got- ten inside. Noise The CPU Unit has failed. 	0					page 3-95
000E0000 hex	Non-volatile Memory Life Exceeded	The specified number of deletions for non- volatile memory was exceeded. Or, the number of bad blocks in memory ex- ceeded the specified value.	 Non-volatile memory life expired. 	0					page 3-96
00110000 hex [NX502, NX701]	CPU Unit Overheat (Operation Stopped)	Operation was stop- ped because the tem- perature inside the CPU Unit was too high.	The ambient operating temper- ature is too high.	0					page 3-97

					L	eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00130000 hex (Ver. 1.13 or later) [NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.16 or later) [NX701, NJ5 with hard- ware revision B] (Ver. 1.17 or later) [NJ3 with hardware re- vision A, NJ1 with hard- ware revision A]	Main Memo- ry Check Er- ror	An error was detect- ed in the memory check of the main memory in the CPU Unit.	 A conductive material has gotten inside. Noise There is a soft error. The CPU Unit has failed. 	0					page 3-98
10010000 hex	Non-volatile Memory Re- stored or Formatted	An error was detect- ed in the non-volatile memory check and file system recovery or formatting was executed. Previous files may have been deleted.	 The Controller power supply was turned OFF while the BUSY indicator was lit. The power supply to the Con- troller was interrupted momen- tarily while the BUSY indicator was lit. 	0					page 3-99
10020000 hex	Non-volatile Memory Da- ta Corrupted	A file that must be in non-volatile memory is missing or corrupt- ed.	 The Controller power supply was turned OFF while the BUSY indicator was lit. The power supply to the Con- troller was interrupted momen- tarily while the BUSY indicator was lit. The CPU Unit has failed. 	0					page 3-100
10080000 hex	Main Memo- ry Check Er- ror	An error was detect- ed in the memory check of the main memory in the CPU Unit.	 A conductive material has got- ten inside. Noise There is a soft error. The CPU Unit has failed. 	0					page 3-101
100A0000 hex (Ver. 1.10 or later) [NJ-series, NX701]	Data Not Saved to Battery- backup Memory	An error occurred in the software and data could not be saved in battery-backup mem- ory during power- OFF processing.	 An error occurred in the soft- ware. 	0					page 3-102
100B0000 hex	Non-volatile Memory Da- ta Corrupted	A file that must be in non-volatile memory is missing or corrupt- ed.	 The Controller power supply was turned OFF while the BUSY indicator was lit. The power supply to the Con- troller was interrupted momen- tarily while the BUSY indicator was lit. The CPU Unit has failed. 	0					page 3-103

					L	_eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
100C0000 hex (Ver. 1.03 or later)	Event Level Setting Error	The settings in the event level setting file are not correct.	 The event level settings are not correct because the power supply to the Controller was in- terrupted or communications with the Sysmac Studio were disconnected during a down- load of the event level settings. The event level settings are not correct because the power supply to the Controller was in- terrupted during a Clear All Memory operation. Non-volatile memory failed. 	0					page 3-104
100F0000 hex [NX102, NX1P2, NX502]	Present Val- ues of Re- tained Varia- bles Resto- ration Error	The present values of retained variables could not be restored at startup and the val- ues were initialized.	An error occurred in the soft- ware.Backup memory failure	0					page 3-105
10100000 hex [NX102, NX1P2, NX502]	Present Val- ues of Re- tained Varia- bles Not Saved	The process of sav- ing the current value of the retained varia- ble during power in- terruptions could not be performed be- cause an error occur- red in the software.	• An error occurred in the soft- ware.	0					page 3-106
40010000 hex [NJ-series]	PLC System Processing Error	A fatal error was de- tected in the PLC Function Module.	• An error occurred in the soft- ware.	0					page 3-107
40020000 hex	PLC System Processing Error	A fatal error was de- tected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-107
40030000 hex	PLC System Processing Error	A fatal error was de- tected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-108
40040000 hex [NX701, NX1P2]	PLC System Processing Error	A fatal error was de- tected in the PLC Function Module.	 An error occurred in the soft- ware. 	0					page 3-108
40050000 hex [NX701, NX1P2]	PLC System Processing Error	A fatal error was de- tected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-109
00070000 hex	Real-Time Clock Stop- ped	The oscillation of the real-time clock stop- ped. The real-time clock is set to an ille- gal time.	 The battery voltage is low. The battery connector has come loose. The Battery is missing. 			0	•		page 3-109
00080000 hex	Real-Time Clock Failed	The real-time clock in the CPU Unit failed.	• The CPU Unit clock has failed.			0			page 3-110

					L	eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
000B0000 hex	Low Battery Voltage	The voltage of the Battery has dropped.	 The battery voltage is low. The battery connector has come loose. The Battery is missing. 			0	o		page 3-110
000C0000 hex [NJ-series, NX502, NX701]	CPU Unit Overheat	The temperature in- side the CPU Unit ex- ceeded the specified value.	 The ambient operating temper- ature is too high. 			0			page 3-111
00120000 hex [NX502, NX701]	Slow Fan	The speed of the fan dropped to a speci- fied level or lower.	 There is an obstacle that prevents the operation of the fan. The fan has reached the end of its service life. The fan is faulty. 			0	۲		page 3-111
00150000 hex (Ver.1.60 or later) [NJ-series, NX102, NX1P2, NX502] (Ver. 1.32 or later) [NX701]	Non-volatile Memory Life Warning	The warning number of deletions for non- volatile memory was exceeded. Or, the number of bad blocks in memory exceeded the warning value.	 Non-volatile memory life ex- pired. 			0	۲		page 3-112
10090000 hex [NJ-series, NX701]	Battery- backup Memory Check Error	An error was detect- ed in the memory check of the battery- backup memory in the CPU Unit.	 The battery voltage is low. The battery connector has come loose. The Battery is missing. 			0	٠		page 3-113
000F0000 hex	SD Memory Card Invalid Type	The current SD Mem- ory Card is not sup- ported.	 An SD Memory Card that is not supported was inserted in- to the CPU Unit. 				0		page 3-114
00100000 hex	SD Memory Card Life Exceeded	The specified number of deletions for the SD Memory Card was exceeded. Or, the number of bad blocks exceeded the specified value.	 The service life of the SD Memory Card was exceeded. 			٢	0		page 3-115
10030000 hex	SD Memory Card Invalid Format	The file format of the SD Memory Card is not FAT16 or FAT32.	 The file format of the SD Mem- ory Card inserted in the CPU Unit is not FAT16 or FAT32. 				0		page 3-115
10040000 hex	SD Memory Card Re- stored or Formatted	An error was detect- ed during the file sys- tem check and the file system was restored. Files may have been deleted.	 The Controller power supply was turned OFF while the SD BUSY indicator was lit. The power supply to the Con- troller was interrupted momen- tarily while the SD BUSY indi- cator was lit. The SD Memory Card was re- moved while the SD PWR indi- cator was lit. The SD Memory Card is dam- aged. 			۲	0		page 3-116

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
10060000 hex	SD Memory Card Data Corrupted	A file that must be in the SD Memory Card is missing or corrupt- ed.	 The Controller power supply was turned OFF while the SD BUSY indicator was lit. The power supply to the Con- troller was interrupted momen- tarily while the SD BUSY indi- cator was lit. The SD Memory Card was re- moved while the SD PWR indi- cator was lit. The SD Memory Card is dam- aged. 			٢	0		page 3-117
10070000 hex	SD Memory Card Access Power OFF Error	The power supply to the Controller was in- terrupted during ac- cess to the SD Mem- ory Card.	 The Controller power supply was turned OFF while the SD BUSY indicator was lit. The power supply to the Con- troller was interrupted momen- tarily while the SD BUSY indi- cator was lit. 				0		page 3-118
10130000 hex [NX102, NX1P2]	PLC System Information	This event provides internal information from the PLC Func- tion Module.	• This event provides internal in- formation from the PLC Func- tion Module. It is recorded to provide additional information for another event.				0		page 3-118
10310000 hex (Ver. 1.02 or later)	Incorrect SD Memory Card Re- moval	SD Memory Card re- moval processing failed.	The SD Memory Card was re- moved while the SD PWR indi- cator was lit.				0		page 3-119

Errors Related to CJ-series Unit Configuration

						eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04010000 hex [NJ-series]	I/O Bus Check Error	An error occurred in a bus line transmission between the CPU Unit and the Units in the rack slots. Or, detection of all Special I/O Units and CPU Bus Units was not completed when the power supply to the Controller was turned ON.	 The I/O Connecting Cable is disconnected or wires inside it are broken. Conductive material has gotten inside. The connector contact is faulty due to foreign material in the connector. Noise A Unit has failed. 	0					page 3-120
24010000 hex [NJ-series]	Unsupported Unit Detect- ed	An unsupported CJ- series Unit or Power Supply Unit is mount- ed.	 An unsupported CJ-series Unit or Power Supply Unit was de- tected. 	0					page 3-121
24020000 hex [NJ-series]	Too Many I/O Points	The total number of I/O points in the con- nected CJ-series Units exceeds the maximum specified value of the CPU Unit.	 The total number of I/O points in the connected CJ-series Ba- sic I/O Units exceeds 2,560. 	0					page 3-121
24030000 hex [NJ-series]	End Cover Missing	The End Cover is not connected to right end of the CPU Rack or an Expansion Rack.	 The End Cover is not connected to right end of the CPU Rack or an Expansion Rack. The End Cover is not connected properly. 	0					page 3-122
24040000 hex [NJ-series]	Incorrect Unit/Expan- sion Rack Connection	The number of Units or Expansion Racks exceeds the maxi- mum value specified for the CPU Unit. Or, an Interrupt Input Unit was mounted to a unsupported slot or to an Expansion Rack.	 More than 10 Units are connected to one Rack. More than three Expansion Racks are connected. More than two Interrupt Input Units are mounted. An Interrupt Input Unit was mounted to a unsupported slot or to an Expansion Rack. 	0					page 3-122
24050000 hex [NJ-series]	Duplicate Unit Number	The same unit num- ber is set for more than one Special I/O Unit or more than one CPU Bus Unit.	 The same unit number is set for more than one Special I/O Unit or more than one CPU Bus Unit. The same unit number is as- signed to a Special I/O Unit that uses more than one unit number and another Special I/O Unit. 	0					page 3-123

						eve	1		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
34010000 hex [NJ-series]	I/O Setting Check Error	There is an inconsis- tency between a Unit model in the Unit Configuration in the CPU Unit and the Unit model that is mounted in the Con- troller.	 A Unit model or Special Unit unit number in the Unit Config- uration in the CPU Unit is dif- ferent from the Unit model or the Special Unit unit number of the Unit that is mounted in the Controller. 	0					page 3-124
44400000 hex [NJ-series]	PLC Func- tion Proc- essing Error	A fatal error was de- tected in the PLC Function Module.	• An error occurred in the soft- ware.	0					page 3-124
64010000 hex [NJ-series]	Impossible to Access Special Unit	An error occurred in data exchange be- tween the CPU Unit and a Special Unit.	 The setting of the rotary switches or a DIP switch pin on a Special Unit is not cor- rect. An error occurred in the Spe- cial Unit. The Unit connection is faulty. Noise A Unit has failed. 			0			page 3-125
102D0000 hex (Ver. 1.03 or later) [NJ-series]	CJ-series Unit Backup Failed	The backup operation for a CJ-series Unit ended in an error.	 An error occurred in the Unit Configuration. An error occurred for a Special Unit. A restart is in progress for the Special Unit. A Unit model or Special Unit unit number in the Unit Config- uration in the CPU Unit is dif- ferent from the Unit model or the Special Unit unit number of the Unit that is mounted in the Controller. The CPU Unit or CJ-series Unit has failed. 				0		page 3-126
102E0000 hex (Ver. 1.03 or later) [NJ-series]	CJ-series Unit Restore Operation Failed	The restore operation for a CJ-series Unit ended in an error.	 An error occurred in the Unit Configuration. An error occurred for a Special Unit. The Unit Configuration in the backup file does not agree with the physical Unit configuration. A restart is in progress for the Special Unit. The restore conditions that are required by the Special Unit are not met. The backup files are corrupted. The CPU Unit or CJ-series Unit has failed. 				0		page 3-127

					L	eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
30200000 hex (Ver. 1.02 or later) [NJ-series]	Unsupported Unit Setting	A setting in the Spe- cial Unit is not sup- ported.	 A setting in the Special Unit is not supported by the CPU Unit. 				0		page 3-128
80010000 hex [NJ-series]	Illegal Pack- et Discarded	An illegal packet was received during mes- sage communica- tions. The illegal packet was discard- ed.	• Noise				0		page 3-128
04020000 hex [NJ-series]	PLC System Information	This event provides internal information from the PLC Func- tion Module.	 This event provides internal in- formation from the PLC Func- tion Module. It is recorded to provide additional information for another event. 					0	page 3-129
44410000 hex [NJ-series]	PLC System Information	This event provides internal information from the PLC Func- tion Module.	 This event provides internal in- formation from the PLC Func- tion Module. It is recorded to provide additional information for another event. 					0	page 3-129

Built-in I/O and Option Boards

					L	eve	el		Reference
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	
05440000 hex [NX1P2]	Option Board Error	An Option Board was removed or mounted during operation, or an Option Board hardware error occur- red.	 An Option Board was removed or mounted during operation. A hardware error was detected in an Option Board. 			0			page 3-130
35940000 hex [NX1P2]	Option Board Con- figuration Verification Error	The Option Board configuration setup does not agree with the actual configura- tion.	 The Option Board configura- tion setup does not agree with the actual configuration. An Option Board is not mount- ed correctly. 			0			page 3-131
35950000 hex [NX1P2]	Unsupported Option Board Mounted	There is an unsup- ported Option Board in the actual configu- ration.	 There is an unsupported Op- tion Board in the actual config- uration. 			0			page 3-131
88130000 hex [NX1P2]	Analog Op- tion Board Startup Error	An error occurred when an Analog Op- tion Board is started.	 An Analog Option Board is not mounted correctly. Or an Ana- log Option Board failed. 			0			page 3-132
88140000 hex [NX1P2]	Analog Op- tion Board Communica- tions Error	A communications er- ror occurred during Analog Option Board operation.	 If the indicator on an Analog Option Board flashes, it means that an error occurred in com- municating with the Analog Option Board during operation. If the indicator on an Analog Option Board is lit, it means that a WDT error occurred in the Analog Option Board. 			0			page 3-132

Errors Related to Tasks

					L	eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
60020000 hex	Task Execu- tion Timeout	Task execution ex- ceeded the timeout detection time.	 The timeout detection time setting is too short. The task period setting is too short. A user program is too large. The number of times that processing is repeated is larger than expected. Task Priority Error Frequent Event Task Execution 	0					page 3-133
60030000 hex	I/O Refresh- ing Timeout Error	Consecutive I/O re- fresh failures occur- red during the pri- mary periodic task or periodic task period.	 The task period setting is too short. Task Priority Error for Periodic Tasks and Event Tasks There are too many Units and slaves that perform I/O refresh in the task period. Frequent Event Task Execu- tion 	0					page 3-134
60040000 hex	Insufficient System Service Time Error	The specified system service execution time could not be ob- tained.	 There was not sufficient time to execute the tasks and tag data link service. The system service execution interval is too short or the sys- tem service execution time ra- tio is too long in the System Service Monitoring Settings. 	0					page 3-135
60010000 hex	Task Period Exceeded	Task execution was not completed during the set task period for the primary periodic task or a periodic task.	 The task period setting is too short. A user program is too large. The number of times that proc- essing is repeated is larger than expected. Task Priority Error for Periodic Tasks and Event Tasks Frequent Event Task Execu- tion 			0			page 3-136
60050000 hex	Task Period Exceeded	Task execution was not completed during the set task period for the primary periodic task or fixed periodic task.	 The task period setting is too short. A user program is too large. The number of times that proc- essing is repeated is larger than expected. Task Priority Error for Periodic Tasks and Event Tasks Frequent Event Task Execu- tion 				0		page 3-137

Errors Related to Controller Operation

						Leve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
1020000 hex	User Pro- gram/ Controller Configura- tions and Setup Trans- fer Error	The user program or Controller Configura- tions and Setup were not transferred cor- rectly.	 The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was in- terrupted during a download of the user program or the Con- troller Configurations and Set- up. The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was in- terrupted during online editing. The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was in- terrupted during and Setup are not correct because the power supply to the Controller was in- terrupted during a Clear All Memory operation. The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was in- terrupted during a restore op- eration. The power supply to the Con- troller is not cycled, although it is required after a Clear All Memory operation. Non-volatile memory failed. 	0					page 3-138
10210000 hex	Illegal User Program Ex- ecution ID	The user program ex- ecution IDs set in the user program and in the CPU Unit do not match.	 The user program execution IDs set in the user program and in the CPU Unit do not match. A user program execution ID is set in the CPU Unit but not in the user program. 	0					page 3-139
10240000 hex	Illegal User Program	The user program is not correct.	There are more than 8 nesting levels for functions or function blocks.	0					page 3-140
10250000 hex	Illegal User Program/ Controller Configura- tions and Setup	The upper limit of the usable memory was exceeded or the user program or Controller Configurations and Setup is corrupted.	 The upper limit of the data size was exceeded. The main memory capacity was exceeded. Non-volatile memory is deteriorating or has failed. 	0					page 3-141

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
1027000 hex (Ver. 1.03 or later)	Error in Starting Au- tomatic Transfer	An error was detected in pre-execution checks for automatic transfer.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. There is no autoload folder on the SD Memory Card. There are no backup files in the autoload folder on the SD Memory Card. Either the backup files in the autoload folder on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card. The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card. The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card. The model of the CPU Unit to which to transfer the files on the SD Memory Card. The cPU Unit of the backup files on the SD Memory Card. The cPU Unit is write-protected. The settings in the automatic transfer command file (AutoloadCommand.ini) are not correct. Reading the data for automatic transfer failed because the SD Memory Card is faulty or not formatted correctly. The SD Memory Card is damaged. The sD Memory Card is damaged. The otot version of the CPU Unit to which to transfer the files is older than the database connection service version of the SD Memory Card. 	0					page 3-142

3-2-1 Error Tables

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
			 The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has oc- curred. 						
10280000 hex (Ver. 1.03 or later)	Error in Exe- cuting Auto- matic Trans- fer	The automatic trans- fer ended in an error.	 It was not possible to read the data for automatic transfer. The SD Memory Card was removed during an automatic transfer. There are no backup files in the autoload folder on the SD Memory Card. The backup files in the autoload folder on the SD Memory Card. The backup files in the autoload folder on the SD Memory Card are corrupted. The SD Memory Card is damaged. An unexpected error has occurred. Also check the following when you use the Robot Integrated CPU Unit. The SD Memory Card is write protected. The Capacity of the SD Memory Card is insufficient. The number of files or directories in the SD Memory Card exceeded the maximum number supported by the file system of the SD Memory Card. 	0					page 3-145

						I	_eve	el		
Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	l n f	Reference
10330000 hex (Ver. 1.11 or later)	SD Memory Card Pro- gram Trans- fer Pre-exe- cution Check Error	An error was detect- ed in pre-execution checks for transfer- ring SD Memory Card programs.	• • • • •	An SD Memory Card is not in- serted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. There is no such folder on the SD Memory Card as specified by the _Card1PrgTrans- ferCmd.DirName system-de- fined variable. There are no backup files in such a folder on the SD Mem- ory Card as specified by the _Card1PrgTransferCmd.Dir- Name system-defined variable. Either the backup files in the folder specified by the_Card1PrgTrans- ferCmd.DirName system-de- fined variable on the SD Mem- ory Card are corrupted or re- quired data is not in the back- up files on the SD Memory Card. The unit version of the CPU Unit to which to transfer the files is older than the unit ver- sion of the backup files on the SD Memory Card. The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card. The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card. The CPU Unit is write-protect- ed. Required files are not set to transfer in the setting of the _Card1PrgTransferCmd sys- tem-defined variable. Reading the data for the SD Memory Card program transfer failed because the SD Memory Card is faulty or not formatted correctly. The SD Memory Card is dam- aged. The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has oc- curred.	0					page 3-147

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
10340000 hex	Error in Exe-	The SD Memory Card	 The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service version of the backup files on the SD Memory Card. The robot version of the CPU Unit to which to transfer the files is older than the robot version of the backup files on the SD Memory Card. It was not possible to read the 						page 3-150
(Ver. 1.11 or later)	cuting SD Memory Card Pro- gram Trans- fer	program transfer ended in an error.	 It was not possible to read the data for SD Memory Card program transfers. The SD Memory Card was removed during a SD Memory Card program transfer. There are no backup files in such a folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.Dir-Name system-defined variable. The backup files in such a folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.Dir-Name system-defined variable are corrupted. The SD Memory Card is damaged. An unexpected error has occurred. Also check the following when you use the Robot Integrated CPU Unit. The SD Memory Card is write protected. The capacity of the SD Memory Card is insufficient. The number of files or directories in the SD Memory Card exceeded the maximum number supported by the file system of the SD Memory Card. 	0					
40110000 hex	PLC Func- tion Proc- essing Error	A fatal error was de- tected in the PLC Function Module.	 An error occurred in the soft- ware. 	0					page 3-151
40160000 hex (Ver. 1.02 or earli- er) [NJ-series]	Safe Mode	The Controller started in Safe Mode.	 The power supply was turned ON to the Controller when the Safe Mode was set on the DIP switch on the CPU Unit. 	0					page 3-152

					L	_eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
44420000 hex (Ver. 1.05 or later)	PLC Func- tion Proc- essing Error	A fatal error was de- tected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-152
40120000 hex	PLC Func- tion Proc- essing Error	A fatal error was de- tected in the PLC Function Module.	 An error occurred in the soft- ware. 		0				page 3-153
35EF0000Hex (Ver. 1.63 or later) [NX502]	Automation Playback Startup Error	The automation play- back function cannot be started.	 Settings to use the automation playback function are made for the CPU Unit that does not support the automation play- back function. 			0			page 3-153
40130000 hex	PLC Func- tion Proc- essing Error	A fatal error was de- tected in part of the PLC Function Mod- ule.	 An error occurred in the soft- ware. 			0			page 3-154
95770000 hex (Ver.1.63 or later earlier than Ver.1.65) [NX502]	Upper Limit of Variable Sampling	The upper limit for variable sampling has been reached.	 The maximum number of vari- able sampling has been reached or size or processing capacity has exceeded the up- per limit. 			0			page 3-155
95790000 hex (Ver.1.65 or later) [NX502]	Upper Limit of Variable Sampling	The upper limit for variable sampling has been reached.	 The maximum number of vari- able sampling has been reached or size or processing capacity has exceeded the up- per limit. 			0	٠		page 3-156
10230000 hex	Event Log Save Error	Saving the event log failed.	 A low battery voltage prevent- ed retention of memory during a power interruption. Data in the event log area are invalid. 				0		page 3-157
10260000 hex	Trace Set- ting Transfer Failure	The power supply was interrupted while transferring the trace settings.	 The power supply was inter- rupted while transferring the trace settings. 				0		page 3-157

3 Error Descriptions and Corrections

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
1029000 hex (Ver. 1.03 or later)	Backup Failed to Start	An error was detect- ed in pre-execution checks for a backup operation.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. The SD Memory Card is write protected. The Prohibiting backing up data to the SD Memory Card parameter is set to prohibit backing up data to an SD Memory Card. Another backup operation is in progress. Synchronization, online editing, or the Clear All Memory operation is in progress. The backup was canceled by the user. The online connection with the Sysmac Studio was disconnected. An unexpected error has occurred. 				0		page 3-158

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
102A0000 hex (Ver. 1.03 or later)	Backup Failed	The backup operation ended in an error.	 The capacity of the SD Memory Card is insufficient. It was not possible to save the data that was specified for backup. The SD Memory Card was removed during a backup operation. Failed to back up Unit or slave. The backup was canceled by the user. Execution of the Save Cam Table instruction or changing the CPU Unit name is in progress. The online connection with the Sysmac Studio was disconnected. It was not possible to save the data that was specified for backup to the computer. The SD Memory Card is damaged. An unexpected error has occurred. Also check the following when you use the Robot Integrated CPU Unit. The SD Memory Card format is invalid The SD Memory Card is write protected. The SD Memory Card is write protected. 				0		page 3-160

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
102B0000 hex (Ver. 1.03 or later)	Restore Op- eration Failed to Start	An error was detect- ed in pre-execution checks for a restore operation.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. There are no backup files on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card. Either the backup files on the SD Memory Card. The unit version of the CPU Unit to which to restore the files is older than the unit version of the backup files on the SD Memory Card. The model of the CPU Unit to which to restore the files is older than the unit version of the backup files on the SD Memory Card. The model of the CPU Unit to which to restore the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card. Recovery was executed for the SD Memory Card. The CPU Unit is write-protected. The SD Memory Card. The CPU Unit is write-protected. A backup operation is in progress. Synchronization, online editing, or the Clear All Memory operation is in progress. The online connection with the Sysmac Studio was disconnected. Reading the data for restoration failed because the SD Memory Card is faulty or not formatted correctly. The SD Memory Card is damaged. The database connection service version of the CPU Unit to which to restore the files is older than the database connection service version of the SD Memory Card. 				0		page 3-162

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
			 The robot version of the CPU Unit to which to restore the files is older than the robot ver- sion of the backup files on the SD Memory Card. The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has oc- curred. Check the followings for specifi- cation with system-defined varia- bles. Restore by system-defined variable is set to Do not use in the Controller Setup. Password of Restore by sys- tem-defined variable in the Controller Setup does not agree with the _Card1Restor- eCmd.Password system-de- fined variable. The DIP switch on the CPU Unit is not set to allow starting the restore of SD Memory Card backups by specification with system-defined variables. There is no such folder as specified by the system-de- fined variable. Required files are not set to transfer in the setting of the system-defined variable. Also check the following when you use the Robot Integrated CPU Unit. The SD Memory Card is write protected. The capacity of the SD Memo- ry Card is insufficient. 						

3 Error Descriptions and Corrections

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
102C0000 hex (Ver. 1.03 or later)	Restore Operation Failed	The restore operation ended in an error.	 It was not possible to read the data to restore. The SD Memory Card was removed during a restore operation. Failed to restore Unit or slave. The SD Memory Card is damaged. An unexpected error has occurred. Also check the following when you use the Robot Integrated CPU Unit. The SD Memory Card is write protected. The Capacity of the SD Memory Card is insufficient. The number of files or directories in the SD Memory Card exceeded the maximum number supported by the file system of the SD Memory Card. 				0		page 3-165

					Level					
Event code	Event name	Meaning	Assumed	d cause	M a j	P rt	M i n	O b s	l n f o	Reference
10320000 hex (Ver. 1.11 or later)	SD Memory Gard Pro- gram Trans- fer Failed to Start	An error was detect- ed in pre-start checks for transferring SD Memory Card pro- grams.	 word system-de The DIP switch Unit is not set t the SD Memory transfer. An SD Memory serted. The SD Memor not correct. The format of th Card is not corred. There is no such SD Memory Card by the _Card1F ferCmd.DirNam fined variable. There are no bus such a folder of ory Card as spor _Card1PrgTran Name system-de Either the back folder specified the_Card1PrgT ferCmd.DirNam fined variable co ory Card are co quired data is r up files on the si Card. The unit version Unit to which to files is older that sion of the back SD Memory Card The model of th 	s set to Do not roller Setup. rogram transfer hed variable in Setup does not asferCmd.Pass- efined variable. on the CPU o allow starting y Card program a Card is not in- ry Card type is the SD Memory rect. ch folder on the ard as specified PrgTrans- ne system-de- ackup files in n the SD Mem- ecified by the heferCmd.Dir- defined variable. up files in the l by Trans- ne system-de- on the SD Mem- prupted or re- not in the back- SD Memory n of the CPU o transfer the an the unit ver- kup files on the ard. cPU Unit to er the files is not e model of the e backup files nory Card. s write-protect-				0		page 3-167

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
			 Synchronization, online editing, or the Clear All Memory operation is in progress. Required files are not set to transfer in the setting of the _Card1PrgTransferCmd system-defined variable. Reading the data for the SD Memory Card program transfer failed because the SD Memory Card is faulty or not formatted correctly. The SD Memory Card is damaged. The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service version of the SD Memory Card. The robot version of the CPU Unit to which to transfer the files is older than the robot version of the SD Memory Card. 						

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
103E0000 hex Version 1.14 or ater)	Restore Pre- execution Check Fail- ure	An error was detect- ed in preexecution checks for specifica- tion with system-de- fined variables for the SD Memory Card re- store operation.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. There is no such folder on the SD Memory Card as specified by the _Card1RestoreCmd.DirName system-defined variable. There are no backup files in such a folder on the SD Memory Card as specified by the _Card1RestoreCmd.DirName system-defined variable. Either the backup files in the folder specified by the _Card1RestoreCmd.DirName system-defined variable on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card. The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card. The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card. The CPU Unit is write-protected. Required files are not set to transfer in the setting of the system-defined variable. Reading the data for the SD Memory Card is faulty or not formatted correctly. The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. 				0		page 3-170

					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
			 The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service version of the backup files on the SD Memory Card. The robot version of the CPU Unit to which to transfer the files is older than the robot version of the backup files on the SD Memory Card. 						
103F0000 hex	Online Edits Transfer Failure	Transferring the on- line edits failed.	 The number of variables exceeded the upper limit of variables. The variable setting for Initial Value Specified/No Initial Value Specified was changed. 				0		page 3-172
152C0000Hex (Ver. 1.63 or later) [NX502]	Variable Log Save Failed	Variable logs were not saved.	 Although the conditions for saving the variable log were satisfied, the variable log could not be generated due to the following factors. The storage to save the log is unavailable for some rea- son. The storage to save the log is write-protected. Number of files or directo- ries in the storage has reached the maximum num- ber. 			٠	0		page 3-173
10630000 hex (Ver. 1.31 or later) [NX102] (Ver. 1.60 or later) [NX502]	Safety Data Logging Failed to Start	Starting the safety data logging failed.	 An SD Memory Card is not inserted. There are no logging setting files. The logging settings number of the logging setting file is duplicated. The logging settings number of the logging setting file is outside of the specifications. The logging setting files are invalid. Not all of safety master connections are established. Impossible to access a logging target variable that is specified in the logging setting file. 				0		page 3-174

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
10640000 hex (Version 1.31 or later) [NX102] (Ver. 1.60 or later) [NX502]	Safety Data Log File Save Failed	Saving the log file for safety data logging failed.	 The SD Memory Card was removed after the start of logging. The SD Memory Card is write-protected. The capacity of the SD Memory Card is insufficient. The maximum number of files for an SD Memory Card was exceeded. The SD Memory Card is damaged. 				0		page 3-175
40140000 hex	PLC System Information	This event provides internal information from the PLC Func- tion Module.	 This event provides internal in- formation from the PLC Func- tion Module. It is recorded to provide additional information for another event. 				0		page 3-176
40170000 hex (Ver. 1.03 or later)	Safe Mode	The Controller started in Safe Mode.	The Controller started in Safe Mode.				0		page 3-176
64050000Hex (Ver. 1.63 or later) [NX502]	Capacity Warning of Variable Log Save Desti- nation	The free storage space for variable logs is less than the specified capacity.	 The free storage space for var- iable logs has fallen below the specified capacity. 			•	0		page 3-177
64060000Hex (Ver. 1.63 or later) [NX502]	No Variable Log Concur- rency	The task of the next task period started before variable sam- pling was completed. If the variable log is output in this status, the concurrency of the variable log data cannot be ensured.	 Due to the following factors, the task of the next task period started before the variable sampling was completed. The number of variables to be sampled is too large. Task execution time as a ra- tio of overall task period is too high. 			•	0		page 3-178
64070000Hex (Ver. 1.63 or later) [NX502]	Cycle with No Variable Sampling	A cycle occurred in which variable sam- pling was omitted.	 Due to the following factors, a period in which variable sampling is not performed occurred. The number of variables to be sampled is too large. Unused time in task period is too short. 			•	0		page 3-179
64080000 hex (Ver. 1.69 or later) [NJ-series, NX502, NX102, and NX1P2] (Ver. 1.36 or later) [NX701]	Secure Communica- tion Forced Start	Secure communica- tion was forced to start.	• The CPU Unit has started with the secure communications version set to 2 and the DIP switch set to allow connection from the Sysmac Studio or an NA-series Programmable Terminal that does not support secure communication.				0		page 3-180

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80230000 hex (Ver. 1.05 or later)	NX Message Communica- tions Error	An error has occurred in message commu- nications.	 The communications cable is broken. The communications cable connector is disconnected. The NX message communications load is high. 				0		page 3-181
90470000 hex (Version 1.31 or later) [NX102] (Ver. 1.60 or later) [NX502]	Safety Data Logging Aborted	The execution of safety data logging was aborted.	 The execution of safety data logging was aborted by a serv- ice switch operation. Either a communication error on the safety master connec- tions occurred or the Safety CPU Unit entered a operating mode where it could not con- tinue safety process data com- munications. The NX bus was restarted. The Controller Setup or pro- gram was changed. 				0		page 3-182
95760000Hex (Ver. 1.63 or later) [NX502]	Variable Log Overwritten	Old variable logs were cleared and new variable logs were saved.	 There is not enough free space in the storage, or it has fallen below the specified ca- pacity. 			o	0		page 3-183
40150000 hex	PLC System Information	This event provides internal information from the PLC Func- tion Module.	 This event provides internal in- formation from the PLC Func- tion Module. It is recorded to provide additional information for another event. 					0	page 3-183
44430000 hex (Ver. 1.05 or later)	PLC System Information	This event provides internal information from the PLC Func- tion Module.	 This event provides internal in- formation from the PLC Func- tion Module. It is recorded to provide additional information for another event. 					0	page 3-184
90010000 hex	Clock Changed	The clock time was changed.	The clock time was changed.					0	page 3-184
90020000 hex	Time Zone Changed	The time zone was changed.	• The time zone was changed.					0	page 3-185
90030000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Online Con- nection Started	Online connection with the Sysmac Stu- dio was started.	 Online connection with the Sysmac Studio was started. 					0	page 3-185
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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
90040000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Online Con- nection Ended	Online connection with the Sysmac Stu- dio was terminated.	Online connection with the Sysmac Studio was terminat- ed.					0	page 3-186
90050000 hex (Ver. 1.10 or later)	User Pro- gram/ Controller Configura- tions and Setup Down- loaded	The user program and the Controller configurations and setup were down- loaded.	 The user program and the Controller configurations and setup were downloaded. 					0	page 3-187
90070000 hex (Ver. 1.10 or later)	Online Edits Transferred	The user program was edited online.	The user program was edited online and the edits were transferred to the Controller.					0	page 3-188
90080000 hex	Variable Changed to TRUE with Forced Re- freshing	Changing a variable to TRUE with forced refreshing was speci- fied.	 Changing a variable to TRUE with forced refreshing was specified by the user. 					0	page 3-188
90090000 hex	Variable Changed to FALSE with Forced Re- freshing	Changing a variable to FALSE with forced refreshing was speci- fied.	Changing a variable to FALSE with forced refreshing was specified by the user.					0	page 3-189
900A0000 hex	All Forced Refreshing Cleared	Clearing all forced re- freshing values was specified.	 Clearing all forced refreshing values was specified by the user. 					0	page 3-189
900B0000 hex	Memory All Cleared	All memory was cleared.	A user with Administrator rights cleared all of the memo- ry.					0	page 3-190
900C0000 hex	Event Log Cleared	The event log was cleared.	• The event log was cleared by the user.					0	page 3-191
900F0000 hex (Ver. 1.03 or later)	Automatic Transfer Completed	The automatic trans- fer was completed.	The automatic transfer was completed.					0	page 3-191
90110000 hex	Power Turned ON	The power supply was turned ON.	The power supply was turned ON.					0	page 3-192
90120000 hex	Power Inter- rupted	The power supply was interrupted.	• The power supply was inter- rupted.					0	page 3-192
90130000 hex	Operation Started	Operation was start- ed.	A command to start operation was received.					0	page 3-192
90140000 hex	Operation Stopped	Operation was stop- ped.	A command to stop operation was received.					0	page 3-193
90150000 hex	Reset Exe- cuted	A reset was execut- ed.	A reset command was re- ceived.					0	page 3-193

				Level			Level		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
90160000 hex	User Pro- gram Execu- tion ID Write	The user program ex- ecution ID was set or changed in the CPU Unit.	 A user with Administrator rights changed the user pro- gram execution ID that is set in the CPU Unit. 					0	page 3-194
90170000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Authentica- tion Setting Transferred	The authentication setting was transfer- red.	 The authentication setting was transferred. 					0	page 3-195
90180000 hex	All Controller Errors Cleared	All current errors were cleared.	The user cleared all current er- rors.					0	page 3-195
90190000 hex	Forced Re- freshing Cleared	Clearing a forced re- freshing value was specified.	 Clearing a forced refreshing value was specified by the user. 					0	page 3-196
901A0000 hex (Ver. 1.03 or later)	Backup Started	A backup operation was started.	• A backup operation was start- ed.					0	page 3-196
901B0000 hex (Ver. 1.03 or later)	Backup Completed	The backup operation ended normally.	The backup operation ended normally.					0	page 3-197
901C0000 hex (Ver. 1.03 or later)	Restore Op- eration Start- ed	A restore operation started.	A restore operation started.					0	page 3-197
901D0000 hex (Ver. 1.03 or later)	Restore Op- eration Com- pleted	The restore operation ended normally.	The restore operation ended normally.					0	page 3-198
90200000 hex (Ver. 1.11 or later)	SD Memory Card Pro- gram Trans- fer Started	Transferring the SD Memory Card pro- grams was started.	 Transferring the SD Memory Card programs was started. 					0	page 3-198
90210000 hex (Ver. 1.11 or later)	SD Memory Card Pro- gram Trans- fer Complet- ed	Transferring the SD Memory Card pro- grams was complet- ed.	 Transferring the SD Memory Card programs was complet- ed. 					0	page 3-199
90290000 hex (Ver. 1.32 or later) [NX102] (Ver. 1.21 or later) [NX701-□00, NX1P2, NJ501 (excluding NJ501-□20), NJ301, NJ101-□00]	Project Unit Version Changed	The project unit ver- sion was changed.	 The project unit version of the project in the Controller in the transfer or restore destination and that in the transfer or restore source project are different. The project was transferred or restored in the default or Clear All Memory state. 					0	page 3-199

				Level			Level		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
902A0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Change to RUN Mode Commanded	The Controller re- ceived a command to switch to RUN mode.	The Controller received a com- mand to switch to RUN mode.					0	page 3-200
902B0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Change to PROGRAM Mode Com- manded	The Controller re- ceived a command to switch to PROGRAM mode.	The Controller received a com- mand to switch to PROGRAM mode.					0	page 3-200
902C0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Access Rights Forci- bly Released	The access rights were forcibly re- leased.	The access rights were forcibly released.					0	page 3-201
902D0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	CPU Unit Name Changed	The CPU Unit name was changed.	• The CPU Unit name was changed.					0	page 3-201
902E0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	CPU Unit Write Pro- tected	The CPU Unit was write-protected.	 The CPU Unit was write-pro- tected. 					0	page 3-202

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
902F0000 hex (Version 1.49 or later) [NJ-series, NX102, and NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Mode Change Set- ting Written	Setting to change the operation mode was written.	 Setting to change the opera- tion mode was written. 					0	page 3-202
90300000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Backup Start Commanded	The Controller re- ceived a command to start backup opera- tion from Sysmac Studio.	 The Controller received a com- mand to start backup operation from Sysmac Studio. 					0	page 3-203
90310000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Restore Start Com- manded	The Controller re- ceived a command to start restore opera- tion from Sysmac Studio.	 The Controller received a com- mand to start restore operation from Sysmac Studio. 					0	page 3-203
90320000 hex (Version 1.60 or later) [NJ-series, NX102, NX1P2] (Version 1.32 or later) [NX701]	Firmware Update Pro- hibition Set- ting Changed	Firmware update pro- hibition setting was changed.	 Firmware update prohibition setting was changed. 					0	page 3-204
90330000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Start Instruc- tion of Om- ron Mainte- nance	Maintenance by Om- ron maintenance per- sonnel was begun.	 Maintenance by Omron main- tenance personnel was begun. 					0	page 3-204

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
90340000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502]	End Instruc- tion of Om- ron Mainte- nance	Maintenance by Om- ron maintenance per- sonnel was ended.	 Maintenance by Omron main- tenance personnel was ended. 					0	page 3-205
(Ver. 1.29 or later) [NX701]									
90460000 hex (Version 1.31 or later) [NX102] (Ver. 1.60 or later)	Safety Data Logging Started	Safety data logging was started.	Safety data logging was started because the start conditions were met.					0	page 3-205
[NX502] 90480000 hex	Safety Data	The execution of	The trigger condition that is						page 3-206
(Version 1.31 or later) [NX102] (Ver. 1.60 or later) [NX502]	Logging Completed	safety data logging was completed be- cause the trigger con- ditions were met.	specified in the Safety Data Log- ging Settings is met, and safety data logging ends.					0	
90A20000 hex (Version 1.49 or later) [NJ-series, NX102,	User Au- thentication Enabled	User authentication was enabled.	User authentication was enabled.						page 3-206
NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]								0	
90A30000 hex (Version 1.49 or later) [NJ-series, NX102,	User Au- thentication Disabled	User authentication was disabled.	User authentication was disabled.						page 3-207
NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]								0	
90A40000 hex (Version 1.49 or later) [NJ-series, NX102,	User Added	A user was added.	A user was added.						page 3-208
NX1P2] (Ver. 1.60 or later) [NX502]								0	
(Ver. 1.29 or later) [NX701]									

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
90A50000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Delet- ed	A user was deleted.	A user was deleted.					0	page 3-209
90A60000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Author- ity Changed	A user authority was changed.	A user authority was changed.					0	page 3-210
90A70000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Changed	A user password was changed.	A user password was changed.					0	page 3-211
90A80000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Validity Period Con- trol Enabled	Control of user pass- word validity period was activated.	Control of user password validity period was activated.					0	page 3-211
90A90000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Validity Period Con- trol Disabled	Control of user pass- word validity period was disabled.	Control of user password validity period was disabled.					0	page 3-212

				Level			Level		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
90AA0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Validity Period Changed	A validity period of user password was changed.	A validity period of user password was changed.					0	page 3-212
90AB0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Au- thentication Operation Lock Ena- bled	Operation lock of user authentication function was enabled.	Operation lock of user authenti- cation function was enabled.					0	page 3-213
90AC0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Au- thentication Operation Lock Disa- bled	Operation lock of user authentication function was disa- bled.	Operation lock of user authenti- cation function was disabled.					0	page 3-213
90AD0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Au- thentication Operation Lock Time Changed	Operation lock time of user authentication function was changed.	Operation lock time of user au- thentication function was changed.					0	page 3-214
90AE0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Verification Enabled	Operation authority verification was ena- bled.	Operation authority verification was enabled.					0	page 3-215

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
90AF0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Verification Disabled	Operation authority verification was disa- bled.	Operation authority verification was disabled.					0	page 3-216
90B00000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Password Changed	A operation authority password was changed.	A operation authority password was changed.					0	page 3-217
90B10000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority for Password Input Omis- sion Changed	An operation authori- ty used when pass- word input is omitted was changed.	An operation authority used when password input is omitted was changed.					0	page 3-218
90B20000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Verification Operation Lock Ena- bled	Operation lock of op- eration authority veri- fication function was enabled.	Operation lock of operation au- thority verification function was enabled.					0	page 3-219
90B30000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Verification Operation Lock Disa- bled	Operation lock of op- eration authority veri- fication function was disabled.	Operation lock of operation au- thority verification function was disabled.					0	page 3-220

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
90B40000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Verification Operation Lock Time Changed	Operation lock time of operation authority verification function was changed.	Operation lock time of operation authority verification function was changed.					0	page 3-221
90B50000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Expira- tion Notice Enabled	User password expi- ration notice was en- abled.	User password expiration no- tice was enabled.					0	page 3-221
90B60000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Expira- tion Notice Disabled	User password expi- ration notice was dis- abled.	 User password expiration no- tice was disabled. 					0	page 3-222
90B70000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Days for Pri- or Notice of User Pass- word Expira- tion Changed	Number of days set to give prior notice of user password expi- ration was changed.	 Number of days set to give pri- or notice of user password ex- piration was changed. 					0	page 3-222
90B80000 hex (Ver. 1.69 or later) [NJ-series, NX502, NX102, and NX1P2] (Ver. 1.36 or later) [NX701]	Secure Communica- tions Version Changed	The secure communi- cations version was changed.	 The secure communications version was changed. 					0	page 3-223
95720000Hex (Ver. 1.63 or later) [NX502]	Automation Playback Settings Changed	The settings for the automation playback function were changed.	• The Controller is synchronized with a project with changed settings on Sysmac Studio.					0	page 3-223

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
95730000Hex (Ver. 1.63 or later) [NX502]	Variable Sampling Started	Variable sampling started.	 Conditions to start variable sampling are met. 					0	page 3-224
95740000Hex (Ver. 1.63 or later) [NX502]	Variable Sampling Stopped	Variable sampling stopped.	 Conditions to end variable sampling are met. 					0	page 3-224
95750000Hex (Ver.1.63 or later earlier than Ver.1.65) [NX502]	Variable Log Output Com- pleted	Variable log output has completed.	 Save conditions of variable log are satisfied and output is completed. 					0	page 3-225
95780000 hex (Ver.1.65 or later) [NX502]	Variable Log Output Com- pleted	Variable log output has completed.	 Save conditions of variable log are satisfied and output is completed. 					0	page 3-225

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Errors Related to FINS Communications											
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Event code	Event name	Meaning	Assumed cause	M a j							

Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	n f o	Reference
14010000 hex [NJ-series]	CPU Bus Unit Setup Area Error	An error was detect- ed in the memory check of the Setup Area for CPU Bus Units.	 The power supply to the Con- troller was interrupted or com- munications with the Sysmac Studio were disconnected while downloading the CPU Bus Unit Settings. 			0			page 3-226
34100000 hex [NJ-series, NX701-□ □20, NX502, NX102, NX1P2]	IP Address Table Setting Error	The IP address table settings are incorrect.	 The IP address conversion method is set to the combined method or the IP address table method, but the IP address ta- ble settings are incorrect. 			0			page 3-226
34130000 hex [NJ-series, NX701-□ □20, NX502, NX102]	FINS/TCP Connection Table Setting Error	The FINS/TCP con- nection table is incor- rect.	• The power supply to the Con- troller was interrupted or com- munications with the Sysmac Studio were disconnected while downloading the FINS/TCP connection table.			0			page 3-227
34110000 hex [NJ-series, NX701-□ □20, NX502, NX102, NX1P2]	Unknown Destination Node	The send destination node is not known.	 The send destination node was not found when a FINS message was sent. 				0		page 3-227
80100000 hex [NJ-series, NX701-□ □20, NX502, NX102, NX1P2]	Packet Dis- carded	One or more packets were discarded.	 A FINS response addressed to the CPU Unit was received. The send designation Unit for the FINS response does not exist. 				0		page 3-228
80110000 hex [NJ-series]	Packet Dis- carded	One or more packets were discarded.	 An attempt was made to send a FINS response with over 2002 bytes. An attempt was made to route a FINS response with over 2002 bytes. Packet was received with a No Such Unit routing error. Packet was received with a Routing Error routing error. Packet was received with a No Routing Table routing error. Packet was received with an Event Area Size Over Limit routing error. There is insufficient space in the internal buffer. FINS message routing failed because the communications load is too high. 				0		page 3-229

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80120000 hex [NJ-series, NX701-□ □20, NX502, NX102, NX1P2]	Packet Discarded	One or more packets were discarded.	 A FINS response was received with the destination network address (DNA) set to the local network and the destination node address (DA1) not set to the local node. A FINS command or response was received with a hub network address specification for which the destination network address (DNA) was greater than or equal to 80 hex. There is insufficient space in the internal buffer. A FINS command that does not have the minimum command length was received. A FINS command that does not have the minimum command length was received. A FINS command that exceeded the maximum command length was received. Sending packets failed. FINS message routing failed because the communications load is too high. Or a command that was addressed to the built-in EtherNet/IP port was received with the source network address (SNA) set to 0. A FINS response that was addressed to the built-in EtherNet/IP port was received. A FINS response or a command for which a response is not required was received when the routing tables were not registered. A FINS response or a command for which a response is not required was received when the routing tables. A FINS response or a command for which a response is not required was received when there was an error in the routing tables. A FINS response or a command for which a response is not required was received that exceeded the number of relay points. Transmission is not possible because the destination address is not set in the routing tables. 				0		page 3-230

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
			 Routing is not possible be- cause the FINS node address setting in the Built-in EtherNet/IP Port Settings is set to 0 or 255. 						

Instructions

This section provides a table of errors (events) that occur for instructions. The lower four digits of the event code represent the error code (ErrorID) for the instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code of the instruction is 16#0400, refer to the description of event code 54010400 hex.

Event codes for instructions are supported by CPU Units with unit version 1.02 or later.

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54010415 hex	Firmware Er- ror	An error was detect- ed when an instruc- tion was executed.	An error occurred in the soft- ware.		0				page 3-232
54010400 hex	Input Value Out of Range	An input parameter for an instruction ex- ceeded the valid range for an input variable. Or, division by an in- teger of 0 occurred in division or remainder calculations.	 An input parameter for an in- struction exceeded the valid range for an input variable. Or, division by an integer of 0 oc- curred in division or remainder calculations. 				0		page 3-233
54010401 hex	Input Mis- match	The relationship for the instruction input parameters did not meet required condi- tions. Or, a numeric value during or after in- struction execution did not meet condi- tions.	 The relationship for an input parameter did not meet required conditions. A value when processing an instruction or in the result does not meet the conditions. 				0		page 3-234
54010402 hex	Floating- point Error	Non-numeric data was input for a float- ing-point number in- put parameter to an instruction.	 Non-numeric data was input for a floating-point number in- put parameter to an instruc- tion. 				0		page 3-235
54010403 hex	BCD Error	A value that was not BCD was input for a BCD input parameter to an instruction.	 A hexadecimal digit of A, B, C, D, E, or F was input for a BCD input parameter to an instruc- tion. 				0		page 3-235

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54010404 hex	Signed BCD Error	An illegal value was input for the most sig- nificant digit for a signed BCD input pa- rameter to an instruc- tion.	 An illegal value was input for the most significant digit for a signed BCD input parameter to an instruction. The most-significant digit was 2 to F when _BCD0 was specified as the BCD format. The most-significant digit was A, B, C, D, or E when _BCD2 was specified as the BCD format. The most-significant digit was B, C, D, or E when _BCD3 was specified as the BCD1 was specified as the BCD1 was specified as the BCD3 was specified as the BCD1 format. 				0		page 3-236
54010405 hex	Illegal Bit Position Specified	The bit position speci- fied for an instruction was illegal.	 The bit position specified for an instruction exceeds the da- ta range. 				0		page 3-237
54010406 hex	Illegal Data Position Specified	A memory address or data size that was specified for the in- struction is not suita- ble.	 A memory address that was specified for an instruction was outside the valid range. The data size that was specified for an instruction exceeded the valid range. For example, the data type of a variable and the data size may not agree. 				0		page 3-237
54010407 hex	Data Range Exceeded	The results of instruc- tion processing ex- ceeded the data area range of the output parameter.	 The results of instruction proc- essing, such as the number of array elements, exceeded the data area range of the output parameter. 				0		page 3-238
54010409 hex	No Errors to Clear	An instruction to clear a Controller error was executed when there was no error in the Controller.	An instruction to clear a Con- troller error was executed when there was no error in the Controller.				0		page 3-238
5401040B hex	No User Er- rors to Clear	An instruction to clear user-defined errors was executed when there was no user-de- fined error.	 An instruction to clear user-de- fined errors was executed when there was no user-de- fined error. 				0		page 3-239
5401040C hex	Limit Ex- ceeded for User-defined Errors	An attempt was made to use the Create User-defined Error in- struction to create more than the maxi- mum number of user- defined errors.	 An attempt was made to use the Create User-defined Error instruction to create more than the maximum number of user- defined errors. 				0		page 3-239

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401040D hex [NJ-series]	Illegal Unit Specified	The Unit specified for an instruction does not exist.	 A Unit that does not exist in the Unit configuration informa- tion was specified. A Unit that is in the Unit config- uration information was speci- fied, but the Units does not ac- tually exist in the Controller. 				0		page 3-240
5401040F hex [NJ-series]	Unit Restart Failed	Restarting a Special I/O Unit or CPU Bus Unit failed.	The Special Unit is operating.				0		page 3-240
54010410 hex	Text String Format Error	The text string input to an instruction is not correct.	 The text string that is input to the instruction for conversion to a number does not repre- sent a number or it does not represent a positive number. The input text string does not end in NULL. 				0		page 3-241
54010411 hex	Illegal Pro- gram Speci- fied	The program speci- fied for an instruction does not exist.	 The program specified by the function does not exist (e.g., it was deleted). 				0		page 3-242
54010413 hex [NJ-series]	Undefined CJ-series Memory Ad- dress	The required specifi- cation is missing for a variable for which CJ- series Unit memory must be specified.	 The required AT specification is missing for a variable for which CJ-series Unit memory must be specified. 				0		page 3-242
54010414 hex	Stack Un- derflow	There is no data in a stack.	 An attempt was made to read data from a stack that contains no data. 				0		page 3-243
54010416 hex	Illegal Num- ber of Array Elements or Dimensions	The valid range was exceeded for the number of array ele- ments or dimensions in an array I/O pa- rameter for an in- struction.	 The valid range was exceeded for the number of array ele- ments or dimensions in an ar- ray I/O parameter for an in- struction. 				0		page 3-243
54010417 hex	Specified Task Does Not Exist	The task specified for the instruction does not exist.	 The specified task does not exist. 				0		page 3-244
54010418 hex	Unallowed Task Specifi- cation	An unallowed task was specified for an instruction.	 The local task, the primary pe- riodic task, or a periodic task was specified. 				0		page 3-244
54010419 hex	Incorrect Da- ta Type	A data type that can- not be used for an in- struction is specified for an input or in-out variable.	 A data type that cannot be used for an instruction is speci- fied for an input or in-out varia- ble. 				0		page 3-245
5401041A hex	Multi-execu- tion of In- structions	Multi-execution was specified for an in- struction that does not support it.	 Execution of an instruction that does not support multi-execu- tion of instructions was speci- fied more than once. 				0		page 3-245

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401041B hex (Ver. 1.02 or later)	Data Ca- pacity Ex- ceeded	Processing was not possible because the data that was passed to the instruction was too large.	 Data that exceeded the size that can be processed was passed to an instruction. 				0		page 3-246
5401041C hex (Version 1.04 or later)	Different Da- ta Sizes	The size of the data specified for instruc- tion input or in-out da- ta is different from the size of the target pa- rameter.	• Data of a size that is different from the size of the target pa- rameter was specified for the input or in-out data of an in- struction.				0		page 3-247
5401041D hex (Ver. 1.05 or later)	Exceeded Simultane- ous Instruc- tion Execut- ed Resour- ces	The maximum re- sources that you can use for the relevant instruction group at the same time was exceeded.	 More than the maximum num- ber of relevant instructions were executed at the same time. 				0		page 3-248
54010421 hex (Ver. 1.50 or later) [NJ-series, NX102, and NX1P2] (Ver.1.32 or later) [NX701]	Failed to Get The Pro- gram Hash Code	Retrieving program hash code failed.	 The transfer of the user pro- gram failed. The project downloaded to the CPU Unit does not contain the information required for the in- struction. Non-volatile memory failure 				0		page 3-249
54010800 hex [NJ series, NX102, NX502]	FINS Error	An error occurred when a FINS com- mand was sent or re- ceived.	 An error occurred when a FINS command was sent or received. 				0		page 3-250
54010801 hex [NJ series, NX102, NX502]	FINS Port Already in Use	The FINS port is be- ing used.	The FINS port is being used.				0		page 3-250
54010C00 hex [NJ-series]	Illegal Serial Communica- tions Mode	The Serial Communi- cations Unit is not in the serial communi- cations mode re- quired to execute an instruction.	• The serial communications port for the Serial Communica- tions Unit is not set to the mode expected by the instruc- tion.				0		page 3-251
54010C03 hex (Ver. 1.11 or later)	Full Recep- tion Buffer	The reception buffer is full.	The reception buffer is full.				0		page 3-252
(Ver. 1.11 or later) 54010C04 hex (Ver. 1.11 or later)	Multi-execu- tion of Ports	The serial communi- cations instructions that cannot be exe- cuted simultaneously were executed.	 An instruction was executed while another instruction that cannot be executed at the same time with the former in- struction was executed. 				0		page 3-253
54010C05 hex (Ver. 1.11 or later)	Parity Error	A parity error occur- red in the data re- ceived.	 The communications settings or baud rate settings are not compatible with the remote de- vice. Noise 				0		page 3-254

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54010C06 hex (Ver. 1.11 or later)	Framing Er- ror	A framing error occur- red in the data re- ceived.	 The communications settings or baud rate settings are not compatible with the remote de- vice. Noise 				0		page 3-254
54010C07 hex (Ver. 1.11 or later)	Overrun Er- ror	An overrun error oc- curred in the data re- ceived.	 The next data was received during processing of received data because the baud rate is too high. 				0		page 3-255
54010C08 hex (Ver. 1.11 or later)	CRC Mis- match	The receive data had different CRC.	 A wrong message was re- ceived. Noise 				0		page 3-256
54010C0B hex (Ver. 1.11 or later)	Serial Com- munications Timeout	A timeout occurred in serial communica- tions.	 Wiring to the remote device is not connected. Power to the remote device is OFF. The communications settings or baud rate settings are not compatible with the remote device. Noise 				0		page 3-257
54010C0C hex (Ver. 1.11 or later)	Instruction Executed to Inapplicable Port	An instruction was executed to an inap- plicable port.	 An instruction was executed to an inapplicable port. 				0		page 3-258
54010C0D hex (Ver. 1.13 or later)	CIF Unit Ini- tialized	A CIF Unit was initial- ized, so the commu- nications data buf- fered in the CIF Unit was lost.	A CIF Unit was initialized.				0		page 3-258
54010C10 hex (Ver. 1.11 or later)	Exceptional Modbus Re- sponse	An exceptional code was returned from the Modbus slave.	An error was detected on the Modbus slave.				0		page 3-259
54010C11 hex (Ver. 1.11 or later)	Invalid Mod- bus Re- sponse	An unexpected re- sponse was returned from the Modbus slave.	 The function code or data size of the response received from the Modbus slave was incor- rect. 				0		page 3-260
54011400 hex	SD Memory Card Access Failure	SD Memory Card ac- cess failed when an instruction was exe- cuted.	 An SD Memory Card is either not inserted or is not inserted properly. The SD Memory Card is bro- ken. The SD Memory Card slot is broken. 				0		page 3-261
54011401 hex	SD Memory Card Write- protected	An attempt was made to write to a write-pro- tected SD Memory Card when an in- struction was execut- ed.	 An attempt was made to write to a write-protected SD Memo- ry Card. 				0		page 3-261

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54011402 hex	SD Memory Card Insuffi- cient Ca- pacity	The capacity of the SD Memory Card was insufficient when writing to the SD Memory Card for an instruction.	The SD Memory Card has run out of free space.				0		page 3-262
54011403 hex	File Does Not Exist	The file specified for an instruction does not exist. Or, the specified file is cor- rupted.	 The specified file does not exist. The specified file is corrupted. The SD Memory Card cannot be normally accessed due to a contact failure or other causes. 				0		page 3-262
54011404 hex	Too Many Files/Direc- tories	The maximum num- ber of files/directories was exceeded when creating a file/directo- ry for an instruction.	The number of files or directo- ries exceeded the maximum number.				0		page 3-263
54011405 hex	File Already in Use	A file specified for an instruction cannot be accessed because it is already being used.	 An instruction attempted to read or write a file already be- ing accessed by another in- struction. 				0		page 3-264
54011406 hex	Open Mode Mismatch	A file operation for an instruction was incon- sistent with the open mode of the file.	 The file open mode specified by the Open File instruction does not match the file opera- tion attempted by a subse- quent SD Memory Card in- struction. 				0		page 3-264
54011407 hex	Offset Out of Range	Access to the ad- dress is not possible for the offset specified for an instruction.	 An attempt was made to access beyond the size of the file. 				0		page 3-265
54011408 hex	Directory Not Empty	A directory was not empty when the De- lete Directory instruc- tion was executed or when an attempt was made to change the directory name.	 A directory was not empty when the Delete Directory in- struction was executed. A directory contained another directory when an attempt was made to change the directory name. 				0		page 3-265
54011409 hex	That File Name Al- ready Exists	An instruction could not be executed be- cause the file name specified for the in- struction already ex- ists.	 A file already exists with the same name as the name specified for the instruction to create. 				0		page 3-266
5401140A hex	Write Access Denied	An attempt was made to write to a write-pro- tected file or directory when an instruction was executed.	• The file or directory specified for the instruction to write is write-protected.				0		page 3-266

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401140B hex	Too Many Files Open	The maximum num- ber of open files was exceeded when opening a file for an instruction.	 The maximum number of open files was exceeded when opening a file for an instruc- tion. 				0		page 3-267
5401140C hex	Directory Does Not Exist	The directory speci- fied for an instruction does not exist.	The directory specified for an instruction does not exist.				0		page 3-267
5401140D hex	File or Direc- tory Name Is Too Long	The file name or di- rectory name that was specified for an instruction is too long.	 The file name or directory name that was specified for the instruction to create is too long. 				0		page 3-268
5401140E hex	SD Memory Card Access Failed	SD Memory Card ac- cess failed.	 The SD Memory Card is broken. The SD Memory Card slot is broken. 				0		page 3-268
5401140F hex (Ver. 1.08 or later)	Backup Op- eration Al- ready in Progress	Another backup oper- ation is already in progress.	 Another backup operation is already in progress. 				0		page 3-269
54011410 hex (Ver. 1.08 or later)	Cannot Exe- cute Backup	Execution of a back- up operation was not possible because ex- ecution of another op- eration was in prog- ress.	 Execution of the instruction was attempted during execu- tion of online editing. Execution of the instruction was attempted during execu- tion of a Save Cam Table in- struction. Execution of the instruction was attempted while a CPU Unit name change operation was in progress. 				0		page 3-270
54011411 hex (Ver. 1.08 or later)	Unit/Slave Backup Failed	A Unit/slave backup operation failed.	A Unit/slave backup operation failed.				0		page 3-271
54011800 hex	EtherCAT Communica- tions Error	Accessing the Ether- CAT network failed when an instruction was executed.	• The EtherCAT network is not in a usable status.				0		page 3-271
54011801 hex	EtherCAT Slave Does Not Re- spond	Accessing the target slave failed when an instruction was exe- cuted.	 The target slave does not exist. The target slave is not in an operating condition. 				0		page 3-272
54011802 hex	EtherCAT Timeout	A timeout occurred while trying to access an EtherCAT slave when an instruction was executed.	• Communications with the tar- get slave timed out.				0		page 3-272

3 Error Descriptions and Corrections

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54011803 hex	Reception Buffer Over- flow	The receive data from an EtherCAT slave overflowed the re- ceive buffer when an instruction was exe- cuted.	The receive data from the slave overflowed the receive buffer.				0		page 3-273
54011804 hex	SDO Abort Error	An SDO abort error was received from an EtherCAT slave when an instruction was executed.	Depends on the specifications of the slave.				0		page 3-273
54011805 hex	Saving Packet Mon- itor File	An instruction for packet monitoring was executed while saving an EtherCAT packet monitor file.	• An instruction for packet moni- toring was executed while sav- ing an EtherCAT packet moni- tor file.				0		page 3-274
54011806 hex	Packet Mon- itoring Func- tion Not Started	A Stop EtherCAT Packet Monitor in- struction was execut- ed when EtherCAT packet monitoring was stopped.	 A Stop EtherCAT Packet Moni- tor instruction was executed when EtherCAT packet moni- toring was stopped. 				0		page 3-274
54011807 hex	Packet Mon- itoring Func- tion in Oper- ation	A Start EtherCAT Packet Monitor in- struction was execut- ed when EtherCAT packet monitoring was already being executed.	The Start EtherCAT Packet Monitor instruction was execut- ed again while the EtherCAT packet monitoring function was already in operation.				0		page 3-275

3 Error Descriptions and Corrections

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54011808 hex	Communica- tions Re- source Over- flow	More than 32 Ether- CAT communications instructions/IO-Link communications in- structions were exe- cuted at the same time.	 More than 32 EtherCAT communications instructions/IO-Link communications instructions were executed at the same time. The EtherCAT communications instructions are listed below. EC_CoESDOWrite instruction EC_CoESDORead instruction EC_CoESDORead instruction EC_ConnectSlave instruction EC_ChangeEnableSetting instruction EC_StartMon instruction EC_CopyMon instruction EC_Coestatistics instruction EC_CopyMon instruction EC_Ceestatistics instruction EC_CopyMon instruction EC_Ceestatistics instruction EC_Ceestatistics instruction 				0		page 3-276
54011809 hex (Ver. 1.01 or later)	Packet Mon- itoring Func- tion Not Supported	Packets cannot be monitored.	 An instruction for packet moni- toring was executed for a CPU Unit that does not support packet monitoring. 				0		page 3-277
5401180A hex (Ver. 1.40 or later)	Cannot Exe- cute Instruc- tion to Slave	An instruction was executed for a slave that cannot execute an instruction.	 The EC_DisconnectSlave or EC_ConnectSlave instruction was executed for a disabled slave. The EC_ChangeEnableSetting instruction was executed for a disconnected slave. The EC_DisconnectSlave or EC_ChangeEnableSetting in- struction was executed for a slave in the ring topology. 				0		page 3-278

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401180D hex (Ver. 1.64 or later and Project Unit Ver. 1.64 or later)	Diagnosis/ Statistics Log Execut- ing	A master/slave diag- nostic and statistical information instruc- tion cannot be exe- cuted because the di- agnosis/statistics log is in operation.	 A master diagnostic and statis- tical information instruction (EC_GetMasterStatistics or EC_ClearMasterStatistics), or a slave diagnostic and statisti- cal information instruction (EC_GetSlaveStatistics or EC_ClearSlaveStatistics) was executed while the diagnosis/ statistics log was in operation. 				0		page 3-279
5401180E hex (Ver. 1.64 or later and Project Unit Ver. 1.64 or later)	Master Diag- nostic and Statistical In- formation In- struction Multi-execu- tion Disabled	A master diagnostic and statistical infor- mation instruction cannot be executed because more than one master diagnos- tic and statistical in- formation instruction was executed simul- taneously.	 A master diagnostic and statis- tical information instruction was executed during execution of the master diagnostic and statistical information instruc- tion (EC_GetMasterStatistics or EC_ClearMasterStatistics). 				0		page 3-280
5401180F hex (Ver. 1.64 or later and Project Unit Ver. 1.64 or later)	Slave Diag- nostic and Statistical In- formation In- struction Multi-execu- tion Disabled	A slave diagnostic and statistical infor- mation instruction cannot be executed because more than one slave diagnostic and statistical infor- mation instruction was executed simul- taneously.	 A slave diagnostic and statistical information instruction was executed during execution of the slave diagnostic and statis- tical information instruction (EC_GetSlaveStatistics or EC_ClearSlaveStatistics). 				0		page 3-281
54011C00 hex	Explicit Mes- sage Error	An error response code was returned for an explicit message that was sent with a CIP communications instruction.	 Depends on the nature of the error. 				0		page 3-282
54011C01 hex	Incorrect Route Path	The format of the route path that is specified for a CIP communications in- struction is not cor- rect.	 The format of the route path that is specified for a CIP communications instruction is not correct. Address resolution failed for the host name that was specified in a CIP communications instruction. 				0		page 3-282
54011C02 hex	CIP Handle Out of Range	The handle that is specified for the CIP communications in- struction is not cor- rect.	 The handle that is specified for the CIP communications in- struction is not correct. 				0		page 3-283

				Level				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference				
54011C03 hex	CIP Commu- nications Resource Overflow	The maximum re- sources that you can use for CIP communi- cations instructions at the same time was exceeded.	 More than 32 CIP communications instructions were executed at the same time. An attempt was made to use more than 32 handles at the same time. 				0		page 3-283				
54011C04 hex	CIP Timeout	A CIP timeout occur- red during execution of a CIP communica- tions instruction.	 A device does not exist for the specified IP address. The CIP connection for the specified handle timed out and was closed. Power to the remote device is OFF. Communications are stopped at the remote device. CIP Message Communications are stopped at the remote device. The Ethernet cable connector for EtherNet/IP is disconnected. The Ethernet cable for EtherNet/IP is disconnected. Packets of the instruction are not allowed by the Firewall function or Packet Filter function of the remote device or devices on the communication path. Noise 				0		page 3-284				
54011C05 hex (Ver. 1.06 or later)	Class-3 Connection Not Estab- lished	Establishing a class-3 connection failed for a CIP communica- tions instruction.	 The CIPOpen instruction was executed for a device that does not support class 3 (Large_Forward_Open). The CIPOpenWithDataSize instruction was executed with a specified data size of 510 bytes or larger for a device that does not support class 3 (Large_Forward_Open). 				0		page 3-285				
54011C06 hex (Ver. 1.06 or later)	CIP Commu- nications Data Size Exceeded	An attempt was made to send a class-3 ex- plicit message with a data size that is larg- er than the sendable size with a CIP com- munications instruc- tion.	 The data size that was specified for the input variable to the CIPRead, CIPWrite, or CIP- Send instruction exceeded the data size that was specified with the CIPOpenWithData- Size instruction. 				0		page 3-286				
54012000 hex	Local IP Ad- dress Set- ting Error	An instruction was executed when there was a setting error in the local IP address.	• An instruction was executed when there was a setting error in the local IP address.				0		page 3-287				

3-2 Errors in the PLC Function Module

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3-2-1 Error Tables

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Event code Ev	event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
Po	CP/UDP ort Already i Use	The UDP or TCP port was already in use when the instruction was executed.	•	The UDP or TCP port is al- ready in use.				0		page 3-287
Re	ddress esolution ailed	Address resolution failed for a remote node with the host name that was speci- fied in the instruction.	•	The host name specified for the instruction is not correct. The hosts and DNS settings in the Controller are incorrect. The DNS server settings are incorrect.				0		page 3-288
	ocket Sta- ıs Error	The status was not suitable for execution of the socket service instruction.	•	 SktUDPCreate Instruction The UDP port specified with the SrcUdpPort input variable is in one of the following states. It is already open. It is being closed. SktUDPRcv Instruction The specified socket is receiving data. The specified socket is closed. SktUDPSend Instruction The specified socket is sending data. The specified socket is closed. SktTCPAccept Instruction The specified socket is closed. SktTCPAccept Instruction The specified TCP port is in one of the following states. The port is being opened. The port is being closed. A connection is already established for this instruction for the same IP address and TCP port. SktTCPConnect Instruction The TCP port that is specified with the SrcTcpPort input variable is already open. The remote node that is specified with DstAdr input variable does not exist. The remote node that is specified with DstAdr and DstTcpPort input variables is not waiting for a connection. 				0		page 3-289

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Event code	Event name	Meaning	Assumed cause	м	Р	M	0	l n	Reference
				a j	rt	i n	b s	f o	
			 SktTCPRcv Instruction The specified socket is receiving data. The specified socket is closed. The specified socket handle is already used for secure socket communications. SktTCPSend Instruction The specified socket is sending data. The specified socket is closed. The specified socket is closed. The specified socket is closed. The send buffer of the specified socket is full (because the power to the remote node is OFF, the line is disconnected, etc.) The specified socket handle is already used for secure socket communications. SktClearBuf Instruction The specified socket handle is already used for secure socket communications. SktClearBuf Instruction The specified socket handle is already used for secure socket communications. [NX102 and NX1P2 CPU Units Ver. 1.50 or later and NX502 CPU Units Ver. 1.60 or later] SktTLSConnect Instruction The specified socket handle is already used for secure socket communications. [NX102, NX502] ModbusTCPCmd Instruction The specified socket is being processed. When the socket is closed. The specified socket handle is already used for secure socket communications. [NX102, NX502] ModbusTCPRead Instruction When the socket is being processed. When the socket is closed. The specified socket handle is already used for secure socket communications. 						

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
			 [NX102, NX502] ModbusTCPWrite Instruction When the socket is being processed. When the socket is closed. The specified socket handle is already used for secure socket communications. SktSetOption instruction The specified socket al- ready started communica- tions. The option type not support- ed by the specified socket was specified. 						
54012004 hex	Local IP Ad- dress Not Set	The local IP address was not set when a socket service in- struction was execut- ed.	 There is a BOOTP server setting error. The BOOTP server does not exist. The local IP address is not set because operation just started. 				0		page 3-291
54012006 hex	Socket Timeout	A timeout occurred for a socket service instruction.	 SktTCPAccept instruction: There was no request for a connection from the remote node during the user-set time- out time. SktTCPRcv or SktUDPRcv in- struction: Data was not received from the remote node during the user-set timeout time. 				0		page 3-292
54012007 hex	Socket Han- dle Out of Range	The handle that is specified for the sock- et service instruction is not correct.	 The handle that is specified for the socket service instruction is not correct. 				0		page 3-293
54012008 hex	Socket Com- munications Resource Overflow	The maximum re- sources that you can use for socket service instructions at the same time was ex- ceeded.	 More than 32 socket service instructions were executed at the same time (64 for NX102). More than 30 socket handles were used at the same time (60 for NX102, 16 for CPU Units with unit version 1.02 or earlier). 				0		page 3-294
5401200A hex (Ver. 1.46 or later) [NX102-000, NX1P2- 000, NX1P2- (Ver.1.37 or later) [NX102-020] (Ver. 1.60 or later) [NX502-100]	Invalid TLS Session Name	The specified TLS session name is not found in the secure socket setting.	The specified TLS session name is not set in the secure socket setting.				0		page 3-295

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401200B hex (Ver. 1.46 or later) [NX10200, NX1P2- 	Access to the Certifi- cate Failed	Access to the certifi- cate failed because the certificate and se- cure socket setting have not been trans- ferred or the certifi- cate has a password set.	 Client certificate has not been transferred to the Controller. A password is set for the forwarded client certificate. The secure socket setting does not exist or the contents of the secure socket setting are incorrect. 				0		page 3-296
5401200C hex (Ver. 1.46 or later) [NX102-000, NX1P2- (Ver. 1.37 or later) [NX102-020] (Ver. 1.60 or later) [NX502-100]	TLS Session Establish- ment Error	Establishment of a TLS session failed.	 Client certificate has not been transferred to the Controller. The contents of the client private key are incorrect. Establishment of secure socket communications failed. 				0		page 3-297
5401200E hex (Ver. 1.46 or later) [NX102-□00, NX1P2- □000] (Ver. 1.37 or later) [NX102-020] (Ver. 1.60 or later) [NX502-100]	Invalid TLS Session Handle	The TLS session handle specified by the secure socket service instruction is invalid.	The TLS session handle speci- fied by the secure socket service instruction is invalid.				0		page 3-298
5401200F hex (Ver. 1.46 or later) [NX102-000, NX1P2- 000, NX1P2- (Ver. 1.37 or later) [NX102-020] (Ver. 1.60 or later) [NX502-100]	TLS Error	An error occurred during secure socket communications.	An error occurred during secure socket communications.				0		page 3-298

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54012400 hex (Ver. 1.02 or later)	No Execu- tion Right	An instruction to change the settings of an EtherNet/IP port was executed when execution was not possible.	 An instruction to change the settings of the EtherNet/IP port, Ethernet port, or a CJ-series EtherNet/IP Unit was executed when restart processing was in progress for the EtherNet/IP port or Ethernet port. An instruction to change the settings of a CJ-series EtherNet/IP Unit was executed when restart processing was in progress for the Unit. An instruction to change the settings of the EtherNet/IP Unit was executed when restart processing was in progress for the Unit. An instruction to change the settings of the EtherNet/IP port, Ethernet port, or a CJ-series EtherNet/IP Unit was executed while the settings for an EtherNet/IP port or Ethernet port are being changed by an instruction or CIP messages. An instruction to change the settings of a CJ-series EtherNet/IP Unit was executed when changing settings was in progress for an instruction or CIP message for the Unit. The Unit (or unit number) specified in the instruction does not specify an EtherNet/IP port, Ethernet port, or CJ-series EtherNet/IP Unit. 				0		page 3-299
54012401 hex (Ver. 1.02 or later)	Settings Up- date Failed	It was not possible to update the settings of the CJ-series Ether- Net/IP Unit that were changed.	 Restart processing for a Unit or built-in EtherNet/IP port was started during execution of an instruction to change the set- tings of a CJ-series EtherNet/IP Unit. 				0		page 3-300
54012402 hex (Ver. 1.02 or later)	Too Many Simultane- ous Instruc- tion Execu- tions	Too many instructions to change the com- munications setup of the Controller were executed at the same time.	 Two or more instructions to change the communications setup of the Controller were executed at the same time. 				0		page 3-300
54012403 hex (Ver. 1.08 or later)	FTP Client Execution Limit Ex- ceeded	Too many FTP client communications in- structions were exe- cuted at the same time.	 Four or more FTP client com- munications instructions were executed at the same time. 				0		page 3-301

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54012404 hex (Ver. 1.08 or later)	File Number Limit Ex- ceeded	The number of files specified with a wild- card for an FTP client communications in- struction exceeded 1,000.	• The number of files specified with a file name that contained a wildcard for an FTP client communications instruction ex- ceeded 1,000.				0		page 3-301
54012405 hex (Ver. 1.08 or later)	Directory Does Not Exist (FTP)	The directory speci- fied for an FTP client communications in- struction does not ex- ist in the Controller or an incorrect path was specified.	 The directory specified for an FTP client communications in- struction does not exist in the Controller or an incorrect path was specified. 				0		page 3-302
54012406 hex (Ver. 1.08 or later)	FTP Server Connection Error	The destination FTP server that was speci- fied for an FTP client communications in- struction does not ex- ist on the network or the specified FTP server is not operat- ing.	 The destination FTP server that was specified for an FTP client communications instruc- tion does not exist on the net- work. The destination FTP server that was specified for an FTP client communications instruc- tion is not operating. FTP communications are not allowed by the designated des- tination FTP server or the Fire- wall function or Packet Filter function of the devices on the communication path. 				0		page 3-303
54012407 hex (Ver. 1.08 or later)	Destination FTP Server Execution Failure	The destination FTP server for an FTP cli- ent communications instruction returned an error.	 The destination FTP server for the FTP client communications instruction failed to execute the requested processing. When the Controller's Packet Filter function is enabled, packets from the FTP server are not allowed.^{*1} 				0		page 3-304
54012408 hex (Ver. 1.08 or later)	SD Memory Card Access Failed for FTP	SD Memory Card ac- cess from the FTP cli- ent failed.	 An SD Memory Card is not inserted. The SD Memory Card was removed during execution of the FTP client communications instruction. The capacity of the SD Memory Card is insufficient. The SD Memory Card is write protected. 				0		page 3-305
54012409 hex (Ver. 1.08 or later)	Specified File Does Not Exist	A file specified for an FTP client communi- cations instruction does not exist in the Controller.	 A file specified for an FTP cli- ent communications instruction does not exist in the Controller. 				0		page 3-306

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Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401240A hex (Ver. 1.08 or later)	Specified File Is Write Protected	The data was not transferred because the FTP client com- munications instruc- tion was set to not overwrite files with the same name.	•	The data was not transferred because the FTP client com- munications instruction was set to not overwrite files with the same name and a file with the specified file name already existed at the destination.				0		page 3-306
5401240B hex (Ver. 1.08 or later)	Failed To Delete Specified File	A file was not deleted after it was transfer- red with an FTP client communications in- struction.	•	The FTP client communica- tions instruction was set to de- lete files after they are trans- ferred, but it was not possible to delete the specified file be- cause it had a read-only attrib- ute. It was not possible to delete the file specified for the FTP client communications instruc- tion because it was in use by another application.				0		page 3-307
5401240C hex (Ver. 1.08 or later)	Specified File Access Failed	An FTP transfer for an FTP client com- munications instruc- tion failed because file access failed.	•	The file specified for the FTP client communications instruc- tion was in use by another ap- plication. The file or directory specified for the FTP client communica- tions instruction to write is write protected.				0		page 3-308
5401240D hex (Ver. 1.10 or later)	IP Address Setting Inva- lid	Instruction execution was not possible be- cause there is an er- ror between the IP address setting of the port specified in the instruction and the other port settings.	•	The network address of the port specified in the instruction is the same as the network ad- dress of another port. Both the port specified in the instruction and all other ports are set as unused ports.				0		page 3-309
54012C00 hex (Ver. 1.05 or later)	NX Message Error	An error response code was returned for an NX message.	•	Depends on the nature of the error.				0		page 3-310
54012C01 hex (Ver. 1.05 or later)	NX Message Resource Overflow	The maximum re- sources that you can use for NX message instructions at the same time was ex- ceeded.	•	More than 32 NX message in- structions were executed at the same time.				0		page 3-310

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54012C02 hex (Ver. 1.05 or later)	NX Message Timeout	A timeout occurred during execution of an NX message.	 The specified NX Unit does not exist. The NX message was closed because it timed out. Power to the remote Unit is OFF. Communications are stopped at the remote Unit. The communications cable connector is disconnected. The communications cable is broken. Noise 				0		page 3-311
54012C03 hex (Ver. 1.05 or later)	Incorrect NX Message Length	The length of the NX message is not cor- rect.	• The size that is specified for WriteDat or Path is too long.				0		page 3-312
54012C05 hex (Ver. 1.05 or later)	NX Message EtherCAT Network Er- ror	An error occurred in EtherCAT communi- cations on the NX message path.	• An error occurred in EtherCAT communications on the NX message path.				0		page 3-312
54012C06 hex (Ver. 1.05 or later)	External Re- start Already Executed for Specified NX Units	A restart was already in execution from the Sysmac Studio when the instruction was executed.	 A restart was already in execu- tion from the Sysmac Studio when the instruction was exe- cuted. 				0		page 3-313
54012C07 hex (Ver. 1.05 or later)	Unapplicable Unit Speci- fied for In- struction	A slave that cannot be specified for the instruction was con- nected at the slave node address of the specified Unit.	 A slave that cannot be speci- fied for the instruction was connected to the slave node address of the specified Unit. 				0		page 3-313
54012C08 hex (Ver. 1.10 or later)	Invalid Total Power ON Time Record	Failed to read the to- tal power ON time.	Non-volatile memory failure				0		page 3-314
54013461 hex	Process Da- ta Object Setting Miss- ing	The PDO mapping is not correct.	 The PDOs that are required for the motion control instruction are not mapped. The relevant instruction was executed for a device that does not have an object that supports the instruction. A motion control instruction that specifies phase Z (_mcEncoderMark) as the trigger conditions was executed for an axis that is mapped to an OM-RON GXEC02□□ EtherCAT Encoder slave. 				0		page 3-315
54014800 hex (Ver. 1.12 or later)	Device Error Received	An error response from the device was received.	An error response from the de- vice was received.				0		page 3-316

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Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54014801 hex (Ver. 1.12 or later)	Specified Unit Does Not Exist	The specified Unit does not exist.	•	The IO-Link master is not con- nected to or mounted on the specified position.				0		page 3-316
54014802 hex (Ver. 1.12 or later)	Message Processing Limit Ex- ceeded	An instruction cannot be executed because the IOLink master is processing the mes- sage from another application.	•	An instruction cannot be exe- cuted because the IO-Link master is processing the mes- sage from another application (an instruction execution or a tool connection).				0		page 3-317
54014803 hex (Ver. 1.12 or later)	Specified Unit Status Error	The specified Unit is not in a condition to receive messages.	•	The specified Unit is not in a condition to receive messages.				0		page 3-317
54014804 hex (Ver. 1.12 or later)	Too Many Simultane- ous Instruc- tion Execu- tions	The number of in- structions that can be simultaneously exe- cuted was exceeded.	•	More than 32 NX message in- structions and EtherCAT com- munications instructions were executed at the same time.				0		page 3-318
54014805 hex (Ver. 1.12 or later)	Communica- tions Time- out	A timeout occurred in communications.	•	The communications timeout time is shorter than the mes- sage response time. The cable for EtherCAT or for IO-Link is broken. Noise Device failure				0		page 3-319
54014806 hex (Ver. 1.12 or later)	Invalid Mode	The specified IO-Link master port is not the IO-Link mode.	•	The specified IO-Link master port is not the IO-Link mode.				0		page 3-319
54014807 hex (Ver. 1.12 or later)	I/O Power OFF Status	The I/O power is not supplied to the speci- fied IOLink master port.	•	The I/O power is not supplied to the specified IOLink master port.				0		page 3-320
54014808 hex (Ver. 1.12 or later)	Verification Error	The specified IO-Link master port had a verification error or a communications er- ror.	•	The specified IO-Link master port had a verification error or a communications error.				0		page 3-320
54014809 hex (Ver. 1.12 or later)	Incorrect De- vice Port Setting	The device port set- tings are not correct.	•	The device port settings are not correct.				0		page 3-321
54015420 hex	Electronic Gear Ratio Numerator Setting Out of Range	The parameter speci- fied for the <i>RatioNumerator</i> input variable to a motion control instruction is out of range.	•	Instruction input parameter ex- ceeded the valid range of the input variable.				0		page 3-321
54015421 hex	Electronic Gear Ratio Denominator Setting Out of Range	The parameter speci- fied for the <i>RatioDenominator</i> in- put variable to a mo- tion control instruction is out of range.	•	Instruction input parameter ex- ceeded the valid range of the input variable.				0		page 3-322

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015422 hex	Target Ve- locity Setting Out of Range	The parameter speci- fied for the <i>Velocity</i> input variable to a motion control in- struction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				0		page 3-322
54015423 hex	Acceleration Setting Out of Range	The parameter speci- fied for the <i>Acceleration</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-323
54015424 hex	Deceleration Setting Out of Range	The parameter speci- fied for the <i>Deceleration</i> input variable to a motion control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the input variable.				0		page 3-323
54015425 hex	Jerk Setting Out of Range	The parameter speci- fied for the <i>Jerk</i> input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				0		page 3-324
54015427 hex	Torque Ramp Set- ting Out of Range	The parameter speci- fied for the <i>TorqueRamp</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-324
54015428 hex	Master Coef- ficient Scal- ing Out of Range	The parameter speci- fied for the <i>MasterScaling</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-325
54015429 hex	Slave Coeffi- cient Scaling Out of Range	The parameter speci- fied for the <i>SlaveScaling</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-325
5401542A hex	Feeding Ve- locity Setting Out of Range	The parameter speci- fied for the <i>FeedVelocity</i> input variable to a motion control instruction is out of range.	• The Feed Velocity (input variable <i>FeedVelocity</i>) is still at the default (0).				0		page 3-326

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401542B hex	Buffer Mode Selection Out of Range	The parameter speci- fied for the <i>BufferMode</i> input var- iable to a motion con- trol instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-326
5401542C hex	Coordinate System Se- lection Out of Range	The parameter speci- fied for the <i>CoordSystem</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-327
5401542D hex	Circular In- terpolation Mode Selec- tion Out of Range	The parameter speci- fied for the <i>CircMode</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-327
5401542E hex	Direction Se- lection Out of Range	The parameter speci- fied for the <i>Direction</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-328
5401542F hex	Path Selec- tion Out of Range	The parameter speci- fied for the <i>PathChoice</i> input var- iable to a motion con- trol instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-328
54015430 hex	Position Type Selec- tion Out of Range	The parameter speci- fied for the <i>ReferenceType</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-329
54015431 hex	Travel Mode Selection Out of Range	The parameter speci- fied for the <i>MoveMode</i> input vari- able to a motion con- trol instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-329
54015432 hex	Transition Mode Selec- tion Out of Range	The parameter speci- fied for the <i>TransitionMode</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. _mcAborting or _mcBuffered was specified for <i>BufferMode</i> and_mcTMCornerSuperimposed was specified for <i>TransitionMode</i>. 				0		page 3-330

Event code					L	eve			
	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015433 hex	Continue Method Se- lection Out of Range	The value of the re- served input variable <i>Continuous</i> to a mo- tion control instruction changed.	 The value of the reserved input variable <i>Continuous</i> changed. 				0		page 3-330
54015434 hex	Combine Mode Selec- tion Out of Range	The parameter speci- fied for the <i>CombineMode</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-331
54015435 hex	Synchroni- zation Start Condition Selection Out of Range	The parameter speci- fied for the <i>LinkOption</i> input vari- able to a motion con- trol instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-331
54015436 hex	Master and Slave De- fined as Same Axis	The same axis is specified for the <i>Master</i> and <i>Slave</i> in- put variables to a mo- tion control instruc- tion.	 The parameter is the same for the <i>Master</i> and <i>Slave</i> input variables to the instruction. 				0		page 3-332
54015437 hex	Master and Auxiliary De- fined as Same Axis	The same axis is specified for the <i>Master</i> and <i>Auxiliary</i> input variables to a motion control in- struction.	• The parameter is the same for the <i>Master</i> and <i>Auxiliary</i> input variables to the instruction.				0		page 3-332
54015438 hex	Master/ Slave Axis Numbers Not in As- cending Or- der	The axis numbers specified for the <i>Master</i> and <i>Slave</i> in- put variables to a mo- tion control instruction are not in ascending order.	 The parameters for the Master and Slave input variables to the instruction were not in as- cending order when _mcLa- testCommand was specified for the Reference Type input variable to the instruction. 				0		page 3-333
54015439 hex	Incorrect Cam Table Specification	The parameter speci- fied for the <i>CamTable</i> input variable to a motion control in- struction is out of range.	 Something other than a cam data variable was specified for the CamTable input variable to the instruction. 				0		page 3-333
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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401543A hex	Synchroni- zation Stop- ped	A synchronized con- trol motion control in- struction was execut- ed, but conditions re- quired for execution were not met.	 The MC_CamOut (End Cam Operation) instruction was executed even though the MC_CamIn (Start Cam Opera- tion) instruction is not being executed. The MC_GearOut (End Gear Operation) instruction was executed even though the MC_GearIn (Start Gear Opera- tion) or the MC_GearInPos (Positioning Gear Operation) instruction is not being execut- ed. The MC_Phasing (Shift Master Axis Phase) instruction was executed even though the MC_CamIn (Start Cam Opera- tion), MC_GearInPos (Start Gear Operation), or MC_MoveLink (Synchronous Positioning) instruction is not being executed. 				0		page 3-334
5401543B hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled	An attempt was made to re-execute a mo- tion control instruction that cannot be re- executed.	 A motion control instruction that cannot be re-executed was re-executed. 				0		page 3-335
5401543C hex	Motion Con- trol Instruc- tion Multi-ex- ecution Dis- abled	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or ax- es group).	 Multiple functions that cannot be executed simultaneously were executed for the same target (MC common or axis). 				0		page 3-336
5401543D hex	Instruction Not Allowed for Encoder Axis Type	An operation instruc- tion was executed for an encoder axis.	 An operation instruction was executed for an encoder axis. 				0		page 3-336

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401543E hex	Instruction Cannot Be Executed during Multi- axes Coordi- nated Con- trol	 An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. A robot instruction that you cannot use for an axes group in a Group-Enable state was executed. 	 An operation instruction was executed for an axis or an ax- es group that was in a coordi- nated multi-axes motion. The MC_SetKinTransform in- struction was executed for an axes group in a GroupEnable state. 				0		page 3-337
5401543F hex	Multi-axes Coordinated Control In- struction Executed for Disabled Ax- es Group	A multi-axes coordi- nated control instruc- tion was executed for an axes group that was in a GroupDisa- ble state.	 A multi-axes coordinated control instruction was executed for an axes group that was in a GroupDisable state. One of the following instructions was executed for an axes group that was in a GroupDisable state. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog 				0		page 3-338
54015440 hex	Axes Group Cannot Be Enabled	Execution of the MC_GroupEnable (Enable Axes Group) instruction failed.	 When the MC_GroupEnable (Enable Axes Group) instruc- tion was executed, there was a composition axis that was not stopped. When the MC_GroupEnable (Enable Axes Group) instruc- tion was executed, there was a composition axis for which the MC_TouchProbe (Enable Ex- ternal Latch) instruction was being executed. 				0		page 3-339
54015441 hex	Impossible Axis Opera- tion Speci- fied when the Servo is OFF	An operation instruc- tion was executed for an axis for which the Servo is OFF.	 An operation instruction was executed for an axis for which the Servo is OFF. Home was preset with the MC_Home or MC_HomeWith- Parameter instruction for an axis for which EtherCAT proc- ess data communications are not established. 				0		page 3-340

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015442 hex	Composition Axis Stop- ped Error	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition ax- is.	 A motion instruction was exe- cuted for an axes group while the MC_Stop instruction was being executed for a composi- tion axis. 				0		page 3-341
54015443 hex	Motion Con- trol Instruc- tion Multi-ex- ecution Buf- fer Limit Ex- ceeded	The number of mo- tion control instruc- tions that is buffered for Buffered or Blend- ing Buffer Modes ex- ceeded the buffer lim- it.	 An axis instruction was executed when there was already a current instruction and a buffered instruction for the same axis. An axes group instruction was executed when there was already eight current instructions and buffered instructions for the same axis. 				0		page 3-341
54015444 hex	Insufficient Travel Dis- tance	The specified motion cannot be executed for the deceleration rate or acceleration rate that was speci- fied for multi-execu- tion or re-execution of a positioning instruc- tion.	 Stopping at the target position was not possible for the speci- fied acceleration/deceleration rate for multi-execution or re- execution of a positioning in- struction when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop. 				0		page 3-342
54015445 hex	Insufficient Travel Dis- tance to Achieve Blending Transit Ve- locity	There is not sufficient travel distance to ac- celerate or decelerate to the transit velocity.	 There was not sufficient travel distance to accelerate the cur- rent command to the transit velocity when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop. 				0		page 3-343
54015446 hex	Move Link Constant Ve- locity Insuffi- cient Travel Distance	The constant-velocity travel distance of the master axis is less than zero.	The constant velocity travel distance of the master axis is below 0 for the MC_MoveLink (Synchronous Positioning) in- struction.				0		page 3-343
54015447 hex	Positioning Gear Opera- tion Insuffi- cient Target Velocity	For the MC_GearIn- Pos (Positioning Gear Operation) instruc- tion, the <i>target</i> <i>velocity</i> of the slave axis is too small to achieve the required velocity.	 For the MC_GearInPos (Positioning Gear Operation) instruction, the value of the Velocity (Target Velocity) input variable is smaller than the master axis velocity multiplied by the gear ratio when the instruction was executed. 				0		page 3-344

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015448 hex	Same Start Point and End Point for Circular In- terpolation	The start point and end point were the same when the radi- us method was speci- fied for the MC_MoveCircular2D (Circular 2D Interpo- lation) instruction. Or, the start point, end point, and border point were the same when the border point method was speci- fied.	 The start point and end point were the same when the radi- us method was specified for the MC_MoveCircular2D (Cir- cular 2D Interpolation) instruc- tion. The start point, end point, and border point were the same when the border point method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction. 				0		page 3-345
54015449 hex	Circular In- terpolation Center Specification Position Out of Range	The position specified for the center point exceeded the allowed range when the cen- ter method was specified for the MC_MoveCircular2D (Circular 2D Interpo- lation) instruction.	 The difference between the distance from the start point to the center point and the dis- tance between the end point to the center point exceeded the permitted value specified for the correction allowance ratio in the axes group set- tings when the center designa- tion method was specified for the MC_MoveCircular2D (Cir- cular 2D Interpolation) instruc- tion. 				0		page 3-346
5401544A hex	Instruction Execution Error Caused by Count Mode Setting	An instruction that cannot be used when the Count Mode is set to Rotary Mode was executed for an axis that was set to Rotary Mode.	 An instruction that cannot be used when the Count Mode is set to Rotary Mode was exe- cuted for an axis that was set to Rotary Mode. 				0		page 3-346
5401544C hex	Parameter Selection Out of Range	The parameter speci- fied for the <i>ParameterNumber</i> in- put variable to a mo- tion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-347
5401544D hex	Stop Method Selection Out of Range	The parameter speci- fied for the <i>StopMode</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-347

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401544E hex	Latch ID Se- lection Out of Range for Trigger Input Condition	The parameter speci- fied for the <i>TriggerInput::LatchID</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-348
5401544F hex	Setting Out of Range for Writing MC Setting	The parameter speci- fied for the <i>SettingValue</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The parameter specification and the data type of the setting value do not agree. 				0		page 3-348
54015450 hex	Trigger Input Condition Mode Selec- tion Out of Range	The parameter speci- fied for the <i>TriggerInput:: Mode</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-349
54015451 hex	Drive Trigger Signal Se- lection Out of Range for Trigger Input Condition	The parameter speci- fied for the <i>TriggerInput::InputDri</i> <i>ve</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-349
54015453 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Axis Specifica- tion)	An attempt was made to change the param- eter for the <i>Axis</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		page 3-350
54015454 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Buffer Mode Selec- tion)	An attempt was made to change the param- eter for the <i>BufferMode</i> input var- iable when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		page 3-351

3 Error Descriptions and Corrections

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015455 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Direc- tion Selec- tion)	An attempt was made to change the param- eter for the <i>Direction</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	 An input variable that cannot be changed for re-execution was changed. 				0		page 3-352
54015456 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Execu- tion Mode)	An attempt was made to change the param- eter for the <i>Periodic</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		page 3-352
54015457 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Axes Group Spec- ification)	An attempt was made to change the param- eter for the <i>AxesGroup</i> input vari- able when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		page 3-353
54015458 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Jerk Setting)	An attempt was made to change the param- eter for the <i>Jerk</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		page 3-354
54015459 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Master Axis)	An attempt was made to change the param- eter for the <i>Master</i> in- put variable when re- executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		page 3-355

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401545A hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Mas- terOffset)	An attempt was made to change the param- eter for the <i>MasterOffset</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 				0		page 3-355
5401545B hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Mas- terScaling)	An attempt was made to change the param- eter for the <i>MasterScaling</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 				0		page 3-356
5401545C hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Mas- terStartDis- tance)	An attempt was made to change the param- eter for the <i>MasterStartDistance</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 				0		page 3-356
5401545D hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Continuous)	An attempt was made to change the param- eter for the <i>Continuous</i> input vari- able when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		page 3-357

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401545E hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Move- Mode)	An attempt was made to change the param- eter for the <i>MoveMode</i> input vari- able when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		page 3-357
5401545F hex	Illegal Auxili- ary Axis Specification	The axis specified for the <i>Auxiliary</i> input variable to a motion control instruction does not exist.	• An axis does not exist for the variable specified for the <i>Auxiliary</i> input variable to the instruction.				0		page 3-358
54015460 hex	Illegal Axis Specification	The axis specified for the <i>Axis</i> input varia- ble to a motion con- trol instruction does not exist.	• An axis does not exist for the variable specified for the <i>Axis</i> input variable to the instruction.				0		page 3-358
54015461 hex	Illegal Axes Group Spec- ification	The axes group specified for the <i>AxesGroup</i> input vari- able to a motion con- trol instruction does not exist or is not a used group.	 An axes group does not exist for the variable specified for the AxesGroup input variable to the instruction. The axes group specified for the AxesGroup input variable to the instruction is not speci- fied as a used group. 				0		page 3-359
54015462 hex	Illegal Mas- ter Axis Specification	The axis that is speci- fied for the <i>Master</i> in- put variable to a mo- tion control instruction is not correct.	 An axis does not exist for the variable specified for the <i>Master</i> input variable to the instruction. The axis that was specified for the <i>Master</i> input variable to the MC_Phasing (Shift Master Axis Phase) instruction is not the master axis for syncing. The master axis and a slave axis are not assigned to the same task. 				0		page 3-360
54015463 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Slave- Offset)	An attempt was made to change the <i>SlaveOffset</i> input var- iable when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		page 3-361

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015464 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Slave- Scaling)	An attempt was made to change the <i>SlaveScaling</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 				0		page 3-361
54015465 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Start- Position)	An attempt was made to change the <i>StartPosition</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		page 3-362
54015466 hex	Instruction Execution Error with Undefined Home	High-speed homing or an interpolation in- struction was execut- ed when home was undefined.	 High-speed homing was exe- cuted when home was unde- fined. An interpolation instruction was executed for an axes group that includes an axis with no defined home. One of the following robot in- structions was executed for an axes group that includes a log- ical axis with no defined home. MC_SetKinTransform MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_GroupMon MC_RobotJog 				0		page 3-363
54015467 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Posi- tion Type)	An attempt was made to change the <i>ReferenceType</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		page 3-364
54015468 hex	Unused Axis Specification for Master Axis	The master axis specified for a motion control instruction is an unused axis.	• The master axis specified for a motion control instruction is an unused axis.				0		page 3-364

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015469 hex	First Position Setting Out of Range	The parameter speci- fied for the <i>FirstPosition</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-365
5401546A hex	Last Position Setting Out of Range	The parameter speci- fied for the <i>LastPosition</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-365
5401546B hex	Illegal First/ Last Position Size Rela- tionship (Lin- ear Mode)	The parameter speci- fied for the <i>LastPosition</i> input variable to a motion control instruction is smaller than the pa- rameter specified for the <i>FirstPosition</i> input variable.	• The value of the <i>LastPosition</i> input parameter is less than the value of the <i>FirstPosition</i> input variable for the instruc- tion when the Count Mode is set to Linear Mode.				0		page 3-366
5401546C hex	Master Sync Start Posi- tion Setting Out of Range	The parameter speci- fied for the <i>MasterSyncPosition</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-366
5401546D hex	Slave Sync Start Posi- tion Setting Out of Range	The parameter speci- fied for the <i>SlaveSyncPosition</i> in- put variable to a mo- tion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-367
5401546E hex	Duplicate Latch ID for Trigger Input Condition	The same latch ID was specified for more than one motion control instruction.	 The same latch ID is used simultaneously for more than one of the following instructions: MC_TouchProbe (Enable External Latch) instruction, MC_MoveLink (Synchronous Positioning) instruction, and MC_MoveFeed (Interrupt Feeding) instruction. The MC_AbortTrigger (Disable External Latch) instruction was executed to cancel a latch that was used by an instruction other than the MC_TouchProbe (Enable External Latch) instruction, instruction. 				0		page 3-367

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401546F hex	Jerk Over- ride Factor Out of Range	The parameter speci- fied for the <i>JerkFactor</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-368
54015470 hex	Acceleration/ Deceleration Override Factor Out of Range	The parameter speci- fied for the <i>AccFactor</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-368
54015471 hex	First Position Method Specification Out of Range	The parameter speci- fied for the <i>StartMode</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-369
54015472 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (First Position Method)	An attempt was made to change the <i>StartMode</i> input vari- able when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 				0		page 3-369
54015474 hex	Unused Axis Specification for Auxiliary Axis	The axis specified for the <i>Auxiliary</i> input variable to a motion control instruction is an unused axis.	• The axis specified for the <i>Auxiliary</i> input variable to the instruction is an unused axis.				0		page 3-370
54015475 hex	Position Gear Value Error	Synchronized motion is not possible for the velocity, acceleration rate, and deceleration rate that were input to a motion control in- struction.	 The specified synchronized motion cannot be performed at the velocity, acceleration rate, or deceleration rate that is in- put to the instruction. 				0		page 3-370
54015476 hex	Position Gear Master Axis Zero Velocity	The velocity of the master axis was zero when a motion con- trol instruction was started.	• The velocity of the master axis was 0 when the instruction was started.				0		page 3-371
54015478 hex	Target Posi- tion Setting Out of Range	The parameter speci- fied for the <i>Position</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The target position of a Rotary Mode axis is not within the ring setting range. 				0		page 3-371

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015479 hex	Travel Dis- tance Out of Range	The parameter that was specified for the <i>Distance</i> input varia- ble to a motion con- trol instruction is out of range or the target position with the val- ue of <i>Distance</i> added is out of range.	 The absolute value of the instruction input parameter exceeded the range of 40-bit data when it is converted to pulses. For a Linear Mode axis, the target position with the travel distance added exceeded signed 40-bit data when the absolute value is converted to pulses. 				0		page 3-372
5401547A hex	Cam Table Start Point Setting Out of Range	The parameter speci- fied for the <i>StartPosition</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-372
5401547B hex	Cam Master Axis Follow- ing First Po- sition Setting Out of Range	The parameter speci- fied for the <i>MasterStartDistance</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-373
5401547C hex	Circular In- terpolation Radius Set- ting Error	It was not possible to create a circular path for the specified radi- us when the radius method was specified for the MC_MoveCir- cular2D (Circular 2D Interpolation) instruc- tion.	 For the MC_MoveCircular2D (Circular 2D Interpolation) in- struction, it was not possible to create a circular path for the specified radius when the radi- us method was specified for circular interpolation. 				0		page 3-373
5401547D hex	Circular In- terpolation Radius Overflow	For the MC_MoveCir- cular2D (Circular 2D Interpolation) instruc- tion, the radius of the circle exceeded the maximum value for the border point or center specification method.	• For the MC_MoveCircular2D (Circular 2D Interpolation) in- struction, the radius of the cir- cle exceeded 40-bit data when converted to pulses for the border point or center specifi- cation method.				0		page 3-374
5401547E hex	Circular In- terpolation Setting Out of Range	The parameter speci- fied for the <i>CircAxes</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The axes that were specified in <i>CircAxes</i> are not included in the composition axes in the Axes Group Settings. The same axis was specified for both axes of <i>CircAxes</i>. 				0		page 3-375

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401547F hex	Auxiliary/ Slave Axis Numbers Not in As- cending Or- der	The values of the pa- rameters for the <i>Auxiliary</i> and <i>Slave</i> input variables to a motion control in- struction are not in ascending order.	• The parameters for the <i>Auxiliary</i> and <i>Slave</i> input variables to the instruction are not in ascending order.				0		page 3-375
54015480 hex	Cam Table Property As- cending Da- ta Error at Update	A phase that was not in ascending order was found during cal- culating the number of valid data. Or, after calculations, the num- ber of valid data is 0.	 A phase that was not in ascending order was found when calculating the number of valid data. After calculations, the number of valid data is 0. 				0		page 3-376
54015481 hex	MC_Write Target Out of Range	The parameter speci- fied for the <i>Target</i> in- put variable to a mo- tion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-376
54015482 hex	Master Trav- el Distance Specification Out of Range	The parameter speci- fied for the <i>MasterDistance</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-377
54015483 hex	Master Dis- tance in Ac- celeration Specification Out of Range	The parameter speci- fied for the <i>MasterDistanceACC</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-377
54015484 hex	Master Dis- tance in De- celeration Specification Out of Range	The parameter speci- fied for the <i>MasterDistanceDEC</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-378
54015487 hex	Execution Mode Selec- tion Out of Range	The parameter speci- fied for the <i>ExecutionMode</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-378
54015488 hex	Permitted Following Error Out of Range	The parameter speci- fied for the <i>PermittedDeviation</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-379

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015489 hex	Border Point/Center Position/ Radius Specification Out of Range	The parameter speci- fied for the <i>AuxPoint</i> input variable to a motion control in- struction is out of range.	 The value of <i>AuxPoint</i> exceeded signed 40-bit data when converted to pulses for the border point or center specification method. For a radius specifications, the absolute value of <i>AuxPoint[0]</i> exceeded 40-bit data when converted to pulses. 				0		page 3-379
5401548A hex	End Point Specification Out of Range	The parameter speci- fied for the <i>EndPoint</i> input variable to a motion control in- struction is out of range.	 The instruction input parame- ter exceeded the range of signed 40-bit data when it was converted to pulses. 				0		page 3-380
5401548B hex	Slave Travel Distance Specification Out of Range	The parameter speci- fied for the <i>SlaveDistance</i> input variable to a motion control instruction is out of range.	 The instruction input parame- ter exceeded the range of 40- bit data when it is converted to pulses. 				0		page 3-380
5401548C hex	Phase Shift Amount Out of Range	The parameter speci- fied for the <i>PhaseShift</i> input vari- able to a motion con- trol instruction is out of range.	• The absolute value of the in- struction input parameter ex- ceeded the range of 40-bit da- ta when it is converted to puls- es.				0		page 3-381
5401548D hex	Feeding Dis- tance Out of Range	The parameter speci- fied for the <i>FeedDistance</i> input variable to a motion control instruction is out of range.	• The absolute value of the in- struction input parameter ex- ceeded the range of 40-bit da- ta when it is converted to puls- es.				0		page 3-381
5401548E hex	Auxiliary and Slave De- fined as Same Axis	The same axis was specified for the <i>Auxiliary</i> and <i>Slave</i> input variables to a motion control in- struction.	• The parameter is the same for the <i>Auxiliary</i> and <i>Slave</i> input variables to the instruction.				0		page 3-382
5401548F hex	Relative Po- sition Selec- tion Out of Range	The parameter speci- fied for the <i>Relative</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-382
54015490 hex	Cam Transi- tion Specifi- cation Out of Range	The parameter speci- fied for the <i>CamTransition</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-383

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015491 hex	Synchron- ized Control End Mode Selection Out of Range	The parameter speci- fied for the <i>OutMode</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-383
54015492 hex	Enable Ex- ternal Latch Instruction Execution Disabled	_mcImmediateStop was specified for the <i>StopMode</i> input vari- able when the MC_TouchProbe (En- able External Latch) instruction was exe- cuted in Drive Mode for an encoder axis.	• _mcImmediateStop was speci- fied for the <i>StopMode</i> input variable when the MC_TouchProbe (Enable Ex- ternal Latch) instruction was executed in Drive Mode for an encoder axis.				0		page 3-384
54015493 hex	Master Axis Offset Out of Range	The parameter speci- fied for the <i>MasterOffset</i> input variable to a motion control instruction is out of range.	 The instruction input parame- ter exceeded the range of signed 40-bit data when it was converted to pulses. 				0		page 3-384
54015494 hex	Slave Axis Offset Out of Range	The parameter speci- fied for the <i>SlaveOffset</i> input var- iable to a motion con- trol instruction is out of range.	 The instruction input parame- ter exceeded the range of signed 40-bit data when it was converted to pulses. 				0		page 3-385
54015495 hex	Command Current Po- sition Count Selection Out of Range	The parameter speci- fied for the <i>CmdPosMode</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-385
54015496 hex	Master Axis Gear Ratio Numerator Out of Range	The parameter speci- fied for the <i>RatioNumeratorMast</i> <i>er</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-386
54015497 hex	Master Axis Gear Ratio Denominator Out of Range	The parameter speci- fied for the <i>RatioDenominatorMa</i> <i>ster</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-386

						_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015498 hex	Auxiliary Ax- is Gear Ra- tio Numera- tor Out of Range	The parameter speci- fied for the <i>RatioNumeratorAuxili</i> <i>ary</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-387
54015499 hex	Auxiliary Ax- is Gear Ra- tio Denomi- nator Out of Range	The parameter speci- fied for the <i>RatioDenominatorAu xiliary</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-387
5401549A hex	Master Axis Position Type Selec- tion Out of Range	The parameter speci- fied for the <i>ReferenceTypeMaste</i> <i>r</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-388
5401549B hex	Auxiliary Ax- is Position Type Selec- tion Out of Range	The parameter speci- fied for the <i>ReferenceTypeAuxilia</i> <i>ry</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-388
5401549C hex	Target Posi- tion Ring Counter Out of Range	Operation is not pos- sible because the tar- get position is out of range for the ring counter of the execut- ed instruction.	 High-speed homing was exe- cuted when 0 was not included in the ring counter. 				0		page 3-389
5401549D hex (Ver. 1.01 or later)	Axes Group Composition Axis Setting Out of Range	The parameter speci- fied for the <i>Axes</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The composition axes in the axes group are not assigned to the same task. 				0		page 3-389
5401549E hex (Version 1.04 or later)	Axis Use Setting Out of Range	The parameter speci- fied for the <i>AxisUse</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-390
54015700 hex (Ver. 1.03 or later)	Homing Pa- rameter Set- ting Out of Range	The parameter speci- fied for the <i>HomingParameter</i> in- put variable to a mo- tion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-390

		Meaning			I	_eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015702 hex (Version 1.04 or later)	Axis Use Change Er- ror	The MC_ChangeAxi- sUse (Change Axis Use) instruction was executed when the axis was not stopped or when the com- mand velocity of the axis was saturated.	 The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated. 				0		page 3-391
54015703 hex (Ver. 1.06 or later)	Cannot Change Axis Use	The MC_ChangeAxi- sUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used real axes or the maximum number of used motion control servo axes to be ex- ceeded.	 The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used real axes to be exceeded. The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used motion control servo axes to be exceeded. 				0		page 3-392
54015720 hex (Version 1.04 or later)	Motion Con- trol Parame- ter Setting Error When Changing Axis Use	The motion control parameter settings for the axis that was changed to a used axis are incorrect.	 The MC_ChangeAxisUse (Change Axis Use) instruction was used to change an un- used axis to a used axis, but the motion control parameter settings of the axis are not cor- rect. The power supply was inter- rupted while a download of the motion control parameter set- tings was in progress. The non-volatile memory is faulty or the life of the non-vol- atile memory has been ex- ceeded. 				0		page 3-393

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015721 hex (Version 1.04 or later)	Required Process Da- ta Object Not Set When Changing Axis Use	The objects that are required for the axis type of the axis that was changed to a used axis are not set.	 The objects that are required for the axis type of the axis that was changed to a used axis are not set in the PDO map settings. The power supply was interrupted while a download of the motion control parameter settings was in progress. The non-volatile memory is faulty or the life of the non-volatile memory has been exceeded. The MC_ChangeAxisUse (Change Axis Use) instruction was executed for an axis that is set to Unused axis (unchangeable to used axis). 				0		page 3-394
54015722 hex (Ver. 1.06 or later)	Actual Posi- tion Over- flow/Under- flow	An instruction was executed that is not supported during an actual position over- flow/underflow.	 An instruction was executed that is not supported during an actual position overflow or un- derflow. 				0		page 3-395
54015723 hex (Ver. 1.06 or later)	Switch Structure Track Num- ber Setting Out of Range	The value of <i>TrackNumber</i> that is specified in the <i>Switches</i> in-out varia- ble to a motion con- trol instruction is out of range.	• The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-395
54015724 hex (Ver. 1.06 or later)	Switch Structure First ON Po- sition Setting Out of Range	The value of <i>FirstOnPosition</i> that is specified in the <i>Switches</i> in-out varia- ble to a motion con- trol instruction is out of range.	• The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-396
54015725 hex (Ver. 1.06 or later)	Switch Structure Last ON Po- sition Setting Out of Range	The value of LastOnPosition that is specified in the Switches in-out varia- ble to a motion con- trol instruction is out of range.	 The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range. 				0		page 3-396
54015726 hex (Ver. 1.06 or later)	Switch Structure Axis Direc- tion Out of Range	The value of AxisDirection that is specified in the Switches in-out varia- ble to a motion con- trol instruction is out of range.	 The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range. 				0		page 3-397

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015727 hex (Ver. 1.06 or later)	Switch Structure Cam Switch Mode Out of Range	The value of <i>CamSwitchMode</i> that is specified in the <i>Switches</i> in-out varia- ble to a motion con- trol instruction is out of range.	 The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range. 				0		page 3-397
54015728 hex (Ver. 1.06 or later)	Switch Structure Duration Setting Out of Range	The value of <i>Duration</i> that is specified in the <i>Switches</i> in-out varia- ble to a motion con- trol instruction is out of range.	• The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-398
54015729 hex (Ver. 1.06 or later)	Track Option Structure ON Com- pensation Setting Out of Range	The value of OnCompensation that is specified in the TrackOptions in-out variable to a motion control instruction is out of range.	 The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range. 				0		page 3-398
5401572A hex (Ver. 1.06 or later)	Track Option Structure OFF Com- pensation Setting Out of Range	The value of OffCompensation that is specified in the TrackOptions in-out variable to a motion control instruction is out of range.	 The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range. 				0		page 3-399
5401572B hex (Ver. 1.06 or later)	Number of Array Ele- ments in Switch Structure Variable Out of Range	The number of ele- ments in an array in the structure variable that is specified in the <i>Switches</i> in-out varia- ble to a motion con- trol instruction is out of range.	 The number of elements in an array of the structure variable that was specified for the in- out variable of the instruction is out of range. 				0		page 3-399
5401572C hex (Ver. 1.06 or later)	Number of Array Ele- ments in Output Sig- nal Structure Variable Out of Range	The number of ele- ments in an array in the structure variable that is specified in the <i>Outputs</i> in-out varia- ble to a motion con- trol instruction is out of range.	 The number of elements in an array of the structure variable that was specified for the in- out variable of the instruction is out of range. 				0		page 3-400
5401572D hex (Ver. 1.06 or later)	Number of Array Ele- ments in Track Option Structure Variable Out of Range	The number of ele- ments in an array in the structure variable that is specified in the <i>TrackOptions</i> in-out variable to a motion control instruction is out of range.	 The number of elements in an array of the structure variable that was specified for the in- out variable of the instruction is out of range. 				0		page 3-400

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401572E hex (Ver. 1.06 or later)	Numbers of Elements in Output Sig- nals and Track Option Arrays Not Matched	The arrays in the structure variables that are specified for the <i>Outputs</i> and <i>Track- Options</i> in-out variables to a motion control instruction do not have the same number of elements.	 The arrays in the output signal structure variable and track op- tion structure variable that are specified for the in-out varia- bles to the instruction do not have the same number of ele- ments. 				0		page 3-401
5401572F hex (Ver. 1.06 or later)	Motion Con- trol Instruc- tion Multi-ex- ecution Dis- abled (Mas- ter Axis)	A <i>Master</i> in-out varia- ble that cannot be changed during multi- execution of instruc- tions was changed.	 A Master in-out variable that cannot be changed during mul- tiexecution of instructions was changed. 				0		page 3-401
54015730 hex (Ver. 1.06 or later)	Motion Con- trol Instruc- tion Multi-ex- ecution Dis- abled (Posi- tion Type Selection)	A <i>ReferenceType</i> in- out variable that can- not be changed dur- ing multi-execution of instructions was changed.	 A ReferenceType inout varia- ble that cannot be changed during multi-execution of in- structions was changed. 				0		page 3-402
54015731 hex (Ver. 1.06 or later)	Same Track Number Set- ting in Switch Structure Out of Range	The same track num- ber was specified more than the allowa- ble number of times for the <i>TrackNumber</i> in the <i>Switches</i> in-out variable to a motion control instruction.	• The same track number was specified more than the allow- able number of times for the <i>TrackNumber</i> in the Switches in-out variable to a motion con- trol instruction.				0		page 3-402
5401573A hex (Ver. 1.08 or later)	Cannot Write Axis Param- eters	The instruction was executed for an axis that is not an unused axis.	 The instruction was executed for a used axis or an undefined axis. 				0		page 3-403
5401573B hex (Ver. 1.08 or later)	Axis Param- eter Setting Out of Range	The parameter speci- fied for the <i>AxisParameter</i> input variable to a motion control instruction is outside of the valid range.	 The parameter specified for the AxisParameter input varia- ble to the instruction is out of range for the input variable. 				0		page 3-403
5401573C hex (Ver. 1.08 or later)	Cam Proper- ty Setting Out of Range	The parameter speci- fied for the <i>CamProperty</i> input variable to a motion control instruction is outside of the valid range.	 The parameter specified for the CamProperty input variable to the instruction is out of range for the input variable. 				0		page 3-404

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401573D hex (Ver. 1.08 or later)	Cam Node Setting Out of Range	The parameter speci- fied for the <i>CamNodes</i> input vari- able to a motion con- trol instruction is out- side of the valid range.	 The parameter specified for the <i>CamNodes</i> input variable to the instruction is out of range for the input variable. 				0		page 3-404
5401573E hex (Ver. 1.08 or later)	Incorrect Cam Node Type Specifi- cation	The parameter speci- fied for the <i>CamNodes</i> input vari- able to a motion con- trol instruction is not an _sMC_CAM_NODE array variable.	 The parameter specified for the <i>CamNodes</i> input variable to the instruction is not an _sMC_CAM_NODE array vari- able. 				0		page 3-405
5401573F hex (Ver. 1.08 or later)	Insufficient Nodes in Cam Table	The array variable of the parameter speci- fied for the <i>CamNodes</i> input vari- able to a motion con- trol instruction has a Phase value of 0 for element number 0.	• The array variable of the pa- rameter specified for the <i>CamNodes</i> input variable to the instruction has a Phase (master axis phase) value of 0 for element number 0.				0		page 3-405
54015740 hex (Ver. 1.08 or later)	Cam Node Master Axis Phase Not in Ascending Order	The values of Phase in the array variable of the parameter specified for the <i>CamNodes</i> input vari- able to a motion con- trol instruction are not in ascending order according to the ele- ment numbers.	• The values of Phase (master axis phase) in the array varia- ble of the parameter specified for the <i>CamNodes</i> input varia- ble to the instruction are not in ascending order according to the element numbers. Or, trun- cating the digits that are not ef- fective more than seven digits caused the phases not to be in ascending order.				0		page 3-406
54015741 hex (Ver. 1.08 or later)	Too Many Data Points in Cam Ta- ble	The number of gener- ated cam data points exceeded the number of elements in the ar- ray in the cam data variable that is speci- fied for the <i>CamTable</i> input variable to a motion control in- struction.	• The number of cam data points in the generated cam ta- ble exceeded the number of el- ements in the array in the cam data variable that is specified for the <i>CamTable</i> input varia- ble to the instruction.				0		page 3-407
54015742 hex (Ver. 1.08 or later)	Cam Table Displace- ment Over- flow	Distance in the gen- erated cam table ex- ceeded the range of REAL data.	 Distance in the generated cam table exceeded the range of REAL data. 				0		page 3-408

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015743 hex (Ver. 1.08 or later)	Aborted Cam Table Used	A cam data variable that was aborted dur- ing generation was specified for the <i>CamTable</i> input varia- ble to an instruction.	 A cam data variable that was aborted during generation due to an error in the MC_Genera- teCamTable (Generate Cam Table) instruction was speci- fied for the CamTable input variable to the instruction. 				0		page 3-409
54015749 hex (Ver. 1.10 or later)	Execution ID Setting Out of Range	The parameter speci- fied for the <i>ExecID</i> in- put variable to a mo- tion control instruction is out of range.	• The parameter specified for the <i>ExecID</i> input variable to the instruction is out of range for the input variable.				0		page 3-409
5401574A hex (Ver. 1.10 or later)	Position Off- set Out of Range	The parameter speci- fied for the <i>OffsetPosition</i> input variable to a motion control instruction is out of range.	 The position offset exceeded the range of signed 40-bit data when it was converted to puls- es. 				0		page 3-410
5401574B hex (Ver. 1.10 or later)	PDS State Transition Command Selection Out of Range	The parameter speci- fied for the <i>TransitionCmd</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		page 3-410
5401574C hex (Ver. 1.13 or later)	Single-axis Position Control Axis Motion Con- trol Instruc- tion Execu- tion Disabled	An operation instruc- tion was executed for a single-axis position control axis.	 An operation instruction was executed for a single-axis posi- tion control axis. 				0		page 3-411
54015751 hex (Ver. 1.32 or later) [NX102] (Ver. 1.21 or later) [NX701-□00, NX1P2, NJ501 (excluding NJ501-□20), NJ301, NJ101-□00]	Cam Monitor Mode Selec- tion Out of Range	The cam monitor mode selection speci- fied for the <i>CamMonitorMode</i> in- put variable to a mo- tion control instruction is out of range.	The cam monitor mode selec- tion is out of the valid range.				0		page 3-411
54015752 hex (Ver. 1.32 or later) [NX102] (Ver. 1.21 or later) [NX701-□ 00, NX1P2, NJ501 (excluding NJ501-□ 20), NJ301, NJ101-□ 00]	Data Type of Cam Monitor Values Mis- match	The data type of the cam monitor values specified for the <i>CamMonitorValue</i> in- out variable to a mo- tion control instruction does not match the cam monitor mode selection.	• The data type of the variable specified for the cam monitor values does not match the cam monitor mode selection.				0		page 3-412
54015800 hex [NX502]	X Bus Unit Does Not Exist	The specified Unit does not exist.	The specified X Bus Unit does not exist.				0		page 3-412

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015801 hex [NX502]	Response Timeout	No response was re- ceived from the specified Unit.	 Communications with the specified Unit stopped due to either an X Bus Unit Startup Error, X Bus Unit Communications Error, or X Bus Function Processing Error. The set response monitoring time is too short. 				0		page 3-413
54015C00 hex [NX502]	Cannot Exe- cute at Specified Unit/Port	A tag data link control instruction was exe- cuted when execution was not possible. Or, the EtherNet/IP port designated by the specified Unit and port number does not exist.	 An instruction was executed while the EtherNet/IP port is being restarted or tag data link settings are being downloaded from Network Configurator. The EtherNet/IP port designat- ed by the specified Unit and port number does not exist. 				0		page 3-414
54015C01 hex [NX502]	Too Many Simultane- ous Instruc- tion Execu- tions	Tag data link control instructions were exe- cuted and the number of instructions ex- ceeded the maximum number that can be executed simultane- ously.	 Two or more tag data link con- trol instructions were executed simultaneously. 				0		page 3-414
54015C03 hex [NX502]	Target Node IP Address Does Not Exist	Connection settings with the target node IP address do not ex- ist on the Ethernet/IP port specified by the specified Unit and port number.	 Connection settings with the target node IP address do not exist on the Ethernet/IP port specified by the specified Unit and port number. 				0		page 3-415
54015C04 hex [NX502]	Connection Communica- tions Error	Communications can not be established with the target node specified by target node IP address.	 Target node is not connected properly. The power supply to the target node is OFF. The Ethernet cable is broken, or loose. Noise 				0		page 3-416
54015C05 hex [NX502]	Connection Setting Error	An abnormal re- sponse from the tar- get node was re- ceived.	 Connection settings are incorrect. 				0		page 3-416

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54016440 hex	Target Posi- tion Positive Software Limit Ex- ceeded	The specified position exceeds the positive software limit.	 The parameter specified for the <i>Position</i> input variable to the instruction is beyond the positive software limit. The first position is beyond the positive software limit and an instruction that specifies mo- tion in the opposite direction of the software limit was execut- ed. The parameter that was speci- fied for the <i>AuxPoint</i> input vari- able to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the positive software limit. 				0		page 3-417
54016441 hex	Target Posi- tion Nega- tive Software Limit Ex- ceeded	The specified position exceeds the negative software limit.	 The parameter specified for the <i>Position</i> input variable to the instruction is beyond the negative software limit. The first position is beyond the negative software limit and an instruction that specifies mo- tion in the opposite direction of the software limit was execut- ed. The parameter that was speci- fied for the <i>AuxPoint</i> input vari- able to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the negative software limit. 				0		page 3-418
54016442 hex	Command Position Overflow/ Underflow	Positioning, an in- struction in the under- flow/overflow direc- tion, or an instruction for which the direction is not specified was executed when there was an underflow/ overflow in the com- mand position.	 One of the following was exe- cuted when there was a com- mand position overflow/under- flow. A positioning instruction A continuous control instruc- tion in the underflow/overflow direction An instruction for which the di- rection is not specified (sync- ing or torque control) 				0		page 3-419

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54016443 hex	Positive Lim- it Input	An instruction was executed for a motion in the positive direc- tion when the positive limit input was ON.	 An instruction for a motion in the positive direction was exe- cuted when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit input was ON. An axes group mo- tion control instruction was executed when the positive limit input was ON. 				0		page 3-420
54016444 hex	Negative Limit Input	An instruction for a motion in the nega- tive direction was executed when the negative limit input was ON.	 An instruction for a motion in the negative direction was exe- cuted when the negative limit input was ON, or an instruction for a motion with no direction specification was executed when the negative limit input was ON. An axes group mo- tion control instruction was executed when the negative limit input was ON. 				0		page 3-421
54017422 hex	Servo Main Circuits OFF	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive was OFF.	 An attempt was made to turn ON the Servo when the main circuit power supply to the Ser- vo Drive was OFF. 				0		page 3-422

*1. Assumed cause for the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

• NX701 CPU Unit: Version 1.29 or later

3-2-2 Error Descriptions

Errors for Self Diagnosis

Event name	DIP Switch Settin	g Error		Event code	00090000 hex			
Meaning	An error was dete	ected in the DIP sw	itch setting.					
Source	PLC Function Mo	dule	Source details	None	Detection tim-	At power ON or		
					ing	Controller reset		
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Stops.	Operation	Stops.*1				
System-de-	Variable		Data type		Name			
fined variables	None	None						
Cause and cor-	Assumed cause		Correction		Prevention			
rection	There is an error	in the DIP switch	Turn OFF all pins on the DIP		Make sure that the DIP switch set-			
	setting.		switch.		tings are correct.			
Attached infor-	Attached informat	ion 1: DIP switch r	eadout value (0000	0000 hex to 00000	00F hex)			
mation								
Precautions/	None							
Remarks								

Event name	Internal Bus Che	ck Error		Event code	000D0000 hex				
Meaning	A fatal error was	detected on the inf	ernal bus.						
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously			
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System			
Effects	User program	Stops.	Operation	Stops. ^{*1} A conne be possible.	ction to the Sysma	c Studio may not			
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	A conductive material has gotten inside.		If there is conductive material near- by, blow out the CPU Unit with air.		 Do not do any metal working in the vicinity of the control panel. Also, make sure that the operating environment is free of dirt and dust. Close the control panel. 				
	NoiseThere is data corruption in bus signals.There is malfunctioning in bus interface circuits.		If the error occurs even after mak- ing the above correction, check the FG, and power supply lines, and other noise entry paths, and imple- ment noise countermeasures as required.						
	The CPU Unit ha The internal bu ed.		If this error persists even after you make the above two corrections, replace the CPU Unit.		None				
Attached infor- mation	Attached informa	Attached information 1: System information							
Precautions/ Remarks	the Controller cle	When this error occurs, the CPU Unit stops and the error is recorded in the event log. If cycling the power to he Controller clears the error, you will be able to see whether this error occurred by checking the event log. However, a restart is sometimes not possible depending on the error location.							

Event name	Non-volatile Mem	ory Life Exceeded		Event code	000E0000 hex		
Meaning		nber of deletions fo d the specified valu	or non-volatile mem ue.	ory was exceeded.	Or, the number of	bad blocks in	
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON, at Controller reset, or periodically	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	Stops. ^{*1}			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
	Non-volatile mem		Replace the CPU		 Prevention Depending on a user program or application, the non-volatile memory life may be shortened. Check the following 1 and 2. 1. Frequency of SD Memory Card backup processing by system-defined variables and special instructions 2. Frequency of instructions to write to non-volatile memory such as MC_SaveCamTable and ChangelPAdr instructions If the execution of 1 or 2 above fails, re-execute after you remove the cause of the error. If you retry before you remove the cause of error, the number of deletions for non-volatile memory increases and the non-volatile memory life may be shortened. 		
Attached infor-	None						
mation Precautions/	None						
Remarks							

Event name	CPU Unit Overhe	eat (Operation Stop	oped)	Event code	00110000 hex			
Meaning	Operation was st	opped because the	e temperature inside	e the CPU Unit was	too high.			
Source	PLC Function Mo	odule	Source details	None	Detection tim- ing	Continuously		
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Stops.	Operation	Stops. ^{*1} A conne possible.	ction to the Sysmac Studio is not			
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction	Correction		Prevention		
rection	The ambient ope ture is too high.	rating tempera-	 Make sure that the ambient opting temperature stays between and 55°C. Provide enough space for goair flow. Do not install the Controller or rectly above equipment that generates a large amount of heat, such as heaters, transformers, or high-capacity restors. If the ambient temperature enceeds 55 °C, install a cooling fan or air conditioner. 		Make sure that th perature stays be 55°C.			
Attached infor- mation	None							
Precautions/ Remarks	None	None						

3

Event name	Main Memory Ch	eck Error		Event code	00130000 hex ^{*1}			
Meaning	An error was dete	ected in the memor	y check of the mair	memory in the CF	PU Unit.			
Source	PLC Function Mc	odule	Source details	None	Detection tim- ing	Continuously		
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Stops.	Operation	Stops.*2				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A conductive material has gotten inside.		If there is conductive material near- by, blow out the CPU Unit with air.		Do not do any metal working in the vicinity of the control panel. Use the control panel only when it is closed. Implement noise countermeasures			
	 Data corruption in memory Microcomputer malfunctioning Memory write circuit malfunctioning 		above causes, cycle the power to the Controller and see if that clears the error. If the error occurs frequently, check the FG, power supply lines, and other noise entry paths, and imple- ment noise countermeasures as required.					
	There is a soft error.Data corruption was caused by cosmic rays or radiation.		If the error did not result from the above causes, and cycling the power to the Controller or resetting		None			
	The CPU Unit has failed.Memory element failureMemory peripheral circuit failure		the Controller does not clear the error, replace the CPU Unit.		Perform regular inspections.			
Attached infor- mation		tion 1: System info tion 2: System info			·			
Precautions/ Remarks	None							

*1. This event code occurs for the following CPU Units.

- NX102, NX1P2 CPU Unit: Version 1.13 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701, NJ5 with the hardware revision B: Version 1.16 or later
- NJ3 with the hardware revision A: Version 1.17 or later
- NJ1 with the hardware revision A: Version 1.17 or later
- *2. For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Non-volatile Mem	ory Restored or Fo	rmatted	Event code	10010000 hex		
Meaning		ected in the non-vol y have been delete	atile memory check d.	k and file system re	covery or formattir	ng was executed.	
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops. ^{*1}			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Controller power supply was turned OFF while the BUSY indica- tor was lit. The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit.		Compare the proj project on the Sys they match, cycle	smac Studio. If	Do not turn OFF the power supply while the BUSY indicator is lit.		
			they match, cycle the power supply to the Controller or reset the Con- troller to see if that clears the error. If the error is cleared, check that the device operates correctly. If the comparison shows a mis- match, if the error is not cleared, or if the device does not operate cor- rectly, clear all of memory and then download the project from the Sys- mac Studio again. If cycling the power supply to the Controller or resetting the Controller does not clear the error, the memory is cor- rupted. Replace the CPU Unit. Unexpected operation may occur and can be very dangerous if the power to the Controller is cycled or the Controller is reset before you download the project again.		Take appropriate measures to en- sure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.		
Attached infor- mation		tion 1: Recovered o :: File system recov Formatted)					
Precautions/ Remarks	Make sure that th	e projects match and the Controller or r	nd that the device o reset the Controller			• •	

Event name	Non-volatile Mem	ory Data Corrupted	t	Event code	10020000 hex		
Meaning	A file that must be	e in non-volatile me	emory is missing or	corrupted.			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Controller power supply was turned OFF while the BUSY indica- tor was lit.		Clear all of memory and then download the project from the Sys- mac Studio.		Do not turn OFF the power supply while the BUSY indicator is lit.		
The power supply to the was interrupted moment the BUSY indicator was		nomentarily while			sure that the spe the rated voltage	and frequency is s where the powe	
	The CPU Unit has failed.		If this error remains even after making the above corrections, re- place the CPU Unit.		None		
Attached infor- mation	None		1.		1		
Precautions/ Remarks	None						

Event name	Main Memory Ch	eck Error		Event code	10080000 hex			
Meaning	An error was dete	ected in the memor	y check of the main	memory in the CP	U Unit.			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously		
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Stops.	Operation	Stops.*1				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause	Assumed cause			Prevention			
rection	ection A conductive material has gotten inside.			If there is conductive material near- by, blow out the CPU Unit with air.		etal working in the trol panel. anel only when it		
	 Noise Data corruption in memory Microcomputer malfunctioning Memory write circuit malfunctioning 		If the error did not above causes, cy the Controller and the error. If the error occurs the FG, power su other noise entry ment noise counter required.	cle the power to I see if that clears frequently, check pply lines, and paths, and imple-	Implement noise countermeasu			
	Data corruption	There is a soft error.Data corruption was caused by cosmic rays or radiation.		If the error did not result from the above causes, and cycling the power to the Controller or resetting				
	Memory eleme	The CPU Unit has failed.Memory element failureMemory peripheral circuit failure		the Controller does not clear the error, replace the CPU Unit.		Perform regular inspections.		
Attached infor- mation	Attached informat	tion 1: System info	rmation					
Precautions/ Remarks	None							

Event name	Data Not Saved t	o Battery-backup N	lemory	Event code	100A0000 hex*1		
Meaning	An error occurred processing.	in the software an	d data could not be	saved in battery-b	ackup memory dui	ring power-OFF	
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	memory for CJ-se ing Areas do not the power supply processing count mal user program	riables with a Retain attribute and series Units in the DM, EM, and Ho t contain the values from just befor y was turned OFF. Unless suitable ntermeasures are implemented, no m execution or normal Unit operati sible when the power is turned ON		
System-de-	Variable		Data type		Name		
fined variables	_RetainUnexec ^{*3}		BOOL		Retention Inexec	ution Flag	
Cause and cor-	Assumed cause		Correction		Prevention		
	An error occurred in the software.		 in the memory ies Units and c the correct value If the system u with an absolut ON the power turn ON the Set the actual curre axis. After you perfor tions, set the R 	the retained areas y used for CJ-ser- change them to lues. uses a Servomotor ute encoder, turn r supply, and then Servo and check rent position of the			
Attached infor- mation	None						
Precautions/ Remarks	turned ON. • Retained varia • Retained areas • Absolute encound After you perform To prevent the us areas in the mem	If this error occurs, the values of the following will be the values from the previous time the power supp turned ON. • Retained variables (variables with a Retain attribute or variables in retained areas with AT specificat • Retained areas in the memory used for CJ-series Units • Absolute encoder home offset data After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to FALSE. To prevent the user program from operating with an unintended value in the retained variables or the re areas in the memory used for CJ-series Units or in the absolute encoder home offset position data, use Retention Inexecution Flag (_RetainUnexec) in the user program as an interlock condition as required.					

*1. This event code occurs for a CPU Unit with unit version 1.10 or later.

*2. For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

*3. This system-defined variable is available only for the following CPU Units.

• NJ-series, NX502, NX102, NX1P2 CPU Unit: Version 1.64 or later

NX701 CPU Unit: Version 1.35 or later

Event name	Non-volatile Mem	ory Data Corrupted	b	Event code	100B0000 hex		
Meaning	A file that must be	e in non-volatile me	emory is missing or	corrupted.			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Prevention			
rection	The Controller power supply was turned OFF while the BUSY indica- tor was lit.		Clear all of memory and then download the project from the Sys- mac Studio.		Do not turn OFF the power supply while the BUSY indicator is lit.		
	The power supply to the Controlle		The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit.		Take appropriate measures to en- sure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.		
	The CPU Unit has failed.		If this error remains even after making the above corrections, re- place the CPU Unit.		None		
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						

Event name	Event Level Setti	ng Error		Event code	100C0000 hex			
Meaning	The settings in th	e event level settin	g file are not correc	st.				
Source	PLC Function Mc	odule	Source details	None	Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Stops.	Operation	Stops.*1				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
	The event level settings are not correct because the power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected during a download of the event level set- tings. The event level settings are not correct because the power supply to the Controller was interrupted		tion and then tran level setting file a		Do not interrupt t to the Controller communications Studio during a d event level setting Do not interrupt t to the Controller Memory operatio	or disconnect with the Sysmac ownload of the gs. he power supply during a Clear All		
	tion. Non-volatile memory failed.		If the error persists even after you make the above correction, replace the CPU Unit.		None			
Attached infor- mation	None							
Precautions/ Remarks	None	None						
Event name	Present Values o ror	f Retained Variable	es Restoration Er-	Event code	100F0000 hex			
----------------------------	---	----------------------	---	---	--	------------------------------------		
Meaning	The present valu	es of retained varia	ables could not be re	estored at startup a	nd the values were	e initialized.		
Source	PLC Function Mc	odule	Source details	None	Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Major fault	Recovery	Recovery Cycle the power supply or reset the Controller.		System		
Effects	User program	Stops.	CJ-series Units in were corrupted. N		h a Retain attribute and memory for n the DM, EM, and Holding Areas Normal user program execution or ation may not be possible.			
System-de-	Variable		Data type		Name			
fined variables	_RetainFail	Fail BOOL			Retention Failure	Flag		
	_RetainUnexec ^{*2}		BOOL		Retention Inexecution Flag			
Cause and cor-	Assumed cause	•	Correction		Prevention			
rection Attached infor-	 An error occur ware. Backup memo 		variables and t in the memory ies Units and c the correct value • After you perfo	use of the retained the retained areas used for CJ-ser- change them to ues. form the correc- Retention Inexecu- tainUnexec) to 12, NX102 and Unit)	None			
mation	none							
Precautions/		ues are initialized.						
Remarks	Retained area	in the memory use	h Retain attribute or ed for CJ-series Uni	ts	-			
	To prevent the	user program fron	s, set the Retention n operating with an l for CJ-series Units	unintended value in	the retained varia	bles or the re-		
	in the user pro	gram as an interlo	ck condition as requ	iired.				

*2. This system-defined variable is available only for the following CPU Units.

• NX502, NX102, NX1P2 CPU Unit: Version 1.64 or later

NX701 CPU Unit: Version 1.35 or later

Event name	Present Values of Retained Variables Not Saved Event code 10100000 hex							
Meaning	formed because a Control Unit) The process of sa	The process of saving the current value of the retained variable during power interruptions could not be per- formed because the Controller was forcibly shut down or an error occurred in the software. (NY-series Control-						
Source	PLC Function Mo	dule	Source details	Source details None		At power ON or Controller reset		
Error attributes	Level	Major fault	Recovery Cycle the power supply.		Log category	System		
Effects	User program	Stops.	Operation Stops.*1 The values of the memory for CJ-see ing Areas were no power interruption		variables with a Retain attribute and eries Units in the DM, EM, and Hold- ot same as the values just before the n. Normal user program execution or ation may not be possible.			
System-de-	Variable		Data type		Name			
fined variables	_RetainUnexec ^{*2}		BOOL		Retention Inexec	ution Flag		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A forced shutdow (NY-series Contro	n is performed. ollers)	Correction performed. Perform the following: s) • Check the values of the retained variables and change them to		Prevention Perform a shutdown with other method than the forced shutdown (NY-series Controllers) None			
Attached infor- mation Precautions/	None The values of the	following will be th	ne values from the p	previous time the po	ower supply wastu	med ON.		
Remarks	 The values of the following will be the values from the previous time the power supply wasturned ON Absolute encoder home offset data Retained variables (variables with Retain attribute or variables with AT specification in the retaine Retained area in the memory used for CJ-series Units After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to FALSE. To prevent the user program from operating with an unintended value in the retained variables or tained areas in the memory used for CJ-series Units or in the absolute encoder home offset posit use the Retention Inexecution Flag (_RetainUnexec) to FALSE. 					retained area) FALSE. bles or the re- et position data,		

- *2. This system-defined variable is available only for the following CPU Units.
 - NX502, NX102, NX1P2 CPU Unit: Version 1.64 or later

Event name	PLC System Processing Error			Event code	40010000 hex			
Meaning	A fatal error was	A fatal error was detected in the PLC Function Module.						
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously		
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Stops.	Operation	Stops. ^{*1} A connector possible.	ction to the Sysmac Studio is not			
System-de-	Variable		Data type	Data type		Name		
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An error occurred in the software.		Contact your OM tive.	Contact your OMRON representa- tive.		None		
Attached infor- mation	None							
Precautions/	None							
Remarks								

Event name	PLC System Proc	essing Error		Event code	40020000 hex		
Meaning	A fatal error was	detected in the PLC	C Function Module.				
Source	PLC Function Module Source details No		None	Detection tim- ing	Continuously		
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred in the software.		Contact your OMRON representa- tive.		None		
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	PLC System Proc	essing Error		Event code	40030000 hex		
Meaning	A fatal error was	detected in the PLC	C Function Module.				
Source	PLC Function Mo	dule	Source details None		Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred in the software.		Contact your OMRON representa-		None		
			tive.				
Attached infor-	Attached information	tion 1: System info	rmation				
mation							
Precautions/	None						
Remarks							

Event name	PLC System Proc	cessing Error		Event code	40040000 hex	
Meaning	A fatal error was	detected in the PLC	C Function Module.			
Source	PLC Function Module Source details		None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program	Stops.	Operation	Stops. ^{*1} A connect possible.	tion to the Sysmac Studio is not	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred in the software.		Contact your OMRON representa- tive.		None	
Attached infor- mation	None					
Precautions/	None					
Remarks						

Event name	PLC System Proc	essing Error		Event code	40050000 hex		
Meaning	A fatal error was	detected in the PLC	C Function Module.				
Source	PLC Function Module S		Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	Stops. ^{*1} A connect possible.	tops. ^{*1} A connection to the Sysmac Studio is not ossible.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred	in the software.	Contact your OM	RON representa-	None		
			tive.				
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Real-Time Clock	Stopped		Event code	00070000 hex		
Meaning	The oscillation of	the real-time clock	stopped. The real-	time clock is set to	an illegal time.		
Source	PLC Function Mo	dule	Source details None		Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				is not defined. The clock informa- CJ-series Units is also not defined.	
System-de-	Variable		Data type DATE_AND_TIME		Name		
fined variables	_CurrentTime				System Time		
Cause and cor- rection	Assumed cause		Correction		Prevention		
	The battery voltage is low.		Replace the Battery. Then adjust the real-time clock time.		Regularly replace the Battery.		
	The battery connector has come loose.		Reconnect the connector and make sure it is mated correctly. Then adjust the real-time clock time.		Check for vibratio	on and shock.	
	The Battery is missing.		Install a Battery. Then adjust the real-time clock time.		Install a Battery.		
Attached infor- mation	None		•		·		
Precautions/ Remarks		he event level to th	power is turned ON ne observation level		level to the observ	ation level, recov-	

Event name	Real-Time Clock	Failed		Event code	00080000 hex			
Meaning	The real-time cloo	The real-time clock in the CPU Unit failed.						
Source	PLC Function Module S		Source details	None	Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Continues.	Operation	The System Time is not defined. The clock informa- tion recorded by CJ-series Units is also not defined.				
System-de-	Variable		Data type		Name	Name		
fined variables	_CurrentTime		DATE_AND_TIME		System Time			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The CPU Unit clo	ck has failed.	Replace the CPU Unit.		None			
Attached infor-	None				•			
mation								
Precautions/	None							
Remarks								

Event name	Low Battery Voltage			Event code	000B0000 hex		
Meaning	The voltage of the	e Battery has dropp	ped.	,			
Source	PLC Function Mc	odule	Source details None		Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	No affected.			
System-de-	Variable		Data type		Name		
fined variables	_SelfTest_LowBa	ittery	BOOL		Low Battery Flag		
Cause and cor- rection	Assumed cause		Correction		Prevention		
	The battery voltage	The battery voltage is low.		Replace the Battery.		Regularly replace the Battery.	
	The battery connector has come		Reconnect the co	Reconnect the connector and		on and shock.	
	loose.		make sure it is mated correctly.				
	The Battery is mi	ssing.	Install a Battery.		Install a Battery.		
Attached infor-	None						
mation							
Precautions/	For the NJ-series	CPU Units and N	K701 CPU Units, yo	ou may lose the us	ser data the next tim	e that the power	
Remarks	supply is interrup	ted.					
	For the NX1P2 C	PU Units and NX1	02 CPU Units, you	may lose the cloc	k data the next time	that the power	
	supply is interrup						
	You can change the event level to the observation level. If you change the level to the observation level, recov-						
	ery procedures are not required.						

-						
Event name	CPU Unit Overhe	at		Event code	000C0000 hex	
Meaning	The temperature	inside the CPU Un	it exceeded the spe	cified value.		
Source	PLC Function Mo	dule	Source details	None	Detection tim-	Continuously
					ing	
Error attributes	Level	Minor fault	Recovery	Cycle the power	Log category	System
				supply or reset		
				the Controller.		
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_SelfTest_HighTe	mperature	BOOL		CPU Unit High Te	emperature Flag
Cause and cor-	Assumed cause C		Correction		Prevention	
rection	Assumed cause The ambient operating tempera- ture is too high.		 Make sure that the ambient operating temperature stays between 0 and 55°C. Provide enough space for good air flow. Do not install the Controller above equipment that generates a large amount of heat, such as heaters, transformers, or high-capacity resistors. If the ambient temperature exceeds 55 °C, install a cooling 		Make sure that th perature stays be 55°C.	
Attached infor- mation	None		1		1	
Precautions/ Remarks	None					

Event name	Slow Fan			Event code	00120000 hex	
Meaning	The speed of the	fan dropped to a s	pecified level or low	/er.		
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_SelfTest_LowFa	nRevolution	BOOL		Low FAN Revolu	tion Flag
Cause and cor-	and cor- Assumed cause		Correction		Prevention	
rection	There is an obstacle that prevents the operation of the fan.		Remove the material that is inter- fering with fan operation.		Make sure that nothing is interfer- ing with the fan during operation.	
	The fan has reached the end of its service life.		NX701 CPU Unit: Replace the Fan Unit. ^{*1}		NX701 CPU Unit: Perform regular Fan Unit replacements. NX502 CPU Unit: None	
	The fan is faulty.		NX502 CPU Unit: Replace the CPU Unit.			
			NY-series Control	ller: Replace the		
			fan unit. <i>Errors for Self Diagnosis</i> on page 3-94			
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

*1. Refer to the NX-series CPU Unit Hardware User's Manual (Cat. No. W535) for the Fan Unit replacement procedure and life.

Event name	Non-volatile Men	nory Life Warning		Event code	00150000 hex*1	
Meaning	-	nber of deletions fo ed the warning valu		ory was exceeded.	Or, the number of	oad blocks in
Source	PLC Function Mc	odule	Source details	None	Detection tim- ing	At power ON, at Controller reset, or periodically
Error attributes	Level	Minor fault	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_StorageDeterior	rated	BOOL		Non-volatile Men Flag	nory Life Warning
Cause and cor-	Assumed cause	•	Correction		Prevention	
rection	Assumed cause Non-volatile memory life expired.		Non-volatile memory life is ending. Replace the CPU Unit.		 Depending on a user program or application, the non-volatile memory life may be shortened. Check the following 1 and 2. 1. Frequency of SD Memory Card backup processing by system-defined variables and special instructions 2. Frequency of instructions to write to non-volatile memory such as MC_SaveCamTable and ChangelPAdr instructions If the execution of 1 or 2 above fails, re-execute after you remove the cause of the error. If you retry before you remove the cause of error, the number of deletions for non-volatile memory life may be shortened. 	
Attached infor-	None					
mation						
Precautions/ Remarks			r, reading or writing controller or a user p		mory may fail. This ailure.	may cause prob-

*1. This event code occurs for the following CPU Units.

• NJ-series, NX102, NX1P2, NX502 CPU Unit: Version 1.60 or later

• NX701 CPU Unit: Version 1.32 or later

An error was deter PLC Function More Control Function More Level User program Variable _RetainFail _RetainUnexec*1 Assumed cause The battery voltage	dule or Motion Module Minor fault Continues.	y check of the batter Source details Recovery Operation Data type BOOL BOOL	PLC Function Module: None Motion Control Function Mod- ule: MC Com- mon Error reset The variables with CJ-series Units in were corrupted. N	 in the CPU Unit. Detection timing Log category n a Retain attribute the DM, EM, and lormal user programation may not be por Name Retention Failure 	Holding Areas m execution or ossible.
Control Function I Level User program Variable _RetainFail _RetainUnexec ^{*1} Assumed cause	Module Minor fault Continues.	Recovery Operation Data type BOOL	Module: None Motion Control Function Mod- ule: MC Com- mon Error reset The variables with CJ-series Units in were corrupted. N	ing Log category n a Retain attribute the DM, EM, and lormal user program ation may not be por Name	Controller reset System and memory for Holding Areas m execution or ossible.
User program Variable _RetainFail _RetainUnexec ^{*1} Assumed cause	Continues.	Operation Data type BOOL BOOL	The variables with CJ-series Units in were corrupted. N	a Retain attribute the DM, EM, and lormal user program ation may not be po Name	and memory for Holding Areas m execution or ossible.
Variable _RetainFail _RetainUnexec ^{*1} Assumed cause		Data type BOOL BOOL	CJ-series Units in were corrupted. N	the DM, EM, and lormal user program ation may not be po Name	Holding Areas m execution or ossible.
_RetainFail _RetainUnexec ^{*1} Assumed cause		BOOL BOOL			
RetainUnexec ^{*1} Assumed cause		BOOL		Retention Failure	
Assumed cause	ao is low				Flag
Assumed cause				Retention Inexect	ution Flag
		Correction		Prevention	
loose.	ector has come	 variables and the variables and the in the memory ies Units and characteristic transmission of the correct value. After you perform the test of the correct value. Check that the test correctly and correctly and corrector. Check the value variables and the in the memory ies Units and context the correct value. After you perform the test of the correct value. After you perform to the test of the test of the correct value. After you perform to the test of the correct value. After you perform to the test of test of the test of test of the test of t	es of the retained areas used for CJ-ser- hange them to les. rm the correc- etention Inexecu- ainUnexec) to connector is fit- nd reconnect the es of the retained he retained areas used for CJ-ser- hange them to les. rm the correc- etention Inexecu- ainUnexec) to	Retention Inexecution Flag Prevention Regularly replace the Battery. Check the impact of shock and vibration.	
The Dattery is missing.		 Check the values of the retained variables and the retained areas in the memory used for CJ-series Units and change them to the correct values. After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to 		nistan a battery.	
	loose.	The Battery is missing.	FALSE. The battery connector has come loose. • Check that the ted correctly ar connector. • Check the valu variables and th in the memory ies Units and c the correct valu • After you perfor tions, set the R tion Flag (_Ret FALSE. The Battery is missing. • Install a Battery in the memory ies Units and c the correct valu • Install a Battery • Check the valu variables and th in the memory ies Units and c the correct valu • After you perfor tions, set the R tion Flag (_Ret FALSE. • After you perfor tions, set the R tion Flag (_Ret FALSE.	 Check that the connector is fitted correctly and reconnect the connector. Check the values of the retained variables and the retained areas in the memory used for CJ-series Units and change them to the correct values. After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to FALSE. The Battery is missing. Install a Battery. Check the values of the retained areas in the memory used for CJ-series Units and change them to the correct values. After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to FALSE. Install a Battery. Check the values of the retained areas in the memory used for CJ-series Units and change them to the correct values. After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to FALSE. 	FALSE.The battery connector has come oose.• Check that the connector is fit- ted correctly and reconnect the connector.Check the impact bration.• Check the values of the retained variables and the retained areas in the memory used for CJ-ser- ies Units and change them to the correct values.Check the values of the retained areas• After you perform the correc- tions, set the Retention Inexecu- tion Flag (_RetainUnexec) to FALSE.Install a Battery.The Battery is missing.• Install a Battery.Install a Battery.• Check the values of the retained areas in the memory used for CJ-ser- ies Units and change them to the correct values.Install a Battery.• After you perform the correc- ies Units and change them to the correct values.Install a Battery.• Check the values of the retained areas in the memory used for CJ-ser- ies Units and change them to the correct values.Install a Battery.• After you perform the correc- tions, set the Retention Inexecu- tion Flag (_RetainUnexec) to FALSE.After you perform the correc- tions, set the Retention Inexecu- tion Flag (_RetainUnexec) to FALSE.

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Precautions/	The values are initial values in the following area:
Remarks	• Retained variables (variables with Retain attribute or variables with AT specification in the retained area)
	Retained area in the memory used for CJ-series Units
	After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to FALSE. To prevent the user program from operating with an unintended value in the retained variables or the retained areas in the memory used for CJ-series Units, use the Retention Inexecution Flag (_RetainUnexec) in the user program as an interlock condition as required.

*1. This system-defined variable is available only for the following CPU Units.

• NJ-series, NX502, NX102, NX1P2 CPU Unit: Version 1.64 or later

• NX701 CPU Unit: Version 1.35 or later

Event name	SD Memory Card	Invalid Type		Event code	000F0000 hex		
Meaning	The current SD N	lemory Card is not	supported.				
Source	PLC Function Mo	dule			Detection tim- ing	At power ON, at Controller reset, or when SD Memory Card is inserted	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation SD PWR indicator ory Card is stoppe		r is not lit. Power s ed.	upply to SD Mem-	
System-de-	Variable		Data type	•	Name		
fined variables	_Card1Ready		BOOL		SD Memory Card Ready Flag		
Cause and cor-	Assumed cause		Correction	Correction			
rection	An SD Memory Card that is not supported was inserted into the CPU Unit.			HMC-SD491 SD an HMC-SD1A1 ase, replace with SD Memory Card 1 SD Memory	MC-SD491 SD Card, an HMC-SD491 SD Met HMC-SD1A1 Card, or an HMC-SD1A1 SD ory Card. a, replace with In the following case, use an Memory Card SD491 SD Memory Card or at SD Memory HMC-SD1A1 SD Memory Card or at B C PU Units, sion is "A" and For NJ501-□□□ CPU U		
Attached infor- mation	Attached informat	ion 1: "Not UHS-I"	is displayed when t	the SD Memory Ca	rd does not suppor	t UHS-I.	
Precautions/ Remarks	None						

Event name	SD Memory Card	Life Exceeded		Event code	00100000 hex		
Meaning	The specified nur ceeded the specified		or the SD Memory (Card was exceeded	I. Or, the number o	f bad blocks ex-	
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON, at Controller reset, or periodically	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	•	Data type		Name	ame	
fined variables	_Card1Deteriorat	ed	BOOL		SD Memory Card Life Warning Flag		
Cause and cor-	Assumed cause Correction				Prevention		
rection	The service life of Card was exceed		, , , ,		Regularly replace Card.	e the SD Memory	
Attached infor- mation	None						
Precautions/ Remarks	 Normal user pr You can chang Recovery colur Combination or expiration deter 	ogram operation m e the event level to nn above will be cl f the CPU Unit vers ction function can l	nanged to "Error re sion and SD Memo be used or not. Ref	vel. If you change th	whether the SD m of Supported SD M	nemory card life <i>Iemory Cards,</i>	

Event name	SD Memory Card	Invalid Format		Event code	10030000 hex	
Meaning	The file format of	the SD Memory Ca	ard is not FAT16 or	FAT32.		
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON, at Controller reset, or when SD Memory Card is inserted
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program			r is not lit. You can m the Sysmac Stuc		
System-de-	Variable		Data type		Name	
fined variables	_Card1Ready		BOOL	BOOL		Ready Flag
Cause and cor-	Assumed cause		Correction	Correction		
rection	The file format of the SD Memory Card inserted in the CPU Unit is not FAT16 or FAT32.		Make sure that th Memory Card is in CPU Unit. If an incorrect SD inserted, replace one. If the correct SD N inserted, format it you use it.	nserted in the Memory Card is it with the correct Memory Card is	Use an OMRON Do not format the Card on a compu	,
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	SD Memory Card	Restored or Forma	atted	Event code	10040000 hex			
Meaning	An error was dete leted.	An error was detected during the file system check and the file system was restored. Files may have been de- leted.						
Source	PLC Function Mo	dule	Source details None		Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	If the file is delete may not be possi	ed, normal user pro ble.	gram operation		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Intervention of power supply wasOne of the control of the son theturned OFF while the SD BUSY in- dicator was lit.SD Memory Card, or that the de- vice operates correctly.The power supply to the Controller was interrupted momentarily while the SD BUSY indicator was lit.If the correct file is not on the SD Memory Card, or if the device does not operate correctly, download the correct file to the SD Memory Card		, or that the de-	Do not turn OFF the power supply while the SD BUSY indicator is lit. Take appropriate measures to en- sure that the specified power with the rated voltage and frequency is supplied in places where the power				
			If the correct file is not on the SD Memory Card, or if the device does not operate correctly, download the correct file to the SD Memory Card. Cycle the power supply to the Con-					
			confirm that the s	confirm that the system operates	Do not remove the SD Memory Card while the SD PWR indicator is lit.			
			bes not exist, re- mory Card and	None				
Attached infor- mation	None		·		·			
Precautions/ Remarks	enabled. You can change t	The error is detected at power ON or at a Controller reset only when SD Memory Card diagnosis at startup enabled. You can change the event level to the minor fault level. If you change the level to the minor fault level, the Recovery column above will be changed to "Error reset."						

Event name	SD Memory Card	D Memory Card Data Corrupted Event code 10060000 hex					
		•	Cord in minning of				
Meaning			/ Card is missing or				
Source	PLC Function Mo	dule	Source details	None	Detection tim-	At power ON or	
		1			ing	Controller reset	
Error attributes	Level	Observation	Recovery		Log category System		
Effects	User program	Continues.	Operation	SD PWR indicator is not lit. You can format the SD			
					m the Sysmac Stuc		
				Normal user prog	ram operation may	not be possible.	
System-de-	Variable		Data type		Name		
fined variables	_Card1Ready		BOOL		SD Memory Card	Ready Flag	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	rection The Controller power supply was turned OFF while the SD BUSY indicator was lit. The power supply to the Controller was interrupted momentarily while the SD BUSY indicator was lit. The SD Memory Card was removed while the SD PWR indicator was lit. The SD Memory Card is damaged.		Format the SD Memory Card and download the correct file.		Do not turn OFF the power supply while the SD BUSY indicator is lit.		
			_	Take appropriate measures to en- sure that the specified power with the rated voltage and frequency is supplied in places where the powe supply is unstable.			
					Do not remove the SD Memory Card while the SD PWR indicator is lit.		
			If the error cannot be cleared with the above corrections, replace the SD Memory Card with one that op- erates normally.		None		
Attached infor- mation	None						
Precautions/ Remarks	enabled. You can change t	The error is detected at power ON or at a Controller reset only when SD Memory Card diagnosis at startup is enabled. You can change the event level to the minor fault level. If you change the level to the minor fault level, the Recovery column above will be changed to "Error reset."					

Event name	SD Memory Card	Access Power OF	F Error	Event code	10070000 hex	
Meaning	The power supply	y to the Controller v	vas interrupted duri	ng access to the S	D Memory Card.	
Source	PLC Function Mc	odule	Source details	None	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation Operation is control file is corrupted.		rolled by the user p	program when the
System-de-	Variable		Data type		Name	
fined variables	_Card1PowerFai	I	BOOL		SD Memory Card tion Flag	Power Interrup-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The Controller power supply was turned OFF while the SD BUSY in- dicator was lit. The power supply to the Controller was interrupted momentarily while the SD BUSY indicator was lit.		Check that the correct file is on the SD Memory Card, or that the de- vice operates correctly. If the correct file is not on the SD Memory Card, or if the device does not operate correctly, download the correct file to the SD Memory Card. Cycle the power supply to the Con- troller or reset the Controller and confirm that the system operates correctly. When you have finished the cor- rections, change the _Card1Pow- erFail (SD Memory Card Power In- terruption Flag) system-defined variable to FALSE.		Do not turn OFF the power supply while the SD BUSY indicator is lit. Take appropriate measures to en- sure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.	
Attached infor- mation	None		1		1	
Precautions/ Remarks	When the measu	re is completed, ch	ange the SD Memo	ory Card Power Inte	erruption Flag to FA	LSE.

Event name	PLC System Info	mation		Event code	10130000 hex	
Meaning	This event provid	es internal informa	tion from the PLC F	unction Module.		
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	This event provides internal infor- mation from the PLC Function Module. It is recorded to provide additional information for another event.					
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Incorrect SD Men	nory Card Removal		Event code	10310000 hex		
Meaning	SD Memory Card	D Memory Card removal processing failed.					
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At SD Memory Card removal	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The SD Memory Card was re- moved while the SD PWR indicator was lit.		Check the files or Card to see if the the files on the SI are not correct, do rect files to the SI	y are correct. If O Memory Card ownload the cor-	supply switch and	or goes out before	
Attached infor- mation	None						
Precautions/ Remarks	None						

Errors Related to CJ-series Unit Configuration

Event name	I/O Bus Check Er	ror		Event code	04010000 hex	
Meaning	An error occurred in a bus line transmission betw Or, detection of all Special I/O Units and CPU Bu troller was turned ON.					
Source	PLC Function Mo	dule	Source details	I/O bus master	Detection tim- ing	Continuously
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program	Stops.	Operation	Stops. *1		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The I/O Connecting Cable is dis- connected or wires inside it are broken.		Make sure that th nector is mated p reconnect the cor cable is broken, r	roperly and then nnector. If the I/O	Make sure the ca erly during opera Check for vibratio	
	A conductive material has gotten inside.		If there is conductive material near- by, blow out the Units with air.		Do not do any metal working in the vicinity of the control panel. Use the control panel only when it is closed.	
		ntact is faulty due al in the connector.	If foreign material is stuck to the connector, take off the connector and remove the foreign material.		Make sure that the operating envi- ronment is free of dirt and dust.	
	 Noise There is data corruption in bus signals. There is malfunctioning in bus interface circuits. 		the error.	rcle the power to d see if that clears s frequently, check pply lines, I/O es, and other , and implement		
	A Unit has failed. • CPU Unit • Special I/O Un • CPU Bus Unit • I/O Connecting		If the error did no above causes, ar power to the Con the Controller doe error, replace the the CPU Unit.	nd cycling the troller or resetting es not clear the	Perform regular i	nspections.
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Unsupported Unit	Detected		Event code	24010000 hex		
Meaning	An unsupported C	J-series Unit or Po	ower Supply Unit is	mounted.			
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation Stops. *1				
System-de-	Variable		Data type	Data type		Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An unsupported C	J-series Unit or	Remove the unsu	Remove the unsupported CJ-ser-		Use a Unit that is supported by this	
	Power Supply Un	it was detected.	ies CPU Unit or P	ower Supply Unit	CPU Unit.		
			and replace it with	n a supported			
			one.				
Attached infor-	Attached informat	ion 1: Rack numbe	er where error was	detected, 0 to 3			
mation	Attached informat	ion 2: Slot number	where error was de	etected, 0 to 9			
	Attached informat	ion 3: Profile code	that gives the Unit	type			
Precautions/	This error will not	occur for unsuppor	rted Power Supply	Units that are mou	nted on Expansion	Rack. Make sure	
Remarks	that the Power Su	pply Units connect	ed to the Expansio	n Racks are suppo	rted before using t	hem.	

Event name	Too Many I/O Poi	nts		Event code	24020000 hex			
Meaning	The total number CPU Unit.	The total number of I/O points in the connected CJ-series Units exceeds the maximum specified value of the CPU Unit.						
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Stops.	Operation	Stops. *1				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The total number	of I/O points in	Set the total number of I/O points		Set the total number of I/O points			
	the connected CJ	-series Basic I/O	in the CJ-series E	Basic I/O Units to	in the CJ-series Basic I/O Units to			
	Units exceeds 2,5	560.	2,560 or less. 2,560 or less.					
Attached infor-	Attached informat	tion 1: Total numbe	r of I/O points in the	e CJ-series Basic I	/O Units			
mation								
Precautions/	None							
Remarks								

Event name	End Cover Missin	g		Event code	24030000 hex		
Meaning	The End Cover is	not connected to r	ight end of the CPL	J Rack or an Expar	sion Rack.		
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation Stops. *1				
System-de-	Variable None		Data type			Name	
fined variables							
Cause and cor-	e and cor- Assumed cause		Correction		Prevention		
rection	_	The End Cover is not connected to right end of the CPU Rack or an		Check that the End Cover is cor- rectly connected and firmly attach- ed. If it is not, connect it properly.		Design a Unit configuration that in- cludes the End Cover.	
	The End Cover is not connected properly.				Confirm that End Cover is connect- ed correctly when you assemble the Controller.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Incorrect Unit/Exp	ansion Rack Conr	ection	Event code	24040000 hex	
Meaning			Racks exceeds the interfection the states and the second s			Unit.
Source	PLC Function Mo	dule			Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program	Stops.	Operation	Stops. *1		
System-de-	Variable Data type			Name		
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	More than 10 Units are connected to one Rack.		Reduce the number of Units con- nected to the Rack to 10 or fewer.		Check the maximum number of connections allowed and design a configuration that fits within those ranges.	
	More than three Expansion Racks are connected.		Reduce the number of Expansion Racks to three or fewer.			
	More than two Interrupt Input Units are mounted.		Reduce the number of Interrupt In- put Units to two or fewer.			
	An Interrupt Input Unit was mount- ed to a unsupported slot or to an Expansion Rack.		Mount the Interrupt Input Units to slots 0 to 4 on the CPU Rack (i.e., as one of the five Units to the right of the CPU Unit).			
Attached infor- mation	None				1	
Precautions/ Remarks	None					

Event name	Duplicate Unit Nu	mber		Event code	24050000 hex	
Meaning	The same unit nu	mber is set for mor	e than one Special	I/O Unit or more th	an one CPU Bus l	Jnit.
Source	PLC Function Mo	dule	Source details	I/O bus master	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program	Stops.	Operation	Stops. *1	•	•
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The same unit nu more than one Sp more than one CF The same unit nu to a Special I/O U more than one un another Special I/	mber is assigned hit that uses it number and	Check that the same unit number is not used for more than one Spe- cial I/O Unit or CPU Bus Unit by checking the rotary switches. If the same unit number is used more than once for the same Unit config- uration, change the unit number. Check whether a Special I/O Unit or CPU Bus Unit that uses more than one unit number is included in the configuration. If there is, check to see if one of the unit numbers assigned to it is used by another Special I/O Unit or CPU Bus Unit. If		Make sure that the same unit num- ber is not used for more than one Special I/O Unit. Also, make sure that the same unit number is not used for more than one CPU Bus Unit.	
Attached infor- mation	Attached information 1: Rack number where error was detected, 0 to 3 Attached information 2: Slot number where error was detected, 0 to 9 Attached information 3: Special I/O Unit: Duplicated unit number + +20 hex CPU But Unit: Duplicated unit num- ber + +10 hex					
Precautions/ Remarks	Check the model	of the Special I/O I	Jnit. Some Special	I/O Units use up to	o four unit numbers.	

Event name	I/O Setting Check	Error		Event code	34010000 hex		
Meaning	There is an incon that is mounted ir	•	a Unit model in the	Unit Configuration i	n the CPU Unit an	d the Unit model	
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	At power ON, Controller reset, or Unit Configu- ration and Setup transfer	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation Stops. *1				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A Unit model or S number in the Un the CPU Unit is d Unit model or the number of the Un in the Controller.	it Configuration in ifferent from the Special Unit unit	Correct the Unit Configuration in the CPU Unit or the physical Unit configuration so that there are no inconsistencies.		Make sure that the Unit Configura- tion in the CPU Unit and the physi- cal Unit configuration are consis- tent.		
Attached infor- mation	Attached information 1:The lowest slot number where an error was detected on the CPU Rack: 0 to 9, When the CPU Rack is normal: 10 Attached information 2:The lowest slot number where an error was detected on Expansion Rack 1: 0 to 9, When Expansion Rack 1 is normal: 10 Attached information 3:The lowest slot number where an error was detected on Expansion Rack 2: 0 to 9, When Expansion Rack 2 is normal: 10 Attached information 4:The lowest slot number where an error was detected on Expansion Rack 2: 0 to 9, When Expansion Rack 2 is normal: 10 Attached information 4:The lowest slot number where an error was detected on Expansion Rack 3: 0 to 9, When Expansion Rack 3: 0 to 9, When Expansion Rack 3 is normal: 10						
Precautions/	None						
Remarks							

Event name	PLC Function Pro	cessing Error		Event code	44400000 hex	
Meaning	A fatal error was	detected in the PLC	C Function Module.			
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	Continuously
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category System	
Effects	User program	Stops.	Operation Stops. *1			
System-de-	ystem-de- Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred in the software.		Contact your OMRON representa- tive.		None	
Attached infor-	Attached information	tion 1: System infor	rmation		1	
mation	Attached informa	tion 2: System infor	rmation			
	Attached informa	tion 3: System infor	rmation			
	Attached information	tion 4: System infor	rmation			
Precautions/	None					
Remarks						

Event name	Impossible to Acc	ess Special Unit		Event code	64010000 hex	64010000 hex	
Meaning	An error occurred	in data exchange	between the CPU l	Jnit and a Special I	Unit.		
Source	PLC Function Mo	dule	Source details	CJ-series Unit	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Reset error, cy- cle power sup- ply, or reset Controller.	Log category	System	
Effects	User program	Continues.	Operation	The Special Unit	stops.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	 The setting of the rotary switches or a DIP switch pin on a Special Unit is not correct. The node address is not correct. The communications mode is not correct. The baud rate is not correct. 		Correct the setting switches or DIP s Special Unit. You setting error on th display on the Sp	witch pin on the can check the e seven-segment	Set the rotary sw switch pins on the correctly.		
	An error occurred in the Special Unit.		Refer to the relevant manual to troubleshoot the error.		Refer to the Unit manual and use the Unit correctly.		
	The Unit connection is faulty.		Connect the Unit so that the con- nectors mate correctly and slide the yellow sliders on the top and on the bottom toward the back to lock them into place.		Make sure that the Units are con- nected correctly. Check for vibration and shock.		
	 Noise There is data corruption in bus signals. 		If the error did not result from the above causes, cycle the power to the Controller and see if that clears the error. If the error occurs frequently, check the FG, power supply lines, and other noise entry paths, and imple- ment noise countermeasures as required.				
	A Unit has failed.		If the error did not result from the above causes, and cycling the power to the Controller or resetting the Controller does not clear the error, replace the Special Unit.		Perform regular i	nspections.	
Attached infor- mation	• CPU But Unit:	iion 1: it: Error unit numbe Error unit number + iion 2: System infor	⊦10 hex				
Precautions/ Remarks	None	-					

Event name	CJ-series Unit Ba	ckup Failed		Event code	102D0000Hex *1	
Meaning	The backup opera	ation for a CJ-serie	s Unit ended in an	error.		
Source	PLC Function Mo	dule	Source details	I/O bus master	Detection tim- ing	During backup operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred in the Unit Con- figuration. (when 4 is given for attached infor- mation 1 (Error Details))		Eliminate the error figuration.	r in the Unit Con-	Back up the data no errors in the U	
	An error occurred for a Special Unit. (when 2 is given for attached infor- mation 1 (Error Details))		Eliminate the erro Unit.	r for the Special	Eliminate the erro	or for the Specia
	A restart is in progress for the Spe- cial Unit. (when 2 is given for attached infor- mation 1 (Error Details))		Back up the data when there is no restart command for the Special Unit.		Do not restart the Special Unit when a backup operation is in progress. Do not attempt to back up data during a restart.	
	A Unit model or Special Unit unit number in the Unit Configuration in the CPU Unit is different from the Unit model or the Special Unit unit number of the Unit that is mounted in the Controller. (when 5 is given for attached infor-		Correct the Unit Configuration in the CPU Unit or the physical Unit configuration so that there are no inconsistencies.		Make sure that the Unit Configura tion in the CPU Unit and the physi cal Unit configuration are consis- tent when you back up the data.	
	mation 1 (Error Details)). The CPU Unit or CJ-series Unit has failed. (when 1 is given for at- tached information 1 (Error De- tails))		If none of the above causes ap- plies, replace the CPU Unit or the CJ-series Unit.		None	
Attached infor- mation	 Attached Information 1: Error Details 1: It was not possible to create the backup file. 2: Communications with a Special Unit failed. 4: The CJ-series Unit could not be detected. 5: The Unit Configuration in the CPU Unit and the physical Unit configuration are not consistent. Attached information 2: Rack number where error was detected, 0 to 3 (when 2 is given for Error Details Attached information 3: Slot number where error was detected, 0 to 9 (when 2 is given for Error Details Attached information 4: System Information (when 2 is given for Error Details) 				irror Details)	
Precautions/ Remarks	None				uno ₁	

*1. This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	CJ-series Unit Re	store Operation Fa	ailed	Event code	102E0000Hex ^{*1}		
Meaning	The restore operation	ation for a CJ-serie	s Unit ended in an o	error.			
Source	PLC Function Mo	dule	Source details	I/O bus master	Detection tim- ing	During restore operation	
Error attributes	Level	Observation	Recovery		Log category	System	
ffects	User program		Operation	Not affected.			
System-de-	Variable		Data type		Name		
ined variables	None						
ause and cor-	Assumed cause		Correction		Prevention		
ection	An error occurred figuration. (when 4 is given f mation 1 (Error D	or attached infor-		Eliminate the error in the Unit Con-		when there are Init Configuration.	
	An error occurred for a Special Unit. (when 2 is given for attached infor- mation 1 (Error Details))		Eliminate the erro	r for the Special	Restore the data no errors for the		
-	The Unit Configuration in the back- up file does not agree with the physical Unit configuration. (when 5 is given for attached infor- mation 1 (Error Details)).		Make sure that th tion in the backup the physical Unit	file agrees with	Make sure that L in the backup file physical Unit con you attempt to re	agrees with the figuration before	
	A restart is in progress for the Spe- cial Unit. (when 2 is given for attached infor- mation 1 (Error Details))		Restore the data when there is no restart command for the Special Unit.		Do not restart the Special Unit when a restore operation is in progress. Do not attempt to restore data during a restart.		
	The restore conditions that are re- quired by the Special Unit are not met. (when 3 is given for attached infor- mation 1 (Error Details))		Check the restore conditions in the manual for the Special Unit and make sure that they are met.		Check the restore conditions in the manual for the Special Unit and make sure that they are met.		
	(when 3 is given f	The backup files are corrupted. (when 3 is given for attached infor- mation 1 (Error Details))		Format the SD Memory Card with the Sysmac Studio and then place the backup file on it.		Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Replace the SD Memory Card peri- odically according to the write life of the SD Memory Card.	
	The CPU Unit or has failed. (when 1 is given f mation 1 (Error D	or attached infor-	If none of the above causes ap- plies, replace the CPU Unit or the CJ-series Unit.		None		
Attached infor- nation	 1: It was not po 2: Communicat 3: The restore 4: The CJ-serie 5: The Unit Con Attached informat Attached informat 	tion 2: Rack numbe tion 3: Slot number	e backup file. al Unit failed. becial Unit failed.				
Precautions/ Remarks	None				-,		

*1. This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Unsupported Unit Setting			Event code	30200000Hex *1		
Meaning	A setting in the S	A setting in the Special Unit is not supported.					
Source	PLC Function Module Source deta		Source details	I/O bus master	Detection tim- ing	Continuously	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A setting in the Special Unit is not supported by the CPU Unit.		Unit where the er that all Special U	Change the setting of the Special Unit where the error occurred so that all Special Unit settings are supported by the CPU Unit.		Refer to the manual for the CPU Unit and use only Special Unit set- tings that are supported.	
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

*1. This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Illegal Packet Dis	carded		Event code	80010000 hex		
Meaning	An illegal packet	was received durin	g message commu	nications. The illeg	al packet was discarded.		
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	Continuously	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Noise • There is data corruption in bus signals.		Cycle the power t and see if this cle the error occurs fi the FG, power su other noise entry ment noise counter required.	ars the error. If requently, check pply lines, and paths, and imple-	Implement noise	countermeasures.	
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						

Event name	PLC System Infor	mation		Event code	04020000 hex	
Meaning			ion from the PLC F	unction Module.		
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	Continuously
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable None		Data type		Name	
fined variables						
Cause and cor-	- Assumed cause		Correction		Prevention	
rection	This event provides internal infor- mation from the PLC Function Module. It is recorded to provide additional information for another event.					
Attached infor- mation		tion 1: System infor tion 2: System infor				
		tion 3: System infor				
		tion 4: System infor				
Precautions/	None					
Remarks						

Event name	PLC System Infor	mation		Event code	44410000 hex	
Meaning	This event provide	es internal informat	ion from the PLC F	unction Module.		
Source	PLC Function Mo	dule	Source details	I/O bus master	Detection tim-	Continuously
					ing	
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.	•	
System-de-	ined variables		Data type		Name	
fined variables						
Cause and cor-			Correction		Prevention	
rection						
	mation from the F	LC Function				
	Module. It is reco	rded to provide				
	additional informa	tion for another				
	event.					
Attached infor-	Attached informat	tion 1: System infor	mation			
mation	Attached informat	tion 2: System infor	mation			
	Attached informat	tion 3: System infor	mation			
	Attached informat	tion 4: System infor	mation			
Precautions/	None					
Remarks						

Built-in I/O and Option Boards

Event name	Option Board Err	or		Event code	05440000 hex			
Meaning	An Option Board	was removed or m	ounted during oper	ration, or an Option	Board hardware e	rror occurred.		
Source	PLC Function Mc	dule	Source details	Option Board: Slot1, Slot2	Detection tim- ing	Continuously		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Continues.	Operation Operation is not p curred.		oossible for slots w	here the error o		
System-de-	tem-de- Variable		Data type		Name			
fined variables	_PLC_OptBoardSta		ARRAY[12] OF _sOPT- BOARD_STA		Option Board Status			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An Option Board was removed or mounted during operation.			Turn OFF the power supply to the Controller, then mount the Option Board correctly.		Do not remove or mount Option Boards during operation.		
	A hardware error an Option Board.	was detected in	Turn OFF the power supply to the Controller, then mount the Option Board correctly. If this error per- sists, replace the Option Board in the slot where the error occurred.		None			
Attached infor-	Attached Informa	tion 1: Cause of th	e error					
mation	• 1. An Option B	oard was removed	during operation.					
	2. An Option B	oard was mounted	during operation.					
	• 3. A hardware	• 3. A hardware error was detected in an Option Board.						
	Attached informa	tion 2: System info	rmation					
Precautions/	None							
Remarks								

Event name	Option Board Cor	nfiguration Verificat	ion Error	Event code	35940000 hex	
Meaning	The Option Board	l configuration setu	ıp does not agree w	/ith the actual confi	guration.	
Source	PLC Function Module		Source details	Option Board: Slot1, Slot2	Detection tim- ing	At power ON or at download
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System
Effects	User program	Continues.	Operation	Operation is not p ment of configura	oossible for slots wl tion occurred.	nere the disagree-
System-de-	Variable		Data type	•	Name	
fined variables	_PLC_OptBoardSta		ARRAY[12] OF BOARD_STA	_sOPT-	Option Board Sta	tus
Cause and cor-	Assumed cause The Option Board configuration setup does not agree with the ac- tual configuration.		Correction	Prevention		
rection			tion or change the ration so that the configuration setu actual configuration	Option Board up agrees with the on. If you change configuration set-	Same as at the le	ft.
	An Option Board is not mounted correctly.		Turn OFF the power supply to the Controller, then mount the Option Board correctly.		Same as at the le	ft.
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Unsupported Opt	ion Board Mounted		Event code	35950000 hex		
Meaning	There is an unsu	oported Option Boa	rd in the actual cor	figuration.			
Source	PLC Function Module		Source details	Option Board: Slot1, Slot2	Detection tim- ing	At power ON	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation	Operation is not p curred.	t possible for slots where the error oc-		
System-de-	Variable		Data type		Name		
fined variables	_PLC_OptBoards	Sta	ARRAY[12] OF _sOPT- BOARD_STA		Option Board Status		
Cause and cor-	Assumed cause		Correction	Correction			
rection		There is an unsupported Option Board in the actual configuration.		Remove the unsupported Option Board.		Use a supported Option Board.	
Attached infor-	Attached informa	tion 1: System infor	mation				
mation							
Precautions/	None	None					
Remarks							

Event name	Analog Option Bo	ard Startup Error		Event code	88130000 hex		
Meaning	An error occurred	when an Analog	Option Board is star	ted.			
Source	PLC Function Mo	PLC Function Module		Option Board: Slot1, Slot2	Detection tim- ing	At power ON	
Error attributes	Level	Minor fault	Recovery	covery Supply or reset the Controller.		System	
Effects	User program	Continues.	Operation	Operation Operation is not possible for slots where the erro curred.			
System-de-	Variable		Data type	Data type			
fined variables	_PLC_OptBoardSta		ARRAY[12] OF _sOPT- BOARD_STA		Option Board Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An Analog Option Board is not mounted correctly. Or an Analog Option Board failed.		Controller, then n Board correctly. It sists, replace the	Turn OFF the power supply to the Controller, then mount the Option Board correctly. If this error per- sists, replace the Option Board in the slot where the error occurred.		əft.	
Attached infor- mation	Attached informa	Attached information 1: System information					
Precautions/ Remarks	None						

Event name	Analog Option Bo	pard Communicatio	ons Error	Event code	88140000 hex	
Meaning	A communication	s error occurred du	uring Analog Option	Board operation.		
Source	PLC Function Mc	odule	Source details	Option Board: Slot1, Slot2	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation Operation is not per curred. Reset the normal communica		error. Operation is	resumed when
System-de-	vstem-de- Variable		Data type		Name	
fined variables	_PLC_OptBoardSta		ARRAY[12] OF _sOPT- BOARD_STA		Option Board Status	
Cause and cor-			Correction		Prevention	
rection			Reset the error. If this error occurs even after you reset the error, turn OFF the power supply to the Con- troller, then mount the Option Board correctly. If this error still oc- curs, replace the Option Board in the slot where the error occurred.		ft.	
	If the indicator on an Analog Op- tion Board is lit, it means that a WDT error occurred in the Analog Option Board.		Turn OFF the power supply to the Controller, then mount the Option Board correctly. If this error per- sists, replace the Option Board in the slot where the error occurred.		Same as at the le	eft.
Attached infor- mation	Attached informa	tion 1: System info	rmation		1	
Precautions/ Remarks	None					

Errors Related to Tasks

Event name	Task Execution T	meout		Event code	60020000 hex	
Meaning	Task execution ex	ceeded the timeou	It detection time.			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops. ^{*1}		
System-de-	Variable		Data type		Name	
fined variables	_ <task_name>_E</task_name>	Exceeded	BOOL		Task Period Exce	eded Flag
	_ <task_name>_E</task_name>	ExceedCount	UDINT		Task Period Exce	eded Count
	 _ <task_name>_LastExecTime</task_name>		TIME		Last Task Execut	ion Time
	_ <task_name>_MaxExecTime</task_name>		TIME		Maximum Task E	xecution Time
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The timeout detection time setting is too short.		Increase the timeout detection time.		Design the tasks considering the corrections that are given on the	
	The task period s	etting is too short.	Increase the task	period.	left.	
	A user program is too large.		ent tasks, for example move proc- esses that do not need a short ex- ecution period to a periodic task with a lower priority.			
	The number of times that process- ing is repeated is larger than ex- pected.		If there is a program with an ex- tremely high number of repetitions, correct the program to achieve the correct number of repetitions. Set a trap in the user program that moni- tors the number of times a process is executed to check the number of repetitions. Increase the priority of the periodic			
	Frequent Event Task Execution		task. Or, decrease the priorities of the other tasks. Lower the frequency of event task execution. Or, decrease the priori-		-	
Attached infor- mation	Attached Informa	tion 1: Name of tas	ties of the event t k where error occu			
Precautions/ Remarks	None					

Event name	I/O Refreshing Ti	meout Error		Event code	60030000 hex	
Meaning	Consecutive I/O	efresh failures occu	urred during the pri	imary periodic task	or periodic task pe	riod.
Source	PLC Function Mc	odule	Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*1		
System-de-	Variable		Data type		Name	
fined variables	_ <task_name>_Exceeded</task_name>		BOOL		Task Period Exce	eded Flag
	_ <task_name>_ExceedCount</task_name>		UDINT		Task Period Exce	eded Count
	_ <task_name>_LastExecTime</task_name>		TIME		Last Task Execut	tion Time
	_ <task_name>_MaxExecTime</task_name>		TIME		Maximum Task Execution Time	
Cause and cor-	Assumed cause		Correction		Prevention	
-	The task period setting is too short.		Check the task execution time and change the task period to an ap- propriate value.		Design the tasks considering the corrections that are given on the left.	
	Task Priority Error for Periodic Tasks and Event Tasks		Increase the priorities of the peri- odic tasks. Or, decrease the priori- ties of the event tasks so that they are lower than the priorities of the periodic tasks.			
	There are too many Units and slaves that perform I/O refresh in the task period.		Move the I/O refresh processes to other tasks, for example move I/O refresh processes within the task to other tasks.			
	Frequent Event Task Execution		Lower the frequency of event task execution. Or, decrease the priori- ties of the event tasks.		-	
Attached infor- mation	Attached Informa	tion 1: Name of tas	k where error occu	rred		
Precautions/ Remarks	None					

Event name	Insufficient System Service Time Error			Event code	60040000 hex	
Meaning	The specified sys	tem service execut	ion time could not l	pe obtained.		
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*1		
System-de-	Variable		Data type		Name	
fined variables	_ <task_name>_Exceeded</task_name>		BOOL		Task Period Exce	eded Flag
	_ <task_name>_ExceedCount</task_name>		UDINT		Task Period Exce	eded Count
	_ <task_name>_LastExecTime</task_name>		TIME		Last Task Execution Time	
	_ <task_name>_MaxExecTime</task_name>		TIME		Maximum Task Execution Time	
Cause and cor-	tion Assumed cause There was not sufficient time to ex- ecute the tasks and tag data link service.		Correction		Prevention	
rection			tings. Increase th the packet interva data link settings time for executior tag data link servi	e tag data link set- e task periods or als (RPI) in the tag to obtain enough of the tasks and ice.	Set the System S Settings accordin tions that are give	•
	The system service execution in- terval is too short or the system service execution time ratio is too long in the System Service Moni- toring Settings.		Check the effect on the processes executed by the system services with this operation and increase the system service execution inter- val or reduce the system service execution time ratio.			
Attached infor- mation	None		1		1	
Precautions/ Remarks	None					

Event name	Task Period Exce	eded		Event code	60010000 hex	
Meaning	Task execution wa	as not completed d	luring the set task p	eriod for the prima	ry periodic task or a	a periodic task.
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	 Operation If the task execution does not finish within period, the I/O refresh operation will be a CJ-series Units: No I/O refresh is executask execution is completed, I/O refresh is executask execution is completed, I/O refresh is executable. EtherCAT slaves, NX Units on the CP Units, Built-in I/O: Outputs: The values from the previous output. Inputs: Inputs are refreshed, but the ir not updated in the executed user progoration of the equipment of the task execution does not finish within period, overall control of the equipment of impossible. 			be as follows: executed. When efreshing for the e CPU Unit, X Bus vious period are he input data is program. within the set task
System-de-	Variable		Data type	·	Name	
fined variables	_ <task_name>_E</task_name>	Exceeded	BOOL		Task Period Exce	eded Flag
_ <task_name>_ExceedCount</task_name>		ExceedCount	UDINT		Task Period Exceeded Count	
	_ <task_name>_LastExecTime</task_name>		TIME		Last Task Execution Time	
		/laxExecTime	TIME		Maximum Task Execution Time	
Cause and cor-	Assumed cause		Correction		Prevention	
Cause and cor- rection	The task period setting is too short. A user program is too large.		change the task period to an ap- propriate value. Separate the processes into differ- ent tasks, for example move proc- esses that need a short execution period to a periodic task with a low- er priority.		Design the tasks corrections that a left.	-
	The number of times that process- ing is repeated is larger than ex- pected.		If there is a program with an ex- tremely high number of repetitions, correct the program to achieve the correct number of repetitions. Set a trap in the user program that moni- tors the number of times a process is executed to check the number of repetitions.			
	Task Priority Error for Periodic Tasks and Event Tasks		Increase the priorities of the peri- odic tasks. Or, decrease the priori- ties of the event tasks so that they are lower than the priorities of the periodic tasks.			
	Frequent Event Task Execution		execution. Or, det ties of the event t	Lower the frequency of event task execution. Or, decrease the priori- ties of the event tasks.		
Attached infor- mation			k where error occu			
Precautions/ Remarks	You can change t	he level of the erro	r to an observation	in the task settings	5.	

Event name	Task Period Exce	eded		Event code	60050000 hex	
Meaning	Task execution wa	as not completed o	luring the set task p	period for the prima	ry periodic task or f	ïxed periodic
	task.	-				
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	 If the task execution does not finish within the seperiod, the I/O refresh operation will be as follow CJ-series Units: No I/O refresh is executed. W task execution is completed, I/O refreshing for next period is executed. EtherCAT slaves, NX Units on the CPU Unit, Units, Built-in I/O: Outputs: The values from the previous period output. Inputs: Inputs are refreshed, but the input data not updated in the executed user program. If the task execution does not finish within the seperiod, overall control of the equipment may become impossible. 		be as follows: executed. When efreshing for the e CPU Unit, X Bus vious period are he input data is program. within the set task
System-de-	Variable	l	Data type		Name	
fined variables	<task name=""> E</task>	Exceeded	BOOL			eded Flag
	_ <task_name>_ExceedCount</task_name>		UDINT		Task Period Exceeded Flag Task Period Exceeded Count	
				TIME		ion Time
	_ <task_name>_MaxExecTime</task_name>		TIME		Maximum Task E	
Cause and cor-	Assumed cause		Correction		Prevention	
Cause and cor- rection	The task period setting is too short. A user program is too large.		Check the task execution time and change the task period to an ap- propriate value. Separate the processes into differ- ent tasks, for example move proc- esses that need a short execution		Design the tasks corrections that a left.	-
	The number of times that process- ing is repeated is larger than ex- pected.		period to a periodic task with a low- er priority. If there is a program with an ex- tremely high number of repetitions, correct the program to achieve the correct number of repetitions. Set a trap in the user program that moni- tors the number of times a process is executed to check the number of repetitions.			
	Task Priority Error for Periodic Tasks and Event Tasks		Increase the priorities of the peri- odic tasks. Or, decrease the priori- ties of the event tasks so that they are lower than the priorities of the periodic tasks.			
		Frequent Event Task Execution		Lower the frequency of event task execution. Or, decrease the priori- ties of the event tasks.		
Attached infor- mation			sk where error occu			
Precautions/ Remarks	This error can oco	cur if you change tl	ne level of the error	to an observation i	n the task settings.	

Errors Related to Controller Operation

Event name	User Program/Controller Configurations and Setu Transfer Error			Event code	10200000 hex		
Meaning	The user program or Controller Configurations and Setup were not transferred correctly.						
Source	PLC Function Module NX Bus Function Module EtherCAT Master Function Module		Source details	None or I/O bus master	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None	Vone					
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during a download of the user pro- gram or the Controller Configura- tions and Setup.		Clear all of memory and then download the project from the Sys- mac Studio. If attached information is regis- tered, cycle the power supply to the Controller and then implement the above correction.		Do not turn OFF the power supply to the Controller during a download of the user program or the Control- ler Configurations and Setup.		
	The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during online editing.		If you cannot perform a Clear All Memory operation from the Sys- mac Studio, transfer the project to the Controller with a restore opera- tion from an SD Memory Card.		Do not interrupt the power supply to the Controller during online edit- ing.		
	The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during a Clear All Memory opera- tion.				Do not interrupt the power supply to the Controller during a Clear All Memory operation.		
	The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during a restore operation.				Do not interrupt the power supply to the Controller during a restore operation.		
	The power supply to the Controller is not cycled, although it is required after a Clear All Memory operation.		Cycle the power supply to the Con- troller and then transfer the project to the Controller.		If you execute Clear All Memory on the Controller containing a down- loaded project in the unit version 1.40 or later and then download a project in the unit version earlier than 1.40 on Sysmac Studio lower than 1.29, make sure to cycle the power supply of the Controller after executing the Clear All Memory op- eration.		
	Non-volatile memory failed.		If the error persists even after you make the above correction, replace the CPU Unit.		None		

Attached infor-	Attached Information 1: Cause Details					
mation	• None: Power was interrupted during a download, during online editing, or during restoration.					
	 Downloading/Predownloading: For other causes, the timing of error occurrence (during download or during download preparations) is given. 					
Precautions/	None					
Remarks						

Event name	Illegal User Program Execution ID			Event code	10210000 hex		
Meaning	The user program execution IDs set in the user program and in the CPU Unit do not match.						
Source	PLC Function Module		Source details	None	Detection tim- ing	At user program download, pow- er ON, or Con- troller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and correction	Assumed cause		Correction		Prevention		
	The user program execution IDs set in the user program and in the CPU Unit do not match.		Set the same user program execu- tion ID in the user program and CPU Unit.		Set the same user program execu- tion ID in the user program and CPU Unit. Keep a record of the user program execution IDs set in the user pro- gram and in the CPU Unit. They are not displayed.		
	A user program execution ID is set in the CPU Unit but not in the user program.		If user program execution ID is not set in the user program, clear the user program execution ID set in the CPU Unit by clearing all memo- ry in the CPU Unit.				
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Illegal User Program			Event code	10240000 hex		
Meaning	The user program is not correct.						
Source	PLC Function Module		Source details	None	Detection tim- ing	At download, At power ON, or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor- rection	Assumed cause		Correction		Prevention		
	There are more than 8 nesting lev- els for functions or function blocks.		Find the location in the user pro- gram with more than 8 nesting lev- els for functions or function blocks and reduce the number of nesting levels to 8 or fewer. Then, down- load the user program again.		Write the user program so that there is never more than 8 nesting levels for functions or function blocks. Use the program check on the Sys- mac Studio to confirm that there are not more than 8 nesting levels.		
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						
Event name	Illegal User Program/Controller Configurations and Setup			Event code	10250000 hex		
---------------------------	---	---	---	---	-----------------------	--	--
Meaning	The upper limit of up is corrupted.	The upper limit of the usable memory was exceeded or the user program or Controller Configurations up is corrupted.					
Source	PLC Function Mc	dule	Source details	None	Detection tim- ing	At download, power ON, or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Assumed cause The upper limit of the data size was exceeded. The main memory capacity was exceeded.		If an event on restrictions on the number of items used occurred at the same time as this event, cor- rect the user program and settings so that the number of items used is not exceeded and then download the data again. If an event on restrictions on the number of items used did not occur at the same time as this event, per- form the Clear All Memory opera- tion, cycle the power supply, and then confirm that this event was cleared. If it was cleared, reduce the size of the project, e.g., by sharing programming, and then download the project again.		None		
	Non-volatile memory is deteriorat- ing or has failed.		If this error persists even after you implement the above two correc- tions, replace the CPU Unit.				
Attached infor- mation	None		· ·				
Precautions/ Remarks	None						

Event name	Error in Starting A	utomatic Transfer		Event code	10270000 hex ^{*1}	
Meaning	An error was dete	ected in pre-executi	on checks for auto	matic transfer.		
Source		PLC Function Module Source details None			Detection tim- ing	At power ON
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*2		
System-de-	Variable	•	Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory C ed.	ard is not insert-	Insert an SD Men	nory Card.	Insert an SD Mer	mory Card.
	The SD Memory (correct.	Card type is not	Replace the SD M an SD or SDHC o	lemory Card with card.	Use an SD or SD	HC card.
	The format of the is not correct.	SD Memory Card	Format the SD M the Sysmac Stud an autoload folde backup files in it.	io and then create	create an autoloa SD Memory Caro backup files in it.	d, and place the
	There is no autoload folder on the SD Memory Card.		Create an autoload folder on the SD Memory Card and place the backup files in it.		Also, do not remove the SD Memo- ry Card or turn OFF the power sup- ply while the SD BUSY indicator is lit.	
	There are no backup files in the autoload folder on the SD Memory Card.		Place the backup files in the auto- load folder on the SD Memory Card.			
	Either the backup files in the auto- load folder on the SD Memory Card are corrupted or required da-		Replace the backup files in the au- toload folder on the SD Memory Card. If this error occurs again			
	ta is not in the bac SD Memory Card	ckup files on the	even after replacing the files, cre- ate the backup files again and place them in the autoload folder.			
	The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card.		Replace the CPU Unit that has a ur the same as or no version of the CP to create the back place the backup	Unit with a CPU nit version that is ewer than the unit U that was used kup files. Or, files with the cor- for the CPU Unit in	the CPU Unit and the unit vers of the backup files are compat	
	The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Mem- ory Card.		Unit that has the the CPU Unit that ate the backup fil backup files with	PU Unit with a CPU he same model as hat was used to cre- files. Or, place the th the same model the autoload folder. Make sure that the model CPU Unit is the same as the of the CPU Unit that was used create the backup files.		ame as the model hat was used to
	Recovery was executed for the SD Memory Card.		If there are no backup files or no automatic transfer command file in the autoload folder, place the files in the folder again.		in	
	The CPU Unit is write-protected.		If you use automatic the <i>Do not us</i> Write protection ting of the CPU U	e Option for the at startup set-	If you use autom lect the <i>Do not us</i> Write protection ting of the CPU L	at startup set-

3-2 Errors in the PLC Function Module

3

3-2-2 Error Descriptions

	The settings in the automatic trans-	Make sure that the required files	Make sure that the required files				
	fer command file (AutoloadCom-	are set to "Yes" in the automatic	are set to "Yes" in the automatic				
	mand.ini) are not correct.	transfer command file.	transfer command file.				
	Reading the data for automatic transfer failed because the SD	Perform the same corrective meas- ures as for when the format of the	Perform the same preventive				
	Memory Card is faulty or not for-	SD Memory Card is not correct or	measures as for the following events: SD Memory Card Invalid				
	matted correctly.	the SD Memory Card is damaged.	Format or Faulty SD Memory Card				
	· · · · · · · · · · · · · · · · · · ·						
	The SD Memory Card is damaged.	If none of the above causes applies, replace the SD Memory Card.	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.				
	The database connection service	Replace the CPU Unit with a CPU	Make sure that the database con-				
	version of the CPU Unit to which to	Unit that has a database connec-	nection service version of the CPU				
	transfer the files is older than the	tion service version that is the	Unit and the database connection				
	database connection service ver-	same as or newer than the data-	service version of the backup files				
	sion of the backup files on the SD	base connection service version of	are compatible.				
	Memory Card.	the CPU Unit that was used to cre-					
		ate the backup files. Or, place the					
		backup files with the correct data-					
		base connection service version					
		for the CPU Unit in the autoload					
		folder.					
	The robot version of the CPU Unit	Replace the CPU Unit with a CPU	Make sure that the robot version of				
	to which to transfer the files is older	Unit that has a robot version that is	the CPU Unit and the robot version				
	than the robot version of the back- up files on the SD Memory Card.	the same as or newer than the ro- bot version of the CPU Unit that	of the backup files are compatible.				
	up mes on the SD Memory Card.	was used to create the backup					
		files. Or, place the backup files with					
		the correct robot version for the					
		CPU Unit in the autoload folder.					
	The CPU Unit failed to process the power OFF during the last power	Contact your OMRON representa- tive or distributor.	None				
	interruption.						
	An unexpected error has occurred.						
Attached infor-	Attached Information 1: Error Details						
mation	0001 hex: An SD Memory Card is						
	-	s faulty, the format of the SD Memory	Card is not correct, or the SD Mem-				
	ory Card is not the correct type of card.						
	0004 hex: Recovery was executed	-					
	0101 hex: There is no autoload folder on the SD Memory Card.						
	• 0102 hex: There are no backup files in the autoload folder on the SD Memory Card.						
	 0103 hex: The backup files are corrupted. 0104 hex: The contents of the automatic transfer command file are not correct. 						
	 0105 hex: The required transfer data 		correct.				
	 0201 hex: The unit version of the 						
	0202 hex: The model numbers of						
	 0203 hex: The CPU Unit is write-p 						
		process the power OFF during the las	t power interruption				
		on service or robot version of the CPU					
		natic transfer failed or the SD Memory					
	 7F01 hex: An unexpected error has 						
Precautions/	None						
Remarks							
	L						

Event name	Error in Executing	Automatic Transfe	er	Event code	10280000 hex ^{*1}	
Meaning	The automatic tra	nsfer ended in an e	error.			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*2		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	It was not possible for automatic tran		Format the SD Memory Card with the Sysmac Studio and then create an autoload folder and place the backup files in it.		while the SD BUS	the power supply SY indicator is lit. Memory Card peri- g to the write life
	The SD Memory Card was re- moved during an automatic trans- fer.		Insert an SD Memory Card that contains the backup files in an au- toload folder, and then cycle the power supply to execute the auto- matic transfer again.		Do not remove the SD Memory Card during the automatic transfer.	
	There are no backup files in the autoload folder on the SD Memory Card.		Create an autoload folder in the SD Memory Card and store the backup files in it.		Use a formatted SD Memory Card, create an autoload folder in the SD Memory Card, and store the back- up files in the folder. Do not turn OFF the power supply or remove the SD Memory Card while the SD BUSY indicator is lit.	
	The backup files in the autoload folder on the SD Memory Card are corrupted.		Store the backup files in the auto- load folder again. If this error oc- curs again even after replacing the files, create the backup files again and place them in the autoload folder.			
	The SD Memory Card is damaged.		If none of the above causes applies, replace the SD Memory Card.		Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Replace the SD Memory Card per odically according to the write life of the SD Memory Card.	
	An unexpected error has occurred.		Contact your OMRON representa- tive or distributor.		None	
	Also check the fol	lowing when you u	se the Robot Integ	rated CPU Unit.		
	The SD Memory (Card is write pro-	Remove write pro		Make sure that th	
	tected.		SD Memory Card		Card is not write	-
	The capacity of th Card is insufficien	-	Replace the SD N one with sufficien	•	Use an SD Memo	-
	The number of files or directories in the SD Memory Card exceeded the maximum number supported by the file system of the SD Memory Card.		Delete unnecessary files or directo- ries from the SD Memory Card.			

	Attached Information 1: Error Details
	0001 hex: The SD Memory Card was removed.
	• 0003 hex: The SD Memory Card is write protected (when the Robot Integrated CPU Unit is used).
	• 0005 hex: There is not sufficient space available on the SD Memory Card (when the Robot Integrated CPU
	Unit is used).
	0006 hex: Too many files or directories (when the Robot Integrated CPU Unit is used).
	0102 hex: There are no backup files in the autoload folder on the SD Memory Card.
	0103 hex: The backup files are corrupted.
	• 0301 hex: Reading data for automatic transfer failed or the SD Memory Card is damaged.
	7F01 hex: An unexpected error has occurred.
Precautions/	None
Remarks	

Event name	SD Memory Card Program Transfer Pre-execution Event code Check Error Event code			10330000 hex*1		
Meaning	An error was dete	ected in pre-executi	/ Card programs.			
Source	PLC Function Module		on checks for transferring SD Memory Source details None		Detection tim- ing	Before SD Memory Card programs are transferred after a Controller re- set
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops. ^{*2}		
System-de-	Variable		Data type		Name	
fined variables	_Card1PrgTransf	erSta	_sPRGTRANSFE	ER_STA	SD Memory Caro fer Status	Program Trans-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory Card is not insert- ed.		Insert an SD Memory Card.		Insert an SD Memory Card.	
	The SD Memory Card type is not correct.		Replace the SD Memory Card with an SD or SDHC card.		Use an SD or SDHC card.	
	The format of the SD Memory Card is not correct.		Format the SD Memory Card with the Sysmac Studio, create a folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable on the card, and store the backup files in the folder.		Use a formatted SD Memory Card, create a folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable on the card, and store the backup files in the folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable. Also, do not remove the SD Memo ry Card or turn OFF the power sup ply while the SD BUSY indicator is lit.	
	There is no such folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.DirName system-defined variable. There are no backup files in such a folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.DirName system-defined variable.		Create a folder specified by the _Card1PrgTransferCmd.DirName system-defined variable on the SD Memory Card and store the backup files in the folder.			
	Either the backup files in the folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable on the SD Memory Card are corrupted or re- quired data is not in the backup files on the SD Memory Card.		Replace the backup files in the folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable. If this error occurs again even after replacing the files, create the back- up files again and place them in the folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> systemdefined variable.			

The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has a unit version that is the same as or newer than the unit version of the CPU that was used to create the backup files. Or, place the backup files with the correct unit version for the CPU Unit, in the folder specified by the _Card1PrgTransferCmd.DirName system-defined variable.	Make sure that the unit version of the CPU Unit and the unit version of the backup files are compatible.
The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Mem- ory Card.	Replace the CPU Unit with a CPU Unit that has the same model as the CPU Unit that was used to cre- ate the backup files. Or, place the backup files with the correct model for the used CPU Unit, in the folder specified by the <i>_Card1PrgTransferCmd.DirName</i> system-defined variable.	Make sure that the model of the CPU Unit is the same as the model of the CPU Unit that was used to create the backup files.
The CPU Unit is write-protected.	If you transfer SD Memory Card programs, select the <i>Do not use</i> Option for the Write protection at startup setting of the CPU Unit.	If you transfer SD Memory Card programs, select the <i>Do not use</i> Option for the Write protection at startup setting of the CPU Unit.
Required files are not set to trans- fer in the setting of the _ <i>Card1PrgTransferCmd</i> system- defined variable.	Make sure that <i>TRUE</i> is set in the _ <i>Card1PrgTransferCmd</i> system-defined variable to transfer required files.	Make sure that <i>TRUE</i> is set in the _ <i>Card1PrgTransferCmd</i> system- defined variable to transfer re- quired files.
Reading the data for the SD Mem- ory Card program transfer failed because the SD Memory Card is faulty or not formatted correctly.	Perform the same corrective meas- ures as for when the format of the SD Memory Card is not correct or the SD Memory Card is damaged.	Perform the same preventive measures as for the following events: SD Memory Card Invalid Format or Faulty SD Memory Card.
The SD Memory Card is damaged.	If none of the above causes applies, replace the SD Memory Card.	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred.	Contact your OMRON representa- tive or distributor.	None
The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service ver- sion of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has the same or a newer database connection service ver- sion than the database connection service version of the CPU Unit that was used to create the backup files. Or, place the backup files with the correct database connection service version for the CPU Unit, in the folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable.	Make sure that the database con- nection service version of the CPU Unit and the database connection service version of the backup files are compatible.

	The robot version of the CPU Unit to which to transfer the files is older than the robot version of the back-	Replace the CPU Unit with a CPU Unit that has the same or a newer robot version than the robot ver-	Make sure that the robot version of the CPU Unit and the robot version of the backup files are compatible.
	up files on the SD Memory Card.	sion of the CPU Unit that was used to create the backup files. Or, place the backup files with the cor- rect robot version for the CPU Unit, in the folder specified by the	
		_ <i>Card1PrgTransferCmd.DirName</i> system-defined variable.	
Attached infor- mation	 ory Card is not the correct type of 0004 hex: Recovery was executed 0101 hex: There is no such folder _<i>Card1PrgTransferCmd.DirName</i> 0102 hex: There are no backup file _<i>Card1PrgTransferCmd.DirName</i> 0103 hex: The backup files are co 0104 hex: Required files are not s variable. 0105 hex: The required transfer date 0201 hex: The unit version of the of 0202 hex: The CPU Unit is write-point 0209 hex: The CPU Unit failed to 	not inserted. s faulty, the format of the SD Memory card. d for the SD Memory Card. on the SD Memory Card as specified system-defined variable. es in such a folder on the SD Memory system-defined variable. rrupted. et to transfer in the setting of the <i>_Ca</i> . ata is not in the backup file. CPU Unit is old. the CPU Unit are not the same.	by the card as specified by the <i>rd1PrgTransferCmd</i> system-defined
	fer. • 0301 hex: Reading data for transf	CPU Unit is not set to allow starting th erring the programs failed or the SD M	
Precautions/ Remarks	7F01 hex: An unexpected error ha		

Event name	Error in Executing fer	g SD Memory Card	Program Trans-	Event code	10340000 hex ^{*1}	
Meaning	The SD Memory	Card program trans				
Source	PLC Function Module		Source details	None	Detection tim- ing	During SD Memory Card program trans- fers
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*2		
System-de-	Variable	1	Data type		Name	
fined variables	_Card1PrgTransf	erSta	_sPRGTRANSFE	R_STA	SD Memory Card fer Status	Program Trans-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	It was not possible to read the data for SD Memory Card program transfers.		Format the SD Memory Card with the Sysmac Studio, create a folder specified by the _Card1PrgTransferCmd.DirName system-defined variable on the card, and store the backup files in the folder specified by the _Card1PrgTransferCmd.DirName system-defined variable.		Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.	
	The SD Memory Card was re- moved during a SD Memory Card program transfer.		Insert an SD Memory Card that contains the backup files in the folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable, and then cycle the power supply to execute the SD Memory Card program transfer again.		Do not remove the SD Memory Card during the SD Memory Card program transfer.	
	There are no backup files in such a folder on the SD Memory Card as specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable. The backup files in such a folder on the SD Memory Card as speci- fied by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable are cor- rupted.		Create a folder specified by the _Card1PrgTransferCmd.DirName system-defined variable on the SD Memory Card and store the backup files in the folder. Replace the backup files in the folder specified by the _Card1PrgTransferCmd.DirName system-defined variable. If this er- ror occurs again even after replac- ing the files, create the backup files again and place them in the folder specified by the _Card1PrgTransferCmd.DirName systemdefined variable.		card, and store the backup files in the folder specified by the <i>Card1PrgTransferCmd.DirName</i> system-defined variable. Also, do not remove the SD Memo ry Card or turn OFF the power sup	
	The SD Memory Card is damaged.		If none of the above causes applies, replace the SD Memory Card.		Do not remove the SD Memory Card or turn OFF the power supp while the SD BUSY indicator is li Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.	
	An unexpected er	ror has occurred.	Contact your OM tive or distributor.	RON representa-	None	

	Also shook the following when you u	as the Robet Integrated CRUUInit	
	Also check the following when you u		
	The SD Memory Card is write pro-	Remove write protection from the	Make sure that the SD Memory
	tected.	SD Memory Card.	Card is not write protected.
	The capacity of the SD Memory	Replace the SD Memory Card for	Use an SD Memory Card that has
	Card is insufficient.	one with sufficient available space.	sufficient available space.
	The number of files or directories in	Delete unnecessary files or directo-	Periodically delete unnecessary
	the SD Memory Card exceeded the	ries from the SD Memory Card.	files and directories on the SD
	maximum number supported by		Memory Card.
	the file system of the SD Memory		
	Card.		
Attached infor-	Attached Information 1: Error Details		·
mation	• 0001 hex: The SD Memory Card v	was removed.	
	• 0003 hex: The SD Memory Card i	s write protected (when the Robot Inte	egrated CPU Unit is used).
	0005 hex: There is not sufficient s	pace available on the SD Memory Ca	rd (when the Robot Integrated CPU
	Unit is used).		, U
	0006 hex: Too many files or direct	ories (when the Robot Integrated CPL	J Unit is used).
	-	es in such a folder on the SD Memory	-
	Card1PrgTransferCmd.DirName	-	
	 0103 hex: The backup files are co 	-	
		erring the SD Memory Card programs	failed or the SD Memory Card is
	faulty.	5	, _
	 7F01 hex: An unexpected error has 	as occurred	
Precautions/	None		
Remarks			
Remarks			

*2. For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	PLC Function Processing Error			Event code	40110000 hex		
Meaning	A fatal error was	A fatal error was detected in the PLC Function Module.					
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred in the software.		Contact your OMRON representa- tive.		None		
Attached infor-	Attached information	tion 1: System infor	mation				
mation	Attached information	tion 2: System infor	mation				
	Attached information	tion 3: System infor	mation				
	Attached information	tion 4: System infor	mation				
Precautions/	None						
Remarks							

Event name	Safe Mode I			Event code	40160000 hex ^{*1}		
Meaning	The Controller sta	The Controller started in Safe Mode.					
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON, or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	ration Stops.*2			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The power supply was turned ON to the Controller when Safe Mode was set on the DIP switch on the CPU Unit.						
Attached infor- mation	None	None					
Precautions/ Remarks	If the Controller is startup mode is s		CPU Unit is in Safe	Mode, the user pro	ogram is not execu	ted even if the	

*2. For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	PLC Function Processing Error			Event code	44420000Hex *1		
Meaning	A fatal error was	A fatal error was detected in the PLC Function Module.					
Source	PLC Function Module Source de		Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	ration Stops.*2			
System-de-	Variable Data type		Data type	Name			
fined variables	None						
Cause and cor-	Assumed cause		Correction	Prevention RON representa- None			
rection	An error occurred	in the software.	Contact your OM tive.				
Attached infor- mation	Attached information 1: System information Attached information 2: System information Attached information 3: System information Attached information 4: System information						
Precautions/	None						
Remarks							

*1. This event code occurs for unit version 1.05 or later of the CPU Unit.

Event name	Automation Playb	ack Startup Error		Event code	35EF0000Hex *1		
Meaning	The automation p	The automation playback function. cannot be started.					
Source	PLC Function Module Source details		None	Detection tim- ing	When CPU Unit starts running		
Error attributes	Level	Minor fault	Recovery	Change the set- tings to disable automation playback func- tion, and trans- fer the settings using the syn- chronization function of Sys- mac Studio.	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Settings to use the automation playback function are made for the CPU Unit that does not support the automation playback function.		Change the settin tomation playback used, and transfe from Synchroniza Studio.	k function is not r the settings	Use the CPU Uni automation playb configure it to use playback function	e the automation	
Attached infor- mation	Attached information 1: CPU Unit model Attached information 2: Unit version of CPU Unit						
Precautions/	None						
Remarks							

*1. This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	PLC Function Processing Error			Event code	40120000 hex		
Meaning	A fatal error was	A fatal error was detected in the PLC Function Module.					
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Partial fault	Recovery Cycle the power supply.		Log category	System	
Effects	User program	Stops.	Operation Stops.*1				
System-de-	Variable Data type		Data type	Name			
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred	l in the software.	Contact your OM tive.	RON representa-	None		
Attached infor-	Attached informa	tion 1: System info	rmation				
mation	Attached informa	tion 2: System info	rmation				
	Attached informa	Attached information 3: System information					
	Attached informa	Attached information 4: System information					
Precautions/	None						
Remarks							

*1. Operation is the same as for a major fault level error. For details, refer to *I/O Operation for Major Fault Level Controller Errors* on page 1-23.

Event name	PLC Function Pro	cessing Error		Event code	40130000 hex		
Meaning	A fatal error was	A fatal error was detected in part of the PLC Function Module.					
Source	PLC Function Module Source details Non		None	Detection tim- ing	Continuously		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Prevention			
rection	An error occurred	in the software.	Contact your OM tive.	RON representa- None			
Attached infor-	Attached informa	tion 1: System infor	mation ^{*1}		1		
mation		tion 2: System infor					
	Attached informa	Attached information 3: System information					
	Attached informa	Attached information 4: System information					
Precautions/	None						
Remarks							

*1. If a *devb-mmcsd* is stored, replace the SD Memory Card and cycle the power supply of the CPU Unit.

Event name	Upper Limit of Va	riable Sampling		Event code	95770000Hex *1	
Meaning	The upper limit fo	r variable sampling	has been reached			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	When variable sampling starts
Error attributes	Level	Minor fault	RecoveryChange the set- tings of varia- bles to be col- lected by the 		Log category	System
Effects	User program	Continues.	Operation	Not affected.		-
System-de-	Variable		Data type		Name	
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The maximum nu sampling has bee or processing cap ceeded the upper	en reached or size bacity has ex-	collection targeSet a longer taExclude axis value	the sampling set- ole sampling is tly. Im POUs set for et. sk period time.	POUs containing	n only for program variables that ded in the variable
Attached infor- mation	 Attached information 1: Task types for which sampling cannot be performed 0: Primary periodic task 1: Periodic task Attached information 2: Type of factor 0: The total number of variables exceeded the upper limit. 1: The total size of the variable exceeded the upper limit. 2: Processing capacity exceeded the upper limit. Attached information 3 Attached information 2 is 0: Total number of variables that are set for sampling Attached information 2 is 1: Total size (bytes) of the variable that is set for sampling Attached information 2 is 2: Fixed to 0 					
Precautions/ Remarks	Attached informat Variable sampl		tting number when	the error occurred		

*1. This event code occurs for an NX502 CPU Unit with unit version 1.63 or later earlier than version 1.65.

Event name	Upper Limit of Va	riable Sampling		Event code 95790000 hex *1				
Meaning	The upper limit fo	r variable sampling	has been reached					
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	When variable sampling starts		
Error attributes	Level	Minor fault	tings of varia- bles to be col- lected by the automation playback func- tion and transfer the settings from Synchroni- zation of Sys- mac Studio.		Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The maximum number of variable		Implement the fol	Implement the following modifica-		Perform collection only for program		
	sampling has been reached or size		tions and modify	tions and modify the sampling set-		POUs containing variables that		
	or processing capacity has ex-		ting so that variable sampling is		need to be recorded in the variable			
	ceeded the upper limit.		performed correctly.		log.			
			 Reduce program POUs set for collection target. Set a longer task period time. 					
			• Exclude axis variables from sampling (for primary periodic					
			task only).					
Attached infor-			or which sampling o	cannot be performe	ed			
mation	0: Primary peri							
	• 1: Periodic tas							
		tion 2: Type of facto						
			exceeded the upper					
			ceeded the upper	limit.				
	• 2: Processing capacity exceeded the upper limit.							
	Attached information 3Attached information 2 is 0: Total number of variables that are set for sampling							
			size (KB) of the vai	hable that is set for	sampling			
		nation 2 is 2: Fixed		the error ecourts -				
D		·	tting number when	the error occurred				
Precautions/	Variable sampl		a					
Remarks			the observation le	vel. If you change t	ne level to the obs	ervation level,		
	recovery proce	dures are not requ	ired.					

*1. This event code occurs for an NX502 CPU Unit with unit version 1.65 or later.

Event name	Event Log Save E	Frror		Event code	10230000 hex	
Meaning	Saving the event			210111 0000	10200000110	
Source	PLC Function Mo		Source details	None	Detection tim- ing	At power ON, or Controller reset
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Starts.	Operation Not affected. However, part or all of the past ever cannot be read.			the past event log
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection			Replace the Batte	ery.	Replace the batte	ery periodically.
			None		Perform a shutdown with other method than the forced shutdown.	
			If the error persist cycle the power to PC, a hardware fa in the event log a Industrial PC if yo logs in the Industri	o the Industrial ailure may occur rea. Replace the ou use the event	None	
			If this error persists even after you cycle the power supply to the CPU Unit, a hardware failure may occur in the event log area. Replace the CPU Unit if you use the event logs in the CPU Unit.			
Attached infor- mation	Attached Information 1: Error Details • 0: Failure to save all categories of • 1: Failure to save system event lo • 2: Failure to save access event lo • 100: Failure to save user-defined		g,		1	
Precautions/ Remarks	None					

Event name	Trace Setting Tra	nsfer Failure		Event code	10260000 hex		
Meaning	The power supply	The power supply was interrupted while transferring the trace settings.					
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON, or Controller reset	
Error attributes	Level	Observation	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type		Name	Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The power supply was interrupted while transferring the trace set- tings.		Transfer the trace	e settings again.	Do not interrupt the while transferring tings.	,	
Attached infor-	None						
mation							
Precautions/	All trace settings	are initialized when	this error occurs.				
Remarks							

Event name	Backup Failed to	Start		Event code	10290000 hex*1	
Meaning	An error was dete	ected in pre-executi	on checks for a ba	ckup operation.		
Source	PLC Function Module Source details None Detection ing		Detection tim- ing	When backup is specified by the user		
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory C ed.	ard is not insert-	Insert an SD Men	nory Card.	Insert an SD Mer	nory Card.
	The SD Memory of correct.	Card type is not	Replace the SD M an SD or SDHC o	•	Use an SD or SD	HC card.
	The format of the is not correct.	SD Memory Card	Format the SD M the Sysmac Stud	•	Also, do not remo ry Card or turn O	SD Memory Card. ove the SD Memo FF the power sup BUSY indicator is
	The SD Memory (tected.	Card is write pro-	Remove write protection from the SD Memory Card.		Make sure that the SD Memory Card is not write protected.	
	The Prohibiting backing up data to the SD Memory Card parame- ter is set to <i>prohibit</i> backing up da- ta to an SD Memory Card.		Change the setting of the Prohibiting backing up data to the SD Memory Card parameter to enable backing up data to an SD Memory Card.		Set the Prohibiti data to the SD M rameter to enable to an SD Memory	lemory Card pa- backing up data
	Another backup operation is in progress.		Wait for the other backup operation to end and then perform the back- up operation again.		Do not attempt to perform other backup operation during a backup operation.	
	Synchronization, online editing, or the Clear All Memory operation is in progress.		Wait for the synchronization, online editing, or the Clear All Memory operation to end and then perform the backup operation again.		Do not attempt to perform a back- up operation during a synchroniza- tion, online editing, or the Clear All Memory operation.	
	The backup was ouser.	canceled by the	None		None	
	The online connection with the Sysmac Studio was disconnected.		Check the cable connections. Go offline and then go back online and execute the backup again.		Check the cable to see if it is dis- connected or broken. Make sure the cable is connected properly.	
	The SD Memory Card is damaged.		If none of the abc plies, replace the Card.	•	while the SD BUS	the power supply SY indicator is lit. Memory Card peri g to the write life
	An unexpected er	rror has occurred.	Contact your OM tive or distributor.	-	None	

Attached infor-	Attached information 1: Operation type
mation	0101 hex: Controller to SD Memory Card for switch operation on front of CPU Unit
	 0102 hex: Controller to SD Memory Card for system variable operation
	• 0103 hex: Controller to SD Memory Card for instruction from Sysmac Studio or function module specific trig-
	ger)
	 0104 hex: Controller to SD Memory Card for instruction operation.
	0201 hex: Controller to computer
	Attached Information 2: Error Details
	0001 hex: An SD Memory Card is not inserted.
	• 0002 hex: The SD Memory Card is faulty, the format of the SD Memory Card is not correct, or the SD Mem-
	ory Card is not the correct type of card.
	0003 hex: The SD Memory Card is write protected.
	0204 hex: SD Memory Card backup is prohibited.
	0205 hex: Another backup operation is in progress.
	0206 hex: Synchronization, online editing, or the Clear All Memory operation is in progress.
	• 0207 hex: A prohibited character is used in the directory name that is specified in the system-defined varia-
	ble.
	0401 hex: The backup was canceled by the user.
	0501 hex: The online connection with the Sysmac Studio was disconnected.
	7F01 hex: An unexpected error has occurred.
Precautions/	None
Remarks	

Event name	Backup Failed			Event code	102A0000 hex ^{*1}	
Meaning	The backup opera	ation ended in an e	rror.			
Source	PLC Function Mo	dule	Source details	None	Detection tim-	During backup
					ing	operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de- fined variables	Variable		Data type		Name	
	None					
Cause and cor- rection	Assumed cause The capacity of th		Correction Replace the SD N	Jomany Card for	Prevention Use an SD Memo	any Card that has
	Card is insufficien		one with sufficien		sufficient availabl	•
	It was not possibl that was specified	e to save the data I for backup.	Perform the back again when no da to the CPU Unit is	ata write operation	Do not write to th a backup operation	e CPU Unit when on is in progress.
	The SD Memory of moved during a b		Insert an SD Men		Insert an SD Mer	nory Card.
	Failed to back up	Unit or slave.	Refer to the corre lowing events: CJ Backup Failed (10 EtherCAT Slave E (102F0000 hex).	l-series Unit 02D0000 hex) or	Refer to the prevent for the following e Unit Backup Faile hex) or EtherCAT Failed (102F0000	ed (102D0000 Slave Backup
	The backup was o user.	canceled by the	None		None	
	Execution of the Save Cam Table instruction or changing the CPU Unit name is in progress.		Perform the operation after execu- tion of the Save Cam Table instruc- tion or changing the CPU Unit name is completed.		Do not perform a backup during execution of the Save Cam Table instruction or while changing the CPU Unit name.	
	The online connection with the Sysmac Studio was disconnected.		Check the cable connections. Go offline and then go back online and execute the backup again.		Check the cable to see if it is dis- connected or broken. Make sure the cable is connected properly.	
	It was not possibl that was specified the computer.	e to save the data I for backup to	Increase the available space on the hard disk on the computer.		Make sure there is sufficient space available on the hard disk before you perform a backup.	
	The SD Memory Card is damaged.		If none of the abo plies, replace the Card.		while the SD BUS	the power supply SY indicator is lit. Memory Card peri g to the write life
	An unexpected er	ror has occurred.	Contact your OM tive or distributor.	-	None	
		llowing when you u	se the Robot Integ	rated CPU Unit.		
	The SD Memory Card format is in- validFormat the SD Memory C the Sysmac Studio.		-		SD Memory Card.	
	The SD Memory (tected.	SD Memory Card is write pro- ed. SD Memory Card.			Make sure that th Card is not write	-
	tected. The /D folder, which is the data to be backed up, does not exist on the SD Memory Card.		Cycle the power s Unit to return the factory default or project from the S	/D folder to the download the	Do not delete the SD Memory Carc	

Attached infor-	Attached information 1: Operation type
mation	0101 hex: Controller to SD Memory Card for switch operation on front of CPU Unit
	0102 hex: Controller to SD Memory Card for system variable operation
	• 0103 hex: Controller to SD Memory Card for instruction from Sysmac Studio or function module specific trig-
	ger)
	0104 hex: Controller to SD Memory Card for instruction operation.
	0201 hex: Controller to computer
	Attached Information 2: Error Details
	0001 hex: The SD Memory Card was removed.
	• 0001 hex: The SD Memory Card is removed or the format is invalid (in the case that the Robot Integrated
	CPU Unit is used and operation type is 0201 hex).
	• 0003 hex: The SD Memory Card is write protected (when the Robot Integrated CPU Unit is used).
	0005 hex: There is not sufficient space available on the SD Memory Card.
	0006 hex: Too many files or directories.
	• 0106 hex: The /D cannot be found in the SD Memory Card (when the Robot Integrated CPU Unit is used).
	• 0206 hex: Execution of the Save Cam Table instruction or changing the CPU Unit name is in progress.
	00210 hex: A file already exists with the same name as one of the specified directory.
	0302 hex: Saving the backup data failed or the SD Memory Card is faulty.
	0304 hex: The Unit or slave could not be backed up.
	0401 hex: The backup was canceled by the user.
	 0501 hex: The online connection with the Sysmac Studio was disconnected.
	0502 hex: It was not possible to save the data that was specified for backup to the computer.
	7F01 hex: An unexpected error has occurred.
Precautions/	None
Remarks	

Event name	Restore Operation	n Failed to Start		Event code	102B0000 hex*1	
Meaning	An error was dete	ected in pre-executi	on checks for a res	store operation.		
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	When restoring data is specified by the user
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	Specification with	system-defined va	riables			
	_Card1RestoreSta		_sRESTORE_ST	A	SD Memory Card	Restore Status
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory C ed.	ard is not insert-	Insert an SD Men	nory Card.	Insert an SD Mer	nory Card.
	The SD Memory of correct.	Card type is not	Replace the SD M an SD or SDHC o	Memory Card with card.	Use an SD or SD	HC card.
	The format of the is not correct.	SD Memory Card	Format the SD M the Sysmac Stud the backup file or	io and then place	Use a formatted and place the bac Also, do not remo	
	There are no bac SD Memory Card	-	Place the backup files in the speci- fied folder on the SD Memory Card.		ry Card or turn OFF the power sup ply while the SD BUSY indicator is lit.	
	Either the backup files on the SD Memory Card are corrupted or re- quired data is not in the backup files on the SD Memory Card.		Create the backup files again.			
	The unit version of the CPU Unit to which to restore the files is older than the unit version of the backup files on the SD Memory Card.		version of the CP	hit version that is ewer than the unit U Unit that was e backup files. Or, es with the cor-	Make sure that th the CPU Unit and of the backup file	the unit version
	The model of the CPU Unit to which to restore the files is not the same as the model of the CPU Unit of the backup files on the SD Mem- ory Card.		Replace the CPU Unit with a CPU Unit that has the same model as the CPU Unit that was used to cre- ate the backup files. Or, specify backup files with the correct model for the CPU Unit.		Make sure that th CPU Unit is the s of the CPU Unit t create the backu	ame as the model hat was used to
	Recovery was executed for the SD Memory Card.		If there are no backup files or no restore command file in the speci- fied folder on the SD Memory Card, place the files in the folder again.		None	
	The CPU Unit is write-protected.		If you use the restore function, se- lect the <i>Do not use</i> Option for the Write protection at startup set- ting of the CPU Unit.		If you use the res lect the <i>Do not us</i> Write protection ting of the CPU L	se Option for the a t startup set- Jnit.
	The settings in the mand file (Restore are not correct.		Make sure that th are set to <i>"Yes"</i> in mand file.	e required files the restore com-	Make sure that the required files are set to "Yes" in the restore com- mand file.	
	A backup operatio	on is in progress.	Wait for the back end and then per operation again.		Do not attempt to operation during tion.	perform a restore a backup opera-

Synchronization, online editing, or the Clear All Memory operation is	Wait for the synchronization, online editing, or the Clear All Memory	Do not attempt to perform a restor operation during a synchronizatior
in progress.	operation to end and then perform the restore operation again.	online editing, or the Clear All Memory operation.
The online connection with the Sysmac Studio was disconnected.	Check the cable connections. Go offline and then go back online and execute the backup again.	Check the cable to see if it is dis- connected or broken. Make sure the cable is connected properly.
Reading the data for restoration	Perform the same corrective meas-	Perform the same preventive
failed because the SD Memory	ures as for when the format of the	measures as for the following
Card is faulty or not formatted cor-	SD Memory Card is not correct or	events: SD Memory Card Invalid
rectly.	the SD Memory Card is damaged.	Format or Faulty SD Memory Care
The SD Memory Card is damaged.	If none of the above causes applies, replace the SD Memory Card.	Do not remove the SD Memory Card or turn OFF the power suppl while the SD BUSY indicator is lit. Replace the SD Memory Card per odically according to the write life of the SD Memory Card.
The database connection service	Replace the CPU Unit with a CPU	Make sure that the database con-
version of the CPU Unit to which to	Unit that has a database connec-	nection service version of the CPL
restore the files is older than the	tion service version that is the	Unit and the database connection
database connection service ver-	same as or newer than the data-	service version of the backup files
sion of the backup files on the SD Memory Card.	base connection service version of the CPU Unit that was used to cre-	are compatible.
Memory Card.	ate the backup files. Or, specify	
	backup files with the correct data-	
	base connection service version	
	for the CPU Unit.	
The robot version of the CPU Unit	Replace the CPU Unit with a CPU	Make sure that the robot version o
to which to restore the files is older	Unit that has a robot version that is	the CPU Unit and the robot version
than the robot version of the back-	the same as or newer than the ro-	of the backup files are compatible
up files on the SD Memory Card.	bot version of the CPU Unit that	
up files on the SD Memory Card.	was used to create the backup	
up files on the SD Memory Card.		
up files on the SD Memory Card.	was used to create the backup files. Or, specify backup files with the correct robot version for the	None
The CPU Unit failed to process the	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit.	None
The CPU Unit failed to process the power OFF during the last power	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa-	None
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred.	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor.	None
power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor.	
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor.	Set Restore by system-defined va
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control-	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor.	Set Restore by system-defined va iable to Use in the Controller Set-
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control- ler Setup.	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor.	Set Restore by system-defined va iable to Use in the Controller Set- up.
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control- ler Setup. Password of Restore by system-	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor. with system-defined variables. Set Restore by system-defined var- iable to Use in the Controller Set- up. Set Password of Restore by sys-	Set Restore by system-defined va iable to Use in the Controller Set- up. Set Password of Restore by sys-
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control- ler Setup. Password of Restore by system- defined variable in the Controller	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor. with system-defined variables. Set Restore by system-defined var- iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Control-	Set Restore by system-defined va iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Contro
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control- ler Setup. Password of Restore by system- defined variable in the Controller	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor. with system-defined variables. Set Restore by system-defined var- iable to Use in the Controller Set- up. Set Password of Restore by sys-	Set Restore by system-defined va iable to Use in the Controller Set- up. Set Password of Restore by sys-
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control- ler Setup. Password of Restore by system- defined variable in the Controller Setup does not agree with the _Card1RestoreCmd.Password sys-	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor. with system-defined variables. Set Restore by system-defined var- iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Control- ler Setup to the _Card1Restor-	Set Restore by system-defined va iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Contro ler Setup to the _Card1Restor-
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control- ler Setup. Password of Restore by system- defined variable in the Controller Setup does not agree with the _Card1RestoreCmd.Password sys- tem-defined variable.	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor. with system-defined variables. Set Restore by system-defined var- iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Control- ler Setup to the _Card1Restor- eCmd.Password system-defined	Set Restore by system-defined va iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Contro ler Setup to the _Card1Restor- eCmd.Password system-defined
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control- ler Setup. Password of Restore by system- defined variable in the Controller Setup does not agree with the _Card1RestoreCmd.Password sys- tem-defined variable. The DIP switch on the CPU Unit is not set to allow starting the restore	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor. with system-defined variables. Set Restore by system-defined var- iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Control- ler Setup to the _Card1Restor- eCmd.Password system-defined variable.	Set Restore by system-defined values iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Control ler Setup to the _Card1Restor- eCmd.Password system-defined variable. Turn OFF all pins on the DIP switch of the CPU Unit, and then
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control- ler Setup. Password of Restore by system- defined variable in the Controller Setup does not agree with the _Card1RestoreCmd.Password sys- tem-defined variable. The DIP switch on the CPU Unit is not set to allow starting the restore of SD Memory Card backups by	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor. with system-defined variables. Set Restore by system-defined var- iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Control- ler Setup to the _Card1Restor- eCmd.Password system-defined variable. Turn OFF all pins on the DIP switch of the CPU Unit, and then start the restore of SD Memory	Set Restore by system-defined va iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Contro ler Setup to the _Card1Restor- eCmd.Password system-defined variable. Turn OFF all pins on the DIP switch of the CPU Unit, and then start the restore of SD Memory
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control- ler Setup. Password of Restore by system- defined variable in the Controller Setup does not agree with the _Card1RestoreCmd.Password sys- tem-defined variable. The DIP switch on the CPU Unit is not set to allow starting the restore of SD Memory Card backups by specification with system-defined	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor. with system-defined variables. Set Restore by system-defined var- iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Control- ler Setup to the _Card1Restor- eCmd.Password system-defined variable. Turn OFF all pins on the DIP switch of the CPU Unit, and then start the restore of SD Memory Card backups by specification with	Set Restore by system-defined va iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Control ler Setup to the _Card1Restor- eCmd.Password system-defined variable. Turn OFF all pins on the DIP switch of the CPU Unit, and then start the restore of SD Memory Card backups by specification with
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control- ler Setup. Password of Restore by system- defined variable in the Controller Setup does not agree with the _Card1RestoreCmd.Password sys- tem-defined variable. The DIP switch on the CPU Unit is not set to allow starting the restore of SD Memory Card backups by specification with system-defined variables.	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor. with system-defined variables. Set Restore by system-defined var- iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Control- ler Setup to the _Card1Restor- eCmd.Password system-defined variable. Turn OFF all pins on the DIP switch of the CPU Unit, and then start the restore of SD Memory Card backups by specification with system-defined variables.	Set Restore by system-defined valiable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Control ler Setup to the _Card1Restor- eCmd.Password system-defined variable. Turn OFF all pins on the DIP switch of the CPU Unit, and then start the restore of SD Memory Card backups by specification with system-defined variables.
The CPU Unit failed to process the power OFF during the last power interruption. An unexpected error has occurred. Check the followings for specification Restore by system-defined variable is set to Do not use in the Control- ler Setup. Password of Restore by system- defined variable in the Controller Setup does not agree with the _Card1RestoreCmd.Password sys- tem-defined variable. The DIP switch on the CPU Unit is not set to allow starting the restore of SD Memory Card backups by specification with system-defined	was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit. Contact your OMRON representa- tive or distributor. with system-defined variables. Set Restore by system-defined var- iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Control- ler Setup to the _Card1Restor- eCmd.Password system-defined variable. Turn OFF all pins on the DIP switch of the CPU Unit, and then start the restore of SD Memory Card backups by specification with	Set Restore by system-defined va iable to Use in the Controller Set- up. Set Password of Restore by sys- tem-defined variable in the Contro ler Setup to the _Card1Restor- eCmd.Password system-defined variable. Turn OFF all pins on the DIP switch of the CPU Unit, and then start the restore of SD Memory Card backups by specification with

	Required files are not set to trans- fer in the setting of the system-de- fined variable.	Make sure that TRUE is set in the system-defined variable to transfer required files.	Make sure that TRUE is set in the system-defined variable to transfer required files.
	Also check the following when you u	se the Robot Integrated CPU Unit.	
	The SD Memory Card is write pro- tected.	Remove write protection from the SD Memory Card.	Make sure that the SD Memory Card is not write protected.
	The capacity of the SD Memory Card is insufficient.	Replace the SD Memory Card for one with sufficient available space.	Use an SD Memory Card that has sufficient available space.
Attached information	 0102 hex: SD Memory Card to Colored a controller 0201 hex: Computer to Controller Attached Information 2: Error Details 0001 hex: An SD Memory Card is 0002 hex: The SD Memory Card i ory Card is not the correct type of 0003 hex: The SD Memory Card i 0004 hex: Recovery was executed 0005 hex: There is not sufficient s Unit is used). 0101 hex: There is no such folder system-defined variable. 0102 hex: The backup files are colored to the system-defined variable. 0102 hex: The contents of the rest the setting of the system-defined variable. 0105 hex: The required transfer doi: 0201 hex: The unit version of the end of the system-defined variable. 0201 hex: The required transfer doi: 0202 hex: The model numbers of 0203 hex: The CPU Unit is write-p 0205 hex: Another backup operation of the variable. 0206 hex: Synchronization, online 0209 hex: The database connection 0211 hex: The database connection 0212 hex: Restore by system-defined to the variable. 0214 hex: The DIP switch on the original data for restored and the system-defined to the variable. 	pe introller for switch operation on front of introller for specification with a system a not inserted. Is faulty, the format of the SD Memory card. Is write protected (when the Robot Inte d for the SD Memory Card. pace available on the SD Memory Card on the SD Memory Card as specified es. Irrupted. tore command file are not correct or mon variable. ata is not in the backup file. CPU Unit is old. the CPU Unit are not the same. protected. Ion is in progress. I editing, or the Clear All Memory oper process the power OFF during the lass on service or robot version of the CPU ned variable is set to Do not use in the y system-defined variable in the Contri stem-defined variable. CPU Unit is not set to allow starting the lefined variables. ation failed or the SD Memory Card is	of CPU Unit h-defined variable Card is not correct, or the SD Mem- egrated CPU Unit is used). Ind (when the Robot Integrated CPU by the _Card1RestoreCmd.DirName equired files are not set to transfer in ration is in progress. Ist power interruption. J Unit is old. I Controller Setup. roller Setup does not agree with the he restore of SD Memory Card back- is faulty.
	 0501 nex: The online connection v 7F01 hex: An unexpected error has 	with the Sysmac Studio was disconne as occurred	Cleu.
Precautions/ Remarks	None		

Event name	Restore Operation	n Failed		Event code	102C0000 hex ^{*1}	
Meaning	The restore opera	ation ended in an er	rror.			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	During restore operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program		Operation Not affected.			
System-de-	Variable		Data type		Name	
fined variables	_Card1RestoreSt	а	_sRESTORE_ST	A	SD Memory Card	Restore Status
Cause and cor-	Assumed cause		Correction		Prevention	
rection	It was not possible to read the data to restore.		Format the SD M the Sysmac Stud the backup files c	io and then place		
	The SD Memory Card was re- moved during a restore operation.		Insert an SD Memory Card that contains the backup files, and then execute the restore operation again.		Do not remove the SD Memory Card during the restore operation.	
	Failed to restore Unit or slave.		Refer to the correct lowing events: Construction F store Operation F hex) or EtherCAT Operation Failed	J-series Unit Re- ailed (102E0000 Slave Restore	for the following e Unit Restore Ope	ration Failed or EtherCAT Slave
	The SD Memory Card is damaged.		If none of the abc plies, replace the Card.	-	while the SD BUS	the power supply BY indicator is lit. <i>I</i> emory Card peri- g to the write life
	An unexpected er	rror has occurred.	Contact your OMRON representa- tive or distributor.		None	
	Also check the following when you use the Robot Integrated CPU Unit.					
	The SD Memory Card is write pro- tected.		Remove write protection from the SD Memory Card.		Make sure that the SD Memory Card is not write protected.	
	The capacity of th Card is insufficien	•	Replace the SD Memory Card for one with sufficient available space.		Use an SD Memory Card that has sufficient available space.	
	The number of files or directories in the SD Memory Card exceeded the maximum number supported by the file system of the SD Memory Card.		Delete unnecessa ries from the SD	ary files or directo- Memory Card.	Periodically delete files and directorio Memory Card.	-

Attached infor-	Attached information 1: Operation type
mation	0101 hex: SD Memory Card to Controller for switch operation on front of CPU Unit
	0102 hex: SD Memory Card to Controller for specification with a system-defined variable
	0201 hex: Computer to Controller
	Attached Information 2: Error Details
	0001 hex: The SD Memory Card was removed.
	• 0003 hex: The SD Memory Card is write protected (when the Robot Integrated CPU Unit is used).
	• 0005 hex: There is not sufficient space available on the SD Memory Card (when the Robot Integrated CPU
	Unit is used).
	0006 hex: Too many files or directories (when the Robot Integrated CPU Unit is used).
	0102 hex: There are no backup files.
	0103 hex: The backup files are corrupted.
	0301 hex: Reading data for restoration failed or the SD Memory Card is faulty.
	0303 hex: The Unit or slave could not be restored.
	7F01 hex: An unexpected error has occurred.
Precautions/	None
Remarks	
*1. This event co	ode occurs for unit version 1.03 or later of the CPU Unit.

Event name	SD Memory Card	Program Transfer	Failed to Start	Event code	10320000 hex ^{*1}	
Meaning	An error was dete	ected in pre-start ch	necks for transferrin	g SD Memory Car	d programs.	
Source	PLC Function Mo			Detection tim- ing	When transfer- ring SD Memory Card programs is started	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_Card1PrgTransf	erSta	_sPRGTRANSFE	R_STA	SD Memory Card fer Status	Program Trans-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Program transfer fined variable is s in the Controller S Password of Prog	et to Do not use Setup.	Set Program trans defined variable to troller Setup. Set Password of	o Use in the Con-	Set Program tran defined variable t troller Setup. Set Password of	o Use in the Con-
	system-defined va Controller Setup of with the _Card1P ferCmd.Password variable.	does not agree rgTrans-	by system-defined Controller Setup t _Card1PrgTransf system-defined va	o the erCmd.Password	by system-defined variable in the Controller Setup to the _Card1PrgTransferCmd.Passwor system-defined variable.	
	The DIP switch on the CPU Unit is not set to allow starting the SD Memory Card program transfer.		Turn OFF all pins on the DIP switch of the CPU Unit, and then start the SD Memory Card program transfer.		Turn OFF all pins on the DIP switch of the CPU Unit, and then start the SD Memory Card program transfer.	
	An SD Memory Card is not insert- ed.		-		Insert an SD Memory Card.	
	The SD Memory Card type is not correct.		Replace the SD Memory Card with an SD or SDHC card.		Use an SD or SDHC card.	
	The format of the SD Memory Card is not correct. There is no such folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.DirName system-defined variable. There are no backup files in such a		Format the SD Memory Card with the Sysmac Studio, create a folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable on the card, and store the backup files in the folder. Create a folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable on the SD Memory Card and store the backup files in the folder.		Use a formatted SD Memory Card create a folder specified by the _Card1PrgTransferCmd.DirName system-defined variable on the card, and store the backup files in the folder specified by the _Card1PrgTransferCmd.DirName system-defined variable. Also, do not remove the SD Memory Card or turn OFF the power su ply while the SD BUSY indicator is lit.	
	folder on the SD Memory Card as specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable.					
	Either the backup files in the folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable on the SD Memory Card are corrupted or re- quired data is not in the backup files on the SD Memory Card.		Replace the backup files in the folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> system-defined variable. If this error occurs again even after replacing the files, create the back- up files again and place them in the folder specified by the _ <i>Card1PrgTransferCmd.DirName</i> systemdefined variable.			

The unit version of the CPU Unit to	Replace the CPU Unit with a CPU	Make sure that the unit version of
which to transfer the files is older than the unit version of the backup files on the SD Memory Card.	Unit that has a unit version that is the same as or newer than the unit version of the CPU Unit that was used to create the backup files. Or, place the backup files with the correct unit version for the CPU Unit, in the folder specified by the <i>_Card1PrgTransferCmd.DirName</i>	the CPU Unit and the unit version of the backup files are compatible.
The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Mem- ory Card.	system-defined variable. Replace the CPU Unit with a CPU Unit that has the same model as the CPU Unit that was used to cre- ate the backup files. Or, place the backup files with the correct model for the used CPU Unit, in the folder specified by the <i>_Card1PrgTransferCmd.DirName</i> system-defined variable.	Make sure that the model of the CPU Unit is the same as the mode of the CPU Unit that was used to create the backup files.
	If you transfer SD Memory Card programs, select the <i>Do not use</i> Option for the Write protection at startup setting of the CPU Unit.	If you transfer SD Memory Card programs, select the <i>Do not use</i> Option for the Write protection at startup setting of the CPU Unit.
progress.	Wait for the other backup operation to end and then perform the back- up operation again.	Do not attempt to perform other backup operation during a backup operation.
the Clear All Memory operation is in progress.	Wait for the synchronization, online editing, or the Clear All Memory operation to end and then perform the backup operation again.	Do not attempt to perform a back- up operation during a synchroniza tion, online editing, or the Clear All Memory operation.
fer in the setting of theCard1PrgTransferCmd system-	Make sure that <i>TRUE</i> is set in the _ <i>Card1PrgTransferCmd</i> system- defined variable to transfer re- quired files.	Make sure that <i>TRUE</i> is set in the _ <i>Card1PrgTransferCmd</i> system- defined variable to transfer re- quired files.
ory Card program transfer failed because the SD Memory Card is	Perform the same corrective meas- ures as for when the format of the SD Memory Card is not correct or the SD Memory Card is damaged.	Perform the same preventive measures as for the following events: SD Memory Card Invalid Format or Faulty SD Memory Card
	If none of the above causes ap- plies, replace the SD Memory Card.	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.
The CPU Unit failed to process the	Contact your OMRON representa-	None
	tive or distributor.	

3-2 Errors in the PLC Function Module

3

3-2-2 Error Descriptions

	The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service ver- sion of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has the same or a newer database connection service ver- sion than the database connection service version of the CPU Unit that was used to create the backup files. Or, place the backup files with the correct database connection serv- ice version for the CPU Unit, in the folder specified by the <i>Card1PrgTransferCmd.DirName</i> system-defined variable. Replace the CPU Unit with a CPU	Make sure that the database con- nection service version of the CPU Unit and the database connection service version of the backup files are compatible.
	to which to transfer the files is older than the robot version of the back- up files on the SD Memory Card.	Unit that has the same or a newer robot version than the robot ver- sion of the CPU Unit that was used to create the backup files. Or, place the backup files with the correct robot version for the CPU Unit, in the folder specified by the <i>_Card1PrgTransferCmd.DirName</i> system-defined variable.	the CPU Unit and the robot version of the backup files are compatible.
Attached infor- mation	 ory Card is not the correct type of 0004 hex: Recovery was executed 0101 hex: There is no such folder <i>_Card1PrgTransferCmd.DirName</i> 0102 hex: There are no backup file <i>_Card1PrgTransferCmd.DirName</i> 0103 hex: The backup files are co 	not inserted. s faulty, the format of the SD Memory card. d for the SD Memory Card. on the SD Memory Card as specified system-defined variable. es in such a folder on the SD Memory system-defined variable. rrupted. et to transfer in the setting of the _ <i>Ca</i>	by the Card as specified by the
	 0209 hex: The CPU Unit failed to p 0211 hex: The database connection 0212 hex: Program transfer by system of 213 hex: Password of Program transfer Cmd.F 0213 hex: The DIP switch on the C fer. 	the CPU Unit are not the same. protected. on is in progress. editing, or the Clear All Memory oper process the power OFF during the las on service or robot version of the CPU stem-defined variable is set to Do not ransfer by system-defined variable in Password system-defined variable. CPU Unit is not set to allow starting th	at power interruption. I Unit is old. use in the Controller Setup. the Controller Setup does not agree e SD Memory Card program trans-
Precautions/ Remarks	 0301 hex: Reading data for transfe 7F01 hex: An unexpected error has None 	erring the programs failed or the SD M as occurred.	lemory Card is faulty.

Event name	Restore Pre-exec	ution Check Failure	9	Event code	103E0000 hex ^{*1}	
Meaning	An error was dete ory Card restore o		on checks for spec	ification with syster	n-defined variables	for the SD Mem-
Source	PLC Function Module				None Detection tim- ing	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_Card1RestoreSt	a	_sRESTORE_ST	A	SD Memory Card	Restore Status
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory C ed.	ard is not insert-	Insert an SD Men	nory Card.	Insert an SD Men	nory Card.
	The SD Memory (correct.	Card type is not	Replace the SD M an SD or SDHC o	-	Use an SD or SD	HC card.
	The format of the SD Memory Card is not correct. There is no such folder on the SD Memory Card as specified by the _Card1RestoreCmd.DirName sys- tem-defined variable. There are no backup files in such a folder on the SD Memory Card as specified by the _Card1Restor- eCmd.DirName system-defined variable. Either the backup files in the folder specified by the _Card1Restor- eCmd.DirName system-defined variable on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card. The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card.		the Sysmac Studio, create a folder create a folder spe		Cmd.DirName sys- able on the card, ckup files in the	
			Create a folder sp _Card1RestoreCr tem-defined varia Memory Card and files in the folder.	nd.DirName sys-	ply while the SD BUSY indicator lit. d d r c- Make sure that the unit version of the CPU Unit and the unit version of the backup files are compatib	
			folder specified by storeCmd.DirNam variable.	y the _Card1Re- ne system-defined s again even after , create the back- l place them in nd by the md.DirName sys-		
			Replace the CPU Unit that has a un the same as or ne version of the CP used to create the Or, place the back correct unit version Unit, in the folder _Card1RestoreCr tem-defined varia	it version that is ewer than the unit U Unit that was backup files. kup files with the on for the CPU specified by the md.DirName sys-		

The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Mem- ory Card.	Replace the CPU Unit with a CPU Unit that has the same model as the CPU Unit that was used to cre- ate the backup files. Or, place the backup files with the correct model for the used CPU Unit, in the folder specified by the _Card1RestoreCmd.DirName sys- tem-defined variable.	Make sure that the model of the CPU Unit is the same as the model of the CPU Unit that was used to create the backup files.
The CPU Unit is write-protected.	If you transfer SD Memory Card programs, select the Do not use Option for the Write protection at startup setting of the CPU Unit.	If you transfer SD Memory Card programs, select the Do not use Option for the Write protection at startup setting of the CPU Unit.
Required files are not set to trans- fer in the setting of the system-de- fined variable.	Make sure that TRUE is set in the system-defined variable to transfer required files.	Make sure that TRUE is set in the system-defined variable to transfer required files.
Reading the data for the SD Mem- ory Card program transfer failed because the SD Memory Card is faulty or not formatted correctly.	Perform the same corrective meas- ures as for when the format of the SD Memory Card is not correct or the SD Memory Card is damaged.	Perform the same preventive measures as for the following events: SD Memory Card Invalid Format or Faulty SD Memory Card.
The SD Memory Card is damaged.	If none of the above causes applies, replace the SD Memory Card.	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.
The CPU Unit failed to process the power OFF during the last power interruption.	Contact your OMRON representa- tive or distributor.	None
An unexpected error has occurred.		
The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service ver- sion of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has the same or a newer database connection service ver- sion than the database connection service version of the CPU Unit that was used to create the backup files. Or, specify backup files with the correct database connection service version for the CPU Unit.	Make sure that the database con- nection service version of the CPU Unit and the database connection service version of the backup files are compatible.
The robot version of the CPU Unit to which to transfer the files is older than the robot version of the back- up files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has the same or a newer robot version than the robot ver- sion of the CPU Unit that was used to create the backup files. Or, specify backup files with the cor- rect robot version for the CPU Unit.	Make sure that the robot version of the CPU Unit and the robot version of the backup files are compatible.

Attached infor-	Attached information 1: Operation type
mation	0102 hex: SD Memory Card to Controller for specification with a system-defined variable
	Attached Information 2: Error Details
	0001 hex: An SD Memory Card is not inserted.
	• 0002 hex: The SD Memory Card is faulty, the format of the SD Memory Card is not correct, or the SD Mem-
	ory Card is not the correct type of card.
	 0004 hex: Recovery was executed for the SD Memory Card.
	• 0101 hex: There is no such folder on the SD Memory Card as specified by the _Card1RestoreCmd.DirName
	system-defined variable.
	• 0102 hex: There are no backup files in such a folder on the SD Memory Card as specified by the _Card1Re-
	storeCmd.DirName system-defined variable.
	0103 hex: The backup files are corrupted.
	 0104 hex: Required files are not set to transfer in the setting of the system-defined variable.
	 0105 hex: The required transfer data is not in the backup file.
	0201 hex: The unit version of the CPU Unit is old.
	 0202 hex: The model numbers of the CPU Unit are not the same.
	0203 hex: The CPU Unit is write-protected.
	0209 hex: The CPU Unit failed to process the power OFF during the last power interruption.
	 0211 hex: The database connection service or robot version of the CPU Unit is old.
	• 0214 hex: The DIP switch on the CPU Unit is not set to allow starting the restore of SD Memory Card back-
	ups by specification with system-defined variables.
	0301 hex: Reading data for transferring the programs failed or the SD Memory Card is faulty.
	7F01 hex: An unexpected error has occurred.
Precautions/	None
Remarks	

Event name	Online Edits Transfer Failure			Event code	103F0000 hex	
Description	Transferring the c	online edits failed.				
Source	PLC Function Mo	dule			Detection tim- ing When online its are trans red	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		•
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The number of variables exceeded the upper limit of variables.		Check the memory tion and design a so that the number for retained varial tained variables of the upper limit of	program again er of definitions bles and non-re- loes not exceed	When you create a program, cher the memory usage condition and design the program so that the number of definitions for retained variables and non-retained varia- bles does not exceed the upper limit of variables.	
	The variable setting for Initial Value Specified/No Initial Value Specified was changed.		Transfer the online edits without changing the variable setting for In- itial Value Specified/No Initial Value Specified.		0 0	
Attached infor- mation	Attached information 1: Causes of fa • 0001 hex: The number of variable • 0002 hex: The variable setting for		es exceeded the up	•		anged.
Precautions/ Remarks			· ·		•	-

Event name	Variable Log Save Failed			Event code	152C0000Hex *1		
Meaning	Variable logs were not saved.						
Source	PLC Function Module		Source details	None	Detection tim- ing	When the varia- ble log save conditions are met	
Error attributes	Level	Observation	Recovery	Error reset after removing the cause of the er- ror	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_APB_LogStatus		ARRAY[12][12] OF _sAPB_LOG_STATUS		APB Log Output Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	 Although the conditions for saving the variable log were satisfied, the variable log could not be generated due to the following factors. The storage to save the log is unavailable for some reason. The storage to save the log is write-protected. Number of files or directories in the storage has reached the maximum number. 		Make the storage of the variable log available.		Output the variable log after con- firming that the storage is availa- ble.		
Attached infor- mation	 Attached information 1: Storage type 1: SD Memory Card Attached information 2: Cause of the error 1400 hex: The storage to save the log is unavailable for some reason. 1401 hex: The storage to save the log is write-protected. 1402 hex: Number of files or directories in the storage has reached the maximum number. Attached information 3: Name of variable log output settings 						
Precautions/ Remarks	When the error is reset, an attempt to save the variable log is made again.						

*1. This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

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Event name	Safety Data Logg	ing Failed to Start		Event code	10630000 hex ^{*1}	
Description	Starting the safety	y data logging faile				
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing When safety ta logging is started	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory Card is not insert- ed.		Insert an SD Memory Card.		Confirm that an SD Memory Card is inserted before you start logging.	
	There are no logging setting files.			Place logging setting files in the specified location "/SFLog/" of the SD Memory Card.		ting files in the "/SFLog/".
	The logging settir logging setting file	-	Delete the unnecessary logging setting file.		Do not set the same logging set- tings number for more than one logging setting file.	
	The logging settings number of the logging setting file is outside of the specifications.		Create the logging setting file again in the project that was down- loaded to the environment where the logging is executed.		Make sure to always transfer the logging settings after you change the project on the Sysmac Studio. Do not edit the logging setting file generated by the Sysmac Studio by any other means.	
	The logging setting files are invalid.		Create logging setting files again in the project transferred to the log- ging execution environment.		If you make changes to a project in the Sysmac Studio, transfer the logging settings again. Do not edit the logging setting files generated by the Sysmac Studio by other methods.	
	Not all of safety master connec- tions are established.		Establish all safety master connec- tions before attempting to start safety data logging.		Establish all safety master connec- tions before attempting to start safety data logging.	
	Impossible to access a logging tar- get variable that is specified in the logging setting file.		Create the logging setting file again in the project that was down- loaded to the environment where the logging is executed.		Make sure to always transfer the logging settings after you change the project on the Sysmac Studio. Do not edit the logging setting file generated by the Sysmac Studio by any other means.	
Attached infor- mation	Attached information 1: Causes of failure 0001 hex: An SD Memory Card is not inserted. 0002 hex: There are no logging setting files. 0003 hex: The logging settings number is duplicated. 0004 hex: The logging settings number is outside of the specifications. 0005 hex: The logging setting file is invalid. 0006 hex: Safety master connections are not established. 0007 hex: Impossible to access a logging target variable. 					
Precautions/ Remarks			before safety valid		on the Safety CPU	Unit.

*1. This event code occurs for an NX502 CPU Unit with unit version 1.60 or later and NX102 CPU Unit with unit version 1.31 or later.

Event name	Safety Data Log File Save Failed Even			Event code	10640000 hex *1		
Description	Saving the log file for safety data logging failed.						
Source	PLC Function Module		Source details	None	Detection tim- ing	When safety da- ta logging file is saved	
Error attributes	Level	Observation	Recovery		Log category System		
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	Variable		Data type		Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The SD Memory Card was re- moved after the start of logging.		Insert an SD Memory Card.		Do not remove the SD Memory Card during logging execution.		
	The SD Memory Card is write-pro- tected.		Remove write protection from the SD Memory Card.		Remove write protection from the SD Memory Card before you start logging.		
	The capacity of the SD Memory Card is insufficient.		Replace the SD Memory Card with one with sufficient available space.		Use an SD Memory Card that has sufficient available space.		
	The maximum number of files for an SD Memory Card was exceed- ed.		Delete files stored on the SD Mem- ory Card to reduce the number of files.		Delete files periodically to reduce the number of files.		
	The SD Memory	e SD Memory Card is damaged.		If none of the above causes ap- plies, replace the SD Memory Card.		Replace the SD Memory Card peri- odically according to the write life of the SD Memory Card.	
Attached infor-	Attached information 1: Causes of failure						
mation		SD Memory Card is					
	0002 hex: The SD Memory Card is write-protected.						
	 0003 hex: The capacity of the SD Memory Card is insufficient. 0004 hex: The maximum number of files was exceeded. 						
	0004 nex: The maximum number of nes was exceeded. 0005 hex: Other causes						
	Attached information 2: The name of the log file that failed to be saved						
Precautions/	None						
Remarks							

*1. This event code occurs for an NX502 CPU Unit with unit version 1.60 or later and NX102 CPU Unit with unit version 1.31 or later.

Event name	PLC System Information			Event code	40140000 hex		
Meaning	This event provides internal information from the PLC Function Module.						
Source	PLC Function Mo	dule	Source details None		Detection tim- ing	Continuously	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	This event provides internal information from the PLC Function						
Attached infor- mation	Attached information 1: System information Attached information 2: System information Attached information 3: System information Attached information 4: System information						
Precautions/	None	-					
Remarks							

Event name	Safe Mode			Event code	40170000 hex *1				
Meaning	The Controller started in Safe Mode.								
Source	PLC Function Module		Source details	None	Detection tim-	At power ON or			
					ing	Controller reset			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Stops.	Operation						
System-de-	Variable None		Data type		Name				
fined variables									
Cause and cor-	Assumed cause		Correction		Prevention				
rection	The Controller started in Safe Mode.								
Attached infor- mation	None								
Precautions/	If the Controller is started when the CPU Unit is in Safe Mode, the CPU Unit will start in PROGRAM mode								
Remarks	even if the startup mode is set to RUN mode.								
Image: Program Observation Recovery Error reset Log category System Effects User program Continues. Operation Not affected. Image: Program System System-de- fined variables Variable Continues. Operation Not affected. Name Cause and cor- rection Assumed cause Gorrection Prevention Prevention Attached information Attached information 1: Storage type Attached information 2: Set value (MB) None Storage information 2: Set value (MB) Precautions/ other storage information 2: Set value (MB) Storage information 2: Set value (MB) Storage information 2: Set value (MB)	Event name	Capacity Warning	of Variable Log Sa	ave Destination	Event code	64050000Hex *1			
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Image: Sampling Image: Sampling Error attributes Level Observation Recovery Error reset Log category System Effects User program Continues. Operation Not affected. Log category System System-de- fined variables Variable Continues. Operation Not affected. Name Cause and cor- rection Assumed cause Orrection Prevention Prevention Attached information Attached information 1: Storage type Attached information 2: Set value (MB) None Storage subscription (MB) Storage subscription (MB) Precautions/ Other subscription (MB) Storage subscription (MB) Storage subscription (MB) Storage subscription (MB)	Meaning	The free storage	space for variable l	ogs is less than the	e specified capacity	y.			
Effects User program Continues. Operation Not affected. System-de- fined variables Variable Data type Name None Cause and cor- rection Assumed cause Correction Prevention The free storage space for variable logs has fallen below the specified capacity. None None Attached infor- mation Attached information 1: Storage type 1: SD Memory Card Attached information 2: Set value (MB) Free automs/ Attached information 1: does not control variable log output.	Source	PLC Function Module Source details		None		During variable sampling			
System-de- fined variables Variable Data type Name None Cause and cor- rection Assumed cause Correction Prevention The free storage space for variable logs has fallen below the specified capacity. None None Attached infor- mation Attached information 1: Storage type 1: SD Memory Card Attached information 2: Set value (MB) Precautions/ • This event notifies that free space of the storage is running out. It does not control variable log output.	Error attributes	Level	Observation	Recovery	Error reset	Log category	System		
fined variables None Cause and correction Assumed cause Correction Prevention The free storage space for variable logs has fallen below the specified capacity. None None Attached information 1: Storage type 1: SD Memory Card Attached information 2: Set value (MB) Attached information 2: Set value (MB)	Effects	User program	Continues.	Operation	Not affected.	·	-		
Cause and correction Assumed cause Correction Prevention The free storage space for variable logs has fallen below the specified capacity. None None Attached information 1: Storage type 1: SD Memory Card Attached information 2: Set value (MB) Attached information 2: Set value (MB)	System-de-	Variable		Data type	Data type		Name		
rection The free storage space for variable logs has fallen below the specified capacity. None None Attached information 1: Storage type 1: SD Memory Card Attached information 2: Set value (MB) Attached information 2: Set value (MB) Frecautions/	fined variables	None							
Attached information Attached information 1: Storage type 1: SD Memory Card Attached information 2: Set value (MB)	Cause and cor-	Assumed cause		Correction		Prevention			
mation 1: SD Memory Card Attached information 2: Set value (MB) Precautions/ • This event notifies that free space of the storage is running out. It does not control variable log output.	rection	logs has fallen be		None	None				
Precautions/ • This event notifies that free space of the storage is running out. It does not control variable log output.		1: SD Memory Ca	ard						
		Attached informat							
Remarks • Remaining free memory space is checked when the variable log is output.	Descentions/	• This event notifies that free space of the storage is running out. It does not control variable log output.							

Event name	No Variable Log (Concurrency		Event code	64060000Hex *1		
Meaning			ted before variable ariable log data can		pleted. If the varial	ble log is output in	
Source	PLC Function Mo	dule	Source details	Source details None i		During variable sampling	
Error attributes	Level	Observation	Recovery	Transfer the project from Synchronization of Sysmac Stu- dio after chang- ing automation playback set- tings.	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type	Data type		Name	
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	 Due to the following factors, the task of the next task period started before variable sampling was completed. The number of variables to be sampled is too large. Task execution time as a ratio of overall task period is too high. 		 task period by the ures. Reduce progra collection targe Set a longer ta Exclude axis va sampling (for p task only). 	finished within the the following meas- gram POUs set for rget. task period time.			
Attached infor- mation	 Attached information 1: Task type for which sampling could not be finished within the task period 0: Primary periodic task 1: Periodic task Attached information 2: Number of sampling target variables for the task Attached information 3: Maximum time (μs) required from the start to the end of sampling for the task Attached information 4: Sampling setting number that needs modification 						
Precautions/ Remarks	ensured.	ampling of variable	s by settings so as recur until sampling	-	-	concurrency is not	

Event name	Cycle with No Va	iable Sampling		Event code	64070000Hex *1		
Meaning	A cycle occurred	in which variable sa	ampling was omitte	d.	•		
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	During variable sampling	
Error attributes	Level	Observation	Recovery	Transfer the project from Synchronization of Sysmac Stu- dio after chang- ing automation playback set- tings.	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Due to the following factors, a peri- od in which variable sampling is not performed occurred. • The number of variables to be		task only).	hished within the e following meas- am POUs set for et. sk period time. ariables from rimary periodic	POUs containing need to be record log.	n only for program variables that ded in the variable	
Attached infor- mation	 Attached information 1: Task type with a cycle in which sampling is omitted 0: Primary periodic task 1: Periodic task Attached information 2: Number of sampling target variables for the task Attached information 3: Maximum time (μs) required from the start to the end of sampling for the task Attached information 4: Sampling setting number that needs modification 						
Precautions/ Remarks	 Variable sampl When this ever ting. 	ing continues. ht occurs, sampling	of variables can be recur until sampling	e stopped and varia		e disabled by set-	

Event name	Secure Communi	cation Forced Star	t	Event code	64080000 hex ^{*1}	
Meaning	Secure communi	cation was forced to	o start.			
Source	PLC Function Mo	dule	Source details	Source details None		At power ON, or Controller reset
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	The CPU Unit has started with the secure communications version set to 2 and the DIP switch set to allow connection from the Sysmac Studio or an NA-series Programmable Terminal that does not support secure communication.		Correction		Prevention	
			tions version 2, tu and 2 on the DIP CPU Unit, and the Unit. When you use se connection from to Studio or an NA-s Programmable Te not support secur change the secur	switch of the en start the CPU at to allow the Sysmac series erminal that does re communication,		
Attached infor- mation	None					
Precautions/ Remarks	None					

*1. This event code occurs for an NJ-series, NX502, NX102, or NX1P2 CPU Unit with unit version 1.69 or later and NX701 CPU Unit with unit version 1.36 or later.

Event name	NX Message Con	nmunications Error		Event code	80230000 hex ^{*1}		
Meaning	An error has occu	irred in message co	ommunications.	ommunications.			
Source	PLC Function Mo EtherCAT Master EtherNet/IP Func or NX Bus Function	Function Module, tion Module,	Source details	None	Detection tim- ing	During NX mes- sage communi- cations	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The communications cable is bro-		Check the communications cable		Check the comm	unications cable	
	ken.		and replace it if it is broken.		to see if it is operating properly.		
	The communication	The communications cable con-		nnector and	Make sure the communications ca-		
	nector is disconnected.		make sure it is ma	ated correctly.	ble is connected	properly.	
	The NX message communications		Reduce the number of times that		Reduce the numb	per of times that	
	load is high.		instructions are used to send NX		instructions are used to send NX		
			messages. Or, increase the value of the <i>TimeOut</i> input variable to the in-		messages.		
					Or, increase the value of the <i>TimeOut</i> input variable to the in-		
			struction.		struction.		
			If more than one of	copy of the Sys-	If more than one	copy of the Sys-	
			mac Studio is con		mac Studio is cor		
			the frequency of s	the frequency of simultaneous op-		simultaneous op-	
			erations.		erations.		
Attached infor-		tion 1: System infor					
mation		tion 2: Type of com	nmunications				
	• 0: NX bus						
	• 1: EtherCAT						
		ternal communicati	ons (routing)				
Precautions/	None						
Remarks							

*1. This event code occurs for unit version 1.05 or later of the CPU Unit.

Event name	Safety Data Logg	ing Aborted		Event code	90470000 hex *1	
Description	The execution of	safety data logging	was aborted.	l		
Source	PLC Function Mo	odule	Source details	None	Detection tim- ing	During the exe- cution of safety data logging
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_PLC_SFLogSta		ARRAY[01] OF	_sSFLOG_STA	Safety Data Logo	jing Status
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The execution of ging was aborted switch operation.	by a service				
	Either a communications error on the safety master connections oc- curred or the Safety CPU Unit en- tered an operating mode where it could not continue safety process data communications.		communications i occurred most red form the required rections. Alternati Safety CPU Unit so that it can perf	Check the safety process data communications related event that occurred most recently, and per- form the required actions and cor- rections. Alternatively, change the Safety CPU Unit operating mode so that it can perform safety proc- ess data communications.		afety process data are not interrupted hen you start safe-
	The NX bus was	restarted.				
	The Controller Se was changed.	etup or program				
Attached infor- mation	 Attached information 1: Setting numb Attached information 2: The output lo Attached information 3: Cause for the 1: A service switch was pressed. 2: Safety master connections are r 3: The NX bus was restarted. 4: The Controller Setup or program 		t log file name the interruption d. re not established.			
Precautions/			loes not restart auto	omatically even if the	he causes of aborti	ng are removed
Remarks			data that was logge			•
	post-trigger rat				0,	-

*1. This event code occurs for an NX502 CPU Unit with unit version 1.60 or later and NX102 CPU Unit with unit version 1.31 or later.

Event name	Variable Log Ove	rwritten		Event code	95760000Hex *1		
Meaning	Old variable logs	were cleared and r	new variable logs w	ere saved.			
Source	PLC Function Mo			Detection tim- ing	When the varia- ble log save conditions are met		
Error attributes	Level	Observation	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	-de- Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction None			
rection	There is not enou the storage, or it h the specified capa	nas fallen below	None				
Attached infor- mation	1: SD Memory Ca	ttached information 1: Storage type SD Memory Card ttached information 2: Set value (MB)					
Precautions/ Remarks	When this event of	occurs, the old varia	able log has been o	deleted.			

Event name	PLC System Infor	mation		Event code	40150000 hex	
Meaning			ion from the PLC F	unction Module.		
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None	None				
Cause and cor-			Correction		Prevention	
rection						
Attached infor- mation	Attached information 1: System information Attached information 2: System information Attached information 3: System information Attached information 4: System information					
Precautions/ Remarks	None	-				

Event name	PLC System Info	rmation		Event code	44430000 hex*1		
Meaning	This event provid	es internal informat	tion from the PLC F	unction Module.			
Source	PLC Function Module Source details No		None	Detection tim- ing	Continuously		
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	Variable			Name		
fined variables	None						
Cause and cor-	Assumed cause	Assumed cause 0		Correction			
rection	This event provides internal infor- mation from the PLC Function Module. It is recorded to provide additional information for another event.						
Attached infor- mation	Attached informat Attached informat	Attached information 1: System information Attached information 2: System information Attached information 3: System information Attached information 4: System information					
Precautions/ Remarks	None						

*1. This event code occurs for unit version 1.05 or later of the CPU Unit.

Event name	Clock Changed			Event code	90010000 hex			
Meaning	The clock time wa	as changed.						
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Commands from user		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	_CurrentTime		DATE_AND_TIM	E	System Time			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The clock time wa	as changed.						
Attached infor- mation	 1: Direct Connection 2: Direct Ether 3: Remote USI Attached information When connection Attached information 	Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given. Attached information 3: Clock time before change						
Precautions/ Remarks	ed in the event lo	g.	e NTP function or t for the time after th		ction (SetTime) of N	NTP is not record-		
User name in the access log ^{*1}	When the user at		on is enabled: User on is disabled: NUL					

*1. This information is registered in the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	Time Zone Chang	ged		Event code	90020000 hex	
Meaning	The time zone wa	as changed.				
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	When down- loading
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_CurrentTime		DATE_AND_TIM	E	System Time	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The time zone wa	as changed.				
Attached infor-	Attached Informat	tion 1: Connection	method			
mation	1: Direct Conne	ection via USB				
	2: Direct Etheri					
			ernet hub connecti			
					ction source IP add	ress is given.
		is made through p	roxy, proxy IP addr	ess is given.		
Precautions/	None					
Remarks						
User name in	When the user au	uthentication function	on is enabled: User	name		
the access	When the user au	uthentication function	on is disabled: NUL	L		
log ^{*1}						

- *1. This information is registered in the following CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	Online Connectio	n Started		Event code	90030000 hex ^{*1}		
Meaning	Online connectior	n with the Sysmac S	Studio was started.	<u></u>			
Source	Irce PLC Function Module S		Source details	None	Detection tim- ing	When online connection starts	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor- Assumed cause			Correction		Prevention		
rection	ection Online Connection with the Sys- mac Studio was started.						
Attached infor- mation	 1: Direct Conne 2: Direct Ethern 3: Remote USI Attached information 	net connection 3 connection or Eth tion 2: When attach	nernet hub connecti	2 or 3, the conne	ction source IP add	ress is given.	
Precautions/ Remarks	This event is reco	orded only when the	e Sysmac Studio ve	ersion 1.50 or high	ner is used.		
User name in the access log			on is enabled: User on is disabled: NUL				

*1. This event occurs when the following CPU Units are used in combination with Sysmac Studio Ver.1.50 or higher.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

3-2-2 Error Descriptions

Event name	Online Connectio	n Ended		Event code	90040000 hex*1	
Meaning	Online connectior	n with the Sysmac S	Studio was termina	ted.		
Source	PLC Function Module		Source details	None	Detection tim- ing	When online connection ter- minated
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor- rection Assumed cause Online connectio Studio was termi			Correction		Prevention	
		n with the Sysmac nated.				
Attached infor- nation	 1: Direct Conne 2: Direct Ethern 3: Remote USE Attached information 	net connection 3 connection or Eth	ernet hub connecti led information 1 is	2 or 3, the connect	ction source IP add	ress is given.
Precautions/ Remarks	This event is reco	rded only when the	e Sysmac Studio ve	ersion 1.50 or high	er is used.	
User name in	When the user au	thentication functio	on is enabled: User	name		
the access log	When the user au	thentication functio	on is disabled: NUL	L		

*1. This event occurs when the following CPU Units are used in combination with Sysmac Studio Ver.1.50 or higher.

NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	User Program/Co Downloaded	ntroller Configurati	ons and Setup	Event code	90050000 hex ^{*1}		
Meaning	The user program	and the Controlle	⁻ configurations and	setup were downl	oaded.		
Source	PLC Function Module		Source details	None	Detection tim- ing	During user pro- gram/Controller configurations and setup download	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	l .	according to the use up data that were o		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The user program and the Control- ler configurations and setup were downloaded.						
Attached infor- mation	 1: Direct USB of 2: Direct Ethern 3: Remote USE Attached informat When connection 	 Attached Information 1: Connection method 1: Direct USB connection 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given. Attached information 3: Device Output Hold Status 1: Retained. 					
Precautions/ Remarks	None						
User name in the access log ^{*2}	When the user au		on is enabled: User on is disabled: NUL				

*1. This event code occurs for unit version 1.10 or later of the CPU Unit.

*2. This information is registered in the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Online Edits Tran	sferred		Event code	90070000 hex ^{*1}		
Meaning	The user program	n was edited online		I			
Source	PLC Function Module Source details		None	Detection tim- ing	When transfer- ring online edits is started		
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Operation is perf program.	erformed according to the changed us		
System-de-	Variable Data t		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The user program was edited on- line and the edits were transferred to the Controller.						
Attached infor- mation	 1: Direct USB (2: Direct Ether 3: Remote USI Attached information 	net connection 3 connection or Eth	ernet hub connecti ned information 1 is	2 or 3, the connec	tion source IP addr	ess is given.	
Precautions/ Remarks	None						
User name in the access log ^{*2}		uthentication function function function function					

*1. This event code occurs for unit version 1.10 or later of the CPU Unit.

*2. This information is registered in the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Variable Changed	I to TRUE with Fore	ced Refreshing	Event code	90080000 hex		
Meaning	Changing a varial	ble to TRUE with fo	orced refreshing wa	s specified.			
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation Operation is perfo freshing values.		ormed according to the forced re-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Changing a varial forced refreshing the user.						
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Variable Changed	to FALSE with Fo	rced Refreshing	Event code	90090000 hex	
Meaning	Changing a varial	ble to FALSE with f	orced refreshing w	as specified.		
Source	PLC Function Module \$		Source details	None	Detection tim- ing	Commands from user
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Operation Operation is performed according to the fo freshing values.		the forced re-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Changing a varial forced refreshing the user.	ble to FALSE with was specified by				
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	All Forced Refres	hing Cleared		Event code	900A0000 hex		
Meaning	Clearing all force	d refreshing values	was specified.				
Source	PLC Function Module		Source details	None	Detection tim-	Commands	
					ing	from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program Continues. C		Operation	Forced refreshing	values are all clea	ared and operation	
			is performed accor		ording to the user program.		
System-de-	vstem-de- Variable		Data type		Name		
fined variables	None	None					
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Clearing all force	d refreshing val-					
	ues was specified	l by the user.					
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Memory All Clear	ed		Event code	900B0000 hex		
Meaning	All of memory wa	s cleared.			·		
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program		Operation	Operation returns	s to the factory stat	e.	
System-de-	Variable	•	Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	A user with Administrator rights cleared all of the memory.						
Attached infor- mation	 1: Direct Conn. 2: Direct Ether 3: Remote USI Attached information 	Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.					
Precautions/ Remarks	None						
User name in the access log ^{*1}		uthentication functic uthentication functic					

1. This information is registered in the following CPU Units.

NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

Event name	Event Log Cleare	d		Event code	900C0000 hex			
				Lvent code	90000000 Hex			
Meaning	The event log wa							
Source	PLC Function Mo	dule	Source details	None	Detection tim-	Commands		
		1			ing	from user		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The event log wa	s cleared by the						
	user.							
Attached infor-	Attached Information 1: Connection method							
mation	• 1: Direct Conne	ection via USB						
	2: Direct Ether	net connection						
	3: Remote USE	3 connection or Eth	ernet hub connecti	on				
			ed information 1 is		tion source IP addr	ess is given.		
		•	roxy, proxy IP addr	ess is given.				
		tion 3: Cleared eve						
		categories were cle						
		event log was clea						
		event log was clea						
-		defined event log v	vas cleared.					
Precautions/	None							
Remarks								
User name in			on is enabled: User					
the access	When the user au	ithentication function	on is disabled: NUL	L				
log ^{*1}								

*1. This information is registered in the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Automatic Transfe	er Completed		Event code	900F0000 hex ^{*1}	
Meaning	The automatic tra	nsfer was complete	ed.			
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation Operation starts according to the Controller rations and Setup data that was automatica ferred.		•	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The automatic tra pleted.	nsfer was com-				
Attached infor- mation	None					
Precautions/ Remarks	None					

*1. This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Power Turned ON	١		Event code	90110000 hex		
Meaning	The power supply	he power supply was turned ON.					
Source	PLC Function Module S		Source details	None	Detection tim- ing	At power ON	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program		Operation Operation starts.				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The power supply was turned ON.						
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Power Interrupted I			Event code	90120000 hex		
Meaning	The power supply	The power supply was interrupted.					
Source	PLC Function Module \$		Source details	None	Detection tim-	At power inter-	
					ing	ruption	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Stops.	Operation All operations stop		p.		
System-de-	Variable		Data type		Name		
fined variables	None	None					
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The power supply	was interrupted.					
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Operation Started	I		Event code	90130000 hex	
Meaning	Operation was sta	arted.				
Source	PLC Function Module		Source details	None	Detection tim- ing	When changing to RUN mode
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program Starts. Operation		Operation	User program exe	ecution starts.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A command to start operation was received.					
Attached infor-	Attached informat	tion 1: Device Outp	ut Hold Status		•	
mation	• 1: Retained.					
	2: Not retained	2: Not retained.				
Precautions/	None					
Remarks						

Event name	Operation Stoppe	d		Event code	90140000 hex		
Meaning	Operation was sto	opped.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When changing to PROGRAM mode	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Stops.	Operation	User program execution stops.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	A command to sto received.	op operation was					
Attached infor-	Attached informat	ion 1: Device Outp	ut Hold Status				
mation	• 1: Retained.						
	2: Not retained						
Precautions/	None						
Remarks							

Event name	Reset Executed			Event code	90150000 hex						
Meaning	A reset was exec	uted.									
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user					
Error attributes	Level	Information	Recovery		Log category	Access					
Effects	User program		Operation	Operation is starte	ed after a reset is e	executed.					
System-de-	Variable		Data type		Name						
fined variables	None										
Cause and cor-	- Assumed cause Con		Correction	Correction		Prevention					
rection	A reset command	was received.									
Attached infor- mation	 1: Direct Conne 2: Direct Ethern 3: Remote USE Attached information 	Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.									
Precautions/ Remarks	None										
User name in the access log ^{*1}						When the user authentication function is enabled: User name When the user authentication function is disabled: NULL					

*1. This information is registered in the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

Event name	User Program Ex	ecution ID Write		Event code	90160000 hex			
Meaning	The user program	n execution ID was	set or changed in t	he CPU Unit.	·			
Source	PLC Function Mo	dule	Source details None		Detection tim- ing	When down- loading		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Cause and cor- Assumed cause		Correction		Prevention			
rection	A user with Admin changed the user tion ID that is set None	program execu-						
mation	None							
Precautions/ Remarks	 1: Direct Conne 2: Direct Ether 3: Remote USI Attached information 	 Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given. 						
User name in the access log ^{*1}			on is enabled: User on is disabled: NUL					

*1. This information is registered in the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

Event name	Authentication Se	etting Transferred		Event code	90170000 hex*1	
Meaning	The authenticatio	n setting was trans	ferred.			
Source	PLC Function Module		Source details	None	Detection tim- ing	When user ac- count settings are changed
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The authenticatio	n setting was				
	transferred.					
Attached infor-	Attached Informat	tion 1: Connection	method			
mation	1: Direct Conne	ection via USB				
	2: Direct Etheri	net connection				
	3: Remote USE	B connection or Eth	ernet hub connect	ion		
				-	ction source IP add	ress is given.
	When connection	is made through p	roxy, proxy IP addr	ess is given.		
Precautions/	This event is reco	orded only when the	e Sysmac Studio ve	ersion 1.50 or high	er is used.	
Remarks						
User name in	When the user au	uthentication function	on is enabled: User	name		
the access log	When the user au	uthentication function	on is disabled: NUL	L		

*1. This event occurs when the following CPU Units are used in combination with Sysmac Studio Ver.1.50 or higher.

NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	All Controller Erro	ors Cleared		Event code	90180000 hex		
Meaning	All current errors	were cleared.					
Source	PLC Function Module		Source details	None	Detection tim-	Commands	
					ing	from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation Clearing all errors for which the causes			ses have been re-	
				moved.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The user cleared	all current errors.					
Attached infor-	None						
mation							
Precautions/	None	None					
Remarks							

Event name	Forced Refreshin	g Cleared		Event code	90190000 hex	
Meaning	Clearing a forced	refreshing value w	as specified.			
Source	PLC Function Mo	dule			Detection tim- ing	Commands from user
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation Forced refreshing values are cleared and operformed according to the user program.			
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Clearing a forced refreshing value was specified by the user.					
Attached infor- mation	None				•	
Precautions/	None					
Remarks						

Event name	Backup Started			Event code	901A0000 hex*1		
Meaning	A backup operation	on was started.		8			
Source	PLC Function Mo	dule			Detection tim- ing	At start of back- up operation	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	cor- Assumed cause Correction		Correction		Prevention		
rection	A backup operation	on was started.					
Attached infor- mation	 0101 hex: Con 0102 hex: Con 0103 hex: Con ger) 	 Attached information 1: Operation type 0101 hex: Controller to SD Memory Card for switch operation on front of CPU Unit 0102 hex: Controller to SD Memory Card for system-defined variable operation 0103 hex: Controller to SD Memory Card for instruction from Sysmac Studio or function module specific trigger) 					
Precautions/ Remarks	None						

*1. This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Backup Complete	ed		Event code	901B0000 hex ^{*1}	
Meaning	The backup opera	ation ended normal	ly.			
Source	PLC Function Module		Source details	None	Detection tim- ing	At end of normal backup opera- tion
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The backup opera	ation ended nor-				
	mally.					
Attached infor-	Attached informat	tion 1: Operation ty	ре			
mation	• 0101 hex: Con	troller to SD Memo	ry Card for switch o	operation on front o	f CPU Unit	
	• 0102 hex: Con	troller to SD Memo	ry Card for system	variable operation		
	• 0103 hex: Con	troller to SD Memo	ry Card for instructi	ion from Sysmac S	tudio or function m	odule specific trig-
	ger)					
	• 0104 hex: Con	troller to SD Memo	ry Card for instructi	ion operation.		
	• 0201 hex: Con	troller to computer				
Precautions/	None					
Remarks						

*1. This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Restore Operation Started			Event code	901C0000 hex ^{*1}			
Meaning	A restore operation	A restore operation started.						
Source	PLC Function Module		Source details	None	Detection tim-	At start of re-		
					ing	store operation		
Error attributes	Level	Information	Recovery		Log category	System		
Effects	User program		Operation Not affected.					
System-de-	Variable		Data type	Data type		Name		
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A restore operation	on started.						
Attached infor-	Attached informat	ion 1: Operation ty	ре					
mation	• 0101 hex: SD I	Memory Card to Co	ontroller for switch o	operation on front o	f CPU Unit			
	• 0102 hex: SD I	Memory Card to Co	ontroller for specific	ation with a system	-defined variable			
	• 0201 hex: Com	puter to Controller						
Precautions/	None	None						
Remarks								

*1. This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Restore Operation	n Completed		Event code	901D0000 hex ^{*1}			
Meaning	The restore opera	ation ended normal	ly.					
Source	PLC Function Module		Source details	None	Detection tim- ing	At end of normal restore opera- tion		
Error attributes	Level	Information	Recovery		Log category	System		
Effects	User program		Operation	Operation does not start after the completion of a re- store operation. To start operation according to the re- stored user program and settings, turn OFF the power supply to the Controller, turn OFF all pins on the DIP switch on the CPU Unit, and then turn ON the power supply again.				
System-de-	Variable		Data type		Name			
fined variables	_Card1RestoreSt	а	_sRESTORE_STA		SD Memory Card Restore Status			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The restore opera mally.	tion ended nor-						
Attached infor- mation	 0101 hex: SD I 0102 hex: SD I 	 Attached information 1: Operation type 0101 hex: SD Memory Card to Controller for switch operation on front of CPU Unit 0102 hex: SD Memory Card to Controller for specification with a system-defined variable 0201 hex: Computer to Controller 						
Precautions/ Remarks	None							

*1. This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	SD Memory Card	Program Transfer	Started	Event code	90200000 hex ^{*1}		
Meaning	Transferring the S	D Memory Card p	rograms was starte	ed.			
Source	PLC Function Mo	dule			Detection tim- ing	When transfer- ring SD Memory Card programs is started	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program		Operation	Not affected.	ot affected.		
System-de-	Variable		Data type		Name	Name	
fined variables	None	None					
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Transferring the S programs was sta	,					
Attached infor- mation	None						
Precautions/ Remarks	None						

*1. This event code occurs for unit version 1.11 or later of the CPU Unit.

Event name	SD Memory Card	Program Transfer	Completed	Event code	90210000 hex ^{*1}		
Meaning	Transferring the S	D Memory Card p	rograms was comp	leted.			
Source	PLC Function Module		Source details	None	Detection tim- ing	When transfer- ring SD Memory Card programs is completed	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program		Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_Card1PrgTransfe	erSta	_sPRGTRANSFE	R_STA SD Memory Card Program T fer Status		l Program Trans-	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Transferring the S programs was cor						
Attached infor- mation	None						
Precautions/ Remarks	None						

*1. This event code occurs for unit version 1.11 or later of the CPU Unit.

Event name	Project Unit Versi	on Changed		Event code	90290000 hex*1		
Meaning	The project unit v	ersion was change	d.				
Source	PLC Function Module		Source details	None	Detection tim- ing	At download, re- store, or Clear All Memory op- eration	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program		Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_ProjectUnitVersi	on *2	ARRAY[01] OF	USINT	JSINT Project Unit Version		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The project unit version of the project in the Controller in the transfer or restore destination and that in the transfer or restore source project are different. The project was transferred or re- stored in the default or Clear All						
Attached infor-	Memory state. Attached informat	ion 1: Proiect unit	/ version before char	nae			
mation	Attached information 1: Project unit version before change The major and minor versions are displayed. In the default or Clear All Memory state, however, 0 is displayed. Example: In the default state, 0 is displayed. Attached information 2: Project unit version after change The major and minor versions are displayed. In the Clear All Memory state, however, 0 is displayed. Example: If the unit version is 1.21, 121 is displayed.						
Precautions/ Remarks	None						

*1. This event code occurs for an NX102- CPU Unit with unit version 1.32 or later and NX701- 00 CPU Unit, NX1P2- CPU Unit, NJ501- CPU Unit (excluding NJ501- 20), NJ301- CPU Unit, and NJ101- 00 CPU Unit with unit version 1.21 or later.

*2. You can use this system-defined variable for the CPU Unit with unit version 1.40 or later.

Event name	Change to RUN N	Node Commanded		Event code	902A0000 hex*1			
Meaning	The Controller red	ceived a command	to switch to RUN n	node.				
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	and cor- Assumed cause		Correction		Prevention			
rection	The Controller red mand to switch to							
Attached infor- mation	 1: Direct conne 2: Direct conne 3: Remote Cor Attached informat 	Attached information 1: Connection method						
Precautions/	None							
Remarks								
User name in	When the user au	uthentication function	on is enabled: User	name				
the access log	When the user au	uthentication function	on is disabled: NUL	L				

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Change to PROG	RAM Mode Comm	anded	Event code	902B0000 hex*1		
Meaning	The Controller re-	ceived a command	to switch to PROG	RAM mode.			
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The Controller received a com- mand to switch to PROGRAM mode.						
Attached infor- mation	 1: Direct conne 2: Direct conne 3: Remote Cor Attached informa 	ection via Ethernet nnection via USB of tion 2: When attach	r Ethernet connecti	2 or 3, the connec	tion source IP add	ress is given.	
Precautions/ Remarks	None						
User name in	When the user at	uthentication function	on is enabled: User	name			
the access log	When the user au	uthentication function	on is disabled: NUL	L			

*1. This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Access Rights Fo	rcibly Released		Event code	902C0000 hex*1			
Meaning	The access rights	were forcibly relea	ased.					
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The access rights leased.	were forcibly re-						
Attached infor- mation	 1: Direct Conne 2: Direct Ethern 3: Remote USE Attached informat 	Attached Information 1: Connection method						
Precautions/	None							
Remarks								
User name in	When the user au	thentication function	on is enabled: User	name				
the access log	When the user au	thentication function	on is disabled: NUL	L				

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	CPU Unit Name (Changed		Event code	902D0000 hex*1	
Meaning	The CPU Unit na	me was changed.				
Source	PLC Function Mo	dule	Source details None		Detection tim-	Commands
					ing	from user
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable	•	Data type	Data type		
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The CPU Unit na	me was changed.				
Attached infor-	Attached Informa	tion 1: Connection	method			
mation	1: Direct Conne	ection via USB				
	2: Direct Ether	net connection				
	3: Remote USE	3 connection or Eth	ernet hub connecti	ion		
	Attached informat	tion 2: When attach	ed information 1 is	2 or 3, the connect	tion source IP add	ress is given.
	When connection	is made through p	roxy, proxy IP addr	ess is given.		
Precautions/	None					
Remarks						
User name in	When the user au	thentication function	on is enabled: User	name		
the access log	When the user au	thentication functio	on is disabled: NUL	L		

*1. This event code occurs for the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	CPU Unit Write Protected			Event code	902E0000 hex ^{*1}		
Meaning	The CPU Unit wa	s write-protected.					
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The CPU Unit wa	s write-protected.					
Attached infor- mation	 1: Direct Conne 2: Direct Ether 3: Remote USI Attached information 	net connection 3 connection or Eth	ernet hub connecti ied information 1 is	2 or 3, the connec	ction source IP add	ress is given.	
Precautions/ Remarks	None	None					
User name in the access log		Ithentication function					

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Operation Mode	Change Setting Wri	itten	Event code	902F0000 hex*1		
Meaning	Setting to change	the operation mod	le was written.				
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection		Setting to change the operation mode was written.					
Attached infor- mation	 1: Direct Conn. 2: Direct Ether 3: Remote USI Attached information 	net connection 3 connection or Eth tion 2: When attach	method nernet hub connecti ned information 1 is roxy, proxy IP addr	2 or 3, the connec	tion source IP add	ress is given.	
Precautions/ Remarks	This event is reco	orded only when the	e Sysmac Studio ve	ersion 1.50 or highe	er is used.		
User name in the access log		When the user authentication function is enabled: User name When the user authentication function is disabled: NULL					

*1. This event occurs when the following CPU Units are used in combination with Sysmac Studio Ver.1.50 or higher.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	Backup Start Con	nmanded		Event code	90300000 hex*1	
Meaning	The Controller rec	ceived a command	to start backup ope	eration from Sysma	ac Studio.	
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The Controller red	ceived a com-				
	mand to start bac					
	from Sysmac Stu					
Attached infor-		tion 1: Connection	method			
mation	1: Direct Conne					
	2: Direct Etherr					
			ernet hub connecti			
			ed information 1 is	<i>,</i>	tion source IP addr	ess is given.
D (1) (is made through p	roxy, proxy IP addr	ess is given.		
Precautions/	None					
Remarks						
User name in			on is enabled: User			
the access log	When the user au	thentication function	on is disabled: NUL	L		

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

• NX701 CPU Unit: Version 1.29 or later

Event name	Restore Start Cor	mmanded		Event code	90310000 hex*1			
Meaning	The Controller rea	ceived a command	to start restore ope	eration from Sysma	c Studio.			
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction	Correction		Prevention		
rection	The Controller rea mand to start rest from Sysmac Stu	tore operation						
Attached infor- mation	 1: Direct Conn 2: Direct Ether 3: Remote USI Attached information 	Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.						
Precautions/	None							
Remarks								
User name in	When the user au	uthentication function	on is enabled: User	name				
the access log	When the user au	uthentication function	on is disabled: NUL	L				

*1. This event code occurs for the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

NX701 CPU Unit: Version 1.29 or later

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Event name	Firmware Update	Prohibition Setting	Changed	Event code	90320000 hex ^{*1}	
Meaning	Firmware update	prohibition setting	was changed.		•	
Source	PLC Function Module		Source details	None	Detection tim- ing	At download
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation Not affected.		•	
System-de- Variable			Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Firmware update prohibition setting was changed.					
Attached infor-	Attached informa	tion 1: Setting				
mation	1: Prohibit exe	cution of firmware ι	ıpdate			
	2: Allow execu	tion of firmware upo	date			
Precautions/	None					
Remarks						

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.60 or later

• NX701 CPU Unit: Version1.32 or later

Event name	Start Instruction o	f Omron Maintenai	nce	Event code	90330000 hex ^{*1}		
Meaning	Maintenance by C	Omron maintenance	e personnel was be	egun.			
Source	PLC Function Module \$		Source details	None	Detection tim- ing	When instructed by Omron main- tenance person- nel	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name	Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Maintenance by C nance personnel						
Attached infor-	Attached informat	ion 1: Name of the	maintenance pers	onnel			
mation							
Precautions/	None	None					
Remarks							

*1. This event code occurs for the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	End Instruction of	Omron Maintenan	ce	Event code	90340000 hex ^{*1}		
Meaning	Maintenance by C	Omron maintenance	e personnel was er	nded.			
Source	PLC Function Module \$		Source details	None	Detection tim- ing	When instructed by Omron main- tenance person- nel	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	Maintenance by C	Omron mainte-					
	nance personnel	was ended.					
Attached infor-	Attached informat	ion 1: Name of the	maintenance pers	onnel			
mation							
Precautions/	None						
Remarks							

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Safety Data Logg	ing Started		Event code	90460000 hex *1		
Description	Safety data loggir	Safety data logging was started.					
Source	PLC Function Module 5		Source details	None	Detection tim- ing	When safety da- ta logging is started	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type		Name		
fined variables	_PLC_SFLogSta		ARRAY[01] OF	_sSFLOG_STA	Safety Data Logging Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Safety data loggir because the start met.	0					
Attached infor-	Attached informat	ion 1: Setting numl	ber for the started l	ogging			
mation							
Precautions/	None						
Remarks							

*1. This event code occurs for an NX502 CPU Unit with unit version 1.60 or later and NX102 CPU Unit with unit version 1.31 or later.

Event name	Safety Data Logg	ing Completed		Event code	90480000 hex *1		
Description	The execution of	safety data logging	was completed be	cause the trigger c	onditions were met	t.	
Source	PLC Function Module Source de		Source details	None	Detection tim- ing	When safety da- ta logging is completed	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	Data type			Name		
fined variables	_PLC_SFLogSta		ARRAY[01] OF	_sSFLOG_STA	Safety Data Logging Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The trigger condit fied in the Safety Settings is met, a logging ends.	Data Logging					
Attached infor-	Attached informat	ion 1: Setting num	ber for the complet	ed logging			
mation	Attached informat	ion 2: The output l	og file name				
Precautions/	If more than one	safety data logging	is executed, do no	t remove or insert	the SD Memory Ca	rd until all the	
Remarks	safety data loggin	g executions are c	ompleted and the o	lata is saved to the	SD Memory Card.		

*1. This event code occurs for an NX502 CPU Unit with unit version 1.60 or later and NX102 CPU Unit with unit version 1.31 or later.

Event name	User Authentication Enabled E			Event code	90A20000 hex ^{*1}		
Meaning	User authenticat	Jser authentication was enabled.					
Source	PLC Function Module \$		Source details	None	Detection tim- ing	When user ac- count settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.	ed.		
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	;	Correction		Prevention		
correction	User authenticat	ion was enabled.	None		None		
Attached in- formation	None						
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	nigher is used.		
Remarks							
User name in	User name						
the access log							

*1. This event code occurs for the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Authenticat	ion Disabled		Event code	90A30000 hex ^{*1}		
Meaning	User authenticat	User authentication was disabled.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When user ac- count settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type		Name		
fined varia-	None						
bles							
Cause and	Assumed cause	9	Correction	Prevention			
correction	User authenticat bled.	ion was disa-	None		None		
Attached in- formation	None						
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in	User name						
the access log							

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

Event name	User Added			Event code	90A40000 hex*1		
Meaning	A user was adde	ed.					
Source	PLC Function M	odule	Source details	ing cour		When user ac- count settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause		Correction		Prevention		
correction	A user was adde	ed.	None		None		
Attached in- formation	 0: Administration 1: Designer 2: Maintainer 3: Operator 4: Observer 	ation 1: Given auth or ation 2: Name of th					
Precautions/ Remarks	This event is rec	his event is recorded only when the Sysmac Studio version 1.50 or higher is used.					
User name in the access log	User name						

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	User Deleted			Event code	90A50000 hex ^{*1}		
Meaning	A user was delet	A user was deleted.					
Source	PLC Function Module \$		Source details	None	Detection tim- ing	When user ac- count settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause)	Correction		Prevention		
correction	A user was delet	ed.	None		None		
Attached in- formation	Attached informa	ation 1: Name of th	ne deleted user				
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	ligher is used.		
Remarks							
User name in	User name						
the access log							

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

Event name	User Authority C	hanged		Event code	90A60000 hex ^{*1}		
Meaning	A user authority	was changed.					
Source	PLC Function M	odule	Source details	ing coun		When user ac- count settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause		Correction		Prevention		
correction	A user authority was changed.		None		None		
Attached in- formation	 0: Administrat 1: Designer 2: Maintainer 3: Operator 4: Observer 			hority was change	ed		
Precautions/ Remarks	This event is rec	ttached information 2: Name of the user whose authority was changed his event is recorded only when the Sysmac Studio version 1.50 or higher is used.					
User name in the access log	User name						

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	User Password Changed			Event code	90A70000 hex*1		
Meaning	A user password	A user password was changed.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When user ac- count settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery			-			
Effects	User program	Continues.	Operation	Operation Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause)	Correction		Prevention		
correction	A user password	was changed.	None		None		
Attached in- formation	Attached informa	ation 1: Name of th	ne user whose pas	ssword was chang	jed		
Precautions/	This event is rec	This event is recorded only when the Sysmac Stud			igher is used.		
Remarks							
User name in	User name						
the access log							

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Password	/alidity Period Cor	ntrol Enabled	Event code	90A80000 hex ^{*1}		
Meaning	Control of user p	assword validity p	eriod was activate	ed.			
Source	PLC Function Module \$		Source details	None	Detection tim- ing	When user ac- count settings are changed	
Error attrib-	Level	Information		Log category	Log category Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.	ot affected.		
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	9	Correction		Prevention		
correction	Control of user p period was activ	•	None		None		
Attached in- formation	None						
Precautions/ Remarks	This event is rec	This event is recorded only when the Sysmac Studio version 1.50 or higher is used.					
User name in the access log	User name						

*1. This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Password \	/alidity Period Cor	ntrol Disabled	Event code	90A90000 hex ^{*1}		
Meaning	Control of user p	assword validity p	eriod was disable	d.			
Source	PLC Function Module \$		Source details	None	Detection tim- ing	When user ac- count settings are changed	
Error attrib-	Level	Level Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	Variable		Data type		Name	
fined varia-	None						
bles							
Cause and	Assumed cause)	Correction		Prevention		
correction	Control of user p period was disab	-	None		None		
Attached in-	None						
formation							
Precautions/	This event is rec	orded only when t	he Sysmac Studic	version 1.50 or h	igher is used.		
Remarks							
User name in	User name						
the access log							

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Password Validity Period Changed			Event code	90AA0000 hex ^{*1}		
Meaning	A validity period	A validity period of user password was changed.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When user ac- count settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery			-			
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	Variable		Data type		Name	
fined varia- bles	None						
Cause and	Assumed cause)	Correction		Prevention		
correction	A validity period word was change	•	None		None		
Attached in- formation	None						
Precautions/ Remarks	This event is rec	This event is recorded only when the Sysmac Studio version 1.50 or higher is used.					
User name in							
the access log	User name						

*1. This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later
| Event name | User Authenticat | ion Operation Loc | k Enabled | Event code | 90AB0000 hex ^{*1} | | |
|----------------|--|---------------------|-------------------|-------------------|----------------------------|--|--|
| Meaning | Operation lock o | f user authenticati | on function was e | nabled. | | | |
| Source | PLC Function Module | | Source details | None | Detection tim-
ing | When user ac-
count settings
are changed | |
| Error attrib- | Level Information | | | Log category | Access | | |
| utes | Recovery | | _ | | | | |
| Effects | User program | Continues. | Operation | Not affected. | ited. | | |
| System-de- | Variable | | Data type | | Name | | |
| fined varia- | None | | | | | | |
| bles | | | | | | | |
| Cause and | Assumed cause | 9 | Correction | | Prevention | | |
| correction | Operation lock of
cation function w | | None | | None | | |
| Attached in- | None | | | | | | |
| formation | | | | | | | |
| Precautions/ | This event is rec | orded only when t | he Sysmac Studio | version 1.50 or h | nigher is used. | | |
| Remarks | | | | | | | |
| User name in | User name | | | | | | |
| the access log | | | | | | | |

- *1. This event code occurs for the following CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	User Authenticat	ion Operation Loc	k Disabled	Event code	90AC0000 hex ^{*1}		
Meaning	Operation lock o	f user authenticati	on function was d	isabled.			
Source	PLC Function Module		Source details	None	Detection tim- ing	When user ac- count settings are changed	
Error attrib-	Level Information			Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	Variable		Data type		Name	
fined varia- bles	None						
Cause and	Assumed cause	9	Correction		Prevention		
correction	Operation lock o cation function w		None		None		
Attached in-	None						
formation							
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in	User name						
the access log							

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

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3-2-2 Error Descriptions

Event name	User Authentica	tion Operation Loc	k Time Changed	Event code	90AD0000 hex ^{*1}		
Meaning	Operation lock ti	me of user authen	tication function w	vas changed.			
Source	PLC Function Module		Source details	None	Detection tim- ing	When user ac- count settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	aria- None						
Cause and	Assumed cause	Assumed cause		Correction		Prevention	
correction	Operation lock ti thentication func changed.		None		None		
Attached in- formation	Attached informa	ation 1: Set time			·		
Precautions/ Remarks	This event is rec	his event is recorded only when the Sysmac Studio version 1.50 or higher is used.					
User name in the access log	User name						

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	Operation Autho	rity Verification En	abled	Event code	90AE0000 hex*1		
Meaning	Operation author	rity verification wa	s enabled.				
Source	PLC Function Module		Source details	None	Detection tim- ing	When changing operation au- thority verifica- tion setting	
Error attrib-	Level Information			Log category	Access		
utes	Recovery	ry					
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	Assumed cause		Correction		Prevention	
correction	Operation authority verification was enabled.		None		None		
Attached in- formation	None						
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	Operation Autho	rity Verification Di	sabled	Event code	90AF0000 hex*1		
Meaning	Operation autho	rity verification wa	s disabled.				
Source	PLC Function Module		Source details	None	Detection tim- ing	When changing operation au- thority verifica- tion setting	
Error attrib-	Level Information			Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	Assumed cause		Correction		Prevention	
correction	Operation authority verification was disabled.		None		None		
Attached in- formation	None						
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	nigher is used.		
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	Operation Autho	rity Password Cha	anged	Event code	90B00000 hex*1	90B00000 hex ^{*1}	
Meaning	A operation auth	ority password wa	as changed.				
Source	PLC Function Module		Source details	None	Detection tim- ing	When changing operation au- thority verifica- tion setting	
Error attrib-	Level	Information	•	Log category	Access	•	
utes	Recovery		-				
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia-	None						
bles							
Cause and	Assumed cause	e	Correction		Prevention		
correction	A operation auth	ority password	None	lone		None	
	was changed.						
Attached in-	Attached information	ation 1: authority w	vhose password w	as changed			
formation	0: Administrat	or					
	• 1: Designer						
	• 2: Maintainer						
	• 3: Operator						
	• 4: Observer						
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	nigher is used.		
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

Event name	Operation Autho Changed	Operation Authority for Password Input Omission I Changed			90B10000 hex ^{*1}	
Meaning	An operation aut	hority used when	password input is	omitted was chan	iged.	
Source	PLC Function Module		Source details	None	Detection tim- ing	When changing operation au- thority verifica- tion setting
Error attrib-	Level	Information		Log category	Access	
utes	Recovery				•	
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	9	Correction		Prevention	
correction	An operation aut when password was changed.	•	None		None	
Attached in-	Attached information	ation 1: Given auth	nority			
formation	0: Administrat	or				
	• 1: Designer					
	• 2: Maintainer					
	• 3: Operator					
Den la la la	• 4: Observer					
Precautions/ Remarks	I his event is rec	oraea oniy when t	he Sysmac Studio	o version 1.50 or h	ligner is used.	
User name in	When the user a	uthentication func	tion is enabled: U	ser name		
the access log	When the user a	uthentication func	tion is disabled: N	ULL		

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	Operation Autho Enabled	rity Verification Op	Operation Authority Verification Operation Lock Enabled			
Meaning	Operation lock o	f operation author	ity verification fund	ction was enabled	l.	
Source	PLC Function Module		Source details	None	Detection tim- ing	When changing operation au- thority verifica- tion setting
Error attrib-	Level Information			Log category	Access	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause)	Correction		Prevention	
correction	Operation lock or thority verification enabled.	-	None		None	
Attached in-	None					
formation						
Precautions/	This event is rec	orded only when t	the Sysmac Studio	version 1.50 or h	nigher is used.	
Remarks						
User name in	When the user a	uthentication func	tion is enabled: U	ser name		
the access log	When the user a	uthentication func	tion is disabled: N	ULL		

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	Operation Authority Verification Operation Lock E Disabled			Event code	90B30000 hex ^{*1}		
Meaning	Operation lock o	Dperation lock of operation authority verification function was disabled.					
Source	PLC Function Module \$		Source details	None	Detection tim- ing	When changing operation au- thority verifica- tion setting	
Error attrib-	Level Information			Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	e	Correction		Prevention		
correction	Operation lock of operation au- thority verification function was disabled.		None		None		
Attached in- formation	None						
Precautions/ Remarks	This event is rec	orded only when t	he Sysmac Studic	version 1.50 or h	nigher is used.		
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	Operation Autho Time Changed	Operation Authority Verification Operation Lock I Time Changed			90B40000 hex ^{*1}			
Meaning	Operation lock ti	Operation lock time of operation authority verification function was changed.						
Source	PLC Function Module		Source details	None	Detection tim- ing	When changing operation au- thority verifica- tion setting		
Error attrib-	Level Information			Log category	Access			
utes	Recovery							
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined varia-	None							
bles								
Cause and	Assumed cause	9	Correction		Prevention			
correction	-	me of operation tion function was	None		None			
Attached in-	changed. Attached informa	tion 1: Sot time						
formation								
Precautions/	This event is rec	orded only when t	he Svsmac Studio	version 1.50 or h	niaher is used.			
Remarks			,		5			
User name in	When the user a	uthentication func	tion is enabled: U	ser name				
the access log	When the user a	uthentication func	tion is disabled: N	ULL				

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

• NX701 CPU Unit: Version 1.29 or later

Event name	User Password E	xpiration Notice En	abled	Event code	90B50000 hex ^{*1}		
Meaning	User password ex	piration notice was	s enabled.				
Source	PLC Function Module		Source details	None	Detection tim- ing	When User Au- thentication Set- tings were changed	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	User password ex was enabled.	piration notice					
Attached infor- mation	None						
Precautions/	This event is reco	orded only when the	e Sysmac Studio ve	ersion 1.50 or highe	er is used.		
Remarks							
User name in	User name						
the access log							

*1. This event code occurs for the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

3-2-2 Error Descriptions

Event name	User Password Expiration Notice Disabled			Event code	90B60000 hex ^{*1}		
Meaning	User password e	xpiration notice wa	s disabled.				
Source	PLC Function Module		Source details	None	Detection tim- ing	When User Au- thentication Set- tings were changed	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	system-de- Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	User password e was disabled.	User password expiration notice was disabled.					
Attached infor- mation	None						
Precautions/ Remarks	This event is reco	orded only when th	e Sysmac Studio ve	ersion 1.50 or high	ner is used.		
User name in the access log	User name						

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

• NX701 CPU Unit: Version 1.29 or later

Event name	Days for Prior No Changed	Days for Prior Notice of User Password Expiration Changed			90B70000 hex ^{*1}		
Meaning	Number of days s	lumber of days set to give prior notice of user password expiration was changed.					
Source	PLC Function Module S		Source details	None	Detection tim- ing	When user ac- count settings are changed	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	tem-de- Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Number of days set to give prior notice of user password expiration was changed.						
Attached infor- mation	None		1				
Precautions/	This event is reco	orded only when the	e Sysmac Studio ve	ersion 1.50 or highe	er is used.		
Remarks							
User name in	User name						
the access log							

*1. This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Secure Communi	cations Version Ch	anged	Event code	90B80000 hex*1	
Meaning	The secure comm	nunications version	was changed.			
Source	PLC Function Module S		Source details	None	Detection tim- ing	When secure communications version is changed
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The secure comm	nunications ver-				
	sion was changed	ł.				
Attached infor-	Attached informat	tion 1: Secure com	munications versio	n before change		
mation	Attached informat	tion 2: Secure com	munications versio	n after change		
Precautions/	None					
Remarks						
User name in	When the user au	thentication function	on is enabled: User	name		
the access log	When the user au	thentication function	on is disabled: NUL	L		

*1. This event code occurs for an NJ-series, NX502, NX102, or NX1P2 CPU Unit with unit version 1.69 or later and NX701 CPU Unit with unit version 1.36 or later.

Event name	Automation Playb	oack Settings Chan	ged	Event code	95720000Hex *1		
Meaning	The settings for the	ne automation playl	back function were	changed.	-		
Source	PLC Function Module		Source details	None	Detection tim- ing	When synchron- ized with Sys- mac Studio	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable Data type			Name			
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status		
	_APB_LogStatus		ARRAY[12][12] OF _sAPB_LOG_STATUS		APB Log Output Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Controller is a project with cha Sysmac Studio.	synchronized with nged settings on	None	None		None	
Attached infor- mation	None						
Precautions/ Remarks	None						
User name in	When the user au	thentication functio	on is enabled: User	name			
the access log	When the user au	uthentication functio	on is disabled: NUL	L			

*1. This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	Variable Sampling Started			Event code	95730000Hex *1		
Meaning	Variable sampling	Variable sampling started.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When variable sampling starts	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Operation Not affected.			
System-de-	Variable		Data type	Data type		Name	
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status		
	_APB_LogStatus		ARRAY[12][12] OF _sAPB_LOG_STATUS		APB Log Output Status		
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	Conditions to start variable sam- pling are met.		None		None	None	
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

*1. This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	Variable Sampling Stopped			Event code	95740000Hex ^{*1}			
Meaning	Variable sampling	/ariable sampling stopped.						
Source	PLC Function Module		Source details	None	Detection tim- ing	When variable sampling stops		
Error attributes	Level	Information	Recovery		Log category	System		
Effects	User program	Continues.	Operation	Not affected.	· ·			
System-de-	Variable		Data type	Data type		Name		
fined variables	_APB_Status		_sAPB_STATUS	_sAPB_STATUS		APB Service Status		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention		
rection	Conditions to end variable sam- pling are met.		None	None		None		
Attached infor- mation	None							
Precautions/ Remarks	None							

*1. This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	Variable Log Outp	out Completed		Event code	95750000Hex *1		
Meaning	Variable log outpu	Variable log output has completed.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When variable log output is complete	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type	Data type		Name	
fined variables	_APB_LogStatus		ARRAY[12][12] OF _sAPB_LOG_STATUS		APB Log Output Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Save conditions of satisfied and outp	9	None		None		
Attached infor-	Attached informat	ion 1: Storage type	9				
mation	1: SD Memory Ca	ırd					
	Attached informat	ion 2: Name of var	iable log output set	tings			
	Attached informat	ion 3: Sampling tin	ne of variable logs ((seconds)			
	Attached informat	ion 4: Memory cap	acity for sampled v	ariables (bytes)			
Precautions/	None						
Remarks							

*1. This event code occurs for an NX502 CPU Unit with unit version 1.63 or later earlier than version 1.65.

Event name	Variable Log Outp	out Completed		Event code	95780000 hex *1	
Meaning	Variable log outpu	it has completed.			·	
Source	PLC Function Module		Source details	None	Detection tim- ing	When variable log output is complete
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation Not affected.			
System-de-	Variable		Data type		Name	
fined variables	_APB_LogStatus		ARRAY[12][12] _sAPB_LOG_ST/		APB Log Output Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Save conditions of satisfied and outp	0	None		None	
Attached infor- mation	Attached information 1: Storage type 1: SD Memory Card Attached information 2: Name of variable log output settings Attached information 3: Sampling time of variable logs (seconds) Attached information 4: Memory capacity for sampled variables (KB)					
Precautions/ Remarks	None					

*1. This event code occurs for an NX502 CPU Unit with unit version 1.65 or later.

Errors Related to FINS Communications

Event name		tun Area Freez		Event code	14010000 hex		
	CPU Bus Unit Se	•		Event code			
Meaning	An error was dete	ected in the memory	y check of the Setu	p Area for CPU Bu	s Units.	-	
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON, at Controller reset, or when writing CPU Bus Unit Setup Area	
Error attributes	Level	Minor fault	Recovery	Error reset or cycling power supply	Log category	System	
Effects	User program	Continues.	Operation	The CPU Bus Un	t may stop.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The power supply to the Controller was interrupted or communications with the Sysmac Studio were dis- connected while downloading the CPU Bus Unit Settings.		Clear all memory or download the CPU Bus Unit Settings. If this error persists, replace the CPU Unit.		Do not interrupt the power supply to the Controller or disconnect communications with the Sysmac Studio while downloading the CPU Bus Unit Settings.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	IP Address Table	Setting Error		Event code	34100000 hex		
Meaning	The IP address ta	ble settings are inc	correct.				
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON, Controller reset, or restart of built-in Ethernet port	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	eration FINS/UDP communica		nications will not operate.	
System-de-	stem-de- Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The IP address conversion method is set to the combined method or the IP address table method, but the IP address table settings are incorrect.		Correct the IP ad tings.	dress table set-	Set the IP addres	ss table correctly.	
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	FINS/TCP Conne	ction Table Setting	Error	Event code	34130000 hex		
Meaning	The FINS/TCP co	nnection table is in	icorrect.				
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON, Controller reset, or restart of built-in Ethernet port	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	FINS/TCP comm	mmunications will not operate.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	The power supply to the Controller was interrupted or communications with the Sysmac Studio were dis- connected while downloading the FINS/TCP connection table.		Download the FINS/TCP connec- tion table again.		Do not interrupt the power supply to the Controller or disconnect communications with the Sysmac Studio while downloading the FINS/TCP connection table.		
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	Unknown Destina	tion Node		Event code	34110000 hex	
Meaning	The send destina	tion node is not kno	own.			
Source	PLC Function Module		Source details	None	Detection tim- ing	At FINS mes- sage transmis- sion
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected. Pac	kets are discarded.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The send destina	tion node was not	Correct the setting of the send des-		Set the send destination node for	
	found when a FIN	IS message was	tination node for F	FINS/UDP com- FINS/UDP communications		unications cor-
	sent.		munications. Or, o	check the source	rectly. Or, make s	ure that the desti-
			FINS message ar	nd correct the	nation node addre	ess in the source
			destination node	address.	FINS message is	correct.
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Packet Discardeo			Event code	80100000 hex			
Meaning	One or more pacl	kets were discarded	d.	1				
Source	PLC Function Module		Source details	None	Detection tim- ing	At FINS mes- sage reception		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	and cor- Assumed cause		Correction		Prevention	Prevention		
rection	A FINS response CPU Unit was rec		Correct the contents of the FINS message at the source.		Set the FINS me	ssages correctly.		
	The send designa FINS response de							
Attached infor-	Attached information	tion 1: Cause of pa	cket discard					
mation	• (01 hex: FINS	response addresse	ed to CPU Unit rece	eived,				
	02 hex: Respo	nse send failed)						
Precautions/	None							
Remarks								

Event name	Packet Discarded	ł		Event code	80110000 hex	
Meaning	One or more pack	kets were discarde	d.			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At FINS mes- sage reception
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	1. An attempt was made to send a FINS response with over 2002 bytes.		Do not send a FIN over 2002 bytes.	NS response with	Set the FINS me source correctly.	ssage at the
	2. An attempt was made to route a FINS response with over 2002 bytes.					
	3. Packet was received with a No		Check the FINS n	nessage at the		
	Such Unit routing	error.		ct the unit number		
			in the response frame or a com-			
			response.	does not require a		
	4. Packet was rec	reived with a	Check the FINS message at the		-	
	Routing Error rou			source and correct the unit number		
				in the response frame or a com-		
			mand frame that	mand frame that does not require a		
			response to a unit number that is in the routing table.			
					-	
	5. Packet was red		Check the FINS message at the			
	Routing Table No ing error.	t Registered rout-	source, and correct the routing ta- ble include the network address of			
			the destination ne			
	6. Packet was red	ceived with an	Check the FINS message at the		-	
	Event Area Size (Over Limit routing	source and correct the event area			
	error.		size in the response frame or a command frame that does not re-			
			quire a response exceed the limit.	so that it does not		
	7. There is insuffi	cient space in the	Reduce the frequ	ency of sending	Keep the frequer	ncy of sending
	internal buffer.	oroni space in tile	FINS messages a		FINS messages	
		routing failed be-			ble.	,
	cause the commu	•				
	too high.					
Attached infor-		tion 1: Cause of dis				
mation			1: 04 hex, 5: 05 hex	, -,		
		07 hex, 8: 08 hex	ve of the			
Dreesutiers		refer to the numbe	rs of the above cau	ISES.		
Precautions/	None					
Remarks						

Event name	Packet Discarded	1		Event code	80120000 hex	
Meaning	One or more pack	kets were discarde	4			
Source	PLC Function Mo		Source details	None	Detection tim-	At FINS mes-
Course		aaro	oouroo dotano		ing	sage reception
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable	•	Data type	•	Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	1. A FINS respon	se was received	Correct the IP ad	dress table set-	Make sure that th	ne IP address ta-
	with the destination		tings.		ble settings are c	orrect.
	dress (DNA) set t					
	work and the desi					
	dress (DA1) not set to the local node.					
	2. A FINS command or response		Correct the FINS	message at the	Make sure that th	e FINS message
	was received with			e hub network ad-		es not have a hub
	address specifica		dress specificatio	n does not speci-		specification that
	destination netwo	ork address (DNA)	fy a destination n	etwork address	specifies a destin	ation network ad-
	was greater than	or equal to 80	(DNA) that is grea	ater than or equal		is greater than or
	hex.		to 80 hex.		equal to 80 hex.	
	3. There is insuffic	cient space in the	Reduce the frequ		Keep the frequen	
	internal buffer.		FINS messages at the source.		FINS messages as low as possible.	
	4. A FINS comma	and that door not	Correct the FINS	command at the	Set the FINS commands at the	
		have the minimum command		nas at least the	sources so that they have at least	
	length was receiv		minimum comma		the minimum command length.	
	5. A FINS command that exceeded		Correct the FINS	-	Set the FINS commands at the	
	the maximum command length		source so that it o	loes not exceed	sources so that they do not exceed	
	was received.		the maximum command length.		the maximum command length.	
	6. Sending packe	ts failed.	If the destination node is not in the		Confirm that the destination node	
			network, add it to the network.		is in the network.	
	7. FINS message	-	Reduce the frequency of sending		Keep the frequency of sending	
	cause the commu		FINS messages at the source. Or,		FINS messages as low as possi-	
	too high. Or a cor		correct the source network address (SNA) in the source FINS mes-		ble. Or, set the correct source net- work address (SNA) in the source	
	addressed to the built-in EtherNet/IP port was received with		sage.		FINS message.	
	the source netwo					
	set to 0.					
	8. A FINS respon	se that was ad-	Correct the conte	nts of the FINS	Set the FINS me	ssages correctly.
	dressed to the bu		message at the source.			
	port was received					
	9. A FINS respon		Register the routi	ng tables.	Register the routi	ng tables.
	for which a respon	red when the rout-				
	ing tables were no					
	-	ise or a command	Register the routi	ng tables again. If	None	
	for which a respon		Register the routing tables again. If there is an error in the routing ta-			
	quired was received when there		bles, there will be	an Illegal User		
	was an error in th	e routing tables.	Program/Controll	er Configurations		
			and Setup (10250	0000 hex) error.		
		ise or a command	Increase the set v	-	Set the gateway	
	for which a respo		way counter in th	e routing table at	-	e source so that it
	l .	red that exceeded	the source.	the source.		system configu-
	the number of rela	ay points.			ration.	

	C: Transmission is not possible be- cause the destination address is not set in the routing tables.	Register the destination address in the routing tables.	Register the destination address in the routing tables.
	D: Routing is not possible because the FINS node address setting in the Built-in EtherNet/IP Port Set- tings is set to 0 or 255.	Set the FINS node address in the Built-in EtherNet/IP Port Settings to any value other than 0 or 255 from the Sysmac Studio.	If you set the lower eight bits of the IP address in the TCP/IP Settings in the Built-in EtherNet/IP Port Set- tings to 0 or 255, set the IP Ad- dress-FINS Address Conversion Method to any setting other than Automatic Generation.
Attached infor-	Attached information 1: Cause of dis	carding packets	·
mation	1: 01 hex, 2: 02 hex, 3: 03 hex, 4	: 04 hex, 5: 05 hex,	
	6: 06 hex, 7: 07 hex, 8: 08 hex, 9): 09 hex, A: 0A hex,	
	B: 0B hex, C: 0C hex, D: 0D hex		
	The numbers correspond to the a	above cause numbers.	
Precautions/	None		
Remarks			

Instructions

This section provides detailed information on errors (events) that occur for instructions. The lower four digits of the event code represents the error code (ErrorID) for the instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, when the error code of the instruction is 16#0400, refer to the description of event code, 54010400 hex. Event codes for instructions are supported by CPU Units with unit version 1.02 or later.

Event name	Firmware Error			Event code	54010415 hex	
Meaning	An error was dete	ected when an instr	uction was execute	ed.	•	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Partial fault	Recovery	The error can- not be reset.	Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable Data type		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred	in the software.	Contact your OM tive.	RON representa-	None	
Attached infor- mation	Attached information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cann be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error					cor ST, the line
Precautions/ Remarks		-		hed information tha	-	

Event name	Input Value Out o	f Range		Event code	54010400 hex		
Meaning			exceeded the valie	0 1			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable	•	Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An input parameter for an instruc- tion exceeded the valid range for an input variable. Or, division by an integer of 0 occurred in division or remainder calculations. Check the valid range for the input variables of the instruction. Make sure the input parameters are with in the valid range and that no divi- sion by 0 or remainder calculation for 0 is performed.		ameters are with- and that no divi- inder calculation	Set the value of the input parame- ter to the instruction so that the in- put range is not exceeded.			
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If ther more than one possible instruction, information is given on all of them. Nothing is given if the instruction car be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDE					or ST, the line ccurred. If there is instruction cannot Expansion Error	
Precautions/			or occurs, the attach		-		
Remarks							

Event name	Input Mismatch			Event code	54010401 hex	
Meaning			put parameters did			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The relationship f rameter did not m ditions.	or an input pa- neet required con-	Check the meaning and the rela- tionship of the input variables of the instruction. Correct them so that the relationships for the input parameters meet the required con- ditions.		Set the input parameter to the in- struction so that the value meets the conditions of the relationship for the input variables.	
	A value when processing an in- struction or in the result does not meet the conditions.		Check the execut instruction. Set th put parameter so cause inappropria sults.	that it does not	the in- s not so that it does not cause this er	
Attached infor- mation	Attached Informa is displayed. For number is given. Attached Informa more than one po be identified. Attached informa	a program section, tion 3: Names of th ossible instruction, i tion 4: Expansion E	tion information is shown. If it is shown, Error Location Details (Rung Number) a, the rung number from the start of the section is given. For ST, the line the Instruction and Instruction Instance Where the Error Occurred. If there i information is given on all of them. Nothing is given if the instruction cannot Error Code (ErrorIDEx) is given for instructions that have Expansion Error			
Precautions/ Remarks	Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx). If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Floating-point Err	or		Event code	54010402 hex	
Meaning	Non-numeric data	a was input for a flo	ating-point number	input parameter to	an instruction.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	and cor- Assumed cause		Correction		Prevention	
rection	Non-numeric data was input for a		Correct the instruction so that a nu-		Use numeric values for the float-	
	floating-point nun eter to an instruct			value is input for the floating- ing-point number inpuner input parameter.		input parameters.
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks			or occurs, the attack			

Event name	BCD Error			Event code	54010403 hex		
Meaning	A value that was	not BCD was input	for a BCD input pa	rameter to an instru	uction.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	evant instruction will end according to speci		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A hexadecimal digit of A, B, C, D, E, or F was input for a BCD input		Correct the instruction so that BCD data is input for the BCD input pa-		Change the BCD input parameter for the instruction to BCD data.		
	parameter to an i	nstruction.	rameter.				
Attached infor- mation	Attached Informa is displayed. For number is given. Attached Informa more than one po be identified. Attached informa	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cann					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Signed BCD Erro	r		Event code	54010404 hex	
Meaning	An illegal value w	as input for the mo	st significant digit f	or a signed BCD in	put parameter to a	n instruction.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant inst cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	 An illegal value was input for the most significant digit for a signed BCD input parameter to an instruction. The most-significant digit was 2 to F when _BCD0 was specified as the BCD format. The most-significant digit was A, B, C, D, or E when _BCD2 was specified as the BCD format. The most-significant digit was B, C, D, or E when _BCD3 was specified as the BCD format. 		er signed BCD da BCD input param			input parameter
Attached infor- mation	 Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Numbris displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion E Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorID If a program is changed after an error occurs, the attached information that is displayed may not be correct. 					or ST, the line ccurred. If there is instruction cannot Expansion Error odes (ErrorIDEx).
Precautions/ Remarks	i i a program is ch	angeu alter an erro	or occurs, the attack	ieu mornation tha	at is displayed may	not be coffect.

Event name	Illegal Bit Positior	n Specified		Event code	54010405 hex		
Meaning		pecified for an instr	uction was illegal.				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Operation The relevant instructions.		ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	or- Assumed cause		Correction		Prevention		
rection	The bit position s	pecified for an in-	Correct the instruction so that the		Use the instruction so that the bit		
	struction exceeds	the data range.		bit position specified for an instruc-		for an instruction	
			tion does not exc	eed the data	does not exceed the data range.		
			range.				
Attached infor-		tion 1: Error Locatio		If it is about The	ar Location Dataila	(Dung Number)	
mation			nformation is showr the rung number fr				
	number is given.	a program section,	the rung number in		section is given. I t		
	0	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.						
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion						
	Codes (ErrorIDE)	<). 0x0000000 is g	iven for instruction	s that do not have I	Expansion Error Co	odes (ErrorIDEx).	
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Event name	Illegal Data Posit	ion Specified		Event code	54010406 hex	
Meaning	A memory addres	ss or data size that	was specified for th	ne instruction is not	suitable.	
Source	PLC Function Mc	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A memory address fied for an instruct the valid range. T was specified for ceeded the valid ple, the data type the data size may	tion was outside he data size that an instruction ex- range. For exam- of a variable and	Correct the instru data position or d for an instruction the range of the d	ata size specified does not exceedposition or data size specified an instruction does not exceed		ize specified for
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks			or occurs, the attach		-	

Event name	Data Range Exce	eded		Event code	54010407 hex		
Meaning			exceeded the data				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ing, such as the number of array elements, exceeded the data area range of the output parameter. range of the		Correct the input that the processir struction does no range of the data put parameter.	ng result of the in- t exceed the	Set the input parameter so that the processing result of the instruction does not exceed the range of the data area of the output parameter.		
Attached infor- mation	Attached Informa is displayed. For number is given. Attached Informa more than one po be identified.	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error					
Precautions/ Remarks		,	or occurs, the attacl		•	. ,	

Event name	No Errors to Clea	r		Event code	54010409 hex	
Meaning	An instruction to o	clear a Controller e	ror was executed when there was no error in the Controller.			ller.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	-		uction will end according to specifi- ut or Unit operation is not affected.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An instruction to a	clear a Controller	Correct the program so that the in-		Write the progran	n so that the in-
	error was execute	ed when there	struction is executed when there is		struction is executed when there is	
	was no error in th	e Controller.	a Controller error.		a Controller error.	
Attached infor- mation	Attached Informa is displayed. For number is given. Attached Informa more than one po be identified. Attached informa	a program section, tion 3: Names of th ossible instruction, i tion 4: Expansion E	on nformation is showr the rung number fr e Instruction and In nformation is given Fror Code (ErrorIDI given for instructions	om the start of the struction Instance on all of them. Not Ex) is given for inst	section is given. Fo Where the Error Oo thing is given if the ructions that have I	ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	No User Errors to	Clear		Event code	5401040B hex	
Meaning	An instruction to a	clear user-defined	rrors was executed when there was no user-defined error.			or.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	•		uction will end according to specifi- ut or Unit operation is not affected.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection Attached infor- mation	errors was execu was no user-defir Attached Informa	ned error. tion 1: Error Locatio			Write the program so that the in- struction is executed when there is a user-defined error.	
mation	is displayed. For number is given. Attached Informa more than one po be identified. Attached informa	a program section, tion 3: Names of th ossible instruction, i tion 4: Expansion E	the rung number fr e Instruction and In nformation is given Fror Code (ErrorIDI jiven for instructions	om the start of the astruction Instance on all of them. Not Ex) is given for inst	section is given. Fo Where the Error O thing is given if the ructions that have	or ST, the line ccurred. If there is instruction cannot Expansion Error
Precautions/	If a program is ch	anged after an erro	or occurs, the attact	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Limit Exceeded for	or User-defined Erro	ors	Event code	5401040C hex		
Meaning	An attempt was n ber of user-define	nade to use the Cre ed errors.	eate User-defined E	Error instruction to c	create more than th	e maximum num-	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	•		uction will end according to specifi- ut or Unit operation is not affected.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	An attempt was n Create User-defir tion to create mor mum number of u rors.	ed Error instruc- te than the maxi-	Execute the Reset User-defined Error instruction. Monitor the number of user-defined errors in the system-defined varia- ble to check the number of user- defined errors.		Write the program so that it checks the number of user-defined errors as a condition to execute the user- defined error instruction.		
Attached infor- mation	Attached Informa is displayed. For number is given. Attached Informa more than one po be identified. Attached informa	tion 1: Error Locatic tion 2: Usually no ir a program section, tion 3: Names of th ossible instruction, i tion 4: Expansion E <). 0x00000000 is g	nformation is showr the rung number fr e Instruction and Ir nformation is given	om the start of the astruction Instance on all of them. Not Ex) is given for inst	section is given. Fo Where the Error O thing is given if the ructions that have	or ST, the line ccurred. If there is instruction cannot Expansion Error	
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Illegal Unit Specif	ïed		Event code	5401040D hex	
Meaning	The Unit specified	d for an instruction	does not exist.	1		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Operation The relevant instruct cations. The output		•
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A Unit that does r Unit configuration specified. A Unit that is in th tion information w the Units does no the Controller.	n information was ne Unit configura- vas specified, but	Correct the unit number in the in- struction so that it specifies a Unit in the Unit configuration and make sure that the actual Unit exists.		Make sure that unit numbers in in- structions specify Units in the Unit configuration and make sure that the actual Units exist.	
Attached infor- mation	Attached Informa Attached Informa is displayed. For number is given. Attached Informa more than one po be identified. Attached informa	a program section, tion 3: Names of th ossible instruction, i tion 4: Expansion E	nformation is showr the rung number fr e Instruction and In nformation is given Fror Code (ErrorIDI jiven for instructions	om the start of the struction Instance on all of them. Not Ex) is given for inst	section is given. Fo Where the Error O thing is given if the ructions that have	or ST, the line ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks		,	or occurs, the attack		•	. ,

Event name	Unit Restart Faile	d		Event code	5401040F hex	
Meaning	Restarting a Spec	cial I/O Unit or CPL	l Bus Unit failed.			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.			ruction will end according to specifi- ut or Unit operation is not affected.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The Special I/O L Unit is processing		Wait a few mome start the Special I Bus Unit.		Check to be sure that Special I/O Units and CPU Bus Units are not processing data before restarting them from the user program.	
Attached infor- mation	Attached Informa is displayed. For number is given. Attached Informa more than one po be identified. Attached informa	tion 1: Error Location tion 2: Usually no in a program section, tion 3: Names of th possible instruction, i tion 4: Expansion E <). 0x00000000 is c	nformation is shown the rung number fr e Instruction and Ir nformation is given Fror Code (ErrorID	om the start of the astruction Instance on all of them. Not Ex) is given for inst	section is given. Fo Where the Error O thing is given if the ructions that have	ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks		anged after an erro	•		•	, ,

Event name	Text String Forma	t Error		Event code	54010410 hex		
Meaning	The text string inp	out to an instruction	is not correct.				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant inst cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The text string that instruction for cor- ber does not repr- or it does not repr- number. The input text stri in NULL.	eversion to a num- esent a number resent a positive	properly formatter tion. Correct the text s to the instruction	Correct the text string so that it is properly formatted for the instruc- tion. Correct the text string that is input to the instruction so that it ends in		When converting a text string to a number, make sure that the text string that is input to the instruction represents a number. If the number must be positive, make sure the text string represents a positive number. When converting a text string to a number, make sure that the text	
Attached infor- mation	Attached Information 1: Error Locati Attached Information 2: Usually no i is displayed. For a program section, number is given. Attached Information 3: Names of th more than one possible instruction, be identified.		information is shown. If it is shown, Error Location Details (Rung Numl , the rung number from the start of the section is given. For ST, the line he Instruction and Instruction Instance Where the Error Occurred. If the information is given on all of them. Nothing is given if the instruction c Error Code (ErrorIDEx) is given for instructions that have Expansion E			(Rung Number) or ST, the line ccurred. If there is instruction cannot	
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information that	at is displayed may	not be correct.	
Remarks							

Event name	Illegal Program S	pecified		Event code	54010411 hex	
Meaning	The program spe	cified for an instruc	tion does not exist.	1	-	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end according to specifi-	
System-de-	Variable Data		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	tion does not exis leted).	cified by the func- st (e.g., it was de-	Make sure that th specified by the ir Or, add the progra fied for the instruct	nstruction exists. am that is speci-	Make sure that the programs that are specified by instructions exist. Be careful not to delete any pro- grams that are used by instruc- tions.	
Attached infor-	Attached Informa	tion 1: Error Location	on			
mation	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Err is displayed. For a program section, the rung number from the start of the number is given. Attached Information 3: Names of the Instruction and Instruction Instance more than one possible instruction, information is given on all of them. No be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for inst				section is given. Fo Where the Error O thing is given if the	ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks			or occurs, the attacl			

Event name	Undefined CJ-ser	ries Memory Addre	SS	Event code	54010413 hex		
Meaning	The required spe	cification is missing	for a variable for w	for a variable for which CJ-series Unit memory must be specified.			
Source	PLC Function Mc	odule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction cations.		ruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	I cor- Assumed cause		Correction		Prevention		
rection	0	specification is able for which CJ- ory must be speci-	the AT specification series Unit memory	orrect the program so that it uses e AT specification to specify CJ- ries Unit memory when doing so required by the variable.		Write the program so that it uses an AT designation to specify CJ- series Unit memory when doing so is required by the variable.	
Attached infor- mation	Attached Informa is displayed. For number is given. Attached Informa more than one po be identified. Attached informa	tion 1: Error Locatic tion 2: Usually no ir a program section, tion 3: Names of th pssible instruction, i tion 4: Expansion E <). 0x00000000 is g	nformation is shown the rung number fr e Instruction and Ir nformation is given Fror Code (ErrorID	om the start of the astruction Instance on all of them. Not Ex) is given for inst	section is given. Fo Where the Error Oo thing is given if the ructions that have I	ccurred. If there is instruction cannot Expansion Error	
Precautions/ Remarks		anged after an erro					

Event name	Stack Underflow			Event code	54010414 hex	
Meaning	There is no data i	n a stack.				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction cations.		ruction will end according to specifi-	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An attempt was n	nade to read data	Correct the program so that the da-		Correct the program so that the da-	
	from a stack that	contains no data.	ta is read only after it is stored in		ta is read only af	ter it is stored in
			the stack.		the stack.	
Attached infor- mation	Attached Informa is displayed. For number is given. Attached Informa more than one po be identified. Attached informa	a program section, tion 3: Names of th ossible instruction, i tion 4: Expansion E	nformation is shown the rung number fr e Instruction and Ir nformation is given	n. If it is shown, Err rom the start of the astruction Instance on all of them. Not Ex) is given for inst s that do not have f	section is given. Fo Where the Error O thing is given if the ructions that have	ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.

Event name	Illegal Number of	Array Elements or	Dimensions	Event code	54010416 hex	
Meaning	The valid range w an instruction.	vas exceeded for th	e number of array	elements or dimens	sions in an array I/	O parameter for
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		uction will end according to specifi-	
System-de-	Variable Data type		Data type	•	Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The valid range w	vas exceeded for	Correct the instru	ction so that the Correct the instruction s		iction so that the
	the number of array elements or di-		0	valid range for the number of array		e number of array
	mensions in an a	•		nsions in an array	elements or dimensions in an array	
	ter for an instructi		I/O parameter is r	not exceeded.	I/O parameter is not exceeded.	
Attached infor-		tion 1: Error Locatio				
mation		-	nformation is shown			
	number is given.	a program section,	the rung number fr	om the start of the	section is given. Fo	or SI, the line
	U U	tion 3 [.] Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred If there is
			nformation is given			
	be identified.	,	5		5 5	
	Attached information	tion 4: Expansion E	Error Code (ErrorIDI	Ex) is given for inst	ructions that have	Expansion Error
	Codes (ErrorIDE)	<). 0x00000000 is g	iven for instructions	s that do not have I	Expansion Error Co	odes (ErrorIDEx).
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Specified Task Do	bes Not Exist		Event code	54010417 hex		
Meaning	The task specified	d for the instruction	does not exist.				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction cations.		uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The specified tasl	< does not exist.	Correct the user program so that it specifies an existing task.		Write the user program so that it specifies only existing tasks.		
Attached infor-	Attached Informat	tion 1: Error Locatio	on		1		
mation	Attached Informat	tion 2: Usually no ir	nformation is showr	n. If it is shown, Err	or Location Details	(Rung Number)	
		a program section,	the rung number fr	om the start of the	section is given. Fo	or ST, the line	
	 number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If more than one possible instruction, information is given on all of them. Nothing is given if the instruction be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (Error 						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Unallowed Task Specification			Event code	54010418 hex	
Meaning		k was specified for	an instruction.			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction cations.		ruction will end according to specifi-	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The local task, the primary periodic		Correct the user program so that it		Write the user program so that it	
	task, or a periodic task was speci-		specifies an event task that is not		specifies event ta	isks that are not
	fied.		the local task.		the local task.	
Attached infor- mation	Attached Informa is displayed. For number is given. Attached Informa	a program section, tion 3: Names of th				
	be identified. Attached informa		rror Code (ErrorID	Ex) is given for inst	ructions that have	Expansion Error

Event name	Incorrect Data Type Event cod				54010419 hex		
Meaning	A data type that cannot be used for an instruction is specified for an input or in-out variable.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category System		
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A data type that cannot be used for		Check the data types of the input		Check the allowed data types for		
	an instruction is specified for an in-		and in-out variables of the instruc-		input and in-out variables for the in-		
	put or in-out variable.		tion and correct them to correct da-		struction and use correct data		
		ta types.		types.			
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

Event name	Multi-execution of Instructions			Event code	5401041A hex		
Meaning	Multi-execution was specified for an instruction that does not support it.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery	Recovery		System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to specifications.			
System-de-	Variable		Data type	•	Name		
fined variables	None						
Cause and cor-	ause and cor- ction Assumed cause Execution of an instruction that does not support multi-execution of instructions was specified more than once.		Correction		Prevention		
			Correct the program so that any in- stance of an instruction that does not support multi-execution is com- pleted before another instance is executed.		Write the user program so that any instance of an instruction that does not support multi-execution is com- pleted before another instance is executed.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

Event name	Data Capacity Exceeded			Event code	5401041B hex ^{*1}		
Meaning	The data that was passed to the instruction was too large to process.						
Source	PLC Function Module Source details		Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Data that was larger than the ca-		Correct the program so that the		Make sure that the data that is		
	pacity that can be processed was		size of the data that is passed to		passed to the instruction is not		
	passed to the instruction.		the instruction does not exceed the		larger than the processing capaci-		
			processing capacity.		ty.		
Attached infor-	Attached Information 1: Error Location						
mation	Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number)						
	is displayed. For a program section, the rung number from the start of the section is given. For ST, the line						
	number is given.						
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is						
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error						
Descrit	Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx). If a program is changed after an error occurs, the attached information that is displayed may not be correct.						
Precautions/	if a program is ch	anged aπer an erro	or occurs, the attack	ned information tha	t is displayed may	not be correct.	
Remarks							

*1. Error code 16#041B occurs for unit version 1.02 or later of the CPU Unit.

Event name	Different Data Sizes			Event code	5401041C hex ^{*1}			
Meaning	The size of the data specified for instruction input or in-out data is different from the size of the target parameter.							
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end according to specifi-			
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Data of a size that is different from		Check the size of the target param-		Check the size of the target param-			
	the size of the target parameter		eter and correct the program so		eter and correct the program so			
	was specified for the input or in-out		that the size of the input data is the		that the size of the input data is the			
	data of an instruc	tion.	same.		same.			
Attached infor-	Attached Information 1: Error Location							
mation	Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number)							
	is displayed. For a program section, the rung number from the start of the section is given. For ST, the line							
	l e	number is given.						
	 Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error 							
				, .		•		
Precautions/	Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx). If a program is changed after an error occurs, the attached information that is displayed may not be correct.							
Remarks	n a program is ch	angeu aller all ello	o occurs, the attact		it is displayed may	not be correct.		

*1. Error code 16#041C occurs for unit version 1.04 or later of the CPU Unit.

Event name	Exceeded Simultaneous Instruction Executed Resour- ces			Event code	5401041D hex ^{*1}		
Meaning	The maximum resources that you can use for the relevant instruction group at the same time was exceeded.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	struction will end according to specifi-		
System-de-	Variable		Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection More than the maximum nurrelevant instructions were ed at the same time.		ons were execut-	Correct the program so that no more than the maximum number of the relevant instructions are exe- cuted at the same time.		Write the program so that no more than the maximum number of the relevant instructions are executed at the same time.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks		, .	or occurs, the attack		•	. ,	

*1. Error code 16#041D occurs for unit version 1.05 or later of the CPU Unit.
Event name	Failed to Get The	Program Hash Co	de	Event code	54010421 hex*1		
Meaning	Retrieving progra	m hash code failed	l.				
Source	PLC Function Mo	LC Function Module Source details Instruction		Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The transfer of the user program failed.		Transfer the user program again.		None		
	The project downloaded to the CPU Unit does not contain the in- formation required for the instruc- tion.		Rebuild the user program and transfer it again.		None		
	Non-volatile memory failure		If the error persists even after you make the above corrections, re- place the CPU Unit.		None		
Attached infor- mation	Attached information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error Code (ErrorIDEx). For the instruction without an Expansion Error Code (ErrorIDEx), 0x00000000 is given.						
Precautions/ Remarks		anged after an erro				-	

*1. This event code (16#0421) occurs for the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.50 or later

• NX701 CPU Unit: Version 1.32 or later

Event name	FINS Error			Event code	54010800 hex	
Meaning	An error occurred	when a FINS com	mand was sent or i	received.		
Source	PLC Function Mo	dule	Source details	Source details Instruction		At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
	An error occurred command was se		Check the value of the <i>ErrorIDEx</i> output variable from the instruction and refer to the description in this manual for the expansion error code (<i>ErrorIDEx</i>) with the same value for the instruction.		Read the descrip in advance for the program correctly	e instruction and
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	Attached Information 4: Expansion Error Code (<i>ErrorIDEx</i>) If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	FINS Port Already	y in Use		Event code	54010801 hex		
Meaning	The FINS port is I	being used.		1			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.			ruction will end according to specifi- munications output or Unit operation		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The FINS port is I	being used.	Correct the program by inserting _ <i>Port_isAvailable</i> in a N.O. input condition.		Insert <i>_Port.isAvailable</i> in a N.O. input condition when you create the program.		
Attached infor- mation	Attached Informat the start of the se Attached Informat more than one po be identified. Attached informat	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks		-	or occurs, the attacl		-		

Event name	Illegal Serial Corr	munications Mode		Event code	54010C00 hex		
Meaning	The Serial Comm	unications Unit is r	not in the serial corr	munications mode	required to execut	e an instruction.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	cations. The comm		uction will end according to specifi- munications output will follow the he instruction. The operation of the d		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The serial commu the Serial Commu not set to the mod the instruction.	unications Unit is	Change to the serial communica- tions mode required to execute the instruction. Or, correct the program so that it only uses instructions that can be executed in the current mode.		Set the Serial Communications Unit to the serial communications mode required to execute the in- struction. Or, correct the program so that it only uses instructions that can be executed in the currently set mode.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there i more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					ccurred. If there is instruction cannot Expansion Error	
Precautions/ Remarks		,	or occurs, the attacl		•		

Event name	Full Reception Bu	uffer		Event code	54010C03 hex*1	
Meaning	The reception bu	ffer is full.		I		
Source	PLC Function Mc	odule	Source details	Source details Instruction		At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	cations. Even if the		uction will end according to specifi- ne instruction was ended by this er- data is saved partially for the amount	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause	1	Correction		Prevention	
rection	 The reception buffer is full due to the following causes. The transmission frequency of the remote device is high. The baud rate is too high. The reception processing frequency from the buffer is low. 		 correction measu that the reception full. Lower the trans cy of the remotion Decrease the test Increase the rest 			he reception buf- requency of the cessing frequency
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cann be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that have Expansion Error					ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks	Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx). If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

*1. Error code 16#0C03 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Multi-execution of	Ports		Event code	54010C04 hex ^{*1}		
Meaning	The serial commu	inications instructio	ons that cannot be e	executed simultane	ously were execute	ed.	
Source	PLC Function Module So		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	-		ruction will end according to specifi- munications output will follow the the instruction.		
System-de-	Variable		Data type	•	Name		
fined variables	None						
Cause and cor-	cor- Assumed cause		Correction		Prevention		
rection	An instruction was executed while		Correct the progra	Correct the program so that in-		Create a program so that instruc-	
	another instruction that cannot be		structions that cannot be executed		tions that cannot		
	executed at the s		at the same time	are mutually ex-	the same time are mutually exclud-		
	former instruction		cluded.		ed.		
Attached infor-		tion 1: Error Locatio			e		
mation			on Details (Rung Ni ST, the line number	,	ram section, the rui	ng number from	
		•	e Instruction and In	•	Where the Error Or	curred. If there is	
			nformation is given				
	be identified.						
	Attached informat	tion 4: Expansion E	Fror Code (ErrorID	Ex) is given for inst	ructions that have l	Expansion Error	
	Codes (ErrorIDEx	x). 0x00000000 is g	iven for instruction	s that do not have B	Expansion Error Co	odes (ErrorIDEx).	
Precautions/	• If a program is	changed after an e	error occurs, the att	ached information t	hat is displayed ma	ay not be correct.	
Remarks	 Refer to individ ed at the same 		criptions for the ser	ial communications	s instructions that c	annot be execut-	

*1. Error code 16#0C04 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Parity Error			Event code	54010C05 hex ^{*1}	
Meaning	A parity error occ	urred in the data re	ceived.	I	1	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	-		uction will end according to specifi- munications output will follow the he instruction.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The communications settings or baud rate settings are not compati- ble with the remote device.		Make the communications settings and baud rate settings compatible with the remote device.		Make the communications settings and baud rate settings compatible with the remote device. Implement noise countermeasures.	
Attached infor- mation	Noise Implement noise countermeasures. Implement noise countermeasures. Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number fr the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If th more than one possible instruction, information is given on all of them. Nothing is given if the instruction of be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion E Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					ng number from ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks			or occurs, the attack		•	. ,

*1. Error code 16#0C05 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Framing Error			Event code	54010C06 hex ^{*1}		
Meaning	A framing error o	ccurred in the data	received.				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	•		uction will end according to specifi- munications output will follow the he instruction.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The communications settings or baud rate settings are not compati- ble with the remote device.		Make the communications settings and baud rate settings compatible with the remote device.		Make the communications settings and baud rate settings compatible with the remote device.		
Attached infor- mation	Noise Implement noise countermeasures. Implement noise countermeasures. Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number is the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the more than one possible instruction, information is given on all of them. Nothing is given if the instruction be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion I Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					ng number from ccurred. If there is instruction cannot Expansion Error	
Precautions/ Remarks		anged after an erro			-		

*1. Error code 16#0C06 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Overrun Error			Event code	54010C07 hex ^{*1}	
Meaning	An overrun error	occurred in the dat	a received.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.			uction will end according to specifi- munications output will follow the he instruction.	
System-de-	Variable Data type			Name		
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The next data wa processing of rec cause the baud ra	eived data be-	Reduce the baud	rate.	Reduce the baud	rate.
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from
		•	ST, the line number	•		
				struction Instance		
	be identified.	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
		tion 1: Expansion F	rror Code (ErrorID)	Ex) is given for inst	ructions that have	Expansion Error
			,	s that do not have I		•
Precautions/ Remarks		,		hed information that	•	. ,

*1. Error code 16#0C07 occurs for unit version 1.11 or later of the CPU Unit.

3

Event name	CRC Mismatch			Event code	54010C08 hex*1		
Meaning	The receive data	had different CRC.		L			
Source	PLC Function Mc	dule	Source details	Source details Instruction		At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	-		ruction will end according to specifi- munications output will follow the he instruction.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A wrong message was received.		Correct the CRC generation meth- od for the remote device to be the one as intended.		Confirm the CRC generation meth- od for the remote device to be the one as intended.		
	Noise		Receive the data again. Or, imple- ment noise countermeasures.		Implement noise	countermeasures.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks		,	pr occurs, the attacl		•	. ,	

*1. Error code 16#0C08 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Serial Communic	ations Timeout		Event code	54010C0B hex*1	
Meaning	A timeout occurre	ed in serial commur	nications.			
Source	PLC Function Module So		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		ruction will end accomunications output he instruction.	•
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Wiring to the rem	ote device is not	Check the wiring to the remote de-		Confirm that wiring to the remote	
	connected.		vice and correct the wiring if there are any problems.		device is connected.	
	Power to the remote device is OFF.		Turn ON the power to the remote device.		Confirm that the power to the re- mote device is turned ON.	
	The communicati	ons settings or	Make the communications settings		Make the communications settings	
		s are not compati-	and baud rate settings compatible		and baud rate settings compatible	
	ble with the remo	te device.	with the remote device.		with the remote device.	
	Noise		Implement noise countermeasures.		Implement noise countermeasures.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.

*1. Error code 16#0C0B occurs for unit version 1.11 or later of the CPU Unit.

Event name	Instruction Execu	ted to Inapplicable	Port	Event code	54010C0C hex*1	
Meaning	An instruction was	s executed to an in	applicable port.			
Source	PLC Function Mo	dule	Source details	Source details Instruction		At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	-		uction will end according to specifi- munications output will follow the he instruction.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An instruction was executed to an		Specify a port that is applicable for		Specify a port tha	t is applicable for
	inapplicable port.		the instruction, from the device port		the instruction, fro	om the device port
			structure, and execute the instruc-		structure, and execute the instruc-	
			tion.		tion.	
Attached infor-		tion 1: Error Locatio				
mation			· •	umber). For a progi	ram section, the rur	ng number from
		•	ST, the line number	•		
				struction Instance		
	be identified.	issible instruction, I	nformation is given	on all of them. Not	ning is given if the	Instruction cannot
		tion 1: Expansion E	rror Code (ErrorID	Ex) is given for inst	ructions that have l	Expansion Error
			•	s that do not have E		
Precautions/ Remarks				ned information tha		

*1. Error code 16#0C0C occurs for unit version 1.11 or later of the CPU Unit.

Event name	CIF Unit Initialize	d		Event code	54010C0D hex ^{*1}	
Meaning	A CIF Unit was in	itialized, so the cor	nmunications data	buffered in the CIF	Unit was lost.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.			nuction will end according to specifi- munications output will follow the he instruction	
System-de-	le- Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A CIF Unit was initialized.		Send or receive the data again, as required.		When a program munications data executed, do not Unit.	in a CIF Unit is
Attached infor-	Attached Informa	tion 1: Error Locatio	on		1	
mation	Attached Informa	tion 2: Error Locatio	on Details (Rung N	umber). For a prog	ram section, the rui	ng number from
		0	ST, the line number	0		
				nstruction Instance on all of them. Not		
Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						•
Precautions/	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.
Remarks						

*1. Error code 16#0C0D occurs for unit version 1.13 or later of the CPU Unit.

Event name	Exceptional Mode	ous Response		Event code	54010C10 hex*1	
Meaning	An exceptional co	ode was returned fr	om the Modbus sla	ave.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	-		ruction will end according to specifi- munications output will follow the the instruction	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
	bus slave.	ected on the Mod-	Check the value xx in 16#0000_00xx of ErrorIDEx, identi- fy error causes in the Modbus Pro- tocol, and take required measures. Refer to the description for the rel- evant instruction for the reference to the Modbus Protocol.		Write the user pro ones for remote o to the Modbus Pr	levices, according
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached Information 4: Expansion Error Code (<i>ErrorIDEx</i>)					
Precautions/ Remarks		•	,	, hed information tha	t is displayed may	not be correct.

*1. Error code 16#0C10 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Invalid Modbus R	esponse		Event code	54010C11 hex ^{*1}			
Meaning	An unexpected re	sponse was return	ed from the Modbu	s slave.				
Source	PLC Function Module Source details		Instruction	Detection tim- ing	At instruction execution			
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	Operation The relevant instruction will end according cations. The communications output will for specifications of the instruction.		0 1		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction	Correction				
rection	The function code or data size of		Review the transr	mission sequence	Write the user pro	ogram so that the		
	the response received from the		with the remote devices, such as		next command is	not sent before a		
	Modbus slave was incorrect.		the send delay, reception monitor-		response is returr	ned.		
			ing time, and other options.					
Attached infor-	Attached Information	tion 1: Error Locatio	on					
mation			on Details (Rung N	,	ram section, the rur	ng number from		
		the start of the section is given. For ST, the line number is given.						
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is							
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot							
	be identified.							
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).							
		,			•	. ,		
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.		

*1. Error code 16#0C11 occurs for unit version 1.11 or later of the CPU Unit.

Event name	SD Memory Card	Access Failure		Event code	54011400 hex	
Meaning	SD Memory Card	access failed whe	n an instruction was	s executed.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		ruction will end acc ration of the Unit is	0 1
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory Card is either not		Insert the SD Memory Card cor-		Make sure that the SD Memory	
	inserted or is not inserted properly.		rectly.		Card is inserted properly.	
	The SD Memory Card is broken.			Replace the SD Memory Card with		
			one that operates normally.			
	The SD Memory	Card slot is bro-	If this error persists even after		None	
	ken.		making the above replace the CPU			
Attached infor-	Attached Informa	tion 1: Error Locatio		onn.		
mation			on Details (Rung Ni	umber) For a proqu	ram section the ru	na number from
mation			ST, the line number	,		ng nambor nom
		0	e Instruction and In	0	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
		-	Frror Code (ErrorIDI			
		, .	iven for instructions		•	. ,
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	SD Memory Card	Write-protected		Event code	54011401 hex	
Meaning	An attempt was n	nade to write to a w	vrite-protected SD N	lemory Card when	an instruction was	executed.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		uction will end accoration of the Unit is	•
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An attempt was made to write to a write-protected SD Memory Card.		Remove write protection from the SD Memory Card. Slide the small switch on the side of the SD Mem- ory Card from the LOCK position to the writable position.		Use an SD Memo not write-protecte the SD Memory C	d when writing to
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks		,	or occurs, the attack		•	. ,

Event name	SD Memory Card	Insufficient Capac	ity	Event code	54011402 hex	
Meaning	The capacity of the	ne SD Memory Car	d was insufficient w	hen writing to the S	SD Memory Card fo	or an instruction.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		ruction will end acc ration of the Unit is	•
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The SD Memory	Card has run out	Replace the SD Memory Card for		Use an SD Memory Card with suffi-	
	of free space.		one with sufficien	t available space.	cient available space when you add files to it.	
Attached infor-	Attached Informa	tion 1: Error Location	on			
mation	Attached Informa	tion 2: Error Locatio	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from
		-	ST, the line number	-		
			e Instruction and In			
		ossible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.	tion 4. Expansion F	Turan Cada (ErranDi	Ev) is siven for inst	mustions that have	
			Error Code (ErrorID	, 0		
Precautions/		,	error occurs, the att		•	,
Remarks	1 1 0	the SD Memory C	ard during Card ac		1 2	5

Event name	File Does Not Exi	st		Event code	54011403 hex		
Meaning	The file specified	for an instruction o	loes not exist. Or, th	ne specified file is c	orrupted.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		instruction will end according to specifi- operation of the Unit is not affected.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The specified file does not exist.		specified for the in Or, modify the file	Make sure that the filename that is specified for the instruction exists. Or, modify the filename so that it matches the filename specified for the instruction.		Make sure that the filename that is specified for the instruction exists.	
	The specified file is corrupted.		Specify the other filename.		None		
	The SD Memory Card cannot be normally accessed due to a con- tact failure or other causes.		Insert the SD Memory Card again or replace it.		None		
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks		,	or occurs, the attach		•	. ,	

Event name	Too Many Files/D	irectories		Event code	54011404 hex	
Meaning			ories was exceeded	d when creating a f	ile/directory for an i	instruction.
Source	PLC Function Mo		Source details			At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		uction will end acc	e .
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The number of file exceeded the ma		and/or directories SD Memory Card fewer files and dir pared to the maxi	Delete any unnecessary files and/or directories. Or, replace the SD Memory Card with one that has fewer files and directories com- pared to the maximum number of files and directories for FAT16 or FAT32		ary files and direc- re are not too rectories on the l. e the SD Memory umber of files
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/			or occurs, the attacl		-	
Remarks		-	-			

Event name	File Already in Us	se		Event code	54011405 hex		
Meaning			not be accessed be	ecause it is already	being used.		
Source	PLC Function Mo		Source details			At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		uction will end accoration of the Unit is	• •	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	write a file alread		evant instruction i when the <i>Busy</i> ou	Correct the program so that the rel- evant instruction is only executed when the <i>Busy</i> output variable for all other instructions for the same ile are FALSE.		When you execute multiple instruc- tions that access the same file, write the program so that the in- structions are not executed simul- taneously. Make sure that the <i>Busy</i> output variable for all other instruc- tions for the same file is FALSE.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks		,	or occurs, the attack		•	. ,	

Event name	Open Mode Mism	natch		Event code	54011406 hex		
Meaning	A file operation for	or an instruction wa	s inconsistent with	the open mode of t	he file.		
Source	PLC Function Mc	dule	Source details	Source details Instruction		At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		ruction will end accoration of the Unit is	•	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The file open mode specified by the Open File instruction does not match the file operation attempted by a subsequent SD Memory Card instruction.		Correct the Open File instruction to open the file in an open mode that is suitable for the file operation.		Change the Open File instruction to open the file in an open mode that is suitable for the file opera- tion.		
Attached infor- mation	Attached Informa the start of the se Attached Informa more than one po be identified.	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error					
Precautions/ Remarks		, .		hed information that	•	. ,	

Event name	Offset Out of Ran	ge		Event code	54011407 hex			
Meaning	Access to the add	dress is not possibl	e for the offset spe	cified for an instruc	tion.			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation		nstruction will end according to specif peration of the Unit is not affected.			
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An attempt was n beyond the size o		Decrease the offset specified for the instruction.		Include information in the file so that the file format can be identi- fied, and modify the program to check that information in order to perform appropriate file seeking.			
Attached infor- mation	Attached Information the start of the se Attached Information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot						
Precautions/ Remarks	Codes (ErrorIDEx							

Event name	Directory Not Erro	nti i		Event code	54011408 hex	
	Directory Not Em	, ,		Event code		
Meaning		ot empty when the	Delete Directory in	struction was exec	uted or when an at	tempt was made
	to change the dire	ectory name.				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
				ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
				cations. The oper	ation of the Unit is	not affected.
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A directory was n the Delete Directory was executed. A directory contain rectory when an a to change the directory	ned another di- attempt was made	Delete all files in the relevant directory.		Check the contents of a directory before you delete the directory us- ing the Delete Directory instruction or before you change the directory name.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	That File Name Already Exists			Event code	54011409 hex	
Meaning	An instruction cou	uld not be executed	l because the file na	ame specified for th	ne instruction alrea	dy exists.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		ruction will end acc ration of the Unit is	
System-de-	Variable		Data type		Name	
fined variables	ables None					
Cause and cor-	- Assumed cause		Correction		Prevention	
rection	A file already exis name as the nam instruction to crea	e specified for the	Correct the program so that the fil- ename specified for the instruction does not already exist. Or, delete the existing file.		Make sure that the file specified does not already exist when you create a file with an instruction.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction canr be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks	If a program is	changed after an e	error occurs, the attached to make sure	ached information	that is displayed ma	

Event name	Write Access Der	aiad		Event code	5401140A hex		
Meaning	An attempt was n	nade to write to a w	rite-protected file o	r directory when ar	i instruction was ex	ecuted.	
Source	PLC Function Mo	odule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
				cations. The oper	ation of the Unit is	not affected.	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause C		Correction		Prevention		
rection	The file or directory specified for		Remove write pro	Remove write protection from the		ect any files that	
	the instruction to write is write-pro-		file or directory sp	file or directory specified for the in-		n to.	
	tected.		struction. Or, change the filename				
			of the file to write.				
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 2: Error Locatio	on Details (Rung Nu	umber). For a prog	ram section, the ru	ng number from	
	the start of the se	ction is given. For	ST, the line number	is given.			
	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ossible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.						
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error						
	Codes (ErrorIDE)	<). 0x00000000 is g	iven for instructions	s that do not have I	Expansion Error Co	odes (ErrorIDEx).	
Precautions/	• If a program is	changed after an e	error occurs, the atta	ached information t	that is displayed ma	ay not be correct.	
Remarks	Before you ren	nove write protectio	on from a file, be su	re it is OK to overw	rite the file.		

Event name	Too Many Files O	nen		Event code	5401140B hex		
Meaning		mber of open files	was exceeded whe				
Source	PLC Function Mo	•	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		uction will end according the second strain of the Unit is	a 1	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The maximum nu was exceeded wh for an instruction.	1 0	Correct the program to decrease the number of open files.		Decrease the number of files. Or, write the program so that files that no longer need to be open are closed in order to prevent too many files from being open at once.		
Attached infor- mation	Attached Informat the start of the se Attached Informat more than one po be identified. Attached informat	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
Precautions/ Remarks		Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx). If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Directory Does No	ot Exist		Event code	5401140C hex		
Meaning	The directory spe	cified for an instruc	tion does not exist.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		uction will end accoration of the Unit is	•	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The directory spe struction does not		Correct the program so that the di- rectory specified for the instruction exists. Or, create the relevant di- rectory in advance.		Make sure that the directory speci- fied for the instruction directory ac- tually exists when using an instruc- tion that accesses a directory.		
Attached infor- mation	Attached Informati the start of the se Attached Informati more than one po be identified. Attached informati	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks		,	or occurs, the attach		•	. ,	

Event name	File or Directory N	Name Is Too Long		Event code	5401140D hex		
Meaning	The file name or	directory name that	was specified for a	an instruction is too	long.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		uction will end accoration of the Unit is	0 1	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The file name or directory name that was specified for the instruc- tion to create is too long.		Correct the program so that the file name or directory name specified for the instruction is within FAT16 or FAT32 restrictions.		Write the program so that the specified file names and directory names are within FAT16 or FAT32 restrictions.		
Attached infor- mation	Attached Informa the start of the se Attached Informa more than one po be identified. Attached informa	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks			pr occurs, the attack			i	

Event name	SD Memory Card	Access Failed		Event code	5401140E hex		
Meaning	SD Memory Card	access failed.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		ruction will end acc ation of the Unit is		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	- Assumed cause		Correction		Prevention		
rection	The SD Memory Card is broken.		Replace the SD M	Replace the SD Memory Card.			
	The SD Memory Card slot is bro-		If the error persis	If the error persists even after you			
	ken.		make the above corrections, re-				
			place the CPU U	nit.			
Attached infor-		tion 1: Error Location					
mation			on Details (Rung N	, , ,	ram section, the ru	ng number from	
		•	ST, the line number				
			e Instruction and Ir				
		ossible instruction, i	information is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error						
			rror Code (ErrorID				
Precautions/	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	
Remarks							

Event name	Backup Operatior	n Already in Progre	SS	Event code	5401140F hex*1	
Meaning	Another backup o	peration is already	in progress.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	•		ruction will end acc ration of the Unit is	0 1
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Another backup operation is al-		Wait for the backup operation to		Do not attempt to execute other	
	ready in progress		end and then execute the instruc-		backup operation during a backup	
			tion again.	operation.		
Attached infor-		tion 1: Error Location				
mation				, 10	ram section, the ru	ng number from
		-	ST, the line number	-		
					Where the Error O	
		ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot
	be identified.					
	Attached informat	tion 4: Expansion E	Frror Code (ErrorID	Ex) is given for inst	tructions that have	Expansion Error
	Codes (ErrorIDEx	x). 0x0000000 is g	iven for instruction	s that do not have	Expansion Error Co	odes (ErrorIDEx).
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information that	at is displayed may	not be correct.
Remarks						

*1. Error code 16#140F occurs for unit version 1.08 or later of the CPU Unit.

Event name	Cannot Execute E	Backup		Event code	54011410 hex ^{*1}	
Meaning	Execution of a ba	ckup operation was	s not possible beca	use execution of a	nother operation w	as in progress.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		ruction will end acc ration of the Unit is	• •
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Execution of the instruction was at- tempted during execution of online editing.		Complete online editing and then execute the instruction again.		Do not attempt to execute a back- up operation during execution of online editing.	
	Execution of the instruction was at- tempted during execution of a Save Cam Table instruction.		Complete the Save Cam Table in- struction and then execute the in- struction again.		Do not attempt to execute a back- up operation during execution of a Save Cam Table instruction.	
	Execution of the instruction was at- tempted while a CPU Unit name change operation was in progress.		Complete the CPU Unit name change and then execute the in- struction again.		Do not attempt to execute a back- up operation during execution of a CPU Unit name change.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	at is displayed may	not be correct.

*1. Error code 16#1410 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Unit/Slave Backu	p Failed		Event code	54011411 hex ^{*1}	
Meaning	A Unit/slave back	up operation failed				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		ruction will end accoration of the Unit is	•
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A Unit/slave backup operation		Refer to the corrections for the fol-		Refer to the preventive measures	
	failed.		lowing events: CJ-series Unit		for the following events: CJ-series	
				Backup Failed (102D0000 hex) or		ed (102D0000
			EtherCAT Slave Backup Failed		hex) or EtherCAT Slave Backup	
			(102F0000 hex).		Failed (102F0000 hex).	
Attached infor-		tion 1: Error Location				
mation					ram section, the ru	ng number from
	the start of the se	ction is given. For	ST, the line number	r is given.		
					Where the Error Oc	
		ossible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot
	be identified.					
				, .	tructions that have	•
	Codes (ErrorIDE)	<). 0x00000000 is g	iven for instruction	s that do not have l	Expansion Error Co	odes (ErrorIDEx).
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	at is displayed may	not be correct.

*1. Error code 16#1411 occurs for unit version 1.08 or later of the CPU Unit.

Event name	EtherCAT Comm	unications Error		Event code	54011800 hex	
Meaning			led when an instruc	tion was executed.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable	•	Data type	•	Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The EtherCAT ne usable status.	twork is not in a	Check the operation status of the EtherCAT network by checking the status of the EtherCAT master. Use this information to correct the cause of the problem.		Depends on the r	nature of the error.
Attached infor- mation	Attached Informa the start of the se Attached Informa more than one po be identified. Attached informat	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cann				
Precautions/ Remarks		, .		hed information that	•	. ,

Event name	EtherCAT Slave Does Not Respond			Event code	54011801 hex	
Meaning	Accessing the tar	get slave failed wh	en an instruction w	as executed.		
Source	PLC Function Mo	dule	Source details Instruction		Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The target slave does not exist.		Specify an existing node address.		Specify an existing node address for the target slave.	
	The target slave is not in an oper- ating condition.		Check the status of the target EtherCAT slave. Make sure that the target slave is in a usable sta- tus.		Make sure that th in a usable status	0
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks			pr occurs, the attack		-	

Event name	EtherCAT Timeou	ıt		Event code	54011802 hex			
Meaning	A timeout occurre	d while trying to ac	cess an EtherCAT	slave when an inst	ruction was execut	ed.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	Operation The relevant instruction w cations.		ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Communications with the target		Check the operat	Check the operating status of the		nature of the error.		
	slave timed out.		target slave and correct the cause					
			of the problem.					
Attached infor-	Attached Informa	tion 1: Error Locatio	on					
mation	Attached Informa	tion 2: Error Locatio	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from		
	the start of the se	ction is given. For	ST, the line number	is given.				
	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is		
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot		
	be identified.							
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error							
	Codes (ErrorIDE)	(). 0x00000000 is g	iven for instruction	s that do not have I	Expansion Error Co	odes (ErrorIDEx).		
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.		

Event name	Reception Buffer	Overflow		Event code	54011803 hex		
Meaning	The receive data	from an EtherCAT	slave overflowed th	ne receive buffer wh	nen an instruction v	vas executed.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	•		be possible to receive data from the		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The receive data from the slave overflowed the receive buffer.		Set the size of the reception buffer to a value larger than the size of the receive data from the slave.		Set the size of the receive buffer to a value larger than the size of the receive data from the slave.		
Attached infor- mation	Attached Informa the start of the se Attached Informa more than one po be identified. Attached informa	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks			or occurs, the attacl				

Event name	SDO Abort Error		Event code	54011804 hex		
Meaning	_		om an EtherCAT sla			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-			Data type		Name	
fined variables						
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Depends on the specifications of		Refer to the manu	Refer to the manual for the slave		ual for the slave
	the slave.		and correct the problem.		and take the necessary steps to	
				prevent the problem.		em.
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation	Attached Informa	tion 2: Error Locatio	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from
	the start of the se	ction is given. For \$	ST, the line number	is given.		
	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot
	be identified.					
	Attached informat	tion 4: Expansion E	Error Code (ErrorIDI	Ex) is given for inst	ructions that have	Expansion Error
	Codes (ErrorIDE)	x). 0x00000000 is g	iven for instructions	s that do not have l	Expansion Error Co	odes (ErrorIDEx).
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Saving Packet Mo	onitor File		Event code	54011805 hex		
Meaning	An instruction for	packet monitoring	was executed while	e saving an EtherC	AT packet monitor	file.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable	•	Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
		EtherCAT packet monitor file.		monitoring after saving the Ether- CAT packet monitor file is complet- ed. You can check packet monitor file save status to see if saving a packet monitor file is completed.		e packet monitor can check packet status to see if nonitor file is com-	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction car be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDE					ccurred. If there is instruction cannot Expansion Error	
Precautions/ Remarks			or occurs, the attacl		•	. ,	

Event name	Packet Monitoring	g Function Not Star	ted	Event code	54011806 hex	
Meaning	A Stop EtherCAT	Packet Monitor ins	struction was execu	ted when EtherCA	Γ packet monitoring	g was stopped.
Source	PLC Function Module S		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	r- Assumed cause		Correction		Prevention	
rection	A Stop EtherCAT instruction was ex EtherCAT packet stopped.	ecuted when	Execute the Stop EtherCAT Packet Monitor instruction after starting the packet monitoring function. You can check packet monitoring func- tion operation status to see if the packet monitoring function is cur- rently in operation.		Execute the Stop EtherCAT Packet Monitor instruction after starting the packet monitoring function. You can check packet monitoring func- tion operation status to see if the packet monitoring function is cur- rently in operation.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks			or occurs, the attack		-	

Event name	Packet Monitoring	g Function in Opera	ation	Event code	54011807 hex		
Meaning	A Start EtherCAT ing executed.	Packet Monitor ins	struction was execu	ited when EtherCA	T packet monitorin	g was already be-	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Start EtherCAT Packet Monitor instruction was executed again while the EtherCAT packet moni- toring function was already in oper- ation.		Execute the Start EtherCAT Packet Monitor instruction after the packet monitoring function was stopped. You can check packet monitoring function operation status to see if the packet monitoring function is stopped.		Execute the Start EtherCAT Packet Monitor instruction after the packet monitoring function is stopped. You can check packet monitoring func- tion operation status to see if the packet monitoring function is stop- ped.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from						
	 the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the more than one possible instruction, information is given on all of them. Nothing is given if the instruction cate identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorID 					instruction cannot Expansion Error	
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

Event name	Communications	Resource Overflow	l	Event code	54011808 hex	
Meaning	More than 32 Ether the same time.	erCAT communicat	tions instructions/IC)-Link communicat	ions instructions we	ere executed at
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant inst cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
ined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection Attached information	tion Attached Informat Attached Informat the start of the se Attached Informat more than one po be identified.	ns/IO-Link com- uctions were exe- e time. The Ether- ions nk communica- are listed below. Write instruction Read instruction ave instruction the struction instruction instruction instruction instruction instruction struction Statistics instruc- erStatistics instruc- estatistics instruc- tion 1: Error Location ction 3: Names of the issible instruction, i	on Details (Rung Ni ST, the line number e Instruction and In nformation is given	erCAT communi- ns/IO-Link com- uctions are exe- e time. time. umber). For a prog is given. struction Instance on all of them. No	Write the program than 32 EtherCAT instructions/IO-Li tions instructions the same time.	r communications nk communica- are executed at ng number from ccurred. If there is instruction canno
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack	ned information that	at is displayed may	not be correct.

Event name	Packet Monitoring	g Function Not Sup	ported	Event code	54011809 hex ^{*1}	
Meaning	Packets cannot b	e monitored.			•	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	ause and cor- Assumed cause		Correction	Correction		
rection	was executed for does not support ing.		Do not execute the EC_StartMon, EC_SaveMon, EC_StopMon, or EC_CopyMon instruction. If packet monitoring is required, use a CPU Unit that supports pack- et monitoring.		Do not execute instructions for packet monitoring for a CPU Unit that does not support packet moni- toring.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cann be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha		

*1. Error code 16#1809 occurs for unit version 1.01 or later of the CPU Unit.

Event name	Cannot Execute Instruction to Slave Event code			Event code	5401180A hex*1		
Meaning	An instruction wa	s executed for a sla	ave that cannot exe	cute an instruction			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation				
System-de-	Variable	•	Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The EC_Disconne EC_ConnectSlav executed for a dis The EC_Changel struction was exec connected slave. The EC_Disconne EC_ChangeEnab tion was executed ring topology.	e instruction was sabled slave. EnableSetting in- cuted for a dis- ectSlave or	EC_DisconnectSI EC_ConnectSlave not executed for t slave. Correct the progra EC_ChangeEnab tion is not execute nected slave. Correct the progra EC_DisconnectSI EC_ChangeEnab	sconnectSlave and EC_ onnectSlave instructions are eC_ ecuted for the disabled not slav slav ot the program so that the Writ hangeEnableSetting instruction EC_ not executed for the discon- tion t slave. nec tt the program so that the Writ sconnectSlave and EC_ hangeEnableSetting instruc- EC_		Write the program so that the EC_DisconnectSlave and EC_ConnectSlave instructions are not executed for the disabled slave. Write the program so that the EC_ChangeEnableSetting instruc- tion is not executed for the discon- nected slave. Write the program so that the EC_DisconnectSlave and EC_ChangeEnableSetting instruc- tions are not executed for slaves in	
Attached infor- mation	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					ccurred. If there is instruction canno Expansion Error	
Precautions/ Remarks			or occurs, the attach		-		

*1. Error code 16#180A occurs for unit version 1.40 or later of the CPU Unit.

Event name	Diagnosis/Statisti	cs Log Executing		Event code	5401180D hex ^{*1}	
Meaning	A master/slave di statistics log is in	•	tical information ins	struction cannot be	executed because	the diagnosis/
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_EC_StatisticsLo	gBusy	BOOL		Diagnosis/Statist	ics Log Busy
Cause and cor-	Assumed cause		Correction		Prevention	
	A master diagnos information instru MasterStatistics of terStatistics), or a and statistical info tion (EC_GetSlav EC_ClearSlaveSt cuted while the di log was in operati	ction (EC_Get- or EC_ClearMas- a slave diagnostic prmation instruc- reStatistics or tatistics) was exe- iagnosis/statistics ion.	ter diagnostic and mation instruction nostic and statisti struction is not ex ecution of the dia log.	Correct the program so that a mas- ter diagnostic and statistical infor- mation instruction or a slave diag- nostic and statistical information in- struction is not executed during ex- ecution of the diagnosis/statistics log.		n so that a master atistical informa- a slave diagnos- information in- ited when the val- tatisticsLogBusy ariable is FALSE.
Attached infor- mation	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

*1. This event code occurs for a CPU Unit with unit version 1.64 or later and project unit version 1.64 or later.

Event name		c and Statistical Inf	ormation Instruc-	Event code	5401180E hex*1	
	tion Multi-execution					
Meaning	-		formation instruction instruction			than one master
Source	PLC Function Module Source details In		Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction	Correction		
rection	A master diagnostic and statistical information instruction was execut- ed during execution of the master diagnostic and statistical informa- tion instruction (EC_GetMasterSta- tistics or EC_ClearMasterStatis- tics).		Correct the program so that a mas- ter diagnostic and statistical infor- mation instruction is not executed during execution of the master di- agnostic and statistical information instruction.		Write the program so that a master diagnostic and statistical informa- tion instruction is not executed dur- ing execution of the master diag- nostic and statistical information in- struction.	
Attached infor-		tion 1: Error Locatio				
mation	 Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx). 					
Precautions/ Remarks			or occurs, the attacl			

*1. This event code occurs for a CPU Unit with unit version 1.64 or later and project unit version 1.64 or later.

Event name	Slave Diagnostic tion Multi-executio	and Statistical Info	rmation Instruc-	Event code	5401180F hex ^{*1}		
Meaning	j u	A slave diagnostic and statistical information instruction cannot be executed because more than one slave di- agnostic and statistical information instruction was executed simultaneously.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	A slave diagnostic information instru ed during execution agnostic and static instruction (EC_G or EC_ClearSlave	ction was execut- on of the slave di- stical information setSlaveStatistics	Correct the program so that a slave diagnostic and statistical informa- tion instruction is not executed dur- ing execution of the slave diagnos- tic and statistical information in- struction.		Write the program so that a slave diagnostic and statistical informa- tion instruction is not executed dur- ing execution of the slave diagnos- tic and statistical information in- struction.		
Attached infor- mation	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks			or occurs, the attach				

*1. This event code occurs for a CPU Unit with unit version 1.64 or later and project unit version 1.64 or later.

3

3-2-2 Error Descriptions

Event name	Explicit Message	Error		Event code	54011C00 hex	
Meaning	An error response struction.	e code was returne	d for an explicit me	ssage that was ser	nt with a CIP comm	unications in-
Source	PLC Function Module Source details		Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	or- Assumed cause Correction			Prevention		
rection	Depends on the r	nature of the error.	Check the value of the <i>ErrorIDEx</i> output variable from the instruction and refer to the description in this manual of the CIP message error code		Refer to the desc manual of the CII code.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks		, .	or occurs, the attack		•	, ,

Event name	Incorrect Route Path			Event code	54011C01 hex	
Meaning	The format of the route path that is specified for a CIP communications instruction is not correct.					
Source	PLC Function Mo	dule	Source details	Source details Instruction D in		At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end according to specifi-	
System-de-	e- Variable Data type			Name		
fined variables	None					
Cause and cor- rection	Assumed cause		Correction		Prevention	
	The format of the route path that is specified for a CIP communications instruction is not correct.		Correct the route path that is speci- fied by the instruction.		Make sure that the instructions specify correct route paths.	
	Address resolution failed for the host name that was specified in a CIP communications instruction.		Refer to the corrections for the fol- lowing event: Address Resolution Failed (54012002 hex).		Refer to the preventive information for the following event: Address Resolution Failed (54012002 hex).	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	CIP Handle Out of Range			Event code	Event code 54011C02 hex		
Meaning	The handle that is specified for the CIP communications instruction is not correct.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The handle that is specified for the		Correct the handle for the instruc-		Specify handles that were obtained		
	CIP communications instruction is		tion to the handle that was ob-		with the CIPOpen instruction.		
	not correct.		tained with the CIPOpen instruc-				
			tion.				
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

Event name	CIP Communications Resource Overflow			Event code	54011C03 hex		
Meaning	The maximum resources that you can use for CIP communications instructions at the same time was exceeded.						
Source	PLC Function Mc	odule	Source details	Instruction	Detection tim- ing At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor- rection	Assumed cause		Correction		Prevention		
	More than 32 CIP communications instructions were executed at the same time.		Correct the user program so that no more than 32 CIP communica- tions instructions are executed at the same time.		Write the user program so that no more than 32 CIP communications instructions are executed at the same time.		
	An attempt was made to use more than 32 handles at the same time.		Correct the user program so that no more than 32 handles are used at the same time.		Write the user program so that no more than 32 handles are used at the same time.		
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						
Remarks		0	,		, ,,		

Event name	CIP Timeout			Event code 54011C04 hex			
Meaning	A CIP timeout occurred during execution of a CIP communications instruc				tion.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing At instruction		
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The device with the specified IP address does not exist.		Correct the setting so that the set IP address matches the IP address of the device.		Make sure that the IP address you set matches the IP address of the device.		
	CIP connection of the specified handle is closed because the con- nection has timed out.		Execute the instruction within the timeout time of the connection. Or, increase the timeout time.		Make sure that the instruction is executed within the timeout time o the connection.		
	Power supply to the remote device is turned OFF. Communications are stopped at		Check the status of the remote de- vice and start it normally.		Check the status of the remote de vice and start it normally.		
	the remote device. CIP message communications are stopped at the remote device.		Make the device start normal CIP message communications.		Make the device start normal CIP message communications and ex- ecute the instruction.		
	The Ethernet cable for EtherNet/IP is disconnected.		Reconnect the connector and make sure it is mated correctly.		Connect the connector securely.		
	The Ethernet cab is broken.	le for EtherNet/IP	Replace the Ethernet cable.		None		
	Packets of the instruction are not allowed by the Firewall function or Packet Filter function of the remote device or devices on the communi- cation path.		Allow the packets of the relevant instruction in the Firewall and Packet Filter functions of the re- mote device and devices on the communication path.		Allow the packets of the relevant instruction in the Firewall and Packet Filter functions of the re- mote device and devices on the communication path so that the de vice can execute the instruction.		
	Noise		Implement noise countermeasures if there is excessive noise.		Implement noise countermeasures if there is excessive noise.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there i more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	-			hed information that	-		
Event name	Class-3 Connecti	on Not Established	l	Event code	54011C05 hex ^{*1}		
---------------------------	---	---	--	----------------------	--	---	
Meaning	Establishing a cla	ass-3 connection fa	iled for a CIP comm	nunications instruct	ion.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery	Recovery L		System	
Effects	User program Continues. Operation The relevant cations.			ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The CIPOpen ins cuted for a device support class 3 (L ward_Open). The CIPOpenWit struction was exe	e that does not _arge_For- hDataSize in- ecuted with a	Correct the program to use the CI- POpenWithDataSize instruction for the device that does not support class 3 (Large_Forward_Open) and set the data size to less than 510 bytes. Correct the program to set the data size to less than 510 bytes in the		Write the program to use the CI- POpenWithDataSize instruction for any device that does not support class 3 (Large_Forward_Open) and set the data size to less than 510 bytes. Write the program to set the data size to less than 510 bytes in the		
	specified data siz larger for a device support class 3 (L ward_Open).	e that does not	CIPOpenWithDat for the device tha port class 3 (Larg ward_Open).	t does not sup-	CIPOpenWithDataSize instruction for any device that does not sup- port class 3 (Large_For- ward_Open).		
Attached infor- mation	Attached Informa the start of the se Attached Informa more than one po be identified. Attached informa	ttached Information 1: Error Location ttached Information 2: Error Location Details (Rung Number). For a progress te start of the section is given. For ST, the line number is given. ttached Information 3: Names of the Instruction and Instruction Instance fore than one possible instruction, information is given on all of them. Not be identified. ttached information 4: Expansion Error Code (ErrorIDEx) is given for inst odes (ErrorIDEx). 0x00000000 is given for instructions that do not have f			Where the Error Out thing is given if the tructions that have	ccurred. If there is instruction cannot Expansion Error	
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

*1. Error code 16#1C05 occurs for unit version 1.06 or later of the CPU Unit.

Event name	CIP Communications Data Size Exceeded Event code			54011C06 hex*1		
Meaning		nade to send a clas unications instruction	ss-3 explicit messag	ge with a data size	that is larger than t	he sendable size
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
	for the input varia Read, CIPWrite, of struction exceeded that was specified penWithDataSize	or CIPSend in- ed the data size d with the CIPO-	ta size of the rele does not exceed was set with the 0 taSize instruction Or, set the data s penWithDataSize data size of the re or larger to establ	the data size that CIPOpenWithDa- ize of the CIPO- instruction to the elevant instruction	a size thatnot exceed the data size that wereenWithDa-set with the CIPOpenWithDatainstruction.or, set the data size of the CIPhe CIPO-or, set the data size of the CIPction to thepenWithDataSize instruction toinstructiondata size of the relevant instruction	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a prog the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance more than one possible instruction, information is given on all of them. No be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for inst Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have			Where the Error O thing is given if the tructions that have	ccurred. If there is instruction cannot Expansion Error	
Precautions/ Remarks		-	or occurs, the attack		t is displayed may	not be correct.

*1. Error code 16#1C06 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Local IP Address	Setting Error		Event code	54012000 hex			
Meaning			nere was a setting e	error in the local IP	address.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery I		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An instruction wa	s executed when	There was a TCP/IP Basic Setting		Set the IP addresses correctly so			
	there was a settin	ig error in the lo-	Error (IP Address Setting Error)		that a TCP/IP Basic Setting Error			
	cal IP address.		when the instruction was executed.		does not occur.			
			Remove the caus					
			Basic Setting Erro	or.				
Attached infor-		tion 1: Error Location						
mation			on Details (Rung N	, , , ,	ram section, the ru	ng number from		
			ST, the line number	•				
			e Instruction and In					
		essible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot		
	be identified.	tion 4: Expansion F	Error Code (ErrorIDEx) is given for instructions that have Expansion Error					
			iven for instruction	, 0				
Descentions		,			•	. ,		
Precautions/	i i a program is ch	anged after an erro	or occurs, the attacl	ned information that	it is displayed may	not de correct.		
Remarks								

Event name	TCP/UDP Port Al	ready in Use		Event code	54012001 hex	
Meaning	The UDP or TCP	port was already ir	n use when the inst	use when the instruction was executed.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The UDP or TCP	port is already in	Correct the user program so that		Write the user program so that	
	use.		an unused port is instruction.	specified for the	used ports are not specified for in- structions.	
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation			on Details (Rung N	, 10	ram section, the ru	ng number from
	Attached Informa	tion 3: Names of th	ST, the line number e Instruction and In	struction Instance		
		ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot
	be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructio Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expar					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.

Event name	Address Resolution Failed			Event code	54012002 hex	
Meaning	Address resolutio	n failed for a remot	te node with the ho	st name that was s	pecified in the instr	uction.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection The host name specifi struction is not correct			Correct the domain name that is specified in the instruction.		Specify correct domain names in instructions.	
	The hosts and DNS settings in the		Correct the hosts and DNS settings		Check the hosts and DNS settings	
	Controller are inc	orrect.	in the Controller.		in the Controller and make sure they are correct.	
	The DNS server s	settings are incor-	Correct the DNS	server settings.	Check that there are no mistakes in the DNS server settings.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung num the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred more than one possible instruction, information is given on all of them. Nothing is given if the instruct be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)				ccurred. If there is instruction cannot Expansion Error	
Precautions/ Remarks		, .	or occurs, the attack		•	. ,

Event name	Socket Status Err	or		Event code	54012003 hex	
Meaning	The status was no	ot suitable for exec	ution of the socket	service instruction		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program Continues.		Operation	The relevant inst cations.	ruction will end acc	ording to specifi
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	 SrcUdpPort inpone of the follo It is already It is being cl SktUDPRcv Insometic ceiving data The specifie closed. SktUDPSend I The specifie closed. SktUDPSend I The specifie closed. SktTCPAccept The specified of the following The specified of the following The port is b A connection tablished for for the same TCP port. SktTCPConner The TCP powith the Src able is alrea The remote specified with variable doe The specified with variable doe The specified with variable doe The remote specified with variable doe The specified with variable doe 	specified with the put variable is in wing states. open. osed. struction d socket is re d socket is re d socket is nstruction d socket is send- d socket is Instruction TCP port is in one g states. being opened. being closed. n is already es- this instruction e IP address and ct Instruction rt that is specified <i>TcpPort</i> input vari- dy open. node that is th <i>DstAdr</i> input es not exist. node that is th <i>DstAdr</i> and input variables is for a connection. struction d socket is re d socket is	Remove the cause the instruction.	se of the error for	Do not execute the when it will cause	

SktTCPSend Instruction	
 The specified socket is send- 	
ing data.	
 The specified socket is 	
closed.	
The send buffer of the speci-	
fied socket is full (because	
the power to the remote node	
is OFF, the line is disconnect-	
ed, etc.)	
 The specified socket handle 	
is already used for Secure	
socket communications.	
 SktClearBuf Instruction 	
 The specified socket handle 	
is already used for Secure	
socket communications.	
• [NX102 and NX1P2 Ver. 1.50 or	
later and NX502 Ver. 1.60 or lat-	
er]	
SktTLSConnect Instruction	
 The specified socket handle 	
is already used for Secure	
socket communications.	
• [NX102, NX502]	
ModbusTCPCmd Instruction	
The socket is being process-	
ed.	
• The socket is closed.	
The specified socket handle	
is already used for Secure	
socket communications.	
• [NX102, NX502] MadhuaTCDDaad Instruction	
ModbusTCPRead Instruction	
 The socket is being process- ed. 	
 The socket is closed. 	
The specified socket handle	
is already used for Secure	
socket communications.	
• [NX102, NX502]	
ModbusTCPWrite Instruction	
The socket is being process-	
ed.	
 The socket is closed. 	
The specified socket handle	
is already used for Secure	
socket communications.	
SktSetOption Instruction	
The specified socket already	
started transmission.	
 An option type which is not 	
supported by the specified	
socket was selected.	

Attached infor-	Attached Information 1: Error Location
mation	Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from
	the start of the section is given. For ST, the line number is given.
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot
	be identified.
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error
	Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.
Remarks	

_						
Event name	Local IP Address	Not Set		Event code	54012004 hex	
Meaning	The local IP addr	ess was not set wh	en a socket service	instruction was ex	ecuted.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		uction will end acc	ording to specifi-
				cations.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	There is a BOOT	P server setting	Correct any errors in the BOOTP		Check that there are no mistakes	
	error.		server settings.		in the BOOTP server settings.	
	The BOOTP serv	er does not exist.	Make sure that the BOOTP server has started normally and is normal-		Make sure that the BOOTP server	
					has started normally and is normal-	
			ly connected to the network.		ly connected to the network.	
	The local IP addr	ess is not set be-	Wait until the local IP address is		Wait until the local IP address is	
	cause operation j	ust started.		set before executing socket service		ing socket service
			instructions.		instructions.	
Attached infor-		tion 1: Error Location				
mation			on Details (Rung N		ram section, the ru	ng number from
		0	ST, the line number	0		
			e Instruction and In			
	more than one po be identified.	essible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
		tion 4: Expansion E	Error Code (ErrorIDI	Ex) is given for inst	ructions that have	Expansion Error
		•	iven for instruction	, .		•
Precautions/			or occurs, the attack			
Remarks	n a program is ch	angeu aller all ello	o occurs, the attact		r is displayed may	
Remarks						

Event name	Socket Timeout			Event code	54012006 hex	54012006 hex	
Meaning	A timeout occurre	d for a socket serv	ice instruction.				
Source	PLC Function Mo	dule	Source details	Source details Instruction		At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection SktTCPAccept instruction: No con- nection request is sent from the node within the timeout time speci- fied by the user.		Modify the system that a connection from the node wit time after the rele executed. Or, incr time.	request is sent hin the timeout vant instruction is	Create the syster that a connection from the node wit time after the rele executed.	request is sent hin the timeout		
			Allow packets from the node in the Controller's Packet Filter settings.*1		Allow packets from the node in the Packet Filter settings of the Con- troller so that the node can execut the instruction.		
	SktTCPRcv instruction or SktUDPRcv instruction: Data can- not be received from the node within the timeout time specified by the user.		Modify the system or program so that data is transferred from the node within the timeout time after the relevant instruction is execut- ed. Or, increase the timeout time.		Create the system or program so that data is transferred from the node within the timeout time after the relevant instruction is execute		
				w packets from the node in the troller's Packet Filter settings.*1 Packet Filter settings troller so that the nod the instruction.		ngs of the Con-	
Attached infor- mation	Attached Informat the start of the se Attached Informat more than one po be identified. Attached informat	ction is given. For s tion 3: Names of th ssible instruction, i tion 4: Expansion E	on Details (Rung Ni ST, the line number e Instruction and In nformation is given Fror Code (ErrorIDI	is given. Istruction Instance on all of them. Not Ex) is given for inst	Where the Error O thing is given if the ructions that have	ccurred. If there is instruction canno Expansion Error	
Precautions/ Remarks	-	-	piven for instructions that do not have Expansion Error Codes (ErrorIDEx). For occurs, the attached information that is displayed may not be correct.				

*1. This correction is effective in any of the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX701 CPU Unit: Version 1.29 or later

Event name	Socket Handle O	ut of Range		Event code	54012007 hex	
Meaning	The handle that is	s specified for the s	ocket service instru	iction is not correct	t.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The handle that is specified for the socket service instruction is not correct.Correct the socket handle for the instruction to the handle that w 		handle that was of the following instruction instruction instruction ecure socket h, modify the pro- he handle ob-	Specify handles t with the following SktUDPCreate SktTCPConne SktTCPAccept However, in the s service instruction gram to specify th tained by the follo SktTCPConne	instructions. instruction ct instruction instruction eccure socket n, modify the pro- ne handle ob- owing instruction.	
Attached infor- mation	Attached Informathe start of the se Attached Information more than one po- be identified. Attached information	ction is given. For tion 3: Names of th ossible instruction, i tion 4: Expansion E	tion tion Details (Rung Number). For a program section, the rung number from r ST, the line number is given. the Instruction and Instruction Instance Where the Error Occurred. If there is information is given on all of them. Nothing is given if the instruction canne- Error Code (ErrorIDEx) is given for instructions that have Expansion Error given for instructions that do not have Expansion Error Codes (ErrorIDEx)			
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information that	at is displayed may	not be correct.
Remarks						

Event name	Socket Communications Resource Overflow Event cod			Event code	54012008 hex		
Meaning	The maximum re	sources that you ca	an use for socket se	ervice instructions a	at the same time wa	as exceeded.	
Source	PLC Function Mc			Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery L		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	More than 32 soc structions were e same time (64 for More than 30 soc used at the same NX102, 16 for CF version 1.02 or ea	xecuted at the r NX102). Exket handles were time (60 for PU Units with unit	no more than 32 s structions are exe same time (64 for Correct the user p no more than 30 s are used at the sa	no more than 32 socket service in- structions are executed at the same time (64 for NX102). s Correct the user program so that no more than 30 socket handles are used at the same time (60 for NX102, 16 for CPU Units with unit		Create a user program so that no more than 32 socket service in- structions are executed at the same time (64 for NX102). Create a user program so that no more than 30 socket handles are used at the same time (60 for NX102, 16 for CPU Units with unit version 1.02 or earlier).	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a progre the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance V more than one possible instruction, information is given on all of them. Not be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instruc- Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have E			Where the Error O thing is given if the tructions that have	ccurred. If there is instruction cannot Expansion Error		
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information that	t is displayed may	not be correct.	

Event name	Invalid TLS Sessi	on Name		Event code	5401200A hex ^{*1}		
Meaning	The specified TLS	S session name is r	not found in the sec	ure socket setting.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	ation The relevant instruction will end according to speci cations.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The specified TLS session name is		Correct the program to specify the		Create a program to specify the		
	not set in the sec	not set in the secure socket set-		TLS session name that is set in the		TLS session name that is set in the	
	ting.		secure socket set	ting.	secure socket setting.		
Attached infor-	Attached informat	tion 1: Error Locatio	on				
mation	Attached informat	tion 2: Error Locatio	on Details (Rung Nu	umber). For a progi	ram section, the ru	ng number from	
	the start of the se	ction is given. For S	ST, the line number	is given.			
	Attached informat	tion 3: Names of the	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ossible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
			rror Code (ErrorIDI				
	Codes (ErrorIDE)	<). 0x00000000 is g	iven for instructions	s that do not have I	Expansion Error Co	odes (ErrorIDEx).	
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

*1. NX502 CPU Unit with unit version 1.60 or later, NX102-□□00 CPU Unit, NX1P2-□□□□□ CPU Unit with unit version 1.46 or later, and NX102-□□20 CPU Unit with unit version 1.37 or later.

Event name	Access to the Cer	tificate Failed		Event code	5401200B hex*1		
Meaning	Access to the cer the certificate has		use the certificate a	nd secure socket s	etting have not bee	en transferred or	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Client certificate has not been transferred to the Controller.		Transfer the client certificate to the Controller using the Secure Socket Configuration commands.		Transfer the client certificate to the Controller using the Secure Socket Configuration commands before executing the instruction.		
	A password has been set for the forwarded Client certificate.		Use the Secure Socket Configura- tion commands to resend the client certificate that does not have a password set to the Controller.		Use a client certii not have a passw		
	The secure socket setting does not exist or the contents of the secure socket setting are incorrect.		Create or modify the secure socket setting using the Secure Socket Configuration commands and transfer it to the Controller.		Create a secure socket setting us- ing the Secure Socket Configura- tion commands and transfer it to the Controller before executing the instruction.		
Attached infor- mation	Attached informat the start of the se Attached informat more than one po be identified. Attached informat	ction is given. For s ion 3: Names of th ssible instruction, i ion 4: Expansion E					
Precautions/ Remarks			or occurs, the attacl		-		

*1. NX502 CPU Unit with unit version 1.60 or later, NX102-□00 CPU Unit, NX1P2-□□□ CPU Unit with unit version 1.46 or later, and NX102-□20 CPU Unit with unit version 1.37 or later.

Event name	TLS Session Esta	ablishment Error		Event code	5401200C hex*1	
Meaning	Establishment of	a TLS session faile	ed.			
Source	PLC Function Mo	Function Module Source details		Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The contents of the Client certifi- cate are invalid.		Transfer the client certificate to the Controller again using the Secure Socket Configuration commands.		Make sure that the Client certificate is correct.	
	The contents of the key are invalid.	The contents of the Client private ey are invalid.		Transfer the client private key to the Controller again using the Se- cure Socket Configuration com- mands.		ne Client private
	Establishment of Secure socket communications failed.		Enable the output of the TLS log, check the contents of the log, and take corrective action.		Enable the output of the TLS log to check that Secure communications are normal.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					
Precautions/ Remarks		-	or occurs, the attacl		-	· · · · · · · · · · · · · · · · · · ·

*1. NX502 CPU Unit with unit version 1.60 or later, NX102-□00 CPU Unit, NX1P2-□□□□ CPU Unit with unit version 1.46 or later, and NX102-□20 CPU Unit with unit version 1.37 or later.

Event name	Invalid TLS Sessi	ion Handle		Event code	5401200E hex ^{*1}			
Meaning	The TLS session	handle specified by	y the secure socket	service instruction	is invalid.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acco	ording to specifi-		
System-de-	Variable		Data type	•	Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The TLS session handle specified		Correct the handl	Correct the handle for the instruc-		Correct the handle for the instruc-		
	by the secure socket service in-		tion to the handle	that was ob-	tion to the handle	that was ob-		
	struction is invalid.		tained with the SktTLSConnect in-		tained with the SktTLSConnect in-			
			struction.		struction.			
Attached infor-		tion 1: Error Location						
mation			on Details (Rung N	,	ram section, the ru	ng number from		
	the start of the section is given. For ST, the line number is given.							
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is							
		ossible instruction, i	information is given	on all of them. Not	thing is given if the	instruction cannot		
	be identified.							
		•	Error Code (ErrorID	, .		•		
			jiven for instruction		-			
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.		
Remarks								

*1. NX502 CPU Unit with unit version 1.60 or later, NX102-□00 CPU Unit, NX1P2-□□□□ CPU Unit with unit version 1.46 or later, and NX102-□20 CPU Unit with unit version 1.37 or later.

Event name	TLS Error			Event code	5401200F hex *1		
Meaning	An error occurred	during Secure soc	ket communication	S.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred during Secure socket communications.		Enable the output of the TLS log, check the contents of the log, and take corrective action.		Enable the output of the TLS log to check that Secure communications are normal.		
Attached infor- mation	Attached Information the start of the set Attached Information more than one point be identified. Attached information of the set Attached information of the	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks			or occurs, the attacl				

*1. NX502 CPU Unit with unit version 1.60 or later, NX102-□00 CPU Unit, NX1P2-□□□ CPU Unit with unit version 1.46 or later, and NX102-□20 CPU Unit with unit version 1.37 or later.

Event name	No Execution Rig	ht		Event code	54012400 hex ^{*1}		
Meaning	An instruction was	s executed to chan	ge the settings of t	he EtherNet/IP port	t when execution w	as not possible.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
ined variables	None						
ause and cor-	Assumed cause		Correction		Prevention		
ection	net port, or a CJ-s Unit was executed processing was in EtherNet/IP port of An instruction to of tings of a CJ-serie Unit was executed processing was in Unit. An instruction to of tings of the Ether	Net/IP port, Ether- series EtherNet/IP d when restart n progress for the pr Ethernet port. change the set- es EtherNet/IP d when restart n progress for the change the set- net/IP port, Ether- series EtherNet/IP d while the set- Net/IP port or being changed pr CIP messages. change the set- es EtherNet/IP d when changing ogress for an in-	the settings after changing settings EtherNet/IP port,	Execute the instruction to change ne settings after the restart or hanging settings of the EtherNet/IP port, Ethernet port, and CJ-series EtherNet/IP Unit is		Execute the instruction to change the settings when the restart or changing settings of the EtherNet/IP port, Ethernet port, and CJ-series EtherNet/IP Unit is not in progress.	
Attached infor- nation	in the instruction of an EtherNet/IP po or CJ-series Ether Attached Informat Attached Informat the start of the se Attached Informat more than one po be identified.	ort, Ethernet port, rNet/IP Unit. tion 1: Error Locatio tion 2: Error Locatio ction is given. For S tion 3: Names of the ssible instruction, in	net port or unit nu series EtherNet/II struction. If the U wrong, correct the tion. on Details (Rung N ST, the line number e Instruction and Ir nformation is given	herNet/IP port, Ether- Specify the EtherNet/IP port, Ether- inumber of the CJ- net port or unit number of series EtherNet/IP Unit in the in- et/IP Unit in the in- series EtherNet/IP Unit in struction. e Unit configuration is the Unit configura- struction. y Number). For a program section, the rung number is given. number the Error Occurred where the Error Occurred where the instruction		umber of the CJ- P Unit in the in- ng number from ccurred. If there i instruction cann	
Precautions/	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion E Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDE) If a program is changed after an error occurs, the attached information that is displayed may not be corre						

Event name	Settings Update Failed			Event code	54012401 hex*1	
Meaning	It was not possibl	e to update the set	tings of the CJ-seri	es EtherNet/IP Uni	t that were change	d.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Restart processing for a Unit or built-in EtherNet/IP port was star ed during execution of an instruc- tion to change the settings of a C series EtherNet/IP Unit		Execute the instruction again to change the settings after restart processing for the built-in EtherNet/IP port or CJ-series EtherNet/IP Unit is completed.		Do not start restart processing for a Unit or built-in EtherNet/IP port dur- ing execution of an instruction to change the settings of a CJ-series EtherNet/IP Unit.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/		, .	or occurs, the attack		•	. ,
Remarks	1 0 10 10	5	,		, ,,	

*1. Error code 16#2401 occurs for unit version 1.02 or later of the CPU Unit.

Event name	Too Many Simulta	aneous Instruction I	Executions	Event code	54012402 hex ^{*1}		
Meaning	Too many instruc	tions to change the	communications s	etup of the Control	ler were executed a	at the same time.	
Source	PLC Function Module Source		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Two or more instructions to change the communications setup of the Controller were executed at the same time.		Correct the user program so that only one instruction to change the communications setup of the Con- troller is executed at the same time.		one instruction to	ogram so that only o change the com- p of the Controller e same time.	
Attached infor- mation	Attached Informa the start of the se Attached Informa more than one po be identified. Attached informa	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there i more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					
Precautions/ Remarks					it is displayed may		

*1. Error code 16#2402 occurs for unit version 1.02 or later of the CPU Unit.

Event name	FTP Client Execu	tion Limit Exceede	d	Event code	54012403 hex*1			
Meaning	Too many FTP cli	ent communication	s instructions were	executed at the sa	ame time.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor- rection	Assumed cause		Correction		Prevention			
	Four or more FTP client communi- cations instructions were executed at the same time.		Correct the user program so that no more than three FTP client communications instructions are executed at the same time.		Write the user program so that no more than three FTP client com- munications instructions are exe- cuted at the same time.			
Attached infor- mation	Attached Informati the start of the se Attached Informati more than one po be identified. Attached informati	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot						
Precautions/		-			at is displayed may			
Remarks		5			. , , ,			

*1. Error code 16#2403 occurs for unit version 1.08 or later of the CPU Unit.

Event name	File Number Limit	t Exceeded		Event code	54012404 hex ^{*1}		
Meaning	The number of file	es specified with a	wildcard for an FTF	oclient communica	tions instruction ex	ceeded 1,000.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The number of files specified with a file name that contained a wildcard for an FTP client communications instruction exceeded 1,000.		Correct the program so that the number of files specified with a wildcard for an FTP client commu- nications instruction does not ex- ceed 1.000.		Write the program so that the num- ber of files specified with a wildcard for an FTP client communications instruction does not exceed 1,000.		
Attached infor- mation	Attached Informathe start of the se Attached Information more than one po- be identified. Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks			or occurs, the attack		-	· · · ·	

*1. Error code 16#2404 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Directory Does N	ot Exist (FTP)		Event code	54012405 hex ^{*1}		
Meaning	The directory spe correct path was	cified for an FTP cl specified.	lient communication	ns instruction does	not exist in the Co	ntroller or an in-	
Source	PLC Function Mo	dule	Source details Instruction		Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
	The directory specified for an FTP client communications instruction does not exist in the Controller or an incorrect path was specified.		Correct the program so that the di- rectory specified for the FTP client communications instruction exists in the SD Memory Card.		Write the program so that the di- rectory specified for the FTP client communications instruction exists in the SD Memory Card.		
Attached infor- mation	Attached Informa the start of the se Attached Informa more than one po be identified. Attached informa	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
Precautions/ Remarks		anged after an erro					

*1. Error code 16#2405 occurs for unit version 1.08 or later of the CPU Unit.

Event name	FTP Server Conn	ection Error		Event code	54012406 hex ^{*1}		
Meaning			specified for an Fi ver is not operating	ΓP client communic g.	ations instruction o	loes not exist on	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The destination FTP server speci- fied in the FTP client communica- tions instruction does not exist in the network.		FTP client comm	Modify the program so that the FTP client communications instruc- tion specifies the FTP server that		Create the program in which the FTP client communications instruc- tion specifies the FTP server that exists in the network.	
	The destination FTP server speci- fied in the FTP client communica- tions instruction has stopped the FTP services.		Start the FTP services of the speci- fied destination FTP server and ex- ecute the instruction again.				
	FTP communications are not al- lowed by the designated destina- tion FTP server or the Firewall function or Packet Filter function of the devices on the communication path.		Allow FTP communications in the specified destination FTP server and Firewall and Packet Filter func- tions of the devices on the commu- nication path.				
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If t more than one possible instruction, information is given on all of them. Nothing is given if the instruction be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (Error					ccurred. If there is instruction cannot Expansion Error	
Precautions/ Remarks		-		hed information tha			

*1. Error code 16#2406 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Destination FTP S	Server Execution F	ailure	Event code	54012407 hex ^{*1}	
Meaning	The destination F	TP server for an F	TP client communic	ations instruction r	eturned an error.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type	-	Name	
fined variables	None					
Cause and cor-	Assumed cause	ssumed cause Correction I		Prevention		
rection	to execute the pro	e destination FTP server failed execute the process requested the FTP client communications truction. Check the response code destination FTP server in of the <i>ErrorIDEx</i> output va- from the instruction and r description in this manual expansion error code (<i>Er</i> , with the same value for th tion.		erver in the value output variable on and refer to the manual for the ode (<i>ErrorIDEx</i>)	Read the descrip in advance for the program correctly	e instruction and
	When the Controller's Packet Filter function is enabled, packets from the FTP server are not allowed. ^{*2}		Allow packets from the FTP server in the Controller's Packet Filter set- tings.		Allow packets from the FTP server in the Packet Filter settings of the Controller and execute the instruc- tion.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached Information 4: Expansion Error Code (<i>ErrorIDEx</i>)					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack		t is displayed may	not be correct.

*1. Error code 16#2407 occurs for unit version 1.08 or later of the CPU Unit.

*2. Assumed cause for the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX701 CPU Unit: Version 1.29 or later

Event name	SD Memory Card	Access Failed for	FTP	Event code	54012408 hex ^{*1}	
Meaning	SD Memory Card	access from the F	TP client failed.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		•
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	d cor- Assumed cause		Correction		Prevention	
rection	An SD Memory Card is not insert- ed.			Insert an SD Memory Card and then execute the instruction again.		nory Card.
	The SD Memory Card was re- moved during execution of the FTP client communications instruction.		Insert an SD Memory Card and then execute the instruction again.		Do not remove the SD Memory Card during execution of the FTP client communications instruction.	
	The capacity of the SD Memory Card is insufficient.		Replace the SD Memory Card for one with sufficient available capaci- ty.		Use an SD Memory Card with suffi- cient available capacity.	
	The SD Memory Card is write pro- tected.		Remove write protection from the SD Memory Card.		Make sure that the SD Memory Card is not write protected.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks		,	or occurs, the attach		•	, ,

*1. Error code 16#2408 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Specified File Do	es Not Exist		Event code	54012409 hex ^{*1}	
Meaning		r an FTP client com	munications instru			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	ise and cor- Assumed cause		Correction		Prevention	
rection	A file specified for an FTP client		Correct the program so that the file		Write the program so that the file	
	communications instruction does		specified for the FTP client com-		specified for the FTP client com-	
	not exist.		munications instru	uction exists.	munications instruction exists.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Insta more than one possible instruction, information is given on all of them be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have				Where the Error O hing is given if the ructions that have	ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

*1. Error code 16#2409 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Specified File Is Write Protected			Event code	5401240A hex ^{*1}		
Meaning	The data was not with the same na		se the FTP client co	ommunications inst	ruction was set to r	not overwrite files	
Source	PLC Function Module Sou		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	•	Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The data was not cause the FTP cli tions instruction v overwrite files wit and a file with the name already exi nation.	ent communica- vas set to not h the same name specified file	Set the FTP client communications instruction to overwrite files with the same name and then execute the instruction again. Or, change the file name at the source or destination and then ex- ecute the instruction again.		Set the FTP client communications instruction to overwrite files with the same name. Or, make sure different file names are used at the source and desti- nation.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

*1. Error code 16#240A occurs for unit version 1.08 or later of the CPU Unit.

Event name	Failed To Delete	Specified File		Event code	5401240B hex ^{*1}	
Meaning	A file was not dele	eted after it was tra	nsferred with an F1	P client communic	ations instruction.	
Source	PLC Function Module Sourc		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The FTP client co struction was set ter they are transf not possible to de file because it had tribute. It was not possibl specified for the F munications instru- was in use by and	to delete files af- ferred, but it was dete the specified d a read-only at- e to delete the file TP client com- uction because it other application.	Set the FTP client communications instruction to not delete files after they are transferred and then exe- cute the instruction again. Or, change the attribute of the source file to enable writing it and then execute the instruction again. Execute the FTP client communi- cations instruction when the speci- fied file is not in use by another ap- plication.		Set the FTP client communications instruction to not delete files after they are transferred. Or do not set the attribute of source files to read-only. Do not use the file specified for the FTP client communications instruc- tion in another application.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there i more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					ccurred. If there is instruction cannot Expansion Error odes (ErrorIDEx).
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

*1. Error code 16#240B occurs for unit version 1.08 or later of the CPU Unit.

Event name	Specified File Access Failed Event code			5401240C hex*1			
Meaning	An FTP transfer f	or an FTP client co	mmunications instr	uction failed becau	se file access faile	d.	
Source	PLC Function Module Source details In:		Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.	,		
System-de-	Variable	•	Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
The file specified for the FTP clic communications instruction was use by another application.		nstruction was in	cations instructior	Execute the FTP client communi- cations instruction when the speci- fied file is not in use by another ap- plication		Do not use the file specified for the FTP client communications instruc- tion in another application.	
	The file or directo the FTP client con struction to write	mmunications in-	file specified for the communications is	Remove write protection from the file specified for the FTP client communications instruction to write. Or, change the filename of the file to write		ect the file speci- ient communica- o write.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks		-	or occurs, the attack				

*1. Error code 16#240C occurs for unit version 1.08 or later of the CPU Unit.

Event name	IP Address Settin	g Invalid		Event code	5401240D hex ^{*1}	
Meaning		tion was not possib struction and the o	le because there is ther port settings.	an error between t	the IP address set	ting of the port
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The network addr specified in the in same as the netw another port. Both the port spe struction and all c as unused ports.	struction is the vork address of	specifies a netwo not the same as t dress of another p Or, change the net the other port in a Correct the settin specified in the in thing but an unus	Correct the instruction so that it specifies a network address that is not the same as the network ad- dress of another port. Or, change the network address of the other port in advance. Correct the setting of the port specified in the instruction to any- thing but an unused port. Or, change the unused port setting		uctions to change ecify network ad- not the same as esses of other n instruction to ldress, make sure cified in the in- other ports are sed ports.
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

*1. Error code 16#240D occurs for unit version 1.10 or later of the CPU Unit.

Event name	NX Message Erro	or		Event code	54012C00 hex*1			
Meaning	An error response	e code was returne	d for an NX messa	ge.				
Source	PLC Function Module Source details		Instruction	Detection tim- ing	At instruction execution			
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-		
System-de-	tem-de- Variable		Data type	•	Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Depends on the nature of the error.		Check the value of the <i>ErrorIDEx</i>		Depends on the nature of the error.			
			output variable fro	output variable from the instruction		ription in this		
			and refer to the d	and refer to the description in this		manual of the NX message error		
			manual of the NX message error		code.			
			code.					
Attached infor-	Attached Informa	tion 1: Error Location	on					
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from		
	the start of the section is given. For ST, the line number is given.							
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is							
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot							
	be identified.							
	Attached Informa	tion 4: Expansion E	Error Code (<i>ErrorID</i>	Ex)				
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.		
Remarks								

*1. Error code 16#2C00 occurs for unit version 1.05 or later of the CPU Unit.

Event name	NX Message Res	ource Overflow		Event code	54012C01 hex*1	
Meaning	The maximum res	sources that you ca	in use for NX mess	age instructions at	the same time was	exceeded.
Source	PLC Function Module Source de		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	More than 32 NX message instruc-		Correct the user program so that		Write the user program so that no	
	tions were executed at the same		no more than 32 NX message in-		more than 32 NX message instruc-	
	time.		structions are executed at the		tions are executed at the same	
			same time.		time.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there i more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					ccurred. If there is instruction cannot Expansion Error
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	it is displayed may	not be correct.
Remarks						

*1. Error code 16#2C01 occurs for unit version 1.05 or later of the CPU Unit.

Event name	NX Message Tim	eout		Event code	54012C02 hex*1		
Meaning	A timeout occurre	d during execution	of an NX message				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end according to specifi-		
System-de-	Variable	•	Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The specified NX ist.	Unit does not ex-	Make corrections specification and configuration agree	the remote Unit	Make sure that U and the remote U agree.	•	
	The NX message was closed be- cause it timed out.		Increase the response timeout time that is specified for the <i>TimeOut</i> in- put variable in the instruction.		Execute instructions after setting suitable response timeout times for the <i>TimeOut</i> input variable.		
	Power to the rem	ote Unit is OFF.	Check the status	of the remote Unit	Check the status	of the remote Unit	
	Communications are stopped at the remote Unit.		and start it normally.		and start it normally.		
	The communications cable con- nector is disconnected.		Reconnect the connector and make sure it is mated correctly.		Connect the connector securely.		
	The communications cable is bro- ken.		Replace the communications ca- ble.		None		
	Noise		Implement noise countermeasures if there is excessive noise.		Implement noise countermeasures if there is excessive noise.		
Attached infor-		tion 1: Error Locatio	on				
mation			on Details (Rung Nu	, , ,	ram section, the ru	ng number from	
	the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error						
	Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks			or occurs, the attach				

*1. Error code 16#2C02 occurs for unit version 1.05 or later of the CPU Unit.

Event name	Incorrect NX Mes	sage Length		Event code	54012C03 hex*1	
Meaning	The length of the	NX message is not	t correct.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instruction will end according to speci cations.		
System-de-	stem-de- Variable		Data type		Name	
fined variables	None					
Cause and cor- rection	Assumed cause		Correction		Prevention	
	The size that is specified for Write-		Correct the program so that the		Write the program so that the size	
	Dat or Path is too long.		size that is specified for WriteDat		that is specified for WriteDat or	
			or Path is within t	he restriction. Path is within the restriction.		restriction.
Attached infor-	Attached Information	tion 1: Error Locatio	on			
mation	Attached Information	tion 2: Error Locatio	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from
	the start of the se	ction is given. For \$	ST, the line number	r is given.		
	Attached Information	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
	Attached informat	tion 4: Expansion E	Error Code (ErrorID	Ex) is given for inst	ructions that have	Expansion Error
	Codes (ErrorIDE)	x). 0x00000000 is g	viven for instruction	s that do not have l	Expansion Error Co	odes (ErrorIDEx).
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					
Remarks						

*1. Error code 16#2C03 occurs for unit version 1.05 or later of the CPU Unit.

Event name	NX Message Ethe	erCAT Network Erro	or	Event code	54012C05 hex ^{*1}		
Meaning	An error occurred	in EtherCAT comm	nunications on the l	NX message path.	•		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to sp cations.			ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred in EtherCAT communications on the NX message path.		Check for errors in EtherCAT com- munications and execute the in- struction after clearing any errors.		Depends on the r	nature of the error.	
Attached infor- mation	Attached Informative start of the se Attached Informative framework of the se more than one po- be identified.	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error					
Precautions/ Remarks		-	or occurs, the attack				

*1. Error code 16#2C05 occurs for unit version 1.05 or later of the CPU Unit.

Event name	External Restart Already Executed for Specified NX Units			Event code	54012C06 hex ^{*1}		
Meaning	A restart was alre	ady in execution fro	om the Sysmac Stu	idio when the instru	uction was execute	d.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	or- Assumed cause		Correction		Prevention		
rection	A restart was alre from the Sysmac instruction was ex	Studio when the	Restarting with an instruction is not necessary if a restart was already executed from the Sysmac Studio.		Do not execute restarts from the Sysmac Studio during operation.		
Attached infor- mation	Attached Informati the start of the se Attached Informati more than one po be identified. Attached informati	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
Precautions/ Remarks	-			ned information tha	-	· · · · ·	

*1. Error code 16#2C06 occurs for unit version 1.05 or later of the CPU Unit.

Event name	Unapplicable Unit	Specified for Instru	uction	Event code	54012C07 hex*1	
Meaning	A slave that cann Unit.	ot be specified for t	he instruction was	connected at the s	lave node address	of the specified
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instruction will end accord cations.		ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
	Assumed cause		Correction		Prevention	
	A slave that cannot be specified for		Connect the applicable Unit for the		Do not connect a	slave that cannot
	the instruction was connected to		instruction that is specified in the		be specified for the instruction to	
	the slave node address of the		network configuration information.		the slave node address of the	
	specified Unit.				specified Unit.	
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation			(0	umber). For a prog	ram section, the ru	ng number from
		ction is given. For S		•		
				struction Instance		
	be identified.		mormation is given	on all of them. No	uning is given if the	Instruction cannot
		tion 4 [.] Expansion F	rror Code (ErrorID	Ex) is given for inst	ructions that have	Expansion Error
		•		s that do not have l		•
Precautions/ Remarks				hed information tha	•	. ,

*1. Error code 16#2C07 occurs for unit version 1.05 or later of the CPU Unit.

Event name	Invalid Total Power ON Time Record			Event code	54012C08 hex*1	
Meaning	Failed to read the	total power ON tin	ne.		04012000110	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-
System-de-	Variable Data type			Name		
fined variables	None					
Cause and cor-	ause and cor- Assumed cause		Correction		Prevention	
rection	Non-volatile memory failure		Replace the Unit from which the to-		None	
Attached infor- mation	Attached Informat the start of the se Attached Informat more than one po be identified.	tal power ON time cannot be read. Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the more than one possible instruction, information is given on all of them. Nothing is given if the instruction be identified. Attached Information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error				
Precautions/		,	or occurs, the attacl		•	. ,
Remarks						

*1. Error code 16#2C08 occurs for unit version 1.10 or later of the CPU Unit.

Event name	Process Data Obj	ject Setting Missing	I	Event code	54013461 hex		
Meaning	The PDO mappin	g is not correct.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The PDOs that are required for the motion control instruction are not mapped. The relevant instruction was executed for a device that does not have an object that supports the instruction.		the instruction. Refer to the Func	Refer to the Function section of the relevant instruction for the required		Map the PDOs that are required for the instructions that are used. Refer to the <i>NJ/NX-series CPU</i> <i>Unit Motion Control User's Manual</i> <i>(Cat. No. W507)</i> for the PDOs (Servo Drive settings) that you must map for each instruction.	
			Some devices do not support the relevant instruction. Refer to the manual for the target device, check to see if the relevant instruction is supported, and cor- rect the program so that unsup- ported instructions are not execut- ed.		Refer to the manual for the target device and write the program so that unsupported instructions are not executed.		
	A motion control instruction that specifies phase Z (_mcEncoder- Mark) as the trigger conditions was executed for an axis that is map- ped to an OMRON GX-EC02		Use an external input (_mcEXT) as the trigger conditions for an axis that is mapped to an OMRON GX- EC02		Use an external input (_mcEXT) as the trigger conditions for an axis that is mapped to an OMRON GX- EC02 C EtherCAT Encoder slave.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Device Error Rec	eived		Event code	54014800 hex ^{*1}	
Meaning	An error response	e from the device w	as received.	I		
Source	PLC Function Module Source detail		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable	•	Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error response from the device was received.		the device is output to the Error- ual for the de		Check the error c ual for the device the user program instruction.	before you write
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction car be identified. Attached Information 4: Expansion Error Code (ErrorType)					ccurred. If there is
Precautions/ Remarks		•	or occurs, the attack	,	t is displayed may	not be correct.

*1. Error code 16#4800 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Specified Unit Do	es Not Exist		Event code	54014801 hex ^{*1}	
Meaning	The specified Uni	t does not exist.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The IO-Link master is not connect-		Connect or mount the IO-Link mas-		Connect or mount the IO-Link mas-	
	ed to or mounted on the specified		ter to or on the specified position.		ter to or on the specified position.	
	position.		Or, specify the position where the		Or, specify the position where the	
			IO-Link master is mounted.	connected or	IO-Link master is connected or mounted.	
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation	Attached Informa	tion 2: Error Locatio	on Details (Rung N	umber). For a progi	ram section, the ru	ng number from
	the start of the se	ction is given. For S	ST, the line number	is given.		
	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
		ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
	Attached Informa	tion 4: Expansion E	Error Code (ErrorTy	pe)		
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

*1. Error code 16#4801 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Message Process	sing Limit Exceede	d	Event code	54014802 hex ^{*1}		
Meaning	An instruction car cation.	not be executed b	ecause the IO-Link	master is process	ing the message fro	om another appli-	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-	
System-de-	Variable	•	Data type		Name		
fined variables	None						
Cause and cor-	Cause and cor- Assumed cause		Correction		Prevention		
rection	An instruction car because the IO-L processing the m other application ecution or a tool of	ink master is essage from an- (an instruction ex-	Execute the instruction again.		Perform processing for exclusive control of messages in applications (an instruction execution or a tool connection). Or, increase the num- ber of retries.		
Attached infor- mation	Attached Informa the start of the se Attached Informa more than one po be identified.	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
Precautions/ Remarks		•	. ,	. ,	at is displayed may	not be correct.	

*1. Error code 16#4802 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Specified Unit Sta	atus Error		Event code	54014803 hex ^{*1}		
Meaning	The specified Uni	t is not in a conditio	on to receive messa	ages.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable None		Data type		Name		
fined variables							
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The specified Uni tion to receive me	t is not in a condi- essages.	Execute the instruction again.		When this error occurs, execute the instruction again.		
Attached infor- mation	Attached Informa the start of the se Attached Informa						
Precautions/ Remarks		•	()	hed information tha	t is displayed may	not be correct.	

*1. Error code 16#4803 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Too Many Simulta	aneous Instruction	Executions	Event code	54014804 hex ^{*1}			
Meaning	The number of in	structions that can	be simultaneously	executed was exceeded.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-		
System-de-	Variable D		Data type		Name			
fined variables	None							
Cause and cor-	Cause and cor- Assumed cause		Correction		Prevention			
rection	More than 32 NX message instruc-		Correct the user program so that		Write the user program so that no			
	tions and EtherCAT communica-		no more than 32	no more than 32 NX message in-		message instruc-		
	tions instructions were executed at		structions and EtherCAT communi-		tions and EtherCAT communica-			
	the same time.		cations instructions are executed		tions instructions are executed at			
			at the same time.		the same time.			
Attached infor-	Attached Informa	tion 1: Error Locatio	on					
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from		
	the start of the se	ction is given. For	ST, the line number	r is given.				
	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is		
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot		
	be identified.							
	Attached Informa	tion 4: Expansion E	Error Code (ErrorTy	pe)				
Precautions/	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.		
Remarks								

*1. Error code 16#4804 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Communications	Timeout		Event code	54014805 hex ^{*1}	
Meaning	A timeout occurre	ed in communicatio	ns.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	is shorter than the sponse time.	The communications timeout time is shorter than the message re- sponse time.		Calculate the message response time, and make a setting so that the communications timeout time is longer than the message response time.		ssage response setting so that ons timeout time is nessage response
	The cable for EtherCAT or for IO- Link is broken.		Replace the cable.		None	
	Noise		Implement noise countermeasures.		Implement noise countermeasures.	
	Device failure		Replace the relevant device.		None	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction canr be identified. Attached Information 4: Expansion Error Code (ErrorType)					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.

*1. Error code 16#4805 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Invalid Mode			Event code	54014806 hex ^{*1}	
Meaning	The specified IO-	Link master port is	not the IO-Link mo	de.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The specified IO-	Link master port	Set the specified IO-Link master		Set the IO-Link master port to	
	is not the IO-Link	mode.	port to the IO-Link mode, and exe-		specify to the IO-Link mode, and	
			cute the instruction	on again.	execute the instruction.	
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation			on Details (Rung N	,	ram section, the ru	ng number from
	the start of the se	ction is given. For	ST, the line number	is given.		
			e Instruction and In			
		ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
	Attached Informa	tion 4: Expansion E	Error Code (ErrorTy	pe)		
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

*1. Error code 16#4806 occurs for unit version 1.12 or later of the CPU Unit.

Event name	I/O Power OFF S	tatus		Event code	54014807 hex ^{*1}	
Meaning	The I/O power is	not supplied to the	specified IO-Link m	haster port.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable Da		Data type	•	Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The I/O power is not supplied to the specified IO-Link master port.		Supply the I/O power to the speci- fied IO-Link master port, and then execute the instruction.		Make sure that an supplied to the sp master port befor instruction.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached Information 4: Expansion Error Code (ErrorType)					
Precautions/ Remarks		•	or occurs, the attack	. ,	t is displayed may	not be correct.

*1. Error code 16#4807 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Verification Error			Event code	54014808 hex ^{*1}	
Meaning	The specified IO-Link master port had a verification error or a communications error.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end according to specifi-	
System-de- fined variables	Variable		Data type		Name	
	None					
Cause and cor- rection	Assumed cause		Correction		Prevention	
	The specified IO-Link master port		Clear the error, and then execute		Execute the instruction while there	
	had a verification error or a com-		the instruction again.		is no error.	
	munications error.					
Attached infor-	Attached Information 1: Error Location					
mation	Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from					
	the start of the section is given. For ST, the line number is given.					
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is					
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified					
	Attached Information 4: Expansion Error Code (ErrorType)					
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					
Remarks	a program is shanged and an ener boodre, the attached mornation that is displayed may not be conect.					

*1. Error code 16#4808 occurs for unit version 1.12 or later of the CPU Unit.
Event name	Incorrect Device	Port Setting		Event code	54014809 hex *1	
Meaning	The device port s	ettings are not corr	ect.			
Source	PLC Function Module Source details		Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-
System-de-	Variable Data type		Data type		Name	
fined variables	None					
Cause and cor-	e and cor- Assumed cause		Correction		Prevention	
rection	The device port settings are not		Confirm the type of an IO-Link		Set the device type, specified Unit,	
	correct.		Master Unit and t	Master Unit and then confirm the		and port number of
			device type, specified Unit, speci-		the device port in accordance with	
			fied slave, and po device port.	ort number of the	the type of an IO	-Link Master Unit.
Attached infor-	Attached Informa	tion 1: Error Location	on		1	
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from
	the start of the se	ection is given. For	ST, the line number	is given.		
		tion 3: Names of th				
		ossible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot
	be identified.			`		
		tion 4: Expansion E		,		
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information that	at is displayed may	not be correct.
Remarks						

*1. Error code 16#4809 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Electronic Gear Ratio Numerator Setting Out of Range			Event code	54015420 hex	
Meaning	5	The parameter specified for the <i>RatioNumerator</i> input			control instruction	is out of range.
Source	PLC Function Module S		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Operation The relevant instr cations.		ording to specifi-
System-de-	Variable Da		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid i	range of the input	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.
			struction.			
Attached infor-	Attached Informat	tion 1: Error Locatio	on			
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
		ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Electronic Gear R Range	atio Denominator S	Setting Out of	Event code	54015421 hex	
Meaning		ecified for the Rati	oDenominator inpu	t variable to a moti	l on control instructio	on is out of range.
Source	PLC Function Module S		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	gram Continues. Operation The relevant instructions.		ruction will end according to specifi-		
System-de-			Data type		Name	
fined variables				Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid i	ange of the input	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the relevant in-	the input variable is not exceeded.	
			struction.			
Attached infor-	Attached Information	tion 1: Error Locatio	on			
mation			e Instruction and In nformation is given			
	be identified.		-		-	
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Target Velocity Se	etting Out of Range	•	Event code	54015422 hex		
Meaning	The parameter sp	pecified for the Velo	<i>city</i> input variable t	o a motion control	instruction is out of	range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-	
System-de-	Variable Data ty		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MF	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur-	
				rence			
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input para struction so that t the input variable	he valid range of	
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Acceleration Sett	ing Out of Range		Event code	54015423 hex		
Meaning	The parameter sp	becified for the Acc	eleration input varia	able to a motion co	ntrol instruction is c	out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MF	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur-	
				rence			
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	parameter ex-	Correct the paran	Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for the relevant in- struction.		the input variable	is not exceeded.	
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po be identified.	more than one possible instruction, information is given on all of them. Nothing is given if the instruction canr be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	
Remarks							

Event name	Deceleration Setting Out of Range			Event code	54015424 hex		
Meaning	The parameter sp	pecified for the Dec	eleration input varia	able to a motion co	ntrol instruction is c	out of range.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-	
System-de-	Variable Data type			Name			
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MF	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur-	
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	oarameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid	range of the input	valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.	
			struction.				
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po be identified.	more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Jerk Setting Out of	of Range		Event code	54015425 hex		
Meaning	The parameter sp	becified for the Jerk	input variable to a	motion control inst	ruction is out of rar	ige.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-	Variable Data type			Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
	_MC_GRP[*].MFa	aultLvI.Active	BOOL		Axes Group Minor Fault Occur-		
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid	range of the input	valid range of the	input variable is	struction so that the valid range of		
	variable.		not exceeded for	the relevant in-	the input variable is not exceeded.		
			struction.				
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Torque Ramp Set	ting Out of Range		Event code	54015427 hex	
Meaning	The parameter sp	ecified for the Torq	<i>ueRamp</i> input varia	able to a motion co	ntrol instruction is a	out of range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Operation The relevant instructi cations.		ording to specifi-
System-de-	Variable Data type _MC_AX[*].MFaultLvI.Active BOOL		Data type	Data type		
fined variables				Axis Minor Fault Occurrence		
Cause and cor-	r- Assumed cause		Correction		Prevention	
rection	Instruction input p ceeded the valid r variable.		Correct the param valid range of the not exceeded for struction.	input variable is	Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Master Coefficien	t Scaling Out of Ra	inge	Event code	54015428 hex		
Meaning	The parameter sp	ecified for the Mas	terScaling input va	riable to a motion c	ontrol instruction is	out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end accordin cations.		ording to specifi-		
System-de-			Data type		Name		
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	Instruction input p ceeded the valid r variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Informat	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	
Remarks							

Event name	Slave Coefficient Scaling Out of Range			Event code	54015429 hex		
Meaning	The parameter sp	The parameter specified for the <i>SlaveScaling</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
				ing	execution		
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
			cations.				
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvl.Active BOOL		Axis Minor Fault Occurrence		Occurrence	
Cause and cor-	e and cor- Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	ange of the input	valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for	or the relevant in- the input variable is not exc		is not exceeded.	
			struction.				
Attached infor-	Attached Information	tion 1: Error Locatio	on				
mation	Attached Information	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.		-				
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Feeding Velocity Setting Out of Range			Event code	5401542A hex		
Meaning	The parameter sp	pecified for the Fee	<i>dVelocity</i> input vari	able to a motion c	ontrol instruction is	out of range.	
Source	PLC Function Module \$		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Dperation The relevant instruction will end according cations.		ording to specifi-	
System-de-	La construite la construite de la construit		Data type BOOL		Name		
fined variables					Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Feed Velocity	The Feed Velocity (input variable		Specify a positive value for the		Set the input parameter to the in-	
	FeedVelocity) is s	still at the default	Feed Velocity (inp	out variable	struction so that t	the valid range of	
	(0).		FeedVelocity).		the input variable	is not exceeded.	
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	information is given	on all of them. No	othing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attac	hed information th	at is displayed may	not be correct.	
	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

Event name	Buffer Mode Sele	ction Out of Range		Event code	5401542B hex		
Meaning			ion control instruction	on is out of range.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFa	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur-	
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for the relevant in-		the input variable is not exceeded.		
			struction.				
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information that	t is displayed may	not be correct.	
Remarks							

Event name	Coordinate Syste	m Selection Out of	Range	Event code	5401542C hex		
Meaning	The parameter sp	ecified for the Coo	rdSystem input var	iable to a motion co	ontrol instruction is	out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Operation The relevant instruction will e cations.		ording to specifi-	
System-de-			Data type		Name		
fined variables				Axes Group Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Circular Interpola	Circular Interpolation Mode Selection Out of Range Event			5401542D hex		
Meaning	The parameter sp	ecified for the Circ	Mode input variable	e to a motion contro	l instruction is out	of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acco	ording to specifi-	
System-de-	n-de- Variable		Data type		Name		
fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur-		
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of		
	variable.			not exceeded for the relevant in-		is not exceeded.	
			struction.				
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation			e Instruction and In				
		ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						
Remarks							

Event name	Direction Selection	n Out of Range		Event code	5401542E hex		
Meaning	The parameter sp	ecified for the Dire	ction input variable	to a motion contro	l instruction is out o	of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	struction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for the relevant in-		the input variable is not exceeded.		
	struction.						
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot						
	be identified.	be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Path Selection O	Path Selection Out of Range			5401542F hex	
Meaning	The parameter sp	ecified for the Path	Choice input varial	ble to a motion con	trol instruction is ou	ut of range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	ration The relevant instruction will end according to s cations.		ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for the relevant in-		the input variable is not exceeded.	
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.
	variable.		not exceeded for struction.	the relevant in-	the input variable	is not exceeded.
Attached infor-		tion 1: Error Locatio	struction.	the relevant in-	the input variable	is not exceeded.
Attached infor- mation	Attached Informa	tion 1: Error Locatio	struction.			
	Attached Informa Attached Informa		struction. on e Instruction and In	struction Instance	Where the Error Od	ccurred. If there is
	Attached Informa Attached Informa more than one po be identified.	tion 3: Names of th	struction. on e Instruction and In nformation is given	struction Instance on all of them. Not	Where the Error Od	ccurred. If there is instruction cannot

Event name	Position Type Sel	ection Out of Rang	e	Event code	54015430 hex	
Meaning	The parameter sp	pecified for the Refe	erenceType input va	ariable to a motion	control instruction i	is out of range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-
System-de-			Data type		Name	
fined variables			BOOL		MC Common Minor Fault Occur- rence	
				Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	Travel Mode Sele	ection Out of Range)	Event code	54015431 hex		
Meaning	The parameter sp	pecified for the Mov	<i>eMode</i> input variab	le to a motion cont	trol instruction is ou	it of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	ration The relevant instruction will end according to cations.		ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Transition Mode S	Selection Out of Ra	inge	Event code	54015432 hex			
Meaning	The parameter sp	ecified for the Trar	<i>sitionMode</i> input va	ariable to a motion	control instruction	is out of range.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instictions.	ruction will end acc	uction will end according to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_GRP[*].MFa	aultLvI.Active	BOOL		Axes Group Minor Fault Occur- rence			
Cause and cor-	Ind cor- Assumed cause		Correction		Prevention			
rection	Assumed cause Instruction input parameter ex- ceeded the valid range of the input variable. _mcAborting or _mcBuffered was specified for BufferMode and _mcTMCornerSuperimposed was specified for TransitionMode.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction. If you specify _mcAborting or _mcBuffered for BufferMode, specify _mcTMNone for TransitionMode. If you specify _mcTMCornerSuperimposed for TransitionMode, specify _mcBlendingLow, _mcBlendingPrevious, _mcBlendingNext, or _mcBlendingHigh for BufferMode.		Prevention Set the input parameter to the instruction so that the valid range of the input variable is not exceeded. If you specify _mcAborting or _mcBuffered for BufferMode, specify _mcTMNone for TransitionMode. If you specify _mcTMCornerSuperimposed for TransitionMode, specify _mcBlendingLow, _mcBlendingPrevious, _mcBlendingNext, or _mcBlendingHigh for BufferMode			
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If ther more than one possible instruction, information is given on all of them. Nothing is given if the instruction car be identified							
Precautions/ Remarks	be identified. If a program is changed after an error occurs, the attached information that is displayed may not be correct.							

Event name	Continue Method	Selection Out of R	ange	Event code	54015433 hex		
Meaning	The value of the r	eserved input varia	able Continuous to	a motion control ins	struction changed.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	r program Continues. Operation The relevant instru		uction will end acc	ording to specifi-		
			cations.				
System-de-			Data type		Name		
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the r	The value of the reserved input		Correct the program so that the		Write the user program so that the	
	variable Continuo	<i>us</i> changed.	value of the reser	value of the reserved input variable		value of the reserved input variable	
			Continuous does not change.		Continuous does not change.		
Attached infor-	Attached Information	tion 1: Error Locatio	on				
mation	Attached Information	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Combine Mode S	election Out of Rar	Event code	54015434 hex		
Meaning			<i>bineMode</i> input va			s out of range
Source			Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acco	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p ceeded the valid r variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Synchronization S Range	Start Condition Sele	ection Out of	Event code	54015435 hex		
Meaning	The parameter specified for the <i>LinkOption</i> input variable to a motion				ontrol instruction is out of range.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according cations.		ording to specifi-	
System-de-	n-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	ange of the input	valid range of the	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.	
			struction.				
Attached infor-	Attached Informat	tion 1: Error Locatio	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po be identified.	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Master and Slave	Defined as Same	Axis	Event code	54015436 hex	
Meaning	The same axis is	specified for the M	aster and Slave inp	ut variables to a m	otion control instru	ction.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acco	ording to specifi-
System-de-			Data type		Name	
fined variables			BOOL	BOOL		MC Common Minor Fault Occur- rence
	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter is	the same for the	Correct the parameters so that dif-		Specify different axes for the	
	Master and Slave	input variables to	ferent axes are sp	pecified for the	Master and Slave	input variables to
	the instruction.		Master and Slave	input variables to	the instruction.	
			the instruction.			
Attached infor-	Attached Information	tion 1: Error Locatio	on			
mation	Attached Information	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oo	ccurred. If there is
	more than one po be identified.	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Master and Auxili	ary Defined as San	ne Axis	Event code	54015437 hex	
Meaning	The same axis is	specified for the M	aster and Auxiliary	input variables to a	motion control ins	truction.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	ration The relevant instruction will end according to cations.		ording to specifi-
System-de-	Variable		Data type		Name	
fined variables _MC_AX[*].MFaultLvI.Active		ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter is <i>Master</i> and <i>Auxili</i> bles to the instruct	<i>ary</i> input varia-	Correct the parameters so that dif- ferent axes are specified for the <i>Master</i> and <i>Auxiliary</i> input varia- bles to the instruction.		Specify different axes for the <i>Master</i> and <i>Auxiliary</i> input variables to the instruction.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Master/Slave Axi	s Numbers Not in A	scending Order	Event code	54015438 hex	
Meaning	The axis numbers ascending order.	s specified for the \hbar	<i>Master</i> and <i>Slave</i> in	put variables to a r	motion control instr	uction are not in
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-
System-de-	Variable		Data type	•	Name	
fined variables	_MC_AX[*].MFau	aultLvI.Active BOOL			Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause The parameters for the Master and Slave input variables to the instruc- tion were not in ascending order when _mcLatestCommand was specified for the ReferenceType in- put variable to the instruction.		Correction		Prevention	
rection			When specifying _mcLatestCommand for the ReferenceType input variable to the instruction, correct the parame- ters so that the axis numbers specified for the Master and Slave input variables to the instruction are in ascending order. Or, specify _mcCommand for the Master Axis Position Type Selection.			nput variable,
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	at is displayed may	not be correct.

Event name	Incorrect Cam Ta	ble Specification	Event code	54015439 hex		
Meaning	The parameter sp	pecified for the Can	<i>Table</i> input variabl	e to a motion contr	ol instruction is out	of range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-
System-de-			Data type	•	Name	
fined variables			BOOL		MC Common Minor Fault Occur- rence	
				Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Something other than a cam data variable was specified for the <i>CamTable</i> input variable to the in- struction.		Correct the parameter specified for the <i>CamTable</i> input variable to the instruction so that it is a cam data variable.		Specify a cam data variable for the <i>CamTable</i> input variable to the instruction.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Synchronization S	Stopped		Event code	5401543A hex	
Meaning	A synchronized comet.	ontrol motion contr	ol instruction was e	xecuted, but condit	tions required for e	xecution were not
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	cuted even tho mIn (Start Carr struction is not The MC_Geard Operation) inst cuted even tho MC_GearIn (Si tion) or the MC sitioning Gear struction is not The MC_Phasi Axis Phase) ins cuted even tho mIn (Start Carr MC_GearIn (Si tion), MC_Gea Gear Operation Link (Synchron	ruction was exe- ugh the MC_Ca- o Operation) in- being executed. Out (End Gear ruction was exe- ugh the tart Gear Opera- _GearInPos (Po- Operation) in- being executed. ng (Shift Master struction was exe- ugh the MC_Ca- o Operation), tart Gear Opera-	Correct the progr quired conditions instruction is exer	Prevention ram so that re- Make sure that r are met when the for execution are		equired conditions met when you ex- ed control instruc-
Attached infor- mation	Attached Information		on e Instruction and Ir nformation is given			
Precautions/ Remarks		anged after an erro	or occurs, the attac	ned information tha	t is displayed may	not be correct.

Event name	Motion Control In	struction Re-execu	tion Disabled	Event code	5401543B hex		
Meaning	An attempt was n	nade to re-execute	a motion control in	struction that canno	t be re-executed.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-	- Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Mir rence	or Fault Occur-	
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	A motion control instruction that cannot be re-executed was re-exe- cuted.		Correct the program so that the <i>Execute</i> input variable does not change to TRUE until the <i>Busy</i> output variable from the instruction changes to FALSE.		When using instructions that can- not be re-executed, include a con- dition for the <i>Execute</i> input variable so that it does not change to TRUE unless the <i>Busy</i> output variable for the previous instruction is FALSE. Or, stop the instruction before exe- cuting it again.		
Attached infor-	Attached Information 1: Error Location						
mation	Attached Informa	tion 3: Names of th ossible instruction, i	e Instruction and In				
	Attached Informa more than one po be identified.	tion 3: Names of th	e Instruction and Ir nformation is given	on all of them. Not	hing is given if the	instruction cannot	

Event name	Motion Control In	struction Multi-exec	ution Disabled	Event code	5401543C hex	
Meaning	Multiple functions axis, or axes grou	that cannot be exe ıp).	cuted simultaneou	sly were executed	for the same targe	t (MC common,
Source	PLC Function Mo	dule	Source details Instruction		Detection tim- ing	At multi-execu- tion of instruc- tions
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instr cations.		ruction will end acc	ording to specifi-
System-de-	Variable	•	Data type		Name	
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence	
	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction	Correction		
rection			Check the specifications of multi- execution of instructions for this in- struction and correct the program so that instructions that cannot be executed at the same time are not executed simultaneously.		Check the specifications for multi- execution of instructions for the in- struction and do not execute in- structions that cannot be executed at the same time.	
Attached infor- mation	Attached Informa	ched Information 1: Error Location ched Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there i than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot lentified.				
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information that	at is displayed may	not be correct.

Event name	Instruction Not Al	lowed for Encoder		Event code	5401543D hex	
					3401343D Hex	
Meaning	An operation insti	ruction was execute	ed for an encoder a	XIS.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	nt instruction will end according to specifi	
System-de-			Data type	Data type		
fined variables				Axis Minor Fault Occurrence		
Cause and cor-	r- Assumed cause		Correction		Prevention	
rection	An operation inst	ruction was exe-	Specify either a Servo axis or virtu- al Servo axis as the axis type for		Only execute mo	tion instructions
	cuted for an enco	der axis.			for Servo axes or virtual Servo ax-	
			the instruction, or	correct the pro-	es.	
			gram so that the i	nstruction is not		
			executed for an e	ncoder axis.		
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.		-			
Precautions/	If a program is ch	anged after an erro	or occurs, the attack	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Instruction Cannot Be Executed during Multi-axes Co			Event code	5401543E hex			
	ordinated Control							
Meaning	motion.	An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. A robot instruction that you cannot use for an axes group in a GroupEnable state was executed.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At multi-execu- tion of instruc- tions		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr cations.	instruction will end according to specifi-			
System-de-	Variable		Data type	•	Name			
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence			
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur-			
					rence			
Cause and cor-	Assumed cause		Correction	Correction				
rection	An operation instr cuted for an axis that was in a coor es motion.	or an axes group	operation instructions are executed only for axes of		only for axes or a are not in coordin	• •		
	The MC_SetKinTransform (Set Kinematics Transformation) in- struction was executed for an axes group in a GroupEnable state.		Correct the program so that the in- struction is executed only when the axes group is in a GroupDisable state.		Execute the instruction only when the axes group is in a GroupDisa- ble state.			
Attached infor-		tion 1: Error Location						
mation		Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.		

Event name	Multi-axes Coord for Disabled Axes	inated Control Instr s Group	uction Executed	Event code	5401543F hex	
Meaning	A multi-axes coor	dinated control inst	ruction was execut	ed for an axes grou	up that was in a Gr	oupDisable state.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Mind rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Assumed cause A multi-axes coordinated control in- struction was executed for an axes group that was in a GroupDisable state. One of the following instructions was executed for an axes group that was in a GroupDisable state. • Execute the instruction only when the axes group is in a GroupDisable state. • MC_SyncLinearConveyor (Start Conveyor Synchronization) in- struction • MC_SyncOut (End Synchroniza- tion) instruction • MC_RobotJog (Axes Group Jog)		Correction Correct the program so that the in- struction is executed only after changing the axes group to the Ax- es Group Enabled state. Execute the MC_GroupEnable (Enable Ax- es Group) instruction to change an axes group to the Axes Group En- abled state.		Prevention Execute multi-axes coordinated op- eration instructions only after ena- bling the axes group. Execute the MC_GroupEnable (Enable Axes Group) instruction to change an ax- es group to the Axes Group Ena- bled state.	
Attached infor- mation	Attached Informa	tion 1: Error Location tion 3: Names of th possible instruction, i	e Instruction and Ir			
Precautions/ Remarks		anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	Axes Group Canr	not Be Enabled		Event code	54015440 hex	
Meaning	Execution of the I	MC_GroupEnable (Enable Axes Group	p) instruction failed		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL			r Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	When the MC_GroupEnable (Ena- ble Axes Group) instruction was executed, there was a composition axis that was not stopped.		Correct the program so that the MC_GroupEnable (Enable Axes Group) instruction is executed only when all composition axes are stopped. An axis is stopped if <i>Status.Disabled</i> or <i>Status.Standstill</i> is TRUE in the Axis Variable.		Write the programs so that the MC_GroupEnable (Enable Axes Group) instruction is executed only when all composition axes are stopped. An axis is stopped if <i>Status.Disabled</i> or <i>Status.Standstill</i> is TRUE in the Axis Variable.	
	When the MC_GroupEnable (Ena- ble Axes Group) instruction was executed, there was a composition axis for which the MC_TouchProbe (Enable External Latch) instruction was being executed.		Correct the program so that the MC_GroupEnable (Enable Axes Group) instruction is executed only when the MC_TouchProbe (Enable External Latch) instruction is not being executed for any of the com- position axes.		Write the program so that the MC_GroupEnable (Enable Axes Group) instruction is executed only when the MC_TouchProbe (Enable External Latch) instruction is not being executed for any of the com- position axes.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If ther more than one possible instruction, information is given on all of them. Nothing is given if the instruction car be identified.					instruction cannot
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.

Event name	Impossible Axis C is OFF	peration Specified	when the Servo	Event code	54015441 hex		
Meaning	An operation inst	ruction was execute	ed for an axis for w	hich the Servo is O	FF.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	struction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	ed variables _MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minc rence	or Fault Occur-	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An operation instruction was exe- cuted for an axis for which the Ser- vo is OFF. Home was preset with the MC_Home or MC_HomeWithPara- meter instruction for an axis for which EtherCAT process data com- munications are not established.		Correct the program so that the in- struction is executed after the Ser- vo is turned ON.		Make sure to execute the axis op- eration instruction after the Servo is turned ON.		
			IIf the _EC_PDSlavTbl (Process Data Communicating Slave Table) systemdefined variable for the EtherCAT master of the master ax- is is FALSE, remove the cause and execute the MC_Home or MC_HomeWithParameter instruc- tion to preset home after _EC_PDSlavTbl changes to TRUE.		is turned ON. If you execute the MC_Home or MC_HomeWithParameter instruc- tion to preset home immediately af- ter you turn ON the power supply to the Controller, download data, reset a slave communications er- ror, disconnect the slave, recon- nect the slave, enable the slave, or disable the slave, write the pro- gram to make sure that the _EC_PDSlavTbl (Process Data Communicating Slave Table) sys- temdefined variable for the Ether- CAT master is TRUE before you execute MC_Home or MC_Home- WithParameter.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance more than one possible instruction, information is given on all of them. N be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

Event name	Composition Axis	Stopped Error		Event code	54015442 hex		
Meaning	A motion instructi composition axis.	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.					
Source	PLC Function Module Source details Instruction		Detection tim- ing	At instruction execution			
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end accorrections.		ording to specifi-		
System-de-			Data type	Data type			
fined variables			BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.		Change the <i>Execute</i> input variable to the MC_Stop instruction for the composition axis to FALSE, reset the error, and then execute the mo- tion control instruction.		Change the <i>Execute</i> input variables to the MC_Stop instructions for all of the composition axes to FALSE before you execute motion control instruction.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Motion Control Instruction Multi-execution Buffer Lim Exceeded			Event code	54015443 hex	
Meaning	The number of m buffer limit.	otion control instruc	ctions that is buffer	ed for Buffered or E	Blending Buffer Moo	des exceeded the
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At multi-execu- tion of instruc- tions
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end according cations.		ording to specifi-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence
_MC_GRP[*].MFault		aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Cor- Assumed cause An axis instruction was executed An axis instruction was executed when there was already a current instruction and a buffered instruction for the same axis. An axes group instruction was executed when there was already eight current instructions and buffered instructions and buffered instructions for the same ax-		Correction		Prevention	
rection			Correct the program so that the number of executed instructions does not exceed the buffer limit.		Do not execute an axis instruction when there is already a current in- struction and a buffered instruction for the same axis. Do not execute an axes group in- struction when there are already eight current and buffered instruc- tions for the same axis.	
Attached infor- mation	Attached Informa		e Instruction and Ir	nstruction Instance n on all of them. No		
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.

Event name	Insufficient Trave	Distance		Event code	54015444 hex	
Meaning		tion cannot be exec r re-execution of a			leration rate that w	as specified for
Source	PLC Function Mo	dule	ule Source details Instruction		Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instructions.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MF	aultLvl.Active BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	e and cor- Assumed cause		Correction		Prevention	
rection	Assumed cause Stopping at the target position was not possible for the specified accel- eration/deceleration rate for multi- execution or re-execution of a posi- tioning instruction when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.		operating specific struction so that t is not exceeded a rate or acceleration for multi-executio of the positioning Or, change the A Deceleration Ov	prrect the program based on the erating specifications for the in- uction so that the target position not exceeded at the deceleration re or acceleration rate specified multi-execution or re-execution the positioning instruction. change the Acceleration / eccleration Over parameter to a tting other than to generate a mi- r fault and stop.		ing specifications istruction and in so that this error cceleration/ er parameter to a in to generate a mi b.
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	at is displayed may	not be correct.

Event name	Insufficient Travel Transit Velocity	Distance to Achiev	ve Blending	Event code	54015445 hex	
Meaning	There is not suffic	ient travel distance	e to accelerate or de	ecelerate to the tra	nsit velocity.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At multi-execu- tion of instruc- tions
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable	•	Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL	BOOL		Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection Attached infor- mation	There was not sufficient travel dis- tance to accelerate the current command to the transit velocity when the Acceleration/ Deceleration Over parameter was set to generate a minor fault and stop. Attached Information 1: Error Location		the operating spe instruction. Or, change the Ad Deceleration Ove setting other than nor fault and stop	icient travel distance according to he operating specifications of the instruction. does Or, change the Acceleration/ Or, c Deceleration Over parameter to a setting other than to generate a mi-		
mation			e Instruction and In nformation is given			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Move Link Constant Velocity Insufficient Travel Dis- tance			Event code	54015446 hex		
Meaning	The constant-velo	The constant-velocity travel distance of the master axis is less than zero.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	nstruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The constant velo tance of the mast for the MC_Move nous Positioning)	er axis is below 0 Link (Synchro-	master distance is equal to the mast	master distance is greater than or equal to the master distance in ac- celeration plus the master distance		ing specifications istruction and in so that this error	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Positioning Gear	Operation Insufficie	ent Target Velocity	Event code	54015447 hex	
Meaning	For the MC_Gear	InPos (Positioning he required velocity	Gear Operation) in	struction, the targe	t velocity of the s	lave axis is too
Source	PLC Function Mo	dule			Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable Data type S _MC_AX[*].MFaultLvl.Active BOOL		Data type		Name	
fined variables				Axis Minor Fault Occurrence		
Cause and cor-	nd cor- Assumed cause		Correction		Prevention	
rection	ing Gear Operation value of the Velocity) input value than the master a	r the MC_GearInPos (Position- g Gear Operation) instruction, the lue of the <i>Velocity (Target</i> <i>locity)</i> input variable is smaller an the master axis velocity multi- ed by the gear ratio when the in- twe star and a star and a star and a star locity) input variable is smaller an the master axis velocity multi- ed by the gear ratio when the in- twe star and a star and a star and a star locity) input variable is smaller an the master axis velocity multi- ed by the gear ratio when the in- twe star and a star and a star and a star and a star locity) input variable is smaller an the master axis velocity multi- ed by the gear ratio when the in- twe star and a star locity) input variable is smaller an the master axis velocity multi- ed by the gear ratio when the in- twe star and a star locity) input variable is smaller an the master axis velocity multi- ed by the gear ratio when the in- twe star and a star locity) input variable is smaller an the master axis velocity multi- ed by the gear ratio when the in- twe star and a star locity) input variable is smaller an the master axis velocity multi- ed by the gear ratio when the in-		nput variable to a ter than the mas- nultiplied by the ne instruction is	for the relevant ir	ting specifications istruction and in so that this error
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Same Start Point tion	and End Point for (Circular Interpola-	Event code	54015448 hex		
Meaning	The start point and end point were the same when the radius method was specified for the MC_MoveCircu- lar2D (Circular 2D Interpolation) instruction. Or, the start point, end point, and border point were the same when the border point method was specified.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFa	_MC_GRP[*].MFaultLvI.Active BOOL		OOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The start point an the same when th was specified for cular2D (Circular instruction.	e radius method the MC_MoveCir-	Correct the program so that the ra- dius specification is not used when the start point and end point for the instruction are the same.		en you execute		
	The start point, end point, and bor- der point were the same when the border point method was specified for the MC_MoveCircular2D (Circu- lar 2D Interpolation) instruction.		Correct the program so that border point specification is not used when the start point, end point, and border point for the instruction are the same.		Do not use the same start point, end point, and border point when you execute circular interpolation with a border point specification.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	r occurs, the attach	ned information tha	t is displayed may	not be correct.	

3-2 Errors in the PLC Function Module

3

3-2-2 Error Descriptions

Event name	Circular Interpolation Center Specification Position Out of Range			Event code	54015449 hex	
Meaning	The position spec	cified for the center Circular2D (Circula		•	en the center meth	od was specified
Source	PLC Function Mc	dule	Source details Instruction		Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Assumed cause The difference between the dis- tance from the start point to the center point and the distance be- tween the end point to the center point exceeded the permitted value specified for the correction allowance ratio in the axes group settings when the center designa- tion method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.		Correct the cente difference betwee from the start poin point input variabl tance between the center point input than the permittee for the correction in the axes group	en the distance nt to the center les and the dis- e end point to the variables is less d value specified n allowance ratio	distance from the center point and tween the end po	the distance be- int to the center es not exceed the rance ratio in the
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Instruction Execution Error Caused by Count Mode Setting			Event code	5401544A hex	
Meaning	An instruction that cannot be used when the Count Mode is set to Rotary Mode was executed for an axis that was set to Rotary Mode.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instruction will end according to specications.		ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFa	aultLvI.Active	BOOL		Axes Group Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An instruction that when the Count M tary Mode was ex is that was set to	lode is set to Ro- ecuted for an ax-	Change the Cour evant axis to Line		Confirm the Count Mode in which you can execute the instruction and set the correct Count Mode for the axis.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.

_						
Event name	Parameter Selection Out of Range			Event code	5401544C hex	
Meaning	The parameter sp	pecified for the Para	ameterNumber inpu	ut variable to a moti	ion control instruction	on is out of range.
Source	PLC Function Mo	dule	Source details Instruction		Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acco	ording to specifi-
				cations.		
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	IltLvI.Active	BOOL		MC Common Minor Fault Occur-	
					rence	
	Assumed cause		Correction			
Cause and cor-	Assumed cause		Correction		Prevention	
Cause and cor- rection	Assumed cause	parameter ex-	Correction Correct the paran	neter so that the	Prevention Set the input para	ameter to the in-
	Instruction input p	parameter ex- range of the input				
	Instruction input p		Correct the paran	input variable is	Set the input para	he valid range of
	Instruction input p		Correct the paran valid range of the	input variable is	Set the input para struction so that t	he valid range of
	Instruction input p ceeded the valid variable.		Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input para struction so that t	he valid range of
rection	Instruction input p ceeded the valid variable. Attached Informa	range of the input	Correct the paran valid range of the not exceeded for struction.	input variable is the relevant in-	Set the input para struction so that t the input variable	he valid range of is not exceeded.
rection Attached infor-	Instruction input p ceeded the valid variable. Attached Informa Attached Informa	range of the input	Correct the paran valid range of the not exceeded for struction. on e Instruction and Ir	input variable is the relevant in-	Set the input para struction so that t the input variable Where the Error Oc	he valid range of is not exceeded.
rection Attached infor-	Instruction input p ceeded the valid variable. Attached Informa Attached Informa	tion 1: Error Location	Correct the paran valid range of the not exceeded for struction. on e Instruction and Ir	input variable is the relevant in-	Set the input para struction so that t the input variable Where the Error Oc	he valid range of is not exceeded.
rection Attached infor-	Instruction input p ceeded the valid variable. Attached Informa Attached Informa more than one po be identified.	tion 1: Error Location	Correct the paran valid range of the not exceeded for struction. on e Instruction and Ir nformation is given	input variable is the relevant in- nstruction Instance on all of them. Not	Set the input para struction so that t the input variable Where the Error Oo thing is given if the	he valid range of is not exceeded. ccurred. If there is instruction cannot

Event name	Stop Method Sele	ection Out of Range	9	Event code	5401544D hex	
Meaning	The parameter sp	ecified for the Stop	<i>Mode</i> input variabl	e to a motion contr	ol instruction is out	of range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-	
System-de-	Variable	Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p ceeded the valid r variable.		Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input para struction so that t the input variable	he valid range of
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Latch ID Selection Out of Range for Trigger Input Condition			Event code	5401544E hex		
Meaning	The parameter sp range.	The parameter specified for the <i>TriggerInput::LatchID</i> input variable to a motion control instruction is out of ange.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to spec cations.		ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid variable.		Correct the param valid range of the not exceeded for struction.	input variable is	Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified					
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

Event name	Setting Out of Ra	nge for Writing MC	Setting	Event code	5401544F hex	
Meaning	The parameter sp	pecified for the Sett	<i>ingValue</i> input varia	able to a motion co	ntrol instruction is c	out of range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acco	ording to specifi-
System-de-	Variable	•	Data type	•	Name	
fined variables	iables _MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
	The parameter specification and the data type of the setting value do not agree.		Make corrections so that the pa- rameter settings and the data types of the settings agree.		Make sure the parameter settings and the data type of the setting val- ues agree.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Trigger Input Con	Trigger Input Condition Mode Selection Out of Range Event code 54015450 hex						
Meaning	The parameter sp	The parameter specified for the <i>TriggerInput::Mode</i> input variable to a motion control instruction is out of range.						
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction		
					ing	execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-		
				cations.				
System-de-	Variable	Variable Data type		Name				
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-			
	ceeded the valid i	range of the input	valid range of the	alid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for	the relevant in-	the input variable is not exceeded.			
			struction.					
Attached infor-	Attached Informat	tion 1: Error Locatio	on					
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is		
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot		
	be identified.		0		5 5			
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.		
Remarks								

Event name	Drive Trigger Signal Selection Out of Range for Trig- ger Input Condition			Event code	54015451 hex		
Meaning	The parameter sp range.	The parameter specified for the <i>TriggerInput::InputDrive</i> input variable to a motion control instruction is o ange.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instr cations.		uction will end according to specifi-		
System-de-	Variable	able Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid r variable.		Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input para struction so that t the input variable	he valid range of	
Attached infor-	Attached Informat	tion 1: Error Locatio	on				
mation	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannobe identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	ned information tha	t is displayed may	not be correct.	

Event name	Motion Control Instruction Re-execution Disabled (Ax- is Specification)			Event code	54015453 hex		
Meaning		•	•	parameter for the <i>Axis</i> input variable when re-executing a motion control ot be changed when re-executing an instruction.)			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-		
System-de-	Variable	•	Data type	•	Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		rameter for the re	am so that the pa- levant input varia- ige when the rele- re-executed.	control instructior	ne relevant motion in can be changed Write the program parameters for e that cannot be	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name		struction Re-execu	tion Disabled	Event code	54015454 hex		
Meaning	An attempt was n	(Buffer Mode Selection) An attempt was made to change the parameter for the <i>BufferMode</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	· · ·		Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	control instructior	ne relevant motion n can be changed Write the program parameters for e that cannot be	
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	
Remarks							

Event name	Motion Control Instruction Re-execution Disabled (rection Selection)			Event code	54015455 hex		
Meaning		•		parameter for the <i>Direction</i> input variable when re-executing a motion le cannot be changed when re-executing an instruction.)			
Source	PLC Function Mo	dule	dule Source details Instruction Detection tim- ing			At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-		
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	An input variable changed for re-ex changed.		rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	put variables to the control instruction by re-execution. so that the input any input variable	Check the manual to see if the in- put variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re- evecution	
Attached infor- mation	Attached Informa		ion ne Instruction and Instruction Instance Where the Error Occurred. If there is information is given on all of them. Nothing is given if the instruction cannot				
Precautions/ Remarks	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Motion Control In ecution Mode)	struction Re-execu	tion Disabled (Ex-	Event code	54015456 hex		
Meaning		An attempt was made to change the parameter for the <i>Periodic</i> input variable when re-executing a motion c trol instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe-	rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	control instructior	ne relevant motion n can be changed Write the program parameters for e that cannot be	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction canr be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Motion Control In es Group Specific	struction Re-execur ation)	tion Disabled (Ax-	Event code	54015457 hex		
Meaning		In attempt was made to change the parameter for the <i>AxesGroup</i> input variable when re-executing a motion ontrol instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		rameter for the re ble does not char vant instruction is	am so that the pa- levant input varia- nge when the rele- re-executed.	control instructior	ne relevant motion n can be changed Write the program parameters for e that cannot be	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

3

3-2-2 Error Descriptions

Event name	Motion Control Instruction Re-execution Disabled (Jerk Setting)			Event code	54015458 hex		
Meaning		An attempt was made to change the parameter for the <i>Jerk</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	PLC Function Mo	dule	Source details	Source details Instruction		At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed. Check the manual to put variables to the r control instruction ca by re-execution. Writ so that the input para any input variable the changed do not char execution.		n can be changed Write the program parameters for e that cannot be		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there i more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Motion Control In (Master Axis)	struction Re-execu	tion Disabled	Event code	54015459 hex		
Meaning		An attempt was made to change the parameter for the <i>Master</i> input variable when re-executing a motion con- trol instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type Name				
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection Attached infor- mation	A parameter for an input variable that cannot be changed for re-exe- cution was changed. Attached Information 1: Error Location		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed. Description of the relevant input variables to the relevant instruction can by re-execution. Write so that the input paramany input variable that changed do not change execution. Description of the relevant instruction can by re-execution. Write so that the input paramany input variable that changed do not change execution.			ne relevant motion n can be changed Write the program parameters for e that cannot be change upon re-	
	more than one po be identified.	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Motion Control Instruction Re-execution Disabled (MasterOffset)			Event code	5401545A hex	
Meaning		•	parameter for the le cannot be chang	•		xecuting a motion
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type	•	Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	control instruction	ne relevant motion n can be changed Write the program parameters for e that cannot be
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Motion Control In (MasterScaling)	struction Re-execu	tion Disabled	Event code	5401545B hex	
Meaning		•	parameter for the <i>l</i> ariable cannot be ch	• •		•
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-	
System-de-	Variable	•	Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe-	rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	control instructior	he relevant motion in can be changed Write the program parameters for that cannot be
Attached infor- mation	Attached Informa		tion he Instruction and Instruction Instance Where the Error Occurred. If there is information is given on all of them. Nothing is given if the instruction cannot			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Motion Control In: (MasterStartDista	struction Re-execu nce)	tion Disabled	Event code	5401545C hex	
Meaning		-		parameter for the <i>MasterStartDistance</i> input variable when re-executir variable cannot be changed when re-executing an instruction.)		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	evant instruction will end according to specifi-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe-	rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	control instructior	ne relevant motion n can be changed Write the program parameters for e that cannot be
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cann be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Event name	Motion Control Instruction Re-execution Disabled Event code 5401545D hex (Continuous)		5401545D hex			
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Meaning		•	parameter for the le cannot be chang			•
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	vant instruction will end according to specifi-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection Attached infor-		anged for re-exe- ed. tion 1: Error Locatio	rameter for the re ble does not char vant instruction is		control instruction by re-execution. V so that the input any input variable changed do not o execution.	the relevant motion in can be changed Write the program parameters for that cannot be change upon re-
mation			e Instruction and Ir nformation is given			
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Motion Control In (MoveMode)	struction Re-execu	tion Disabled	Event code	5401545E hex		
Meaning		•	parameter for the le cannot be chang			ecuting a motion	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	struction will end according to specifi-		
System-de-	Variable		Data type	•	Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe-	rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	control instruction	ne relevant motion n can be changed Write the program parameters for e that cannot be	
Attached infor- mation	Attached Informa						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Event name	Illegal Auxiliary A	xis Specification		Event code	5401545F hex		
Meaning	The axis specified	d for the Auxiliary ir	put variable to a m	otion control instru	ction does not exis	t.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	nstruction will end according to specifi		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An axis does not ble specified for the variable to the ins	, ,	variable exists for	Correct the instruction so that the variable exists for the axis that was specified for the instruction.		Make sure to specify variables that exist when specifying variables for the input parameters to an instruc- tion.	
Attached infor- mation	Attached Informa		on e Instruction and In nformation is given				
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Illegal Axis Specit	ication		Event code	54015460 hex	
Meaning			variable to a motion	n control instruction		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ingAt instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acco	ording to specifi-
System-de-	Variable		Data type	•	Name	
fined variables	_MC_COM.MFau	ItLvI.Active	BOOL		MC Common Min rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection		exist for the varia- ne <i>Axis</i> input vari- tion.	Correct the instru variable exists for specified for the in	the axis that was	Make sure to spe exist when specif the input paramet tion.	
Attached infor- mation	Attached Information	d Information 1: Error Location d Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is an one possible instruction, information is given on all of them. Nothing is given if the instruction canno				
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Illegal Axes Grou	p Specification		Event code	54015461 hex	
Meaning	The axes group s not a used group.	pecified for the Axe	es <i>Group</i> input varia	able to a motion cor	ntrol instruction doe	es not exist or is
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end according to sp cations.			ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	IltLvI.Active	BOOL		MC Common Mir	nor Fault Occur-
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An axes group do the variable spec <i>AxesGroup</i> input struction		Correct the specification for the in- struction so that the specified axes group exists.		Specify a variable that exists when specifying a variable for an input parameter to an instruction.	
	The axes group specified for the <i>AxesGroup</i> input variable to the instruction is not specified as a used group.		Correct the axes group specified by the instruction to a used group.		Set a used axes AxesGroup input struction.	group for the variable to the in-
Attached infor- mation	Attached Informa	tion 1: Error Location tion 3: Names of th pssible instruction, i	e Instruction and Ir			
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information that	at is displayed may	not be correct.
Remarks						

Event name	Illegal Master Axi	s Specification		Event code	54015462 hex	
Meaning	The axis that is s	pecified for the Mas	s <i>ter</i> input variable to	o a motion control i	nstruction is not co	rrect.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instruction will end according to spec cations.		
System-de-	Variable _MC_COM.MFaultLvI.Active		Data type		Name	
fined variables			BOOL		MC Common Min rence	or Fault Occur-
	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	ble specified for t variable to the ins The axis that was <i>Master</i> input varia MC_Phasing (Sh	struction. specified for the able to the ift Master Axis is not the master	Correct the instruction so that the variable exists for the axis that was specified for the instruction. Correct the variable that is input to the <i>Master</i> input variable of the MC_Phasing (Shift Master Axis Phase) instruction to the axis varia- ble that is specified as the master axis of the synchronized control in- struction. Assign the axes that are input to the <i>Master</i> and <i>Slave</i> input varia-		Specify a variable that exists when specifying a variable for an input parameter to an instruction. Correct the variable that is input to the <i>Master</i> input variable of the MC_Phasing (Shift Master Axis Phase) instruction to the axis varia- ble that is specified as the master axis of the synchronized control in- struction. Specify axes that are assigned to the same tasks for the master and	
Attached infor- mation	Attached Informa more than one po be identified.	ossible instruction, i	e Instruction and Ir nformation is given			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	Motion Control In (SlaveOffset)	struction Re-execu	tion Disabled Event code		54015463 hex	
Meaning	-	-	SlaveOffset input		kecuting a motion c	ontrol instruction.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	ion The relevant instruction will end according to spectrum cations.		ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection Attached infor-		anged for re-exe- ed. tion 1: Error Locatio	rameter for the re ble does not char vant instruction is		control instruction by re-execution. V so that the input p any input variable changed do not c execution.	ne relevant motion n can be changed Write the program parameters for that cannot be change upon re-
mation			e Instruction and Ir nformation is given			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	Motion Control In (SlaveScaling)	struction Re-execu	tion Disabled	Event code	54015464 hex		
Meaning		•	ge the <i>SlaveScaling</i> input variable when re-executing a motion control instruc- ot be changed when re-executing an instruction.)			control instruc-	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable	•	Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe-	rameter for the re	am so that the pa- levant input varia- ige when the rele- re-executed.	control instruction	ne relevant motion n can be changed Write the program parameters for e that cannot be	
Attached infor- mation	Attached Informa						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Motion Control In (StartPosition)	struction Re-execu	ution Disabled Event code		54015465 hex		
Meaning		•	StartPosition input		•	control instruc-	
Source	PLC Function Mo	dule			At instruction re- execution		
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	instruction will end according to specifi-		
System-de-	Variable	•	Data type	•	Name		
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvl.Active		BOOL		Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe-	rameter for the re	am so that the pa- levant input varia- ige when the rele- re-executed.	Check the manual put variables to the control instruction by reexecution. W so that the input p any input variable changed do not c execution.	he relevant motion of can be changed Vrite the program parameters for e that cannot be	
Attached infor- mation	Attached Informa		e Instruction and In				
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Instruction Execut	tion Error with Und	efined Home	Event code	54015466 hex		
Meaning	High-speed homir	ng or an interpolatio	on instruction was e	executed when hor	ne was undefined.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence	
	GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Mino rence	or Fault Occur-	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	High-speed homir when home was u	-	Execute the high- operation only aft fine home.		-	-speed homing in- er home is defined	
	An interpolation ir executed for an a cludes an axis wit home. One of the followi tions was execute group that include with no defined ho • MC_SetKinTra • MC_MoveTime • MC_SyncLinea • MC_SyncOut • MC_GroupMor • MC_RobotJog	xes group that in- h no defined ng robot instruc- ed for an axes es a logical axis ome. nsform Absolute urConveyor	Perform homing t all axes in the axe executing the inte tion.	es group before	all axes in the axe	Perform homing to define home for all axes in the axes group before executing the interpolation instruc-	
Attached infor- mation	Attached Informat		e Instruction and In		Where the Error Oo thing is given if the		
Precautions/ Remarks	If you execute	-	struction after perfo		that is displayed ma ne will again be und	-	

Event name	Motion Control Instruction Re-execution Disabled (Po-Event codesition Type)			54015467 hex			
Meaning		-	<i>ReferenceType</i> inp hanged when re-e>		-	on control instruc-	
Source	PLC Function Mo	dule	Source details			At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to s cations.		ording to specifi-	
System-de-	Variable	•	Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe-	rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	'	ne relevant motion n can be changed Vrite the program parameters for e that cannot be	
Attached infor- mation	Attached Informa		e Instruction and In				
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Unused Axis Spe	cification for Maste	r Axis	Event code	54015468 hex	
Meaning	The master axis s	specified for a motion	on control instructio	on is an unused axis	5.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	AX[*].MFaultLvI.Active		BOOL		Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
			Set a used axis for the master axis that is specified for the instruction.		Make sure the master axis speci- fied for the motion control instruc- tion is a used axis.	
rection	The master axis s tion control instru used axis.	•			fied for the motio	n control instruc-
rection Attached infor- mation	tion control instru used axis. Attached Informa Attached Informa	•	that is specified for on e Instruction and In	or the instruction.	fied for the motio tion is a used axi Where the Error O	n control instruc- s. ccurred. If there is
Attached infor-	tion control instru used axis. Attached Informa Attached Informa more than one po be identified.	tion is an un- tion 1: Error Locatio	that is specified for on e Instruction and In nformation is given	or the instruction. Instruction Instance I on all of them. Not	fied for the motio tion is a used axi Where the Error O thing is given if the	n control instruc- s. ccurred. If there is instruction cannot

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Event name	First Position Setting Out of Range			Event code	54015469 hex	
Meaning	The parameter sp	ecified for the First	<i>Position</i> input varia	ble to a motion co	ntrol instruction is o	ut of range.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program Continues.		Operation	The relevant instr	uction will end acco	ording to specifi-
			cations.			
System-de-	Variable		Data type		Name	
fined variables	variables _MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid i	ange of the input	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	not exceeded for the relevant in-		is not exceeded.
			struction.			
Attached infor-	Attached Information	tion 1: Error Locatio	on			
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks						

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Event name	Last Position Setting Out of Range			Event code	5401546A hex		
Meaning	The parameter sp	The parameter specified for the <i>LastPosition</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
				cations.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	MC_AX[*].MFaultLvl.Active BOOL			Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid	range of the input	valid range of the	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.	
			struction.				
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.		-				
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Illegal First/Last Position Size Relationship (Linear Mode)			Event code	5401546B hex		
Meaning		The parameter specified for the <i>LastPosition</i> input variable to a motion control instruction is smaller than the parameter specified for the <i>FirstPosition</i> input variable.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-			Data type		Name		
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	The value of the LastPosition in- put parameter is less than the val- ue of the <i>FirstPosition</i> input varia- ble for the instruction when the Count Mode is set to Linear Mode.		value of the Lasti for the instruction value of the <i>Firsti</i> Or, change the va	Correct the program so that the value of the LastPosition specified for the instruction is larger than the value of the <i>FirstPosition</i> . Or, change the value of the Count Mode to Rotary Mode.		Write the program so that the value of the LastPosition specified for the instruction is larger than the value of the <i>FirstPosition</i> . Or, check to make sure that the Count Mode of the relevant axis is set to Rotary Mode.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cann be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Master Sync Star	t Position Setting C	out of Range	Event code	5401546C hex		
Meaning	The parameter sp range.	ecified for the <i>Mas</i>	<i>terSyncPosition</i> inp	but variable to a mo	otion control instruc	tion is out of	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to sp cations.		ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

		D 0 0			5404540D 1	
Event name	Slave Sync Start Position Setting Out of Range			Event code	5401546D hex	
Meaning	The parameter sp	pecified for the Slav	eSyncPosition inpu	it variable to a mot	on control instructi	on is out of range.
Source	rce PLC Function Module		Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program Continues.		Operation	The relevant instr	uction will end acc	ording to specifi-
				cations.		
System-de-			Data type	Data type		
fined variables			BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid	range of the input	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	not exceeded for the relevant in-		is not exceeded.
			struction.			
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Duplicate Latch I) for Trigger Input (Condition	Event code	5401546E hex	
Meaning	The same latch I) was specified for	more than one mot	ion control instruct	ion.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	r- Assumed cause		Correction		Prevention	
rection	The same latch IE neously for more following instructio robe (Enable Exte struction, MC_Mo nous Positioning) MC_MoveFeed (I instruction.	than one of the ons: MC_TouchP- ernal Latch) in- veLink (Synchro- instruction, and nterrupt Feeding)	Correct the progra same latch ID is r other instruction a as this instruction ferent latch ID or any instructions th latch ID at the sar latch 1 and latch 2 being in use durin the MC_Home or Parameter instruct	tot used by an- tot the same time . Either use a dif- do not execute that use the same me time. Both 2 are treated as g execution of MC_HomeWith-	Do not use the same latch ID si- multaneously for more than one of the following instructions: MC_TouchProbe (Enable External Latch) instruction, MC_MoveLink (Synchronous Positioning) instruc- tion, and MC_MoveFeed (Interrupt Feeding) instruction.	
	The MC_AbortTrigger (Disable Ex- ternal Latch) instruction was exe- cuted to cancel a latch that was used by an instruction other than the MC_TouchProbe (Enable Ex- ternal Latch) instruction.		Do not use the Disable External Latch instruction to cancel a latch that is used by an instruction other than the Enable External Latch in- struction.		Do not execute the Disable Exter- nal Latch instruction for a latch that is used by an instruction other than the Enable External Latch instruc- tion.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If ther more than one possible instruction, information is given on all of them. Nothing is given if the instruction car be identified.					
Precautions/ Remarks		-	error occurs, the atta D, make sure that s			-

Event name	Jerk Override Fac	tor Out of Range	Event code	5401546F hex			
	, , , , , , , , , , , , , , , , , , ,					- of round	
Meaning	The parameter sp	The parameter specified for the <i>JerkFactor</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	ration The relevant instruction will end according to a cations.		ording to specifi-	
System-de-			Data type		Name		
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	range of the input		valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the relevant in-	he relevant in- the input variable is not excee		
			struction.				
Attached infor-	Attached Information	tion 1: Error Locatio	on				
mation	Attached Information	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.		Ū		5 5		
Precautions/	If a program is ch	anged after an erro	or occurs, the attact	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Acceleration/Deceleration Override Factor Out of Range			Event code	54015470 hex		
Meaning	The parameter sp	The parameter specified for the AccFactor input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	ation The relevant instruction will end according to cations.		ording to specifi-	
System-de-	tem-de- Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid i variable.		Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	First Position Met	hod Specification C	Out of Range	Event code	54015471 hex		
Meaning	The parameter sp	ecified for the Star	<i>tMode</i> input variabl	e to a motion contr	ol instruction is out	of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-	Variable Data		Data type		Name		
fined variables	_MC_AX[*].MFau	aultLvI.Active BOOL			Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	ange of the input	valid range of the	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.	
			struction.				
Attached infor-	Attached Informat	tion 1: Error Locatio	on				
mation			e Instruction and In				
	more than one po be identified.	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Motion Control In (First Position Me	struction Re-execu thod)	tion Disabled	Event code	54015472 hex	
Meaning		0	<i>StartMode</i> input valed when re-execut	ariable when re-exe ing an instruction.)	ecuting a motion co	ntrol instruction.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end ac cations.		uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe-	rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	control instruction	ne relevant motion o can be changed Write the program parameters for e that cannot be
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.

Event name	Unused Axis Spe	cification for Auxilia	ary Axis	Event code	54015474 hex		
Meaning	The axis specified	for the <i>Auxiliary</i> ir	put variable to a m	otion control instru	ction is an unused	axis.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to cations.		ording to specifi-	
System-de-	Variable Data type		•	Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The axis specified for the Auxiliary		Set a used axis for the axis that is		Make sure that the axis specified		
	input variable to t	he instruction is	specified for the in	nstruction. Or,	for the instruction is a used axis.		
	an unused axis.		correct the param	eter so that it			
			specifies a used a	axis.			
Attached infor-	Attached Information	tion 1: Error Locatio	on				
mation	Attached Information	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po be identified.	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Position Gear Val	ue Error		Event code	54015475 hex		
Meaning	Synchronized mo a motion control i	•	for the velocity, ac	celeration rate, and	deceleration rate t	that were input to	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	peration The relevant instruction will end according to s cations.		ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	IFaultLvI.Active BOOL			Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The specified syn cannot be perform ty, acceleration ra tion rate that is in tion.	ned at the veloci- te, or decelera-	synchronized mot the operating spe	Correct the program to enable synchronized motion according to the operating specifications of the MC_GearInPos (Positioning Gear Operation) instruction		Check the processing of the rele- vant instruction and set a value that allows for synchronized mo- tion.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Position Coar Ma	stor Avia Zaro Vala	oity	Event code	54015476 hex		
Event name	Position Gear Master Axis Zero Velocity						
Meaning	The velocity of the	e master axis was z	zero when a motior	control instruction	was started.		
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
				cations.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The velocity of the master axis was		Correct the program so that the ve-		Write the program so that the ve-		
	0 when the instru	0 when the instruction was started.		locity of the master axis is not 0		locity of the master axis is not 0	
			when the instruction is started.		when the instruction is started.		
Attached infor-	Attached Information	tion 1: Error Locatio	on		•		
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.		-		-		
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks		-					

Event name	Target Position S	etting Out of Range)	Event code	54015478 hex	
Meaning		pecified for the Posi				f range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	truction will end according to specifi-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p	oarameter ex-	Correct the parameter so that the		Set the input para	ameter to the in-
	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for the relevant in- struction.		the input variable	is not exceeded.
	The target position	n of a Rotary	Correct the target position of the		Set the target position of the Rota-	
	Mode axis is not	within the ring set-	Rotary Mode axis	to within the ring	ry Mode axis to w	vithin the ring set-
	ting range.		setting range.		ting range.	
Attached infor-		tion 1: Error Locatio				
mation		tion 3: Names of th				
	more than one po be identified.	ossible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
Precautions/	If a program is ch	anged after an erro	or occurs, the attack	ned information that	t is displayed may	not be correct.
Remarks						

Event name	Travel Distance C	Out of Range		Event code	54015479 hex	
Meaning		at was specified for tion with the value o			on control instructio	on is out of range
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end accordin cations.		ording to specifi-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The absolute value of the instruc- tion input parameter exceeded the range of 40-bit data when it is con- verted to pulses. For a Linear Mode axis, the target position with the travel distance added exceeded signed 40-bit data when the absolute value is con-		Correct the input parameter speci- fied for the <i>Distance</i> input variable of the instruction so that the travel distance and the target position are not out of range.		distance and the	n so that the travel target position for e not out of range.
Attached infor- mation	verted to pulses. Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Cam Table Start Point Setting Out of Range			Event code	5401547A hex		
Meaning		0	<i>tPosition</i> input varia			out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction	Correction			
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input para	ameter to the in-	
	ceeded the valid	ange of the input	valid range of the	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	he relevant in- the input variable is not exe		is not exceeded.	
			struction.				
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po be identified.	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Cam Master Axis Following First Position Setting Out of Range			Event code	5401547B hex		
Meaning	The parameter sp range.	The parameter specified for the <i>MasterStartDistance</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	range of the input	valid range of the	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	not exceeded for the relevant in-		the input variable is not exceeded.	
			struction.				
Attached infor-	Attached Information	tion 1: Error Locatio	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one po be identified.	ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot	
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information that	at is displayed may	not be correct.	
Remarks							

Event name	Circular Interpola	tion Radius Setting	Error	Event code	5401547C hex		
Meaning	It was not possible to create a circular path for the specified radius when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.						
Source	PLC Function Module Source details Instruction		Detection tim- ing	At instruction execution			
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	For the MC_MoveCircular2D (Cir- cular 2D Interpolation) instruction, it was not possible to create a cir- cular path for the specified radius when the radius method was specified for circular interpolation.			Correct the radius so that the circu- lar path can be created.		Check the processing of the rele- vant instruction and set a radius that allows the creation of a circular path.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

Event name	Circular Interpolation Radius Overflow Event code 5401547D h						
Meaning		eCircular2D (Circul e border point or ce	, ,		dius of the circle ex	ceeded the maxi-	
Source	PLC Function Mc	odule	Source details	Source details Instruction		At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ction will end according to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL	BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	or- Assumed cause Correction			Prevention			
rection	cular 2D Interpola the radius of the 40-bit data when pulses for the bor	the circle exceeded 40-bit data when it is converted to bulses for the border point or cen- er specification method. the circle exceeded bulses for the border point or cen- er specification method. the circle exceeded pulses bar specification border point center point, border center point		correct the input parameter so that ne circle radius does not exceed 0-bit data when it is converted to ulses based on the operating pecifications of the instruction. order point specification: Start oint, border point, and end point center point specification: Start oint, end point, and center point		ssing of the in- rect the input pa- the circle radius 40-bit data it is to pulses.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If the maximum	changed after an e n radius is exceede Specification Out of	d when the radius	specification metho		•	

Event name	Circular Interpola	tion Setting Out of	Range	Event code	5401547E hex	
Meaning	The parameter sp	pecified for the Circ	Axes input variable	to a motion contro	l instruction is out o	of range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-	
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL	BOOL		r Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameters to the in- struction so that the valid range of the input variables is not exceeded.	
	The axes that were specified in <i>CircAxes</i> are not included in the composition axes in the Axes Group Settings.		Set the axes that are specified for <i>CircAxes</i> so that they are in an axes group configuration.		Make sure that the axes that are specified for <i>CircAxes</i> are in an axes group configuration.	
	The same axis was specified for both axes of <i>CircAxes</i> .		Correct the settings so that the two axes specified for <i>CircAxes</i> are different axes.		Write the program so that the two axes specified for <i>CircAxes</i> are different axes.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Auxiliary/Slave Ax	kis Numbers Not in	Ascending Order	Auxiliary/Slave Axis Numbers Not in Ascending Order Event code 5401547F hex					
Meaning	The values of the parameters for the <i>Auxiliary</i> and <i>Slave</i> input variables to a motion control instruction are not in ascending order.								
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation The relevant instr cations.		uction will end according to specifi-				
System-de-	Variable		Data type		Name				
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence				
Cause and cor-	Assumed cause		Correction		Prevention				
rection	The parameters for and <i>Slave</i> input v struction are not i der.	ariables to the in-	Correct the axis n for the <i>Auxiliary</i> a parameters to the that they are in as	nd <i>Slave</i> input instruction so	Write the program so that the axis numbers specified for <i>Auxiliary</i> and <i>Slave</i> are in ascending order.				
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.								
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.			

Event name	Cam Table Property Ascending Data Error at Update Event code 5401					
Meaning	· ·	not in ascending c er of valid data is 0	rder was found dur	ing calculating the	number of valid da	ta. Or, after calcu-
Source	PLC Function Mo	dule	Source details Instruction		Detection tim- ing	During instruc- tion execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instr cations.		ruction will end according to specifi-	
System-de-	Variable		Data type		Name	
fined variables	ables _MC_COM.MFaultLvI.Active BC		BOOL		MC Common Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A phase that was not in ascending order was found when calculating the number of valid data		Place the phase data into ascend- ing order in the cam table data.		Place the phase data into ascend- ing order in the cam table data.	
	After calculations valid data is 0.	, the number of	Correct the cam table data so that it includes phases that are not 0.		Create the cam table data so that it includes phases that are not 0.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.

Event name	MC Write Target	MC Write Target Out of Range Event code 54015481 hex					
Meaning		becified for the Targ	et input variable to			ande	
Source			Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to sp cations.		ording to specifi-		
System-de-	Variable	•	Data type	•	Name		
fined variables	_MC_COM.MFat	IltLvI.Active	BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection Instruction input parame		parameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
rection	instruction input p				struction so that the valid range of		
		range of the input	valid range of the	input variable is	struction so that t	he valid range of	
rection			valid range of the not exceeded for	•	struction so that t the input variable	0	
	ceeded the valid		0	•		0	
Attached infor-	ceeded the valid variable.		not exceeded for struction.	•		0	
	ceeded the valid variable. Attached Informa Attached Informa	tion 1: Error Location	not exceeded for struction. on e Instruction and In	the relevant in-	the input variable	is not exceeded.	
Attached infor-	ceeded the valid variable. Attached Informa Attached Informa	range of the input	not exceeded for struction. on e Instruction and In	the relevant in-	the input variable	is not exceeded.	
Attached infor-	ceeded the valid variable. Attached Informa Attached Informa more than one po be identified.	tion 1: Error Location	not exceeded for struction. on e Instruction and In nformation is given	the relevant in- nstruction Instance on all of them. Not	the input variable Where the Error Oo hing is given if the	is not exceeded.	

Event name	Master Travel Dis	Master Travel Distance Specification Out of Range Event code 54015482 hex					
Meaning		The parameter specified for the <i>MasterDistance</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction cations.		uction will end acco	uction will end according to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	ange of the input	valid range of the	valid range of the input variable is not exceeded for the relevant in-		struction so that the valid range of	
	variable.		not exceeded for			the input variable is not exceeded.	
			struction.				
Attached infor-	Attached Informat	tion 1: Error Locatio	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Master Distance in Acceleration Specification Out of Range			Event code	54015483 hex			
Meaning	The parameter sp range.	he parameter specified for the <i>MasterDistanceInACC</i> input variable to a motion control instruction is out of ange.						
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instr cations.		ruction will end acc	ruction will end according to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause	Assumed cause		Correction				
rection	Instruction input p ceeded the valid r variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	Attached Informat	tion 1: Error Locatio	on					
mation	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.		

Event name	Master Distance in Deceleration Specification Out of Range			Event code	54015484 hex			
Meaning	The parameter sp range.	The parameter specified for the <i>MasterDistanceInDEC</i> input variable to a motion control instruction is out of range.						
Source	PLC Function Module S		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instruction will end according to spec cations.				
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause	Assumed cause		Correction				
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.		

Event name	Execution Mode S	Selection Out of Ra	inge	Event code	54015487 hex	
Meaning	The parameter sp	ecified for the Exe	<i>cutionMode</i> input v	ariable to a motion	control instruction	is out of range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acco	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p ceeded the valid r variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	lf a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.				

Event name	Permitted Followi	ng Error Out of Rai	nge	Event code	54015488 hex			
Meaning	The parameter sp range.	The parameter specified for the <i>PermittedDeviation</i> input variable to a motion control instruction is out of range.						
Source	PLC Function Module Source details		Instruction	Detection tim- ing	At instruction execution			
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instruction will end according to specifications.				
System-de-	Variable		Data type		Name			
fined variables	variables _MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input p ceeded the valid r variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.		

Event name	Border Point/Center Position/Radius Specification Out of Range			Event code	54015489 hex			
Meaning	The parameter sp	The parameter specified for the AuxPoint input variable to a motion control instruction is out of range.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The value of <i>AuxPoint</i> exceeded signed 40-bit data when converted to pulses for the border point or center specification method.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input para struction so that t the input variable			
	For a radius specifications, the ab- solute value of <i>AuxPoint[0]</i> ex- ceeded 40-bit data when it is con- verted to pulses.							
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

Event name	End Point Specifi	cation Out of Rang	e	Event code	5401548A hex		
Meaning	The parameter sp	becified for the End	Point input variable	to a motion contro	l instruction is out o	of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFa	aultLvI.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The instruction in ceeded the range data when it was pulses.	0	Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	be identified. If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Slave Travel Dista	ance Specification	Out of Range	Event code	5401548B hex		
Meaning	The parameter sp	ecified for the Slav	<i>eDistance</i> input va	riable to a motion o	control instruction is	out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acco	ording to specifi-	
System-de-	-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The instruction in ceeded the range when it is convert	of 40-bit data	valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Phase Shift Amount Out of Range			Event code	5401548C hex	
Meaning	The parameter sp	ecified for the Pha	<i>seShift</i> input variab	le to a motion cont	rol instruction is ou	t of range.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-
				cations.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction	Correction		
rection	The absolute value of the instruc-		Correct the parameter so that the		Set the input parameter to the in-	
	tion input parame	ter exceeded the	valid range of the input variable is		struction so that the valid range of	
	range of 40-bit da	ta when it is con-	not exceeded for	not exceeded for the relevant in-		is not exceeded.
	verted to pulses.		struction.			
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oo	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks						

	E 11 D. (0 1 10			E 40 4 E 40 D 1		
Event name	Feeding Distance Out of Range			Event code	5401548D hex		
Meaning	The parameter sp	The parameter specified for the <i>FeedDistance</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module Source details Ins		Instruction	Detection tim-	At instruction		
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acco	ording to specifi-	
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The absolute valu tion input parame range of 40-bit da verted to pulses.	ter exceeded the	Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Auxiliary and Slav	e Defined as Sam	e Axis	Event code	5401548E hex		
Meaning	The same axis wa	as specified for the	Auxiliary and Slave	input variables to	a motion control in	struction.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	iables _MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameter wa the <i>Auxiliary</i> and bles to the instruc	S <i>lave</i> input varia-	ferent axes are sp	Correct the parameters so that dif- ferent axes are specified for the <i>Auxiliary</i> and <i>Slave</i> input variables to the instruction		axes for the auxili- e axis for a motion n.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Relative Position	Selection Out of Ra	ange	Event code	e 5401548F hex		
Meaning	The parameter sp	ecified for the Rela	ative input variable	to a motion control	instruction is out of	f range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	struction will end according to specifi-		
System-de-	Variable	Variable Data type		•	Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	tLvl.Active BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid r variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Cam Transition S	pecification Out of	Range	Event code	54015490 hex		
Meaning	The parameter sp	ecified for the Can	<i>Transition</i> input va	riable to a motion o	control instruction is	s out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	range of the input	valid range of the	id range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the relevant in- the input variable is r		is not exceeded.	
			struction.				
Attached infor-	Attached Informat	tion 1: Error Locatio	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Synchronized Control End Mode Selection Out of Range			Event code	54015491 hex		
Meaning	The parameter specified for the OutMode input variable			to a motion contro	to a motion control instruction is out of range.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	struction will end according to specifi-		
System-de-	em-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	ange of the input	valid range of the	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.	
			struction.				
Attached infor-	Attached Informat	tion 1: Error Locatio	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	hed information tha	t is displayed may	not be correct.	
Remarks							

Event name	Enable External L	atch Instruction Ex	ecution Disabled	Event code	54015492 hex		
Meaning		<i>_mcImmediateStop</i> was specified for the <i>StopMode</i> input variable when the MC_TouchProbe (Enable External Latch) instruction was executed in Drive Mode for an encoder axis.					
Source	PLC Function Mo	dule			Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	_mcImmediateSta for the StopMode when the MC_Tou External Latch) in executed in Drive coder axis.	input variable uchProbe (Enable struction was	_mcImmediateSte	Correct the program so that _ <i>mcImmediateStop</i> is not specified for <i>StopMode</i> for the encoder axis.		If you specify <i>_mcImmediateStop</i> and use Drive Mode, execute the MC_TouchProbe (Enable External Latch) instruction only for a servo axis.	
Attached infor- mation	Attached Information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Master Axis Offse	t Out of Range		Event code	54015493 hex	
Meaning	The parameter sp	ecified for the Mas	terOffset input vari	able to a motion co	ntrol instruction is a	out of range.
Source	PLC Function Mo	dule	Source details Instruction		Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The instruction in ceeded the range data when it was pulses.	0	Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

		<u> </u>					
Event name	Slave Axis Offset	Out of Range		Event code	54015494 hex		
Meaning	The parameter sp	ecified for the Slav	eOffset input varial	ble to a motion con	trol instruction is οι	ut of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
				cations.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	The instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the range	of signed 40-bit	valid range of the	valid range of the input variable is not exceeded for the relevant in-		struction so that the valid range of	
	data when it was	converted to	not exceeded for			the input variable is not exceeded.	
	pulses.		struction.				
Attached infor-	Attached Informat	ion 1: Error Locatio	on				
mation	Attached Informat	ion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	
Remarks							

Event name	Command Current Position Count Selection Out of Range			Event code	54015495 hex		
Meaning	The parameter specified for the CmdPosMode input vari			riable to a motion c	ontrol instruction is	out of range.	
Source	PLC Function Module 5		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	t instruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Master Axis Gear	Ratio Numerator 0	Out of Range	Event code	54015496 hex		
Meaning	The parameter sp range.	The parameter specified for the <i>RatioNumeratorMaster</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection		Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	be identified. If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Master Axis Gear	Ratio Denominato	r Out of Range	Event code	54015497 hex		
Meaning	The parameter sp range.	The parameter specified for the <i>RatioDenominatorMaster</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Auxiliary Axis Gear Ratio Numerator Out of Range Event code				54015498 hex		
Meaning	The parameter sp range.	The parameter specified for the <i>RatioNumeratorAuxiliary</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	instruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	oarameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
			valid range of the input variable is		struction so that the valid range of		
			0 1 0			5	
	variable.	g	not exceeded for	the relevant in-	the input variable	0	
			not exceeded for struction.	the relevant in-	the input variable	0	
Attached infor-	variable.	tion 1: Error Location	struction.	the relevant in-	the input variable	0	
Attached infor- mation	variable. Attached Informa		struction.			is not exceeded.	
	variable. Attached Informa Attached Informa	tion 1: Error Location	struction. on e Instruction and In	struction Instance	Where the Error O	is not exceeded.	
	variable. Attached Informa Attached Informa	tion 1: Error Location	struction. on e Instruction and In	struction Instance	Where the Error O	is not exceeded.	
	variable. Attached Informa Attached Informa more than one po be identified.	tion 1: Error Location	struction. on e Instruction and In nformation is given	struction Instance on all of them. Not	Where the Error Out	is not exceeded.	

Event name	Auxiliary Axis Ge	ar Ratio Denomina	tor Out of Range	Event code	54015499 hex		
Meaning	The parameter sp of range.	The parameter specified for the <i>RatioDenominatorAuxiliary</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	he relevant instruction will end according to specif ations.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection		Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Master Axis Posit	ion Type Selection	Out of Range	Event code	5401549A hex		
Meaning	The parameter sp range.	The parameter specified for the <i>ReferenceTypeMaster</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified						
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Auxiliary Axis Pos	sition Type Selectio	n Out of Range	Event code	5401549B hex		
Meaning	The parameter sp range.	The parameter specified for the <i>ReferenceTypeAuxiliary</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	Axis Minor Fault Occurrence		Occurrence	
Cause and cor-	Assumed cause		Correction	Correction			
rection		Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Event name	Target Position R	ing Counter Out of	Range	Event code	5401549C hex			
Meaning	Operation is not p struction.	Operation is not possible because the target position is out of range for the ring counter of the executed in- struction.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	High-speed homing was executed when 0 was not included in the ring counter.		cuted when the ri does not include program so that h ing is not perform	High-speed homing cannot be exe- cuted when the ring counter range does not include 0. Correct the program so that high-speed hom- ing is not performed. Or change the settings so that the ring counter range includes 0		ng cannot be exe- ng counter range 0. Write the pro- I-speed homing is r make the set- ing counter range		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.		

Event name	Axes Group Com	position Axis Settir	ng Out of Range	Event code	5401549D hex ^{*1}	
Meaning	The parameter specified for the Axes input variable to a motion control instruction is out of range.					
Source	PLC Function Mo	dule	Source details Instruction		Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant inst cations.	elevant instruction will end according to speci ns.	
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor- rection	Assumed cause		Correction		Prevention	
	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
	The composition axes in the axes group are not assigned to the same task.		Assign all of the axes that are specified for the <i>Axes</i> input variable to the instruction to the same task.		Specify axes that are assigned to the same task for all of the compo- sition axes in an axes group.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

*1. Error code 16#549D occurs for unit version 1.01 or later of the CPU Unit.

Event name	Axis Use Setting Out of Range			Event code	5401549E hex *1	
Meaning	The parameter specified for the AxisUse input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end ac cations.		uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence	
	_MC_AX[*].MFau	ItLvI.Active	e BOOL		Axis Minor Fault Occurrence	
Cause and cor-	cor- Instruction input parameter ex- ceeded the valid range of the input variable.		Correction		Prevention	
rection			Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	Attached Information 1: Error Location					
mation	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

*1. Error code 16#549E occurs for unit version 1.04 or later of the CPU Unit.

Event name	Homing Parameter Setting Out of Range		Event code	54015700 hex ^{*1}		
Meaning	The parameter specified for the <i>HomingParameter</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end according to specifi-	
System-de-	-		Data type		Name	
fined variables			BOOL		MC Common Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable. Correct the parameter so that the valid range of the input not exceeded for the relevant in- struction.		input variable is	Set the input parameter to the ir struction so that the valid range the input variable is not exceede		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

*1. Error code 16#5700 occurs for unit version 1.03 or later of the CPU Unit.

Event name	Axis Use Change Error Event co			Event code	54015702 hex ^{*1}		
Meaning	The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end according to specifi		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated.		Reset the error and execute the MC_ChangeAxisUse (Change Axis Use) instruction when the axis is stopped or when the command ve- locity of the axis is not saturated. An axis is stopped if <i>Status.Disabled</i> or <i>Status.Standstill</i> is TRUE in the Axis Variable. The command velocity for an axis is sa- turated if <i>Details.VelLimit</i> is TRUE in the Axis Variable.		Execute the MC_ChangeAxisUse (Change Axis Use) instruction when the axis is stopped and the command velocity is not saturated.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

*1. Error code 16#5702 occurs for unit version 1.04 or later of the CPU Unit.

Event name	Cannot Change Axis Use Ev			Event code	54015703 hex ^{*1}		
Meaning	The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maxi- mum number of used real axes or the maximum number of used motion control servo axes to be exceeded.						
Source	PLC Function Mc	odule			Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the max- imum number of actually usable axes to be exceeded.		Correct the program so that the maximum number of axes that can actually be used by the CPU Unit is not exceeded.		Write the program so that the maxi- mum number of axes that can ac- tually be used by the CPU Unit is not exceeded.		
	The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the max- imum number of used motion con- trol servo axes to be exceeded.		Correct the program so that the maximum number of used motion control servo axes that can be used by the CPU Unit is not ex- ceeded.		Write the program so that the maximum number of used motion con- trol servo axes that can be used by the CPU Unit is not exceeded.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks		anged after an erro			t is displayed may	not be correct.	

*1. Error code 16#5703 occurs for unit version 1.06 or later of the CPU Unit.
Event name	Motion Control Parameter Setting Error When Chang- ing Axis Use			Event code	54015720 hex ^{*1}	
Meaning	The motion contro	ol parameter setting	gs for the axis that v	was changed to a ι	used axis are incor	rect.
Source	PLC Function Module S		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	ItLvI.Active	BOOL	51		nor Fault Occur-
Cause and cor-	- Assumed cause The MC_ChangeAxisUse (Change Axis Use) instruction was used to change an unused axis to a used axis, but the motion control param- eter settings of the axis are not cor- rect.		Correction		Prevention	
rection			Use the Sysmac Studio to change the Axis Use of the axis where the error occurred to a Used Axis , and then check and correct the error lo- cation. If an error does not occur, change the setting to an Unused Axis and then download the set- tings again.		Make sure that operation is correct when the axis is set to a Used Axis and then download the set- tings with it set to an Unused Axis .	
	The power supply was interrupted while a download of the motion control parameter settings was in progress.		Download the MC parameters from the Sysmac Studio.		Do not interrupt the power supply while saving the parameter set- tings.	
	The non-volatile memory is faulty or the life of the non-volatile memo- ry has been exceeded.		If this error remains even after making the above corrections, re- place the CPU Unit.		None	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

*1. Error code 16#5720 occurs for unit version 1.04 or later of the CPU Unit.

Event name	Required Process ing Axis Use	Data Object Not S	Set When Chang-	Event code	54015721 hex ^{*1}	
Meaning	The objects that a	are required for the	axis type of the ax	is that was change	d to a used axis are	e not set.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	ItLvI.Active	BOOL		MC Common Mir rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	on The objects that are required for the axis type of the axis that was changed to a used axis are not set in the PDO map settings.		Edit the PDO map settings on the Sysmac Studio and set the objects that are required for the axis where the error occurred. For details on the required objects, refer to the <i>NJ/NX-series Motion</i> <i>Control Instructions Reference</i> <i>Manual (Cat. No. W508).</i>		Make sure that operation is correct when the axis is set to a Used Axis and then download the set- tings with it set to an Unused Axi	
	The power supply was interrupted while a download of the motion control parameter settings was in progress.		Download the MC parameters from the Sysmac Studio.		Do not interrupt the power supply while saving the parameter set- tings.	
	The non-volatile memory is faulty or the life of the non-volatile memo- ry has been exceeded.		If this error remains even after making the above corrections, re- place the CPU Unit.		None	
	The MC_ChangeAxisUse (Change Axis Use) instruction was executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis) .		Correct the program so that the MC_ChangeAxisUse (Change Axis Use) instruction is not executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis) .		Write the program so that the MC_ChangeAxisUse (Change Axis Use) instruction is not executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis) .	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cann be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.

*1. Error code 16#5721 occurs for unit version 1.04 or later of the CPU Unit.

Event name	Actual Position O	verflow/Underflow		Event code	54015722 hex *1		
Meaning	An instruction was	An instruction was executed that is not supported during an actual position overflow/underflow.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according t cations.		ording to specifi-		
System-de-	Variable Data type		•	Name			
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An instruction was executed that is		Execute an error reset and then		Write the program so that over-		
	not supported dur	ing an actual po-	clear the overflow	or underflow	flows and underflows do not occur.		
	sition overflow or	underflow.	state by changing	the current posi-			
			tion or homing.				
Attached infor-	Attached Informat	tion 1: Error Location	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

*1. Error code 16#5722 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure	Frack Number Sett	ing Out of Range	Event code	54015723 hex *1		
Meaning	The value of <i>Trac</i> of range.	The value of <i>TrackNumber</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	instruction will end according to specifi-		
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	structure variable fied for the in-out	The value of the member of the structure variable that was speci- fied for the in-out variable of the in- struction is out of range.		Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range.		Make sure that the value of the member of the structure variable that is specified for the in-out varia- ble of the relevant instruction is in the valid range.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks			or occurs, the attach		t is displayed may	not be correct.	

*1. Error code 16#5723 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure First ON Position Setting Out of Range			Event code	54015724 hex *1						
Meaning	The value of <i>First</i> out of range.	The value of <i>FirstOnPosition</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.									
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution					
Error attributes	Level	Observation	Recovery		Log category	System					
Effects	User program	Continues.	Operation	The relevant instr cations.	The relevant instruction will end according to spec cations.						
System-de-	Variable		Data type		Name						
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence						
Cause and cor-	Assumed cause		Correction		Prevention						
rection	The value of the r structure variable fied for the in-out struction is out of	that was speci- variable of the in-	the structure varia fied for the in-out	Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range		e value of the ructure variable or the in-out varia- t instruction is in					
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.										
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

*1. Error code 16#5724 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure Last ON Position Setting Out of Range			Event code	54015725 hex ^{*1}			
Meaning	The value of <i>Last</i> out of range.	The value of <i>LastOnPosition</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is put of range.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end according to specifi-			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The value of the r structure variable fied for the in-out struction is out of	that was speci- variable of the in-	Correct the value the structure varia fied for the in-out relevant instruction the valid range.	variable of the	Make sure that the value of the member of the structure variable that is specified for the in-out varia- ble of the relevant instruction is in the valid range.			
Attached infor-	Attached Informat	ion 1: Error Locatio	on					
mation	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.		

*1. Error code 16#5725 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure	Axis Direction Out	of Range	Event code	54015726 hex *1			
Meaning	The value of <i>Axis</i> of range.	The value of <i>AxisDirection</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-		
System-de-	Variable		Data type	Data type				
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The value of the member of the		Correct the value of the member of		Make sure that the value of the			
	structure variable	that was speci-	the structure variable that is speci-		member of the structure variable			
	fied for the in-out	variable of the in-	fied for the in-out	variable of the	that is specified for	or the in-out varia-		
	struction is out of	range.	relevant instruction	on so that it is in	ble of the relevant instruction is in			
			the valid range.		the valid range.			
Attached infor-	Attached Information	tion 1: Error Locatio	on					
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is		
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
	If a program is changed after an error occurs, the attached information that is displayed may not be correct.							
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.		

*1. Error code 16#5726 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure	Cam Switch Mode	Out of Range	Event code	54015727 hex *1		
Meaning	The value of <i>Carr</i> out of range.	SwitchMode that is	s specified in the S	witches in-out varia	ble to a motion cor	trol instruction is	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	struction will end according to specifi-		
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the r	nember of the	Correct the value of the member of		Make sure that the value of the		
	structure variable	that was speci-	the structure variable that is speci-		member of the structure variable		
	fied for the in-out	variable of the in-	fied for the in-out	variable of the	that is specified for	or the in-out varia-	
	struction is out of	range.	relevant instruction	relevant instruction so that it is in		ble of the relevant instruction is in	
			the valid range.		the valid range.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

*1. Error code 16#5727 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure	Duration Setting Ou	ut of Range	Event code	54015728 hex *1		
Meaning	The value of <i>Dura</i> range.	<i>tion</i> that is specifie	ed in the <i>Switches</i> i	n-out variable to a	motion control instr	uction is out of	
Source	PLC Function Module Source details		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-	
System-de-	tem-de- Variable		Data type	Data type			
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	structure variable fied for the in-out	e value of the member of the curve variable that was speci- l for the in-out variable of the in- uction is out of range. Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the in- relevant instruction so that it is in the valid range.		able that is speci- variable of the	 Make sure that the value of the member of the structure variable that is specified for the in-out varia- ble of the relevant instruction is in the valid range. 		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

*1. Error code 16#5728 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Track Option Structure ON Compensation Setting Out of Range			Event code	54015729 hex *1		
Meaning		The value of OnCompensation that is specified in the TrackOptions in-out variable to a motion control instruc- tion is out of range.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acco	iction will end according to specifi-	
System-de-	Variable	De Data type		Name			
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	The value of the member of the		Correct the value of the member of		Make sure that the value of the		
	structure variable	that was speci-	the structure variable that is speci-		member of the structure variable		
	fied for the in-out	variable of the in-	fied for the in-out variable of the		that is specified for the in-out varia-		
	struction is out of range.		relevant instruction so that it is in		ble of the relevant instruction is in		
			the valid range.		the valid range.		
Attached infor-	Attached Information	tion 1: Error Locatio	on				
mation	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

*1. Error code 16#5729 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Track Option Structure OFF Compensation Setting Out of Range			Event code	5401572A hex *1		
Meaning		The value of <i>TrackOptions</i> that is specified in the <i>OffCompensation</i> in-out variable to a motion control instruc- ion is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end according to specifi-		
System-de-	Variable	Variable Data type			Name		
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	structure variable fied for the in-out	The value of the member of the structure variable that was speci- ied for the in-out variable of the in- struction is out of range. Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range.		able that is speci- variable of the	Make sure that the value of the member of the structure variable that is specified for the in-out varia- ble of the relevant instruction is in the valid range.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Error code 16#572A occurs for unit version 1.06 or later of the CPU Unit. *1.

Event name	Number of Array ble Out of Range	Elements in Switch	Structure Varia-	Event code	5401572B hex ^{*1}		
Meaning		The number of elements in an array in the structure variable that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The number of ele	ements in an ar-	Correct the number of elements in		Make sure that the number of ele-		
	ray of the structur	e variable that	the array in the structure variable		ments in the array in the structure		
	was specified for	the in-out varia-		or the in-out varia-	variable that is specified for the in-		
	ble of the instruct	ion is out of		e of the relevant instruction so		e relevant instruc-	
	range.		that it is in the val	id range.	tion is in the valid	range.	
Attached infor-		tion 1: Error Locatio					
mation			e Instruction and In				
	more than one po be identified.	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information that	t is displayed may	not be correct.	
Remarks							

*1. Error code 16#572B occurs for unit version 1.06 or later of the CPU Unit.

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Event name	Number of Array Elements in Output Signal Structure Variable Out of Range			Event code	5401572C hex *1		
Meaning		ements in an array truction is out of ra	in the structure var inge.	iable that is specifi	ed in the <i>Outputs</i> ir	n-out variable to a	
Source	PLC Function Module S		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	uction will end according to specifi-	
System-de-			Data type		Name		
fined variables			BOOL	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The number of elements in an array of the structure variable that was specified for the in-out varia- ble of the instruction is out of range.Correct the number of elements in the array in the structure variable the array in the structure variable the in-out varia- ble of the relevant instruction so that it is in the valid range.Make sure that the number of elements in ments in the array in the structure variable that is specified for the in- out variable of the relevant instruction so that it is in the valid range.					y in the structure becified for the in- e relevant instruc-	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

*1. Error code 16#572C occurs for unit version 1.06 or later of the CPU Unit.

Event name	Number of Array I Variable Out of Ra	Elements in Track (ange	Option Structure	Event code	5401572D hex ^{*1}		
Meaning		The number of elements in an array in the structure variable that is specified in the <i>TrackOptions</i> in-out varia- ole to a motion control instruction is out of range.					
Source	PLC Function Module S		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end according to specifi-		
System-de-	Variable Data type			Name			
fined variables	_MC_AX[*].Obsr./	Active	BOOL	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The number of elements in an ar- ray of the structure variable that was specified for the in-out varia- ble of the instruction is out of range.		the array in the st that is specified for ble of the relevan	Correct the number of elements in the array in the structure variable that is specified for the in-out varia- ble of the relevant instruction so that it is in the valid range.		Make sure that the number of ele- ments in the array in the structure variable that is specified for the in- out variable of the relevant instruc- tion is in the valid range.	
Attached infor- mation		ion 1: Error Locatio ion 3: Names of th		struction Instance	Where the Error O	ccurred. If there is	
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

*1. Error code 16#572D occurs for unit version 1.06 or later of the CPU Unit.

Event name	Numbers of Elem Option Arrays No	ents in Output Sigr t Matched	als and Track	Event code	5401572E hex *1		
Meaning	The arrays in the	structure variables		that are specified for the <i>Outputs</i> and <i>TrackOptions</i> in-out variables to a the same number of elements.			
Source	PLC Function Module S		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-			Data type		Name		
fined variables			BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The arrays in the output signal structure variable and track option structure variable that are specified for the in-out variables to the in- struction do not have the same number of elements.		Correct the output signal structure variable and track option structure variable that are specified for the in-out variables to the relevant in- struction so that the arrays in them have the same number of ele- ments.		Make sure that the arrays in the output signal structure variable and track option structure variable that are specified for the in-out varia- bles to the relevant instruction have the same number of ele- ments.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

*1. Error code 16#572E occurs for unit version 1.06 or later of the CPU Unit.

Event name	Motion Control Instruction Multi-execution Disabled (Master Axis)			Event code	5401572F hex *1		
Meaning	A Master in-out variable that cannot be changed during multi			multi-execution of	instructions was ch	nanged.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction cations.		uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A <i>Master</i> in-out variable that can- not be changed during multiexe- cution of instructions was changed.		value of the <i>Mast</i> is not changed du	Correct the program so that the value of the <i>Master</i> in-out variable is not changed during multi-execution of the relevant instructions.		Write the program so that the value of the <i>Master</i> in-out variable is not changed during multi-execution of the relevant instructions.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

*1. Error code 16#572F occurs for unit version 1.06 or later of the CPU Unit.

Event name	Motion Control Instruction Multi-execution Disabled (Position Type Selection)			Event code	54015730 hex *1		
Meaning	A ReferenceType	A Reference Type in-out variable that cannot be changed during multi-execution of instructions was					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause A ReferenceType inout variable that cannot be changed during multi-execution of instructions was changed.		Correction		Prevention		
rection			value of the <i>Refer</i> variable is not cha	Correct the program so that the value of the <i>ReferenceType</i> in-out variable is not changed during mul- ti-execution of the relevant instruc- tions		n so that the value <i>Type</i> in-out varia- d during multi-ex- evant instructions.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

*1. Error code 16#5730 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Same Track Number Setting in Switch Structure Out of Range			Event code	54015731 hex *1		
Meaning		The same track number was specified more than the allowable number of times for the <i>TrackNumber</i> in the <i>Switches</i> in-out variable to a motion control instruction.					
Source	PLC Function Module S		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acco	uction will end according to specifi-	
System-de-	Variable	Data type		Name			
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	fied more than the ber of times for th the Switches in-ou	fied more than the allowable num- ber of times for the <i>TrackNumber</i> in track numb		Correct the values in the <i>TrackNumber</i> so that the same rack number is not specified more han the maximum number of imes.		the <i>TrackNumber</i> track number is e than the maxi- imes.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	lf a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

*1. Error code 16#5731 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Cannot Write Axis	s Parameters		Event code	5401573A hex *1		
Meaning	The instruction wa	as executed for an	axis that is not an ι	unused axis.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-	
System-de-	Variable [Data type		Name		
fined variables	_MC_COM.MFau	ItLvI.Active	BOOL		MC Common Minor Fault Occur-		
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The instruction wa	as executed for a	Correct the program so that the		Write the program so that the		
	used axis or an u	ndefined axis.	MC_ChangeAxisUse (Change Axis		specified axis is an unused axis		
			Use) instruction is	s executed after	when the instruction is executed.		
			the specified axis	is changed to an			
			unused axis.				
Attached infor-		tion 1: Error Locatio					
mation				struction Instance			
		essible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
Dessertions/	be identified.				A in allow have all states		
Precautions/	IT a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	
Remarks							

*1. Error code 16#573A occurs for unit version 1.08 or later of the CPU Unit.

Event name	Axis Parameter S	etting Out of Range	e	Event code	5401573B hex *1		
Meaning	The parameter sp valid range.	The parameter specified for the AxisParameter input variable to a motion control instruction is outside of the valid range.					
Source	PLC Function Module Source detail		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instr cations.		ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	IltLvI.Active	BOOL	BOOL		nor Fault Occur-	
					rence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	The parameter sp	ecified for the	Correct the parameter so that the		Set the input para	ameter to the in-	
	AxisParameter in	put variable to the	valid range of the input variable is		struction so that the valid range of		
	instruction is out of	of range for the	not exceeded for	not exceeded for the instruction.		the input variable is not exceeded.	
	input variable.		Confirm which pa	rameter exceed-	Refer to informat	ion on the	
			ed the range or w	/hat parameters	MC_WriteAxisParameter (Write Ax-		
			are inconsistent in	n the attached in-	is Parameters) instruction for the		
			formation.	formation.		valid ranges of the input variables.	
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction car						
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	at is displayed may	not be correct.	
Remarks							

*1. Error code 16#573B occurs for unit version 1.08 or later of the CPU Unit.

Event name	Cam Property Se	tting Out of Range		Event code	5401573C hex *1	
Meaning	The parameter sp id range.	pecified for the Can	<i>nProperty</i> input var	iable to a motion c	control instruction is	outside of the val-
Source	PLC Function Mo	dule	Source details	Source details Instruction		At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instr cations.		truction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction	Correction		
rection	The parameter specified for the <i>CamProperty</i> input variable to the instruction is out of range for the input variable.		valid range of the not exceeded for Confirm which pa	Correct the parameter so that the valid range of the input variable is not exceeded for the instruction. Confirm which parameter exceed- ed the range in the attached infor- mation		ameter to the in- he valid range of is not exceeded.
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there i more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

*1. Error code 16#573C occurs for unit version 1.08 or later of the CPU Unit.

Event name	Cam Node Settin	g Out of Range		Event code	5401573D hex *1			
Meaning	The parameter sp range.	pecified for the Can	<i>Nodes</i> input varial	ole to a motion con	trol instruction is ou	utside of the valid		
Source	PLC Function Mc	dule			Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	uction will end according to specifi-		
System-de-	Variable		Data type		Name			
fined variables _MC_COM.MFaultLvl.Active		IltLvI.Active	BOOL		MC Common Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The parameter specified for the <i>CamNodes</i> input variable to the instruction is out of range for the input variable.		valid range of the not exceeded for Confirm which pa	Correct the parameter so that the valid range of the input variable is not exceeded for the instruction. Confirm which parameter exceed- ed the range in the attached infor- mation		ameter to the in- the valid range of e is not exceeded.		
Attached infor-	Attached Informa	tion 1: Error Locatio	on					
mation		Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information that	at is displayed may	not be correct.		

*1. Error code 16#573D occurs for unit version 1.08 or later of the CPU Unit.

Event name	Incorrect Cam No	de Type Specificat	ion	Event code	5401573E hex *1			
Meaning	·	becified for the <i>Can</i> DE array variable.	<i>nNodes</i> input varial	ole to a motion con	trol instruction is no	ot an		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	uction will end according to specifi-		
System-de-	em-de- Variable		Data type		Name			
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The parameter sp <i>CamNodes</i> input struction is not an _sMC_CAM_NOI	variable to the in-	sMC_CAM_NOD	Correct the program to specify an sMC_CAM_NODE array variable for the input variable to the instruction		Write the program to specify an sMC_CAM_NODE array variable for the input variable to the instruction.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.		

*1. Error code 16#573E occurs for unit version 1.08 or later of the CPU Unit.

Event name	Insufficient Nodes	s in Cam Table		Event code	5401573F hex *1	
Meaning		e of the parameter s e of 0 for element r	•	<i>mNodes</i> input vari	able to a motion co	ontrol instruction
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end a cations.		ruction will end acc	ording to specifi-
System-de-	Variable	ariable Data type		Name		
fined variables	es _MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The array variable	e of the parameter	Correct the program so that the		Write the program so that the value	
	specified for the (C <i>amNodes</i> input	value of Phase (master axis pha		of Phase (master axis phase) for	
	variable to the ins	struction has a	for element number 0 in the array		element number 0 in the array vari-	
	Phase (master axis phase) value of		variable for the parameter speci-		able for the parameter specified for	
	0 for element nun	nber 0.	fied for the CamNodes input varia-		the CamNodes input variable is not	
			ble is not 0.		0.	
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	it is displayed may	not be correct.
Remarks						

*1. Error code 16#573F occurs for unit version 1.08 or later of the CPU Unit.

3

Event name	Cam Node Maste der	er Axis Phase Not ir	Ascending Or-	Event code	54015740 hex ^{*1}	
Meaning			iable of the parame ending order accor			variable to a mo-
Source	PLC Function Module Source details Instru		Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFat	IltLvI.Active			MC Common Minor Fault Occur- rence	
Cause and cor-	The values of Phase (master axis phase) in the array variable of the parameter specified for the <i>CamNodes</i> input variable to the in- struction are not in ascending or- der according to the element num-		Correction	Correction		
rection			Correct the program so that the values of Phase (master axis phase) in the array variable for the parameter specified for the <i>CamNodes</i> input variable are in ascending order according to the element numbers.		Write the program so that the values of Phase (master axis phase) in the array variable for the parameter specified for the <i>CamNodes</i> input variable are in ascending order according to the element numbers.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

*1. Error code 16#5740 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Too Many Data P	oints in Cam Table		Event code	54015741 hex ^{*1}	
Meaning	-		points exceeded th ble input variable to		-	he cam data vari-
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	iables _MC_COM.MFaultLvl.Active		BOOL	BOOL		nor Fault Occur-
Cause and cor-	nd cor- Assumed cause The number of cam data points in the generated cam table exceeded the number of elements in the ar- ray in the cam data variable that is specified for the <i>CamTable</i> input variable to the instruction.		Correction		Prevention	
rection			Correct the program so that the number of cam data points in the generated cam table does not ex- ceed the number of elements in the array in the cam data variable that is specified for the <i>CamTable</i> input variable to the instruction. Refer to information on the MC_GenerateCamTable (Generate Cam Table) instruction for the num- ber of cam data points in generat- ed cam tables.			
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack	ned information tha	t is displayed may	not be correct.

*1. Error code 16#5741 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Cam Table Displa	acement Overflow		Event code	54015742 hex *1	
Meaning	Distance in the g	enerated cam table	exceeded the rang	e of REAL data.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution or during instruc- tion execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFat	IC_COM.MFaultLvI.Active BOOL			MC Common Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Distance in the generated cam ta- ble exceeded the range of REAL data.		Correct the values of InitVel (initial velocity), ConnectingVel (connect- ing velocity), and ConnectingAcc (connecting acceleration) so that Distance does not overflow when a polynomic 3 curve or polynomic 5 curve is specified for Curve (curve shape) in the <i>CamNodes</i> input var- iable. Refer to information on the MC_GenerateCamTable (GenerateCamTable (Generate CamTable (method to calculate Distance.		Specify the values of InitVel (initial velocity), ConnectingVel (connect- ing velocity), and ConnectingAcc (connecting acceleration) so that Distance does not overflow when a polynomic 3 curve or polynomic 5 curve is specified for Curve (curve shape) in the <i>CamNodes</i> input variable. Refer to information on the MC_GenerateCamTable (GenerateCamTable (GenerateCamTable (method to calculate Distance.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction canno be identified.					
Precautions/ Remarks		anged after an erro	or occurs, the attack	ned information tha	t is displayed may	not be correct.

*1. Error code 16#5742 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Aborted Cam Tab	ole Used		Event code	54015743 hex ^{*1}		
Meaning			d during generation was specified for th	•	the <i>CamTable</i> A car	m data variable	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type	•	Name		
fined variables	_MC_COM.MFat	ultLvI.Active	BOOL		MC Common Mir	or Fault Occur-	
					rence		
	_MC_AX[*].MFau	[*].MFaultLvI.Active BOOL		Axis Minor Fault Occurrence			
Cause and cor-	nd cor- Assumed cause		Correction	Correction			
rection	A cam data variable that was		Check the ErrorIE	Check the ErrorID (end code), Er-		n so that the	
	aborted during generation due to		rorParameterCode (parameter de-		MC_GenerateCamTable (Generate		
	an error in the M	-	tail code), and ErrorNodePointIn-		Cam Table) instruction creates cor-		
	CamTable (Gene	,		dex (node point element number) output variables from the MC_Gen-		rect cam data variables. Or, write	
	instruction was s					nat the relevant in-	
	CamTable input v	variable to the in-		Generate Cam Ta-		ited only when the	
	struction.		,	nd correct the pro-	_	mTable (Generate	
			iables are created	ect cam table var-	Cam Table) instruction ends nor-		
Attached infor-	Attached Informe	tion 1: Error Locati		1.	mally.		
mation			on ne Instruction and Ir	struction Instance	Where the Error O	courred If there is	
mation			information is given				
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

*1. Error code 16#5743 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Execution ID Sett	ing Out of Range		Event code	54015749 hex *1		
Meaning	The parameter sp	ecified for the Exe	<i>cID</i> input variable to	a motion control i	nstruction is out of	range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end according to specifi-		
System-de-			Data type BOOL		Name		
fined variables					Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameter sp <i>ExecID</i> input varia struction is out of put variable.	able to the in-	put parameter spe <i>ExecID</i> input varia	Correct the program so that the in- put parameter specified for the <i>ExecID</i> input variable to the in- struction is within the setting range.		Create the program so that the in- put parameter specified for the <i>ExecID</i> input variable to the in- struction is within the setting range.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

*1. Error code 16#5749 occurs for unit version 1.10 or later of the CPU Unit.

Event name	Position Offset Out of Range			Event code	5401574A hex *1	
Meaning	The parameter sp	ecified for the Offs	etPosition input var	riable to a motion c	ontrol instruction is	out of range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	on The relevant instruction will end according to spec cations.		ording to specifi-
System-de-			Data type	Data type		
fined variables			BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the range of signed 40-bit		valid range of the input variable is		struction so that the valid range of	
	data when it was converted to pulses.		not exceeded for the relevant in- struction.		the input variable	is not exceeded.
Attached infor-	Attached Informat	ion 1: Error Locatio	on			
mation	Attached Informat	ion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
Precautions/	lf a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

*1. Error code 16#574A occurs for unit version 1.10 or later of the CPU Unit.

Event name	PDS State Transition Command Selection Out of Range			Event code	5401574B hex *1		
Meaning	The parameter sp	ecified for the Tran	<i>sitionCmd</i> input va	riable to a motion o	control instruction is	s out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	evant instruction will end according to specifi-		
System-de-	Variable	/ariable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

*1. Error code 16#574B occurs for unit version 1.10 or later of the CPU Unit.

Event name	Single-axis Position Control Axis Motion Control In- struction Execution Disabled			Event code	5401574C hex *1			
Meaning	An operation instr	An operation instruction was executed for a single-axis position control axis.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	on The relevant instruction will end according to cations.		ording to specifi-		
System-de-	Variable _MC_AX[*].MFaultLvI.Active		Data type		Name			
fined variables			BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause An operation instruction was exe- cuted for a single-axis position control axis.		Correction		Prevention			
rection			axis specified in t the Control Funct <i>0: All.</i> Or specify the axi Control Function	In the Axis Basic Settings for the axis specified in the instruction, set the Control Function parameter to <i>0: All.</i> Or specify the axis for which the Control Function parametr is set to <i>0: All</i> in the Axis Basic Settings.		eft.		
Attached infor- mation	Attached Informat more than one po be identified.	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	at is displayed may	not be correct.		

*1. Error code 16#574C occurs for unit version 1.13 or later of the CPU Unit.

Event name	Cam Monitor Moc	le Selection Out of	Range	Event code	54015751 hex ^{*1}			
Meaning		The cam monitor mode selection specified for the <i>CamMonitorMode</i> input variable to a motion control instruc- tion is out of range.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instruction will cations.		uction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The cam monitor mode selection is out of the valid range.			Make a correction so that the cam monitor mode selection is within the valid range.		Make a setting so that the cam monitor mode selection is within the valid range.		
Attached infor-	Attached informat	ion 1: Error Locatio	on					
mation	Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.		
Remarks								

*1. This error code (16#5751) occurs for an NX102-DD CPU Unit with unit version 1.32 or later and NX701-DD0 CPU Unit, NX1P2-DD CPU Unit, NJ501-DD CPU Unit (excluding NJ501-DD, NJ301-DD CPU Unit, and NJ101-D00 CPU Unit with unit version 1.21 or later.

Event name	Data Type of Can	n Monitor Values M	ismatch	Event code	54015752 hex *1		
Meaning		The data type of the cam monitor values specified for the <i>CamMonitorValue</i> in-out variable to a motion control instruction does not match the cam monitor mode selection.					
Source	PLC Function Module S		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instr cations.		ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	es _MC_AX[*].MFaultLvI.Active BOOL			Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The data type of the variable speci- fied for the cam monitor values does not match the cam monitor mode selection.		Make a correctior of the variable spe cam monitor value	ecified for the	Set the data type of the variable specified for the cam monitor val- ues correctly.		
Attached infor- mation	Attached information 1: Error Location Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	lf a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

*1. This error code (16#5752) occurs for an NX102-DD CPU Unit with unit version 1.32 or later and NX701-DD0 CPU Unit, NX1P2-DD CPU Unit, NJ501-DD CPU Unit (excluding NJ501-DD2), NJ301-DD CPU Unit, and NJ101-DD0 CPU Unit with unit version 1.21 or later.

Event name	X Bus Unit Does	Not Exist		Event code	54015800 hex		
Meaning	The specified Uni	t does not exist.			•		
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according cations.		ording to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor- rection	Assumed cause		Correction		Prevention		
	The specified X Bus Unit does not		Make corrections	Make corrections so that the Unit		nit specifications	
	exist.		specifications and the remote Unit		and the remote U	Init configuration	
			configuration agree.		agree.		
Attached infor-	Attached information	tion 1: Error Locatio	on				
mation	Attached informat	tion 2: Error Locatio	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from	
	the start of the section is given. For ST, the line number is given.						
	Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is						
	more than one po	ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot	
	be identified.						
	Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error						
	Code (ErrorIDEx)	. For the instruction	n without an Expan	sion Error Code (E	rrorIDEx), 0x00000	000 is given.	
Precautions/	None						
Remarks							

Event name	Response Timeo	ut		Event code	54015801 hex		
Meaning	No response was	received from the	specified Unit.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level Observation		Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Communications with the specified Unit stopped due to either an X Bus Unit Startup Error, X Bus Unit Communications Error, or X Bus Function Processing Error.		Recover the specified Unit from its abnormal state and start it up nor- mally.		Make sure that there is no abnor- mality in the specified Unit, and then start communications.		
	The set response is too short.	monitoring time	Change the value set for response monitoring time.		None		
Attached infor- mation	Attached informat the start of the se Attached informat more than one po be identified. Attached informat	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
Precautions/ Remarks	None					-	

Event name	Cannot Execute a	at Specified Unit/Po	ort	Event code	54015C00 hex	
Meaning	-		s executed when e rt number does not		ossible. Or, the Eth	nerNet/IP port des-
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	 while the EtherNet/IP port is being restarted or tag data link settings are being downloaded from Network Configurator. The EtherNet/IP port designated by the specified Unit and port 		changing settir	herNet/IP port or ngs. specified Unit and at exist in the etting of the X the Unit speci- ruction is con-	EtherNet/IP po or settings are changed. • Designate the port number th configuration s Bus Unit.	specified Unit and nat exist in the setting of the X ect the Unit speci-
Attached infor- mation	 Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannobe identified. Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error Code (ErrorIDEx). For the instruction without an Expansion Error Code (ErrorIDEx), 0x00000000 is given. 					ccurred. If there is instruction cannot xpansion Error
Precautions/ Remarks	None				,,	5

Event name	Too Many Simultaneous Instruction Executions		Event code	54015C01 hex		
Meaning		rol instructions wer xecuted simultaned	re executed and the ously.	e number of instruc	tions exceeded the	e maximum num-
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Two or more tag data link control instructions were executed simultaneously.		Correct the program so that only one tag data link control instruction is executed at a time.		Create a program so that only one tag data link control instruction is executed at a time.	
Attached infor- mation	Attached information the start of the set of	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error Code (ErrorIDEx). For the instruction without an Expansion Error Code (ErrorIDEx), 0x00000000 is given.				
Precautions/	None		·	, , , , , , , , , , , , , , , , , , ,	-	
Remarks						

Event name	Target Node IP A	ddress Does Not E	xist	Event code	54015C03 hex	
Meaning		Connection settings with the target node IP address do not exist on the Ethernet/IP port specified by the specified Unit and port number.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause Connection settings with the target node IP address do not exist on the Ethernet/IP port specified by the specified Unit and port number.		Correction	Prevention		
rection			that exists in the	rNet/IP port speci- tings of the EtherNet/IP port		connection set- Net/IP port speci-
Attached infor- mation	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error Code (ErrorIDEx). For the instruction without an Expansion Error Code (ErrorIDEx), 0x0000000 is given.					
Precautions/ Remarks	None			×		-

Event name	Connection Com	munications Error		Event code	54015C04 hex		
Meaning	Communications	can not be establis	hed with the target	node specified by	target node IP add	arget node IP address.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	•	Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	 Target node is not connected properly. The power supply to the target node is OFF. The Ethernet cable is broken, or loose. Noise 		ed.	cted. power supply to e is ON.	 Connect the target node is properly. Turn ON the power supply to the target node. Replace the Ethernet cable and connect it securely. Implement noise countermeasures if there is excessive noise 		
Attached infor- mation	 Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error Code (ErrorIDEx). For the instruction without an Expansion Error Code (ErrorIDEx), 0x0000000 is given. 						
Precautions/ Remarks	None						

Event name	Connection Setting Error			Event code	54015C05 hex	
Meaning	An abnormal resp	oonse from the targ	et node was receiv	red.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Connection settings are incorrect.		Modify connection download the set work Configurator dio.	tings from Net-	s from Net- and download the settings fro	
Attached infor-	Attached information	tion 1: Error Locatio	on			
mation	Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error Code (ErrorIDEx). For the instruction without an Expansion Error Code (ErrorIDEx), 0x00000000 is given.					
Precautions/	None					
Remarks						

Event name	Target Position Po	ositive Software Lir	nit Exceeded	Event code	54016440 hex	
Meaning	The specified pos	sition exceeds the p	oositive software lin	nit.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFa	aultLvl.Active	BOOL	Axes Group Minor Fault Oc rence		or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter specified for the <i>Position</i> input variable to the in- struction is beyond the positive software limit. The starting position is beyond the positive software limit and an in- struction that specifies motion in the opposite direction of the soft- ware limit was executed.		the <i>Position</i> input struction so that in itive software limi Correct the progra travel direction fo towards the positi	am so that the r the instruction is ive software limit.	to the in- n the pos-Position input variable to the ir struction so that it is within the itive software limit.at the truction isIf the starting position is beyon the positive software limit, write	
	The parameter that was specified for the <i>AuxPoint</i> input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruc- tion is beyond the positive software limit.		the <i>AuxPoint</i> inpu instruction so that positive software	t it is within the	Set the parameter specified for the <i>AuxPoint</i> input variable to the border point MC_MoveCircular2D (Circular 2D Interpolation) instruction so that it is within the negative software limit.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If th more than one possible instruction, information is given on all of them. Nothing is given if the instruction of be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.

Event name	Target Position N	egative Software L	imit Exceeded	Event code	54016441 hex	
Meaning	The specified pos	ition exceeds the r	negative software li	mit.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter specified for the <i>Position</i> input variable to the in- struction is beyond the negative software limit. The starting position is beyond the negative software limit and an in- struction that specifies motion in the opposite direction of the soft- ware limit was executed.		the <i>Position</i> input struction so that in ative software lim Correct the progra travel direction fo towards the nega	am so that the r the instruction is tive software limit.	-	
	The parameter that was specified for the <i>AuxPoint</i> input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruc- tion is beyond the negative soft- ware limit.		the AuxPoint inputinstruction so that negative software	t it is within the	Set the parameter specified for the <i>AuxPoint</i> input variable to the bor- der point MC_MoveCircular2D (Cir- cular 2D Interpolation) instruction so that it is within the negative soft- ware limit.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there i more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	Command Positio	on Overflow/Underf	low	Event code	54016442 hex	
Meaning	Positioning, an instruction in the underflow/overflow direction, or an instruction for which the direction is not specified was executed when there was an underflow/overflow in the command position.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ultLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause	1	Correction		Prevention	
rection	 One of the following was executed when there was a command position overflow/underflow. A positioning instruction A continuous control instruction in the underflow/overflow direction An instruction for which the direction is not specified (syncing or torgue control) 		Execute an error clear the overflow by executing hom the actual position	//underflow state ning or presetting	Make sure that o	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Positive Limit Inp	ut		Event code	54016443 hex	
Meaning	An instruction wa	s executed for a mo	otion in the positive	direction when the	e positive limit input	was ON.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant inst cations.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Mino rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Assumed cause An instruction for a motion in the positive direction was executed when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit in- put was ON. An axes group motion control instruction was executed when the positive limit input was ON.		Execute an error reset and then perform a recovery operation in the negative direction. If the error oc- curred during an axes group mo- tion control instruction, disable the axes group and then perform the above operation. If this error oc- curs again, check the connection of the positive limit signal, the logic setting for the positive limit input, and the execution conditions for the start command, and correct any mistakes. Check the logic settings both in the axis parameters and in the slave settings.		nal connection, the positive limit of cute conditions for	e positive limit sig- ne logic setting for input, and the exe- or the instruction. ettings both in the
Attached infor- mation	 Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If ther more than one possible instruction, information is given on all of them. Nothing is given if the instruction car be identified. 					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	at is displayed may	not be correct.

Event name	Negative Limit Inp	out		Event code	54016444 hex	
Meaning	An instruction for	a motion in the neg	gative direction was	executed when th	e negative limit inp	ut was ON.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr cations.	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFa	aultLvl.Active	BOOL	Axes Group Minor Fault 0 rence		or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Assumed cause An instruction for a motion in the negative direction was executed when the negative limit input was ON, or an instruction for a motion with no direction specification was executed when the negative limit input was ON. An axes group mo- tion control instruction was execut- ed when the negative limit input was ON.		positive direction. red during an axe control instruction group and then po operation. If this e again, check the negative limit sign ting for the negati the execution con start command, a mistakes. Check the logic so axis parameters a settings.	ry operation in the If the error occur- s group motion a, disable the axes erform the above error occurs connection of the hal, the logic set- ve limit input, and ditions for the nd correct any ettings both in the	for the negative li execute condition tion.	e negative limit h, the logic setting imit input, and the hs for the instruc- bettings both in the
Attached infor- mation						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Servo Main Circu	its OFF		Event code	54017422 hex		
Meaning	An attempt was n	nade to turn ON the	e Servo when the m	nain circuit power s	upply to the Servo	Drive was OFF.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program Continues. Operation The relevant cations.			ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive		Turn ON the Serv ON the main circu Servo Drive for th error occurred.	uit power of the	Turn ON the Serv ON the main circle to the Servo Drive	uit power supply	
Attached infor- mation	was OFF. error occurred. Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

3-2-3 Other Troubles and Corrections

Security Errors

No.	Problem	Correction
1	Forgot the Administrator password.	You cannot access the Administrator's password. Al- ways record the Administrator password so that you do not forget it.
2	Cannot release the operation lock with the Sysmac Studio.	Log in with verification authority that is equal to or higher than the verification rights when you connected online.
3	Operation was locked when verifying operation authority on the Sysmac Studio.	If the password for verification of operation authority is entered incorrectly five times in row, operation is locked for 10 minutes. Wait until the operation lock is released.
4	An online connection was made with the opera- tion authority that is required for operation, but operation authority verification was requested for a specific operation.	 Verification of operation authority is required every time for the following functions to prevent hazards to equipment and people. I/O monitoring (writing) by an Operator Operating mode change by a Maintainer Online editing by a Maintainer
5	Cannot release the operation lock with the Sys- mac Studio after the operator left the Sysmac Studio unattended.	You can release the operation lock with an operation authority that is equal to or higher than the operator. The required operation authority will be that of an op- erator (the operation authority that was verified when going online with the Sysmac Studio).
6	 Some of the user program data cannot be read for certain operations. Monitoring Variables Operation Commands SET/RESET, forced refreshing, online edit- ing, data tracing, MC Test Run, and setting the user program execution ID in the CPU Unit Synchronizing, Uploading, Verification, and Backup POU algorithms 	The source data was not downloaded along with the user program. You will be able to read the data if you download the user program normally.
7	 Writing to the CPU Unit is not possible for some operations. Names Operation Commands Online editing, Clear All Memory, event log clearing, and setting the user program execution ID in the CPU Unit Synchronizing and Downloading User program, CPU/Expansion Rack Configuration and Setup, EtherCAT Settings, Controller Setup, Axis Settings, Cam Table Settings, Data Trace Settings, User-defined Event Setup, restoring 	The CPU Unit is write protected. Release the write protection.

No.	Problem	Correction
8	I do not know how to change the user program execution ID.	The user program execution ID cannot be changed or deleted after it is set.
9	I forgot the user program execution ID as- signed to user program.	This is no way to access the user program execution ID that is set. Always record the user program execu- tion ID so that you do not forget it.
10	I forgot the user program execution ID that is registered in the CPU Unit.	This is no way to access the user program execution ID that is set. Set the user program execution ID again. You can also clear the user program execution ID in the CPU Unit if you execute the Clear All Memory operation.

3-3 Errors in the NX Bus Function Module

The section provides tables of the errors (events) that can occur in the NX Bus Function Module.

3-3-1 Error Tables

NX Bus

With the NX102 CPU Unit and NX1P2 CPU Unit, two or more events with more specific names may correspond to one Slave Terminal event. Refer to *A-7 Correspondence of NX Bus Events between NX102 CPU Units, NX1P2 CPU Units and Slave Terminals* on page A-300 for details.

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04100000 hex [NX102, NX1P2]	NX Bus Controller Error	An error occurred in the NX bus.	 An I/O communications error occurred between the CPU Unit and the NX Unit. 		0				page 3-429
04110000 hex [NX102, NX1P2]	NX Bus Hardware Error	A hardware error was detected in the NX Bus Function Module.	 A hardware error related to the NX bus was detected. 		0				page 3-430
10600000 hex [NX102, NX1P2]	NX Bus Memory Check Error	An error was detect- ed in the internal memory check for the NX Bus Function Module.	 An error was detected in the memory check for the internal protection circuit. 		0				page 3-430
10610000 hex [NX102, NX1P2]	Failed to Read NX Unit Opera- tion Settings	Reading the NX Unit operation settings failed. Cycle the power sup- ply to the CPU Unit to restore the previous normally-saved set- tings.	 The NX Unit operation settings are not saved normally in the CPU Unit. 		0				page 3-431
24D00000 hex [NX102, NX1P2]	Number of Mountable NX Units Ex- ceeded	The number of mounted NX Units exceeds the specified value for the CPU Unit.	More than the maximum number of NX Units are mounted on the CPU Unit.		0				page 3-432
24D20000 hex [NX102, NX1P2]	Total I/O Da- ta Size in NX Units Exces- sive	The total size of I/O data in the mounted NX Units exceeds the maximum specified value for the CPU Unit.	 The total size of I/O data in the mounted NX Units exceeds the maximum specified value for the CPU Unit. 		0				page 3-433
356D0000 hex (Ver. 1.40 or later)	Parameters Not Trans- ferred	NX Unit parameters are not transferred.	NX Unit parameters are not transferred.		0				page 3-433

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35900000 hex [NX102, NX1P2]	NX Unit Ver- sion Not Matched	There is a mounted NX Unit with a unit version earlier than that in the Unit config- uration information registered in the CPU Unit.	The unit version of an NX Unit mounted in the actual configura- tion is earlier than that in the Unit configuration information regis- tered in the CPU Unit.		0				page 3-434
35910000 hex [NX102, NX1P2]	Unregistered NX Unit Mounted	There is a mounted NX Unit that does not exist in the Unit con- figuration information registered in the CPU Unit. If there are more than one NX Unit rel- evant to this event, only the NX Unit that is nearest to the CPU Unit is registered with the event.	 There is a mounted Unit that does not exist in the Unit configuration information registered in the CPU Unit. There is a mounted Unit in which the NX Unit Mounting Setting is set to <i>Disabled</i>. 		0				page 3-435
35930000 hex [NX102, NX1P2]	NX Unit Se- rial Number Mismatch	There is a mounted NX Unit with a serial number different from that in the Unit config- uration information registered in the CPU Unit.	 One or more NX Units with the serial number set in the Unit configuration information regis- tered in the CPU Unit are not mounted. 		0				page 3-436
44440000 hex [NX102, NX1P2]	NX Bus Function Processing Error	A fatal error was de- tected in the NX Bus Function Module.	An error occurred in the software.		0				page 3-437
85540000 hex [NX102, NX1P2]	NX Bus I/O Communica- tions Stop- ped Due to Another Event	The I/O communica- tions on the NX bus were stopped be- cause an error that prevents I/O commu- nications on the NX bus occurred.	 The I/O refreshing was stopped because a minor fault error (another event) that triggers fail-soft operation occurred when the Fail-soft Operation Setting is <i>Stop</i>. The I/O communications was stopped because the <i>Registered NX Unit Not Mounted</i> event occurred and the actual configuration prevents I/O communications from starting. 		0				page 3-437

				Level						
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference	
35920000 hex [NX102, NX1P2]	Registered NX Unit Not Mounted	One or more NX Units set in the Unit configuration informa- tion registered in the CPU Unit are not mounted. If there are more than one NX Unit relevant to this event, only the NX Unit that is nearest to the CPU Unit is regis- tered with the event.	 There is no mounted NX Unit that exists in the Unit configuration information registered in the CPU Unit. The power supply to the Additional NX Unit Power Supply Unit is not turned ON. 			0			page 3-438	
85500000 hex [NX102, NX1P2]	NX Bus Communica- tions Error	A communications er- ror that prevents nor- mal NX bus commu- nications was detect- ed. If there are more than one NX Unit rel- evant to this event, only the NX Unit that is nearest to the CPU Unit is registered with the event.	 The NX bus connector contact is faulty due to vibration or shock. Excessive noise is applied to the NX bus connector. An NX Unit was removed. An error occurred in an NX Unit. 			0			page 3-439	
85510000 hex [NX102, NX1P2]	NX Unit Communica- tions Time- out	An error occurred in I/O data communica- tions with the NX Units.	 An NX Bus Communications Error has occurred. An error occurred in an NX Unit. 			0			page 3-439	
85520000 hex [NX102, NX1P2]	NX Unit Initi- alization Er- ror	Initializing an NX Unit failed.	 Initialization with the Unit configuration information registered in the CPU Unit failed. An NX Bus Communications Error has occurred. The Channel Enable/Disable Setting for all channels of the Analog Unit are set to Disable. Initialization of an NX Unit failed. 			0			page 3-440	
85530000 hex [NX102, NX1P2]	NX Unit Startup Error	Starting an NX Unit failed.	A startup error occurred in an NX Unit.			0			page 3-441	
103C0000 hex [NX102, NX1P2]	NX Unit Backup Failed	The backup operation for an NX Unit ended in an error.	 There is also another error related to the NX Bus Function Module. An NX Bus Communications Error has occurred. Backup data cannot be received from an NX Unit. 				0		page 3-441	

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
103D0000 hex [NX102, NX1P2]	NX Unit Re- store Opera- tion Failed	The restore operation for an NX Unit ended in an error.	 There is also another error related to the NX Bus Function Module. An NX Bus Communications Error has occurred. The backup data cannot be sent to an NX Unit. The Unit configuration in the backup file does not agree with the actual Unit configuration. 				0		page 3-442
10620000 hex [NX102, NX1P2]	NX Unit Event Log Save Error	Saving or reading the NX Unit event log failed. Continuing to operate with this error may re- sult in no event log saved at CPU Unit power OFF although it has no effect on the control function.	 Data in the NX Unit event log area are invalid. 				0		page 3-443
44450000 hex [NX102, NX1P2]	NX Bus Sys- tem Informa- tion	This event provides internal information from the NX Bus Function Module.	 This event provides internal in- formation from the NX Bus Function Module. 					0	page 3-443
95800000 hex [NX102, NX1P2]	NX Bus Re- start Execut- ed	An NX bus restart was executed.	An NX bus restart command was received.					0	page 3-444
95810000 hex [NX102, NX1P2]	NX Unit Memory All Cleared	The NX Unit opera- tion settings were ini- tialized.	A Clear All Memory operation for an NX Unit was received.					0	page 3-445
3-3-2 Error Descriptions

NX Bus

Event name	NX Bus Controlle	r Error		Event code	04100000 hex		
Meaning	An error occurred	in the NX bus.					
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At CPU Unit power ON, at Controller reset, or during NX bus communica- tions	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or re- set the Control- ler.	Log category	System	
Effects	User program	Continues.	Operation		ns will not operate	-	
				communications of	cannot be perform	ed.	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection		An I/O communications error oc- curred between the CPU Unit and the NX Unit		Cycle the power supply to the CPU Unit. If this error persists, replace the CPU Unit.		None	
Attached infor- mation	Attached informat	tion 1: System info	rmation				
Precautions/	None						
Remarks							

Event name	NX Bus Hardware	e Error		Event code	04110000 hex		
Meaning	A hardware error	was detected in the	e NX Bus Function	Module.	•		
Source	NX Bus Function	Module			Detection tim- ing	Continuously	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or re- set the Control- ler.	Log category	System	
Effects	User program	Continues.	Operation		ns will not operate and message cannot be performed.		
System-de-	Variable		Data type		Name		
fined variables	None	None					
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A hardware error	related to the NX	Cycle the power	supply to the CPU	None		
	bus was detected.		Unit. If this error persists, replace				
		the CPU Unit.					
Attached infor-	Attached informa	tion 1: System infor	mation				
mation		tion 2: System infor					
		tion 3: System infor					
	Attached informa	tion 4: System infor	mation				
Precautions/	None						
Remarks							

Event name	NX Bus Memory	Check Error		Event code	10600000 hex		
Meaning	An error was dete	ected in the internal	memory check for	the NX Bus Function	on Module.		
Source	NX Bus Function Module Source details		Source details	Master	Detection tim- ing	Continuously	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or re- set the Control- ler.	Log category	System	
Effects	User program	Continues.	Operation		ns will not operate and message annot be performed.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error was dete	ected in the mem-	Cycle the power s	Cycle the power supply to the CPU		None	
	ory check for the	internal protection	Unit. If this error persists, replace				
	circuit.		the CPU Unit.				
Attached infor-	Attached informat	tion 1: System infor	mation				
mation							
Precautions/	None						
Remarks							

Event name	Failed to Read N	X Unit Operation Se	ettings	Event code	10610000 hex		
Meaning		Jnit operation settir supply to the CPU l	•	previous normally-s	aved settings.		
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At CPU Unit power ON, at Controller reset, or at NX bus re- start	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category	System	
Effects	User program	Continues.	Operation		ions will not operate, but message s can be performed.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The NX Unit operation settings are not saved normally in the CPU Unit.		Check the NX Unit operation set- tings and correct the settings.		Do not turn OFF the power supply to the CPU Unit while transfer of the Unit operation settings for the CPU Unit or execution of the NX_SaveParam instruction is in progress.		
Attached infor- mation	Attached informat	tion 1: System infor	mation				
Precautions/ Remarks	None						

Event name	Number of Mounta	able NX Units Exce	eeded	Event code	24D00000 hex		
Meaning	The number of mo	ounted NX Units ex	ceeds the specifie	d value for the CPL	J Unit.		
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At CPU Unit power ON, at Controller reset, or at NX bus re- start	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or re- set the Control- ler.	Log category	System	
Effects	User program	Continues.	Operation	mountable Uni ate, but messa formed.For NX Units o mountable Uni	For NX Units outside the range of the number of mountable Units, I/O communications will not oper- ate and message communications cannot be per-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	More than the maximum number of NX Units are mounted on the CPU Unit.		Keep the number of NX Units mounted on the CPU Unit at the specified number or less.		Mount the specified number of NX Units or less.		
Attached infor- mation	None		•		•		
Precautions/ Remarks	None						

Event name	Total I/O Data Siz	e in NX Units Exce	essive	Event code	24D20000 hex	
Meaning	The total size of I	/O data in the mou	nted NX Units exce	eds the maximum	specified value for	the CPU Unit.
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At CPU Unit power ON, at Controller reset, or at NX bus re- start
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or re- set the Control- ler.	Log category	System
Effects	User program	Continues.	Operation	I/O communications will not operate, but message communications can be performed.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The total size of I	/O data in the	Reduce the numb	per of NX Units	Reduce the number of NX Units	
	mounted NX Unit	s exceeds the	mounted on the C	CPU Unit to keep	mounted on the CPU Unit to keep	
	maximum specifie	ed value for the	the total size of I/	O data at the	the total size of I/	O data at the
	CPU Unit.		maximum specifie	ed value or less.	maximum specified value or less.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Parameters Not T	ransferred		Event code	356D0000 hex ^{*1}		
Meaning	NX Unit paramete	ers are not transferi	red.	•	•		
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At power ON, Controller reset, or operating mode change	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or re- set the Control- ler.	Log category	System	
Effects	User program	Continues.	Operation	I/O communicatio communications of	ns will not operate, but message an be performed.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	rection NX Unit parameters are not trans- ferred.		Cycle the power supply or reset the Controller after you transfer NX Unit parameters from the Sysmac Studio.		If you execute the download that is required to reset the Controller, you need to transfer NX Unit parame- ters. Download the data according to the message displayed on the Sysmac Studio.		
Attached infor- mation	None		1		1 -		
Precautions/ Remarks	None						

*1. This event code occurs for unit version 1.40 or later of the CPU Unit.

3

3-3-2 Error Descriptions

Event name	NX Unit Version N	Not Matched		Event code	35900000 hex		
Meaning	There is a mounter in the CPU Unit.	ed NX Unit with a u	nit version earlier t	han that in the Unit	configuration infor	mation registered	
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At CPU Unit power ON, at Controller reset, or at NX bus re- start	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category	System	
Effects	User program	Continues.	Operation	will not operate not be perform • For NX Units w	For NX Units with this error, I/O communications will not operate and message communications can- not be performed. For NX Units without this error, I/O communications will not operate, but message communications can be performed.		
System-de-	Variable	•	Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	mounted in the ad is earlier than tha	s earlier than that in the Unit con- figuration information registered in the CPU Unit. CPU Unit. CPU Unit. To figuration with tion information Unit in the act an NX Unit with		the actual configura- the Unit configura- that contains the that contains the the NX Unit mount- configuration to the the Unit configura- n, replace the NX al configuration with that configuration the Unit configura- the Unit configuration		on result showed the Compare ow of the Sysmac	
Attached infor- mation				ere the error occurr ration information o		e the error occur-	
Precautions/ Remarks	None						

Event name	Unregistered NX	Unit Mounted		Event code	35910000 hex		
Meaning		than one NX Unit re		Init configuration in ht, only the NX Unit	-		
Source	NX Bus Function	X Bus Function Module Source details Master		Master	Detection tim- ing	At CPU Unit power ON, at Controller reset, or at NX bus re- start	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category	System	
Effects	User program	Continues.	Operation	will not operate not be perform • For NX Units w	or NX Units with this error, I/O communications vill not operate and message communications can ot be performed. or NX Units without this error, I/O communication vill not operate, but message communications can e performed.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	There is a mounted Unit that does not exist in the Unit configuration information registered in the CPU Unit.		To match the Unit configuration in- formation with the actual configura- tion, download to the CPU Unit the Unit configuration information to which you added the relevant NX Unit. To match the actual configu- ration with the Unit configuration information, remove the relevant NX Unit.		Match the project the CPU Unit with figuration.	t downloaded to n the system con-	
	There is a mounter the NX Unit Mour to <i>Disabled</i> .	ed Unit in which nting Setting is set	To match the Unit configuration in- formation with the actual configura- tion, download to the CPU Unit the Unit configuration information in which the NX Unit Mounting Set- ting for the relevant NX Unit is set to <i>Enabled</i> . To match the actual configuration with the Unit configu- ration information, remove the rele- vant NX Unit.				
Attached infor- mation	Attached informat	tion 1: Mounting po		it where the error o	occurred		
Precautions/ Remarks	None						

Event name	NX Unit Serial Nu	mber Mismatch		Event code	35930000 hex		
Meaning	There is a mounted tered in the CPU		erial number differe	ent from that in the	Unit configuration i	nformation regis-	
Source	NX Bus Function Module Sour		Source details	Master	Detection tim- ing	At CPU Unit power ON, at Controller reset, or at NX bus re- start	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category	System	
Effects	User program	Continues.	Operation	 For NX Units with this error, I/O communications will not operate and message communications can not be performed. For NX Units without this error, I/O communications will not operate, but message communications can be performed. 			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	One or more NX Units with the se- rial number set in the Unit configu- ration information registered in the CPU Unit are not mounted.		with the Unit configuration informa- tion, match the serial number of the relevant NX Unit . To match the		Read the serial numbers of the ac- tually mounted Units into a project in the Sysmac Studio before you set the Serial Number Verification setting to verify the serial numbers.		
Attached infor- mation			of the NX Unit whe er in the Unit config			ere the error oc-	
Precautions/ Remarks	None						

Event name	NX Bus Function	Processing Error		Event code	44440000 hex		
Meaning	A fatal error was	detected in the NX	Bus Function Mod	ule.			
Source	NX Bus Function Module \$		Source details	Master	Detection tim- ing	Continuously	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit.	Log category	System	
Effects	User program	Continues.	Operation		ommunications will not operate and message nunications cannot be performed.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause	Assumed cause		Correction			
rection	An error occurred	in the software.	Contact your OMRON representa-		None		
			tive.				
Attached infor-	Attached informat	tion 1: System infor	mation				
mation	Attached informat	tion 2: System infor	mation				
	Attached informat	tion 3: System infor	mation				
	Attached informat	tion 4: System infor	mation				
Precautions/	None						
Remarks							

Event name	NX Bus I/O Comr Event	nunications Stoppe	ed Due to Another	Event code	85540000 hex	
Meaning	The I/O communi the NX bus occur		bus were stopped b	because an error	that prevents I/O cor	mmunications on
Source	NX Bus Function	K Bus Function Module Source details Master		Detection tim- ing	Continuously	
Error attributes	Level	Partial fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	-		tions will not operate s can be performed.	, but message
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Assumed causeThe I/O communications werestopped because a minor fault er-ror (another event) that triggersfail-soft operation occurred whenthe Fail-soft Operation Setting isStop.The I/O communications werestopped because the RegisteredNX Unit Not Mounted event occur-red and the actual configurationprevents I/O communications fromstarting.		Eliminate errors f that causes this e		To continue the <i>l</i> , tions when an err fail-soft operation change the Fail-soft ting to <i>Fail-soft</i> .	ror that triggers
Attached infor- mation		tion 1: Event code tion 2: System info	that caused this ever rmation	ent		
Precautions/	None	-				
Remarks						

Event name	Registered NX U	nit Not Mounted		Event code	35920000 hex			
Meaning		than one NX Unit r	-	rmation registered i nt, only the NX Unit				
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At CPU Unit power ON, at Controller reset, or at NX bus re- start		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category System			
Effects	User program	Continues.	Operation		this error, I/O communications will ressage communications cannot be			
System-de-	Variable		Data type Name					
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	One or more NX Unit configuration istered in the CPU mounted.	information reg-	tion, mount the re To match the Uni formation with the tion, download to Unit configuration	figuration informa- elevant NX Unit.	Match the project downloaded to the CPU Unit with the system con- figuration.			
	The power supply NX Unit Power So turned ON.		Turn ON the pow Additional NX Un Unit.		Use the same Unit power supply to supply the Unit power to the CPU Rack.			
Attached infor- mation	Attached informat	tion 1: Unit number	ere the error occurr	ed				
Precautions/ Remarks	None							

Event name	NX Bus Commur	ications Error		Event code	85500000 hex			
Meaning		than one NX Unit	nts normal NX bus on relevant to this even			he CPU Unit is		
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	Continuously		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category System			
Effects	User program	Continues.	Operation	ror occurred, I/O	ted outside the NX Unit where an er communications will not operate and nications cannot be performed.			
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The NX bus conr faulty due to vibra			its and End Cover ure them with End	Perform installation according to the user's manual			
	Excessive noise i NX bus connecto			Implement noise countermeasures according to the user's manual.				
	An NX Unit was r	emoved.	Mount the remov	ed NX Unit again.				
	An error occurred	l in an NX Unit.	vant NX Unit. If th	Cycle the power supply to the relevant NX Unit. If this error persists, replace the NX Unit.				
Attached infor- mation	Attached informa	tion 1: Unit numbe	r of the NX Unit wh	ere the error occurr	ed			
Precautions/ Remarks	None	None						

Event name	NX Unit Commun	ications Timeout		Event code	85510000 hex			
Meaning	An error occurred	in I/O data commu	inications with the I	NX Units.				
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	Continuously		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	tion For NX Units with this error, I/O communicat not operate, but message communications of performed.				
System-de-	-de- Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An NX Bus Comn has occurred.	An NX Bus Communications Error has occurred.		Correct the NX Bus Communica- tions Error.		neasures against munications Error.		
	An error occurred in an NX Unit.		Cycle the power supply to the relevant NX Unit. If this error persists, replace the NX Unit.		None			
Attached infor-	Attached informat	tion 1: Unit number	of the NX Unit whe	ere the error occurr	ed			
mation	Attached informat	tion 2: System infor	mation					
Precautions/	None							
Remarks								

Event name	NX Unit Initializat	on Error		Event code	85520000 hex			
Meaning	Initializing an NX	Unit failed.						
Source	NX Bus Function Module		Source details Master		Detection tim- ing	At CPU Unit power ON, at Controller reset, at NX bus re- start, or at error reset		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation		this error, I/O communications will essage communications can be			
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Initialization with the Unit configu- ration information registered in the CPU Unit failed.		Connect the Sysmac Studio and reconfigure the Unit configuration information in the CPU Unit.		Download the Unit configuration in- formation to the CPU Unit and the NX Unit.			
	An NX Bus Comn has occurred.	nunications Error	Correct the NX Bus Communica- tions Error.		Take preventive measures against the NX Bus Communications Error.			
	The Channel Enable/Disable Set- ting for all channels of the Analog Unit are set to <i>Disable</i> .			Set the Channel Enable/Disable Setting to <i>Enable</i> for at least one channel.		For an Analog Unit, set the Chan- nel Enable/Disable Setting to <i>Enable</i> for at least one channel.		
	Initialization of an NX Unit failed.		Cycle the power supply to the rele- vant NX Unit. If this error persists, replace the NX Unit.		For an Analog Unit, set the Chan- nel Enable/Disable Setting to <i>Enable</i> for at least one channel.			
Attached infor-	Attached informat	ion 1: Unit number	of the NX Unit whe	ere the error occurr	ed			
mation	Attached informat	ion 2: System infor	rmation					
Precautions/ Remarks	None							

Event name	NX Unit Startup E	rror		Event code	85530000 hex			
Meaning	Starting an NX Ur	nit failed.						
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At CPU Unit power ON, at Controller reset, at NX bus re- start, or at error reset		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply to the CPU Unit or re- set the Control- ler.	Log category	System		
Effects	User program	Continues.	Operation		this error, I/O com nessage communic			
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A startup error occurred in an NX Unit.		Cycle the power supply to the relevant NX Unit. If this error persists, replace the NX Unit.		None			
Attached infor- mation		ion 1: Mounting po ion 2: System info	osition of the NX Un rmation	it where the error o	ccurred			
Precautions/ Remarks	None							

Event name	NX Unit Backup F	ailed		Event code	103C0000 hex			
Meaning	The backup operation	ation for an NX Uni	t ended in an error.					
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	When backup is executed		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	ection There is also another error related to the NX Bus Function Module.			errors related to the NX Bus n Module and perform the d corrections.				
	An NX Bus Comr has occurred.	nunications Error	Implement counte against the NX Bu tions Error.					
	Backup data canı from an NX Unit.	not be received	Reset the error fo Unit.	r the relevant NX	-			
Attached infor-	Attached Informa	tion 1: Error Locatio	on					
mation	• 0: NX bus mas	ter						
	• 1 or higher: Un	it number of the N	K Unit					
	Attached Informa	tion 2: Cause of the	e error					
			NX Bus Function M	lodule.				
	_	tions with an NX U						
	Attached informa	tion 3: System infor	mation					
Precautions/ Remarks	None							

Event name	NX Unit Restore (Operation Failed		Event code	103D0000 hex	
Meaning	The restore opera	ation for an NX Unit	ended in an error.			
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	During restore operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	There is also and to the NX Bus Fu		Check errors related Function Module required correction	•	Restore the data no NX bus errors	
	An NX Bus Comn has occurred.	nunications Error	Implement counter against the NX Butions Error.			
	The backup data an NX Unit.	cannot be sent to	Reset the error fo Unit.	r the relevant NX		
	The Unit configura up file does not a tual Unit configura	gree with the ac- ation.	the network config transfer the slave	an the revision ta was backed a slave with the neck Method set al device, do not nction. Instead, ork configuration Studio, download guration, and then		
Attached infor- mation	 0: NX bus mas 1 or higher: Un Attached Information 1: There is an e 2: Communication 3: The Unit cor 	it number of the NX tion 2: Cause of the error related to the tions with an NX U figuration in the ba	K Unit e error NX Bus Function M nit failed. nckup data does no		tual Unit configurat	ion.
Precautions/ Remarks	None	ion 3: System infor	malion			

Event name	NX Unit Event Lo	g Save Error		Event code	10620000 hex					
Meaning	Continuing to ope	Saving or reading the NX Unit event log failed. Continuing to operate with this error may result in no event log saved at CPU Unit power OFF although it has no effect on the control function.								
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At CPU Unit power ON or at Controller reset				
Error attributes	Level	Observation	Recovery		Log category	System				
Effects	User program	Continues.	Operation	Part or all of the p	past event log cannot be read.					
System-de-	Variable		Data type		Name					
fined variables	None									
Cause and cor-	Assumed cause		Correction	Correction						
rection	Data in the NX Ur are invalid.	nit event log area	a If this error persists even after cycle the power supply to the Unit, a hardware failure may in the NX Unit event log area place the CPU Unit if you use event logs in the CPU Unit.		None					
Attached infor- mation	Attached informat	Attached information 1: System information								
Precautions/ Remarks	None									

Event name	NX Bus System I	nformation		Event code	44450000 hex		
Meaning	This event provid	es internal informat	ion from the NX Bu	is Function Module	·		
Source	NX Bus Function Module		Source details	Master	Detection tim-	Continuously	
					ing		
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	This event provid	es internal infor-					
	mation from the N	IX Bus Function					
	Module.						
Attached infor-	Attached informat	tion 1: System infor	mation				
mation	Attached informat	tion 2: System infor	mation				
	Attached informat	tion 3: System infor	mation				
	Attached informat	tion 4: System infor	mation				
Precautions/	None						
Remarks							

Event name	NX Bus Restart E	xecuted		Event code	95800000 hex			
Meaning	An NX bus restar	t was executed.			·			
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At NX bus re- start or at NX Unit restart		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	_NXB_UnitIOActiveTbl		ARRAY [0n] OF BOOL *1		NX Unit I/O Data Active Status			
_NXB_UnitMsgActiv		ctiveTbl	ARRAY [0n] OF BOOL *1		NX Unit Message	e Enabled Status		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An NX bus restart received.	t command was						
Attached infor-	Attached informat	tion 1: Type of rest	art					
mation	• 0: The NX bus	was restarted						
	• 1: An NX Unit v	was restarted						
	Attached informat	tion 2: Unit number	r of the Unit that exe	ecuted a restart				
	• 0: NX bus mas	ter						
	• 1 or higher: NX	Unit						
Precautions/	None							
Remarks								

*1. n is 8 for NX1P2 CPU Units and 32 for NX102 CPU Units.

Event name	NX Unit Memory	All Cleared		Event code	95810000 hex ^{*1}			
Description	The NX Unit oper	ation settings were	e initialized.		1			
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	When NX Unit memory is all cleared		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	S _NXB_UnitIOActiveTbl ARRAY [032] OF BOOL		= BOOL	NX Unit I/O Data	Active Status			
	_NXB_UnitMsgAc	ctiveTbl	ARRAY [032] OF BOOL		NX Unit Message Enabled Status	Communications		
Cause and cor-	Assumed cause Co		Correction		Prevention			
rection	A Clear All Memo an NX Unit was re		as necessary for which you execut ory operation. If the attached inf 0, check any mind level error that oc Bus Function Mod	If the attached information 2 is not 0, check any minor fault or higher- level error that occurrs in the NX Bus Function Module and the NX Unit, and make the required cor-				
Attached infor- mation	 Attached information 1: Unit number of the NX Unit for which you executed Clear Attached information 2: Execution results of Clear All Memory operation 0: All cleared 1: Hardware error 2: Initialization failure 3: Initialization not possible 							
Precautions/	None	-						
Remarks								

*1. This event code occurs for a CPU Unit with unit version 1.18 or later.

3-4 Errors in the X Bus Function Module

This section describes the errors (events) that occur in the X Bus Function Module.

3-4-1 Error Tables

X Bus

					L	.eve	I		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
15100000 hex [NX502]	X Bus Unit Configura- tion Setting Error	The X Bus Unit con- figuration setting saved in non-volatile memory has been lost.	 The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the X Bus Unit configuration setting or clearing memory. Non-volatile memory failure 		0				page 3-448
24C00000 hex [NX502]	Number of Mountable X Bus Units Exceeded	The number of con- nected X Bus Units exceeds the specified value for the CPU Unit.	• More than the maximum num- ber of X Bus Units are con- nected.		0				page 3-449
24C10000 hex [NX502]	Unsupported X Bus Unit Mounted	Unsupported X Bus Unit is mounted.	Unsupported X Bus Unit was detected.		0				page 3-449
44300000 hex [NX502]	X Bus Func- tion Proc- essing Error	A fatal error was de- tected in the X Bus Function Module.	An error occurred in the soft- ware.		0				page 3-450
35600000 hex [NX502]	X Bus Unit Version Not Matched	There is a mounted X Bus Unit with a unit version earlier than that in the Unit config- uration information registered in the CPU Unit.	• The unit version of an X Bus Unit mounted in the actual hardware configuration is earli- er than that in the Unit configu- ration information registered in the CPU Unit.			0			page 3-451
35610000 hex [NX502]	Unregistered X Bus Unit Mounted	There is a mounted X Bus Unit that does not exist in the Unit configuration informa- tion registered in the CPU Unit. An event is registered for every applicable X Bus Unit.	 There is a mounted Unit that does not exist in the Unit configuration information registered in the CPU Unit. There is a mounted Unit in which the X Bus Unit Mounting Setting is set to <i>Disabled</i>. 			0			page 3-452

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35620000 hex [NX502]	Registered X Bus Unit Not Mounted	One or more X Bus Units set in the Unit configuration informa- tion registered in the CPU Unit are not mounted. An event is registered for every applicable X Bus Unit.	 One or more X Bus Units set in the Unit configuration informa- tion registered in the CPU Unit are not mounted. 			0			page 3-453
35630000 hex [NX502]	X Bus Unit Serial Num- ber Mis- match	There is a mounted X Bus Unit with a serial number different from that in the Unit config- uration information registered in the CPU Unit.	 One or more X Bus Units with the serial number set in the Unit configuration information registered in the CPU Unit are not mounted. 			0			page 3-454
85A00000 hex [NX502]	X Bus Unit Startup Error	Starting an X Bus Unit failed.	• A startup error occurred in an X Bus Unit.			0			page 3-455
85A10000 hex [NX502]	X Bus Unit Communica- tions Error	A communications er- ror that prevents nor- mal X Bus communi- cations was detected. An event is registered for every applicable X Bus Unit.	 The X Bus connector contact is faulty due to vibration or shock. Excessive noise is applied to the X Bus connector. An X Bus Unit was removed. An error occurred in an X Bus Unit. 			0			page 3-456
15110000 hex [NX502]	X Bus Unit Backup Failed	Backup of X Bus Unit settings failed.	 The Unit configuration informa- tion registered in the CPU Unit does not match the actual con- figuration. 				0		page 3-457
15120000 hex [NX502]	X Bus Unit Restore Op- eration Failed	The restore operation for an X Bus Unit ended in an error.	 The Unit configuration informa- tion in the backup file does not match the actual configuration. 				0		page 3-457

3

3-4-2 Error Descriptions

X Bus

Event name	X Bus Unit Config	uration Setting Erro	or	Event code	15100000 hex		
Meaning				ile memory has bee	en lost.		
Source	X Bus Function Module		Source details	Master	Detection tim- ing	At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information	
Error attributes	Level	Partial fault	Recovery	Download the X Bus Unit config- uration informa- tion.	Log category	System	
Effects	User program	Continues.	Operation				
System-de-	Variable		Data type	Data type			
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ler was interrup cations with the were disconner loading the X E	ply to the Control- oted or communi- e Sysmac Studio cted while down- Bus Unit configu- r clearing memo- emory failure	Download the X Bus Unit configu- ration setting and all the X Bus Unit settings from Sysmac Studio. If the error persists even after you make the above corrections, the nonvolatile memory is faulty. Re- place the CPU Unit and download all settings from Sysmac Studio.		Do not turn OFF download or men		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Number of Mount	able X Bus Units E	xceeded	Event code	24C00000 hex		
Meaning	The number of co	nnected X Bus Uni	its exceeds the spe	cified value for the	CPU Unit.		
Source	X Bus Function Module		Source details	Master	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation		i		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	More than the ma X Bus Units are c	ximum number of onnected.			Keep the number ed to the maximu	of Units connect- m or less.	
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	Unsupported X B	us Unit Mounted		Event code	24C10000 hex			
Meaning	Unsupported X B	us Unit is mounted.			Ţ			
Source	X Bus Function M	odule	Source details	Master	Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Continues.	Operation					
System-de-	Variable		Data type	Data type				
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Unsupported X Br tected.	us Unit was de-	Remove the unsu Unit. Download the set Bus Units after th		Use X Bus Units CPU Unit.	supported by the		
Attached infor- mation	Attached informat detected	Attached information 1: A value from 1 to 4, which represents the unit number of Unit where abnormality is detected						
Precautions/ Remarks	None							

Event name	X Bus Function P	rocessing Error		Event code	44300000 hex		
Meaning	A fatal error was	detected in the X B	us Function Modul	e.			
Source	X Bus Function M	lodule	Source details	Master	Detection tim- ing	Continuously	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred	l in the software.	Contact your OMRON representa-		None		
			tive.				
Attached infor-	Attached informa	tion 1: System infor	rmation				
mation	Attached informa	tion 2: System infor	mation				
	Attached Informa	tion 3: System infor	rmation				
	Attached Informa	tion 4: System info	rmation				
Precautions/	None						
Remarks							

Event name	X Bus Unit Versio	n Not Matched		Event code	35600000 hex		
Meaning	There is a mounte tered in the CPU		a unit version earlie	er than that in the U	nit configuration in	formation regis-	
Source	X Bus Function Module		Source details	Master	Detection tim- ing	At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit config- uration informa- tion, or restart the X Bus Unit (only for ver- sions with X Bus Unit restarting function).	Log category	System	
Effects	User program	Continues.	Operation				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The unit version of mounted in the ac configuration is ea the Unit configura registered in the 0	ctual hardware arlier than that in tion information	Correction To match the Unit configuration in- formation to the actual hardware configuration, download the Unit configuration information that in- cludes the unit version of the X Bus Unit actually mounted to the CPU Unit. To match the actual hardware configuration to the Unit configuration information, replace the X Bus Unit with a Unit of unit version that is later than or equal to that in the Unit configuration infor- mation. Download the settings for all the X Bus Units after this error is cleared.		Download the Unit configuration in- formation to the CPU Unit after confirming that the comparison re- sult on the Compare and Merge window is not "Not compatible".		
Attached infor- mation	detected		of Unit configuration		ber of Unit where a	abnormality is	
Precautions/ Remarks	None		-				

Event name	Unregistered X B	us Unit Mounted		Event code	35610000 hex	
Meaning	Unit.	ed X Bus Unit that ered for every appl	does not exist in the licable X Bus Unit.	e Unit configuration	information registe	ered in the CPU
Source	X Bus Function M	lodule	Source details	Master	Detection tim- ing	At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit config- uration informa- tion, or restart the X Bus Unit (only for ver- sions with X Bus Unit restarting function).	Log category	System
Effects	User program	Continues.	Operation			
System-de-	Variable		Data type		Name	
fined variables Cause and cor-	None Assumed cause				 Prevention	
rection	uration informa the CPU Unit. • There is a mou	in the Unit config- ation registered in Inted X Bus Unit Bus Unit Mount-	 information to the ware configuration that include added to the Commatch the actual figuration to the tion information. Bus Unit with the tion information to the unit configuration to the Configuration to the Configuration to the CPU the X Bus Unit to Enabled. To hardware configuration to configuration to configuration to the CPU the X Bus Unit to Enabled. To hardware configuration to configuration to configuration to configuration to the CPU the X Bus Unit to Enabled. To hardware configuration the Unit configuration to configuration to configuration to configuration to the CPU the X Bus Unit to Enabled. To hardware configuration to co			downloaded to
Attached infor-	Attached informa	tion 1: A value from	1 to 4, which repre		g position of the X	Bus Unit
mation Precautions/ Remarks	None					

Event name	Registered X Bus	Unit Not Mounted		Event code	35620000 hex			
Meaning		us Units set in the l ered for every appl	Unit configuration ir icable X Bus Unit.	formation registere	ed in the CPU Unit	are not mounted.		
Source	X Bus Function M	lodule	Source details	Master	Detection tim- ing	At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit config- uration informa- tion, or restart the X Bus Unit (only for ver- sions with X Bus Unit restarting function).	Log category	System		
Effects	User program	Continues.	Operation					
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	One or more X Bu Unit configuration		To match the actu figuration to the U		Match the project downloaded to the CPU Unit with the system con-			
	istered in the CPL	J Unit are not	information, mour	nt the X Bus Unit	figuration.			
	mounted.		with this event. To					
			-	rmation to the ac-				
			tual hardware cor	om the Unit config-				
				n and download it				
			to the CPU Unit.					
			Download the set	tings for all the X				
			Bus Units after th	is error is cleared.				
Attached infor- mation	Attached informat detected	tion 1: A value from	1 to 4, which repre	esents the unit num	ber of Unit where	abnormality is		
Precautions/ Remarks	None							

Event name	X Bus Unit Serial	Number Mismatch		Event code	35630000 hex		
Meaning	There is a mounter registered in the 0		a serial number diff	erent from that in t	ne Unit configuratio	on information	
Source	X Bus Function M	KBus Function Module		Master	Detection tim- ing	At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit config- uration informa- tion, or restart the X Bus Unit (only for ver- sions with X Bus Unit restarting function).	Log category	System	
Effects	User program	Continues.	Operation				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	serial number set in the Unit con- figuration information registered in the CPU Unit are not mounted.		To match the actu figuration to the L information, matc bers of the X Bus the Unit configura to the actual hard tion, download the tion information to ter setting the ser corresponding X I Download the set Bus Units after th	Init configuration h the serial num- Units. To match tion information ware configura- e Unit configura- b the CPU Unit af- ial number of the Bus Unit. tings for all the X	To <i>enable</i> serial number matching, read the actual serial number of the installed Units into the Sysmac Studio project first.		
Attached infor- mation	detected		n 1 to 4, which repre			abnormality is	
Precautions/	None						

Event name	X Bus Unit Startu	p Error		Event code	85A00000 hex		
Meaning	Starting an X Bus	Unit failed.					
Source	X Bus Function Module				Detection tim- ing	At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit config- uration informa- tion, or restart the X Bus Unit (only for ver- sions with X Bus Unit restarting function).	Log category	System	
Effects	User program	Continues.	Operation			•	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A startup error occurred in an X Bus Unit.		Cycle the power supply. If this ab- normality recurs, replace the X Bus Unit.		None		
Attached infor- mation	Attached information 1: A value from 1 to 4, which represents the unit number of Unit where abnormality is detected Attached information 2: System information					abnormality is	
Precautions/ Remarks	None						

Event name	X Bus Unit Comm	nunications Error		Event code	85A10000 hex		
Meaning		s error that prevent		mmunications was	detected.		
	An event is regist	ered for every appl	icable X Bus Unit.			_	
Source	X Bus Function N	lodule	Source details	Master	Detection tim-	Continuously	
					ing		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit config- uration informa- tion, or restart the X Bus Unit (only for ver- sions with X Bus Unit restarting function).	Log category	System	
Effects	User program	Continues.	Operation		I		
System-de-	Variable	•	Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The X Bus conne	ctor contact is	Securely install the X Bus Unit and		Install the Unit according to the us-		
	faulty due to vibra	tion or shock.	fix it with the end plate.		er's manual.		
	Excessive noise i	s applied to the X	Implement noise suppression		Install the Unit according to the us-		
	Bus connector.		measures in accordance with the user's manual.		er's manual.		
	An X Bus Unit wa	s removed.	Reinstall the removed X Bus Unit.		Install the Unit according to the us er's manual.		
	An error occurred	in an X Bus Unit.	Cycle the power supply. If this ab- normality recurs, replace the X Bus Unit.		None		
Attached infor-	Attached informat	tion 1: A value from	1 to 4, which repre	esents the unit num	ber of Unit where	abnormality is	
mation	detected		·			2	
	Attached information 2: System information						
Precautions/	None						

Event name	X Bus Unit Backu	p Failed		Event code	15110000 hex		
Meaning		Unit settings failed.					
Source	X Bus Function Module		Source details	Master	Detection tim- ing	When backup is executed	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation				
System-de-	Variable		Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	registered in the CPU Unit does t not match the actual configuration.		Match the actual of tion to the set Uni formation, or mate uration informatio device configuration back up the X Bust	t configuration in- ch the Unit config- n to the actual on, and then	, and the second		
Attached infor-	Attached informat	tion 1: System infor	mation				
mation							
Precautions/	None						
Remarks							

Event name	X Bus Unit Resto	re Operation Failed	k	Event code	15120000 hex				
Meaning	The restore operation for an X Bus Unit ended in an error.								
Source	X Bus Function M	lodule	Source details	Master	Detection tim- ing	During restora- tion			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation						
System-de-	Variable	•	Data type	•	Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	The Unit configur in the backup file the actual device	does not match	Match the actual of the Unit configura in the backup file, ration using a bac same Unit configu- tion as the actual tion.	tion information or perform resto- ckup file with the uration informa-	Perform restoration in a state where the Unit configuration infor- mation in the backup file is the same as the actual device configu- ration.				
Attached infor- mation	Attached informa	tion 1: System info	rmation						
Precautions/	None								
Remarks									

3-5 Errors in the X Bus Unit Common Function Module

This section describes the errors (events) that occur in the X Bus Unit Common Function Module.

3-5-1 Error Tables

X Bus Units

					L	Level			
Event code	Event name	Meaning	Assumed cause		P rt	M i n	O b s	l n f o	Reference
00640000 hex	Main Memo- ry Check Er- ror	An error was detect- ed in the main memo- ry check in the X Bus Unit.	 A conductive object has gotten inside. Noise Data corruption in memory Microcomputer malfunction- ing Memory write circuit mal- functioning An error occurred in the soft- ware. Data was corrupted by cos- mic rays or radiation. The X Bus Unit has failed. Memory element failure Failure of memory peripher- al circuits 			0			page 3-462
00650000 hex	Non-volatile Memory Life Warning	The number of times to erase data in non- volatile memory has exceeded the warn- ing value. Or, the number of bad blocks in memory exceeded the warning value.	 Non-volatile memory life is ending. 			0	٢		page 3-463

				Level				Level			
Event code	Event name	Meaning	Assumed cause		P rt	M i n	O b s	l n f o	Reference		
11000000 hex	X Bus Unit Settings Transfer Er- ror	Unit settings were not transferred properly.	 The Unit settings are invalid because the power to the Con- troller was cut off while the Unit settings were being down- loaded. The Unit settings are incorrect because the Controller was powered OFF during Clear All Memory operation. The Unit settings are incorrect because the Controller was powered OFF during restore operation. Non-volatile memory failure 			0			page 3-464		
110C0000 hex	Incorrect X Bus Unit Settings	The memory used ex- ceeds the upper limit, or the X Bus Unit set- ting data is corrupted.	 The upper limit of the data size was exceeded. The main memory capacity was exceeded. Non-volatile memory is deteri- orating or has failed. 			0			page 3-465		
110D0000 hex	Present Val- ues of Re- tained Varia- bles Not Saved	The process of sav- ing the current value of the retained varia- ble during power in- terruptions could not be performed be- cause an error occur- red in the software.	• An error occurred in the soft- ware.			0			page 3-466		
110E0000 hex	Non-volatile Memory Re- stored or Formatted	An error was detect- ed in the non-volatile memory check and file system recovery or formatting was executed. Previous files may have been deleted.	 The Controller power supply was turned OFF while the BUSY indicator was lit. The power supply to the Con- troller was interrupted momen- tarily while the BUSY indicator was lit. 			0			page 3-467		
110F0000 hex	Non-volatile Memory Da- ta Corrupted	A file that must be in non-volatile memory is missing or corrupt- ed.	 The Controller power supply was turned OFF while the BUSY indicator was lit. The power supply to the Con- troller was interrupted momen- tarily while the BUSY indicator was lit. The X Bus Unit has failed. 			0			page 3-468		

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
11100000 hex	Main Memo- ry Check Er- ror	An error was detect- ed in the main memo- ry check in the X Bus Unit.	 A conductive object has gotten inside. Noise Data corruption in memory Microcomputer malfunction- ing Memory write circuit mal- functioning An error occurred in the soft- ware. Data was corrupted by cos- mic rays or radiation. The X Bus Unit has failed. Memory element failure Failure of memory peripher- al circuits 			0			page 3-469
41000000 hex	X Bus Unit Common Function Processing Error	A fatal error was de- tected in the X Bus Unit Common Func- tion Module.	 An error occurred in the soft- ware. 			0			page 3-469
41010000 hex	X Bus Unit Common Function Processing Error	A fatal error was de- tected in the X Bus Unit Common Func- tion Module.	 An error occurred in the soft- ware. 			0			page 3-470
41020000 hex	X Bus Unit Common Function Processing Error	A fatal error was de- tected in the X Bus Unit Common Func- tion Module.	 An error occurred in the soft- ware. 			0			page 3-470
41050000 hex	X Bus Unit Common Function Processing Error	A fatal error was de- tected in the PLC Function Module.	An error occurred in the soft- ware.			0			page 3-471
41060000 hex	X Bus Unit Common Function Processing Error	A fatal error was de- tected in the X Bus Unit Common Func- tion Module.	• An error occurred in the soft- ware.			0			page 3-471
65900000 hex	I/O Refresh- ing Timeout Error	Consecutive I/O re- fresh failures occur- red during the pri- mary periodic task or periodic task period.	 The volume of tag data link communications that refresh I/Os during task period is too high. 			0			page 3-472
11010000 hex	Event Log Save Error	Saving an event log failed.	Data in the event log area is not correct.				0		page 3-472

					L	_eve			
Event code	Event code Event name Meaning Assumed cause		M a j	P rt	M i n	O b s	l n f o	Reference	
11110000 hex	X Bus Com- mon System Information	This is the internal in- formation of the X Bus Unit Common Function Module.	This is the internal information of the X Bus Unit Common Function Module. This event is recorded as additional informa- tion for other events.				0		page 3-473
41030000 hex	X Bus Unit System In- formation	This is the internal in- formation of the X Bus Unit Common Function Module.	• This is the internal information of the X Bus Unit Common Function Module. This event is recorded as additional informa- tion for other events.				0		page 3-474
41040000 hex	X Bus Unit System In- formation	This is the internal in- formation of the X Bus Unit Common Function Module.	• This is the internal information of the X Bus Unit Common Function Module. This event is recorded as additional informa- tion for other events.					0	page 3-474
91000000 hex	X Bus Unit Settings Downloaded	Unit settings were downloaded.	The Unit settings were down- loaded.					0	page 3-475
91020000 hex	X Bus Unit Settings All Cleared	Clear All Memory op- eration was per- formed.	The memory was all cleared by a user with administrator privileges.					0	page 3-475
91030000 hex	All Errors Cleared	All errors that were occurring were cleared.	The user cleared all errors that were occurring					0	page 3-476
91040000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	page 3-476
91050000 hex	Power Turned ON	The power supply was turned ON.	• The power supply was turned ON.					0	page 3-477
91060000 hex	Power Inter- rupted	The power supply was interrupted.	• The power supply was inter- rupted.					0	page 3-477
910F0000 hex	Access Rights Forci- bly Released	The access rights were forcibly re- leased.	The access rights were forcibly released.					0	page 3-478
91110000 hex	Start Instruc- tion of Om- ron Mainte- nance	Maintenance by Om- ron maintenance per- sonnel was begun.	Maintenance by Omron main- tenance personnel was begun.					0	page 3-478
91120000 hex	End Instruc- tion of Om- ron Mainte- nance	Maintenance by Om- ron maintenance per- sonnel was ended.	Maintenance by Omron main- tenance personnel was ended.					0	page 3-479
91130000 hex	Event Log- ging Stop- ped	Some event logs could not be saved.	• Event saving process stopped due to power interruption of the EIP Unit.					0	page 3-479

3-5-2 Error Descriptions

X Bus Unit

Event name	Main Memory Che	eck Error		Event code	00640000 hex				
Meaning	An error was detected in the main memory check in the X Bus Unit.								
Source	X Bus Unit Comm Module	on Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously			
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, or re- start the X Bus Unit (only for versions with X Bus Unit restart- ing function).	Log category	System			
Effects	User program		Operation	Stops.					
System-de-	Variable		Data type	•	Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention Do not do any metal working in the vicinity of the control panel. Keep the control panel closed. Implement noise countermeasure None Perform regular inspection.				
rection	A conductive objective obj	ct has gotten in-		tive material near- (Bus Unit with air.					
	Noise Data corruption Microcomputer Memory write c tioning 	malfunctioning ircuit malfunc-	the error.	cle the power to I see if that clears if frequently, check					
	 An error occurred Data was corrurative rays or radiation 	pted by cosmic	other noise entry ment noise counter required.	paths, and imple-					
	The X Bus Unit haMemory elementFailure of memory cuits	nt failure	Non-volatile mem Replace the X Bu						
Attached infor- mation	Attached informati Attached informati	-							
Precautions/ Remarks	None								

Event name	Non-volatile Mem	ory Life Warning		Event code	00650000 hex						
Meaning		The number of times to erase data in non-volatile memory has exceeded the warning value. Or, the number of bad blocks in memory exceeded the warning value.									
Source	X Bus Unit Comm Module	Bus Unit Common Function		1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power ON, Controller reset, Unit restart (only for versions with Unit restarting function), or pe- riodically					
Error attributes	Level	Minor fault	Recovery		Log category	System					
Effects	User program		Operation	Not affected.							
System-de-	Variable		Data type		Name						
fined variables	None										
Cause and cor-	Assumed cause		Correction		Prevention						
rection	Non-volatile memory life is ending.		Non-volatile mem Replace the X Bu	, 0	None						
Attached infor- mation	None		•		•						
Precautions/ Remarks	None										

Event name	X Bus Unit Setting	gs Transfer Error		Event code	11000000 hex			
Meaning	Unit settings were	e not transferred pro	operly.					
Source	X Bus Unit Comm Module	ion Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power ON, Controller reset, or Unit restart (only for ver- sions with Unit restarting func- tion)		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, or re- start the X Bus Unit (only for versions with X Bus Unit restart- ing function).	Log category	System		
Effects	User program		Operation	Stops.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	 ler was cut off utings were bein The Unit setting because the Copowered OFF of Memory operation The Unit setting because the Copower th	er to the Control- while the Unit set- ig downloaded. gs are incorrect ontroller was during Clear All tion. gs are incorrect	After clearing all r Sysmac Studio, d project. If attached inform tered, turn the Co OFF and ON aga the above measu If memory all clea cuted from Sysma the Unit settings t the SD Memory C	ownload the ation is regis- ntroller power in, and then take re. In cannot be exe- ac Studio, transfer by restoring from	 Do not turn OFF the power to the Controller while the Unit set tings are being downloaded. Do not turn OFF the power to the Controller during the Clear All Memory operation. Do not turn OFF the power to the Controller during restore of eration. 			
	Non-volatile mem	ory failure	If this error occurs after you make th tions, replace the	e above correc-	None			
Attached infor- mation	None: Power OFF during Downloading/prel	-	-	e (during transfer/o	reparing for transfe	ir)		
Precautions/ Remarks	None			<u> </u>		,		
Event name	Incorrect X Bus U	Init Settings		Event code	110C0000 hex	110C0000 hex		
---------------------------	--	-------------------	--	---	-----------------------	--	--	
Meaning	The memory used	d exceeds the upp	er limit, or the X Bu	limit, or the X Bus Unit setting data i				
Source	X Bus Unit Common Function Module		Source details	None/1 to 4: Mounting posi- tion of the X Bus Unit	Detection tim- ing	When down- loading, at pow- er ON, at Con- troller reset, or at Unit restart (only for ver- sions with Unit restarting func- tion)		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or Con- troller reset	Log category	System		
Effects	User program		Operation	Stops.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor- rection	Assumed cause		Correction	Correction		Prevention		
	The upper limit of the data size was exceeded. The main memory capacity was exceeded.		the same time as rect the user prog so that the numb does not exceed and then download If an event on res number of items at the same time form the Clear Al tion, cycle the po then confirm that cleared. If it was cleared, the project, e.g., grams, and then project again.	gram and settings er of items used the upper limit ad the data again. strictions on the used did not occur as this event, per- I Memory opera- wer supply, and this event was reduce the size of by sharing pro- download the				
	Non-volatile memory is deteriorat- ing or has failed.		If this error persists even after you implement the second correction, replace the X Bus Unit.					
Attached infor- mation	None							
Precautions/ Remarks	None							

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Event name	Present Values of	Retained Variable	s Not Saved	Event code	110D0000 hex	
Meaning		aving the current va an error occurred ir		variable during pov	ver interruptions co	ould not be per-
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power ON, Controller reset, or Unit restart (only for ver- sions with Unit restarting func- tion)
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program		Operation	Stops.		
System-de-	Variable	Variable		Data type		
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred in the software.		If this error is not cleared even af- ter the power to the Controller is cycled or the Controller is reset, re- place the X Bus Unit.		None	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Non-volatile Mem	ory Restored or Fo	ormatted	Event code	110E0000 hex	
Meaning		ected in the non-vo y have been delete	latile memory checl	k and file system re	covery or formattir	ng was executed.
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power ON, Controller reset, or Unit restart (only for ver- sions with Unit restarting func- tion)
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, or re- start the X Bus Unit (only for versions with X Bus Unit restart- ing function).	Log category	System
Effects	User program		Operation	Stops.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection			Correction Verify the project with Sysmac Stu- dio, and if it matches, check wheth- er this error is cleared by cycling the power supply, resetting the Controller, or restarting the Unit. If this error is cleared, check whether the equipment operates properly. If the project mismatches, the error is not cleared, or the device does not operate properly, perform Clear All Memory operation to the X Bus Unit where the error is occurring from Sysmac Studio, and then download the settings to the X Bus Unit again. If this error is not cleared even af- ter the Controller power is cycled, the Controller is reset, or the Unit is restarted, the memory is corrupted. Replace the X Bus Unit. If the Controller power is cycled, the Controller is reset, or the Unit is restarted without re-downloading the project, the Controller may be- have unintentionally and it is very		Prevention Do not turn OFF the power while the BUSY indicator is lit. Take appropriate measures to en- sure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.	
Attached infor-	Attached informat	tion 1: Recovery pe	dangerous. erformed		ļ	
mation			/ succeeded, 00000	0001 hex: Formattin	ig executed	
Precautions/	Be sure to check	that the projects m	atch, check the ope	eration of the equip	ment, or retransfer	the project.
Flecautions/	If the Controller power is cycled or the Controller					
Remarks	If the Controller p	ower is cycled or tl	he Controller is rese	et without performin	ig the above proce	dure, the Control-

Event name	Non-volatile Mem	ory Data Corrupted	1	Event code	110F0000 hex	
Meaning	A file that must be	e in non-volatile me	mory is missing or	nory is missing or corrupted.		
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power ON, Controller reset, or Unit restart (only for ver- sions with Unit restarting func- tion)
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, or re- start the X Bus Unit (only for versions with X Bus Unit restart- ing function).	Log category	System
Effects	User program		Operation	Stops.		
System-de- fined variables	Variable		Data type		Name	
Cause and cor-	None		Correction		 Prevention	
rection	Assumed cause The Controller power supply was turned OFF while the BUSY indica- tor was lit. The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit.		After clearing all r Sysmac Studio, d project.		Do not turn OFF the BUSY indicat Take appropriate sure that the spe the rated voltage	or is lit. measures to en- cified power with and frequency is s where the power
	The X Bus Unit has failed.		If this error persists even after you implement the above corrections, replace the X Bus Unit.		None	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Main Memory Ch	eck Error		Event code	11100000 hex		
Meaning	An error was dete	ected in the main m	emory check in the	X Bus Unit.			
Source	X Bus Unit Comm Module	non Function			Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program		Operation	Stops.			
System-de-	Variable	•	Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A conductive object has gotten in- side.		If there is conductive material near- by, blow out the X Bus Unit with air.		Do not do any metal working in the vicinity of the control panel. Keep the control panel closed.		
	 Noise Data corruption in memory Microcomputer malfunctioning Memory write circuit malfunctioning An error occurred in the software. Data was corrupted by cosmic rays or radiation. 		If the error did not result from the above causes, cycle the power to the Controller and see if that clears the error. If the error occurs frequently, check the FG, power supply lines, and other noise entry paths, and imple- ment noise countermeasures as		Implement noise countermeasures		
	 The X Bus Unit has failed. Memory element failure Failure of memory peripheral circuits 		required. If this error is not cleared even af- ter the power to the Controller is cycled or the Controller is reset, re- place the X Bus Unit.		Perform regular inspection.		
Attached infor- mation	Attached informat	tion 1: System infor	mation		1		
Precautions/ Remarks	None	None					

Event name	X Bus Unit Comm	non Function Proce	ssing Error	Event code	41000000 hex	
Meaning	A fatal error was	detected in the X B	us Unit Common F	unction Module.		
Source	X Bus Unit Common Function Solution		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program		Operation	Stops.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred	in the software.	Contact your OMRON representa- tive.		None	
Attached infor-	Attached informat	tion 1: System infor	mation			
mation	Attached informat	tion 2: System infor	mation			
	Attached Informa	tion 3: System infor	rmation			
	Attached Informa	tion 4: System infor	mation			
Precautions/	None					
Remarks						

Event name	X Bus Unit Comm	non Function Proce	ssing Error	Event code	41010000 hex	
Meaning	A fatal error was	detected in the X B	us Unit Common F	unction Module.		
Source	X Bus Unit Common Function Solution Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program		Operation	Stops.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred	in the software.	Contact your OMRON representa-		None	
			tive.			
Attached infor-	Attached informat	tion 1: System infor	mation			
mation	Attached informat	tion 2: System infor	mation			
	Attached Informa	tion 3: System infor	rmation			
	Attached Informa	tion 4: System infor	rmation			
Precautions/	None					
Remarks						

Event name	X Bus Unit Comm	on Function Proce	ssing Error	Event code	41020000 hex	
Meaning	A fatal error was o	detected in the X B	us Unit Common F	unction Module.		
Source	Module p		1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, or re- start the X Bus Unit (only for versions with X Bus Unit restart- ing function).	Log category	System
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred	in the software.	Contact your OMRON representa- tive.		None	
Attached infor-	Attached informat	ion 1: System infor	mation		•	
mation	Attached informat	ion 2: System infor	mation			
	Attached Informat	tion 3: System infor	rmation			
	Attached Informat	tion 4: System infor	rmation			
Precautions/	None					
Remarks						

Event name	X Bus Unit Comm	non Function Proce	ssing Error	Event code	41050000 hex		
Meaning	A fatal error was	detected in the PLC	C Function Module.				
Source	X Bus Unit Common Function Solution Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program		Operation	Stops. Connection to Sysmac Studio is lost.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred	An error occurred in the software.		Contact your OMRON representa- tive.		None	
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	X Bus Unit Comm	non Function Proce	ssing Error	Event code	41060000 hex		
Meaning	A fatal error was	detected in the X B	us Unit Common F	unction Module.			
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program		Operation	Stops. Connection to Sys	ysmac Studio is lost.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred	An error occurred in the software.		Contact your OMRON representa- tive.		None	
Attached infor- mation	Attached informat	Attached information 1: System information					
Precautions/ Remarks	None						

Event name	I/O Refreshing Tir	neout Error		Event code	65900000 hex		
Meaning	Consecutive I/O r	efresh failures occu	urred during the pri	mary periodic task	or periodic task pe	riod.	
Source	X Bus Unit Common Function Solution Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or Con- troller reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The volume of tag	g data link com-	Divide I/O refresh processing in the		Understand the proposed correc-		
	munications that i	efresh I/Os dur-	task, for example	task, for example, by moving a part		tions in advance and use tasks in	
	ing task period is too high.		of the processing to another task		the system design.		
			by setting the exclusive control of				
	variables in tasks.						
Attached infor-	Attached informat	ion 1: Name of the	task where the err	or occurred. One o	f the following.		
mation	Primary Task: Pri	mary periodic task					
	Periodic Task0: P	eriodic task					
Precautions/	None						
Remarks							

Event name	Event Log Save E	Error		Event code	11010000 hex	
Meaning	Saving an event l	og failed.			•	
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power ON
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program		Operation	Not affected. How logs cannot be re	/ever, some or all c ad.	f the past event
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor- rection	Assumed cause		Correction		Prevention	
	Data in the event correct.	log area is not	If this error reoccu cling the power su troller, there may failure in the even place the X Bus L event log function Unit.	upply to the Con- be a hardware It log area. Re- Init to use the	None	
Attached infor- mation	Attached information 1: Error Details 0: Failed to save logs for all categories 1: Failed to save system logs 2: Failed to save access logs 100: Failed to save user logs 					
Precautions/ Remarks	None					

Event name	X Bus Common S	system Information		Event code	11110000 hex			
			V Due Liett Comm	X Bus Unit Common Function Module.				
Meaning				1				
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously		
Error attributes	Level	Observation	Recovery	Cycle the power supply, reset the Controller, or re- start the X Bus Unit (only for versions with X Bus Unit restart- ing function).	Log category	System		
Effects	User program		Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	This is the internal information of the X Bus Unit Common Function Module. This event is recorded as additional information for other events.							
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	X Bus Unit Syster	n Information		Event code	41030000 hex		
Meaning	This is the interna	I information of the	X Bus Unit Comm	on Function Modul	9.		
Source	X Bus Unit Common Function Source details Module		1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously		
Error attributes	Level	Observation	Recovery	Cycle the power supply, reset the Controller, or re- start the X Bus Unit (only for versions with X Bus Unit restart- ing function).	Log category	System	
Effects	User program		Operation	Not affected.			
System-de-	Variable		Data type	Data type			
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	This is the internal information of the X Bus Unit Common Function Module. This event is recorded as additional information for other events.						
Attached infor- mation	Attached information 1: System information Attached information 2: System information Attached Information 3: System information Attached Information 4: System information						
Precautions/ Remarks	None						

Event name	X Bus Unit Syster	n Information		Event code	41040000 hex	
Meaning	This is the interna	I information of the	X Bus Unit Comm	on Function Module	e.	
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program		Operation	Not affected.		
System-de-	System-de- Variable		Data type		Name	
fined variables	None					
Cause and cor-	ause and cor- Assumed cause		Correction		Prevention	
rection	This is the internative X Bus Unit Co Module. This even additional informative events.	ommon Function nt is recorded as				
Attached infor- mation		ion 1: System infor ion 2: System infor				
mation		tion 3: System infor				
		tion 4: System infor				
Precautions/	None					
Remarks						

Event name	X Bus Unit Setting	K Bus Unit Settings Downloaded Event code 91000000 hex						
Meaning	Unit settings were	5						
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	When Unit set- tings are down- loaded		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program		Operation The Unit starts to operate according to the downl ed Unit settings.			to the download-		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The Unit settings	were download-						
	ed.							
Attached infor-	Attached informat	ion 1: Connection	method					
mation	1: Reserve							
		ction via Ethernet						
	3: Ethernet cor							
				2 or 3, the connec	tion source IP addr	ress is given.		
		0 1	roxy, proxy IP addr	ess is given.				
	1: Download h	ion 3: Download ty	pe					
		•						
	• 2: Download not holding outputs Attached information 4: User name registered in the CPU Unit (When the user authentication function is disa-							
	bled, NULL is give		ogiotoroa in the Or					
Precautions/	None	/						
Remarks								

Event name	X Bus Unit Setting	gs All Cleared		Event code	91020000 hex		
Meaning	Clear All Memory	operation was per	formed.				
Source	X Bus Unit Comm Module	non Function			Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program		Operation	The Unit returns	to factory defaults.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor- Assumed cause			Correction		Prevention		
rection	The memory was user with adminis						
Attached infor- mation	 1: Reserve 2: Direct connection 3: Ethernet correction Attached information When connection 	Attached information 1: Connection method • 1: Reserve • 2: Direct connection via Ethernet • 3: Ethernet connection via a hub Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given. Attached information 4: User name registered in the CPU Unit (When the user authentication function is disa					
Precautions/	None	,					
Remarks							

Event name	All Errors Cleared	1		Event code	91030000 hex		
Meaning	All errors that we	e occurring were o	leared.				
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program		Operation	Operation Errors whose cause		ses have been resolved are cleared.	
System-de-	Variable		Data type		Name		
fined variables	None	None					
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The user cleared were occurring	all errors that					
Attached infor- mation	None				•		
Precautions/ Remarks	None						

Event name	Event Log Cleare	d		Event code	91040000 hex	
Meaning	The event log wa	s cleared.				
Source	X Bus Unit Comm Module	non Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Commands from user
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type	•	Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The event log wa	s cleared by the				
	user.					
Attached infor-	Attached informat	tion 1: Connection	method			
mation	1: Reserve					
		ection via Ethernet				
	•• =•••••••	nnection via a hub		0 0 1		
			ed information 1 is		tion source IP addi	ress is given.
		tion 3: Cleared eve	roxy, proxy IP addr	ess is given.		
		categories were cle				
		event log was clea				
		event log was clear				
		defined event log w				
		0	egistered in the CF	U Unit (When the	user authentication	function is disa-
	bled, NULL is give	en).				
Precautions/	None					
Remarks						

Event name	Power Turned ON			Event code	91050000 hex			
Meaning	The power supply	The power supply was turned ON.						
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power ON		
Error attributes	Level	Information	Recovery		Log category	System		
Effects	User program		Operation	Operation starts.		•		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The power supply	was turned ON.						
Attached infor-	None							
mation								
Precautions/	None							
Remarks								

Event name	Power Interrupted	1		Event code	91060000 hex		
Meaning	The power supply	was interrupted.					
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power inter- ruption	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program		Operation	All operations stop.			
System-de-	Variable		Data type		Name		
fined variables	None	None					
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The power supply	was interrupted.					
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Access Rights Fo	rcibly Released		Event code	910F0000 hex		
Meaning	The access rights	were forcibly relea	ased.				
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery	None	Log category	Access	
Effects	User program		Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The access rights	were forcibly re-					
	leased.						
Attached infor-	Attached informat	tion 1					
mation	1: Direct conne	ection via USB					
	2: Direct conne	ection via Ethernet					
			Ethernet connection				
				2 or 3, the connec	tion source IP add	ress is given.	
			roxy, proxy IP addr	-			
			egistered in the CF	PU Unit (When the u	user authenticatior	n function is disa-	
	bled, NULL is give	en).					
Precautions/	None						
Remarks							

Event name	Start Instruction o	f Omron Maintenai	nce	Event code	91110000 hex	
Meaning	Maintenance by C	Omron maintenance	e personnel was be	egun.		
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	When instructed by Omron main- tenance person- nel
Error attributes	Level	Information	Recovery	None	Log category	Access
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Maintenance by Omron mainte- nance personnel was begun.					
Attached infor-	Attached informat	ion 1: Name of the	maintenance perse	onnel	•	
mation			egistered in the CF	PU Unit (When the	user authentication	function is disa-
	bled, NULL is give	en).				
Precautions/	None					
Remarks						

Event name	End Instruction of	Omron Maintenan	се	Event code	91120000 hex		
Meaning	Maintenance by C	Omron maintenance	e personnel was en	ided.	•		
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	When instructed by Omron main- tenance person- nel	
Error attributes	Level	Information	Recovery	None	Log category	Access	
Effects	User program		Operation Not affected.				
System-de-	Variable		Data type	Name			
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	Maintenance by C nance personnel						
Attached infor- mation	Attached information 1: Name of the maintenance personnel Attached information 4: User name registered in the CPU Unit (When the user authentication function is disa- bled, NULL is given).						
Precautions/ Remarks	None						

Event name	Event Logging St	opped		Event code	91130000 hex	
Meaning	Some event logs	could not be saved	l.			
Source	X Bus Unit Comm Module	on Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power ON
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type	•	Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Event saving proo to power interrupt Unit.					
Attached infor- mation	1: System log2: Access log		the log that could n access logs for im	ot be saved	¹ that could not be	saved
Precautions/	None					
Remarks						

*1. Important operations are the following online operations:

Online operation to the Controller

• Operations that can be performed only by the Administrator, Designer, and Maintainer to modify user program/Controller settings/Controller status

3-6 Errors in the Motion Control Function Module

The section provides tables of the errors (events) that can occur in the Motion Control Function Module.

They are divided into the following functional classifications.

- General motion control
- · Motion control instructions

Motion control instruction errors occur when a motion control instruction is executed. Notification of these errors is provided as events, but also the upper four digits of the event code is output to the *ErrorID* output variable of the motion control instruction and to the *.*Lvl.Code* system-defined variable for motion control. When you troubleshoot from the event code, make suitable corrections that are described in the corresponding event code.

3-6-1 Error Tables

General Motion Control

					I	Leve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
44210000 hex	Motion Con- trol Function Processing Error	A fatal error was de- tected in the Motion Control Function Module.	 An error occurred in the soft- ware. 	0					page 3-519
14600000 hex	Absolute En- coder Home Offset Read Error	The absolute encoder current position that is retained during power interruptions was lost.	 When the retained variables are backed up with a battery, this event indicates that the life of the battery in the CPU Unit has expired. An error occurred in the soft- ware. Backup memory failure 		0				page 3-520
14610000 hex	Motion Con- trol Parame- ter Setting Error	The MC parameters that were saved in non-volatile memory are missing. Or, an unsupported Ether- CAT slave is as- signed to the axis.	 The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the motion control parameter settings or clearing memory. An unsupported EtherCAT slave is assigned to the axis. Non-volatile memory failure 		0				page 3-521
14620000 hex	Cam Data Read Error	The cam data that was saved in non-vol- atile memory is miss- ing.	 Power was interrupted during save processing for cam data Non-volatile memory failure 		0				page 3-522

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
34600000 hex	Required Process Da- ta Object Not Set	The object that is re- quired for the axis type is not allocated to PDO.	 The required PDOs are not mapped when the axis type is set to a servo axis or encoder axis. Non-volatile memory failure 		0				page 3-523
34630000 hex	Axis Slave Disabled	The slave to which the axis is assigned is disabled.	• The slave to which the axis is assigned is disabled.		0				page 3-524
34640000 hex	Network Configura- tion Informa- tion Missing for Axis Slave	The network configu- ration information is not registered for the slave to which the ax- is is assigned.	 The EtherCAT network config- uration information is not regis- tered for the slave to which the axis is assigned. 		0				page 3-524
44200000 hex	Motion Con- trol Initializa- tion Error	A fatal error occurred in the system and prevented initializa- tion of the Motion Control Function Module.	• Hardware has failed.		0				page 3-525
74200000 hex	Motion Con- trol Period Exceeded	Processing for the primary periodic task was not finished with- in two control periods.	 The processing load in the pri- mary periodic task is too heavy. 		0				page 3-525
14630000 hex	Cam Table Save Error	Saving a cam table to a file failed.	• Saving a cam table to a file failed.			0			page 3-526
54770000 hex	Cam Table Data Error during Cam Motion	The phases are not in ascending order in the cam table.	 Data containing cam table phases that are not in ascending order was detected during cam motion. The phase and displacement of the start point in the cam table were not 0 during cam operation. The phase of the end point in the cam table when it is converted to pulses was not 1 pulse or greater during cam operation. 			0			page 3-526
54850000 hex	Immediate Stop Instruc- tion Execut- ed	An Immediate Stop (MC_ImmediateStop) instruction was exe- cuted.	 An Immediate Stop instruction was executed. 			0			page 3-527
54860000 hex	Axes Group Immediate Stop Instruc- tion Execut- ed	An Axes Group Im- mediate Stop (MC_GroupImmedia- teStop) instruction was executed.	 A Group Immediate Stop in- struction was executed. 			0			page 3-527

3-6 Errors in the Motion Control Function Module

3

3-6-1 Error Tables

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64450000 hex	Positive Software Limit Ex- ceeded	The position exceed- ed the positive soft- ware limit while the axis is in motion.	 The position exceeded the positive software limit. 			0			page 3-528
64460000 hex	Negative Software Limit Ex- ceeded	The position exceed- ed the negative soft- ware limit while the axis is in motion.	 The position exceeded the negative software limit. 			0			page 3-528
64470000 hex	In-position Check Time Exceeded	The in-position check was not completed within the monitoring time.	 Time is required to complete positioning. 			0			page 3-529
64480000 hex	Following Error Limit Exceeded	The error between the command current position and actual current value exceed- ed the Following Er- ror Over Value.	 The positioning operation has poor following performance and the actual motion is slower than the command. 			0			page 3-529
64490000 hex	Immediate Stop Input	The immediate stop input turned ON.	 An immediate stop input signal was detected. The immediate stop input sig- nal is not connected correctly or the logic setting for the im- mediate stop input is wrong. 			0			page 3-530
644A0000 hex	Positive Lim- it Input De- tected	The positive limit in- put turned ON.	 A positive limit input signal was detected. The positive limit input signal is not connected correctly or the logic setting for the positive limit input is wrong. 			0			page 3-531
644B0000 hex	Negative Limit Input Detected	The negative limit in- put turned ON.	 A negative limit input signal was detected. The negative limit input signal is not connected correctly or the logic setting for the nega- tive limit input is wrong. 			0			page 3-532
64560000 hex	Illegal Fol- Iowing Error	The difference be- tween the command position and the ac- tual current position exceeds the range of 30-bit data when con- verted to pulses.	 The command current position was restricted so that the axis velocity would not exceed the axis maximum velocity for the specified travel distance. Performance of positioning op- eration is poor and the actual motion is slower than the com- mand. 			0			page 3-533
64570000 hex	Servo OFF Error	The Servo was turned OFF for an ax- is due to an axes group error.	• The Servo was turned OFF for an axis due to an axes group error.			0			page 3-533

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					l	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64580000 hex	Absolute En- coder Cur- rent Position Calculation Failed	It was not possible to correctly restore the current position from the absolute encoder information that was saved when power was interrupted.	 The unit conversion settings, the ring counter setting in the Controller, or the ring counter setting in the Servo Drive set- tings was changed. The position to restore when converted to pulses exceeded the range of signed 40-bit da- ta. 			0			page 3-534
64590000 hex	Home Unde- fined during Coordinated Motion	Home of the logical axis became unde- fined during axes group motion or while decelerating to a stop.	 The command position or actual position overflowed or underflowed for a logical axis in an axes group motion or a logical axis that was decelerating to a stop and the home definition was lost. A slave communications error occurred for a logical axis and home became undefined during axes group motion or while decelerating to a stop. A slave for a logical axis left the network or was disabled and home became undefined during axes group motion or while decelerating to a stop. 			0			page 3-535
74210000 hex	Servo Main Circuit Pow- er OFF	The main circuit pow- er of the Servo Drive turned OFF while the Servo was ON.	The main circuit power of the Servo Drive was interrupted while the Servo was ON.			0			page 3-535
74230000 hex	Interrupt Feeding In- terrupt Sig- nal Missing	An interrupt input was not received during execution of an MC_MoveFeed (In- terrupt Feeding) in- struction.	 The latch enabled range specification is invalid. There is a problem with the wiring of the interrupt signal. The sensor that outputs the interrupt signal has failed. 			0			page 3-536
74240000 hex	Homing Opposite Direction Limit Input Detected	The limit signal in the direction opposite to the homing direction was detected during a homing operation.	 The Operation Selection at Negative Limit Input or Opera- tion Selection at Positive Limit Input parameter is set to No reverse turn. The location of the homing in- put signal sensors, homing settings, and homing start po- sition cause a limit input to be reached. The input signal sensor wiring is incorrect or the sensor is faulty. 			0			page 3-536

3

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
74250000 hex	Homing Di- rection Limit Input Detect- ed	The limit signal in the homing direction was detected during a homing operation.	 The Operation Selection at Negative Limit Input or Opera- tion Selection at Positive Limit Input parameter is set to No reverse turn. The location of the homing in- put signal sensors, homing settings, and homing start po- sition cause a limit input to be reached. The input signal sensor wiring is incorrect or the sensor is faulty. 			0			page 3-537
74260000 hex	Homing Lim- it Inputs De- tected in Both Direc- tions	The limit signals in both directions were detected during a homing operation.	 The wiring of the limit signal is incorrect. The limit sensor is installed in the wrong location. The contact logic of the limit signal is not correct. The limit sensor failed. 			0			page 3-537
74270000 hex	Home Prox- imity/Homing Opposite Di- rection Limit Input Detect- ed	The home proximity input and the limit sig- nal in the direction opposite to the hom- ing direction were de- tected during a hom- ing operation.	 The wiring of the home proximity signal or limit signal is incorrect. The home proximity sensor or limit sensor is installed in the wrong location. The contact logic of the home proximity signal or limit signal is not correct. The home proximity sensor or limit sensor failed. 			0			page 3-538
74280000 hex	Home Prox- imity/Homing Direction Limit Input Detected	The home proximity input and the limit sig- nal in the homing di- rection were detected at the same time dur- ing a homing opera- tion.	 The wiring of the home proximity signal or limit signal is incorrect. The home proximity sensor or limit sensor is installed in the wrong location. The contact logic of the home proximity signal or limit signal is not correct. The home proximity sensor or limit sensor failed. 			0			page 3-539

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
74290000 hex	Home Input/ Homing Op- posite Direc- tion Limit In- put Detected	The home input and the limit signal in the direction opposite to the homing direction were detected at the same time during a homing operation.	 The wiring of the home input signal or limit signal is incorrect. The home input sensor or limit sensor is installed in the wrong location. The contact logic of the home input signal or limit signal is not correct. The home input signal output device or limit sensor failed. 			0			page 3-540
742A0000 hex	Home Input/ Homing Di- rection Limit Input Detect- ed	The home input and the limit signal in the homing direction were detected at the same time during a homing operation.	 The wiring of the home input signal or limit signal is incorrect. The home input sensor or limit sensor is installed in the wrong location. The contact logic of the home input signal or limit signal is not correct. The home input signal output device or limit sensor failed. 			0			page 3-541
742B0000 hex	Invalid Home Input Mask Dis- tance	The setting of the home input mask dis- tance is not suitable for the MC_Home or MC_HomeWithPara- meter instruction.	 The set value of the home in- put mask distance when the operating mode of the MC_Home instruction is set to Proximity Reverse Turn/Home Input Mask Distance is insuffi- cient to decelerate from the homing velocity to the homing approach velocity. 			0			page 3-541
742C0000 hex	No Home In- put	There was no home signal input during the homing operation. Or, a limit signal was detected before there was a home input.	 There was no home signal input during the homing operation. A limit signal was detected before there was a home input. 			0			page 3-542
742D0000 hex	No Home Proximity In- put	There was no home proximity signal input during the homing op- eration.	• There was no home proximity signal input during the homing operation when a home prox- imity input signal was speci- fied.			0			page 3-542
742F 0000 hex	Slave Error Detected	An error was detect- ed for the EtherCAT slave or NX Unit that is allocated to an ax- is.	 An error was detected for the EtherCAT slave or NX Unit that is allocated to an axis. 			0			page 3-543
74300000 hex	Axes Group Composition Axis Error	An error occurred for an axis in an axes group.	 An error occurred for an axis in an axes group that was in mo- tion. 			0			page 3-543

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					l	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
74330000 hex	MC Com- mon Error Occurrence	An MC common error occurred.	Partial fault level MC common error occurred.			0			page 3-544
74340000 hex	Latch Posi- tion Over- flow	An overflow occurred for the latched posi- tion for the MC_TouchProbe (En- able External Latch) instruction.	 An overflow occurred for the latched position for the MC_TouchProbe (Enable Ex- ternal Latch) instruction. 			0			page 3-544
74350000 hex	Latch Posi- tion Under- flow	An underflow occur- red for the latched position for the MC_TouchProbe (En- able External Latch) instruction.	 An underflow occurred for the latched position for the MC_TouchProbe (Enable Ex- ternal Latch) instruction. 			0			page 3-545
74360000 hex	Master Sync Direction Er- ror	The master axis con- tinued to move in the direction opposite to the sync direction.	 The master axis continued to move in the direction opposite to the sync direction of the master and slave axes, result- ing in an overflow. 			0			page 3-545
74370000 hex	Slave Dis- connection during Servo ON	 One of the following occurred while the Servo was ON for the EtherCAT slave or NX Unit that is allocated to an axis. Disconnection or replacement Disablement Restart of the NX bus on the NXseries CPU Unit 	 One of the following occurred while the Servo was ON for the EtherCAT slave or NX Unit that is allocated to an axis. Disconnection or replace- ment Disablement Restart of the NX bus on the NX-series CPU Unit 			0			page 3-546
74380000 hex	Feed Dis- tance Over- flow	The target position af- ter the interrupt input was received for the MC_MoveFeed (In- terrupt Feeding) in- struction overflowed or underflowed.	 The target position after the in- terrupt input was received for the MC_MoveFeed (Interrupt Feeding) instruction exceeded the range of signed 40-bit data when it is converted to pulses. 			0			page 3-546

					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
74390000 hex	Error in Changing Servo Drive Control Mode	Changing the Control Mode was not com- pleted within the specified time.	 When the MC_SyncMoveVelocity instruction was stopped, the actual current velocity was not reduced to 10% or less of the maximum velocity within 10 seconds for three consecutive periods after a command velocity of 0 was output. For an OMRON 1S-series Servo Drive or G5-series Servo Drive, the actual current velocity within 10 seconds for three consecutive periods after the control instruction was stopped. Changing the Control Mode of the Servo Drive between CSP, CSV, and CST was not completed within one second after the command was executed. 			0			page 3-547
743A0000 hex	Master Axis Position Read Error	The synchronized control instruction was not executed be- cause an error occur- red in the position of the master axis of the synchronized control instruction.	 EtherCAT process data communications are not established for the master axis of the synchronized control instruction or the I/O data of the NX Unit cannot be used for control. The slave of the master axis for the synchronized control instruction was disconnected or disabled. An Absolute Encoder Current Position Calculation Failed error (64580000 hex) was detected for the master axis of the synchronized control instruction. The master axis for the synchronized control instruction. 			0			page 3-548

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
743B0000 hex	Auxiliary Ax- is Position Read Error	The synchronized control instruction was not executed be- cause an error occur- red in the position of the auxiliary axis of the synchronized control instruction.	 EtherCAT process data communications are not established for the auxiliary axis of the synchronized control instruction or the I/O data of the NX Unit cannot be used for control. The slave of the auxiliary axis for the synchronized control instruction was disconnected or disabled. An Absolute Encoder Current Position Calculation Failed error (64580000 hex) was detected for the auxiliary axis of the synchronized control instruction. The auxiliary axis for the synchronized control instruction. 			0			page 3-549
84400000 hex	EtherCAT Slave Com- munications Error	A communications er- ror occurred for the EtherCAT slave or NX Unit that is allocated to an axis.	 A communications error occur- red for the EtherCAT slave or NX Unit that is allocated to an axis. 			0			page 3-550
571D0000 hex (Ver. 1.02 to Ver. 1.09)	Too Many Reset Mo- tion Control Error In- structions	There are more than 100 instances of the ResetMCError (Reset Motion Control Error) instruction.	There are more than 100 in- stances of the ResetMCError (Reset Motion Control Error) instruction declared in the user program. Instances inside function blocks are included.				0		page 3-550
644C0000 hex	Following Error Warn- ing	The following error exceeded the Follow- ing Error Warning Value.	 Performance of positioning op- eration is poor and the actual motion is slower than the com- mand. 				0		page 3-551
644D0000 hex	Velocity Warning	The command veloci- ty exceeded the ve- locity warning value.	The command velocity ex- ceeded the velocity warning value.			٠	0		page 3-551
644E0000 hex	Acceleration Warning	The command accel- eration exceeded the acceleration warning value.	The command acceleration rate exceeded the acceleration warning value.			۲	0		page 3-552
644F0000 hex	Deceleration Warning	The command decel- eration exceeded the deceleration warning value.	The command deceleration rate exceeded the deceleration warning value.			۲	0		page 3-552
64500000 hex	Positive Tor- que Warning	The torque command value exceeded the positive torque warn- ing value.	• The torque command value exceeded the positive torque warning value.			•	0		page 3-553

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64510000 hex	Negative Torque Warning	The torque command value exceeded the negative torque warn- ing value.	 The torque command value exceeded the negative torque warning value. 			٠	0		page 3-553
64520000 hex	Command Position Overflow	The number of pulses for the command po- sition overflowed.	 In Linear Mode, the command position when converted to pulses exceeded the upper limit of signed 40-bit data. 			o	0		page 3-554
64530000 hex	Command Position Un- derflow	The number of pulses for the command po- sition exceeded the valid range. (It under- flowed.)	 In Linear Mode, the command position when converted to pulses exceeded the lower lim- it of signed 40-bit data. 			•	0		page 3-554
64540000 hex	Actual Posi- tion Over- flow	The number of pulses for the actual position overflowed.	• The actual position when con- verted to pulses exceeded the upper limit of signed 40-bit da- ta.			·	0		page 3-555
64550000 hex	Actual Posi- tion Under- flow	The number of pulses for the actual position underflowed.	• The actual position when con- verted to pulses exceeded the lower limit of signed 40-bit da- ta.			۲	0		page 3-555
74320000 hex	Slave Ob- servation Detected	A warning was de- tected for an Ether- CAT slave or NX Unit.	 A warning was detected for the EtherCAT slave or NX Unit that is allocated to an axis. 			o	0		page 3-556
743C0000 hex	Cannot Exe- cute Save Cam Table Instruction	You cannot save a cam table to a file when non-volatile memory is being ac- cessed by another operation.	 An attempt was made to exe- cute the MC_SaveCamTable instruction when another oper- ation was accessing the non- volatile memory (e.g., transfer or data trace operation from the Sysmac Studio). 				0		page 3-556
94200000 hex	Notice of In- sufficient Travel Dis- tance to Achieve Blending Transit Ve- locity	There is not sufficient travel distance to ac- celerate or decelerate to the transit velocity during blending oper- ation.	 When the Acceleration/ Deceleration Over parameter was set to Use rapid accelera- tion/deceleration (Blending is changed to Buffered), the re- sults of profile creation caused the acceleration/deceleration rate to be exceeded when blending was specified, so buf- fered was used. Blending was specified, but the target position was already reached, so it was changed to Buffered because the profile could not be created. 			·	0		page 3-557
94210000 hex	Error Clear from MC Test Run Tab Page	An error was cleared from the MC Test Run Pane of the Sysmac Studio.	 An error was cleared from the MC Test Run Pane of the Sys- mac Studio. 					0	page 3-557

3 Error Descriptions and Corrections

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
94220000 hex	Slave Error Code Report	The error code was reported by the slave when a Slave Error Detected error occur- red.	 The error code was reported by the slave when a Slave Er- ror Detected error (742F0000 hex) occurred. 					0	page 3-558

Motion Control Instructions

This section provides a table of errors (events) that occur for motion control instructions. The upper four digits of the event code give the error code (ErrorID) for the motion control instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code for the motion control instruction is 16#3461, refer to the description for event code 34610000 hex.

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
34610000 hex	Process Da- ta Object Setting Miss- ing	The PDO mapping is not correct.	 The PDOs that are required for the motion control instruction are not mapped. The relevant instruction was executed for a device that does not have an object that supports the instruction. A motion control instruction that specifies phase Z (_mcEn- coderMark) as the trigger con- ditions was executed for an ax- is that is mapped to an OM- RON GXEC02□□ EtherCAT Encoder slave. 			0			page 3-559
54200000 hex	Electronic Gear Ratio Numerator Setting Out of Range	The parameter speci- fied for the <i>RatioNumerator</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-560
54210000 hex	Electronic Gear Ratio Denominator Setting Out of Range	The parameter speci- fied for the <i>RatioDenominator</i> in- put variable to a mo- tion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-560
54220000 hex	Target Ve- locity Setting Out of Range	The parameter speci- fied for the <i>Velocity</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-561
54230000 hex	Acceleration Setting Out of Range	The parameter speci- fied for the <i>Acceleration</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-561

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54240000 hex	Deceleration Setting Out of Range	The parameter speci- fied for the <i>Deceleration</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-562
54250000 hex	Jerk Setting Out of Range	The parameter speci- fied for the <i>Jerk</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-562
54270000 hex	Torque Ramp Set- ting Out of Range	The parameter speci- fied for the <i>TorqueRamp</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-563
54280000 hex	Master Coef- ficient Scal- ing Out of Range	The parameter speci- fied for the <i>MasterScaling</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-563
54290000 hex	Slave Coeffi- cient Scaling Out of Range	The parameter speci- fied for the <i>SlaveScaling</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-564
542A0000 hex	Feeding Ve- locity Setting Out of Range	The parameter speci- fied for the <i>FeedVelocity</i> input variable to a motion control instruction is out of range.	 The Feed Velocity (input variable <i>FeedVelocity</i>) is still at the default (0). 			0			page 3-564
542B0000 hex	Buffer Mode Selection Out of Range	The parameter speci- fied for the <i>BufferMode</i> input var- iable to a motion con- trol instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-565
542C0000 hex	Coordinate System Se- lection Out of Range	The parameter speci- fied for the <i>CoordSystem</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-565

3 Error Descriptions a	nd Corrections
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		Event name Meaning			L	eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
542D0000 hex	Circular In- terpolation Mode Selec- tion Out of Range	The parameter speci- fied for the <i>CircMode</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-566
542E0000 hex	Direction Se- lection Out of Range	The parameter speci- fied for the <i>Direction</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-566
542F0000 hex	Path Selec- tion Out of Range	The parameter speci- fied for the <i>PathChoice</i> input var- iable to a motion con- trol instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-567
54300000 hex	Position Type Selec- tion Out of Range	The parameter speci- fied for the <i>ReferenceType</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-567
54310000 hex	Travel Mode Selection Out of Range	The parameter speci- fied for the <i>MoveMode</i> input vari- able to a motion con- trol instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-568
54320000 hex	Transition Mode Selec- tion Out of Range	The parameter speci- fied for the <i>TransitionMode</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. <i>_mcAborting</i> or <i>_mcBuffered</i> was specified for <i>BufferMode</i> and <i>_mcTMCornerSuperimposed</i> was specified for <i>TransitionMode</i>. 			0			page 3-569
54330000 hex	Continue Method Se- lection Out of Range	The value of the re- served input variable <i>Continuous</i> to a mo- tion control instruction changed.	• The value of the reserved input variable <i>Continuous</i> changed.			0			page 3-569
54340000 hex	Combine Mode Selec- tion Out of Range	The parameter speci- fied for the <i>CombineMode</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-570

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54350000 hex	Synchroni- zation Start Condition Selection Out of Range	The parameter speci- fied for the <i>LinkOption</i> input vari- able to a motion con- trol instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-570
54360000 hex	Master and Slave De- fined as Same Axis	The same axis is specified for the <i>Master</i> and <i>Slave</i> in- put variables to a mo- tion control instruc- tion.	• The parameter is the same for the <i>Master</i> and <i>Slave</i> input variables to the instruction.			0			page 3-571
54370000 hex	Master and Auxiliary De- fined as Same Axis	The same axis is specified for the <i>Master</i> and <i>Auxiliary</i> input variables to a motion control in- struction.	• The parameter is the same for the <i>Master</i> and <i>Auxiliary</i> input variables to the instruction.			0			page 3-571
54380000 hex	Master/ Slave Axis Numbers Not in As- cending Or- der	The axis numbers specified for the <i>Master</i> and <i>Slave</i> in- put variables to a mo- tion control instruction are not in ascending order.	The parameters for the Master and Slave input variables to the instruction were not in as- cending order when _mcLatestCommand was specified for the ReferenceType input variable to the instruction.			0			page 3-572
54390000 hex	Incorrect Cam Table Specification	The parameter speci- fied for the <i>CamTable</i> input variable to a motion control in- struction is out of range.	• Something other than a cam data variable was specified for the <i>CamTable</i> input variable to the instruction.			0			page 3-572

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
543A0000 hex	Synchroni- zation Stop- ped	A synchronized con- trol motion control in- struction was execut- ed, but conditions re- quired for execution were not met.	 The MC_CamOut (End Cam Operation) instruction was executed even though the MC_CamIn (Start Cam Opera- tion) instruction is not being executed. The MC_GearOut (End Gear Operation) instruction was executed even though the MC_GearIn (Start Gear Opera- tion) or the MC_GearInPos (Positioning Gear Operation) instruction is not being execut- ed. The MC_Phasing (Shift Master Axis Phase) instruction was executed even though the MC_CamIn (Start Cam Opera- tion), MC_GearIn (Start Gear Operation), MC_GearInPos (Start Gear Operation), or MC_MoveLink (Synchronous Positioning) instruction is not being executed. 			0			page 3-573
543B0000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled	An attempt was made to re-execute a mo- tion control instruction that cannot be re- executed.	 A motion control instruction that cannot be re-executed was re-executed. 			0			page 3-574
543C0000 hex	Motion Con- trol Instruc- tion Multi-ex- ecution Dis- abled	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or ax- es group).	 Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group). 			0			page 3-575
543D0000 hex	Instruction Not Allowed for Encoder Axis Type	An operation instruc- tion was executed for an encoder axis.	An operation instruction was executed for an encoder axis.			0			page 3-575

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
543E0000 hex	Instruction Cannot Be Executed during Multi- axes Coordi- nated Con- trol	 An operation in- struction was exe- cuted for an axis or an axes group that was in a coordinat- ed multi-axes mo- tion. A robot instruction that you cannot use for an axes group in a Group- Enable state was executed. 	 An operation instruction was executed for an axis or an ax- es group that was in a coordi- nated multi-axes motion. The MC_SetKinTransform in- struction was executed for an axes group in a GroupEnable state. 			0			page 3-576
543F0000 hex	Multi-axes Coordinated Control In- struction Executed for Disabled Ax- es Group	A multi-axes coordi- nated control instruc- tion was executed for an axes group that was in a GroupDisa- ble state.	 A multi-axes coordinated control instruction was executed for an axes group that was in a GroupDisable state. One of the following instructions was executed for an axes group that was in a GroupDisable state. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog 			0			page 3-577
54400000 hex	Axes Group Cannot Be Enabled	Execution of the MC_GroupEnable (Enable Axes Group) instruction failed.	 When the MC_GroupEnable (Enable Axes Group) instruc- tion was executed, there was a composition axis that was not stopped. When the MC_GroupEnable (Enable Axes Group) instruc- tion was executed, there was a composition axis for which the MC_TouchProbe (Enable Ex- ternal Latch) instruction was being executed. 			0			page 3-578
54410000 hex	Impossible Axis Opera- tion Speci- fied when the Servo is OFF	An operation instruc- tion was executed for an axis for which the Servo is OFF.	 An operation instruction was executed for an axis for which the Servo is OFF. Home was preset with the MC_Home or MC_HomeWith- Parameter instruction for an axis for which EtherCAT proc- ess data communications are not established. 			0			page 3-579

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Event code	Event name	ne Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54420000 hex	Composition Axis Stop- ped Error	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition ax- is.	 A motion instruction was exe- cuted for an axes group while the MC_Stop instruction was being executed for a composi- tion axis. 			0			page 3-580
54430000 hex	Motion Con- trol Instruc- tion Multi-ex- ecution Buf- fer Limit Ex- ceeded	The number of mo- tion control instruc- tions that is buffered for Buffered or Blend- ing Buffer Modes ex- ceeded the buffer lim- it.	 An axis instruction was executed when there was already a current instruction and a buffered instruction for the same axis. An axes group instruction was executed when there was already eight current instructions and buffered instructions for the same axis. 			0			page 3-580
54440000 hex	Insufficient Travel Dis- tance	The specified motion cannot be executed for the deceleration rate or acceleration rate that was speci- fied for multi-execu- tion or re-execution of a positioning instruc- tion.	 Stopping at the target position was not possible for the speci- fied acceleration/deceleration rate for multi-execution or re- execution of a positioning in- struction when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop. 			0			page 3-581
54450000 hex	Insufficient Travel Dis- tance to Achieve Blending Transit Ve- locity	There is not sufficient travel distance to ac- celerate or decelerate to the transit velocity.	 There was not sufficient travel distance to accelerate the cur- rent command to the transit velocity when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop. 			0			page 3-582
54460000 hex	Move Link Constant Ve- locity Insuffi- cient Travel Distance	The constant-velocity travel distance of the master axis is less than zero.	 The constant velocity travel distance of the master axis is below 0 for the MC_MoveLink (Synchronous Positioning) in- struction. 			0			page 3-582
54470000 hex	Positioning Gear Opera- tion Insuffi- cient Target Velocity	For the MC_GearIn- Pos (Positioning Gear Operation) instruc- tion, the target veloci- ty of the slave axis is too small to achieve the required velocity.	 For the MC_GearInPos (Positioning Gear Operation) instruction, the value of the Velocity (Target Velocity) input variable is smaller than the master axis velocity multiplied by the gear ratio when the instruction was executed. 			0			page 3-583

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54480000 hex	Same Start Point and End Point for Circular In- terpolation	The start point and end point were the same when the radi- us method was speci- fied for the MC_MoveCircular2D (Circular 2D Interpo- lation) instruction. Or, the start point, end point, and border point were the same when the border point method was speci- fied.	 The start point and end point were the same when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction. The start point, end point, and border point were the same when the border point method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction. 			0			page 3-583
54490000 hex	Circular In- terpolation Center Specification Position Out of Range	The position specified for the center point exceeded the allowed range when the cen- ter method was specified for the MC_MoveCircular2D (Circular 2D Interpo- lation) instruction.	 The difference between the distance from the start point to the center point and the dis- tance between the end point to the center point exceeded the permitted value specified for the correction allowance ratio in the axes group settings when the center designation method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction. 			0			page 3-584
544A0000 hex	Instruction Execution Error Caused by Count Mode Setting	An instruction that cannot be used when the Count Mode is set to Rotary Mode was executed for an axis that was set to Rotary Mode.	 An instruction that cannot be used when the Count Mode is set to Rotary Mode was exe- cuted for an axis that was set to Rotary Mode. 			0			page 3-584
544C0000 hex	Parameter Selection Out of Range	The parameter speci- fied for the <i>ParameterNumber</i> in- put variable to a mo- tion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-585
544D0000 hex	Stop Method Selection Out of Range	The parameter speci- fied for the <i>StopMode</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-585
544E0000 hex	Latch ID Se- lection Out of Range for Trigger Input Condition	The parameter speci- fied for the <i>TriggerInput::LatchID</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-586

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
544F0000 hex	Setting Out of Range for Writing MC Setting	The parameter speci- fied for the <i>SettingValue</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The parameter specification and the data type of the setting value do not agree. 			0			page 3-586
54500000 hex	Trigger Input Condition Mode Selec- tion Out of Range	The parameter speci- fied for the <i>TriggerInput:: Mode</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-587
54510000 hex	Drive Trigger Signal Se- lection Out of Range for Trigger Input Condition	The parameter speci- fied for the <i>TriggerInput::InputDri</i> <i>ve</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-587
54530000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Axis Specifica- tion)	An attempt was made to change the param- eter for the <i>Axis</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 			0			page 3-588
54540000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Buffer Mode Selec- tion)	An attempt was made to change the param- eter for the <i>BufferMode</i> input var- iable when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 			0			page 3-589
54550000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Direc- tion Selec- tion)	An attempt was made to change the param- eter for the <i>Direction</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	 An input variable that cannot be changed for re-execution was changed. 			0			page 3-590

3 Error Descriptions and Corrections

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54560000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Execu- tion Mode)	An attempt was made to change the param- eter for the <i>Periodic</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 			0			page 3-590
54570000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Axes Group Spec- ification)	An attempt was made to change the param- eter for the <i>AxesGroup</i> input vari- able when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 			0			page 3-591
54580000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Jerk Setting)	An attempt was made to change the param- eter for the <i>Jerk</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 			0			page 3-592
54590000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Master Axis)	An attempt was made to change the param- eter for the <i>Master</i> in- put variable when re- executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 			0			page 3-593
545A0000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Mas- terOffset)	An attempt was made to change the param- eter for the <i>MasterOffset</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 			0			page 3-593
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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
545B0000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Mas- terScaling)	An attempt was made to change the param- eter for the <i>MasterScaling</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 			0			page 3-594
545C0000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Mas- terStartDis- tance)	An attempt was made to change the param- eter for the <i>MasterStartDistance</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 			0			page 3-594
545D0000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Contin- uous)	An attempt was made to change the param- eter for the <i>Continuous</i> input vari- able when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input varia- ble that cannot be changed for re-execution was changed. 			0			page 3-595
545E0000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Move- Mode)	An attempt was made to change the param- eter for the <i>MoveMode</i> input vari- able when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	• A parameter for an input varia- ble that cannot be changed for re-execution was changed.			0			page 3-595
545F0000 hex	Illegal Auxili- ary Axis Specification	The axis specified for the <i>Auxiliary</i> input variable to a motion control instruction does not exist.	• An axis does not exist for the variable specified for the <i>Auxiliary</i> input variable to the instruction.			0			page 3-596

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54600000 hex	Illegal Axis Specification	The axis specified for the <i>Axis</i> input varia- ble to a motion con- trol instruction does not exist.	• An axis does not exist for the variable specified for the <i>Axis</i> input variable to the instruction.			0			page 3-596
54610000 hex	Illegal Axes Group Spec- ification	The axes group specified for the <i>AxesGroup</i> input vari- able to a motion con- trol instruction does not exist or is not a used group.	 An axes group does not exist for the variable specified for the <i>AxesGroup</i> input variable to the instruction. The axes group specified for the <i>AxesGroup</i> input variable to the instruction is not speci- fied as a used group. 			0			page 3-597
54620000 hex	Illegal Mas- ter Axis Specification	The axis that is speci- fied for the <i>Master</i> in- put variable to a mo- tion control instruction is not correct.	 An axis does not exist for the variable specified for the <i>Master</i> input variable to the instruction. The axis that was specified for the <i>Master</i> input variable to the MC_Phasing (Shift Master Axis Phase) instruction is not the master axis for syncing. The master axis and a slave axis are not assigned to the same task. 			0			page 3-598
54630000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Slave- Offset)	An attempt was made to change the <i>SlaveOffset</i> input var- iable when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 			0			page 3-599
54640000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Slave- Scaling)	An attempt was made to change the <i>SlaveScaling</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 			0			page 3-599

				Level		Level		Level		Level			Level		Level			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference									
54650000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Start- Position)	An attempt was made to change the <i>StartPosition</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 			0			page 3-600									
54660000 hex	Instruction Execution Error with Undefined Home	High-speed homing or an interpolation in- struction was execut- ed when home was undefined.	 High-speed homing was executed when home was undefined. An interpolation instruction was executed for an axes group that includes an axis with no defined home. One of the following robot instructions was executed for an axes group that includes a logical axis with no defined home. MC_SetKinTransform MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_GroupMon MC_RobotJog 			0			page 3-601									
54670000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Posi- tion Type)	An attempt was made to change the <i>ReferenceType</i> input variable when re-exe- cuting a motion con- trol instruction. (This input variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 			0			page 3-602									
54680000 hex	Unused Axis Specification for Master Axis	The master axis specified for a motion control instruction is an unused axis.	 The master axis specified for a motion control instruction is an unused axis. 			0			page 3-602									
54690000 hex	First Position Setting Out of Range	The parameter speci- fied for the <i>FirstPosition</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-603									

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
546A0000 hex	Last Position Setting Out of Range	The parameter speci- fied for the <i>LastPosition</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-603
546B0000 hex	Illegal First/ Last Position Size Rela- tionship (Lin- ear Mode)	The parameter speci- fied for the <i>LastPosition</i> input variable to a motion control instruction is smaller than the pa- rameter specified for the <i>FirstPosition</i> input variable.	• The value of the <i>LastPosition</i> input parameter is less than the value of the <i>FirstPosition</i> input variable for the instruc- tion when the Count Mode is set to Linear Mode.			0			page 3-604
546C0000 hex	Master Sync Start Posi- tion Setting Out of Range	The parameter speci- fied for the <i>MasterSyncPosition</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-604
546D0000 hex	Slave Sync Start Posi- tion Setting Out of Range	The parameter speci- fied for the <i>SlaveSyncPosition</i> in- put variable to a mo- tion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-605
546E0000 hex	Duplicate Latch ID for Trigger Input Condition	The same latch ID was specified for more than one motion control instruction.	 The same latch ID is used simultaneously for more than one of the following instructions: MC_TouchProbe (Enable External Latch) instruction, MC_MoveLink (Synchronous Positioning) instruction, and MC_MoveFeed (Interrupt Feeding) instruction. The MC_AbortTrigger (Disable External Latch) instruction was executed to cancel a latch that was used by an instruction other than the MC_TouchProbe (Enable External Latch) in-struction. 			0			page 3-605
546F0000 hex	Jerk Over- ride Factor Out of Range	The parameter speci- fied for the <i>JerkFactor</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-606

	Range	struction is out of range.					
54720000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (First Position Method)	An attempt was made to change the <i>StartMode</i> input vari- able when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 		0		page 3-607
54740000 hex	Unused Axis Specification for Auxiliary Axis	The axis specified for the <i>Auxiliary</i> input variable to a motion control instruction is an unused axis.	• The axis specified for the <i>Auxiliary</i> input variable to the instruction is an unused axis.		0		page 3-608
54750000 hex	Position Gear Value Error	Synchronized motion is not possible for the velocity, acceleration rate, and deceleration rate that were input to a motion control in- struction.	 The specified synchronized motion cannot be performed at the velocity, acceleration rate, or deceleration rate that is in- put to the instruction. 		0		page 3-608
54760000 hex	Position Gear Master Axis Zero Velocity	The velocity of the master axis was zero when a motion con- trol instruction was started.	• The velocity of the master axis was 0 when the instruction was started.		0		page 3-609
54780000 hex	Target Posi- tion Setting Out of Range	The parameter speci- fied for the <i>Position</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The target position of a Rotary Mode axis is not within the ring setting range. 		0		page 3-609

3 Error Descriptions and Corrections

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• Instruction input parameter ex-

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page 3-606

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3-607

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Event code

54700000 hex

54710000 hex

Event name

Acceleration/

Deceleration

Override

Factor Out

First Position

Specification

of Range

Method

Out of

Meaning

The parameter speci-

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The parameter speci-

fied for the StartMode

input variable to a

motion control in-

input variable to a

motion control in-

struction is out of

range.

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54790000 hex	Travel Dis- tance Out of Range	The parameter that was specified for the <i>Distance</i> input varia- ble to a motion con- trol instruction is out of range or the target position with the val- ue of <i>Distance</i> added is out of range.	 The absolute value of the instruction input parameter exceeded the range of 40-bit data when it is converted to pulses. For a Linear Mode axis, the target position with the travel distance added exceeded signed 40-bit data when the absolute value is converted to pulses. 			0			page 3-610
547A0000 hex	Cam Table Start Point Setting Out of Range	The parameter speci- fied for the <i>StartPosition</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-610
547B0000 hex	Cam Master Axis Follow- ing First Po- sition Setting Out of Range	The parameter speci- fied for the <i>MasterStartDistance</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-611
547C0000 hex	Circular In- terpolation Radius Set- ting Error	It was not possible to create a circular path for the specified radi- us when the radius method was specified for the MC_MoveCir- cular2D (Circular 2D Interpolation) instruc- tion.	• For the MC_MoveCircular2D (Circular 2D Interpolation) in- struction, it was not possible to create a circular path for the specified radius when the radi- us method was specified for circular interpolation.			0			page 3-611
547D0000 hex	Circular In- terpolation Radius Overflow	For the MC_MoveCir- cular2D (Circular 2D Interpolation) instruc- tion, the radius of the circle exceeded the maximum value for the border point or center specification method.	• For the MC_MoveCircular2D (Circular 2D Interpolation) in- struction, the radius of the cir- cle exceeded 40-bit data when converted to pulses for the border point or center specifi- cation method.			0			page 3-612
547E0000 hex	Circular In- terpolation Setting Out of Range	The parameter speci- fied for the <i>CircAxes</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The axes that were specified in <i>CircAxes</i> are not included in the composition axes in the Axes Group Settings. The same axis was specified for both axes of <i>CircAxes</i>. 			0			page 3-612

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
547F0000 hex	Auxiliary/ Slave Axis Numbers Not in As- cending Or- der	The values of the pa- rameters for the <i>Auxiliary</i> and <i>Slave</i> input variables to a motion control in- struction are not in ascending order.	• The parameters for the <i>Auxiliary</i> and <i>Slave</i> input variables to the instruction are not in ascending order.			0			page 3-613
54800000 hex	Cam Table Property As- cending Da- ta Error at Update	A phase that was not in ascending order was found during cal- culating the number of valid data. Or, after calculations, the num- ber of valid data is 0.	 A phase that was not in ascending order was found when calculating the number of valid data. After calculations, the number of valid data is 0. 			0			page 3-613
54810000 hex	MC_Write Target Out of Range	The parameter speci- fied for the <i>Target</i> in- put variable to a mo- tion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-614
54820000 hex	Master Trav- el Distance Specification Out of Range	The parameter speci- fied for the <i>MasterDistance</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-614
54830000 hex	Master Dis- tance in Ac- celeration Specification Out of Range	The parameter speci- fied for the <i>MasterDistanceACC</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-615
54840000 hex	Master Dis- tance in De- celeration Specification Out of Range	The parameter speci- fied for the <i>MasterDistanceDEC</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-615
54870000 hex	Execution Mode Selec- tion Out of Range	The parameter speci- fied for the <i>ExecutionMode</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-616
54880000 hex	Permitted Following Error Out of Range	The parameter speci- fied for the <i>PermittedDeviation</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-616

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54890000 hex	Border Point/Center Position/ Radius Specification Out of Range	The parameter speci- fied for the <i>AuxPoint</i> input variable to a motion control in- struction is out of range.	 The value of <i>AuxPoint</i> exceeded signed 40-bit data when converted to pulses for the border point or center specification method. For a radius specifications, the absolute value of <i>AuxPoint[0]</i> exceeded 40-bit data when it is converted to pulses. 			0			page 3-617
548A0000 hex	End Point Specification Out of Range	The parameter speci- fied for the <i>EndPoint</i> input variable to a motion control in- struction is out of range.	• The instruction input parame- ter exceeded the range of signed 40-bit data when it was converted to pulses.			0			page 3-617
548B0000 hex	Slave Travel Distance Specification Out of Range	The parameter speci- fied for the <i>SlaveDistance</i> input variable to a motion control instruction is out of range.	 The instruction input parame- ter exceeded the range of 40- bit data when it is converted to pulses. 			0			page 3-618
548C0000 hex	Phase Shift Amount Out of Range	The parameter speci- fied for the <i>PhaseShift</i> input vari- able to a motion con- trol instruction is out of range.	• The absolute value of the in- struction input parameter ex- ceeded the range of 40-bit da- ta when it is converted to puls- es.			0			page 3-618
548D0000 hex	Feeding Dis- tance Out of Range	The parameter speci- fied for the <i>FeedDistance</i> input variable to a motion control instruction is out of range.	• The absolute value of the in- struction input parameter ex- ceeded the range of 40-bit da- ta when it is converted to puls- es.			0			page 3-619
548E0000 hex	Auxiliary and Slave De- fined as Same Axis	The same axis was specified for the <i>Auxiliary</i> and <i>Slave</i> input variables to a motion control in- struction.	• The parameter was the same for the <i>Auxiliary</i> and <i>Slave</i> in- put variables to the instruction.			0			page 3-619
548F0000 hex	Relative Po- sition Selec- tion Out of Range	The parameter speci- fied for the <i>Relative</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-620
54900000 hex	Cam Transi- tion Specifi- cation Out of Range	The parameter speci- fied for the <i>CamTransition</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-620

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54910000 hex	Synchron- ized Control End Mode Selection Out of Range	The parameter speci- fied for the <i>OutMode</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-621
54920000 hex	Enable Ex- ternal Latch Instruction Execution Disabled	_mcImmediateStop (ImmediateStop) was specified for the StopMode input vari- able when the MC_TouchProbe (En- able External Latch) instruction was exe- cuted in Drive Mode for an encoder axis.	• _mcImmediateStop (Immediate Stop) was speci- fied for the StopMode input variable when the MC_TouchProbe (Enable Ex- ternal Latch) instruction was executed in Drive Mode for an encoder axis.			0			page 3-621
54930000 hex	Master Axis Offset Out of Range	The parameter speci- fied for the <i>MasterOffset</i> input variable to a motion control instruction is out of range.	 The instruction input parame- ter exceeded the range of signed 40-bit data when it was converted to pulses. 			0			page 3-622
54940000 hex	Slave Axis Offset Out of Range	The parameter speci- fied for the <i>SlaveOffset</i> input var- iable to a motion con- trol instruction is out of range.	 The instruction input parame- ter exceeded the range of signed 40-bit data when it was converted to pulses. 			0			page 3-622
54950000 hex	Command Current Po- sition Count Selection Out of Range	The parameter speci- fied for the <i>CmdPosMode</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-623
54960000 hex	Master Axis Gear Ratio Numerator Out of Range	The parameter speci- fied for the <i>RatioNumeratorMast</i> <i>er</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-623
54970000 hex	Master Axis Gear Ratio Denominator Out of Range	The parameter speci- fied for the <i>RatioDenominatorMa</i> <i>ster</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-624

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54980000 hex	Auxiliary Ax- is Gear Ra- tio Numera- tor Out of Range	The parameter speci- fied for the <i>RatioNumeratorAuxili</i> <i>ary</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-624
54990000 hex	Auxiliary Ax- is Gear Ra- tio Denomi- nator Out of Range	The parameter speci- fied for the <i>RatioDenominatorAu xiliary</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-625
549A0000 hex	Master Axis Position Type Selec- tion Out of Range	The parameter speci- fied for the <i>ReferenceTypeMaste</i> <i>r</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-625
549B0000 hex	Auxiliary Ax- is Position Type Selec- tion Out of Range	The parameter speci- fied for the <i>ReferenceTypeAuxilia</i> <i>ry</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-626
549C0000 hex	Target Posi- tion Ring Counter Out of Range	Operation is not pos- sible because the tar- get position is out of range for the ring counter of the execut- ed instruction.	 High-speed homing was exe- cuted when 0 was not included in the ring counter. 			0			page 3-626
549D0000 hex (Ver. 1.01 or later)	Axes Group Composition Axis Setting Out of Range	The parameter speci- fied for the <i>Axes</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The composition axes in the axes group are not assigned to the same task. 			0			page 3-627
549E0000 hex (Version 1.04 or later)	Axis Use Setting Out of Range	The parameter speci- fied for the <i>AxisUse</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-627
57000000 hex (Ver. 1.03 or later)	Homing Pa- rameter Set- ting Out of Range	The parameter speci- fied for the <i>HomingParameter</i> in- put variable to a mo- tion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-628

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
57020000 hex (Version 1.04 or later)	Axis Use Change Er- ror	The MC_ChangeAxi- sUse (Change Axis Use) instruction was executed when the axis was not stopped or when the com- mand velocity of the axis was saturated.	 The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated. 			0			page 3-629
57030000 hex (Ver. 1.06 or later)	Cannot Change Axis Use	The MC_ChangeAxi- sUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used real axes or the maximum number of used motion control servo axes to be ex- ceeded.	 The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used real axes to be exceeded. The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used motion control servo axes to be exceeded. 			0			page 3-630
57200000 hex (Version 1.04 or later)	Motion Con- trol Parame- ter Setting Error When Changing Axis Use	The motion control parameter settings for the axis that was changed to a used axis are incorrect.	 The MC_ChangeAxisUse (Change Axis Use) instruction was used to change an un- used axis to a used axis, but the motion control parameter settings of the axis are not cor- rect. The power supply was inter- rupted while a download of the motion control parameter set- tings was in progress. The non-volatile memory is faulty or the life of the non-vol- atile memory has been ex- ceeded. 			0			page 3-631

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
57210000 hex (Version 1.04 or later)	Required Process Da- ta Object Not Set When Changing Axis Use	The objects that are required for the axis type of the axis that was changed to a used axis are not set.	 The objects that are required for the axis type of the axis that was changed to a used axis are not set in the PDO map settings. The power supply was interrupted while a download of the motion control parameter settings was in progress. The non-volatile memory is faulty or the life of the non-volatile memory has been exceeded. The MC_ChangeAxisUse (Change Axis Use) instruction was executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis). 			0			page 3-632
572F0000 hex (Ver. 1.06 or later)	Motion Con- trol Instruc- tion Multi-ex- ecution Dis- abled (Mas- ter Axis)	A <i>Master</i> in-out varia- ble that cannot be changed during multi- execution of instruc- tions was changed.	 A <i>Master</i> in-out variable that cannot be changed during mul- tiexecution of instructions was changed. 			0			page 3-633
57300000 hex (Ver. 1.06 or later)	Motion Con- trol Instruc- tion Multi-ex- ecution Dis- abled (Posi- tion Type Selection)	A ReferenceType in- out variable that can- not be changed dur- ing multi-execution of instructions was changed.	 A ReferenceType in-out varia- ble that cannot be changed during multi-execution of in- structions was changed. 			0			page 3-633
573A0000 hex (Ver. 1.08 or later)	Cannot Write Axis Param- eters	The instruction was executed for an axis that is not an unused axis.	 The instruction was executed for a used axis or an undefined axis. 			0			page 3-634
573B0000 hex (Ver. 1.08 or later)	Axis Param- eter Setting Out of Range	The parameter speci- fied for the <i>AxisParameter</i> input variable to a motion control instruction is outside of the valid range.	 The parameter specified for the AxisParameter input varia- ble to the instruction is out of range for the input variable. 			0			page 3-635
573C0000 hex (Ver. 1.08 or later)	Cam Proper- ty Setting Out of Range	The parameter speci- fied for the <i>CamProperty</i> input variable to a motion control instruction is outside of the valid range.	• The parameter specified for the <i>CamProperty</i> input variable to the instruction is out of range for the input variable.			0			page 3-637

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Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
573D0000 hex (Ver. 1.08 or later)	Cam Node Setting Out of Range	The parameter speci- fied for the <i>CamNodes</i> input vari- able to a motion con- trol instruction is out- side of the valid range.	the to th	parameter specified for <i>CamNodes</i> input variable ne instruction is out of ge for the input variable.			0			page 3-637
573E0000 hex (Ver. 1.08 or later)	Incorrect Cam Node Type Specifi- cation	The parameter speci- fied for the <i>CamNodes</i> input vari- able to a motion con- trol instruction is not an _sMC_CAM_NODE array variable.	The parameter specified for the <i>CamNodes</i> input variable to the instruction is not an _sMC_CAM_NODE array vari- able.				0			page 3-638
573F0000 hex (Ver. 1.08 or later)	Insufficient Nodes in Cam Table	The array variable of the parameter speci- fied for the <i>CamNodes</i> input vari- able to a motion con- trol instruction has a <i>Phase</i> value of 0 for element number 0.	ram <i>Can</i> the (ma	array variable of the pa- eter specified for <i>nNodes</i> input variable to instruction has a <i>Phase</i> ster axis phase) value of 0 element number 0.			0			page 3-638
57400000 hex (Ver. 1.08 or later)	Cam Node Master Axis Phase Not in Ascending Order	The values of <i>Phase</i> in the array variable of the parameter specified for the <i>CamNodes</i> input vari- able to a motion con- trol instruction are not in ascending order according to the ele- ment numbers.	axis ble for t ble asc the catin fect cau	values of <i>Phase</i> (master phase) in the array varia- of the parameter specified the <i>CamNodes</i> input varia- to the instruction are not in ending order according to element numbers. Or, trun- ng the digits that are not ef- ive more than seven digits sed the phases not to be in ending order.			0			page 3-639
57410000 hex (Ver. 1.08 or later)	Too Many Data Points in Cam Ta- ble	The number of gener- ated cam data points exceeded the number of elements in the ar- ray in the cam data variable that is speci- fied for the <i>CamTable</i> input variable to a motion control in- struction.	 ascending order. The number of cam data points in the generated cam ta- ble exceeded the number of el- ements in the array in the cam data variable that is specified for the <i>CamTable</i> input varia- ble to the instruction. 				0			page 3-640
57420000 hex (Ver. 1.08 or later)	Cam Table Displace- ment Over- flow	<i>Distance</i> in the gen- erated cam table ex- ceeded the range of REAL data.	tabl	<i>ance</i> in the generated cam e exceeded the range of AL data.			0			page 3-641

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
57430000 hex (Ver. 1.08 or later)	Aborted Cam Table Used	A cam data variable that was aborted dur- ing generation was specified for the <i>CamTable</i> input varia- ble to an instruction.	 A cam data variable that was aborted during generation due to an error in the MC_Genera- teCamTable (Generate Cam Table) instruction was speci- fied for the <i>CamTable</i> input variable to the instruction. 			0			page 3-642
57490000 hex (Ver. 1.10 or later)	Execution ID Setting Out of Range	The parameter speci- fied for the <i>ExecID</i> in- put variable to a mo- tion control instruction is out of range.	• The parameter specified for the <i>ExecID</i> input variable to the instruction is out of range for the input variable.			0			page 3-642
574A0000 hex (Ver. 1.10 or later)	Position Off- set Out of Range	The parameter speci- fied for the <i>OffsetPosition</i> input variable to a motion control instruction is out of range.	 The position offset exceeded the range of signed 40-bit data when it was converted to puls- es. 			0			page 3-643
574B0000 hex (Ver. 1.10 or later)	PDS State Transition Command Selection Out of Range	The parameter speci- fied for the <i>TransitionCmd</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			page 3-643
574C0000 hex (Ver. 1.13 or later)	Single-axis Position Control Axis Motion Con- trol Instruc- tion Execu- tion Disabled	An operation instruc- tion was executed for a single-axis position control axis.	An operation instruction was exe- cuted for a single-axis position control axis.			0			page 3-644
57510000 hex (Ver. 1.32 or later) [NX102] (Ver. 1.21 or later) [NX701-□ 00, NX1P2, NJ501 (excluding NJ501-□ 20), NJ301, NJ101-□ 00]	Cam Monitor Mode Selec- tion Out of Range	The cam monitor mode selection speci- fied for the <i>CamMonitorMode</i> in- put variable to a mo- tion control instruction is out of range.	 The cam monitor mode selec- tion is out of the valid range. 			0			page 3-644
57520000 hex (Ver. 1.32 or later) [NX102] (Ver. 1.21 or later) [NX701-□00, NX1P2, NJ501 (excluding NJ501-□20), NJ301, NJ101-□00]	Data Type of Cam Monitor Values Mis- match	The data type of the cam monitor values specified for the <i>CamMonitorValue</i> inout variable to a motion control instruction does not match the cam monitor mode selection.	The data type of the variable specified for the cam monitor values does not match the cam monitor mode selection.			0			page 3-645

3 Error Descriptions and Corrections

						Leve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64400000 hex	Target Posi- tion Positive Software Limit Ex- ceeded	The specified position exceeds the positive software limit.	 The parameter specified for the <i>Position</i> input variable to the instruction is beyond the positive software limit. The starting position is beyond the positive software limit and an instruction that specifies motion in the opposite direc- tion of the software limit was executed. The parameter that was speci- fied for the <i>AuxPoint</i> input vari- able to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the positive software limit. 			0			page 3-646
64410000 hex	Target Posi- tion Nega- tive Software Limit Ex- ceeded	The specified position exceeds the negative software limit.	 The parameter specified for the <i>Position</i> input variable to the instruction is beyond the negative software limit. The first position is beyond the negative software limit and an instruction that specifies mo- tion in the opposite direction of the software limit was execut- ed. The parameter that was speci- fied for the <i>AuxPoint</i> input vari- able to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the negative software limit. 			0			page 3-647
64420000 hex	Command Position Overflow/ Underflow	Positioning, an in- struction in the under- flow/overflow direc- tion, or an instruction for which the direction is not specified was executed when there was an underflow/ overflow in the com- mand position.	 One of the following was exe- cuted when there was a com- mand position overflow/under- flow. A positioning instruction A continuous control instruc- tion in the underflow/overflow direction An instruction for which the di- rection is not specified (sync- ing or torque control) 			0			page 3-648

							_eve	el		
Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64430000 hex	Positive Lim- it Input	An instruction was executed for a motion in the positive direc- tion when the positive limit input was ON.	•	An instruction for a motion in the positive direction was exe- cuted when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit input was ON. An axes group mo- tion control instruction was executed when the positive limit input was ON.			0			page 3-649
64440000 hex	Negative Limit Input	An instruction for a motion in the nega- tive direction was executed when the negative limit input was ON.	•	An instruction for a motion in the negative direction was exe- cuted when the negative limit input was ON, or an instruction for a motion with no direction specification was executed when the negative limit input was ON. An axes group mo- tion control instruction was executed when the negative limit input was ON.			0			page 3-650
74220000 hex	Servo Main Circuits OFF	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive was OFF.	•	An attempt was made to turn ON the Servo when the main circuit power supply to the Ser- vo Drive was OFF.			0			page 3-650
57220000 hex (Ver. 1.06 or later)	Actual Posi- tion Over- flow/Under- flow	An instruction was executed that is not supported during an actual position over- flow/underflow.	•	An instruction was executed that is not supported during an actual position overflow or un- derflow.				0		page 3-651
57230000 hex (Ver. 1.06 or later)	Switch Structure Track Num- ber Setting Out of Range	The value of <i>TrackNumber</i> that is specified in the <i>Switches</i> in-out varia- ble to a motion con- trol instruction is out of range.	•	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-651
57240000 hex (Ver. 1.06 or later)	Switch Structure First ON Po- sition Setting Out of Range	The value of <i>FirstOnPosition</i> that is specified in the <i>Switches</i> in-out varia- ble to a motion con- trol instruction is out of range.	•	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-652

					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
57250000 hex (Ver. 1.06 or later)	Switch Structure Last ON Po- sition Setting Out of Range	The value of LastOnPosition that is specified in the Switches in-out varia- ble to a motion con- trol instruction is out of range.	 The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range. 				0		page 3-652
57260000 hex (Ver. 1.06 or later)	Switch Structure Axis Direc- tion Out of Range	The value of AxisDirection that is specified in the Switches in-out varia- ble to a motion con- trol instruction is out of range.	• The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-653
57270000 hex (Ver. 1.06 or later)	Switch Structure Cam Switch Mode Out of Range	The value of <i>CamSwitchMode</i> that is specified in the <i>Switches</i> in-out varia- ble to a motion con- trol instruction is out of range.	 The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range. 				0		page 3-653
57280000 hex (Ver. 1.06 or later)	Switch Structure Duration Setting Out of Range	The value of <i>Duration</i> that is specified in the <i>Switches</i> in-out varia- ble to a motion con- trol instruction is out of range.	• The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-654
57290000 hex (Ver. 1.06 or later)	Track Option Structure ON Com- pensation Setting Out of Range	The value of OnCompensation that is specified in the TrackOptions in-out variable to a motion control instruction is out of range.	 The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range. 				0		page 3-654
572A0000 hex (Ver. 1.06 or later)	Track Option Structure OFF Com- pensation Setting Out of Range	The value of OffCompensation that is specified in the TrackOptions in-out variable to a motion control instruction is out of range.	 The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range. 				0		page 3-655
572B0000 hex (Ver. 1.06 or later)	Number of Array Ele- ments in Switch Structure Variable Out of Range	The number of ele- ments in an array in the structure variable that is specified in the <i>Switches</i> in-out varia- ble to a motion con- trol instruction is out of range.	 The number of elements in an array of the structure variable that was specified for the in- out variable of the instruction is out of range. 				0		page 3-655

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
572C0000 hex (Ver. 1.06 or later)	Number of Array Ele- ments in Output Sig- nal Structure Variable Out of Range	The number of ele- ments in an array in the structure variable that is specified in the <i>Outputs</i> in-out varia- ble to a motion con- trol instruction is out of range.	 The number of elements in an array of the structure variable that was specified for the in- out variable of the instruction is out of range. 				0		page 3-656
572D0000 hex (Ver. 1.06 or later)	Number of Array Ele- ments in Track Option Structure Variable Out of Range	The number of ele- ments in an array in the structure variable that is specified in the <i>TrackOptions</i> in-out variable to a motion control instruction is out of range.	 The number of elements in an array of the structure variable that was specified for the in- out variable of the instruction is out of range. 				0		page 3-656
572E0000 hex (Ver. 1.06 or later)	Numbers of Elements in Output Sig- nals and Track Option Arrays Not Matched	The arrays in the structure variables that are specified for the <i>Outputs</i> and <i>TrackOptions</i> in-out variables to a motion control instruction do not have the same number of elements.	 The arrays in the output signal structure variable and track op- tion structure variable that are specified for the in-out varia- bles to the instruction do not have the same number of ele- ments. 				0		page 3-657
57310000 hex (Ver. 1.06 or later)	Same Track Number Set- ting in Switch Structure Out of Range	The same track num- ber was specified more than the allowa- ble number of times for the <i>TrackNumber</i> in the <i>Switches</i> in-out variable to a motion control instruction.	• The same track number was specified more than the allow- able number of times for the <i>TrackNumber</i> in the Switches in-out variable to a motion con- trol instruction.				0		page 3-657

3-6-2 Error Descriptions

General Motion Control



Version Information

For an NX-series CPU Unit, a variable name that starts with _MC_AX[*] may start with _MC1_AX[*] or _MC2_AX[*] instead. Similarly, a variable name that starts with _MC_GRP[*] may start with _MC1_GRP[*] or _MC2_GRP[*] instead.

Event name	Motion Control Fu	Inction Processing	Error	Event code	44210000 hex			
Meaning	A fatal error was	detected in the Mot	ion Control Functio	n Module.				
Source	PLC Function Mo	dule	Source details	MC Common	Detection tim- ing	Continuously		
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Stops.	Operation	It will not be poss Controller will sto	ble to perform axis control. The			
System-de-	Vari	able	Data type		Name			
fined variables	None							
Cause and cor-	Assume	ed cause	Corre	ection	Preve	ention		
rection	An error occurred	in the software.	Contact your OM tive.	RON representa-	None			
	Attached informat	ion 1: System infor	mation		·			
Attached infor-	Attached informat	ion 2: System infor	mation					
mation	Attached informat	ion 3: System infor	mation					
	Attached informat	ion 4: System infor	mation					
Precautions/	None							
Remarks								

Event name	Absolute Encode	r Home Offset Read	d Error	Event code	14600000 hex		
Meaning	The absolute end	oder current positio	on that is retained d	luring power interru	ptions was lost.		
Source	Motion Control Fi	unction Module	Source details	MC Common	Detection tim- ing	At power ON, at Controller reset, or when down- loading	
Error attributes	Level	Partial fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis control.		
System-de-	Var	iable	Data	type	Na	ime	
fined variables	_MC_COM.PFau	ItLvI.Active	BOOL		MC Common Pai rence	tial Fault Occur-	
	Assume	ed cause	Correction		Preve	ention	
Cause and cor- rection	When the retaine backed up with a indicates that the in the CPU Unit h An error occurred Backup memory	battery, this event life of the battery las expired.	Replace the Batte Unit, reset the err homing to define	ts, replace the he error, and per-	Unit. For the Battery lif series CPU Unit	battery, periodi- battery in the CPU e, refer to the <i>NX-</i> <i>Hardware User's</i> <i>W535)</i> or the <i>NJ-</i> <i>Hardware User's</i>	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control Pa	arameter Setting Er	ror	Event code	14610000 hex		
Meaning	The MC parameters is assigned to the		l in non-volatile me	mory are missing. (Or, an unsupported	EtherCAT slave	
Source	Motion Control Fu	unction Module	Source details	MC Common	Detection tim- ing	At power ON, at Controller reset, or when down- loading	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis	s control.	
System-de-	Vari	able	Data	type	Na	ame	
fined variables	_MC_COM.PFau	ItLvI.Active	BOOL		MC Common Par rence	rtial Fault Occur-	
	Assume	ed cause	Corre	ection	Prevention		
	with the Sysmac connected while of motion control pa or clearing memo	r communications Studio were dis- downloading the rameter settings ry.	the Sysmac Studi	-		the power supply essing for the pa-	
Cause and cor- rection	An unsupported E assigned to the a		 Cancel axis assignment of the un- supported EtherCAT slave on Sys- mac Studio and download the set- tings. 		None		
	Non-volatile mem	ory failure	If the error occurs above correction non-volatile mem- ter you replace th download all setti Axis Settings from dio.	is performed, ory has failed. Af- e CPU Unit,	None		
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						

Event name	Cam Data Read I	Error		Event code	14620000 hex			
Meaning	The cam data tha	t was saved in non	-volatile memory is	missing.				
Source	Motion Control Fu	Inction Module	Source details	MC Common	Detection tim- ing	At power ON, at Controller reset, or when down- loading		
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis	control.		
System do	Vari	able	Data	type	Na	me		
System-de- fined variables	_MC_COM.PFau	ltLvI.Active	BOOL		MC Common Partial Fault Occ rence			
	Assume	ed cause	Correction		Preve	ention		
	Power was interru	upted during save	Download the car	n data from the	Do not turn OFF the power supply			
	processing for ca	m data	Sysmac Studio.		during save proce data.	essing for the cam		
Cause and cor-	Non-volatile mem	ory failure	If the error occurs	even after the	None			
rection			above correction	is performed,				
1000001			non-volatile mem	ory has failed. Af-				
			ter you replace th					
			download all setti	•				
			Axis Settings fron dio.	n the Sysmac Stu-				
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Required Process	s Data Object Not S	Set	Event code	34600000 hex	
Meaning	The object that is	required for the ax	is type is not alloca	ted to PDO.		
Source	Motion Control Fu	unction Module	Source details	MC Common	Detection tim- ing	At power ON, at Controller reset, or when down- loading
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis	s control.
System-de-	Vari	able	Data	type	Na	ame
fined variables	_MC_COM.PFau	ItLvI.Active	BOOL		MC Common Pai rence	rtial Fault Occur-
	Assume	ed cause	Corre	ection	Prev	ention
Cause and cor- rection	The required PDC ped when the axis servo axis or enco non-volatile mem	s type is set to a oder axis.	the appendices control user's r When using the EtherCAT Cou NX Unit I/O Da	t axis type. scription of the Drive Settings in s of the motion nanual. e NX-series pler Unit, set the ta Active Status of the EtherCAT	for the axis typ Refer to the de relevant Servo the appendice control user's i When using th EtherCAT Cou NX Unit I/O Da	manual.
			above correction non-volatile mem- ter you replace th download all setti Axis Parameter S Sysmac Studio.	is performed, ory has failed. Af- e CPU Unit, ngs including the		
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Axis Slave Disab	led		Event code	34630000 hex					
Meaning	The slave to whic	h the axis is assig	ned is disabled.							
Source	Motion Control Fi	unction Module	Source details	MC Common	Detection tim- ing	At power ON, at Controller reset, or when down- loading				
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System				
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis control.					
System-de-	Var	iable	Data type		Name			Name		
fined variables	_MC_COM.PFau	ltLvI.Active	BOOL		MC Common Par	rtial Fault Occur-				
					rence					
	Assume	ed cause	Correction		Preve	ention				
	The slave to whic	h the axis is as-	Enable the slave	to which the axis	Enable the slave	s to which axes				
Cause and cor-	signed is disabled	d.	is assigned in the	e EtherCAT set-	are assigned in th	ne EtherCAT set-				
rection			tings.		tings.					
			If there is no slav	e, set the axis	If there are no sla	aves, set the axis				
			type to a virtual	axis.	type to a virtual	0				
					an axis in the pro	gram.				
Attached infor-	None									
mation										
Precautions/	None									
Remarks										

Event name	Network Configur Slave	ation Information N	lissing for Axis	Event code	34640000 hex	
Meaning	The network conf	iguration informatio	on is not registered	for the slave to whi	ch the axis is assig	ined.
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At power ON, at Controller reset, when download- ing, when start- ing Servo ON status, or when changing an un- used axis to a used axis
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis	control.
System-de-	Vari	Variable		Data type		ime
fined variables	_MC_COM.PFau	ltLvl.Active	BOOL		MC Common Partial Fault Occur- rence	
	Assume	ed cause	Corre	ection	Preve	ention
Cause and cor- rection	The EtherCAT network configura- tion information is not registered for the slave to which the axis is as- signed.		Register the EtherCAT network configuration information for the slave to which the axis is assigned. Or, set the axis type to a virtual axis .		Register the network configuration information for the slaves to which axes are assigned.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Motion Control In	itialization Error		Event code	44200000 hex		
Meaning	A fatal error occu	rred in the system a	and prevented initia	lization of the Moti	on Control Functior	n Module.	
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At power ON, at Controller reset, or when down- loading	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Continues.	Operation		It will not be possible to perform axis control. It will not be possible to execute motion control instructions.		
Custom de	Variable		Data type		Name		
System-de- fined variables	_MC_COM.PFau	ltLvl.Active	BOOL		MC Common Partial Fault Occur- rence		
Cause and cor-	Assume	ed cause	Corre	ection	Prevention		
rection	Hardware has fail	ed.	Replace the CPU	Unit.	None		
Attached infor- mation	Attached informat	Attached information 1: System information					
Precautions/ Remarks	None						

Event name	Motion Control Period Exceeded			Event code	74200000 hex	
Meaning	Processing for the	e primary periodic t	ask was not finishe	d within two contro	l periods.	
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	Continuously
Error attributes	Level	Partial fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not p stop immediately.	oossible for all axes	Axes in motion
System do	Vari	able	Data	type	Na	me
System-de- fined variables	_MC_COM.PFau	ItLvI.Active	BOOL		MC Common Partial Fault Occur- rence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The processing load in the primary periodic task is too heavy.		Reduce the amount of processing in the primary periodic task or set the control period to a value that is long enough not to cause opera- tion problems. Check the task period in the Task Period Monitor of the Sysmac Stu- dio.		Write the programs for the primary periodic task so that they perform only the processes required in the specified period. Or, set the period of the primary periodic task to be long enough to complete all re- quired processing.	
Attached infor-	None					
mation						
Precautions/ Remarks	None					

Event name	Cam Table Save	Error		Event code	14630000 hex		
Meaning	Saving a cam tab	le to a file failed.			•		
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset or cycling power supply	Log category	System	
Effects	User program	Continues.	Operation	· · ·	ccur when you read a cam table be- ata in non-volatile memory may be		
Sustam da	Variable		Data type		Name		
System-de- fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence		
	Assume	ed cause	Corre	ection	Prevention		
Cause and cor- rection	Saving a cam tab	le to a file failed.	Save the file agai still occurs, non-v has failed. Replac	olatile memory	None		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Cam Table Data	Error during Cam N	lotion	Event code	54770000 hex	
Meaning	The phases are n	ot in ascending orc	ler in the cam table).		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		oossible for relevan to a stop if it is in m	
System-de-	Vari	able	Data	type	Na	ime
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Correction		Prevention	
	Data containing cam table phases that are not in ascending order was detected during cam motion.		Correct the cam table data so that the phases are in ascending order.		Place the phase data into ascend- ing order in the cam table data.	
Cause and cor- rection	The phase and displacement of the start point in the cam table were not 0 during cam operation.		Correct the cam table data so that the phase and displacement of the start point are 0.		Set the cam table data so that the phase and displacement of the start point are 0.	
	The phase of the end point in the cam table when converted to puls- es was not 1 pulse or greater dur- ing cam operation.		Correct the cam table data so that the phase of the end point is 1 pulse or greater when it is convert- ed to pulses.		Set the cam table data so that the phase of the end point is 1 pulse or greater when it is converted to pulses.	
Attached infor- mation	None				1 -	
Precautions/ Remarks	None					

Event name	Immediate Stop I	nstruction Executed	t	Event code	54850000 hex	
Meaning	An Immediate Sto	p (MC_Immediate	Stop) instruction wa	as executed.		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	An immediate stop is performed according to the Stop Mode that is set in the <i>StopMode</i> input variable to the MC_ImmediateStop instruction. If the axis is part of an axes group in motion, all other axes will act according to the Axes Group Stop Mode Selection .		
System-de-	Vari	able	Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assume	ed cause	Correction		Preve	ention
rection	An Immediate Sto executed.	op instruction was				
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Axes Group Imm	ediate Stop Instruct	tion Executed	Event code	54860000 hex	
Meaning	An Axes Group Ir	nmediate Stop (MC	C_GroupImmediate	Stop) instruction wa	as executed.	
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation An immediate stop is performed for all axes in es group according to the Immediate Stop Inp Stop Method axis parameter.			
System do	Variable		Data type		Name	
System-de- fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
0	Assume	ed cause	Correction		Prevention	
Cause and cor- rection	A Group Immediate Stop instruc- tion was executed.					
Attached infor-	None		1			
mation						
Precautions/	None					
Remarks						

Event name	Positive Software	Limit Exceeded		Event code	64450000 hex	
Meaning	The position exce	eded the positive s	oftware limit while	the axis is in motio	n.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Follows the setting of the Software Limit Function Selection.		Limit Function
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The position exceeded the positive software limit.		Find the reason that the software limit was exceeded and make suit- able corrections.		(The goal is to enable detecting the software limits when they are ex- ceeded due to unanticipated caus- es. Preventative measures are not required.)	
Attached infor- mation	None					
Precautions/ Remarks	Whenever you ch	ange the positive s	oftware limit setting	g, make sure that tl	ne new setting is sa	afe.

Event name	Negative Software Limit Exceeded			Event code	64460000 hex	
Meaning	The position exce	eded the negative	software limit while	the axis is in motio	on.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation Follows the setting of the Sof Selection.		g of the Software I	Limit Function
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The position exceeded the nega- tive software limit.		Find the reason that the software limit was exceeded and make suit- able corrections.		(The goal is to enable detecting the software limits when they are ex- ceeded due to unanticipated caus- es. Preventative measures are not required.)	
Attached infor- mation	None					
Precautions/ Remarks	Whenever you ch	ange the negative	software limit settin	ig, make sure that t	he new setting is s	afe.

Event name	In-position Check	Time Exceeded		Event code	64470000 hex	
Meaning	The in-position cl	neck was not comp	leted within the mo	nitoring time.		
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	peration Operation is not possible for relevant axis. Release axis decelerates to a stop if it is in motion.		
System-de-	Var	iable	Data	type	Na	ame
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault Occurrence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	Time is required to complete posi- tioning.		Determine the ca positioning and re of the error. Or, a Drive or adjust the Check Time or In Increase the loop the Servo Drive. I sure that you kee low enough so the does not oscillate	emove the cause djust the Servo e In-position -position Range. gain if you adjust However, make p the loop gain at the control	Remove the caus ing performance vibration in the po tion as much as p	or oscillation/ ositioning opera-
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Following Error L	mit Exceeded		Event code	64480000 hex		
Meaning	The error betwee Value.	The error between the command current position and actual current value exceeded the Following Error Over Value.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible fo axis decelerates to a stop if			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Corre	Correction		ention	
Cause and cor- rection	The positioning operation has poor following performance and the ac- tual motion is slower than the com- mand.		Remove the cause of poor follow- ing performance in the positioning operation. Or increase the Following Error		Remove the cause of poor follow- ing performance in the positioning operation as best you can.		
			Over Value within the range that will not create problems.				
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Immediate Stop I	nput		Event code	64490000 hex	
Meaning	The immediate st	op input turned ON	l.		•	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	According to the I Method .	mmediate Stop Ir	put Stop
System-de-	Var	able	Data	type	Na	ime
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Correction		Prevention	
Cause and cor- rection			Turn OFF the immediate stop input signal. If the error occurs even when the immediate stop input signal is OFF, correct the immediate stop signal connection and logic setting for the immediate stop input. Check the logic settings both in the axis parameters and in the slave		 (The goal is to detect the immediate stop input. Preventative measures are not required.) Make sure that the immediate stop signal connection and logic setting for the immediate stop input are correct. Check the logic settings both in the axis parameters and in the slave settings. 	
Attached infor- mation Precautions/	None You must turn OF	F the immediate st	op input signal befo	pre you reset the er	ror.	
Remarks						

Event name	Positive Limit Input Detected Event code 644A0000 he					
Meaning	The positive limit			Lycin couc		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	According to the I	Limit Input Stop N	lethod.
System-de-	Vari	able	Data	type	Na	me
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assume	ed cause	Corre	ection	Preve	ention
Cause and cor- rection	A positive limit input signal was de- tected.		Reset the error and move the axis back in the negative direction be- fore it exceeds the limit in the posi- tive direction. If the error occurred during an axes group motion in- struction, disable the axes group and then perform the above opera- tion. Find the reason the limit was ex- ceeded and make suitable correc- tions.		The goal is to detect the positive limit input. Preventative measures are not required. However, be sure not to exceed the positive limit in- put when making programs.	
	The positive limit input signal is not connected correctly or the logic setting for the positive limit input is wrong.		If a positive limit input signal does not occur, correct the connection of the positive limit signal and the log- ic setting for the positive limit input. Check the logic settings both in the axis parameters and in the slave settings.		for the positive limit input are cor- rect.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Negative Limit Input Detected Even			Event code	644B0000 hex	
Meaning	The negative limi	t input turned ON.				
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	According to the I	Limit Input Stop N	lethod.
System-de-	Vari	iable	Data	type	Na	ime
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assume	ed cause	Corre	ection	Preve	ention
Cause and cor- rection	detected.		fore it exceeds the limit in the neg- ative direction. If the error occurred n		limit input. Preventative measures are not required. However, be sure not to exceed the negative limit in- put when making programs.	
	The negative limit input signal is not connected correctly or the logic setting for the negative limit input is wrong.		If a negative limit input signal does not occur, correct the connection of the negative limit signal and the logic setting for the negative limit input. Check the logic settings both in the axis parameters and in the slave settings.		for the negative limit input are cor- rect. Check the logic settings both in the	
Attached infor- mation	None				1	
Precautions/ Remarks	None					

Event name	Illegal Following E	Error		Event code	64560000 hex			
Meaning		The difference between the command position and the actual current position exceeds the range of 30-bit data when converted to pulses.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously		
Error attributes	Level Minor fault		Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.			
System-de-	Variable		Data	type	Na	ame		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	s Minor Fault Occurrence		
	Assumed cause		Correction		Prevention			
Cause and cor- rection	The command current position was restricted so that the axis velocity would not exceed the axis maxi- mum velocity for the specified trav- el distance.		Correct the program or correct the electronic gear ratio so that the ax- is does not exceed the maximum velocity.		Write the program or set the elec- tronic gear ratio so that the axis does not exceed the maximum ve- locity.			
	Performance of positioning opera- tion is poor and the actual motion is slower than the command.		Remove the cause of poor follow- ing performance in the positioning operation.		Remove the cause of poor follow- ing performance in the positioning operation as best you can.			
Attached infor-	None							
mation								
Precautions/	None							
Remarks								

Event name	Servo OFF Error			Event code	64570000 hex		
Meaning	The Servo was turned OFF for an axis due to an axes group error.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.		
System-de-	Variable		Data	type	vpe Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Servo was turned OFF for an		Find the cause of the error and		None		
	axis due to an axes group error.		take suitable measures.				
Attached infor-	None						
mation							
	This error occurs	for axes for which t	the Servos are turn	ed OFF for an axes	s group error to inte	erlock the axes so	
Precautions/	that the Servos ca	that the Servos cannot be turned ON with the MC_Power (Power Servo) instruction.					
Remarks	This error occurs	only when an imme	ediate stop of the c	ommand value and	turning OFF Serve	o at same time	
	(free-run stop) is s	specified for the Ax	es Group Stop M	ethod Selection.			

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Event name	Absolute Encoder	Current Position C	Calculation Failed	Event code	64580000 hex		
Meaning	-	e to correctly restor er was interrupted.	re the current positi	on from the absolu	ite encoder informa	ition that was	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At power ON, at Controller reset, when download- ing, when start- ing Servo ON status, or when changing an un- used axis to a used axis	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not p	oossible for relevan	it axis.	
System-de-	Vari	able	Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assume	d cause	Correction		Prevention		
rection	 The unit conversion settings, the ring counter setting in the Controller, or the ring counter setting in the Servo Drive settings was changed. The position to restore when converted to pulses exceeded the range of signed 40-bit data. 		Reset the error ar ing. Perform hom tion where the ab set up so that the store does not ex signed 40-bit data	ing near the posi- solute encoder is position to re- ceed the range of	 changed any parameters relation position, such as the modulo mum position setting value. F 		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Home Undefined	during Coordinated	d Motion	Event code	64590000 hex	
Meaning	Home of the logic	al axis became un	defined during axes	group motion or w	hile decelerating to	o a stop.
Source	Motion Control Fu	Inction Module	Source details	Axes group	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axes group d	ecelerates to a sto	p.
Quetem de	Vari	able	Data	type	Na	ime
System-de- fined variables	MC GRPI*1 MEaulth vI Active		BOOL		Axes Group Minc rence	r Fault Occur-
	Assume	d cause	Corre	ection	Prev	ention
	The command position or actual position overflowed or underflowed for a logical axis in an axes group motion or a logical axis that was decelerating to a stop and the home definition was lost.		Correct the program so that the ax- is operates within ranges that do not cause overflows or underflows in the command position or actual position.		Write the program so that the axis operates within ranges that do not cause overflows or underflows in the command position or actual po- sition.	
Cause and cor- rection	A slave communications error oc- curred for a logical axis and home became undefined during axes group motion or while decelerating to a stop.		Correct the slave communications error and define home.		None	
	A slave for a logical axis left the network or was disabled and home became undefined during axes group motion or while decelerating to a stop.		Connect the disconnected or disa- bled slave to the network again and define home.		Do not disconnect or disable the slave of a logical axis during axes group motion or while decelerating to a stop.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Servo Main Circuit Power OFF			Event code	74210000 hex	
Meaning	The main circuit p	ower of the Servo	Drive turned OFF v	vhile the Servo was	ON.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Whenever Ser- vo is ON
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program Continues.		Operation	The Servo for the	axis turns OFF.	
System-de-	Variable		Data	type	pe Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The main circuit power of the Ser- vo Drive was interrupted while the Servo was ON.		Turn ON the main circuit power of the Servo Drive for the axis where the error occurred, reset the error, and then turn ON the Servo.		Turn OFF the Servo, then turn OFF the main circuit power of the Servo Drive.	
Attached infor-	None					
mation						
Precautions/ Remarks	None					

Event name	Interrupt Feeding Interrupt Signal Missing Event code			74230000 hex		
Meaning	An interrupt input	was not received of	during execution of	an MC_MoveFeed	(Interrupt Feeding) instruction.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axis decelera	ites to a stop.	
System-de-	Vari	able	Data	type	Na	ime
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assume	ed cause	Corre	ection	Preve	ention
	The latch enabled range specifica- tion is invalid.		If an invalid latch enabled range is specified to the instruction, correct it.		Specify a correct latch enabled range based on the relationship between the motion and sensor po- sition.	
Cause and cor- rection	There is a problem with the wiring of the interrupt signal.		Correct any problems with the wir- ing for the interrupt signal for the instruction.		Make sure that the wiring of the in- terrupt signal is correct.	
	The sensor that outputs the inter- rupt signal has failed.		If neither of the two causes listed above are applicable, the sensor that outputs the interrupt signal has failed. Replace the sensor that out- puts the interrupt signal for the in- struction where this error occurred.		None	
Attached infor- mation	None				1	
Precautions/ Remarks	None					

Event name	Homing Opposite Direction Limit Input Detected Event code				74240000 hex	
Meaning	The limit signal in the direction opposite to the homing direction was detected during a homing operation.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axis stops wi execution status.	th the stop method	for the homing
System-de-	Vari	able	Data	type	Na	ime
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The Operation Selection at Nega- tive Limit Input or Operation Selec- tion at Positive Limit Input parame- ter is set to No reverse turn. The location of the homing input signal sensors, homing settings, and homing start position cause a limit input to be reached. The input signal sensor wiring is in- correct or the sensor is faulty.		To prevent errors at the limit inputs, set the Operation Selection at Neg- ative Limit Input and Operation Se- lection at Positive Limit Input pa- rameters to Reverse turn. Correct the location of the input signal sensors, homing settings, and homing start position so that a limit input is not reached. Correct the wiring of the input sig- nal sensor or replace the sensor.		Check to see if any of the condi- tions that are given as causes exist in advance.	
Attached infor- mation	None					
Precautions/ Remarks	None					
Event name	Homing Direction	Limit Input Detecte	ed	Event code	74250000 hex	
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Meaning	The limit signal in	the homing direction	on was detected d	uring a homing ope	ration.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axis stops wi execution status.	th the stop method	for the homing
System-de-	Vari	able	Data	a type	Na	ame
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Correction		Prevention	
	The Operation Selection at Nega-		To prevent errors at the limit inputs,		Check to see if any of the condi-	
	tive Limit Input or	tive Limit Input or Operation Selec-		Selection at Neg-	tions that are give	en as causes exist
	tion at Positive Li	mit Input parame-	ative Limit Input and Operation Se-		in advance.	
	ter is set to No re	verse turn.	lection at Positive Limit Input pa-			
Cause and cor-			rameters to Reve	erse turn.	_	
rection	The location of th	e homing input	Correct the locati	ion of the input		
	signal sensors, he	oming settings,	signal sensors, homing settings,			
	and homing start	position cause a	and homing start	and homing start position so that a		
	limit input to be re	eached.	limit input is not reached.			
	The input signal s	sensor wiring is in-	Correct the wiring of the input sig-			
	correct or the sen	isor is faulty.	nal sensor or rep	lace the sensor.		
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Homing Limit Inp	uts Detected in Bot	h Directions	Event code	74260000 hex	
Meaning	The limit signals i	n both directions w	ere detected durin	g a homing operatio	on.	
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axis stops wi execution status.	th the stop method	for the homing
System-de-	Var	iable	Data	a type	Na	ame
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Correction		Prevention	
	The wiring of the limit signal is in- correct.		Correct the wiring of the limit sig- nal.		Check to see if any of the condi- tions that are given as causes exist	
Cause and cor- rection	The limit sensor is installed in the wrong location.		Correct the installation locations of the limit sensors so that they do not turn ON at the same time.		in advance.	
	The contact logic is not correct.	The contact logic of the limit signal is not correct.		Correct the contact logic (N.C./ N.O.) of the limit signal.		
	The limit sensor f	ailed.	Replace the limit sensor.			
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

3-6-2 Error Descriptions

Event name	Home Proximity/H put Detected	loming Opposite D	irection Limit In-	Event code	74270000 hex	
Meaning		The home proximity input and the limit signal in the direction opposite to the homing direction were detected at the same time during a homing operation.				
Source	Motion Control Fu	Motion Control Function Module		Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axis stops wire execution status.	th the stop method	for the homing
System-de-	Vari	able	Data	type	Na	ime
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Correction		Prevention	
-	The wiring of the home proximity		Correct the wiring of the home		Check to see if any of the condi-	
	signal or limit signal is incorrect.		proximity signal o	r limit signal.	tions that are give	en as causes exist
	The home proximity sensor or limit		Correct the installation location of		in advance.	
	sensor is installed in the wrong lo-		the home proximity sensor or limit			
Cause and cor-	cation.		sensor so that they do not turn ON at the same time.			
rection						
	The contact logic		Correct the contact logic (N.C./			
		r limit signal is not	N.O.) of the home proximity sensor			
	correct.		or limit sensor.			
	The home proxim	ity sensor or limit		e proximity sensor		
	sensor failed.		or limit sensor.			
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Home Proximity/H ed	Homing Direction Li	mit Input Detect-	Event code	74280000 hex		
Meaning		The home proximity input and the limit signal in the homing direction were detected at the same time during a homing operation.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The axis stops wi execution status.	th the stop method	for the homing	
System-de-	Vari	able	Data	i type	Na	ame	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
	Assume	ed cause	Correction		Prevention		
	The wiring of the home proximity		Correct the wiring of the home		Check to see if any of the condi-		
	signal or limit sigr	ignal or limit signal is incorrect.		proximity signal or limit signal.		en as causes exist	
	The home proxim	ity sensor or limit	Correct the installation location of the home proximity sensor or limit sensor so that they do not turn ON at the same time.		in advance.		
	sensor is installed	in the wrong lo-					
Cause and cor-	cation.						
rection					-		
	The contact logic		Correct the conta	•			
	correct.	r limit signal is not	or limit sensor.	e proximity sensor			
		ity concor or limit		o provimity concor	-		
			or limit sensor.	Replace the home proximity sensor or limit sensor.			
Attached infor-	None		1				
mation							
Precautions/	None						
Remarks							

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3-6-2 Error Descriptions

Event name	Home Input/Hom Detected	ing Opposite Direct	ion Limit Input	Event code	74290000 hex		
Meaning		The home input and the limit signal in the direction opposite to the homing direction were detected at the same ime during a homing operation.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The axis stops wi execution status.	th the stop method	for the homing	
System-de-	Vari	able	Data	type	Na	ime	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
	Assumed cause		Correction		Prevention		
-	The wiring of the home input signal		Correct the wiring of the home in-		Check to see if any of the condi-		
	or limit signal is incorrect.		put signal or limit	signal.	tions that are give	en as causes exist	
	The home input sensor or limit sen-		Correct the installation location of		in advance.		
	sor is installed in the wrong loca-		the home input sensor or limit sen-				
Cause and cor-	tion.		sor so that they do not turn ON at the same time.				
rection					-		
		of the home input		Correct the contact logic (N.C./			
	signal or limit sigr	nal is not correct.	N.O.) of the home input signal or				
			limit sensor.		-		
	The home input s	•	1 · ·	e input signal out-			
	vice or limit sense	or failed.	put device or limit	t sensor.			
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Home Input/Hom	ing Direction Limit I	nput Detected	Event code	742A0000 hex	
Meaning	The home input a operation.	ind the limit signal i	n the homing direc	tion were detected	at the same time o	during a homing
Source	Motion Control Function Module Source details Axis		Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axis stops w execution status	ith the stop method	for the homing
System-de-	Vari	able	Data	type	N	ame
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Correction		Prevention	
	The wiring of the home input signal or limit signal is incorrect.		Correct the wiring of the home in- put signal or limit signal.		Check to see if any of the condi- tions that are given as causes exist	
	The home input sensor or limit sen-		Correct the installation location of		in advance.	
Cause and cor-	sor is installed in the wrong loca-		the home input sensor or limit sen-			
rection	tion.		sor so that they do not turn ON at the same time.			
	The contact logic	of the home input	Correct the contact logic (N.C./			
	signal or limit sigr	signal or limit signal is not correct.		N.O.) of the home input signal or limit sensor.		
		The home input signal output de- vice or limit sensor failed.		Replace the home input signal out- put device or limit sensor.		
Attached infor-	None					
mation						
Precautions/ Remarks	None					

Event name	Invalid Home Inp	ut Mask Distance		Event code	742B0000 hex		
Meaning	The setting of the struction.	home input mask	distance is not suita	able for the MC_Ho	me or MC_HomeV	VithParameter in-	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation The axis stops with the execution status.		th the stop method	for the homing	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assume	Assumed cause		ection	Prev	ention	
	The set value of t	The set value of the home input		input mask dis-	Check the operat	ing specifications	
	mask distance when the operating		tance, homing velocity, and homing		for the MC_Home or MC_Home-		
Cause and cor-	mode of the MC_Home instruction		approach velocity. Change the set-		WithParameter instruction, then set		
rection	is set to Proximity Reverse Turn/		tings so that they provide sufficient		the home input mask distance,		
	Home Input Mask	Home Input Mask Distance is in-		travel distance to decelerate based		homing velocity, and homing ap-	
	sufficient to decel	erate from the	on the operating specifications of		proach velocity so that they provide		
	homing velocity to	o the homing ap-	the MC_Home or MC_HomeWith-		sufficient travel distance to deceler-		
	proach velocity.		Parameter instruc	ction.	ate.		
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	No Home Input			Event code	742C0000 hex		
Meaning	There was no hor a home input.	me signal input dur	ing the homing ope	ration. Or, a limit si	gnal was detected	before there was	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program Continues. Operation The axis stops with execution status.		th the stop method	for the homing			
System-de-	Variable		Data	type	Na	ime	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assume	ed cause	Corre	Correction		ention	
Cause and cor- rection	 There was no home signal input during the homing operation. A limit signal was detected be- fore there was a home input. 		Check the home i wiring and correc home signal is in based on the ope tions of the MC_H MC_HomeWithPa tion. Also, set the syste home signal is de limit signals.	t them so that the but during homing ration specifica- dome or arameter instruc- em so that the	Set the system so signal is input due operation. Make sure that the detected before a Also check to ma no wiring problem input.	ring the homing he home signal is a limit signal. ke sure there are	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	No Home Proxim	ity Input		Event code	742D0000 hex	
Meaning	There was no hor	me proximity signal	input during the ho	oming operation.		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program Continues.		Operation	The axis stops wi execution status.	th the stop method	for the homing
System-de-	Variable		Data	type	Na	ame
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvI.Active BOOL			Axis Minor Fault Occurrence	
	Assumed cause		Correction		Prevention	
-	There was no home proximity sig-		Check the home proximity input		Set the system so that the home	
	nal input during the homing opera-		settings and wiring and correct		proximity signal is input during the	
Cause and cor-	tion when a home proximity input		them so that the home proximity		homing operation. Also check to	
rection	signal was specified.		signal is input during homing		make sure there are no wiring	
			based on the operation specifica-		problems with the home proximity	
			tions of the MC_Home or		input.	
			MC_HomeWithPa	arameter instruc-		
			tion.			
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Slave Error Deteo	ted		Event code	742F 0000 hex	
Meaning	An error was dete	ected for the Ether	CAT slave or NX Un	it that is allocated t	o an axis.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.	
System-de-	Variable		Data	type	Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
	Assume	ed cause	Corre	ection	Prevention	
Cause and cor- rection	An error was detected for the EtherCAT slave or NX Unit that is allocated to an axis.		Check the error at the slave and check the slave error code report- ed in Slave Error Code Report (94220000 hex) and perform the required corrections.		None	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Axes Group Com	position Axis Error		Event code	74300000 hex	
Meaning	An error occurred	for an axis in an a	xes group.		•	
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	If an immediate stop is performed for one of the corposition axes, operation will follow the setting of th Axes Group Stop Method Selection . Otherwise, an interpolated path stop is performed.		ne setting of the on.
Sustam da	Variable		Data type		Name	
System-de- fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Mino rence	r Fault Occur-
	Assume	ed cause	Corre	ection Prevention		ention
Cause and cor- rection		error occurred for an axis in an check the error construction. Check the error construction the axes group an cause of the error.		nd remove the	None	
Attached infor- mation	None					
Precautions/ Remarks	When an axis erro	or occurs, any axes	group that contain	s that axis will not	operate.	

Event name	MC Common Error Occurrence			Event code	74330000 hex		
Meaning	An MC common e	An MC common error occurred.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program Continues. Operation Operation is no		Operation is not p	ossible for relevan	t axis.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assume	ed cause	Correction		Prevention		
Cause and cor- rection	Partial fault level occurred.	MC common error	Check the MC common error that occurred and remove the cause of the error.		None		
Attached infor- mation	None	None					
Precautions/ Remarks	When a partial fa	ult level MC commo	on error occurs, the	axis and axis grou	p do not operate.		

Event name	Latch Position Overflow			Event code	74340000 hex		
Meaning	An overflow occu	rred for the latched	position for the MC	C_TouchProbe (Ena	able External Latch) instruction.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		ne axis decelerates to a stop. ne Enable External Latch instruction cannot retrieve e latch position.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Correction		Prevention		
Cause and cor- rection	An overflow occur ed position for the robe (Enable Exte struction.	MC_TouchP-	Correct the program so that the ax- is position does not overflow.		Write the progran position does not		
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Latch Position Underflow			Event code	74350000 hex		
Meaning	An underflow occ	urred for the latche	d position for the N	IC_TouchProbe (Er	nable External Latc	h) instruction.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		The axis decelerates to a stop. The Enable External Latch instruction cannot retrieve the latch position.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Correction		Prevention		
Cause and cor- rection	An underflow occurred for the latched position for the MC_TouchProbe (Enable External Latch) instruction.		Correct the progra is position does n	am so that the ax- ot underflow.	Write the program position does not		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Master Sync Dire	ction Error		Event code	74360000 hex		
Meaning	The master axis of	continued to move i	n the direction opp	osite to the sync di	rection.		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The axis deceleration	ites to a stop.		
System-de-	Variable		Data	type	Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Correction		Prevention		
Cause and cor- rection	The master axis of in the direction op sync direction of t slave axes, result flow.	he master and	movement directi tance of the mast	Correct the program so that the movement direction and travel dis- tance of the master axis are in the sync direction after the start of syn- chronization.		Write the program so that the movement direction and travel dis- tance of the master axis is the sync direction after the start of synchro- nization.	
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Slave Disconnect	ion during Servo O	N	Event code	74370000 hex		
Meaning	 One of the following occurred while the Servo was ON for the EtherCAT slave or NX Unit that is allocated to an axis. Disconnection or replacement Disablement Restart of the NX bus on the NX-series CPU Unit 						
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	Whenever Ser- vo is ON	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.	axis turns OFF.	
System-de-	Vari	Variable Data type		type	Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Corre	ection	Preve	ention	
	One of the following occurred while		Reconnect the EtherCAT slave or		Turn OFF the Ser	vo before you	
Cause and cor- rection	Cause and cor-		NX Unit that is allocated to the axis to the network.		EtherCAT slave o	or replacement	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Feed Distance Ov	verflow		Event code	74380000 hex			
Meaning		The target position after the interrupt input was received for the MC_MoveFeed (Interrupt Feeding) instruction overflowed or underflowed.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	The axis decelera	ites to a stop.			
System-de-	Variable		Data	type	Na	ame		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
	Assumed cause		Correction		Prevention			
	The target position after the inter-		Correct the input	value for the com-	Write the program	n correctly. The in-		
	rupt input was received for the		mand position in the program. The		put value for the command position			
Cause and cor-	MC_MoveFeed (Interrupt Feeding)		target value after the interrupt input		must not cause the target value af-			
rection	instruction exceeded the range of		is received must not exceed the		ter the interrupt input is received to			
reodon	signed 40-bit data	signed 40-bit data when converted		valid range for the number of puls-		exceed the valid range. The valid		
	to pulses.		es when it is converted to pulses.		range is signed 40-bit data for the			
					number of pulses when the target			
					value is converte	d to pulses.		
Attached infor-	None							
mation								
Precautions/	None							
Remarks								

Event name	Error in Changing	Servo Drive Contr	ol Mode	Event code	74390000 hex	
Meaning			completed within the	he specified time.		
Source	Motion Control Fu	nction Module	Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.	
System-de-	Vari	able	Data	type	Na	me
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assume	d cause	Corre	ection	Preve	ention
Cause and cor- rection	When the MC_SyncMoveVelocity		that an error does	Adjust the commands and load so that an error does not occur.		ands and load so
	Changing the Control Mode of the Servo Drive between CSP, CSV, and CST was not completed within one second after the command was executed.		the Servo Drive a tings are correct. lems that are four When changing th to perform control	changing the control mode orm control operations, set O map to reference posi- tions for CSP.		es and make sure are correct. ne control mode l operations, set
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Master Axis Posit	ion Read Error		Event code	743A0000 hex	
Meaning	-	l control instruction onized control instr	was not executed l ruction.	because an error o	ccurred in the posi	tion of the master
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At or during in- struction execu- tion
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		oossible for relevan ecelerates to a stop	
System-de-	Vari	able	Data	type	Na	ime
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assume	ed cause	Corre	ection	Preve	ention
Cause and cor- rection	cations are not established for the master axis of the synchronized control instruction or the I/O data of the NX Unit cannot be used for control.		Data Communica system-defined va EtherCAT master is is FALSE, inves the master axis an cause. If the master axis NX Unit, perform tion for the proces cating status of th	If the _EC_PDSIavTbl (Process Data Communicating Slave Table) system-defined variable for the EtherCAT master of the master ax- is is FALSE, investigate the error in the master axis and remove the cause. If the master axis is assigned to an NX Unit, perform the same correc- tion for the process data communi- cating status of the NX Unit.		nchronized control you turn ON the whoad data, or nunications error, re (Process Data Slave Table) sys- ble for the Ether- RUE for the node s before you exe- nized control in- is assigned to an the same correc- ss data communi- ne NX Unit.
	The slave of the master axis for the synchronized control instruction was disconnected or disabled.		Check the slave of the master axis and reconnect it if it was discon- nected or enable it if it was disa- bled.		Make sure that the slave of the master axis is not disconnected or disabled during execution of the synchronized control instruction.	
	An Absolute Encoder Current Posi- tion Calculation Failed error (64580000 hex) was detected for the master axis of the synchron- ized control instruction. The master axis for the synchron- ized control instruction is an un-		See if an Absolute Encoder Cur- rent Position Calculation Failed er- ror (64580000 hex) occurred for the master axis and make suitable corrections to restore operation. Set the master axis to a Used Axis.		Do not use an axis with an Abso- lute Encoder Current Position Cal- culation Failed error (64580000 hex) as the master axis in the synchronized control instruction. Do not change the master axis to an unused axis when executing	
Attached infor- mation	used axis. None				synchronized cor	trol instructions.
Precautions/ Remarks	None					

Event name	Auxiliary Axis Pos	sition Read Error		Event code	743B0000 hex	
Meaning	-	l control instruction nchronized control	was not executed instruction.	because an error c	occurred in the posi	tion of the auxili-
Source	Motion Control Fu	Motion Control Function Module		Axis	Detection tim- ing	At or during in- struction execu- tion
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		possible for relevan ecelerates to a stop	
System-de-	Vari	able	Data	type	Na	ime
fined variables	_MC_AX[*].MFau	ltLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assume	ed cause	Corre	ection	Preve	ention
Cause and cor- rection	EtherCAT process data communi- cations are not established for the auxiliary axis of the synchronized control instruction or the I/O data of the NX Unit cannot be used for control.		If the _EC_PDSIavTbl (Process Data Communicating Slave Table) system-defined variable for the EtherCAT master of the auxiliary axis is FALSE, investigate the error in the auxiliary axis and remove the cause. If the auxiliary axis is assigned to an NX Unit, perform the same cor- rection for the process data com- municating status of the NX Unit.		If you execute synchronized control instructions after you turn ON the power supply, download data, or reset slave communications error, make sure that the _EC_PDSlavTbl (Process Data Communicating Slave Table) sys- tem-defined variable for the Ether- CAT master is TRUE for the node of the auxiliary axis before you ex- ecute the synchronized control in- struction. If If the auxiliary axis is assigned to an NX Unit, perform the same cor- rection for the process data com-	
	The slave of the auxiliary axis for the synchronized control instruc- tion was disconnected or disabled.		Check the slave of the auxiliary ax- is and reconnect if it was discon- nected or enable it if it was disa- bled.		Make sure that the slave of the auxiliary axis is not disconnected or disabled during execution of the synchronized control instruction.	
	An Absolute Encoder Current Posi- tion Calculation Failed error (64580000 hex) was detected for the auxiliary axis of the synchron- ized control instruction.		See if an Absolute Encoder Cur- rent Position Calculation Failed er- ror (64580000 hex) occurred for the auxiliary axis and make suita- ble corrections to restore opera- tion.		Do not use an axis with a Absolute Encoder Current Position Calcula- tion Failed error (64580000 hex) as the auxiliary axis in a synchronized control instruction.	
	The auxiliary axis ized control instruused axis.	for the synchron- action is an un-	Set the auxiliary a is.	ixis to a Used Ax-	Do not change th an unused axis w synchronized cor	•
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	EtherCAT Slave 0	Communications Er	ror	Event code	84400000 hex	
Meaning	A communication	s error occurred for	the EtherCAT slav	e or NX Unit that is	allocated to an ax	is.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.	
System-de-	Vari	able	Data	type	Na	ime
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	A communication for the EtherCAT that is allocated to	slave or NX Unit	ter Function Modu Function Module.	ne EtherCAT Mas- ule or NX Bus	None	
Attached infor- mation	None					
Precautions/ Remarks	Even if this error is reset, the error in the EtherCAT Master Function Module or NX Bus Function Module that is connected with the slave or NX Unit allocated to an axis is not reset. This error can be reset without resetting the error in the EtherCAT Master Function Module or NX Bus Function Module, but the axis will still be disabled.					

Event name	Too Many Reset I	Notion Control Erro	or Instructions	Event code	571D0000 hex ^{*1}		
Meaning	There are more the	nan 100 instances o	of the ResetMCErro	or (Reset Motion C	ontrol Error) instruc	ntrol Error) instruction.	
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At power ON, Controller reset, download, or online editing	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Vari	able	Data	type	Na	ime	
fined variables	_MC_COM.Obsr.	Active	BOOL		MC Common Observation Active		
	Assume	ed cause	Corre	ection	Prevention		
Cause and cor- rection	There are more than 100 instances of the ResetMCError (Reset Motion Control Error) instruction declared		Correct the user p there are not mor stances of the Re set Motion Contro tion. Use the sam use the MC_Rese ror) instruction or Reset (Group Re depending on the	e than 100 in- esetMCError (Re- ol Error) instruc- ne instances, or et (Reset Axis Er- the MC_Group- set) instruction	Write the user pro there are not mor ces of the Reset Motion Control En	re than 100 instan- MCError (Reset	
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

*1. This event occurs for a CPU Unit with unit version between 1.02 and 1.09.

Event name	Following Error W	/arning		Event code	644C0000 hex		
Meaning	The following erro	or exceeded the Fo	llowing Error Warn	ing Value.			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data	a type	Na	Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
	Assumed cause		Corre	Correction		ention	
Cause and cor- rection	Performance of p tion is poor and th is slower than the	e actual motion	ing performance i operation. Or increase the F	Or increase the Following Error Warning Value within the range		se of poor follow- in the positioning as possible.	
Attached infor- mation	None						
Precautions/	None						

Event name	Velocity Warning			Event code	644D0000 hex		
Meaning	The command ve	locity exceeded the	e velocity warning v	/alue.			
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
	Var	iable	Data	i type	Na	ame	
System-de-	_MC_AX[*].Obsr.Active _MC_GRP[*].Obsr.Active		BOOL		Axis Observation	Occurrence	
fined variables			BOOL		Axes Group Observation Occur- rence		
	Assumed cause		Corre	Correction		ention	
Cause and cor- rection	The command ve the velocity warn		ing value was exe suitable correctio Or increase the V	Find the reason the velocity warn- ing value was exceeded and make suitable corrections. Or increase the Velocity Warning Value within the range that will not		nable detecting v warning value is ntative measures	
Attached infor- mation	None						
Precautions/ Remarks	-	above will be cha	ne minor fault level. nged to "Error reset				

Event name	Acceleration War	ning		Event code	644E0000 hex	
Meaning	The command ac	celeration exceede	d the acceleration	warning value.		
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
	Vari	able	Data	type	Na	ame
System-de-	em-deMC_AX[*].Obsr.Active		BOOL		Axis Observation	Occurrence
fined variables	_MC_GRP[*].Obsr.Active		BOOL		Axes Group Observation Occur- rence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The command acceleration rate exceeded the acceleration warning value.		Find the reason the acceleration warning value was exceeded and make suitable corrections. Or increase the Acceleration Warning Value within the range that will not create problems.		(The goal is to enable detecting when the acceleration warning val- ue is exceeded. Preventative measures are not required.)	
Attached infor- mation	None					
Precautions/ Remarks	-	above will be char	e minor fault level. nged to "Error reset			

Event name	Deceleration War	ning		Event code	644F0000 hex	
Meaning	The command de	eceleration exceede	d the deceleration	warning value.		
Source	Motion Control F	unction Module	Source details	Axis/axes group	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
	Var	iable	Data	i type	Na	ame
System-de-	_MC_AX[*].Obsr.Active		BOOL		Axis Observation	Occurrence
fined variables	_MC_GRP[*].Obsr.Active		BOOL		Axes Group Observation Occur- rence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The command deceleration rate exceeded the deceleration warning value.		warning value wa make suitable con Or increase the D Warning Value w	Find the reason the deceleration warning value was exceeded and make suitable corrections. Or increase the Deceleration Warning Value within the range that will not create problems.		nable detecting ration warning val- Preventative t required.)
Attached infor- mation	None				•	
Precautions/ Remarks	Recovery column	bu can change the event level to the minor fault level. If you change the l ecovery column above will be changed to "Error reset" and the Operation oup decelerates to a stop."				-

Event name	Positive Torque V	/arning		Event code	64500000 hex	
Meaning	The torque comm	and value exceede	d the positive torqu	ue warning value.		
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data	type	Na	ame
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The torque comm ceeded the positiv value.	and value ex- ve torque warning	Find the reason the value was exceed suitable correction Or increase the P Warning Value with the twill not created by the track of t	ns. Positive Torque vithin the range	(The goal is to er when the torque exceeded. Preve are not required.)	warning value is ntative measures
Attached infor- mation	None					
Precautions/ Remarks		above will be char		If you change the large and the Operation		

Event name	Negative Torque	Warning		Event code	64510000 hex		
Meaning	The torque comm	and value exceed	ed the negative tor	que warning value.			
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data	i type	Na	ame	
fined variables	_MC_AX[*].Obsr.	Active	BOOL	BOOL		Axis Observation Occurrence	
	Assumed cause		Corre	Correction		ention	
Cause and cor- rection The torque command v ceeded the negative tor ing value.			Find the reason the torque warning value was exceeded and make suitable corrections. Or increase the Negative Torque Warning Value within the range that will not create problems.		(The goal is to er when the torque exceeded. Preve are not required.)	warning value is ntative measures	
Attached infor- mation	None						
Precautions/ Remarks		above will be cha	ne minor fault level. nged to "Error reset	, 0			

Event name	Command Position	on Overflow		Event code	64520000 hex	
Meaning	The number of pu	Ises for the comma	and position overflo	wed.		
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The position is no	t updated, but mot	ion continues.
System-de-	Vari	able	Data	type	Na	ame
fined variables	_MC_AX[*].Obsr.	Active	BOOL	BOOL		Occurrence
	Assumed cause		Correction		Prevention	
Cause and cor- rection	In Linear Mode, the sition when convert ceeded the upper 40-bit data.	erted to pulses ex-	Correct the program so that the in- put value for the command position does not exceed the range for the number of pulses for the instruc- tion. Or, change the electronic gear ratio settings. To recover from the overflow, change the current position or per- form the homing operation.		Check the gear ra the target position and make sure th number of pulses the range of sign	n setting value, nat the converted does not exceed
Attached infor- mation	None					
Precautions/ Remarks	-	above will be char	e minor fault level. nged to "Error reset			

Event name	Command Positio	on Underflow		Event code	64530000 hex	
Meaning	The number of pu	Ilses for the comma	and position exceed	led the valid range	(It underflowed.)	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The position is no	ot updated, but mot	ion continues.
System-de-			Data	type	Na	ime
fined variables				Axis Observation Occurrence		
	Assumed cause		Correction		Prevention	
Cause and cor- rection	In Linear Mode, the command po- sition when converted to pulses ex- ceeded the lower limit of signed 40-bit data.		put value for the o does not exceed limit for the instru- the electronic gea To recover from the change the current	Correct the program so that the in- put value for the command position does not exceed the pulse number limit for the instruction. Or, change the electronic gear ratio settings. To recover from the underflow, change the current position or per- form the homing operation.		atio setting and n setting value, lat the converted does not exceed ed 40-bit data.
Attached infor- mation	None					
Precautions/ Remarks	-	he event level to th above will be char s to a stop."				

Event name	Actual Position O	verflow		Event code	64540000 hex		
Meaning	The number of pu	ulses for the actual	position overflowed	l.			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The position is no	t updated, but mot	ion continues.	
System-de-	Vari	iable	Data	type	Na	ime	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation	Occurrence	
	Assumed cause		Corre	Correction		Prevention	
Cause and cor- rection	The actual position ed to pulses excer limit of signed 40-	eded the upper	get position is we number limit so th sition does not ex number limit for th change the electr settings. To recover from th	To recover from the overflow, change the current position or per-		atio setting and n setting value, hat the converted does not exceed ed 40-bit data. Al-	
Attached infor- mation	None						
Precautions/ Remarks		above will be char	ne minor fault level. nged to "Error reset				

Event name	Actual Position U	nderflow		Event code	64550000 hex	
Meaning	The number of pu	llses for the actual	position underflowe	ed.		
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The position is no	t updated, but mot	ion continues.
System-de-	e- Variable		Data	type	Na	ime
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation	Occurrence
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The actual positic ed to pulses exce limit of signed 40-	eded the lower	get position is we number limit so th sition does not ex number limit for th change the electr settings. To recover from th	To recover from the underflow, change the current position or per-		atio setting and n setting value, hat the converted does not exceed ed 40-bit data. Al-
Attached infor-	None					
mation						
Precautions/ Remarks		above will be char	e minor fault level. nged to "Error reset			

Event name	Slave Observatio	n Detected		Event code	74320000 hex		
Meaning	A warning was de	etected for an Ether	CAT slave or NX U	Init.			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data	Data type		Name	
fined variables	_MC_AX[*].Obsr.Active		BOOL		Axis Observation Occurrence		
	Assumed cause		Correction		Preve	ention	
		A warning was detected for the					
Cause and cor-		etected for the	Check the warnin	g code for the	None		
Cause and cor- rection			Check the warnin EtherCAT slave a	0	None		
	A warning was de	r NX Unit that is		nd remove the	None		
	A warning was de EtherCAT slave o allocated to an ax	r NX Unit that is	EtherCAT slave a cause of the warr	nd remove the	None		
rection	A warning was de EtherCAT slave o allocated to an ax	r NX Unit that is is.	EtherCAT slave a cause of the warr	nd remove the	None		

Event name	Cannot Execute S	Save Cam Table In	struction	Event code	743C0000 hex	
Meaning	You cannot save	a cam table to a file	e when non-volatile	memory is being a	accessed by anothe	er operation.
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	n-de- Variable		Data	type	Na	ime
fined variables	_MC_COM.Obsr.Active		BOOL		MC Common Observation Active	
	Assumed cause		Correction		Preve	ention
Cause and cor- rection	An attempt was n the MC_SaveCar when another ope cessing the non-v (e.g., transfer or o tion from the Syst	nTable instruction eration was ac- volatile memory data trace opera-	Execute the MC_ instruction again.		None	
Attached infor-	None					
mation						
Precautions/ Remarks	None					

Event name	Notice of Insuffici Blending Transit	ent Travel Distance /elocity	to Achieve	Event code	94200000 hex	
Meaning	There is not suffic tion.	cient travel distance	e to accelerate or de	ecelerate to the tra	nsit velocity during	blending opera-
Source	Motion Control Fu	Inction Module	Source details	Axis/axes group	Detection tim- ing	At multi-execu- tion of instruc- tions
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
	Vari	able	Data	type	Na	ime
System-de-	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation	Occurrence
fined variables	_MC_GRP[*].Obsr.Active		BOOL		Axes Group Observation Occur- rence	
	Assume	ed cause	Correction		Prevention	
Cause and cor- rection	set to Use rapid a deceleration (Blei to Buffered), the r creation caused t deceleration rate when blending wa buffered was use Blending was spe get position was a so it was changed cause the profile	er parameter was acceleration/ ading is changed results of profile the acceleration/ to be exceeded as specified, so d. crified, but the tar- already reached, d to Buffered be-	Set the Acceleration/ Deceleration Over parameter to a value other than Use rapid acceler- ation/deceleration (Blending is changed to Buffered) if you do not want to change to Buffered opera- tion. If unanticipated operation occurs from the switch to Buffered opera- tion, correct the program so that the causes given at the left do not		value other than ation/deceleration changed to Buffe want to change to tion. If unanticipated o from the switch to tion, write the pro causes given at t	er parameter to a Use rapid acceler- n (Blending is red) if you do not b Buffered opera- peration occurs b Buffered opera- gram so that the
Attached infor- mation	ated. None		occur.		cur.	
Precautions/ Remarks	-	above will be char	e minor fault level. nged to "Error reset			

Event name	Error Clear from N	/IC Test Run Tab P	age	Event code	94210000 hex		
Meaning	An error was clea	red from the MC Te	est Run Pane of the	e Sysmac Studio.			
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	When MC Test Run error is re- set	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
	Assume	ed cause	Correction		Prevention		
Cause and cor-	An error was clea	red from the MC					
rection	Test Run Pane of	the Sysmac Stu-					
	dio.						
Attached infor-	Attached informat	ion 1: Execution re	sults (0000_0000 h	nex: All errors reset	, 0000_0001 hex: F	Resetting all er-	
mation	rors failed)						
Precautions/	None						
Remarks							

Event name	Slave Error Code	Report		Event code	94220000 hex	
Meaning	The error code wa	as reported by the s	slave when a Slave	Error Detected err	or occurred.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	After Slave Er- ror Detected er- ror (742F0000 hex)
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Vari	able	Data	type	Name	
fined variables	None					
	Assume	ed cause	Corre	ection	Prevention	
Cause and cor- rection	The error code was ave when a Slave when a Slave error (742F0000 h		This error accompanies a Slave Er- ror Detected error (742F0000 hex). Check the slave error code in the attached information and make the required corrections.		None	
Attached infor- mation	Attached informat	ion 1: Slave error o	code			
	For an OMRON 1	S-series Servo Driv	ve or G5-series Sei	rvo Drive, the error	code (the main pa	rt of the error dis-
Precautions/	play number) fron	n the Servo Drive is	s included in the lov	ver two digits of the	e attached informat	ion.
Remarks			tion is displayed as		th display number	13 (Main Circuit
	Power Supply Un	dervoltage) occurre	ed in the Servo Driv	/e.		

Motion Control Instructions

This section provides a table of errors (events) that occur for motion control instructions. The upper four digits of the event code give the error code (ErrorID) for the motion control instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code for the motion control instruction is 16#3461, refer to the description for event code 34610000 hex.



Precautions for Correct Use

With CPU Unit with unit version 1.10 or later, a variable name that starts with _MC_AX[*] may start with _MC1_AX[*] or _MC2_AX[*] instead. In the same way, a variable name that starts with _MC_GRP[*] may start with _MC1_GRP[*] or _MC2_GRP[*] instead.

Event name	Process Data Ob	ect Setting Missing	1	Event code	34610000 hex	
Meaning	The PDO mappin		,			
Source	Motion Control Fu	•	Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t axis.
System-de-	Variable	•	Data type	•	Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	struction.	uction was exe- e that does not at supports the in-	the instruction. Refer to the <i>Func</i> relevant instructio PDOs. Some devices do relevant instructio Refer to the manu device, check to s instruction is supp rect the program ported instruction ed.	not support the not support the n. Jal for the target see if the relevant ported, and cor- so that unsup- s are not execut-	the instructions the Refer to the <i>NJ/N</i> <i>Unit Motion Conti</i> (<i>Cat. No. W507</i>) (Servo Drive setti must map for each Refer to the mani device and write that unsupported not executed.	IX-series CPU rol User's Manual for the PDOs ings) that you th instruction. ual for the target the program so instructions are
	A motion control i specifies phase Z Mark) as the trigg executed for an a ped to an OMROI EtherCAT Encode	(_mcEncoder- er conditions was xis that is map- N GXEC02□□	Use an external input (_mcEXT) as the trigger conditions for an axis that is mapped to an OMRON GX- EC02		Use an external input (_mcEXT) as the trigger conditions for an axis that is mapped to an OMRON GX- EC02	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Electronic Gear Ratio Numerator Setti Range		tting Out of	Event code	54200000 hex		
Meaning	The parameter specified for the RatioNumerator input v			rariable to a motion	control instruction	is out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		t possible for the slave axis. axis decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid	range of the input	valid range of the	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the instruction.	the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Electronic Gear R Range	atio Denominator S	Setting Out of	Event code	54210000 hex	
Meaning	The parameter specified for the RatioDenominator input			t variable to a motion	n control instructic	on is out of range.
Source	Motion Control Fu	Motion Control Function Module S		Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in tion.		
System-de-	em-de- Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Target Velocity Se	etting Out of Range	<u> </u>	Event code	54220000 hex		
Meaning				o a motion control instruction is out of range.			
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	operation is not p axis decelerates t If "axes group" is operation is not p	ixis" is given for the source details, iration is not possible for relevant axis. Relevant decelerates to a stop if it is in motion. ixes group" is given for the source details, iration is not possible for relevant axes group. Rel- nt axes group decelerates to a stop if it is in mo-		
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						

Event name	Acceleration Setti	ng Out of Range		Event code	54230000 hex		
Meaning		<u> </u>	eleration input varia			ut of range	
Source	Motion Control Fu		Source details			At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Rel- evant axes group decelerates to a stop if it is in mo- tion.			
System-de-	Variable	/ariable Data type			Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ceeded the valid range of the input valid range of		valid range of the not exceeded for	orrect the parameter so that the alid range of the input variable is ot exceeded for the relevant in- ruction		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	None		1				
mation							
Precautions/	None						
Remarks							

Event name	Deceleration Sett	ing Out of Range		Event code	54240000 hex		
Meaning	The parameter sp	ecified for the Dec	eleration input varia	able to a motion co	ntrol instruction is c	out of range.	
Source	Motion Control Fu	Inction Module	Source details	Source details Axis/axes group		At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Re evant axes group decelerates to a stop if it is in mo- tion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection Instruction in ceeded the variable.		parameter ex- range of the input	valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						

Event name	Jerk Setting Out of	of Range		Event code	54250000 hex	
Meaning	The parameter sp	ecified for the Jerk	input variable to a	motion control instruction is out of range.		
Source	Motion Control Fu	Inction Module	Source details	Source details Axis/axes group		At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Re evant axes group decelerates to a stop if it is in mo- tion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p ceeded the valid r variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Torque Ramp Setting Out of Range Event code 54270000 hex						
Meaning	The parameter specified for the <i>TorqueRamp</i> input var						
			Source details				
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de- Variable			Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None		1		1		
mation							
Precautions/	None						
Remarks							

Event name	Master Coefficien	t Scaling Out of Ra	inge	Event code	54280000 hex		
Meaning	The parameter sp	pecified for the Mas	<i>terScaling</i> input va	riable to a motion c	ontrol instruction is	out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in m tion.			
System-de-	de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Slave Coefficient	Scaling Out of Ran	ige	Event code	54290000 hex		
Meaning	The parameter sp	pecified for the Slav	<i>eScaling</i> input vari	Scaling input variable to a motion control instruction is out of range.			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in n tion.			
System-de-	m-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None		•				
mation							
Precautions/	None						
Remarks							

Event name	Feeding Velocity Setting Out of Range			Event code	542A0000 hex		
Meaning	The parameter sp	ecified for the Fee	<i>dVelocity</i> input varia	able to a motion co	ntrol instruction is a	out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.			ossible for relevant axis. Relevant o a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	The Feed Velocity		Specify a positive value for the		Set the input parameter to the in-		
	<i>FeedVelocity</i>) is still at the default (0).		Feed Velocity (input variable <i>FeedVelocity</i>).		struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None	None					
Remarks							

Event name	Buffer Mode Sele	ction Out of Range		Event code	5420000 hex		
Meaning	The parameter sp	ecified for the Buff	erMode input varial	ble to a motion con	trol instruction is ou	it of range.	
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	operation is not p axis decelerates t If "axes group" is operation is not p	given for the source details, s not possible for relevant axis. Relevant erates to a stop if it is in motion. oup" is given for the source details, s not possible for relevant axes group. Rel- group decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFa	aultLvI.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None		·				
Precautions/ Remarks	None						

Event name	Coordinate Syste	m Selection Out of	Range	Event code	542C0000 hex	
Meaning	The parameter sp	ecified for the Coo	<i>rdSystem</i> input var	iable to a motion co	ontrol instruction is	out of range.
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation Operation is not possible for relevant axes Relevant axes group decelerates to a stop motion.		0 1	
System-de- fined variables	Variable		Data type		Name	
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Circular Interpola	tion Mode Selectior	n Out of Range	Event code	542D0000 hex		
Meaning	The parameter sp	ecified for the Circ	<i>Mode</i> input variable	e to a motion contro	ol instruction is out	of range.	
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation Operation is not possible for relevant axes g Relevant axes group decelerates to a stop in motion.		0 1	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Direction Selectio	n Out of Range		Event code	542E0000 hex		
Meaning	The parameter sp	The parameter specified for the Direction input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program				oossible for relevan o a stop if it is in m		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None				·		
mation							
Precautions/	None						
Remarks							

Event name	Path Selection O	ut of Range		Event code	542F0000 hex	
Meaning	The parameter sp	pecified for the Path	<i>Choice</i> input varia	ble to a motion cor	trol instruction is o	ut of range.
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.			bossible for relevant axes group. Dup decelerates to a stop if it is in	
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Position Type Se	lection Out of Rang	е	Event code	54300000 hex		
Meaning	The parameter sp	pecified for the Refe	erenceType input variable to a motion control instruction is out of range.				
Source	Motion Control Function Module		Source details	MC common or axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation Operation is not possible for relevant axis axis decelerates to a stop if it is in motion				
System-de-	Variable		Data type	Data type			
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence		
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause			Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None		•				
mation							
Precautions/	None						
Remarks							

Event name	Travel Mode Sele	ction Out of Range	;	Event code	54310000 hex		
Meaning	The parameter sp	ecified for the Mov	<i>eMode</i> input variat	ble to a motion cont	rol instruction is ou	t of range.	
Source	Motion Control Fu	Inction Module	Source details	Source details Axis/axes group		At instruction execution	
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System	
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Rel evant axes group decelerates to a stop if it is in mo- tion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence	
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						

Event name	Transition Mode	Selection Out of Ra	inge	Event code	54320000 hex		
Meaning	The parameter sp	pecified for the Trar	sitionMode input v	ariable to a motion	control instruction i	s out of range.	
Source	Motion Control Fu	unction Module	Source details	Source details Axes group		At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation			•	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL			Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
	<i>_mcAborting</i> or <i>_mcBuffered</i> was specified for <i>BufferMode</i> and <i>_mcTMCornerSuperimposed</i> was specified for <i>TransitionMode</i> .		If you specify _mcAborting or _mcBuffered for BufferMode, spec- ify _mcTMNone for TransitionMode. If you specify _mcTMCornerSuperimposed for TransitionMode, specify _mcBlendingLow, _mcBlendingPrevious, _mcBlendingPrevious, _mcBlendingNext, or _mcBlendingHigh for BufferMode.		If you specify _mcAborting or _mcBuffered for BufferMode, specify ify _mcTMNone for TransitionMode. If you specify _mcTMCornerSuperimposed for TransitionMode, specify _mcBlendingLow, _mcBlendingPrevious, _mcBlendingNext, or _mcBlendingHigh for BufferMode.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Continue Method	Selection Out of R	lange	Event code	54330000 hex		
Meaning	The value of the r	The value of the reserved input variable <i>Continuous</i> to a motion control instruction changed.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	The value of the reserved input variable <i>Continuous</i> changed.		Correct the program so that the value of the reserved input variable <i>Continuous</i> does not change.		Write the user program so that the value of the reserved input variable <i>Continuous</i> does not change.		
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	Combine Mode S	election Out of Rar	nge	Event code	54340000 hex		
Meaning	The parameter sp	pecified for the Con	<i>nbineMode</i> input va	riable to a motion o	control instruction is	s out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Synchronization Start Condition Selection Out of Range			Event code	54350000 hex		
Meaning	The parameter sp	ecified for the Link	<i>Option</i> input variab	le to a motion cont	rol instruction is out	t of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		ot possible for relevant axis. Relevant es to a stop if it is in motion.		
System-de- fined variables	Variable		Data type		Name		
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	ceeded the valid range of the input valid r variable. valid range of the input valid r		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	None		•		•		
mation							
Precautions/	None						
Remarks							

Event name	Master and Clave	Defined as Cama	Avia	Event code	54360000 hex		
Event name	Master and Slave Defined as Same Axis						
Meaning	The same axis is	specified for the Ma	aster and Slave inp	out variables to a m	otion control instru	ction.	
Source	Motion Control Fu	Inction Module	Source details	MC common or	Detection tim-	At instruction	
				axis	ing	execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t slave axis.	
				Relevant slave a	kis decelerates to a	stop if it is in mo-	
	tion.		tion.				
System-de-	Variable	•	Data type		Name		
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur-		
					rence		
	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameter is	the same for the	Correct the parameters so that dif-		Specify different axes for the		
	Master and Slave	input variables to	ferent axes are sp	pecified for the	Master and Slave input variables to		
	the instruction.	the instruction.		Master and Slave input variables to		the instruction.	
			the instruction.				
Attached infor-	None		•		•		
mation							
Precautions/	None						
Remarks							

Event name	Master and Auxili	ary Defined as Sar	ne Axis	Event code	54370000 hex		
Meaning	The same axis is specified for the Master and Auxiliary input variables to a motion control instruction.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevant slave axis. kis decelerates to a stop if it is in mo-		
System-de- fined variables	Variable		Data type		Name		
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor- rection	Assumed cause		Correction		Prevention		
	The parameter is the same for the <i>Master</i> and <i>Auxiliary</i> input variables to the instruction.		Correct the parameters so that dif- ferent axes are specified for the <i>Master</i> and <i>Auxiliary</i> input varia- bles to the instruction.		Specify different axes for the <i>Master</i> and <i>Auxiliary</i> input variables to the instruction.		
Attached infor-	None		•		•		
mation							
Precautions/	None						
Remarks							

Event name	Master/Slave Axis Numbers Not in Ascending Order			Event code	54380000 hex		
Meaning	The axis numbers specified for the <i>Master</i> and <i>Slave</i> input variables to a motion control instruction are not in ascending order.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		ossible for relevant slave axis. is decelerates to a stop if it is in mo-		
System-de- fined variables	Variable		Data type		Name		
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameters for the <i>Master</i> and <i>Slave</i> input variables to the instruction were not in ascending order when <i>_mcLatestCommand</i> was specified for the <i>ReferenceType</i> input variable to the instruction.		When specifying _mcLatestCommand for the ReferenceType input variable to the instruction, correct the parame- ters so that the axis numbers specified for the Master and Slave input variables to the instruction are in ascending order. Or, specify _mcCommand for the Master Axis Position Type Selection.		When specifying _mcLatestCommand for the <i>ReferenceType</i> input variable, make sure to specify the master axis and slave axis input variables so that they are in ascending order.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Incorrect Cam Ta	ble Specification		Event code	54390000 hex		
Meaning	The parameter specified for the CamTable input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	MC common or axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected. If "axis" is given fo	is given for the source details, or the source details, possible for relevant slave axis.		
System-de- fined variables	Variable		Data type		Name		
	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence		
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Something other than a cam data variable was specified for the <i>CamTable</i> input variable to the instruction.		Correct the parameter specified for the <i>CamTable</i> input variable to the instruction so that it is a cam data variable.		Specify a cam data variable for the <i>CamTable</i> input variable to the instruction.		
Attached infor- mation	None						
Precautions/ Remarks	None						
Event name	Synchronization S	Stopped		Event code	543A0000 hex		
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Meaning	A synchronized co met.	ontrol motion contr	ol instruction was e	xecuted, but condi	tions required for e	execution were not	
Source	Motion Control Fu	Inction Module	Source details	Source details Axis		At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		peration is not possible for relevant slave axis. elevant slave axis decelerates to a stop if it is in mo on.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection			Correction Correct the program so that re- quired conditions are met when the instruction is executed.		-		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control In	struction Re-execut	tion Disabled	Event code	543B0000 hex	
Meaning	An attempt was m	nade to re-execute	a motion control in	struction that canno	ot be re-executed.	
Source	Motion Control Fu	Inction Module	Source details	MC common, axis, or axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System
Effects	User program	Continues.	Operation	If "MC Common" is given for the source details, Not affected. If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Rel- evant axes group decelerates to a stop if it is in mo- tion.		
System-de-	Variable		Data type	Data type		
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence	
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A motion control i cannot be re-exec cuted.	nstruction that cuted was re-exe-	Correct the program so that the <i>Execute</i> input variable does not change to TRUE until the <i>Busy</i> output variable from the instruction changes to FALSE.		When using instructions that can- not be re-executed, include a con- dition for the <i>Execute</i> input variable so that it does not change to TRUE unless the <i>Busy</i> output variable for the previous instruction is FALSE. Or, stop the instruction before exe- cuting it again.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Motion Control In	struction Multi-exec	cution Disabled	Event code	543C0000 hex		
Meaning	Multiple functions axis, or axes grou		ecuted simultaneou	sly were executed	for the same targe	t (MC common,	
Source	Motion Control Fu			MC common, axis, or axes group	Detection tim- ing	At multi-execu- tion of instruc- tions	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected. If "axis" is given f operation is not p axis decelerates If "axes group" is operation is not p	common" is given for the source details, cted. is given for the source details, n is not possible for relevant axis. Relevant elerates to a stop if it is in motion. group" is given for the source details, n is not possible for relevant axes group. Rel- tes group decelerates to a stop if it is in mo-		
System-de-	Variable		Data type	Data type			
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence		
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
	_MC_GRP[*].MFa	aultLvI.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	executed simultar cuted for the sam	nultaneously were exe- e same target (MC struction is, or axes group). so that in executed		heck the specifications of multi- xecution of instructions for this in- truction and correct the program o that instructions that cannot be xecuted at the same time are not xecuted simultaneously.		Check the specifications for multi- execution of instructions for the in- struction and do not execute in- structions that cannot be executed at the same time.	
Attached infor- mation	None		1	-	1		
Precautions/ Remarks	None						

Event name	Instruction Not Al	owed for Encoder	Axis Type	Event code	543D0000 hex	
Meaning	An operation instr	uction was execute	ed for an encoder a	xis.		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t axis.
System-de-			Data type		Name	
fined variables			BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An operation instruction was exe- cuted for an encoder axis.		Specify either a Servo axis or virtu- al Servo axis as the axis type for the instruction, or correct the pro- gram so that the instruction is not executed for an encoder axis.		Only execute mot for Servo axes or es.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Instruction Canno ordinated Control	t Be Executed duri	ng Multi-axes Co-	Event code	543E0000 hex			
Meaning	motion.	 An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. A robot instruction that you cannot use for an axes group in a GroupEnable state was executed. 						
Source	Motion Control Function Module		Source details	Axis or axis group	Detection tim- ing	At multi-execu- tion of instruc- tions		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	The axes group c	lecelerates to a sto	р.		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence			
	_MC_GRP[*].MFa	_MC_GRP[*].MFaultLvl.Active		BOOL		r Fault Occur-		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An operation instruction was exe- cuted for an axis or an axes group that was in a coordinated multi-ax- es motion. The MC_SetKinTransform (Set Kinematics Transformation) in-		operation instruct only for axes or a are not in coordin motion. Correct the progra	Correct the program so that axis operation instructions are executed only for axes or axes groups that are not in coordinated multi-axes motion. Correct the program so that the in- struction is executed only when the		Execute axis operation instructions only for axes or axes groups that are not in coordinated multi-axes motion. Execute the instruction only when the axes group is in a GroupDisa-		
	struction was exe group in a Groupl		-		ble state.			
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Multi-axes Coord for Disabled Axes	inated Control Instr Group	uction Executed	Event code	543F0000 hex	
Meaning	A multi-axes coor bled state.	dinated control inst	ruction was execut	ed for an axes gro	up that was in the A	Axes Group Disa-
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	l	oossible for relevan oup decelerates to	• 1
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minc rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	struction was exe group that was in Disabled state. One of the followi was executed for that was in a Grou • MC_MoveTime specified Abso instruction • MC_SyncLinea Conveyor Sync struction • MC_SyncOut (tion) instructior	ing instructions an axes group upDisable state. eAbsolute (Time- lute Positioning) arConveyor (Start chronization) in- End Synchroniza-	struction is execu changing the axe es Group Enabled the MC_GroupEn es Group) instruc	Correct the program so that the in- struction is executed only after changing the axes group to the Ax- es Group Enabled state. Execute the MC_GroupEnable (Enable Ax- es Group) instruction to change an axes group to the Axes Group En-		es coordinated op- ns only after ena- bup. Execute the e (Enable Axes n to change an ax- xes Group Ena-
Attached infor-	None					
mation						
Precautions/ Remarks	None					

Event name	Axes Group Can	not Be Enabled		Event code	54400000 hex	
Meaning	Execution of the	MC_GroupEnable (Enable Axes Group	o) instruction failed		
Source	Motion Control F	unction Module	Source details	Source details Axes group		At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	· · ·	oossible for relevan composition axes w	•
System-de-	Variable		Data type		Name	
fined variables	ariables _MC_GRP[*].MFaultLvl.Active BOOL			Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause	I.	Correction	Correction		
rection	When the MC_GroupEnable (Ena- ble Axes Group) instruction was executed, there was a composition axis that was not stopped.		Correct the program so that the MC_GroupEnable (Enable Axes Group) instruction is executed only when all composition axes are stopped. An axis is stopped if <i>Status.Disabled</i> or <i>Status.Standstill</i> is TRUE in the Axis Variable.		Write the programs so that the MC_GroupEnable (Enable Axes Group) instruction is executed only when all composition axes are stopped. An axis is stopped if <i>Status.Disabled</i> or <i>Status.Standstill</i> is TRUE in the Axis Variable.	
	When the MC_GroupEnable (Ena- ble Axes Group) instruction was executed, there was a composition axis for which the MC_TouchProbe (Enable External Latch) instruction was being executed.		Correct the program so that the MC_GroupEnable (Enable Axes Group) instruction is executed only when the MC_TouchProbe (Enable External Latch) instruction is not being executed for any of the com- position axes.		Write the program so that the MC_GroupEnable (Enable Axes Group) instruction is executed only when the MC_TouchProbe (Enable External Latch) instruction is not being executed for any of the com- position axes.	
Attached infor- mation	None		1		1	
Precautions/ Remarks	None					

Event name	Impossible Axis C is OFF	peration Specified	when the Servo	Event code	54410000 hex	
Meaning	An operation instr	ruction was execute	ed for an axis for wl	nich the Servo is O	FF.	
Source	Motion Control Fu	Inction Module	Source details Axis/axes group		Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The motion instru	ction will not start.	•
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Mino rence	r Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Assumed cause An operation instruction was exe- cuted for an axis for which the Ser- vo is OFF. Home was preset with the MC_Home or MC_HomeWithPara- meter instruction for an axis for which EtherCAT process data com- munications are not established.		Correction Correct the program so that the in- struction is executed after the Ser- vo is turned ON. Ilf the _EC_PDSlavTbl (Process Data Communicating Slave Table) system-defined variable for the EtherCAT master of the master ax- is is FALSE, remove the cause and execute the MC_Home or MC_HomeWithParameter instruc- tion to preset home after _EC_PDSlavTbl changes to TRUE.		Prevention Make sure to execute the axis operation instruction after the Servo is turned ON. If you execute the MC_Home or MC_HomeWithParameter instruction to preset home immediately after you turn ON the power supply to the Controller, download data, reset a slave communications error, disconnect the slave, reconnect the slave, enable the slave, or disable the slave, write the program to make sure that theEC_PDSlavTbl (Process Data Communicating Slave Table) system-defined variable for the Ether-CAT master is TRUE before you execute MC_Home or MC_Home-WithParameter.	
Attached infor-		tion 1: Depends on	the source details			
mation	Axis: 0 Axos group: Nu	umbor of the legice	Lovic whore the er	or occurred		
Precautions/	Axes group: Nu None	under of the logica	I axis where the err			
Remarks						

Event name	Composition Axis	Stopped Error		Event code	54420000 hex			
Meaning	A motion instruction composition axis.	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.						
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t axes group.		
System-de-	Variable		Data type		Name			
fined variables	variables _MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.		Change the <i>Execute</i> input variable to the MC_Stop instruction for the composition axis to FALSE, reset the error, and then execute the mo- tion control instruction.		Change the <i>Execute</i> input variables to the MC_Stop instructions for all of the composition axes to FALSE before you execute motion control instruction.			
Attached infor- mation	Attached informat	Attached information 1: Number of the logical axis that was stopped.						
Precautions/ Remarks	None							

Event name	Motion Control In Exceeded	struction Multi-exec	cution Buffer Limit	Event code	54430000 hex	
Meaning	The number of mobuffer limit.	otion control instruc	ctions that is buffere	ed for Buffered or B	lending Buffer Moo	les exceeded the
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At multi-execu- tion of instruc- tions
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Rel- evant axes group decelerates to a stop if it is in mo- tion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An axis instruction was executed when there was already a current instruction and a buffered instruc- tion for the same axis.		Correct the program so that the number of executed instructions does not exceed the buffer limit.		Do not execute an axis instruction when there is already a current in- struction and a buffered instruction for the same axis.	
	An axes group instruction was exe- cuted when there was already eight current instructions and buf- fered instructions for the same ax- is.				Do not execute and struction when the eight current and tions for the same	ere are already buffered instruc-
Attached infor- mation	None				·	
Precautions/ Remarks	None					

Event name	Insufficient Trave	Distance		Event code	54440000 hex	54440000 hex	
Meaning		tion cannot be exec r re-execution of a			leration rate that w	as specified for	
Source	Motion Control Fu	unction Module	Source details Axis/axes group		Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	operation is not p axis decelerates t If "axes group" is operation is not p	r the source details, ossible for relevant axis. Relevant o a stop if it is in motion. given for the source details, ossible for relevant axes group. Rel- decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL	BOOL		Occurrence	
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Assumed cause Stopping at the target position was not possible for the specified accel- eration/deceleration rate for multi- execution or re-execution of a posi- tioning instruction when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.		Correct the program based on the operating specifications for the in- struction so that the target position is not exceeded at the deceleration rate or acceleration rate specified for multi-execution or re-execution of the positioning instruction. Or, change the Acceleration / Deceleration Over parameter to a setting other than to generate a mi- nor fault and stop.		Or, change the Acceleration / Deceleration Over parameter to a setting other than to generate a mi- nor fault and stop.		
Attached infor- mation	None				1		
Precautions/ Remarks	None						

Event name	Insufficient Trave	Distance to Achiev	ve Blending	Event code	54450000 hex	
	Transit Velocity					
Meaning	There is not suffic	cient travel distance	e to accelerate or de	ecelerate to the tra	nsit velocity.	
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At multi-execu- tion of instruc- tions
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Rel- evant axes group decelerates to a stop if it is in mo- tion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	There was not sufficient travel dis- tance to accelerate the current command to the transit velocity when the Acceleration / Deceleration Over parameter was set to generate a minor fault and stop.		Correct the program to allow a suf- ficient travel distance according to the operating specifications of the instruction. Or, change the Acceleration / Deceleration Over parameter to a setting other than to generate a mi- nor fault and stop.		Check the operating specifications for the relevant instruction and write the program so that this error does not occur. Or, change the Acceleration / Deceleration Over parameter to a setting other than to generate a mi- nor fault and stop.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Move Link Consta	ant Velocity Insuffic	ient Travel Dis-	Event code	54460000 hex			
	tance							
Meaning	The constant-velo	The constant-velocity travel distance of the master axis is less than zero.						
Source	Motion Control Function Module		Source details	Axis	Detection tim-	At instruction		
					ing	execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t axis. Relevant		
				axis decelerates to		to a stop if it is in motion.		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The constant velo	ocity travel dis-	Correct the program so that the		Check the operating specifications			
	tance of the mast	er axis is below 0	master axis travel distance is		for the relevant instruction and			
	for the MC_Move	Link (Synchro-	greater than or equal to the master		write the program so that this error			
	nous Positioning)	nous Positioning) instruction.		distance in acceleration plus the		does not occur.		
			master distance in	master distance in deceleration.				
Attached infor-	None							
mation								
Precautions/	None							
Remarks								

E		O		Event and	E4470000 h	
Event name		Operation Insufficie	<u> </u>	Event code	54470000 hex	
Meaning	For the MC_Gear	InPos (Positioning	Gear Operation) in	struction, the targe	t velocity of the sla	ve axis is too
	small to achieve t	he required velocity	у.			
Source	Motion Control Function Module		Source details	Axis	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t axis. Relevant
				axis decelerates t	o a stop if it is in motion.	
System-de-	e- Variable		Data type	Data type		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	For the MC_GearInPos (Position- ing Gear Operation) instruction, the value of the <i>Velocity</i> (Target Veloci- ty) input variable is smaller than the master axis velocity multiplied by the gear ratio when the instruc- tion was executed		get Velocity) input ue that is greater axis velocity multi ratio when the ins ed based on the o	Set the value of the <i>Velocity</i> (Tar- get Velocity) input variable to a val- ue that is greater than the master axis velocity multiplied by the gear ratio when the instruction is execut- ed based on the operating specifi- cations of the instruction.		ing specifications struction and so that this error
Attached infor- mation	None					
Precautions/	None					
Remarks						

Event name	Same Start Point tion	and End Point for (Circular Interpola-	Event code	54480000 hex		
Meaning	lar2D (Circular 2D	The start point and end point were the same when the radius method was specified for the MC_MoveCircu- lar2D (Circular 2D Interpolation) instruction. Or, the start point, end point, and border point were the same when the border point method was specified.					
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation Operation is not possible for relevant axes Relevant axes group decelerates to a stop motion.		0 1		
System-de-	Variable		Data type	Data type			
fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The start point and end point were the same when the radius method was specified for the MC_MoveCir- cular2D (Circular 2D Interpolation) instruction.		Correct the program so that the ra- dius specification is not used when the start point and end point for the instruction are the same.		Do not use the same start point and end point when you execute circular interpolation with a radius specification.		
	The start point, end point, and bor- der point were the same when the border point method was specified for the MC_MoveCircular2D (Circu- lar 2D Interpolation) instruction.		Correct the program so that border point specification is not used when the start point, end point, and border point for the instruction are the same.		Do not use the same start point, end point, and border point when you execute circular interpolation with a border point specification.		
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						

Event name	Circular Interpola Out of Range	tion Center Specific	cation Position	Event code	54490000 hex	
Meaning	The position spec	ified for the center Circular2D (Circula	•	•	en the center meth	od was specified
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation Operation is not possible for relevant axes Relevant axes group decelerates to a stop motion.			
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause	Assumed cause			Prevention	
rection	The difference between the dis- tance from the start point to the center point and the distance be- tween the end point to the center point exceeded the permitted value specified for the correction allow- ance ratio in the axes group set- tings when the center designation method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.		difference betwee from the start poin point input variab tance between th center point input than the permittee	nt to the center les and the dis- e end point to the variables is less d value specified allowance ratio in	distance from the center point and tween the end po	the distance be- int to the center es not exceed the nce ratio in the
Attached infor- mation	None		•		•	
Precautions/ Remarks	None					

Event name	Instruction Execution Error Caused by Count Mode Setting			Event code	544A0000 hex			
Meaning		An instruction that cannot be used when the Count Mode is set to Rotary Mode was executed for an axis that was set to Rotary Mode.						
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation Operation is not possible for relevant axes group Relevant axes group decelerates to a stop if it motion.		0 1			
System-de-	n-de- Variable		Data type		Name			
fined variables	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An instruction that cannot be used when the Count Mode is set to Ro- tary Mode was executed for an ax- is that was set to Rotary Mode.		Change the Count Mode of the rel- evant axis to Linear Mode.		Confirm the Count Mode in which you can execute the instruction and set the correct Count Mode for the axis.			
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Parameter Select	ion Out of Range		Event code	544C0000 hex		
Meaning	The parameter specified for the ParameterNumber input variable to a motion control instruction is out of ra						
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The instruction is	not executed.		
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	ltLvl.Active	BOOL	BOOL		MC Common Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Stop Method Sele	ection Out of Range	2	Event code	544D0000 hex	
Meaning	•				ol instruction is out	of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program Continues. Operation		Operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion.			
System-de-			Data type		Name	
fined variables			BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Latch ID Selection Out of Range for Trigger Input Condition			Event code	544E0000 hex			
Meaning	The parameter sp range.	he parameter specified for the <i>TriggerInput::LatchID</i> input variable to a motion control instruction is out of ange.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation		ossible for relevant axis. Relevant			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.			
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Setting Out of Ra	nge for Writing MC	Setting	Event code	544F0000 hex		
Meaning	The parameter sp	ecified for the Sett	<i>ingValue</i> input varia	able to a motion co	ntrol instruction is o	out of range.	
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The instruction is	not executed.		
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
	The parameter sp	ecification and	Make corrections	Make corrections so that the pa-		Make sure the parameter settings	
	the data type of the	ne setting value	rameter settings and the data		and the data type of the setting val-		
	do not agree.		types of the settin	igs agree.	ues agree.		
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	Trigger Input Cor	dition Mode Select	ion Out of Range	Event code	54500000 hex			
Meaning	The parameter sp range.	The parameter specified for the <i>TriggerInput:: Mode</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation		t possible for relevant axis. Relevant s to a stop if it is in motion.			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.			
Attached infor- mation	None							
Precautions/	None							
Remarks								

Event name	Drive Trigger Signal Selection Out of Range for Trig- ger Input Condition			Event code	54510000 hex			
Meaning	The parameter sp range.	The parameter specified for the <i>TriggerInput::InputDrive</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Rele axis decelerates to a stop if it is in motion.				
System-de-	m-de- Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None	None						
Precautions/ Remarks	None							

Event name	Motion Control Insis Specification)	struction Re-execu	tion Disabled (Ax-	Event code	54530000 hex		
Meaning		-		parameter for the <i>Axis</i> input variable when re-executing a motion control ot be changed when re-executing an instruction.)			
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion.			
System-de-	m-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		rameter for the re ble does not char	Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		Check the manual to see if the in- put variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re- execution.	
Attached infor- mation	None				•		
Precautions/ Remarks	None						

Event name	Motion Control In	struction Re-execu	tion Disabled	Event code	54540000 hex	
	(Buffer Mode Sele	ection)				
Meaning	An attempt was m	nade to change the	parameter for the	<i>BufferMode</i> input v	ariable when re-exe	ecuting a motion
	control instruction	. (This input variab	le cannot be chang	ed when re-execut	ing an instruction.)	
Source	Motion Control Function Module Source		Source details	Axis/axes group	Detection tim- ing	At instruction re- execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Rel- evant axes group decelerates to a stop if it is in mo- tion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
	_MC_GRP[*].MFa	aultLvI.Active	BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		Check the manual to see if the in- put variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re- execution.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Motion Control In rection Selection)		ution Disabled (Di-	Event code	54550000 hex		
Meaning		An attempt was made to change the parameter for the <i>Direction</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation			ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable _MC_AX[*].MFaultLvI.Active		Data type	Data type BOOL		Name	
fined variables			BOOL			Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	An input variable that cannot be changed for re-execution was changed.		rameter for the re ble does not char	Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		al to see if the in- ne relevant motion n can be changed Write the program parameters for that cannot be change upon re-	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control Instruction Re-execution Disabled (Ex- ecution Mode)			Event code	54560000 hex		
Meaning		An attempt was made to change the parameter for the <i>Periodic</i> input variable when re-executing a motion con- rol instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		Check the manua put variables to the control instruction by re-execution. Very so that the input per any input variable changed do not contexecution.	he relevant motion a can be changed Write the program parameters for e that cannot be	
Attached infor- mation	None		1				
Precautions/ Remarks	None						

Event name	Motion Control Ins	struction Re-execuration)	tion Disabled (Ax-	Event code	54570000 hex		
Meaning		An attempt was made to change the parameter for the <i>AxesGroup</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	· ·		Source details	Axes group	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.			bossible for relevant axes group. Dup decelerates to a stop if it is in		
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFa	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		Check the manual to see if the in- put variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re- execution.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control In	struction Re-execu	tion Disabled	Event code	54580000 hex	54580000 hex	
Event hame	(Jerk Setting)			Lycin couc			
Meaning	An attempt was n	-	parameter for the out of the changed whe	-	-	a motion control	
Source	Motion Control Function Module Source details		Axis/axes group	Detection tim- ing	At instruction re- execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Rel- evant axes group decelerates to a stop if it is in mo- tion.			
System-de- fined variables	Variable		Data type		Name		
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		Check the manual to see if the in- put variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re- execution.		
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						

Event name	Motion Control Instruction Re-execution Disabled (Master Axis)			Event code	54590000 hex			
Meaning		An attempt was made to change the parameter for the <i>Master</i> input variable when re-executing a motion con- rol instruction. (This input variable cannot be changed when re-executing an instruction.)						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction re- execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.			bossible for relevan to a stop if it is in m			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	control instruction	ne relevant motion in can be changed Write the program parameters for e that cannot be		
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Motion Control Instruction Re-execution Disabled (MasterOffset)			Event code	545A0000 hex			
Meaning		An attempt was made to change the parameter for the <i>MasterOffset</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)						
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction re- execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		control instruction	ne relevant motion in can be changed Write the program parameters for e that cannot be		
Attached infor- mation	None		1		1			
Precautions/ Remarks	None							

Event name	Motion Control Instruction Re-execution Disabled (MasterScaling)			Event code	545B0000 hex		
Meaning		An attempt was made to change the parameter for the <i>MasterScaling</i> input variable when re-executing a mo- tion control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable _MC_AX[*].MFaultLvI.Active		Data type		Name		
fined variables			BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		put variables to the relevant motion		
Attached infor- mation	None		•				
Precautions/ Remarks	None						

Event name	Motion Control Instruction Re-execution Disabled (MasterStartDistance)			Event code	545C0000 hex		
Meaning		An attempt was made to change the parameter for the <i>MasterStartDistance</i> input variable when re-executing a notion control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.			oossible for relevan o a stop if it is in m		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		Check the manual put variables to the control instruction by re-execution. Very so that the input per any input variable changed do not contexecution.	e relevant motion can be changed Vrite the program parameters for that cannot be	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control Instruction Re-execution Disabled (Continuous)			Event code	545D0000 hex		
Meaning		An attempt was made to change the parameter for the <i>Continuous</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.			bossible for relevan to a stop if it is in m		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		rameter for the re	am so that the pa- levant input varia- ige when the rele- re-executed.	control instructior	ne relevant motion n can be changed Write the program parameters for e that cannot be	
Attached infor- mation	None		•				
Precautions/ Remarks	None						

Event name	Motion Control Instruction Re-execution Disabled (MoveMode)			Event code	545E0000 hex		
Meaning		An attempt was made to change the parameter for the <i>MoveMode</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.			bossible for relevan to a stop if it is in m		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		control instruction	ne relevant motion n can be changed Write the program parameters for e that cannot be	
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						

Event name	Illegal Auxiliary Axis Specification			Event code	545F0000 hex		
Meaning	The axis specified	The axis specified for the Auxiliary input variable to a motion control instruction does not exist.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant slave axis. celerates to a stop if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	MC_AX[*].MFaultLvI.Active BOOL		BOOL	OOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ble specified for the <i>Auxiliary</i> input va		variable exists for	Correct the instruction so that the variable exists for the axis that was specified for the instruction.		Make sure to specify variables that exist when specifying variables for the input parameters to an instruc- tion.	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Illegal Axis Specification			Event code	54600000 hex	
Meaning	The axis specified	for the Axis input	variable to a motio	n control instruction	n does not exist.	
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The instruction is	not executed.	
System-de-	stem-de- Variable		Data type		Name	
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An axis does not exist for the variable specified for the <i>Axis</i> input variable to the instruction.		Correct the instruction so that the variable exists for the axis that was specified for the instruction.		Make sure to specify a variable that exists when specifying a varia- ble for an input parameter to an in- struction.	
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Illegal Axes Grou	p Specification		Event code	54610000 hex			
Meaning	The axes group s not a used group.	The axes group specified for the <i>AxesGroup</i> input variable to a motion control instruction does not exist or is not a used group.						
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	The instruction is	not executed.			
System-de-	Variable		Data type		Name			
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An axes group do the variable speci <i>AxesGroup</i> input struction.	fied for the		Correct the specification for the in- struction so that the specified axes group exists.		Specify a variable that exists when specifying a variable for an input parameter to an instruction.		
	The axes group specified for the <i>AxesGroup</i> input variable to the instruction is not specified as a used group.		Correct the axes group specified by the instruction to a used group.		Set a used axes group for the <i>AxesGroup</i> input variable to the instruction.			
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Illegal Master Axi	s Specification		Event code	54620000 hex	
Meaning	The axis that is s	pecified for the Mas	s <i>ter</i> input variable to	o a motion control i	nstruction is not co	rrect.
Source	Motion Control Function Module		Source details	MC common or axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		oossible for relevan ecelerates to a stop	
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	IltLvI.Active	BOOL		MC Common Mir rence	or Fault Occur-
	_MC_AX[*].MFaultLvl.Active		BOOL	BOOL		Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An axis does not exist for the varia- ble specified for the <i>Master</i> input variable to the instruction. The axis that was specified for the <i>Master</i> input variable to the MC_Phasing (Shift Master Axis Phase) instruction is not the master axis for syncing. The master axis and a slave axis are not assigned to the same task.		Correct the instruction so that the variable exists for the axis that was specified for the instruction. Correct the variable that is input to the <i>Master</i> input variable of the MC_Phasing (Shift Master Axis Phase) instruction to the axis varia- ble that is specified as the master axis of the synchronized control in- struction. Assign the axes that are input to the <i>Master</i> and <i>Slave</i> input varia- bles to the instruction to the same		Specify a variable that exists when specifying a variable for an input parameter to an instruction. Set the variable that is input to the <i>Master</i> input variable of the MC_Phasing (Shift Master Axis Phase) instruction to the axis varia ble that is specified as the master axis of the synchronized control in struction. Specify axes that are assigned to the same tasks for the master and slave axes.	
Attached infor-	None		task.			
mation						
Precautions/ Remarks	None					

Event name	Motion Control Instruction Re-execution Disabled (SlaveOffset)			Event code	54630000 hex		
Meaning		In attempt was made to change the <i>SlaveOffset</i> input variable when re-executing a motion control instruction. This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Fu	Motion Control Function Module So		Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation Operation is not possible for relevant axis. axis decelerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		put variables to the relevant motion		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control In: (SlaveScaling)	struction Re-execu	tion Disabled	Event code	54640000 hex		
Meaning	-	-		<i>SlaveScaling</i> input variable when re-executing a motion control instruc- hanged when re-executing an instruction.)			
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				possible for relevant axis. Relevant to a stop if it is in motion.	
System-de-			Data type BOOL		Name		
fined variables					Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	control instruction	ne relevant motion n can be changed Write the program parameters for e that cannot be	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control In: (StartPosition)	struction Re-execu	tion Disabled	Event code	54650000 hex		
Meaning		An attempt was made to change the <i>StartPosition</i> input variable when re-executing a motion control instruc- tion. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Rel axis decelerates to a stop if it is in motion.			
System-de-			Data type		Name		
fined variables			BOOL	BOOL		Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		Check the manual to see if the in- put variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re- execution.		
Attached infor- mation	None						
Precautions/ Remarks	None						

			<u> </u>		5400000 L	
Event name		tion Error with Und		Event code	54660000 hex	
Meaning			on instruction was e			
Source	Motion Control Fu	Inction Module	Source details	Axis/axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	operation is not p axis decelerates t If "axes group" is operation is not p	or the source details, ossible for relevant axis. Relevant to a stop if it is in motion. given for the source details, ossible for relevant axes group. Rel decelerates to a stop if it is in mo-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFa	aultLvI.Active	BOOL		Axes Group Mino	r Fault Occur-
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	ion High-speed homing was executed when home was undefined.		Execute the high-speed homing operation only after homing to de- fine home.		-	speed homing in- er home is defined
	An interpolation instruction was executed for an axes group that in- cludes an axis with no defined home.		Perform homing to define home for all axes in the axes group before executing the interpolation instruc- tion.		Perform homing to define home for all axes in the axes group before executing the interpolation instruc- tion.	
	 One of the following robot instructions was executed for an axes group that includes a logical axis with no defined home. MC_SetKinTransform (Set Kinematics Transformation) instruction MC_MoveTimeAbsolute (Timespecified Absolute Positioning) instruction MC_SyncLinearConveyor (Start Conveyor Synchronization) instruction MC_SyncOut (End Synchronization) instruction MC_GroupMon (Group Monitor) instruction MC_RobotJog (Axes Group Jog) instruction 					
Attached infor- mation	Attached Informat • Axis: 0 • Axes group: Lo	ion 1: Depends on gical axis number	the source details			
Precautions/ Remarks	If you execute the	-	iction after perform e in this case.	ing homing, home	will again be undefi	ined. You must

Event name	Motion Control Instition Type)	struction Re-execu	tion Disabled (Po-	Event code	54670000 hex			
Meaning		An attempt was made to change the <i>ReferenceType</i> input variable when re-executing a motion control instruc- tion. (This input variable cannot be changed when re-executing an instruction.)						
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction re- execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation		t possible for relevant axis. Relevant s to a stop if it is in motion.			
System-de-	Variable		Data type		Name			
fined variables _MC_AX[*].MFau		ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		rameter for the re ble does not char	Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		Check the manual to see if the in- put variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re- execution.		
Attached infor- mation	None							
Precautions/ Remarks	None		lone					

Event name	Unused Axis Spe	cification for Maste	r Axis	Event code	54680000 hex	
Meaning	The master axis s	specified for a motion	on control instructio	n is an unused axis	5.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in mo tion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The master axis specified for a mo- tion control instruction is an un- used axis.		Set a used axis for the master axis that is specified for the instruction.		Make sure the master axis speci- fied for the motion control instruc- tion is a used axis.	
Attached infor-	None					
mation						
Precautions/ Remarks	None					

Event name	First Position Set	irst Position Setting Out of Range Event code 54690000 hex					
Meaning		0 0	Position input varia		ontrol instruction is out of range.		
Source			Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Last Position Sett	ing Out of Range		Event code	546A0000 hex	
Meaning			Position input varia	able to a motion cor		ut of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program			· · ·	oossible for relevan to a stop if it is in m	
System-de-	es _MC_AX[*].MFaultLvl.Active		Data type BOOL		Name	
fined variables					Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	ction Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Illegal First/Last Position Size Relationship (Linear I Mode)			Event code	546B0000 hex		
Meaning		he parameter specified for the <i>LastPosition</i> input variable to a motion control instruction is smaller than the arameter specified for the <i>FirstPosition</i> input variable.					
Source	Motion Control Function Module S		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program				bossible for relevan to a stop if it is in m		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the <i>LastPosition</i> input parameter is less than the value of the <i>FirstPosition</i> input variable for the instruction when the Count Mode is set to Linear Mode.		Correct the program so that the value of the <i>LastPosition</i> specified for the instruction is larger than the value of the <i>FirstPosition</i> . Or, change the value of the Count Mode to Rotary Mode.		Write the program so that the value of the <i>LastPosition</i> specified for the instruction is larger than the value of the <i>FirstPosition</i> . Or, check to make sure that the Count Mode of the relevant axis is set to Rotary Mode.		
Attached infor-	None		8		8		
mation							
Precautions/	None						
Remarks							

Event name	Master Sync Start Position Setting Out of Range			Event code	546C0000 hex		
Meaning	The parameter specified for the <i>MasterSyncPosition</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in mo ion.		
System-de-	Variable	•	Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.			The relevant in- Set the input parameter to struction so that the valid the input variable is not ex		he valid range of	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Slave Sync Start Position Setting Out of Range			Event code	546D0000 hex		
Meaning	The parameter sp	The parameter specified for the <i>SlaveSyncPosition</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.			ossible for relevant axis. Relevant o a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	ables _MC_AX[*].MFaultLvl.Active BOOL			Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ceeded the valid range of the input variable.		Correct the paran valid range of the not exceeded for struction.	input variable is	e is struction so that the valid ra		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Duplicate Latch ID for Trigger Input Condition			Event code	546E0000 hex	
Meaning	The same latch I	O was specified for	more than one mot	ion control instruct	ion.	
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		oossible for relevan to a stop if it is in m	
System-de-	Variable	•	Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The same latch ID is used simulta- neously for more than one of the following instructions: MC_TouchP- robe (Enable External Latch) in- struction, MC_MoveLink (Synchro- nous Positioning) instruction, and MC_MoveFeed (Interrupt Feeding) instruction.		as being in use du the MC_Home or Parameter instruc	tot used by an- at the same time . Either use a dif- do not execute hat use the same me time. atch 2 are treated uring execution of MC_HomeWith- tion.	Do not use the same latch ID si- multaneously for more than one the following instructions: MC_TouchProbe (Enable Extern Latch) instruction, MC_MoveLin (Synchronous Positioning) instru- tion, and MC_MoveFeed (Intern Feeding) instruction.	
	The MC_AbortTri ternal Latch) instr cuted to cancel a used by an instru- the MC_TouchPro ternal Latch) instr	uction was exe- latch that was ction other than obe (Enable Ex-	Do not use the Disable External Latch instruction to cancel a latch that is used by an instruction other than the Enable External Latch in- struction.		Do not execute the Disable Exter- nal Latch instruction for a latch that is used by an instruction other than the Enable External Latch instruc- tion.	
Attached infor- mation	None					
Precautions/ Remarks	If you decide to cl	nange the latch ID,	make sure that sar	ne latch ID is not u	sed by any other in	nstructions.

Event name	Jerk Override Factor Out of Range			Event code	546F0000 hex		
Meaning	The parameter sp	The parameter specified for the <i>JerkFactor</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.			ossible for relevant axis. Relevant o a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ceeded the valid range of the input valid variable. valid		Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input para struction so that t the input variable	he valid range of	
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Acceleration/Deceleration Override Factor Out of Range			Event code	54700000 hex		
Meaning	The parameter sp	The parameter specified for the <i>AccFactor</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		ot possible for relevant axis. Relevant es to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the param valid range of the not exceeded for struction.	input variable is	Set the input parameter to the i struction so that the valid range the input variable is not exceed		
Attached infor- mation	None						
Precautions/	None						
Remarks	none						

Event name	First Position Method Specification Out of Range			Event code	54710000 hex		
Meaning	The parameter sp	The parameter specified for the <i>StartMode</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.			ossible for relevant axis. Relevant o a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Prevention			
rection	Instruction input parameter ex- ceeded the valid range of the input variable.			ameter so that the Set the input parameter be input variable is struction so that the val the relevant in-		he valid range of	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control In (First Position Me	struction Re-execu thod)	tion Disabled	Event code	54720000 hex	
Meaning				<i>tartMode</i> input variable when re-executing a motion control instruction when re-executing a motion control instruction.)		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction re- execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	I	oossible for relevan to a stop if it is in m	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for an input variable that cannot be changed for re-exe- cution was changed.		Correct the program so that the pa- rameter for the relevant input varia- ble does not change when the rele- vant instruction is re-executed.		- put variables to the relevant motion	
Attached infor- mation	None		·		·	
Precautions/ Remarks	None					

Event name	Unused Axis Specification for Auxiliary Axis			Event code	54740000 hex		
Meaning	The axis specified	The axis specified for the Auxiliary input variable to a motion control instruction is an unused axis.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	L 1	peration is not possible for relevant slave axis. elevant slave axis decelerates to a stop if it is in mo on.		
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction	Correction			
rection	Auxiliaryinput variable to the in- struction is an unused axis.		Set a used axis for specified for the i correct the param specifies a used a	nstruction. Or, neter so that it	is Make sure that the axis specifi for the instruction is a used axi		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Position Gear Value Error			Event code	54750000 hex		
Meaning	Synchronized motion is not possible for the velocity, acceleration rate, and deceleration rate that were input to a motion control instruction.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		is not possible for relevant slave axis. lave axis decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Prevention			
rection	The specified synchronized motion cannot be performed at the veloci- ty, acceleration rate, or decelera- tion rate that is input to the instruc- tion.		the operating spe	iotion according to becifications of the (Positioning Gearvant instruction and set a v that allows for synchronize tion.		nd set a value	
Attached infor-	- None						
mation							
Precautions/	None						
Remarks							
Event name	Position Gear Ma	ster Axis Zero Velo	city	Event code	54760000 hex		
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Meaning	The velocity of the	The velocity of the master axis was zero when a motion control instruction was started.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in mo tion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The velocity of the master axis was 0 when the instruction was started.		Correct the program so that the ve- locity of the master axis is not 0 when the instruction is started.		Write the program so that the ve- locity of the master axis is not 0 when the instruction is started.		
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	Target Position Se	etting Out of Range	9	Event code	54780000 hex	
Meaning	The parameter sp	ecified for the Posi	<i>ition</i> input variable f	to a motion control instruction is out of range.		
Source	Motion Control Fu	Inction Module			Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System
Effects	User program	Continues.	Operation	on If "axis" is given for the source details, operation is not possible for relevant axis. R axis decelerates to a stop if it is in motion. If "axes group" is given for the source details operation is not possible for relevant axes g evant axes group decelerates to a stop if it i tion.		axis. Relevant otion. e details, axes group. Rel-
System-de- fined variables	Variable		Data type		Name	
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction	Correction		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
	The target position of a Rotary Mode axis is not within the ring set- ting range.		Correct the target position of the Rotary Mode axis to within the ring setting range.		Set the target position of the Rota- ry Mode axis to within the ring set- ting range.	
Attached infor- mation	• Axis: 0	tion 1: Depends on ement number that	the source details is out of range in t	he <i>Position</i> input va	ariable to the instruc	ction.
Precautions/ Remarks	None					

Event name	Travel Distance C	out of Range		Event code	54790000 hex	
Meaning		at was specified for ion with the value o		t variable to a motic s out of range.	on control instructio	n is out of range
Source	Motion Control Fu	Inction Module			Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Recovery Error reset Log category Sy		System
Effects	User program	Continues.	Operation	operation is not p axis decelerates t If "axes group" is operation is not p	or the source details, ossible for relevant axis. Relevant to a stop if it is in motion. given for the source details, ossible for relevant axes group. Rel- decelerates to a stop if it is in mo-	
System-de- fined variables	Variable		Data type		Name	
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The absolute value of the instruc- tion input parameter exceeded the range of 40-bit data when it is con- verted to pulses.		Correct the input parameter speci- fied for the <i>Distance</i> input variable of the instruction so that the travel distance and the target position are		distance and the	n so that the travel target position for e not out of range.
	For a Linear Mode axis, the target position with the travel distance added exceeded signed 40-bit data when the absolute value is con- verted to pulses.		not out of range.			
Attached infor- mation	None		1		1	
Precautions/ Remarks	None					

Event name	Cam Table Start I	Point Setting Out of	f Range	Event code	547A0000 hex	
Meaning	The parameter sp	ecified for the Star	tPosition input varia	able to a motion co	ntrol instruction is o	out of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program Continues.		Operation	Operation is not possible for relevant axis. Rele axis decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	rection Instruction input parameter exceeded the valid range of the invariable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	None		•		•	
mation						
Precautions/	None					
Remarks						

Event name	Cam Master Axis Following First Position Setting Out of Range			Event code	547B0000 hex		
Meaning	The parameter sp range.	The parameter specified for the <i>MasterStartDistance</i> input variable to a motion control instruction is out of ange.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Relevants axis decelerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Circular Interpola	tion Radius Setting	Error	Event code	e 547C0000 hex			
Meaning		It was not possible to create a circular path for the specified radius when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.						
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.				ossible for relevant axes group. Sup decelerates to a stop if it is in		
System-de-	m-de- Variable		Data type		Name			
fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur-			
					rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	For the MC_MoveCircular2D (Cir- cular 2D Interpolation) instruction, it was not possible to create a cir- cular path for the specified radius when the radius method was specified for circular interpolation.		Correct the radius so that the circular path can be created.		Check the proces vant instruction at that allows the cre path.	0		
Attached infor-	None							
mation								
Precautions/	None							
Remarks								

Event name	Circular Interpola	tion Radius Overflo	w	Event code	547D0000 hex		
Meaning		For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, the radius of the circle exceeded the maximum value for the border point or center specification method.					
Source	Motion Control Fu	unction Module			Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation Operation is not possible for relevant axes Relevant axes group decelerates to a stop motion.		• •		
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Assumed cause For the MC_MoveCircular2D (Cir- cular 2D Interpolation) instruction, the radius of the circle exceeded 40-bit data when it is converted to pulses for the border point or cen- ter specification method.		Correct the input parameter so that the circle radius does not exceed 40-bit data when it is converted to pulses based on the operating specifications of the instruction. Border point specification: Start point, border point, and end point Center point specification: Start point, end point, and center point		Check the processing of the in- struction and correct the input pa- rameters so that the circle radius does not exceed 40-bit data it is when converted to pulses.		
Attached infor- mation	None			· · ·	1		
Precautions/ Remarks		adius is exceeded v ification Out of Ran	when the radius spe ge error occurs.	ecification method i	s used, a Border P	oint/Center Posi-	

Event name	Circular Interpola	tion Setting Out of	Range	Event code	547E0000 hex	
Meaning	The parameter sp	pecified for the Circ	Axes input variable	to a motion contro	l instruction is out c	of range.
Source	Motion Control Fu	unction Module			Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		possible for relevant axes group. Sup decelerates to a stop if it is in	
System-de-	tem-de- Variable		Data type		Name	
fined variables	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Cause and cor- Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameters to the in- struction so that the valid range of the input variables is not exceeded.	
	The axes that were specified in <i>CircAxes</i> are not included in the composition axes in the Axes Group Settings.		Set the axes that are specified for <i>CircAxes</i> so that they are in an axes group configuration.		Make sure that the axes that are specified for <i>CircAxes</i> are in an axes group configuration.	
	The same axis was specified for both axes of <i>CircAxes</i> .		Correct the settings so that the two axes specified for <i>CircAxes</i> are different axes.		Write the program so that the two axes specified for <i>CircAxes</i> are dif- ferent axes.	
Attached infor- mation	None		·		·	
Precautions/ Remarks	None					

Event name	Auxiliary/Slave A	kis Numbers Not in	Ascending Order	Event code	547F0000 hex		
Meaning	The values of the in ascending orde		Auxiliary and Slav	e input variables to	a motion control ir	nstruction are not	
Source	Motion Control Function Module S		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		peration is not possible for relevant axis. Releva xis decelerates to a stop if it is in motion.		
System-de- fined variables	Variable		Data type		Name		
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	and <i>Slave</i> input v	and <i>Slave</i> input variables to the in- struction are not in ascending or-		Correct the axis numbers specified for the <i>Auxiliary</i> and <i>Slave</i> input parameters to the instruction so that they are in ascending order.		Write the program so that the axis numbers specified for <i>Auxiliary</i> and <i>Slave</i> are in ascending order.	
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Cam Table Prope	rty Ascending Data	Error at Update	Event code	vent code 54800000 hex		
Meaning	l .	A phase that was not in ascending order was found during calculating the number of valid data. Or, after calcu- ations, the number of valid data is 0.					
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction Place the phase data into ascend- ing order in the cam table data.		Prevention	Prevention	
rection	A phase that was order was found v the number of val	when calculating			Place the phase data into ascend- ing order in the cam table data.		
	After calculations, the number of valid data is 0.		Correct the cam table data so that it includes phases that are not 0.		Create the cam table data so that it includes phases that are not 0.		
Attached infor-	None						
Attached infor- mation	None						
	None None						

Event name	MC_Write Target	Out of Range		Event code	54810000 hex	
Meaning	The parameter sp	The parameter specified for the <i>Target</i> input variable to a motion control instruction is out of range.				
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation Not affected.			
System-de-	tem-de- Variable		Data type	•	Name	
fined variables	_MC_COM.MFau	IltLvI.Active	BOOL		MC Common Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	None					
mation						
Precautions/ Remarks	None					

Event name	Master Travel Dis	tance Specificatior	Out of Range	Event code	54820000 hex		
Meaning	The parameter sp	ecified for the Mas	<i>terDistance</i> input v	ariable to a motion	control instruction	is out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevant slave axis. axis decelerates to a stop if it is in mo-		
System-de- fined variables	Variable		Data type		Name		
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ion Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation	Nama						
Precautions/ Remarks	None						

Event name	Master Distance i Range	n Acceleration Spe	cification Out of	Event code	54830000 hex			
Meaning	The parameter sp range.	The parameter specified for the <i>MasterDistanceACC</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Fu	Motion Control Function Module S		Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation		eration is not possible for relevant slave axis. evant slave axis decelerates to a stop if it is in mo-			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.			
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Master Distance i Range	Master Distance in Deceleration Specification Out of Range			54840000 hex			
Meaning	The parameter sp range.	The parameter specified for the <i>MasterDistanceDEC</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module S		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation		ion is not possible for relevant slave axis. nt slave axis decelerates to a stop if it is in mo-			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	ceeded the valid range of the input valid variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None		•		•			
mation								
Precautions/	None							
Remarks								

Event name	Execution Mode S	Selection Out of Ra	inge	Event code	54870000 hex		
Meaning	The parameter sp	ecified for the Exe	<i>cutionMode</i> input v	ariable to a motion	control instruction	is out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction			
rection	ection Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Permitted Followi	ng Error Out of Rar	nge	Event code	54880000 hex		
Meaning	The parameter sp range.	The parameter specified for the <i>PermittedDeviation</i> input variable to a motion control instruction is out of angle					
Source			Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The instruction is	not executed.		
System-de-	Variable	•	Data type	Data type		Name	
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur-		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the paran	neter so that the	Set the input parameter to the in-		
	ceeded the valid r	ange of the input	valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for the relevant in-		the input variable is not exceeded.		
			struction.				
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Border Point/Center Position/Radius Specification Out of Range			Event code	54890000 hex			
Meaning	The parameter sp	becified for the Aux	<i>Point</i> input variable	to a motion contro	l instruction is out o	of range.		
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.				ossible for relevant axes group. oup decelerates to a stop if it is in		
System-de-			Data type	Data type				
fined variables			BOOL		Axes Group Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction	Correction				
rection	signed 40-bit data to pulses for the b	The value of <i>AuxPoint</i> exceeded signed 40-bit data when converted to pulses for the border point or center specification method.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
	For a radius specifications, the ab- solute value of <i>AuxPoint[0]</i> ex- ceeded 40-bit data when it is con- verted to pulses.							
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	End Point Specifi	cation Out of Rang	e	Event code	548A0000 hex	
Meaning	The parameter sp	pecified for the End	Point input variable	to a motion control instruction is out of range.		
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.			bossible for relevant axes group. Dup decelerates to a stop if it is in	
System-de- Variable			Data type		Name	
fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The instruction input parameter ex- ceeded the range of signed 40-bit data when it is converted to pulses.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	- None					
mation						
Precautions/	None					
Remarks						

Event name	Slave Travel Dista	ance Specification	Out of Range	Event code	548B0000 hex	
Meaning	The parameter sp	pecified for the Slav	<i>eDistance</i> input va	riable to a motion o	control instruction is	out of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in tion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The instruction input parameter ex- ceeded the range of 40-bit data when it is converted to pulses.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Phase Shift Amou	unt Out of Range		Event code	548C0000 hex		
Meaning	The parameter sp	pecified for the Pha	<i>seShift</i> input variab	le to a motion cont	rol instruction is ou	t of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program			toossible for relevant slave axis. An exist decelerates to a stop if it is in mo-			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	The absolute value of the instruc- tion input parameter exceeded the range of 40-bit data when it is con- verted to pulses.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Feeding Distance Out of Range			Event code	548D0000 hex	
Meaning	The parameter sp	ecified for the Fee	<i>dDistance</i> input var	iable to a motion c	ontrol instruction is	out of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program			oossible for relevant axis. Relevant o a stop if it is in motion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The absolute value of the instruc- tion input parameter exceeded the range of 40-bit data when it is con- verted to pulses.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Auxiliary and Slav	/e Defined as Sam	e Axis	Event code	548E0000 hex	
Meaning	The same axis is	specified for the A	uxiliary and Slave in	nput variables to a	motion control instr	uction.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in mo- on.	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter was the same for the <i>Auxiliary</i> and <i>Slave</i> input varia- bles to the instruction.		Correct the parameters so that dif- ferent axes are specified for the <i>Auxiliary</i> and <i>Slave</i> input variables to the instruction.			axes for the auxili- e axis for a motion n.
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Relative Position	Selection Out of R	ange	Event code	548F0000 hex		
Meaning	The parameter sp	ecified for the Rela	ative input variable	to a motion control	instruction is out of	f range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Cam Transition S	pecification Out of	Range	Event code	54900000 hex		
Meaning	The parameter sp	pecified for the Can	<i>Transition</i> input va	riable to a motion o	control instruction is	s out of range.	
Source	Motion Control Fu	Motion Control Function Module		Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in r tion.			
System-de- fined variables	Variable		Data type		Name		
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None	None					
Precautions/ Remarks	None						

Event name	Synchronized Control End Mode Selection Out of Range			Event code	54910000 hex		
Meaning	The parameter specified for the OutMode input variable			to a motion contro	I instruction is out	of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relev Relevant slave axis decelerates to tion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	OL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Enable External L	atch Instruction Ex	ecution Disabled	Event code	54920000 hex		
Meaning	_	<i>_mcImmediateStop (Immediate Stop)</i> was specified for the <i>StopMode</i> input variable when the MC_TouchP- robe (Enable External Latch) instruction was executed in Drive Mode for an encoder axis.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	eration Operation is not po axis decelerates to			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ection _mcImmediateStop (Immediate Stop) was specified for the StopMode input variable when the MC_TouchProbe (Enable External Latch) instruction was executed in Drive Mode for an encoder axis.		Correct the program so that _mcImmediateStop (Immediate Stop) is not specified for StopMode for the encoder axis.		If you specify _ma (Immediate Stop) Mode, execute th robe (Enable Exte struction only for	and use Drive e MC_TouchP- ernal Latch) in-	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Master Axis Offse	et Out of Range		Event code	54930000 hex		
Meaning	The parameter sp	pecified for the Mas	terOffset input varia	able to a motion co	ontrol instruction is a	out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	- · · · · · · · · · · · · · · · · · · ·	Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in m ion.		
System-de-	Variable		Data type		Name	Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The instruction input parameter ex- ceeded the range of signed 40-bit data when it is converted to pulses.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Slave Axis Offset	Out of Range		Event code	54940000 hex		
Meaning	The parameter sp	pecified for the Slav	e <i>Offset</i> input varial	ble to a motion con	trol instruction is ou	ut of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		ossible for relevant slave axis. is decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection The instruction input part ceeded the range of sig data when it is converted		of signed 40-bit	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Command Current Position Count Selection Out of Range			Event code	54950000 hex		
Meaning	The parameter sp	pecified for the Cm	<i>dPosMode</i> input va	riable to a motion c	ontrol instruction is	out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		ossible for relevant axis. Relevant o a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor-	None		1				
mation							
Precautions/	None						
Remarks							

Event name	Master Axis Gear	Ratio Numerator C	Out of Range	Event code 54960000 hex			
Meaning	The parameter sp range.	The parameter specified for the <i>RatioNumeratorMaster</i> input variable to a motion control instruction is out of ange.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		not possible for relevant slave axis. Rele xis decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None	None					
Remarks							

Event name	Master Axis Gear	Ratio Denominato	r Out of Range	Event code	54970000 hex		
Meaning	The parameter sp range.	The parameter specified for the <i>RatioDenominatorMaster</i> input variable to a motion control instruction is out of ange.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevant slave axis. Rele- lecelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None		·		·		
mation							
Precautions/	None						
Remarks							

Event name	Auxiliary Axis Ge	ar Ratio Numerator	Out of Range	Event code	54980000 hex		
Meaning	The parameter sp range.	pecified for the Rati	oNumeratorAuxiliai	ry input variable to	a motion control ins	struction is out of	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis. Re vant slave axis decelerates to a stop if it is in motio			
System-de- fined variables	Variable		Data type		Name		
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	n Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None		·		·		
mation							
Precautions/	None						
Remarks							

Event name	Auxiliary Axis Ge	ar Ratio Denominat	tor Out of Range	Event code	54990000 hex			
Meaning	The parameter sp of range.	The parameter specified for the <i>RatioDenominatorAuxiliary</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation		Operation is not possible for relevant slave axis. Re rant slave axis decelerates to a stop if it is in motior			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in- struction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.			
Attached infor-	None							
mation								
Precautions/	None							
Remarks								

Event name	Master Axis Posit	ion Type Selection	Out of Range	Event code	549A0000 hex			
Meaning	The parameter sp range.	The parameter specified for the <i>ReferenceTypeMaster</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module \$		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation		eration is not possible for relevant slave axis. Re t slave axis decelerates to a stop if it is in motion			
System-de-	Variable	ariable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.			
Attached infor-	None							
mation								
Precautions/	None							
Remarks								

Event name	Auxiliary Axis Pos	sition Type Selectio	n Out of Range	Event code	549B0000 hex		
Meaning	The parameter sp range.	he parameter specified for the <i>ReferenceTypeAuxiliary</i> input variable to a motion control instruction is out of ange.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		not possible for relevant slave axis. Rele s decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
Attached infor-	None		·		·		
mation							
Precautions/	None						
Remarks							

Event name	Target Position R	ing Counter Out of	Range	Event code	549C0000 hex			
Meaning	Operation is not p struction.	Operation is not possible because the target position is out of range for the ring counter of the executed in- struction.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Operation Operation is not possible for relevant a axis decelerates to a stop if it is in mot				
System-de-			Data type	•	Name			
fined variables			BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	High-speed homing was executed when 0 was not included in the ring counter.		cuted when the ri does not include (program so that h ing is not perform	High-speed homing cannot be exe- cuted when the ring counter range does not include 0. Correct the program so that high-speed hom- ing is not performed. Or change the settings so that the ring counter range includes 0		ng cannot be exe- ng counter range D. Write the pro- -speed homing is r make the set- ing counter range		
Attached infor-	None							
mation								
Precautions/	None							
Remarks								

Event name	Axes Group Com	position Axis Settin	g Out of Range	Event code	549D0000 hex*1		
Meaning		The parameter specified for the Axes input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module Source details Axes group			Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation Operation is not possible for relevant axes gr evant axes group decelerates to a stop if the in motion.		•		
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	n Instruction input parameter ex- ceeded the valid range of the input variable. The composition axes in the axes group are not assigned to the same task.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.		
			Assign all of the axes that are specified for the <i>Axes</i> input variable to the instruction to the same task.		Specify axes that are assigned to the same task for all of the compo- sition axes in an axes group.		
Attached infor- mation		tion 1: Error Details			1		
mation	 01 hex: There is a type specification error. 02 hex: The number of elements in the array is lower than the number of composition axes. 03 hex: The same axis number is specified twice, the axis type of the specified axis number is not supported or the specified axis number is out of range. 04 hex: The axis with the specified axis number cannot be set as the composition axis because it is a single-axis position control axis. 						
Precautions/ Remarks	None						

Event name	Axis Use Setting Out of Range			Event code	549E0000 hex ^{*1}	
Meaning	The parameter sp	ecified for the Axis	Use input variable	to a motion control	instruction is out o	f range.
Source	Motion Control Function Module		Source details	MC common or axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur- rence	
	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input para struction so that t the input variable	he valid range of
Attached infor- mation	None					
Precautions/ Remarks		If an error occurs in executing an instruction for a used axis, an axis error will occur. If an error occurs in exe- cuting an instruction for an unused axis, an MC common error will occur.				

Event name	Homing Paramete	er Setting Out of Ra	ange	Event code	57000000 hex ^{*1}	
Meaning	The parameter sp	ecified for the Hon	<i>ningParameter</i> inpu	t variable to a mot	ion control instruction	on is out of range.
Source	Motion Control Function Module Source detail		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	ltLvl.Active	BOOL		MC Common Mir rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex- ceeded the valid range of the input variable.		Correct the paran valid range of the not exceeded for struction.	input variable is	variable is struction so that the valid ran	
Attached infor- mation	Attached Information 1: Error Details 1: Homing Method out of range, 2: Home Input Signal out of range, 3: Homing Start Direction out of range, Home Input Detection Direction out of range, 5: Operation Selection at Positive Limit Input out of range, 6: eration Selection at Negative Limit Input out of range, 7: Homing Velocity out of range, 8: Homing Approact Velocity out of range, 9: Homing Acceleration out of range, 10: Homing Deceleration out of range, 11: Hom Jerk out of range, 12: Home Input Mask Distance out of range, 13: Absolute Encoder Home Offset out of range, 14: Homing Holding Time out of range, 15: Homing Compensation Value out of range, 16: Homing Compensation Velocity out of range, 100: Home Input Mask Distance exceeded 40-bit range when convert to pulses, 101: Home Input Mask Distance exceeded modulo length, 102: Homing Compensation Value exceeded modulo lengt 104: Home Offset exceeded 40-bit range when converted to pulses, 103: Homing Compensation Value exceeded modulo range, 106: Homing Velocity exceeded maximum velocity, 107: Homing Approach Velocity exceeded maxim velocity, 108: Homing Approach Velocity was not less than or equal to Homing Velocity, 109: Homing Comp sation Velocity is not less than or equal to Maximum Velocity, 110: Homing Acceleration exceeded maximu acceleration rate, 111: Homing Deceleration exceeded maximum deceleration rate				tt of range, 6: Op- ning Approach Inge, 11: Homing Offset out of 16: Homing when converted ation Value ex- modulo length, ded modulo cceeded maximum Homing Compen-	
Precautions/	None					

Event name	Axis Use Change	Error		Event code	57020000 hex*1	
	The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not					
Meaning		AxisUse (Change A ocity of the axis wa		n was executed wh	en the axis was no	t stopped or when
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		•
System-de-	Variable	•	Data type	•	Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Assumed cause The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated.		is TRUE in the Ax	Use (Change Axis when the axis is the command ve- s not saturated. d if or <i>Status.Standstill</i> vis Variable. The v for an axis is sa- <i>VelLimit</i> is TRUE	Execute the MC_ (Change Axis Us when the axis is command velocit	e) instruction
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Cannot Change A	Axis Use		Event code	57030000 hex ^{*1}	
Meaning	The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used real axes or the maximum number of used motion control servo axes to be exceeded.					
Source	Motion Control Fu	unction Module			At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFat	IltLvI.Active	Lvl.Active BOOL		MC Common Minor Fault Occur- rence	
Cause and cor-	use and cor- ction Assumed cause Correction The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the max- imum number of used real axes to be exceeded. Correct the program so that the maximum number of real axes used by the CPU Unit is not ex- ceeded.		Prevention			
			maximum numbe used by the CPU	iximum number of real axes mum number of real axes the CPU Unit is not ex-		,
	Axis Use) instruct		Correct the progra maximum numbe control servo axe used by the CPU ceeded.	r of used motion s that can be	mum number of u	at can be used by
Attached infor- mation	• 1: Maximum n	Attached Information 1: Cause of the Error 1: Maximum number of used real axes exceeded 2: Maximum number of used motion control servo axes exceeded				
Precautions/ Remarks	None					

Event name	Motion Control Parameter Setting Error When Chang- ing Axis Use			Event code	57200000 hex ^{*1}	
Meaning	The motion contro	ol parameter setting	gs for the axis that	was changed to a ι	used axis are incori	rect.
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	ltLvl.Active	BOOL		MC Common Mir rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The MC_ChangeAxisUse (Change Axis Use) instruction was used to change an unused axis to a used axis, but the motion control param- eter settings of the axis are not cor- rect. The power supply was interrupted while a download of the motion control parameter settings was in progress.		error occurred to	he axis where the a Used Axis , and orrect the error lo- does not occur, g to an Unused	 when the axis is set to a Used Axis and then download the set- tings with it set to an Unused Axis. 	
			Download the MC the Sysmac Studi	C parameters from io.		
	The non-volatile r or the life of the n ry has been exce	on-volatile memo-	If this error remains even after making the above corrections, re- place the CPU Unit.		None	
Attached infor- mation	None					
Precautions/ Remarks	None	None				

Event name	Required Process Data Object Not Set When Chang- ing Axis Use			Event code	57210000 hex ^{*1}	
Meaning	The objects that a	are required for the	axis type of the axi	is that was change	d to a used axis are not set.	
Source	Motion Control Fu	Inction Module	Source details	MC Common	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation Not affected.			
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	ltLvl.Active	BOOL		MC Common Mir rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	rectionThe objects that are required for the axis type of the axis that was changed to a used axis are not set in the PDO map settings.The power supply was interrupted while a download of the motion control parameter settings was in progress.		Edit the PDO map settings on the Sysmac Studio and set the objects that are required for the axis where the error occurred. Refer to PDO Mapping on page 2-35 for the required objects.		Make sure that operation is correct when the axis is set to a Used Axis and then download the set- tings with it set to an Unused Axis .	
			Download the MC the Sysmac Studi	c parameters from io.	Do not interrupt t while saving the tings.	
	The non-volatile r or the life of the n ry has been exce	on-volatile memo-	place the CPU Unit. e Correct the program so that the d MC_ChangeAxisUse (Change Axis		None	
	The MC_Change, Axis Use) instruct for an axis that A Unused axis (un used axis) .	ion was executed xis Use is set to			Write the program so that the MC_ChangeAxisUse (Change Axis Use) instruction is not executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis) .	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Motion Control Instruction Multi-execution Disabled (Master Axis)			Event code	572F0000 hex ^{*1}	
Meaning	A Master in-out va	ariable that cannot	be changed during	multi-execution of	instructions was cl	nanged.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At multi-execu- tion of instruc- tions
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A <i>Master</i> in-out variable that can- not be changed during multiexe- cution of instructions was changed.		Correct the progravity value of the <i>Mast</i> is not changed dution of the relevant	<i>er</i> in-out variable uring multi-execu-	Write the program of the <i>Master</i> in-control of the <i>Master</i> in-control of the master in-control of the relevant instru- the relevant instru-	nulti-execution of
Attached infor- mation	None				1	
Precautions/	None					
Remarks						

Event name	Motion Control Instruction Multi-execution Disabled (Position Type Selection)			Event code	57300000 hex ^{*1}	
Meaning			t cannot be change	d during multi-exec	ution of instruction	s was changed.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At multi-execu- tion of instruc- tions
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A <i>ReferenceType</i> in-out variable that cannot be changed during multi-execution of instructions was changed.		Correct the progravature of the <i>Refer</i> variable is not char ti-execution of the tions.	<i>renceType</i> in-out anged during mul-	of the <i>Reference</i> ble is not change	n so that the value <i>Type</i> in-out varia- d during multi-ex- evant instructions.
Attached infor- mation	None					
Precautions/ Remarks	None	None				

Event name	Cannot Write Axis Parameters			Event code	573A0000 hex ^{*1}	
Meaning	The instruction wa	The instruction was executed for an axis that is not an unused axis.				
Source	Motion Control Function Module Source details		MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	es _MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The instruction was executed for a		Correct the program so that the		Write the program so that the	
	used axis or an undefined axis.		MC_ChangeAxisUse (Change Axis		specified axis is an unused axis	
			Use) instruction is executed after		when the instruct	ion is executed.
			the specified axis	is changed to an		
			unused axis.			
Attached infor-	None					
mation						
		lone				
Precautions/	None					

Event name	Axis Parameter Setting Out of Range			Event code	573B0000 hex*1		
Meaning	The parameter sp valid range.	The parameter specified for the <i>AxisParameter</i> input variable to a motion control instruction is outside of the valid range.					
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvl.Active BOOL		BOOL		MC Common Mir rence	or Fault Occur-	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameter sp	ecified for the	Correct the parameter so that the		Set the input parameter to the in-		
	AxisParameter in	put variable to the	valid range of the input variable is		struction so that the valid range of		
	instruction is out of range for the no		not exceeded for	not exceeded for the instruction.		the input variable is not exceeded.	
	input variable.		Confirm which pa	Confirm which parameter exceed-		Refer to information on the	
			ed the range or w	/hat parameters	MC_WriteAxisParameter (Write Ax-		
			are inconsistent in	n the attached in-	is Parameters) instruction for the		
			formation.		valid ranges of th	e input variables.	

3

Attached infor-	Attached Information 1: Error Details
mation	
Attached information	 Attached Information 1: Error Details Range Check Detail Codes 0000 hex: Unit of Display out of range, 0001 hex: Command Pulse Count Per Motor Rotation out of range, 0002 hex: Work Travel Distance Per Motor Rotation out of range, 0003 hex: Work Travel Distance Per Rotation out of range, 0004 hex: Work Gear Ratio out of range, 0005 hex: Motor Gear Ratio out of range, 0100 hex: Maximum Velocity out of range, 0101 hex: Start Velocity out of range, 0102 hex: Maximum Jog Velocity out of range, 0103 hex: Maximum Acceleration out of range, 0104 hex: Maximum Acceleration out of range, 0104 hex: Maximum Deceleration out of range, 0105 hex: Acceleration/Deceleration Over out of range, 0106 hex: Operation Selection at Reversing out of range, 0107 hex: Velocity Warning Value out of range, 0108 hex: Acceleration Warning Value out of range, 0104 hex: In-position Range out of range, 0109 hex: Negative Torque Warning Value out of range, 010C hex: In-position Range out of range, 010F hex: Actual Velocity Filter Time Constant out of range, 010F hex: Lore Position Range out of range, 0200 hex: Immediate Stop Input Stop Method out of range, 0201 hex: Limit Input Stop Method out of range, 0201 hex: Maximum Positive Torque Limit out of range, 0204 hex: Maximum Negative Torque Limit out of range, 0301 hex: Software Limits out of range, 0301 hex: Positive Software Limit out of range, 0303 hex: Following Error Varning Value out of range, 0304 hex: Following Error Varning Value out of range, 0401 hex: Modulo Maximum Position Setting Value out of range, 0401 hex: Modulo Minimum Position Setting Value out of range, 0401 hex: Modulo Minimum Position Setting Value out of range, 0401 hex: Modulo Minimum Position Setting Value out of range, 0501 hex: Modulo Minimum Position Setting Value out of range, 0500 hex: Modulo Minimum Position Setting Value out of range, 0500 hex: Modulo Minimum Position Setting Value out of range, 0500 hex: Modulo Minimum Position Setting Value out of range, 0500 hex: Modulo Minimum Positio
	 hex: Home Input Signal out of range, 0502 hex: Homing Start Direction out of range, 0503 hex: Home Input Detection Direction out of range, 0504 hex: Operation Selection at Positive Limit Input out of range, 0505 hex: Operation Selection at Negative Limit Input out of range, 0506 hex: Homing Velocity out of range, 0507 hex: Homing Approach Velocity out of range, 0508 hex: Homing Acceleration out of range, 0509 hex: Homing Deceleration out of range, 050A hex: Homing Jerk out of range, 050B hex: Home Input Mask Distance out of range, 050C hex: Home Offset out of range, 050D hex: Homing Holding Time out of range, 050E hex: Homing Compensation Value out of range, 050F hex: Homing Compensation Velocity out of range Consistency Check Detail Codes
	1000 hex: The value found by the following calculation was out of the range between 0.000000001 and 2 ³² -1: Work Travel Distance Per Rotation × Work Gear Ratio/Motor Gear Ratio, 1001 hex: The value found by the following formula exceeded 40-bit range: Command Pulse Count Per Motor Rotation × Motor Gear Ratio, 1100
	hex: Maximum Velocity exceeded the upper limit ^{*2} when converted to pluses, 1101 hex: Start Velocity exceeded ed Maximum Velocity, 1102 hex: Maximum Jog Velocity exceeded Maximum Velocity, 1103 hex: In-position Range exceeded 40-bit range when converted to pulses, 1104 hex: Zero Position Range exceeded 40-bit range when converted to pulses, 1300 hex: Positive Software Limit exceeded 40-bit range when converted to pulses, 1301 hex: Negative Software Limit exceeded 40-bit range when converted to pulses, 1302 hex: Posi- tive Software Limit was not greater than Negative Software Limit, 1303 hex: Following Error Over Value ex- ceeded 40-bit range when converted to pulses, 1304 hex: Following Error Over Value was not greater than or equal to Following Error Warning Value, 1400 hex: Modulo Maximum Position Setting Value exceeded 40-bit range when converted to pulses, 1401 hex: Modulo Minimum Position Setting Value exceeded 40-bit range
	when converted to pulses, 1402 hex: Modulo Maximum Position Setting Value was not greater than Modulo Minimum Position Setting Value, 1403 hex: Absolute value of Modulo Maximum Position Setting Value minus Modulo Minimum Position Setting Value was not 2 or greater after conversion to pulses, 1500 hex: Homing Velocity exceeded Maximum Velocity, 1501 hex: Homing Approach Velocity was not less than or equal to Homing Velocity, 1502 hex: Homing Acceleration exceeded Maximum Acceleration, 1503 hex: Homing Deceleration exceeded Maximum Deceleration exceeded Maximum Acceleration, 1503 hex: Homing Deceleration exceeded Maximum Acceleration, 1503 hex: Homing Deceleration exceeded Maximum Deceleration, 1504 hex: Home Input Mask Distance exceeded 40-bit range when converted to pulses, 1505 hex: Home Input Mask Distance exceeded modulo length, 1506 hex: Home Offset exceeded ed 40-bit range when converted to pulses, 1507 hex: Home Offset exceeded modulo length, 1508 hex: Absolute value of Homing Compensation Value exceeded 40-bit range when converted to pulses, 1509 hex: Absolute value of Homing Compensation Value exceeded modulo length, 150A hex: Homing Compensation Velocity was not less than or equal to Maximum Velocity
Precautions/	Note Only one error code is given even if more than one error occurs. The range check detail codes are given priority over the consistency check detail codes. None
Remarks	
*1. This event co	ode occurs for a CPU Unit with unit version 1.08 or later.

^{*2.} The upper limit of the Maximum Velocity is 500 MHz for unit version 1.10 or earlier and 2,147,483,647 Hz for unit version 1.11 or later.

Event name	Cam Property Se	tting Out of Range		Event code	573C0000 hex*1	
Meaning	The parameter sp id range.	ecified for the Can	<i>Property</i> input vari	iable to a motion co	ontrol instruction is	outside of the val-
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	ltLvl.Active	BOOL		MC Common Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter sp <i>CamProperty</i> inpution is out of instruction is out of input variable.	ut variable to the	Correct the paran valid range of the not exceeded for Confirm which pa ed the range in the mation.	input variable is the instruction.	Set the input para struction so that t the input variable	
Attached infor- mation	0000 hex: Initia0001 hex: Initia	tion 1: Error Details Il Velocity out of ran Il Acceleration out o e Time out of rango	nge of range			
Precautions/ Remarks	None					

Event name	Cam Node Settin	g Out of Range		Event code	573D0000 hex*1	
Meaning	The parameter sp range.	pecified for the Can	nNodes input variat	ble to a motion cor	trol instruction is o	utside of the valid
Source	Motion Control Fu	unction Module	on Module Source details MC Common		Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables			BOOL		MC Common Mir rence	nor Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter sp <i>CamNodes</i> input struction is out of put variable.	variable to the in-	Correct the parameter so that the valid range of the input variable is not exceeded for the instruction. Confirm which parameter exceed- ed the range in the attached infor- mation.			ameter to the in- the valid range of is not exceeded.
Attached infor-	Attached Informa	tion 1: Error Details	3			
mation	 0000 hex: Master Axis Phase out of range 0001 hex: Slave Axis Displacement out of range 0002 hex: Curve Shape out of range 0003 hex: Connecting Velocity out of range 0004 hex: Connecting Acceleration out of range 0005 hex: Phase Pitch out of range Attached Information 2: Element Number of Error Node Point 					
Precautions/ Remarks	None					

Event name	Incorrect Cam No	de Type Specificat	ion	Event code	573E0000 hex*1		
Meaning		The parameter specified for the <i>CamNodes</i> input variable to a motion control instruction is not an _sMC_CAM_NODE array variable.					
Source	Motion Control Function Module \$		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Minor Fault Occur-		
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameter sp	ecified for the	Correct the progr	Correct the program to specify an		Write the program to specify an	
	CamNodes input	variable to the in-	sMC_CAM_NOD	sMC_CAM_NODE array variable		sMC_CAM_NODE array variable	
	struction is not ar	I	for the input varia	for the input variable to the instruc-		for the input variable to the instruc-	
	_sMC_CAM_NO	DE array variable.	tion.		tion.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Insufficient Nodes	in Cam Table		Event code	573F0000 hex ^{*1}		
Meaning		he array variable of the parameter specified for the <i>CamNodes</i> input variable to a motion control instruction as a <i>Phase</i> value of 0 for element number 0.					
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The array variable of the parameter specified for <i>CamNodes</i> input variable to the instruction has a <i>Phase</i> (master axis phase) value of 0 for element number 0.		value of <i>Phase</i> (n for element numb variable for the pa	Correct the program so that the value of <i>Phase</i> (master axis phase) for element number 0 in the array variable for the parameter specified for the <i>CamNodes</i> input variable is not 0.		Write the program so that the value of <i>Phase</i> (master axis phase) for element number 0 in the array vari- able for the parameter specified for the <i>CamNodes</i> input variable is not 0.	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Cam Node Maste der	r Axis Phase Not ir	Ascending Or-	Event code	57400000 hex ^{*1}		
Meaning				able of the parameter specified for the <i>CamNodes</i> input variable to a mo- ending order according to the element numbers.			
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	ItLvI.Active	BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Assumed cause The values of <i>Phase</i> (master axis phase) in the array variable of the parameter specified for the <i>CamNodes</i> input variable to the in- struction are not in ascending or- der according to the element num- bers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order.		Correct the program so that the values of <i>Phase</i> (master axis phase) in the array variable for the parameter specified for the <i>CamNodes</i> input variable are in ascending order according to the element numbers.			aster axis phase) ble for the param- the <i>CamNodes</i> a in ascending or-	
Attached infor-	Attached Informa	tion 1: Element Nu	mber of Error Node	Point			
mation							
Precautions/ Remarks	None						

Event name	Too Many Data P	oints in Cam Table		Event code	57410000 hex*1		
Meaning	The number of ge	enerated cam data	points exceeded the number of elements in the array in the cam data vari- ble input variable to a motion control instruction.				
Source	Motion Control Fu	Inction Module	Source details MC Common		Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	•	Data type	•	Name		
fined variables	_MC_COM.MFaultLvI.Active		BOOL		MC Common Mir rence	or Fault Occur-	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Assumed cause The number of cam data points in the generated cam table exceeded the number of elements in the ar- ray in the cam data variable that is specified for the <i>CamTable</i> input variable to the instruction.		Correct the program so that the number of cam data points in the generated cam table does not ex- ceed the number of elements in the array in the cam data variable that is specified for the <i>CamTable</i> input variable to the instruction. Refer to information on the MC_GenerateCamTable (Generate Cam Table) instruction for the num- ber of cam data points in generat- ed cam tables.		Write the program so that the num- ber of cam data points in the gen- erated cam table does not exceed the number of elements in the ar- ray in the cam data variable that is specified for the <i>CamTable</i> input variable to the instruction. Refer to information on the MC_GenerateCamTable (Generate Cam Table) instruction for the num- ber of cam data points in generat- ed cam tables.		
Attached infor- mation	Attached Informa	tion 1: Element Nu	mber of Error Node	Point			
Precautions/ Remarks	None						

Event name	Cam Table Displa	acement Overflow		Event code	57420000 hex ^{*1}	
Meaning	<i>Distance</i> in the g	enerated cam table	e exceeded the rang	ge of REAL data.		
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At or during in- struction execu- tion
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFat	ultLvl.Active	BOOL		MC Common Mir rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Distance in the generated cam ta- ble exceeded the range of REAL data.		Correct the values of <i>InitVel</i> (initial velocity), <i>ConnectingVel</i> (connecting velocity), and <i>ConnectingAcc</i> (connecting acceleration) so that <i>Distance</i> does not overflow when a polynomial 3 curve or polynomial 5 curve is specified for <i>Curve</i> (curve shape) in the <i>CamNodes</i> input variable. Refer to information on the MC_GenerateCamTable (GenerateCamTable (GenerateCamTable (method to calculate <i>Distance</i> .		Specify the values of <i>InitVel</i> (initial velocity), <i>ConnectingVel</i> (connecting <i>Acc</i> (connecting acceleration) so that <i>Distance</i> does not overflow when a polynomial 3 curve or polynomial 5 curve is specified for <i>Curve</i> (curve shape) in the <i>CamNodes</i> input variable. Refer to information on the MC_GenerateCamTable (GenerateCamTable (GenerateCamTable (Generate Cam Table) instruction for the method to calculate <i>Distance</i> .	
Attached infor-	Attached Informa	tion 1: Element Nu	mber of Error Node	Point	1	
mation						
Precautions/	None					
Remarks						

Event name	Aborted Cam Tab	le Used	Aborted Cam Table Used Event code			57430000 hex ^{*1}	
Meaning	A cam data varia instruction.	ble that was aborte	ed during generatio	n was specified for	the CamTable inpu	t variable to an	
Source	Motion Control Fu	unction Module	Source details	Source details MC common or axis		At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	•	Data type		Name		
fined variables	d variables _MC_COM.MFaultLvI.Active		BOOL	BOOL		MC Common Minor Fault Occur- rence	
	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	use and cor- Assumed cause		Correction	ection Prevention			
rection	A cam data variable that was aborted during generation due to an error in the MC_Generate- CamTable (Generate Cam Table) instruction was specified for the <i>CamTable</i> input variable to the in- struction.		Check the <i>ErrorID</i> (error code), <i>ErrorParameterCode</i> (parameter detail code), and <i>ErrorNodePointIndex</i> (node point element number) output variables from the MC_GenerateCamTable (Generate Cam Table) instruction and correct the program so that correct cam table variables are cre- ated.		Write the program so that the MC_GenerateCamTable (Generate Cam Table) instruction creates cor rect cam data variables. Or, write the program so that the relevant in struction is executed only when the MC_Generate- CamTable (Gener- ate Cam Table) instruction ends normally.		
Attached infor- mation	None				•		
Precautions/ Remarks	None						

Event name	Execution ID Setting Out of Range E			Event code	57490000 hex ^{*1}		
Meaning	The parameter sp	ecified for the Exe	<i>cID</i> input variable to	ID input variable to a motion control instruction is out of range.			
Source	Motion Control Function Module S		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation Relevant axis dec		celerates to a stop i	f it is in motion.	
System-de-	2 a b b a		Data type		Name		
fined variables			BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameter specified for the <i>ExecID</i> input variable to the instruction is out of range for the input variable.		Correct the program so that the in- put parameter specified for the <i>ExecID</i> input variable to the in- struction is within the setting range.		Create the program so that the in- put parameter specified for the <i>ExecID</i> input variable to the in- struction is within the setting range.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Position Offset Out of Range			Event code	574A0000 hex*1		
Meaning	The parameter sp	The parameter specified for the OffsetPosition input variable to a motion control instruction is our					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation Operation is not possible for relevant axis. F axis decelerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	The instruction in	put parameter ex-	Correct the param	Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the range	of signed 40-bit	valid range of the	input variable is	struction so that t	he valid range of	
	data when it is co	nverted to pulses.	not exceeded for	not exceeded for the instruction.		the input variable is not exceeded.	
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	PDS State Transition Command Selection Out of Range			Event code	574B0000 hex ^{*1}		
Meaning	The parameter sp	ecified for the Tran	<i>sitionCmd</i> input va	riable to a motion o	control instruction is	out of range.	
Source	Motion Control Fu	Motion Control Function Module S		Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Relev axis decelerates to a stop if it is in motion.			
System-de-	stem-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the instruction.		Set the input parameter to the in- struction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Single-axis Position Control Axis Motion Control In- struction Execution Disabled			Event code	574C0000 hex ^{*1}		
Meaning	An operation instr	uction was execute	ed for a single-axis	position control axi	S.		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An operation instruction was exe- cuted for a single-axis position control axis.		axis specified in t the Control Funct <i>0: All.</i> Or specify the axi Control Function	In the Axis Basic Settings for the axis specified in the instruction, set the Control Function parameter to <i>0: All.</i> Or specify the axis for which the Control Function parameter is set to <i>0: All</i> in the Axis Basic Settings.		ft.	
Attached infor- mation	None						
Precautions/ Remarks	None						

*1. This event code occurs for unit version 1.13 or later of the CPU Unit.

Event name	Cam Monitor Moo	le Selection Out of	Range	Event code	rent code 57510000 hex *1		
Meaning	The cam monitor mode selection specified for the <i>CamMonitorMode</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevant axis. Relevant to a stop if it is in motion.		
System-de- fined variable	Variable		Data type		Name		
	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor- rection	Assumed cause		Correction		Prevention		
	The cam monitor mode selection is out of the valid range.		Make a correction so that the cam monitor mode selection is within the valid range.		Make a setting so that the cam monitor mode selection is within the valid range.		
Attached infor- mation	None						
Precautions/ Remarks	None						

*1. This event code occurs for an NX102- CPU Unit with unit version 1.32 or later and NX701- 00 CPU Unit, NX1P2- CPU Unit, NJ501- CPU Unit, NJ501- CPU Unit (excluding NJ501- 20), NJ301- CPU Unit, and NJ101- 00 CPU Unit with unit version 1.21 or later.
Event name	Data Type of Cam Monitor Values Mismatch			Event code	57520000 hex *1	
Meaning		The data type of the cam monitor value instruction does not match the cam mo			<i>ie</i> in-out variable to	a motion control
Source	Motion Control Function Module \$		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Relev axis decelerates to a stop if it is in motion.		
system-defined	d Variable Data type			Name		
variable	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The data type of t fied for the cam m does not match th mode selection.		Make a correction of the data type of the variable specified for the cam monitor values.		Set the data type of the variable specified for the cam monitor val- ues correctly.	
Attached infor-	None		•			
mation						
Precautions/	None					
Remarks						

*1. This event code occurs for an NX102-DDC CPU Unit with unit version 1.32 or later and NX701-D00 CPU Unit, NX1P2-DCPU Unit, NJ501-DCPU Unit (excluding NJ501-D20), NJ301-DCPU Unit, and NJ101-D00 CPU Unit with unit version 1.21 or later.

Event name	Target Position Po	ositive Software Lir	nit Exceeded	Event code	64400000 hex	
Meaning	The specified pos	ition exceeds the p	ositive software lin	nit.		
Source	Motion Control Fu	unction Module	Source details	Axis/axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System
Effects	User program	Continues.	Operation If "axis" is given for operation is not po axis decelerates to If "axes group" is g operation is not po		or the source details, ossible for relevant axis. Relevant to a stop if it is in motion. given for the source details, ossible for relevant axes group. Rel- decelerates to a stop if it is in mo-	
System-de-			Data type		Name	
fined variables			BOOL		Axis Minor Fault	Occurrence
			BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause	Assumed cause			Prevention	
rection	The parameter specified for the <i>Position</i> input variable to the in- struction is beyond the positive software limit. The starting position is beyond the positive software limit and an in- struction that specifies motion in the opposite direction of the soft- ware limit was executed.		Correct the parameter specified for the <i>Position</i> input variable to the in- struction so that it is within the pos- itive software limit. Correct the program so that the travel direction for the instruction is towards the positive software limit.		Set the parameter specified for the <i>Position</i> input variable to the instruction so that it is within the positive software limit. If the starting position is beyond the positive software limit, write the program so that the travel direction is in the direction of the positive software limit.	
	The parameter that was specified for the <i>AuxPoint</i> input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruc- tion is beyond the positive software limit.		Correct the parameter specified for the <i>AuxPoint</i> input variable to the instruction so that it is within the positive software limit.		Set the parameter specified for the <i>AuxPoint</i> input variable to the bor- der point MC_MoveCircular2D (Cir- cular 2D Interpolation) instruction so that it is within the negative soft- ware limit.	
Attached infor-	Attached Informa	tion 1: Depends on	the source details.			
mation	Axis: 0Axes group: Lo	ogical axis number				
Precautions/	None					
Remarks						

Event name	Target Position No	egative Software L	imit Exceeded	Event code	64410000 hex	
Meaning			negative software li	nit.		
Source	Motion Control Fu	Inction Module	Source details	Axis/axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation If "axis" is given for operation is not po axis decelerates to If "axes group" is g operation is not po		or the source details, possible for relevant axis. Relevant o a stop if it is in motion. given for the source details, possible for relevant axes group. Rel- decelerates to a stop if it is in mo-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter sp <i>Position</i> input vari struction is beyon software limit. The starting positi	iable to the in- d the negative	Correct the parameter specified for the <i>Position</i> input variable to the in- struction so that it is within the neg- ative software limit. Correct the program so that the travel direction for the instruction is towards the negative software limit.		Correct the input parameter speci- fied for the <i>Position</i> input variable to the instruction so that it is within the negative software limit. If the starting position is beyond	
	negative software struction that spec the opposite direc ware limit was exe	cifies motion in tion of the soft-			the negative software limit, write the program so that the travel di- rection is in the direction of the negative software limit.	
The parameter that was specified for the <i>AuxPoint</i> input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruc- tion is beyond the negative soft- ware limit.		Correct the parameter specified for the <i>AuxPoint</i> input variable to the instruction so that it is within the negative software limit.		Set the parameter specified for the <i>AuxPoint</i> input variable to the bor- der point MC_MoveCircular2D (Cir- cular 2D Interpolation) instruction so that it is within the negative soft- ware limit.		
Attached infor- mation	• Axis: 0	tion 1: Depends on gical axis number	the source details.			
Precautions/	None					
Remarks						

Event name	Command Position	on Overflow/Underf	low	Event code	64420000 hex	
Meaning	-		erflow/overflow direction, or an instruction for which the direction is not was an underflow/overflow in the command position.			
Source	Motion Control Fu	unction Module			Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation Operation is not po axis decelerates to			
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	 Assumed cause One of the following was executed when there was a command posi- tion overflow/underflow. A positioning instruction A continuous control instruction in the underflow/overflow direc- tion An instruction for which the di- rection is not specified (syncing 		Execute an error clear the overflow by executing hom the actual position	//underflow state	Make sure that o	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Positive Limit Inp	ut		Event code	64430000 hex	
Meaning	An instruction was	s executed for a m	otion in the positive	direction when the	positive limit input	was ON.
Source	Motion Control Fu	Inction Module	Source details	Axis/axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System
Effects	User program	Continues.	Operation If "axis" is given fo operation is not po If "axes group" is g operation is not po		ossible for relevan given for the sourc	t axis. e details,
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Mino rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Assumed cause An instruction for a motion in the positive direction was executed when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit in- put was ON. An axes group motion control instruction was executed when the positive limit input was ON.		Execute an error reset and then perform a recovery operation in the negative direction. If the error oc- curred during an axes group mo- tion control instruction, disable the axes group and then perform the above operation. If this error oc- curs again, check the connection of the positive limit signal, the logic setting for the positive limit input, and the execution conditions for the start command, and correct any mistakes. Check the logic settings both in the axis parameters and in the slave settings.		nal connection, the positive limit is cute conditions for	e positive limit sig- ne logic setting for nput, and the exe- or the instruction. ettings both in the
Attached infor- mation	Attached Informat • Axis: 0	tion 1: Depends on	the source details.			
	-	gical axis number				
Precautions/ Remarks	None					

Event name	Negative Limit Inp	out		Event code	64440000 hex	
Meaning	An instruction for	a motion in the neg	gative direction was	executed when th	e negative limit inp	ut was ON.
Source	Motion Control Fu	unction Module	Source details	Axis/axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation If "axis" is given for operation is not po If "axes group" is g operation is not po		ossible for relevant given for the sourc	axis. e details,
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvl.Active		BOOL	BOOL		r Fault Occur-
Cause and cor-	use and cor- Assumed cause		Correction		Prevention	
rection	An instruction for a motion in the negative direction was executed when the negative limit input was ON, or an instruction for a motion with no direction specification was executed when the negative limit input was ON. An axes group mo- tion control instruction was execut- ed when the negative limit input was ON.		Execute an error reset and then perform a recovery operation in the positive direction. If the error occur- red during an axes group motion control instruction, disable the axes group and then perform the above operation. If this error occurs again, check the connection of the negative limit signal, the logic set- ting for the negative limit input, and the execution conditions for the start command, and correct any mistakes. Check the logic settings both in the axis parameters and in the slave settings.		Check to make su problems with the signal connection for the negative li execute condition tion. Check the logic s axis parameters a settings.	e negative limit , the logic setting mit input, and the s for the instruc- ettings both in th
Attached infor-		tion 1: Depends on	the source details.			
mation	 Axis: 0 Axes group: Lo 	gical axis number				
Precautions/ Remarks	None	-				

Event name	Servo Main Circuits OFF			Event code	74220000 hex		
Meaning	An attempt was made to turn ON the Servo when the m			nain circuit power s	upply to the Servo	Drive was OFF.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation The Servo for the			
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFau	C_AX[*].MFaultLvl.Active BOOL			Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	the Servo when the main circuit power supply to the Servo Drive		Turn ON the Servo after turning ON the main circuit power of the Servo Drive for the axis where the error occurred.		Turn ON the Servo after turning ON the main circuit power supply to the Servo Drive.		
Attached infor-	None						
mation							
mation Precautions/	None						

Event name	Actual Position Overflow/Underflow			Event code	57220000 hex ^{*1}	
Meaning	An instruction was	An instruction was executed that is not		g an actual positior	n overflow/underflo	W.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation Not affected.			
System-de-	m-de- Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr./	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An instruction was executed that is not supported during an actual po- sition overflow or underflow.		Execute an error reset and then clear the overflow or underflow state by changing the current posi- tion or homing.		Write the program flows and underfl	n so that over- lows do not occur.
Attached infor-	None					
mation						
Precautions/	None					
Precautions/						

Event name	Switch Structure	Track Number Setti	ing Out of Range	Event code	57230000 hex ^{*1}	
Meaning	The value of <i>Trac</i> of range.	<i>kNumber</i> that is sp	ecified in the <i>Switc</i>	<i>hes</i> in-out variable	to a motion control	instruction is out
Source	Motion Control Function Module S		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	de- Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr./	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The value of the member of the structure variable that was speci- fied for the in-out variable of the in- struction is out of range.		Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range.		Make sure that the value of the member of the structure variable that is specified for the in-out varia- ble of the relevant instruction is in the valid range.	
Attached infor-	None					
mation						

Event name	Switch Structure Range	First ON Position S	etting Out of	Event code	57240000 hex ^{*1}	
Meaning	The value of <i>First</i> out of range.	The value of <i>FirstOnPosition</i> that is spe out of range.		<i>itches</i> in-out variab	le to a motion contr	rol instruction is
Source	Motion Control Function Module S		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The value of the member of the structure variable that was speci- fied for the in-out variable of the in- struction is out of range.		Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range.		Make sure that the value of the member of the structure variable that is specified for the in-out varia- ble of the relevant instruction is in the valid range.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Switch Structure I Range	Last ON Position S	etting Out of	Event code	57250000 hex ^{*1}		
Meaning	The value of <i>LastOnPosition</i> that is sp out of range.		specified in the Swi	<i>tches</i> in-out variabl	e to a motion contr	ol instruction is	
Source	Motion Control Fu	Motion Control Function Module S		Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation Not affected.		k		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the r structure variable fied for the in-out struction is out of	that was speci- variable of the in-	Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range.		Make sure that the value of the member of the structure variable that is specified for the in-out varia- ble of the relevant instruction is in the valid range.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Switch Structure	Axis Direction Out	of Range	Event code	57260000 hex ^{*1}			
Meaning	The value of Axis of range.	<i>Direction</i> that is sp	ecified in the Switc	hes in-out variable	to a motion control	instruction is out		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation Not affected.					
System-de-			Data type		Name			
fined variables			BOOL	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction	Correction				
rection	The value of the member of the structure variable that was speci- fied for the in-out variable of the in- struction is out of range.		Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range.		Make sure that the value of the member of the structure variable that is specified for the in-out varia- ble of the relevant instruction is in the valid range.			
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Switch Structure	Cam Switch Mode	Out of Range	Event code	57270000 hex ^{*1}		
Meaning	The value of <i>Carr</i> out of range.	The value of <i>CamSwitchMode</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the member of the structure variable that was speci- fied for the in-out variable of the in- struction is out of range.		Correct the value the structure varia fied for the in-out relevant instruction the valid range.	variable of the	Make sure that the member of the st that is specified f ble of the relevant the valid range.	ructure variable or the in-out varia-	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Switch Structure	Switch Structure Duration Setting Out of Range			57280000 hex ^{*1}		
Meaning	The value of <i>Dura</i> range.	The value of <i>Duration</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the member of the structure variable that was speci- fied for the in-out variable of the in- struction is out of range.		Correct the value the structure varia	of the member of	Make sure that th member of the st		
	fied for the in-out	variable of the in-	fied for the in-out relevant instruction the valid range.	variable of the		or the in-out varia-	
Attached infor-	fied for the in-out	variable of the in-	fied for the in-out relevant instruction	variable of the	that is specified for ble of the relevan	or the in-out varia-	
Attached infor- mation	fied for the in-out struction is out of	variable of the in-	fied for the in-out relevant instruction	variable of the	that is specified for ble of the relevan	or the in-out varia-	
	fied for the in-out struction is out of	variable of the in-	fied for the in-out relevant instruction	variable of the	that is specified for ble of the relevan	or the in-out varia-	

Event name	Track Option Structure ON Compensation Setting Out I of Range I			Event code	57290000 hex ^{*1}	
Meaning		The value of <i>OnCompensation</i> that is specified in the <i>TrackOptions</i> in-out variable to a motion control instruc- tion is out of range.				
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.		Correct the value the structure varia fied for the in-out relevant instruction the valid range.	variable of the	Make sure that th member of the st that is specified for ble of the relevan the valid range.	ructure variable or the in-out varia-
Attached infor- mation	None	None				
Precautions/ Remarks	None					

Event name	Track Option Structure OFF Compensation Setting I Out of Range I			Event code	572A0000 hex ^{*1}		
Meaning		The value of OffCompensation that is specified in the TrackOptions in-out variable to a motion control instru- tion is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr./	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.		Correct the value the structure varia fied for the in-out relevant instruction the valid range.	variable of the	Make sure that th member of the sti that is specified for ble of the relevan the valid range.	ructure variable or the in-out varia-	
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Number of Array Elements in Switch Structure Varia-Eble Out of Range			Event code	572B0000 hex ^{*1}		
Meaning		The number of elements in an array in the structure variable that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.					
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr.	Active	BOOL	Axis Observation Occurrence		Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The number of elements in an ar- ray of the structure variable that was specified for the in-out varia- ble of the instruction is out of range.		Correct the numb the array in the st that is specified fo ble of the relevan that it is in the val	ructure variable or the in-out varia- t instruction so	Make sure that th ments in the arra variable that is sp out variable of the tion is in the valid	y in the structure becified for the in- e relevant instruc-	
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Number of Array Elements in Output Signal StructureEVariable Out of Range			Event code	572C0000 hex ^{*1}	
Meaning		The number of elements in an array in the structure variable that is specified in the <i>Outputs</i> in-out variable to a motion control instruction is out of range.				
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The number of elements in an ar- ray of the structure variable that was specified for the in-out varia- ble of the instruction is out of range.		Correct the numb the array in the st that is specified for ble of the relevan that it is in the val	ructure variable or the in-out varia- t instruction so	Make sure that the ments in the arravariable that is sp out variable of the tion is in the valid	y in the structure becified for the in- e relevant instruc-
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Number of Array Elements in Track Option StructureEVariable Out of Range			Event code	572D0000 hex ^{*1}		
Meaning		The number of elements in an array in the structure variable that is specified in the <i>TrackOptions</i> in-out variable to a motion control instruction is out of range.					
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.	•		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The number of elements in an ar- ray of the structure variable that was specified for the in-out varia- ble of the instruction is out of range.		Correct the numb the array in the st that is specified for ble of the relevan that it is in the val	tructure variable or the in-out varia- t instruction so		y in the structure becified for the in- e relevant instruc-	
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Numbers of Elements in Output Signals and Track Option Arrays Not Matched			Event code	572E0000 hex ^{*1}	
Meaning	-	The arrays in the structure variables that are specified for the <i>Outputs</i> and <i>TrackOptions</i> in-out variables to motion control instruction do not have the same number of elements.				
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr./	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The arrays in the output signal structure variable and track option structure variable that are specified for the in-out variables to the in- struction do not have the same number of elements.		Correct the output variable and track variable that are so inout variables to struction so that the have the same nu- ments.	a option structure specified for the the relevant in- he arrays in them		acture variable and sture variable that the in-out varia- ant instruction
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Same Track Number Setting in Switch Structure Out of Range			Event code	57310000 hex ^{*1}	
Meaning		The same track number was specified more than the allowable <i>Switches</i> in-out variable to a motion control instruction.				<i>Number</i> in the
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr./	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The same track number was speci- fied more than the allowable num- ber of times for the <i>TrackNumber</i> in the Switches in-out variable to a motion control instruction.		Correct the value: <i>TrackNumber</i> so t track number is n than the maximur times.	that the same ot specified more	Set the values in so that the same not specified mor mum number of ti	e than the maxi-
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

3-6-3 Other Troubles and Corrections

This section describes remedial actions to take when problems occur the first time you use the MC Function Module or after starting operation.

Preliminary Check Items

If an error occurs, check the items below to investigate the problem.

Category	Item to check				
Installation conditions	Is there dust in the ambient environment?				
	Are there conductive foreign matters (metal, carbon, etc.) in the ambient environment that might enter the Controller?				
	Is the ambient temperature higher than the ambient operating temperature in the speci- fications?				
	Is the ambient area humid (due to moisture in the air, use of water, etc.)?				
	Does the ambient air contain corrosive gases (acid, salt, sulfur, etc.)?				
	Are there sources of noise around the Controller (welders, inverters, etc.)?				
Wiring	Are power supply lines wired in the same duct as the signal lines?				
	Is the Controller grounded properly?				
	Is there a noise filter in the power supply?				
Changes	Was any extension work (welding work) done lately?				
	Was any power supply facility added lately?				
	Was the system (including its program) modified in any way (including additions)?				
Accidents	Was there a lightning strike nearby?				
	Was there a ground-fault accident or was the earth leakage breaker tripped?				
	Was there a power outage?				

Problems and Countermeasures

This section describes troubleshooting when the MC Function Module is used in combination with an OMRON 1S-series Servo Drive or G5-series Servo Drive.

If an unexpected operation is performed, data such as parameter settings or cam data may not have been transferred properly to the CPU Unit from the Sysmac Studio.

Furthermore, variables may not be working properly between the user program and the MC Function Module.

Use the data tracing function of Sysmac Studio to check if variables are exchanged at the correct timings.

Problem	Cause	Item to check	Countermeasure
Motor does not lock.	The MC Function Mod- ule does not output op- eration commands to the Servo Drive.	Make sure that you execute the MC_Power instruction.	Correct the program.
	Servo Drive setting er- ror	Check the Servo Drive settings.	Set the Servo Drives correct- ly.

Problem	Cause	Item to check	Countermeasure
Motor does not run.	The drive prohibit input of the Servo Drive is enabled.	Use the Servo Drive software to check the drive prohibit input.	Cancel the drive prohibit input of the Servo Drive. Change the setting so that you do not use the drive pro- hibit input of the Servo Drive.
	Servo Drive error	Check for a Servo Drive error.	If there is an error, follow trou- bleshooting procedures for it.
	Mechanical axis is locked.	Check for contact with mechani- cal limits and check to see if mechanical parts are caught on something.	Manually release the locked mechanical axis.
	CPU Unit failure		Replace the CPU Unit.
Homing cannot be performed.	Error	Check the nature of the error.	If there is an error, follow trou- bleshooting procedures for it.
	Incorrect wiring of the home proximity input.	Check the axis input information in the Axis Variables to see if the home proximity input sensor turns ON/OFF.	Wire all connections correctly.
	Incorrect wiring of the home input.	Check the wiring of the home in- put.	Wire all connections correctly.
	The rotation direction and limit input direction are inconsistent.	If the axis moves to the me- chanical limit without reversing at the limit, check the axis input information in the Axis Variables to see if the limit input turns ON and OFF.	Wire the limit inputs correctly.
	Incorrect wiring of the limit input	Check the wiring of the limit in- puts.	Wire all connections correctly.
	InPosWaiting does not change to FALSE.	Check to see if the Servo Drive gain is too low. Check to see if the in-position range is too narrow.	Increase the Servo Drive gain. Increase the in-position range.
	Homing approach ve- locity is too high.	Check the homing approach ve- locity.	Lower the homing approach velocity of the MC Function Module.
	Axis parameters are not set correctly.	Check the axis parameters in the Sysmac Studio.	After setting the axis parame- ters correctly, download them to the MC Function Module.
	CPU Unit failure		Replace the CPU Unit.
The position of home defined with homing changes occasionally.	Loose mechanical parts, such as cou- plings	Use a marker pen to mark the motor shafts, couplings, and other mechanical connections to check for shifting.	Securely tighten the connec- tions that shifted.
	Insufficient leeway for Z phase Insufficient leeway for home input signal	If the value is close to the set- ting per Servomotor rotation (number of pulses per encoder rotation) or near zero, the home may be shifted by one motor ro- tation due to slight changes in the timing of reading the sensor input.	Remove the motor coupling and shift the position by around one-quarter of a turn so that the Z phase pulse oc- curs at around one half of a Servomotor rotation (number of pulses per encoder rota- tion), and then perform hom- ing again.

Problem	Cause	Item to check	Countermeasure
Unstable motor ro- tation	Incorrect wiring of Ser- vomotor power line/ encoder line, missing phase, etc.	Check the wiring of the motor power line and encoder line.	Wire all connections correctly.
	Load torque variation due to gear meshing or not tightening the cou- pling eccentric screw connecting the motor axis with the mechani- cal system	Check the machine. Turn the coupling under a no- load condition (with the mechan- ical part after the coupling re- moved).	Review and adjust the ma- chine.
	Insufficient gain adjust- ment		Perform auto-tuning of the Servomotor. Manually adjust the Servomo- tor gain.
	Incorrect Servomotor selection (adjustment not possible)	Select another motor (check the torque and inertia ratio).	Change to an optimal motor.
	Damaged Servomotor bearings	Turn OFF the Servo Drive pow- er supply, and also turn ON the brake power supply and release the brake if the motor comes with a brake. Then manually turn the motor output shaft with the motor power line discon- nected (because the dynamic brake may be applied).	Replace the Servomotor.
	Broken Servomotor winding	Use a tester to check the resist- ance between phases U, V, and W of the motor power line. If the balance is off, there is a problem.	Replace the Servomotor.
Rotation direction is reversed.	The Servo Drive is set to the opposite rotation direction.	Jog the machine. If the rotation direction of the Servo Drive is opposite the jogging direction, the rotation direction of the Ser- vo Drive is reversed. Also check for reversed feedback signals (phases A and B) and reverse rotation setting of the parameter.	Set the rotation direction of the Servo Drive correctly.
	(During homing) The axis parameters that set the polarity of the home proximity sensor and the polarity of the home proximity input do not match.	Check the axis parameters and sensor polarity again.	Set the correct axis parame- ters.
	(During homing) Incorrect wiring of the home proximity input	Check the axis input information in the Axis Variables to see if the home proximity input sensor turns ON/OFF.	Wire the home proximity input correctly.

Problem	Cause	Item to check	Countermeasure
Operation cannot be started, posi- tioning is not com- pleted, or position- ing takes too much time to complete.	The in-position range of the Servo Drive is too narrow, and thus the current position does not enter the in- position range. (The current operation does not complete until the current position enters the in-position range, so you cannot start the next motion.)		Increase the in-position range.
	Servo Drive gain is low. The axis does not re- main in the in-position range due to an exter- nal force.	 Check the axis input information for the Axis Variables to see if the difference between the com- mand current position and the actual current position is within the in-position range.	Adjust the Servo Drive gain. If you stop the axis so that a position inside the inposition range is not achieved, such as holding control, you can use the following error reset output to forcibly achieve the inposition range.
Abnormal noise	Mechanical vibration Insufficient adjustment of the Servo Drive gain (high gain) Incorrect Servomotor selection (adjustment not possi- ble).	Check the moving parts of the machine for intrusion of foreign matter, damage, deformation, and loosening. Select another motor (check the torque and inertia ratio).	Correct the problem. Perform auto-tuning. Manually lower the gain. Change to an optimal motor.
	Misalignment of the coupling that connects the motor shaft and machine		Adjust the motor and machine installation.
Motor shaft shakes.	Insufficient adjustment of the gain (Iow gain) Gain cannot be adjust- ed due to low machine rigidity.	 In particular, this condition oc- curs on vertical axes, SCARA robots, palletizers, and other systems whose axes are subject to bonding or topsional loads	Perform auto-tuning. Manually increase the gain. Increase the machine rigidity. Readjust the gain.
	Mechanical configura- tion prone to stick slip (highly sticky static fric- tion) Incorrect Servomotor selection (adjustment not possi-	to bending or tensional loads Select an appropriate motor (check the torque and inertia ra- tio).	Perform auto-tuning. Manually adjust the gain. Change to an optimal motor.

3

Problem	Cause	Item to check	Countermeasure
	Failure		Replace the Servo Drive. Replace the Servomotor.
Position shift	The home position was already shifted before positioning. Malfunction due to noise from a welder, in- verter, etc.	Refer to The position of home defined with homing changes occasionally. Check if a welder, inverter, or other similar device is located nearby.	Refer to The position of home defined with homing changes occasionally. Isolate the Controller from any nearby welders, inver- ters, etc.
	Mechanical shift	Check if dimensional shifts ac- cumulated. (Mark the mechani- cal connections to check for shifting.)	Securely tighten the mechani- cal tightening points.
An MC Test Run is not possible from the Sysmac Stu- dio.	An MC Test Run is be- ing executed from an- other installation of the Sysmac Studio.	Check to see if there is another installation of the Sysmac Stu- dio connected to the same CPU Unit.	End all MC Test Run opera- tion for other installations of the Sysmac Studio.

3-7 Errors in the EtherNet/IP Function Module

3-7-1 Error Tables

EtherNet/IP

						_eve			
Event code Event nan	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04200000 hex [NJ-series]	Communica- tions Con- troller Error	A hardware error was detected in the com- munications controller of the built-in Ether- Net/IP port.	Communications Controller hardware error		0				page 3-672
14200000 hex [NJ-series]	MAC Ad- dress Error	The MAC address in non-volatile memory was not read correct- ly.	Non-volatile memory failure		0				page 3-672
14220000 hex	EtherNet/IP Processing Error	A fatal error was de- tected in the Ether- Net/IP Function Mod- ule.	Hardware has failed.		0				page 3-673
34210000 hex [NJ-series]	Basic Ether- net Setting Error	An error was detect- ed in the Ethernet settings.	 Setting error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. Memory error 		0				page 3-673
34220000 hex [NJ-series]	IP Address Setting Error	An error was detect- ed in the IP address settings.	 Setting error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. The IP address acquired from BOOTP server is illegal. Memory error 		0				page 3-674
84010000 hex [NJ-series]	IP Address Duplication Error	The same IP address is used more than once.	• The IP address of the built-in EtherNet/IP port is also used as the IP address of another node.		0				page 3-675
84020000 hex [NJ-series]	BOOTP Server Con- nection Error	Connection with the BOOTP server failed.	 Server setting error The server went down. An error occurred in the communications path. 		0				page 3-676

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04210000 hex (Ver. 1.10 or later) [NX-series]	Communica- tions Con- troller Error	A hardware error was detected in the com- munications controller of the built-in Ether- Net/IP port.	Hardware error in the commu- nications controller			0			page 3-677
14210000 hex	Identity Error	The CIP identity infor- mation in non-volatile memory was not read correctly.	Non-volatile memory failure			0			page 3-678
14230000 hex (Ver. 1.10 or later)	MAC Ad- dress Error	The MAC address in non-volatile memory was not read correct- ly.	Non-volatile memory failure			0			page 3-679
34200000 hex	Tag Data Link Setting Error	An error was detect- ed in the communica- tions settings for tag data links.	 Power was interrupted when a download was in progress for the data link settings. Memory error 			0			page 3-680
34230000 hex	IP Route Ta- ble Setting Error	An IP routing setting error was detected.	 Setting error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. Memory error 			0			page 3-681
34240000 hex	FTP Server Setting Error	An error was detect- ed in the FTP server settings.	 Setting error Power was interrupted when a download was in progress for the FTP server settings. Memory error 			0			page 3-682
34250000 hex	NTP Client Setting Error	An error was detect- ed in the NTP client settings.	 Setting error Power was interrupted when a download was in progress for the NTP client settings. Memory error 			0			page 3-683
34260000 hex	SNMP Set- ting Error	An error was detect- ed in the SNMP agent/trap settings.	 Setting error Power was interrupted when a download was in progress for the SNMP agent/trap settings. Memory error 			0			page 3-684

						eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
34270000 hex	Tag Name Resolution Error	Resolution of a tag used in a tag data link failed.	 The size of the network variable is different from the tag settings. The I/O direction set for a tag data link and the I/O direction of the Controller variable do not match. There are no network variables for the Controller tag settings. A variable in the Controller that is set for a tag data link has the Network Publish attribute set to Input but also has the Constant attribute. 			0			page 3-685
34280000 hex (Ver. 1.10 or later) [NX-series]	Basic Ether- net Setting Error	An error was detect- ed in the Ethernet settings.	 Parameter error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. A memory error occurred. 			0			page 3-686
34290000 hex (Ver. 1.10 or later) [NX-series]	IP Address Setting Error	An error was detect- ed in the IP address settings.	 Parameter error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. The IP address acquired from BOOTP server is illegal. A memory error occurred. 			0			page 3-687
342A0000 hex (Ver. 1.10 or later) [NX-series]	DNS Setting Error	An error was detect- ed in the DNS set- tings or Hosts set- tings.	 Parameter error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. A memory error occurred. 			0			page 3-688
342B0000 hex	Link Setting Not Support- ed	Unsupported LINK settings. The Control- ler is operating with LINK setting set to Auto.	 An item other than Auto is se- lected for LINK settings on the CPU Unit whose hardware re- vision supports only Auto set- ting of LINK settings. 			0			page 3-689
50010000 hex (Ver. 1.02 or later)	Controller In- sufficient Memory Warning	The amount of data for the EtherCAT slave configuration, network-published in- formation, or other data exceeds the val- ue that is specified for the CPU Unit. You may not be able to perform online editing or other operations.	• The amount of data for the EtherCAT slave configuration, network-published information, or other data exceeds the val- ue that is specified for the CPU Unit.			0			page 3-690

			Level		
Event code	Event name	Meaning	Assumed cause P i i	D I b f s o	Reference
84030000 hex	DNS Server Connection Error	Connection with the DNS server failed.	Parameter error The server went down. An error occurred in the com- munications path.		page 3-691
84040000 hex	NTP Server Connection Error	Connection with the NTP server failed.	Parameter error The server went down. An error occurred in the com- munications path.		page 3-692
84070000 hex	Tag Data Link Con- nection Failed	Establishing a tag da- ta link connection failed.	The tag data link connection information is not the same for the originator and target. Insufficient connections CIP message communications at the target node are stopped. Setting to use tag data link communications was made to the NX-series EtherNet/IP Unit that is included in the CIP Safety connection settings (for NX-series EtherNet/IP Units). The NX-series EtherNet/IP Unit with tag data link commu- nications was added to the CIP Safety connection settings (for NX-series EtherNet/IP		page 3-693

						_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
84080000 hex	Tag Data Link Timeout	A timeout occurred in a tag data link.	 The power supply to the target node is OFF. Communications at the target node are stopped. The Ethernet cable for Ether-Net/IP is disconnected. The Ethernet cable for Ether-Net/IP is broken. The link to the built-in Ether-Net/IP port is OFF. CIP message communications at the target node are stopped. When the Packet Filter function is enabled in the Built-in EtherNet/IP Port Settings, packets from the target are not allowed.*1 CIP communications are not allowed by the Packet Filter functions on the target node or the devices on the communication path. The packet loss occurred on the path due to the network communications load. Noise 			0			page 3-695
84090000 hex (Version 1.04 or later)	Tag Data Link Con- nection Timeout	A timeout occurred while trying to estab- lish a tag data link connection.	 The power supply to the target node is OFF. Communications at the target node are stopped. CIP message communications are stopped at the target node or built-in EtherNet/IP port.*1 The Ethernet cable connector for EtherNet/IP is disconnected. The Ethernet cable for EtherNet/IP is broken. CIP communications are not allowed by the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path. An error occurred in the communications path. 			0	•		page 3-697
840A0000 hex (Ver. 1.10 or later) [NX-series]	IP Address Duplication Error	The same IP address is used more than once.	• The IP address of the built-in EtherNet/IP port is also used as the IP address of another node.			0			page 3-699

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
840B0000 hex (Ver. 1.10 or later) [NX-series]	BOOTP Server Con- nection Error	Connection with the BOOTP server failed.	 Server setting error The server went down. An error occurred in the communications path. 			0			page 3-700
840C0000 hex (Ver. 1.10 or later) [NX-series]	Allowed Communica- tions Band- width per Unit Exceed- ed	The total bandwidth for the connections that are set or estab- lished exceeded the allowed communica- tions bandwidth of tag data links and CIP Safety communica- tions per Unit for all of the built-in EtherNet/IP ports.	 An attempt was made to establish a connection that would cause the used bandwidth (PPS) total of the packet transfer rates of the tag data links and CIP Safety communications that use all of the built-in EtherNet/IP ports to exceed the allowed communications bandwidth per Unit. 			0			page 3-701
840E0000 hex	Number of Tag Sets for Tag Data Links Ex- ceeded	The total number of tag sets for tag data links for all ports of the built-in Ethernet/IP port ex- ceeds the upper limit.	 The total number for all ports of tag sets for tag data links that are set for each built-in Ethernet/IP port exceeds the total number the product al- lows. 			0			page 3-702
54E00000 hex	Access De- tected Out- side Range of Variable	Accessing a value that is out of range was detected for a tag variable that is used in a tag data link.	 An out-of-range value was written by an EtherNet/IP tag data link for a variable with a specified range. A value that does not specify an enumera- tor was written by an EtherNet/IP tag data link for an enumeration variable. 				0		page 3-703
84050000 hex	Packet Dis- carded Due to Full Re- ception Buf- fer	A packet was dis- carded.	A network convergence occur- red.				0		page 3-704
84060000 hex	Link OFF Detected	An Ethernet link OFF was detected.	 An Ethernet cable is broken, disconnected, or loose. The Ethernet switch's power supply is turned OFF. Communications speed mis- matched. Noise The Identity object was reset. Settings for EtherNet/IP were downloaded from the Network Configurator or Sysmac Stu- dio, or the Clear All Memory operation was performed. EtherNet/IP was restarted. 			٢	0		page 3-705

		Meaning			L	eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
840F0000 hex (Ver. 1.60 or later) [NX502-1□□□]	DHCP Serv- er Connec- tion Error	Connection to the DHCP server failed.	 The server is misconfigured. The server went down. Abnormalities occurred in the communication path. 			0			page 3-706
940F0000 hex (Ver. 1.46 or later) [NX102-000, NX1P2- 000000000000000000000000000000000000	Secure Socket Com- munications Log Saving Failed	Secure socket com- munications log could not be saved to the SD Memory Card.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The SD Memory Card format is invalid. The SD Memory Card is write protected. The SD Memory Card does not have sufficient available space. The SD Memory Card is damaged. 				0		page 3-707
94010000 hex	Tag Data Link Download Started	Changing the tag da- ta link settings start- ed.	 Changing the tag data link set- tings started. 					0	page 3-708
94020000 hex	Tag Data Link Download Finished	Changing the tag da- ta link settings finish- ed.	 Changing the tag data link set- tings finished. 					0	page 3-709
94030000 hex	Tag Data Link Stopped	Tag data links were stopped by the Net- work Configurator, Sysmac Studio, spe- cial instructions or manipulation of a sys- tem-defined variable. Or, the data link table was downloaded from Network Configurator or Sysmac Studio.	 Tag data links were stopped by the Network Configurator, Sys- mac Studio, special instruc- tions or manipulation of a sys- tem-defined variable. 					0	page 3-710
94040000 hex	Tag Data Link Started	Tag data links were started by the Net- work Configurator, Sysmac Studio, spe- cial instructions or manipulation of a sys- tem-defined variable. Or, the data link table was downloaded from Network Configurator or Sysmac Studio.	 Tag data links were started by the Network Configurator, Sys- mac Studio, special instruc- tions or manipulation of a sys- tem-defined variable. 					0	page 3-711
94050000 hex	Link Detect- ed	Establishment of an Ethernet link was de- tected.	Establishment of an Ethernet link was detected.					0	page 3-712

					I	_eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
94060000 hex	Restarting Ethernet Port	The built-in EtherNet/IP port was restarted.	 The built-in EtherNet/IP port was restarted. 					0	page 3-712
94070000 hex	Tag Data Link All Run	Tag data link connec- tions to all nodes have been normally established.	 Tag data link connections to all target nodes have been nor- mally established. 					0	page 3-713
94080000 hex	IP Address Fixed	The correct IP ad- dress has been deter- mined and Ethernet communications can start.	The correct IP address has been determined and Ethernet communications can start.					0	page 3-714
94090000 hex	BOOTP Cli- ent Started	The BOOTP client started requesting an IP address.	The BOOTP client started re- questing an IP address.					0	page 3-714
940A0000 hex	FTP Server Started	The FTP agent start- ed normally.	• The FTP agent started normal- ly.					0	page 3-715
940B0000 hex	NTP Client Started	The NTP client start- ed normally and a re- quest for the NTP server to obtain the time started.	• The NTP client started normal- ly and a request for the NTP server to obtain the time start- ed.					0	page 3-715
940C0000 hex	SNMP Start- ed	The SNMP agent started normally.	The SNMP agent started nor- mally.					0	page 3-716
940E0000 hex (Ver. 1.46 or later) [NX102-000, NX1P2- 0000, NX1P2- (Ver. 1.37 or later) [NX102-020]	Secure Socket Com- munications Log Started/ Stopped	Secure socket com- munications logging has started or stop- ped.	Secure socket communications logging has started or stopped.					0	page 3-716
(Ver.1.60 or later) [NX502-1□□□]									
94100000 hex (Ver.1.46 or later and Ver.1.48 or earlier) [NX102-000, NX1P2-	Access to Secure Socket Set- ting	Settings have been changed or read from the Secure Socket Configuration com- mands.	Settings have been changed or read from the Secure Socket Configuration commands.					0	page 3-717
(Ver. 1.37 or later) [NX102-0020]									
(Ver.1.60 or later) [NX502-1□□□]									
94110000 hex (Ver. 1.49 or later) [NX10200, NX1P2- , and	Access to Secure Socket Set- ting	Secure socket setting was changed or read.	Secure socket setting was changed or read.						page 3-718
NX102-020] (Ver. 1.60 or later) [NX502-100]								0	

					L	_eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
94120000 hex (Ver. 1.49 or later) [NX102-000, NX1P2- 000, and NX102-020] (Ver. 1.60 or later) [NX502-100]	Change or Reading of Secure Socket Set- ting	Secure socket setting was changed or read.	Secure socket setting was changed or read.					0	page 3-719
94130000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	IP Address Changed	The IP address was changed.	The IP address was changed.					0	page 3-720
94140000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	SNMP Set- tings Changed	SNMP Settings were changed.	SNMP Settings were changed.					0	page 3-721
94150000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Subnet Mask Changed	The subnet mask was changed.	The subnet mask was changed.					0	page 3-722
96450000 hex	Restarting Ethernet Port	The EtherNet/IP port was restarted.	The EtherNet/IP port was restart- ed.					0	page 3-722

*1. Assumed cause for the following CPU Units.

NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

• NX701 CPU Unit: Version 1.29 or later

3-7-2 Error Descriptions

EtherNet/IP

Event name	Communications	Controller Error		Event code	04200000 hex		
Meaning	A hardware error	was detected in the	e communications	controller of the bui	It-in EtherNet/IP po	ort.	
Source	EtherNet/IP Func	EtherNet/IP Function Module S		Communica- tions port	Detection tim- ing	Continuously	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Continues.	Operation	EtherNet/IP comr	nunications will not	operate.	
Indicators	EtherNet/IP NET RUN EtherNet/IP NET E		ERR	EtherNet/IP LINK/ACT			
	OFF		Lights.	Lights.			
System-de-	Variable		Data type		Name		
fined variables	_EIP_LanHwErr		BOOL		Communications Controller Error		
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	Communications Controller hard- Rep ware error		Replace the CPU	Unit.	None		
Attached infor-	None				*		
mation							
Precautions/	After the _EIP_La	anHwErr system-de	fined variable char	iges to TRUE, it wil	I not change to FA	LSE unless the	
Remarks	power supply to the	he Controller is cyc	led.				

Event name	MAC Address Error			Event code	14200000 hex		
Meaning	The MAC address	The MAC address in non-volatile memory was not read correctly.					
Source	EtherNet/IP Func	tion Module	Source details Communica- tions port		Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Continues.	Operation EtherNet/IP comm		nunications will not operate.		
Indicators	EtherNet/IP NET RUN EtherNet/IP NET ERR		ERR	EtherNet/IP LINK/ACT			
	OFF		Lights.				
System-de-	Variable		Data type		Name		
fined variables	_EIP_MacAdrErr		BOOL		MAC Address Error		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Non-volatile memory failure Replace the CPU		Replace the CPU	Unit.	None		
Attached infor-	None	None					
mation							
Precautions/	After the _EIP_M	acAdrErr system-d	efined variable cha	nges to TRUE, it w	ill not change to FA	LSE unless the	
Remarks	power supply to t	he Controller is cyc	cled.				

Event name	EtherNet/IP Proce	essing Error		Event code	14220000 hex		
Meaning	A fatal error was	detected in the Ethe	erNet/IP Function N	lodule.			
Source	EtherNet/IP Func	EtherNet/IP Function Module Sour		Communica- tions port	Detection tim- ing	Continuously	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Continues.	Operation	EtherNet/IP comm	nunications will not	operate.	
Indicators	EtherNet/IP NET RUN EtherNe		EtherNet/IP NET	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
	OFF	Lights.					
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Hardware has fail	ed.	Replace the CPU Unit.		None		
Attached infor-	Attached informat	ion 1: System infor	mation				
mation	Attached information 2: System information						
	Attached information 3: System information						
	Attached informat	Attached information 4: System information					
Precautions/	None						
Remarks							

Event name	Basic Ethernet Se	etting Error		Event code	34210000 hex		
Meaning	An error was dete	ected in the Ethern	et settings.			_	
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Partial fault	Recovery	covery, cycle the power sup- ply, or reset the Controller.		System	
Effects	User program	Continues.	Operation	EtherNet/IP comr	nunications will not	operate.	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	K/ACT	
	OFF		Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EIP_EtnCfgErr		BOOL		Basic Ethernet Setting Error		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Setting error		information, corre	Identify the error from the attached information, correct the setting, and then download the settings again.			
	Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings.			Perform the Clear All Memory op- eration or download the settings.		Do not turn OFF the power supply to the Controller while a download is in progress for the built-in Ether- Net/IP port settings.	
	Memory error			If operation is not recovered by the above, replace the CPU Unit.		None	
Attached infor- mation	tings) Attached informat		s (01 hex: Non-vol (00 hex: Non-volat rate)	-		-	
Precautions/ Remarks	The cause of erro	or can be identified	with the attached ir	nformation.			

Event name	IP Address Settin	g Error		Event code	34220000 hex		
Meaning	An error was dete	ected in the IP add	ress settings.				
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Partial fault	Recovery	Automatic re- covery (after downloading the settings), cycle the power sup- ply, or reset Controller.	Log category	System	
Effects	User program	Continues.	Operation	EtherNet/IP comr	nunications will not	operate.	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK	K/ACT	
	OFF		Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EIP_IPAdrCfgEr	r	BOOL		IP Address Setting Error		
Cause and cor-	Assumed cause		Correction		Prevention		
	Setting error		and then downloa again.	-			
	Power was interrupted when a			Perform the Clear All Memory op-		Do not turn OFF the power supply to the Controller while a download	
	download was in progress for the built-in EtherNet/IP port settings.		eration or downlo again.	eration or download the settings again.		while a download the built-in Ether- gs.	
	The IP address acquired from BOOTP server is illegal.		provided to this p server so that it is	Correct the IP address that was provided to this port by the BOOTP server so that it is within the range specified for an NJ-series Control- ler.		Set the IP address that was provid- ed to this port by the BOOTP serv- er so that it is within the range specified for an NJ-series Control- ler.	
	Memory error			If operation is not recovered by the above, replace the CPU Unit.		None	
Attached infor- mation	tings) Attached informat (00 hex: Non-vola When the settings (11 hex: Illegal IP	tion 2: Error details tile memory acces s are inconsistent	access error stent hex: Illegal subnet mask, 13 hex:		ault gateway, 14 he	·	
Precautions/ Remarks	-		with the attached in	-			

Event name	IP Address Duplic	cated		Event code	84010000 hex	
Meaning	The same IP add	ress is used more t	than once.		•	
Source	EtherNet/IP Funct	tion Module	Source details	Communica- tions port	Detection tim- ing	After link is es- tablished
Error attributes	Level	Partial fault	Recovery	Automatic re- covery (after downloading the IP address set- tings), cycle the power supply, or reset Controller.	Log category	System
Effects	User program	Continues.	Operation		nunications will not local IP address ar	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINF	(/ACT
	OFF		Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	_EIP_IPAdrDupE	rr	BOOL		IP Address Duplication Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The IP address of EtherNet/IP port is the IP address of	s also used as	nodes and corr dress settings address is not than one node. • Remove the ot the duplicate IF the network an	ddresses of other rect the IP ad- so that the same used by more her node that has P address from d then cycle the o the Controller or	following cor- following cor- resses of other the IP ad- that the same ed by more r node that has ddress from hen cycle the ne Controller or	
Attached infor- mation	Attached informat	ion 1: Duplicated I	P address (example	e: C0A8FA01 hex =	address 192.168.	250.1)
Precautions/ Remarks	A duplicated addr	ess error occurs if	an ARP is sent with	n the set IP address	s and there is an A	RP response.

Event name	BOOTP Server C	Connection Error		Event code	84020000 hex	
Meaning	Connection with	the BOOTP server	failed.			
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	At BOOTP oper- ation
Error attributes	Level	Partial fault	Recovery	Automatic re- covery	Log category	System
Effects	User program	Continues.	Operation	rationEtherNet/IP communications will not opera Requests to the BOOTP server will contin there is a response from the BOOTP server freshing with the PLC Function Module wi An IP address was not set for the EtherNe when it was supposed to be set from the B server.		continue until P server. Data re- ule will continue. herNet/IP port
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK/ACT	
	OFF		Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	_EIP_BootpErr		BOOL		BOOTP Server Error	
Cause and cor-	Assumed cause	•	Correction		Prevention	
rection	Server setting error		Correct the server settings at the remote connection.		Check to make sure that the server settings at the remote connection are correct.	
	Server is down.		Check if the server at the remote connection is operating normally and set it to operate normally if it is not.		Check to make sure that the server at the remote connection is operat- ing normally.	
	An error occurred in the communi- cations path. Check the communications path to the server and take corrective measures if there are any prob- lems.		ke corrective	None		
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Communications	Controller Error		Event code	04210000 hex ^{*1}	
Meaning	A hardware error	was detected in the	e communications	controller of the bui	It-in EtherNet/IP po	ort.
Source	EtherNet/IP Func	tion Module	Source details Communica- tions port 1 or 2		Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery Cycle the power supply.		Log category	System
Effects	User program	Continues.	Operation	EtherNet/IP comr relevant commun	nunications are not ications port.	t possible for the
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	EtherNet/IP NET ERR		
	OFF		Lights.			
System-de-	Variable		Data type		Name	
fined variables	_EIP1_LanHwErr		BOOL		Port1 Communica Error	ations Controller
	_EIP2_LanHwErr		BOOL		Port2 Communications Controller	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Hardware error in the communica- R tions controller		Replace the CPU	Unit.	None	
Attached infor- mation	None					
Precautions/ Remarks			_LanHwErr system he Controller is cyc	-defined variable c led.	hanges to TRUE, it	t will not change to

Event name	Identity Error			Event code	14210000 hex	
Meaning	The CIP identity i	nformation in non-	olatile memory wa	s not read correctly		
Source	In the CPU Unit, EtherNet/IP Func- tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module <i>CIP2</i> ^{*2} /1 to 4: <i>Mounting</i> <i>position of the X</i> <i>Bus Unit</i> and <i>CIP1 /CIP2</i> are given in combi- nation. ^{*4}		Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program	Continues.	Operation EtherNet/IP comm relevant communi		nunications are not possible for the ications port.	
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET	EtherNet/IP NET ERR		K/ACT
			Lights.	Lights.		
System-de-	Variable		Data type BOOL		Name	
fined variable	_EIP_IdentityErr	*1 *3			Identity Error	
	_EIP1_IdentityErr *2 *3		BOOL		CIP Communications1 Identity Er- ror	
	_EIP2_IdentityErr *2 *3		BOOL		CIP Communications2 Identity Error	
	EIP_Comm1State *4	us.IdentityErr	BOOL		CIP Communications1 Identity Er- ror	
	EIP_Comm2State *4	us.IdentityErr	BOOL		CIP Communicat ror	ions2 Identity Er-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Non-volatile memory failure Replace the C		Replace the CPU	J Unit.	None	
Attached infor- mation	None					
Precautions/ Remarks	None					

*1. This applies to an NJ-series CPU Unit.

*2. This applies to an NX-series CPU Unit.

*3. This applies to a Unit other than NX-series EtherNet/IP Unit.

*4. This applies to an NX-series EtherNet/IP Unit.

Event name	MAC Address Err	or		Event code	14230000 hex ^{*1}	
Meaning	The MAC address	s in non-volatile me	emory was not read	correctly.		
Source	EtherNet/IP Func	tion Module			Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program	Continues.	Operation EtherNet/IP communications are not possible for the relevant communications port.			t possible for the
Indicators	EtherNet/IP NET RUN EtherNet/IP NET E		ERR	EtherNet/IP LINK/ACT		
	OFF		Lights.			
System-de-	Variable		Data type		Name	
fined variables	_EIP1_MacAdrEr	r	BOOL	Port 1 MAC Address I		ess Error
	_EIP2_MacAdrEr	r	BOOL		Port2 MAC Addre	ess Error
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Non-volatile mem	ory failure	Replace the CPU	Unit.	None	
Attached infor-	None	None				
mation						
Precautions/	After the _EIP1_N	/lacAdrErr or _EIP2	2_MacAdrErr syste	m-defined variable	changes to TRUE,	it will not change
Remarks	to FALSE unless	the power supply to	o the Controller is o	ycled.		

*1. This event code occurs for unit version 1.10 or later of the CPU Unit.

Event name	Tag Data Link Se	etting Error		Event code	34200000 hex		
Meaning	An error was dete	ected in the commu	inications settings	for tag data links.			
Source	In the CPU Unit, EtherNet/IP Func- tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*4	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the tag data link set- tings), cycle the power supply, or reset Controller.	Log category	System	
Effects	User program	Continues.	Operation Tag data link com		munications will not operate.		
Indicators	EtherNet/IP NET	herNet/IP NET RUN EtherNet/IP NET ERR		TERR	EtherNet/IP LINK/ACT		
	Flashes at 1-s int	tervals.	Flashes at 1-s ir	itervals.			
System-de-	Variable		Data type		Name		
fined variable	_EIP_TDLinkCfgErr *1 *3		BOOL		Tag Data Link Se	etting Error	
	_EIP1_TDLinkCfgErr *2 *3		BOOL	BOOL		CIP Communications1 Tag Data Link Setting Error	
	_EIP2_TDLinkCfgErr *2 *3		BOOL		CIP Communications2 Tag Data Link Setting Error		
	EIP_Comm1Status.TDLinkCfgErr *4		BOOL		CIP Communications1 Tag Data Link Setting Error		
	EIP_Comm2Status.TDLinkCfgErr *4		BOOL		CIP Communications2 Tag Data Link Setting Error		
Cause and cor-	Assumed cause)	Correction		Prevention		
rection	Power was interrupted when a download was in progress for the data link settings.		tings again.	-	Do not turn OFF the power supp to the Controller while a downloa is in progress for the tag data line settings.		
	Memory error		If the above measures do not work, None replace the CPU Unit.		None		
	A11 1 1 1 C	tion 1. Type of erro	rs (01 hex: Non-vo	platile memory acces	ss error, 02 hex: In	consistency in se	
Attached infor- mation	tings)		-				

*2. This applies to an NX-series CPU Unit.

*3. This applies to a unit other than NX-series EtherNet/IP Unit.

*4. This applies to an NX-series EtherNet/IP Unit.
Event name	IP Rout Table Set	ting Error		Event code	34230000 hex	
Meaning	An IP routing sett	ng error was detec	ted.	·		
Source	EtherNet/IP Funct	tion Module	Source details	Communica- tions port	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Minor fault	Recovery Automatic re- covery (after downloading the settings), cycle the power sup- ply, or reset Controller.		Log category	System
Effects	User program	Continues.	Operation	Communications tings are not poss	that use the releva sible.	nt IP routing set-
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	(/ACT
	[Flashes at 1-s intervals.			
System-de-	Variable		Data type	Data type		
fined variables	_EIP_IPRTblErr		BOOL		IP Route Table E	rror
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Setting error		Identify the error from the attached information, correct the setting, and then download the settings again.		None	
	Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings.		Perform the Clear All Memory op- eration or download the settings again.		Do not turn OFF the power supply to the Controller while a download is in progress for the built-in Ether- Net/IP port settings.	
	Memory error		If operation is not above, replace th	recovered by the e CPU Unit.	None	
Attached infor- mation	Attached information 1: Type of errors (01 hex: Non-volatile memory access error, 02 hex: Inconsistency in set tings) Attached information 2: Error Details (00 hex: Non-volatile memory access error When the settings are inconsistent (11 hex: Illegal IP router table settings, 12 hex: Illegal Hosts setting, 13 hex: Invalid default gateway, 14 hex: Illegal IPForward settings, 15 hex: Illegal NAT settings, 16 hex: Illegal PacketFilter settings)					
Precautions/	The cause of erro	r can be identified	with the attached ir	nformation.		
Remarks						

Event name	FTP Server Settir	ng Error		Event code	34240000 hex		
Meaning	An error was dete	ected in the FTP se	erver settings.				
Source	EtherNet/IP Func	tion Module	Source details	FTP	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Minor fault Recovery Automatic re- covery (after downloading the FTP settings), cycle the power supply, or reset Controller		Log category	System		
Effects	User program	Continues.	Operation	FTP will not opera	ate.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK/ACT		
			Flashes at 1-s inter	ervals.			
System-de-	Variable		Data type	Data type			
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction			
rection	Setting error		information, corre	Identify the error from the attached information, correct the setting, and then download the settings again.			
	Power was interrupted when a download was in progress for the FTP server settings.			Perform the Clear All Memory op- eration or download the settings		Do not turn OFF the power supply to the Controller while a download is in progress for the FTP server settings.	
	Memory error	Memory error		If operation is not recovered by the above, replace the CPU Unit.		None	
Attached infor- mation	Attached informatings)	Attached information 1: Type of errors (01 hex: Non-volatile memory access error, 02 hex: Inconsistency in se					
Precautions/ Remarks	The cause of erro	r can be identified	with the attached ir	nformation.			

Event name	NTP Client Settin	g Error		Event code	34250000 hex		
Meaning	An error was dete	ected in the NTP cl	ient settings.				
Source	EtherNet/IP Func	tion Module	Source details	NTP	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the NTP settings), cycle the power supply, or reset Controller	Log category	System	
Effects	User program	Continues.	Operation	NTP operation sto	ops.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LIN	K/ACT	
			Flashes at 1-s intervals.				
System-de-	Variable		Data type	Data type			
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Setting error		information, corre	Identify the error from the attached information, correct the setting, and then download the settings again.			
	Power was interrupted when a download was in progress for the NTP client settings.			Perform the Clear All Memory op- eration or download the settings again.		Do not turn OFF the power supply to the Controller while a download is in progress for the NTP client settings.	
	Memory error	Memory error		If operation is not recovered by the above, replace the CPU Unit.		None	
Attached infor- mation	Attached informat tings)	Attached information 1: Type of errors (01 hex: Non-volatile memory access error, 02 hex: Inconsistency in set-					
Precautions/ Remarks	The cause of erro	r can be identified	with the attached in	nformation.			

Event name	SNMP Setting Err	ror		Event code	34260000 hex	
Meaning			agent/trap settings.			
Source	EtherNet/IP Func	tion Module	Source details	SNMP	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the SNMP settings), cycle the power supply, or reset Controller	Log category	System
Effects	User program	Continues.	Operation	SNMP operation	stops.	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK	K/ACT
			Flashes at 1-s inter	ervals.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Setting error		Identify the error from the attached information, correct the setting, and then download the settings again.		None	
	Power was interrupted when a download was in progress for the SNMP agent/trap settings.		Perform the Clear All Memory op- eration or download the settings again.		Do not turn OFF the power supply to the Controller while a download is in progress for the SNMP agent/ trap settings.	
	Memory error		If operation is not recovered by the above, replace the CPU Unit.		None	
Attached infor- mation	Attached information 1: Type of errors (01 hex: Non-volatile memory access error, 02 hex: Inconsistency in settings) Attached Information 2: Error Location When the settings are inconsistent (01 hex: SNMP agent settings, 02 hex: SNMP trap settings)					consistency in set-
Precautions/ Remarks			with the attached ir			

Event name	Tag Name Resolu	ition Error		Event code	34270000 hex	
Meaning	Resolution of a ta	g used in a tag dat	a link failed.			
Source	In the CPU Unit, EtherNet/IP Func- tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP ^{*1} /CIP1 ^{*2} / CIP2 ^{*2} /1 to 4: <i>Mounting</i> <i>position of the X</i> <i>Bus Unit</i> and <i>CIP1 /CIP2</i> are given in combi- nation. ^{*4}	Detection tim- ing	At power ON, at Controller reset, when variables are changed from the Sys- mac Studio, or when the data link table is changed from the Network Configurator
Error attributes	Level	Minor fault	Recovery Automatic re- covery (after downloading the tag settings)		Log category	System
Effects	User program	Continues.	Operation	Data links will not links for other tag	operate for unres s will operate.	olved tags. Data
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NE	TERR	EtherNet/IP LINK/ACT	
	Flashes at 1-s int	ervals.	Flashes at 1-s in	tervals.		
System-de-	Variable	Variable Data type			Name	
fined variable	_EIP_TagAdrErr *	1 *3	BOOL		Tag Name Resol	ution Error
-	_EIP1_TagAdrErr	_EIP1_TagAdrErr ^{*2 *3}			CIP Communication Resolution Error	tions1 Tag Name
	_EIP2_TagAdrErr ^{*2 *3}		BOOL		CIP Communication Resolution Error	-
	EIP_Comm1Status.TagAdrErr *4		BOOL	BOOL		tions1 Tag Name
	EIP_Comm2Status.TagAdrErr *4		BOOL		CIP Communications2 Tag Name Resolution Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The size of the ne different from the		Correct the sizes in the tag settings to match the network variables.		Set the sizes in the tag settings to match the network variables.	
	The I/O direction	set for a tag data	Correct the tag settings or the set-		Set the tag settings or the settings	
	link and the I/O di			roller variables so	of the Controller variables so that	
	Controller variable	e do not match.	that the I/O direction for the tag da- ta links match the I/O direction of		the I/O directions for the tag data links match the I/O directions of the	
	There are no net	vork variables for	the Controller va		Controller variab	
	the Controller tag		Correct the tag settings so that ex- isting network variables are set for the tags.		Set the tag settings so that existing network variables are set for the tags.	
	A variable in the 0	Controller that is	Remove the Cor	nstant attribute	Do not set the Co	onstant attribute
	set for a tag data		from the Control		for a Controller v	
	work Publish attri but also has the 0	bute set to Input Constant attribute.	has the Network set to Input .	Publish attribute	the Network Pub Input.	lish attribute set to
Attached infor- mation	None					
	None					
Precautions/	INONE					

*2. This applies to an NX-series CPU Unit.

*3. This applies to a unit other than NX-series EtherNet/IP Unit.

Event name	Basic Ethernet Se	etting Error		Event code	34280000 hex ^{*1}		
Meaning	An error was dete	ected in the Ethern	et settings.				
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port 1 or 2	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level Minor fault Recovery Automatic re- covery, cycle the power sup- ply, or reset the Controller.		Log category	System			
Effects	User program	Continues.	Operation	EtherNet/IP comr relevant commun	nunications are not ications port.	t possible for the	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LIN	K/ACT	
	OFF		Flashes at 1-s intervals.				
System-de-	Variable		Data type		Name		
fined variables	_EIP1_EtnCfgErr		BOOL		Port1 Basic Ether	rnet Setting Error	
	_EIP2_EtnCfgErr		BOOL		Port2 Basic Ether	rnet Setting Error	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Setting error		information, corre	Identify the error from the attached information, correct the setting, and then download the settings again.			
	Power was interrupted when a		Perform the Clear All Memory op-		Do not turn OFF the power supply		
	download was in progress for the built-in EtherNet/IP port settings.		eration or downlo	eration or download the settings.		to the Controller while a download is in progress for the built-in Ether- Net/IP port settings.	
	Memory error			If operation is not recovered by the above, replace the CPU Unit.		None	
Attached infor- mation	Attached information 1: Type of errors (01 hex: Non-volatile memory access error, 02 hex: Inconsistency tings) Attached information 2: Error details (00 hex: Non-volatile memory access error, 11 hex: Incorrect baud rates)				-		
Precautions/ Remarks	The cause of erro	or can be identified	with the attached in	nformation.			

Event name	IP Address Settin	g Error		Event code	34290000 hex ^{*1}		
Meaning	An error was dete	ected in the IP add	ress settings.		•		
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port 1 or 2, or Internal port 1	Detection tim- ing	At power ON, at Controller reset, or at user oper- ation	
Error attributes	Level	Minor fault	Recovery	Recovery Automatic re- covery (after downloading the settings), cycle the power sup- ply, or reset Controller.		System	
Effects	User program	Continues.	Operation	EtherNet/IP comr relevant commun	nunications are not ications port.	possible for the	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINF	(ACT	
	OFF		Flashes at 1-s in	tervals.			
System-de-	Variable		Data type		Name		
fined variable	_EIP1_IPAdrCfgE	Err	BOOL	BOOL		Port1 IP Address Setting Error	
	_EIP2_IPAdrCfgE	Err	BOOL		Port2 IP Address Setting Error		
	_EIPIn1_IPAdrCfgErr		BOOL		Internal Port1 IP / Error	Address Setting	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Setting error		information, corre	Identify the error from the attached information, correct the setting, and then download the settings again.			
	Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings.			Perform the Clear All Memory op- eration or download the settings again.		Do not turn OFF the power supply to the Controller while a download is in progress for the built-in Ether- Net/IP port settings.	
	The IP address acquired from BOOTP server is illegal.		provided to this p server so that it i	Correct the IP address that was provided to this port by the BOOTP server so that it is within the range specified for an NX-series Control- ler		Set the IP address that was provid- ed to this port by the BOOTP serv- er so that it is within the range specified for an NX-series Control- ler.	
	Memory error		If operation is no above replace th	t recovered by the e CPU Unit.	None		
Attached infor- mation					consistency in set-		
Precautions/ Remarks			with the attached i				

Event name	DNS Setting Erro	r		Event code	342A0000 hex *1		
Meaning	An error was dete	ected in the DNS se	ettings or Hosts set	tings.			
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the settings), cycle the power sup- ply, or reset Controller.	Log category	System	
Effects	User program	Continues.	Operation	EtherNet/IP comr	nunications will not	operate.	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LIN	K/ACT	
	OFF		Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EIP_DNSCfgErr		BOOL	BOOL		DNS Setting Error	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Setting error		Identify the error from the attached information, correct the setting, and then download the settings again.		None		
	Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings.		Perform the Clear All Memory op- eration or download the settings again.		Do not turn OFF the power supply to the Controller while a download is in progress for the built-in Ether- Net/IP port settings.		
	Memory error		If operation is not recovered by the above replace the CPU Unit.		None		
Attached infor- mation	Attached information 1: Type of errors (01 hex: Non-volatile memory access error, 02 hex: Inconsistence tings) Attached information 2: Error Details (00 hex: Non-volatile memory access error When the settings are inconsistent 14 hex: Preferred DNS setting error, 15 hex: Alternate DNS setting error, 16 hex: Illegal domain name, Illegal Hosts setting				·		
Precautions/ Remarks	_	-	with the attached ir	nformation.			

Event name	Link Setting Not S	Supported		Event code	342B0000 hex		
Meaning	Unsupported LINI	K settings. The Cor	ntroller is operating	with LINK setting s	et to Auto.		
Source	EtherNet/IP Function Module		Source details	Communica- tions port, com- munications port 1 or 2	Detection tim- ing	At power ON, Controller reset, or synchroniza- tion transfer / re- storation from the Sysmac Stu- dio	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the settings)	Log category	System	
Effects	User program	Continues.	Operation	Not affected.	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR EtherNet/IP LINK/ACT		K/ACT	
			Flashes at 1-s intervals.				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An item other than Auto is selected for LINK settings on the CPU Unit whose hardware revision supports only Auto setting of LINK settings.		Change the setting to Auto from the Sysmac Studio and download the project.		None		
Attached infor- mation	None						
Precautions/ Remarks				visions of the CPU User's Manual (Cat			

Event name	Controller Insuffic	Controller Insufficient Memory Warning Event code 50010000 hex ^{*1}						
Meaning		The amount of data for the EtherCAT slave configuration, network-published information, or other data ex- ceeds the value that is specified for the CPU Unit. You may not be able to perform online editing or other oper- ations.						
Source	EtherCAT Master or EtherNet/IP Func	Function Module			Detection tim- ing	At power ON, download, or online editing		
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System		
Effects	User program	Continues.	Operation	Not affected.	·	-		
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT			
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The amount of data for the Ether- CAT slave configuration, network- published information, or other da- ta exceeds the value that is speci- fied for the CPU Unit.		Reduce the number of PDOs that are used by the EtherCAT slaves. Reduce the number of data types that are used for network variables or reduce the length of the text strings that are used for names.		None			
Attached infor- mation	None	None						
Precautions/ Remarks	You may not be a	ble to perform onli	ne editing or other	operations.				

Event name	DNS Server Conr	nection Error		Event code	84030000 hex	
Meaning	Connection with t	he DNS server faile	ed.			
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	At DNS opera- tion
Error attributes	Level	Minor fault	Recovery Automatic re-covery (after downloading the DNS settings) L		Log category	System
Effects	User program	Continues.	Operation	Communications	using DNS stop.	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINF	K/ACT
			Flashes at 1-s inte	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EIP_DNSSrvErr		BOOL		DNS Server Connection Error	
Cause and cor-	r- Assumed cause		Correction	Correction		
rection	Setting error		If there is a mistake with the speci- fications of the connected server, correct the server specifications and download them again.		Make sure that th er is specified co	e connected serv- rectly.
	The server is down.		Check if the server at the remote connection is operating normally and set it to operate normally if it is not.		Check to make sure that the server at the remote connection is operat- ing normally.	
	An error occurred in the communi- cations path.		Check the communications path to the server and take corrective measures if there are any prob- lems.		None	
Attached infor- mation	None		1		1	
Precautions/ Remarks	None					

Event name	NTP Server Conr	nection Error		Event code	84040000 hex		
Meaning	Connection with t	he NTP server faile	ed.	1			
Source	EtherNet/IP Func	tion Module	Source details	NTP	Detection tim- ing	At NTP opera- tion	
Error attributes	Level	Minor fault	Recovery Automatic re- covery (after downloading the NTP settings) L		Log category	System	
Effects	User program	Continues.	Operation	Time cannot be a	cquired from NTP.		
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET	ERR	EtherNet/IP LIN	K/ACT	
			Flashes at 1-s intervals.				
System-de-	Variable		Data type	Data type		Name	
fined variables	_EIP_NTPSrvErr		BOOL		NTP Server Connection Error		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Setting error		If there is a mistake with the speci- fications of the connected server, correct the server specifications and download them again.		Make sure that th er is specified co	e connected serv- rrectly.	
	The server is down.		Check if the server at the remote connection is operating normally and set it to operate normally if it is not.		Check to make sure that the server at the remote connection is operat- ing normally.		
	An error occurred in the communi- cations path.		Check the communications path to the server and take corrective measures if there are any prob- lems.		None		
Attached infor- mation	None		1		1		
Precautions/	If TCP Server Ru	n is recorded in the	e event log after the	correction is made	, then the CPU Un	it is correctly con-	
Remarks	nected to the DN	S server.					

Event name	Tag Data Link Co	nnection Failed		Event code	84070000 hex	
Meaning	Establishing a tag	data link connecti	ion failed.			
Source	In the CPU Unit, I tion Module. For t Bus Ethernet/IP F	,	Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*4	to 4: ing ing t conr the X nd 2 are	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System
Effects	User program	Continues.	Operation		operate for connect d. Data links for oth	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK	K/ACT
	Flashes at 1-s int	ervals.	Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variable	_EIP_TDLinkOpn	Err *1 *3	BOOL		Tag Data Link Co	nnection Failed
	_EIP1_TDLinkOpnErr *2 *3		BOOL		CIP Communicati Link Connection F	•
	_EIP2_TDLinkOpnErr *2 *3		BOOL		CIP Communications2 Tag Data Link Connection Failed	
	EIP_Comm1Status.TDLinkOpnErr *4		BOOL			ions1 Tag Data ⁻ ailed
	EIP_Comm2State	us.TDLinkOpnErr	BOOL		CIP Communicati	-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The tag data link connection infor- mation is not the same for the origi- nator and target.		Correct the tag data link connec- tion information, and then down- load the device parameters or con- nection settings from the Network Configurator or Sysmac Studio.		Before you use th make sure that th connection inform nator and target a	e tag data link nation in the origi-
	Insufficient connections		Reduce the number of class-3 messages.		Reduce the numb and class-3 mess used.	
	CIP message communications at the target node are stopped. (for NJ/NX-series CPU Units)		Make the device start normal CIP message communications.		Make the device start normal CIP message communications before you use a tag data link.	
	Setting to use tag data link com- munications was made to the NX- series EtherNet/IP Unit that is in- cluded in the CIP Safety connec- tion settings (for NX-series Ether- Net/IP Units).		Do not configure the NX-series EtherNet/IP Unit, which is included in the CIP Safety connection set- tings, to use tag data link commu- nications (for NX-series EtherNet/IP Units).		Do not configure EtherNet/IP Unit, in the CIP Safety tings, to use tag on nications (for NX- EtherNet/IP Units	the NX-series which is included connection set- lata link commu- series
	The NX-series EtherNet/IP Unit with tag data link communications was added to the CIP Safety con- nection settings (for NX-series EtherNet/IP Units).		Do not add the NX-series Ether- Net/IP Unit, for which tag data link communications are set to use, to the CIP Safety connection settings (for NX-series EtherNet/IP Units).		Do not add the N Net/IP Unit, for w communications a the CIP Safety co (for NX-series Eth	hich tag data link are set to use, to nnection settings
Attached infor- mation	Attached informa	tion 2: Connection i	instance No. 0 to 2	ble: C0A8FA01 hex 55 ^{*5} 10000117 hex for G		·

Precautions/	You can investigate a detailed cause from the connection status.
Remarks	Refer to the Connection Status Codes and Troubleshooting described in the NJ/NX-series CPU Unit Built-in
	EtherNet/IP Port User's Manual (Cat. No. W506).
	• This event occurs only once even if this error occurred simultaneously in several connections for the same
	target node.
*1 This applies	to an N Leseries CPU Unit

*1. This applies to an NJ-series CPU Unit.*2. This applies to an NX-series CPU Unit.

*3. This applies to a unit other than NX-series EtherNet/IP Unit.

*4. This applies to an NX-series EtherNet/IP Unit.

*5. Attached information 2 and 3 are not available for a CPU Unit with unit version 1.10 or earlier.

Event name	Tag Data Link Tin	neout		Event code	84080000 hex		
Meaning	A timeout occurred in a tag data link.						
Source	In the CPU Unit, EtherNet/IP Func- tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP ^{*1} /CIP1 ^{*2} / CIP2 ^{*2} /1 to 4: <i>Mounting</i> <i>position of the X</i> <i>Bus Unit</i> and <i>CIP1 /CIP2</i> are given in combi- nation. ^{*4}	Detection tim- ing	Continuously af- ter starting tag data link com- munications	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System	
Effects	User program	Continues.	Operation		link connection will stop. Reconnec- periodically repeated for the tag da-		
Indicators	EtherNet/IP NET	EtherNet/IP NET RUN		EtherNet/IP NET ERR		K/ACT	
	Flashes at 1-s int	ervals.	Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variable	_EIP_TDLinkErr *1 *3		BOOL		Tag Data Link Communications Er- ror		
	_EIP1_TDLinkErr *2 *3		BOOL		CIP Communications1 Tag Data Link Communications Error		
	_EIP2_TDLinkErr *2 *3		BOOL		CIP Communications2 Tag Data Link Communications Error		
	EIP_Comm1Statu	us.TDLinkErr ^{*4}	BOOL		CIP Communicat Link Communica	-	
	EIP_Comm2Statu	us.TDLinkErr ^{*4}	BOOL		CIP Communications2 Tag Data Link Communications Error		

Cause and cor-	Assumed cause	Correction	Prevention
rection	The power supply to the target node is OFF.	Check the status of the target node and start it normally.	Use the tag data link after you con- firm that the target node is normal.
	Communications with the target node stop.		
	The Ethernet cable connector for EtherNet/IP is disconnected.	Reconnect the connector and make sure it is connected correctly.	Connect the connector securely.
	The Ethernet cable for EtherNet/IP is broken.	Replace the Ethernet cable.	None
	The link to the built-in EtherNet/IP port is OFF.	Refer to the Link OFF Detected er- ror (84060000 hex) for the as- sumed causes and other informa- tion on link OFF.	Refer to the Link OFF Detected er- ror (84060000 hex) for the as- sumed causes and other informa- tion on link OFF.
	CIP message communications at the target node are stopped. (for NJ/NX-series CPU Units)	Make the device start normal CIP message communications.	Make the device start normal CIP message communications before you use a tag data link.
	When the Packet Filter function is enabled in the Built-in EtherNet/IP Port Settings, packets from the tar- get are not allowed. (for NJ/NX- series CPU Units) ^{*5}	Allow packets from the target in the Packet Filter settings of the Built-in EtherNet/IP Port Settings.	Make sure that packets from the target are allowed in the Packet Fil- ter settings of the Built-in EtherNet/IP Port Settings before you use a tag data link.
	CIP communications are not al- lowed by the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path. (for NJ/NX- series CPU Units)	Allow CIP communications in the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communica- tion path.	Make sure that CIP communica- tions are allowed in the Packet Fil- ter (Simple) or Packet Filter func- tions on the target node or the de- vices on the communication path to use tag data links.
	The packet loss occurred on the path due to the network communications load.	Increase the timeout value or RPI. Or, review the network environ- ment and network devices.	Design the network so that there is not too much load on the network.
	Noise	Implement noise countermeasures if there is excessive noise.	Implement noise countermeasures if there is excessive noise.
Attached infor-	Attached information 1: Connection i	nstance No. 0 to 255	1
mation		IP address (example: C0A8FA01 hex	= address 192.168.250.1)
Precautions/	The following cases are not includ	led in this error.	
Remarks	Connections as a target		
	This event occurs only once even target node.	if this error occurred simultaneously in	n several connections for the same

*2. This applies to an NX-series CPU Unit.

 $^{*3.}$ This applies to a unit other than NX-series EtherNet/IP Unit.

*4. This applies to an NX-series EtherNet/IP Unit.

*5. Assumed cause for the following CPU Units.

NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

• NX701 CPU Unit: Version 1.29 or later

Event name	Tag Data Link Co	nnection Timeout		Event code	84090000 hex ^{*1}	
Meaning	A timeout occurre	d while trying to es	tablish a tag data l	link connection.		
Source	In the CPU Unit, I tion Module. For t Bus Ethernet/IP F	he X Bus Unit, X	us Unit, X CIP2 *3/1 to 4:		Detection tim- ing	When establish- ing tag data link connection
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System
Effects	User program	Continues.	Operation	out. Reconnection		iodically repeated
Indicators	EtherNet/IP NET	-	EtherNet/IP NET		EtherNet/IP LIN	K/ACT
	Flashes at 1-s inte	ervals.	Flashes at 1-s int	tervals.		
System-de-	Variable		Data type		Name	
fined variable	_EIP_TDLinkOpn	Err * ^{2 *4}	BOOL		Tag Data Link Co	nnection Failed
	_EIP1_TDLinkOpnErr *3 *4		BOOL		CIP Communications1 Tag Data Link Connection Failed	
	_EIP2_TDLinkOpnErr *3 *4		BOOL		CIP Communications2 Tag Data Link Connection Failed	
	EIP_Comm1Status.TDLinkOpnErr *5		BOOL		CIP Communications1 Tag Data Link Connection Failed	
	EIP_Comm2Status.TDLinkOpnErr *5		BOOL		CIP Communications2 Tag Data Link Connection Failed	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The power supply to the target node is OFF. Communications at the target node are stopped.		Check the status and start it norma	of the target node ally.	Use the tag data firm that the targe	link after you con- et node is normal.
	CIP message communications are stopped at the target node or built- in EtherNet/IP Port. (for NJ/NX-ser- ies CPU Units) ^{*6}		Make the device message commu		Make the device message commu you use a tag dat	nications before
	The Ethernet cab EtherNet/IP is dis		Reconnect the connector and make sure it is connected correctly.		Connect the connector securely.	
	The Ethernet cab is broken.	le for EtherNet/IP	Replace the Ethernet cable.		None	
	CIP communication lowed by the Pact or Packet Filter fut target node or the communication particular series CPU Units	ket Filter (Simple) Inctions on the e devices on the ath. (for NJ/NX-	Allow CIP communications in the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communica- tion path.		ter (Simple) or Pa tions on the targe	in the Packet Fil- acket Filter func- at node or the de- munication path to
	An error occurred cations path.	in the communi-	Check the communications path and take corrective measures if there are any problems.		None	
Attached infor- mation	Attached informat	tion 1: Target node	IP address (exam	ole: C0A8FA01 hex	= address 192.168	3.250.1)

Precautions/	• You can change the event level to the observation level. If you change the level to the observation level, the
Remarks	EtherNet/IP NET ERR column above will be changed to "" (no change) and recovery will not be necessa-
	ry.
	The following cases are not included in this error.
	Connections as a target
	Connection timeouts due to a Link OFF detection for an Ethernet switch
	• This event occurs only once even if this error occurred simultaneously in several connections for the same
	target node.

- *2. This applies to an NJ-series CPU Unit.
- *3. This applies to an NX-series CPU Unit.
- *4. This applies to a unit other than NX-series EtherNet/IP Unit.
- *5. This applies to an NX-series EtherNet/IP Unit.
- *6. Assumed cause for the following CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	IP Address Duplic	ation Error		Event code	840A0000 hex *1		
Meaning	The same IP add	ress is used more	than once.				
Source	EtherNet/IP Func	tion Module	Source details	Source details Communica- tions port 1 or 2, or Internal port 1		After link is es- tablished	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the IP address set- tings), cycle the power supply, or reset Controller.		System	
Effects	User program	Continues.	Operation	relevant communications		unications are not possible for the ations port. Packets addressed to s of the relevant communications	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK	K/ACT	
	OFF		Flashes at 1-s int	ervals.			
System-de- fined variable	Variable _EIP1_IPAdrDupErr _EIP2_IPAdrDupErr _EIPIn1_IPAdrDupErr		Data type BOOL BOOL BOOL		Name Port1 IP Address Duplication Error Port2 IP Address Duplication Error Internal Port1 IP Address Duplica- tion Error		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	EtherNet/IP port is	The IP address of the built-in EtherNet/IP port is also used as the IP address of another node. • Ch no dru ad tha • Re the the po		the following cor- iddresses of other rect the IP ad- so that the same used by more her node that has P address from id then cycle the o the Controller or roller.	Perform allocation dresses of nodes are used for only	on the network	
Attached infor- mation	Attached informat	ion 1: Duplicated	IP address (example	e: C0A8FA01 hex =	address 192.168.2	250.1)	
Precautions/ Remarks	A duplicated addr	ess error occurs if	an ARP is sent with	h the set IP address	s and there is an Al	RP response.	

Event name	BOOTP Server Connection Error Event code		840B0000 hex ^{*1}				
Meaning	Connection with the BOOTP server failed.						
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port 1 or 2	Detection tim- ing	At BOOTP oper- ation	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category System		
Effects	User program	Continues.	Operation	relevant commun Requests to the E there is a respons freshing with the An IP address wa	nunications are not possible for the ications port. 300TP server will continue until se from the BOOTP server. Data re- PLC Function Module will continue. as not set for the EtherNet/IP port osed to be set from the BOOTP		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK/ACT		
	OFF		Flashes at 1-s inter	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EIP1_BootpErr		BOOL		Port1 BOOTP Server Error		
	_EIP2_BootpErr		BOOL		Port2 BOOTP Server Error		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Server setting error		Correct the server settings at the remote connection.		Check to make sure that the server settings at the remote connection are correct.		
	The server is down.		Check if the server at the remote connection is operating normally and set it to operate normally if it is not.		Check to make sure that the server at the remote connection is operat- ing normally.		
	An error occurred in the communi- cations path.		Check the commu the server and tal measures if there lems.	ke corrective	None		
Attached infor- mation	None		,				
Precautions/ Remarks	None						

Event name	Allowed Commun ed	ications Bandwidth	n per Unit Exceed- Event code 840C0000 hex *1				
Meaning	The total bandwidth for the connections that are set or established exceeded the allowed communications bandwidth of tag data links and CIP Safety communications ^{*2} per Unit for all of the built-in EtherNet/IP ports.						
Source	In the CPU Unit, EtherNet/IP Func- tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module <i>Bus Ethernet/IP Function Module</i> <i>CIP1/CIP2 1 to</i> <i>4: Mounting</i> <i>position of the X</i> <i>Bus Unit</i> and <i>CIP1/CIP2</i> are given in combi- nation.*4		Detection tim- ing	When establish- ing tag data link connection or CIP Safety con- nection			
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the settings), cycle the power sup- ply, or reset Controller.	Log category	System	
Effects	User program	Continues.	Operation	not operate in the	nd CIP Safety communications ^{*2} will e bandwidth that exceeds the allowe bandwidth per Unit.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
	Flashes at 1-s inte	ervals.	Flashes at 1-s intervals.				
System-de- fined variable	Variable		Data type		Name		
	_EIP_TDLinkOpnErr *3		BOOL		Tag Data Link Co		
	_EIP1_TDLinkOpnErr *3		BOOL		CIP Communicat Link Connection	Failed	
	_EIP2_TDLinkOpnErr *3		BOOL		CIP Communications2 Tag Data Link Connection Failed		
	EIP_Comm1Status.TDLinkOpnErr *4		BOOL	BOOL		CIP Communications1 Tag Data Link Connection Failed	
	EIP_Comm2Status.TDLinkOpnErr *4		BOOL		CIP Communications2 Tag Data Link Connection Failed		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An attempt was m	ade to establish	Change the settings at the origina-		Set the tag data links and CIP		
	a connection that		tor node for the tag data links and		Safety communications ^{*2} so that		
	used bandwidth (I packet transfer ra	-	CIP Safety communications ^{*2} so		the total PPS for all of the built-in		
	ta links and CIP S	-	that the total PPS for all of the built-in EtherNet/IP ports does not		EtherNet/IP ports does not exceed the allowed communications band-		
	cations ^{*2} that use	all of the built-in	exceed the allowed communica-		width per Unit.		
	EtherNet/IP ports		tions bandwidth per Unit, and then				
	lowed communica per Unit.	ations bandwidth	cycle the power supply to the Con- troller or reset the Controller.				
Attached infor-	None						
mation	You can confirm the bandwidth (PPS) of the tag data link for EtherNet/IP ports in the Ethernet Information						
mation Precautions/		-		ik for EtherNet/IP p		et information	
	Tab Page on the I	Network Configurat	tor.	cking Status with th			

*2. This applies for a CPU Unit that supports CIP Safety communications.

*3. This applies to a Unit other than NX-series EtherNet/IP Unit.

Event name	Number of Tag Se	ets for Tag Data Lin	ks Exceeded	Event code	840E0000 hex ^{*1}		
Meaning	The total number limit.	of tag sets for tag o	data links for all po	a links for all ports of the built-in Ethernet/IP port exceeds the upper			
Source	In the CPU Unit, I tion Module. For t Bus Ethernet/IP F	- 1	Source details	CIP1/CIP2/ 1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation. ^{*3}	Detection tim- ing	At power ON, Controller reset, download from the Sysmac Stu- dio, or download from the Net- work Configura- tor	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System	
Effects	User program	Continues.	Operation	Tag data link com were stopped.	munications for the relevant port		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK/ACT		
	Flashes at 1-s inter	ervals.	Flashes at 1-s intervals.				
System-de-	Variable		Data type		Name		
fined variable	_EIP_TDLinkCfgErr		BOOL		Tag Data Link Setting Error		
	_EIP1_TDLinkCfgErr		BOOL		CIP Communications1 Tag Data Link Setting Error		
	_EIP2_TDLinkCfgErr		BOOL	BOOL		ions2 Tag Data	
	EIP_Comm1Status.TDLinkCfgErr *3		BOOL		CIP Communications1 Tag Data Link Setting Error		
	EIP_Comm2Status.TDLinkCfgErr *3		BOOL		CIP Communications2 Tag Data Link Setting Error		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The total number sets for tag data I for each built-in E exceeds the total the product can b	thernet/IP port number of which	Change the numb that the total num tag sets for tag da set for each built- port does not exc number of which be allowed.	ber for all ports of ata links that are in Ethernet/IP seed the total	check that the tot sets for all ports o	t are set for each P port is changed, al number of tag does not exceed of which the prod-	
Attached infor- mation	Attached information 1: The number of tag sets that are set for the port. Attached information 2: Total number of tag sets that are set for the product. Attached information 3: Total number of tag sets that the product can be allowed.						
Precautions/ Remarks	None						

*1. This event code occurs for an NX102 CPU Unit.

*2. This applies to a unit other than NX-series EtherNet/IP Unit.

Event name	Access Detected Outside Range of Variable Eve			Event code	54E00000Hex	
Meaning	Accessing a value	e that is out of rang	e was detected for	a tag variable that	is used in a tag da	ta link.
Source	In the CPU Unit, EtherNet/IP Func- tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	Communica- tions port/ <i>CIP1 /CIP2</i> ^{*1}	Detection tim- ing	When variable is written
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINI	K/ACT
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An out-of-range value was written by an EtherNet/IP tag data link for a variable with a specified range.Correct the val the variable with so that the value Correct the val the value that does not specify an enumerator was written by an		Correct the value the variable with a so that the value Correct the value the enumeration v the value specifie	a specified range is in the range. that is written to variable so that	Write values that variables with sp Write values that tors to enumerati	ecified ranges. specify enumera-
Attached infor- mation	None					
Precautions/ Remarks	-	-	values or values that sp			end normally.

*1. This applies to an NX-series EtherNet/IP Unit.

3

Event name	Packet Discarded Due to Full Receive Buffer Event code			84050000 hex		
Meaning	A packet was discarded.					
Source	EtherNet/IP Func			Detection tim- ing	After link is es- tablished	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	EtherNet/IP NET ERR		K/ACT
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A network convergence occurred. The load on the network is too high. Check whether there are no- des that send unnecessary broad- cast frames on the network and re- move them. After that, check that the received number of frames has reduced in the network statistical information.		ther there are no- necessary broad- ne network and re- that, check that aber of frames has	Make sure that u broadcast frames the network. Do not connect th in a loop.	are not sent on	
Attached infor- mation	None					
Precautions/ Remarks	None					

*2. This applies to an NX-series CPU Unit.

Event name	Link OFF Detecte	d		Event code	84060000 hex	
Meaning	An Ethernet link (OFF was detected.				
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port *1/ Communica-	Detection tim- ing	Continuously
				tions port 1 ^{*2} / Communica- tions port 2 ^{*2} / Internal port 1		
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	EtherNet/IP comr	nunications will not	operate.
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK	(/ACT
					OFF	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An Ethernet cable is broken, dis- connected, or loose.		Firmly connect the Ethernet cable. Replace the cable if it is broken.		Firmly connect the Ethernet cable. Also, make sure that the cable to be used is not disconnected.	
	The Ethernet switch's power sup- ply is turned OFF.		Turn ON the power supply to the Ethernet switch. Replace the Ethernet switch if it fails.		Do not turn OFF t switch.	he Ethernet
	Communications speed mismatch- ed.		Modify the setting so that the com- munication speed is the same as that of the remote node.		Set the same communication speed as that on the remote node.	
	Noise		Implement noise countermeasures if there is excessive noise.		Implement noise countermeasures.	
	 One of the following operations was performed. The Identity object was reset. Settings for EtherNet/IP were downloaded from the Network Configurator or Sysmac Studio, or the Clear All Memory opera- tion was performed. EtherNet/IP was restarted. 		None. This error occurs when the operations on the left are per- formed.		None. This error occurs when the operations on the left are per-formed.	
Attached infor- mation	None				1	
Precautions/ Remarks	The level can be matic recovery".	changed to minor f	ault. When it is cha	nged to minor fault	, the recovery meth	od used is "auto-

*2. This applies to an NX-series CPU Unit.

Event name	DHCP Server Co	nnection Error		Event code	840F0000 hex	
Meaning	Connection to the	DHCP server faile	ed.			
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port 1 or 2	Detection tim- ing	When DHCP is in operation
Error attributes	Level	Minor fault	Recovery	Automatic re- covery		
Effects	User program	Continues.	relevant communit Requests to the D is a response from with the PLC Fund An IP address was		nunications are not possible for the ications port. DHCP server will continue until there in the DHCP server. Data refreshing ction Module will continue. Is not set for the EtherNet/IP port for server attempted to set an IP ad-	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
	OFF		Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EIP1_DhcpErr		BOOL		Port1 DHCP Serv	/er Error
	_EIP2_DhcpErr		BOOL		Port2 DHCP Server Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The server is misconfigured.		Correct the server settings at the remote connection.		Check to make sure that the server settings at the remote connection are correct.	
	The server went down.		Check if the server at the remote connection is operating normally and set it to operate normally if it is not.		Check to make sure that the server at the remote connection is operat- ing normally.	
	An error occurred in the communi- cations path.		Check the communications path to the server and take corrective measures if there are any prob- lems.		None	
Attached infor- mation	None				·	
Precautions/ Remarks	None					

Event name	TLS Log Saving F	ailed		Event code	940F0000 hex ^{*1}	
Meaning	Failed to save the	TLS log to the SD	Memory Card.			
Source	EtherNet/IP Function Module		Source details	Communica- tions port	Detection tim- ing	When TLS log- ging is enabled but the log could not be saved.
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program Continues.		Operation	Not affected.		
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET	ERR	EtherNet/IP LIN	K/ACT
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory Card is not insert- ed.		Insert an SD Memory Card.		Insert an SD Mer	nory Card.
	The SD Memory Card type is not correct.		Replace the SD Memory Card with an SD or SDHC card.		Use an SD or SDHC card.	
	The SD Memory Card format is in- valid.		Format the SD Memory Card with the Sysmac Studio.		Use a formatted SD Memory Card. Do not turn OFF the power supply or remove the SD Memory Card while the SD BUSY indicator is lit.	
	The SD Memory (tected.	Card is write pro-	Remove write protection from the SD Memory Card.		Make sure that the SD Memory Card is not write protected.	
	The SD Memory (have sufficient av		Replace the SD Memory Card for one with sufficient available space.		Use an SD Memory Card that has sufficient available space.	
	The SD Memory Card is damaged.		Replace the SD Memory Card.		Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card. Do not remove the SD Memory Card while the SD PWR indicator is lit.	
Attached infor- mation	None				·	
Precautions/ Remarks	None					

*1. This event code occurs for the following CPU Units.

• NX102-000, NX1P2-000: Version 1.46 or later

• NX102-□□20: Version 1.37 or later

• NX502-1 C: Version 1.60 or later

Event name	Tag Data Link Do	wnload Started		Event code	94010000 hex		
Meaning	Changing the tag	data link settings s	tarted.				
Source	In the CPU Unit, EtherNet/IP Func- tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*3	Detection tim- ing	At user opera- tion	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
	Flashes at 1-s int	ervals.					
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Changing the tag started.	Changing the tag data link settings started.					
Attached infor- mation	Attached information 1: Controller status (01 hex: PROGRAM mode, 02 hex: RUN mode)						
Precautions/ Remarks	None						

*2. This applies to an NX-series CPU Unit.

Event name	Tag Data Link Do	wnload Finished		Event code	94020000 hex		
Meaning	Changing the tag	data link settings fi	nished.				
Source	In the CPU Unit, EtherNet/IP Func- tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*3	Detection tim- ing	At user opera- tion	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
	Flashes at 1-s inte	ervals.					
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Changing the tag finished.	data link settings					
Attached infor- mation	Attached informat	Attached information 1: Controller status (01 hex: PROGRAM mode, 02 hex: RUN mode)					
Precautions/ Remarks	None						

*2. This applies to an NX-series CPU Unit.

Event name	Tag Data Link Sto	pped		Event code	94030000 hex	94030000 hex	
Meaning	-		•	tor, Sysmac Studio, s downloaded from	•	•	
Source	In the CPU Unit, EtherNet/IP Func- tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP ^{*1} /CIP1 ^{*2} / CIP2 ^{*2} /1 to 4: <i>Mounting</i> <i>position of the X</i> <i>Bus Unit</i> and <i>CIP1 /CIP2</i> are given in combi- nation. ^{*4}	Detection tim- ing	At user opera- tion	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NE	T ERR	EtherNet/IP LIN	K/ACT	
	Flashes at 1-s inter	ervals.					
System-de- fined variables	Variable		Data type		Name		
	_EIP_TDLinkStopCmd ^{*1 *3}		BOOL	BOOL		Tag Data Link Communications Stop Switch	
	_EIP1_TDLinkStopCmd ^{*2 *3}		BOOL		CIP Communicat Link Communicat	-	
	_EIP2_TDLinkStopCmd *2 *3		BOOL		CIP Communications2 Tag Data Link Communications Stop Switch		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Tag data links we Network Configur dio, special instru lation of a system	ator, Sysmac Stu- ctions or manipu-					
Attached infor- mation	Attached information hex: Manipulation Attached information When attached IP address of t	ion 2: Operation m by a system define ion 3: l information 2 is 03	ethod (01 hex: Op ed variable, 03 he 3 hex	GRAM mode, 02 he eration by Network k: Manipulation by s 3 hex	Configurator or Sy		
Precautions/ Remarks	None						

*2. This applies to an NX-series CPU Unit.*3. This applies to a unit other than NX-series EtherNet/IP Unit.

Event name	Tag Data Link Sta	urted		Event code	94040000 hex	
Meaning	-	-	-	r, Sysmac Studio, s ownloaded from Ne		
Source	In the CPU Unit, EtherNet/IP Func- tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*4	Detection tim- ing	At user opera- tion
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINF	K/ACT
	Flashes at 1-s inte	ervals.				
System-de-	Variable		Data type		Name	
fined variables	_EIP_TDLinkStartCmd ^{*1 *3}		BOOL		Tag Data Link Co Start Switch	mmunications
	_EIP1_TDLinkStartCmd ^{*2 *3}		BOOL		CIP Communicat	ions1 Tag Data tions Start Switch
	_EIP2_TDLinkStartCmd *2 *3		BOOL		CIP Communications2 Tag Data Link Communications Start Switch	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Tag data links we Network Configur dio, special instru lation of a system	ator, Sysmac Stu- ctions or manipu-				
Attached infor- mation	 Attached information 1: Controller status (01 hex: PROGRAM mode, 02 hex: RUN mode) Attached information 2: Operation method (01 hex: Operation by Network Configurator or Sysmac Studio, 02 hex: Manipulation by a system defined variable, 03 hex: Manipulation by special instructions) Attached information 3: When attached information 2 is 03 hex IP address of the target node When attached information 2 is a value other than 03 hex 					
Precautions/ Remarks	None					

*2. This applies to an NX-series CPU Unit.

*3. This applies to a unit other than NX-series EtherNet/IP Unit.

Event name	Link Detected			Event code	94050000 hex	
Meaning	Establishment of	an Ethernet link wa	as detected.		-	
Source	EtherNet/IP Function Module		Source details	Communica- tions port ^{*1} / Communica- tions port 1 ^{*2} / Communica- tions port 2 ^{*2} / Internal port 1	Detection tim- ing	When links are established
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINF	K/ACT
					Lights.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Establishment of was detected.	an Ethernet link				
Attached infor- mation	None					
Precautions/ Remarks	None					

*2. This applies to an NX-series CPU Unit.

Event name	Restarting Ethern	et Port		Event code	94060000 hex		
Meaning	The built-in Ether	Net/IP port was res	started.				
Source	EtherNet/IP Function Module		Source details	Communica-	Detection tim-	At user opera-	
				tions port *1/	ing	tion	
				Communica-			
				tions port 1 *2/			
			Communica-				
				tions port 2 *2/			
				Internal port 1			
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LIN	K/ACT	
System-de-	Variable		Data type	Data type		Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The built-in Ether	Net/IP port was					
	restarted.						
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

*1. This applies to an NJ-series CPU Unit.

*2. This applies to an NX-series CPU Unit.

Event name	Tag Data Link All	Run		Event code	94070000 hex		
Meaning	Tag data link conr	nections to all node	s have been norm	ally established.			
Source	In the CPU Unit, EtherNet/IP Func- tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP ^{*1} /CIP1 ^{*2} / CIP2 ^{*2} /1 to 4: <i>Mounting</i> <i>position of the X</i> <i>Bus Unit</i> and <i>CIP1 /CIP2</i> are given in combi- nation. ^{*4}	Detection tim- ing	When establish- ing tag data link connection	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
	Lights.				 Name		
System-de-	Variable		Data type	Data type			
fined variable	_EIP_TDLinkAllRunSta *1 *3		BOOL		All Tag Data Link Communications Status		
	_EIP1_TDLinkAllI	RunSta ^{*2 *3}	BOOL	BOOL		CIP Communications1 All Tag Data Link Communications Status	
	_EIP2_TDLinkAllRunSta *2 *3		BOOL		CIP Communications2 All Tag Data Link Communications Status		
	EIP_Comm1Status.TDLinkAllRun- Sta ^{*4}		BOOL		CIP Communications1 All Tag Data Link Communications Status		
	EIP_Comm2Statu Sta ^{*4}	EIP_Comm2Status.TDLinkAllRun-		BOOL		CIP Communications2 All Tag Data Link Communications Status	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Tag data link conr get nodes have b						
Attached infor- mation	None						
Precautions/ Remarks	None						

*2. This applies to an NX-series CPU Unit.

*3. This applies to a unit other than NX-series EtherNet/IP Unit.

Event name	IP Address Fixed			Event code	94080000 hex			
Meaning	The correct IP ad	The correct IP address has been determined and Ethernet communications can start.						
Source	EtherNet/IP Function Module		Source details	Communica- tions port *1/ Communica- tions port 1 *2/ Communica- tions port 2 *2/ Internal port 1	Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Information	Recovery		Log category	System		
Effects	User program	Continues.	Operation	ration Not affected.				
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINF	K/ACT		
	Lights.							
System-de-	Variable		Data type	Data type		Name		
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The correct IP address has been determined and Ethernet commu- nications can start.							
Attached infor- mation	Attached Information	Attached Information 1: IP address (example: C0A8FA01 hex = address 192.168.250.1)						
Precautions/ Remarks	None							

*2. This applies to an NX-series CPU Unit.

Event name	BOOTP Client Sta	arted		Event code	94090000 hex		
Meaning	The BOOTP clien	t started requesting	g an IP address.				
Source	EtherNet/IP Function Module		Source details	Communica- tions port, ^{*1} communications port 1, ^{*2} or com- munications port 2 ^{*2}	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	ection The BOOTP client started request- ing an IP address.						
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

*1. This applies to an NJ-series CPU Unit.

*2. This applies to an NX-series CPU Unit.

Event name	FTP Server Started			Event code	940A0000Hex		
Meaning	The FTP agent started normally.						
Source	EtherNet/IP Function Module		Source details	FTP	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
System-de- fined variables	Variable		Data type		Name		
	None						
Cause and cor- rection	Assumed cause		Correction		Prevention		
	The FTP agent started normally.						
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	NTP Client Started			Event code	940B0000Hex		
Meaning	The NTP client started normally and a request for the NTP server to obtain the time started.						
Source	EtherNet/IP Function Module		Source details	NTP	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
System-de- fined variables	Variable		Data type		Name		
	None						
Cause and cor- rection	Assumed cause		Correction		Prevention		
	The NTP client started normally and a request for the NTP server to obtain the time started.						
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	SNMP Started			Event code	940C0000Hex		
Meaning	The SNMP agent started normally.						
Source	EtherNet/IP Function Module		Source details	SNMP	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
System-de- fined variables	Variable		Data type		Name	Name	
	None						
Cause and cor- rection	Assumed cause		Correction		Prevention	Prevention	
	The SNMP agent started normally.						
Attached infor- mation	None		•				
Precautions/	None						
Remarks							

Event name	TLS Log Started/Stopped			Event code	940E0000 hex ^{*1}		
Meaning	TLS logging has started or stopped.						
Source	EtherNet/IP Function Module		Source details	Communica- tions port	Detection tim- ing	At power ON, Controller reset, or when settings are changed from Secure Socket Configu- ration com- mands	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.	-		
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	TLS logging has started or stop- ped.						
Attached infor-	Attached information 1: 00 hex for TLS logging stopped, and 01 hex for TLS logging started						
mation							
Precautions/	None						
Remarks							

*1. This event code occurs for the following CPU Units.

• NX102-00, NX1P2-000: Version 1.46 or later

• NX102-□20: Version 1.37 or later

• NX502-1 C: Version 1.60 or later
Event name	Access to Secure	Socket Setting		Event code	94100000 hex ^{*1}				
Meaning	Settings were cha	anged or read from	the Secure Socket	Configuration com	mands.				
Source	EtherNet/IP Funct	tion Module	Source details	Communica- tions port	Detection tim- ing	When settings are changed or read from the Secure Socket Configuration Tool			
Error attributes	Level	Information	Recovery		Log category	Access			
Effects	User program	Continues.	Operation	Not affected.					
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LIN	K/ACT			
System-de-	Variable name		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	Settings were char from the Secure S tion commands.	•							
Attached infor- mation	 hex: Secure sock Attached informatic Attached informations I Attached information When attached 0 to 29: ID of a (NX102 and NX) When attached 	et setting was delet tion 2: 00 hex: An a og setting was mad tion 3: I information 2 is 00 ccessed session (0 K1P2) I information 1 is 07 e socket communica	iccess to session s de	etting was made, 0 an NX102 and NX1 information 2 is 01	1 hex: An access t P2), 0 to 59: ID of hex	o secure socket accessed session			
Precautions/	None								
Remarks									

• NX102-00, NX1P2-000: Version 1.46 or later and Ver. 1.48 or earlier

• NX102-□□20: Version 1.37 or later

• NX502-1 C: Version 1.60 or later

Event name	Access to Secure	Socket Setting		Event code	94110000 hex*1			
Meaning	Secure socket se	tting was changed	or read.	I				
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	When secure socket setting was changed or read		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LIN	K/ACT		
System-de-	Variable name		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Secure socket se changed or read.	tting was						
Attached infor-		tion 1: Connection	method					
mation	1: Direct conne	ection via USB						
	2: Direct conne	ection via Ethernet						
			r Ethernet connecti					
					ction source IP add	ress is given.		
	When connection	is made through p	roxy, proxy IP addr	ress is given.				
Precautions/ Remarks	None							
User name in	When the user au	thentication function	on is enabled: User	name				
	1							

• NX102-00, NX1P2-00, NX102-020: Version 1.49 or later

• NX502-1000: Version 1.60 or later

Event name	Change or Readi	ng of Secure Socke	et Setting	Event code	94120000 hex*1				
Meaning	Secure socket se	tting was changed	or read.						
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	When secure socket setting was changed or read			
Error attributes	Level	Information	Recovery		Log category	System			
Effects	User program	Continues.	Operation	Not affected.					
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LIN	K/ACT			
System-de-	Variable name		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	Secure socket se changed or read.	tting was							
Attached infor- mation	 hex: Secure sock Attached information Attached information Attached information When attached 0 to 59: ID of at When attached 	et setting was dele tion 2: 00 hex: An a og setting was mad tion 3: 1 information 2 is 00 ccessed session, 2 1 information 1 is 0 e socket communic	ted access to session s de 0 hex 255: Secure socket 1 hex and then atta	was read, 01 hex: S etting was made, 0 setting was initializ iched information 2 s disabled, 01 hex:	11 hex: An access t zed is 01 hex	o secure socket			
Precautions/	None								
Remarks									

• NX102-000, NX1P2-000, NX102-020: Version 1.49 or later

• NX502-1000: Version 1.60 or later

Event name	IP Address Chang	ged		Event code	94130000 hex ^{*1}	
Meaning	The IP address w	as changed.				
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port 1 or 2	Detection tim- ing	If the last IP ad- dress is found to be changed when an IP ad- dress is defined
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINF	(/ACT
System-de-	Variable name		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The IP address w	as changed.				
Attached infor-	Attached informat	ion 1: IP address a	ifter change, e.g. 1	92.168.250.1		
mation						
Precautions/	None					
Remarks						

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

• NX701 CPU Unit: Version 1.29 or later

Event name	SNMP Settings C	hanged		Event code	94140000 hex ^{*1}	
Meaning	The SNMP setting	gs were changed.				
Source	EtherNet/IP Func	tion Module	Source details	SNMP	Detection tim- ing	When SNMP settings were changed
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LIN	K/ACT
System-de-	Variable name		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	SNMP Settings w	ere changed.				
Attached infor- mation	 1: SNMP Servi 2: SNMP Servi 3: SNMP Servi 4: No change (Attached information) 1: Recognition 2: Recognition 3: Recognition 4: No change (Attached information) 4: No change (Attached information) 1: Recognition 2: Recognition 	ce disabled ce Settings change Not 1, 2, or 3) ion 2: Changes in 1 1 enabled 1 disabled 1 setting changed Not 1, 2, or 3) ion 3: Changes in 1 2 enabled 2 disabled 2 setting changed	ed Recognition 1			
Precautions/ Remarks	None					

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

NX701 CPU Unit: Version 1.29 or later

Event name	Subnet Mask Cha	anged		Event code	94150000 hex ^{*1}				
Meaning	The subnet mask	was changed.		l					
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port 1 or 2	Detection tim- ing	If the last subnet mask is found to be changed when an IP ad- dress is defined			
Error attributes	Level	Information	Recovery		Log category	System			
Effects	User program	Continues.	Operation	Not affected.					
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LIN	K/ACT			
System-de-	Variable name		Data type		Name				
fined variable	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	The subnet mask	was changed.							
Attached infor-	Attached informat	tion 1: Subnet mas	k after change, e.g	. 255.255.255.0					
mation									
Precautions/	None								
Remarks									

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Restarting Ethern	et Port		Event code	96450000 hex	
Meaning	The EtherNet/IP p	oort was restarted.				
Source	In the CPU Unit, I tion Module. For t Bus Ethernet/IP F	,	Source details	CIP1/CIP2/ 1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation. ^{*1}	Detection tim- ing	At user opera- tion
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINF	K/ACT
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The EtherNet/IP p ed.	oort was restart-				
Attached infor- mation	None					
Precautions/ Remarks	None					

*1. This applies to an NX-series EtherNet/IP Unit.

Problem	Correction
Tag data is not concurrent.	 Check the following items and correct the user program. Data concurrency is maintained for each connection between the CPU Unit and the built-in EtherNet/IP port. To maintain data concurrency for tag data links, set a refreshing task for the network variables that are assigned to tags. Refer to information on the Concurrency of Tag Data Link Data in the <i>NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506)</i> for details. Refer to the product manuals for products from other manufacturers.
At startup, some of the receive data is FALSE when it should be TRUE.	 If the user program uses receive data, make sure that the All Tag Data Link Communications Status in communications status 1 or the Controlle Operating Mode for the target node is TRUE before you use the receive data. To use operation information from the Controller, use Controller sta tus in the tag sets on both the sending and receiving nodes. If the Fault Action setting of the output (produce) tag is enabled, The out put (produce) data changes to FALSE when a fatal error occurs in the CPU Unit. Check the error status at the output (producing) Controller.
Tag data link communications are not stable.	 For an NX701 CPU Unit, use a 1,000 Mbps Ethernet switch if 10 or 100 Mbps is set or if you are using a 10 Mbps repeater hub, a 100 Mbps repeater hub, or a 1,000 Mbps repeater hub. The performance of the tag data links assumes that an Ethernet switch is used to achieve a 40,000 pps bandwidth for full-duplex, 1,000 Mbps auto-negotiation communications. For an NX102 CPU Unit, use a 100 Mbps Ethernet switch if 10 Mbps is set or if you are using a 10 Mbps or 100 Mbps repeater hub. The performance of the tag data links assumes that an Ethernet switch is used to achieve a 420,000 pps bandwidth for full-duplex, 1,000 Mbps repeater hub. The performance of the tag data links assumes that an Ethernet switch is used a achieve a 12000 pps bandwidth for full-duplex, 100 Mbps auto-negotiation communications. For an NJ-series CPU Unit and an NX1P2 CPU Unit, use a 100 Mbps Ethernet switch if 100 Mbps is set or if you are using a 10 Mbps or 100 Mbps repeater hub. For unit version 1.03 or later, the performance of the tag data links assumes that an Ethernet switch is used to achieve a 3,000 pps bandwidth for full-duplex, 100 Mbps auto-negotiation communications. For unit version 1.00 to 1.02, a 1,000 pps bandwidth is assumed. Refer to <i>NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manuai (Cat. No. W506)</i> to access the error counters and discarded packed counters on the Ethernet Information Tab Page. Use the information to check for noise on the communications path, non-standard cables, dam aged cables/connectors, unexpectedly high communications traffic, and incorrect loops in connections between Ethernet switches. Contact the Ethernet switches in the communications path. If Ethernet switches are cascaded, the load may be concentrated on the middle Ethernet switches. Change the network configuration so that the load is not concentrated.

3-7-3 Other Troubles and Corrections

3-7-3 Other Troubles and Corrections

3-8 Errors in the EtherCAT Master Function Module

3-8-1 Error Tables

EtherCAT Master

					Level				
Event code	Event name	Meaning	Assumed cause		P rt	M i n	O b s	l n f o	Reference
04400000 hex	Communica- tions Con- troller Error	A Communications Controller Error was detected at startup.	The Communications Control- ler failed.		0				page 3-736
14400000 hex (Project Unit Ver. earlier than 1.40)	MAC Ad- dress Error	The MAC address is incorrect.	The CPU Unit has failed.		0				page 3-736
34420000 hex (Ver. 1.40 or later)	Parameters Not Trans- ferred	Slave or Unit parame- ter is not transferred.	Slave or Unit parameter is not downloaded.		0				page 3-737
44010000 hex	EtherCAT Fault	A fatal error was de- tected in the Ether- CAT Master Function Module.	 An error occurred in the soft- ware. 		0				page 3-738
84200000 hex	Link OFF Er- ror	A Link OFF state oc- curred in the master.	 The Ethernet cable is not connected between the master and the first slave. The power supply to the first slave is not turned ON. The Ethernet cable connector is disconnected between the master and the first slave. A non-recommended Ethernet cable is used between the master and first slave. The Ethernet cable is broken between the master and first slave. The contact of the connector on the Ethernet cable between the first slave is faulty, or parts are faulty. Hardware failure of the first slave An EtherCAT Frame Not Received (842E0000 hex) occurred. A general-purpose Ethernet hub or repeater hub is connected. 		0				page 3-739

					L	_eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
842E0000 hex (Ver. 1.11 or later)	EtherCAT Frame Not Received	The sent EtherCAT frame was not re- ceived.	 A Unit other than an EtherCAT slave is connected. Output ports are connected to each other between EtherCAT slaves or between the Ether-CAT master and EtherCAT slaves. The Ethernet cable connector is connected uncertainly between the EtherCAT master and EtherCAT slaves. The contact of the Ethernet cable between the EtherCAT slave is faulty, or the connector is faulty. The transmission delay time calculated based on the set value of the total cable length is shorter than the actual transmission delay time. An EtherCAT slave manufactured by a company other than OMRON is included in the network configuration, or a nonrecommended Ethernet cable is intentionally used. The network configuration has been changed from the network configuration when the transmission delay time. Hardware failure of EtherCAT slave Hardware failure of EtherCAT master An Incorrect Wiring Detected (843C0000 hex) occurred. 		0				page 3-741
24200000 hex	Slave Node Address Du- plicated	The same slave ad- dress is used for two nodes.	• The same node address is set for more than one slave.			0			page 3-744
34400000 hex	Network Configura- tion Informa- tion Error	There is an error in the network configu- ration information.	 The power supply to the Con- troller was interrupted or com- munications with the Sysmac Studio were disconnected while downloading or restoring the network configuration infor- mation is in progress. 			0			page 3-745

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
34410000 hex (Ver. 1.10 or later and Project Unit Ver. earlier than 1.40) [NX701, NX1P2]	EtherCAT Communica- tions Cycle Exceeded	Process data commu- nications could not be performed with the specified communica- tions cycle.	 The transmission delay time in the actually connected configu- ration is longer than the trans- mission delay time calculated for the user-set cable length. The set task period or commu- nications cycle is too short. 			0			page 3-746
84210000 hex (Project Unit Ver. earlier than 1.40)	Network Configura- tion Error	The EtherCAT net- work configuration is incorrect.	 Slave output ports are connected to each other. The master and slave are connected with the slave output port. The number of connected slaves exceeded the maximum number of slaves for the Ether-CAT master. 			0			page 3-747
84220000 hex (Project Unit Ver. earlier than 1.40)	Network Configura- tion Verifica- tion Error	A slave that is in the network configuration information is not connected. Or, a slave that is not in the network configuration information is con- nected.	 A slave that is in the network configuration information is not connected. There is a node address mis- match. A different slave from the one that is specified in the network configuration information is connected. A slave that is not in the net- work configuration information is connected. The hardware switches for the slave node address were changed to a value other than 0 after the Write Slave Node Address operation was per- formed from the Sysmac Stu- dio. The Ethernet cable is broken between two slaves. 			0			page 3-750

					L	_eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
84230000 hex (Project Unit Ver. earlier than 1.40)	Slave Initiali- zation Error	Slave initialization failed.	 An error occurred in EtherCAT master processing. An initialization error occurred in the EtherCAT slave. An initialization error occurred in the EtherCAT coupler Unit. A major fault level Controller error occurred. The Ethernet cable is broken or the specified cable is not being used. A connector on the Ethernet cable is disconnected, the contact is faulty, or parts are faulty. A general-purpose Ethernet hub is connected. The master failed. The slave failed. Noise 			0			page 3-752
84280000 hex (Project Unit Ver. earlier than 1.40)	Slave Appli- cation Error	An error occurred in the slave application.	 An error was detected in the slave's application layer status register. 			0			page 3-754
84290000 hex	Process Da- ta Transmis- sion Error	Sending process data failed.	 It was not possible to send the EtherCAT frame during the EtherCAT communications period. The frame transmission jitter exceeded the limit. 			0			page 3-755

						Leve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
842B0000 hex	Process Da- ta Reception Timeout	Process data recep- tion timed out.	 Noise A general-purpose Ethernet hub is connected. A non-recommended cable was used. The Ethernet cable connector is disconnected. The Ethernet cable is broken. The contact of the Ethernet ca- ble connector is faulty, or parts are faulty. The transmission delay time calculated based on the set value of the total cable length is shorter than the actual trans- mission delay time. An EtherCAT slave manufac- tured by a company other than OMRON is included in the net- work configuration, or a non- recommended Ethernet cable is intentionally used. The network configuration has been changed from the net- work configuration when the transmission delay time. The CPU Unit task period is too short. A ring disconnection occurred in the ring topology for which a slave that does not support the ring topology is included. 			0			page 3-756
842C0000 hex (Project Unit Ver. earlier than 1.40)	Process Da- ta Communi- cations Error	An error occurred in process data commu- nications.	 A slave left the network even though the disconnection oper- ation or disable operation was not performed. Slave failure 			0			page 3-759
842F0000 hex (Ver. 1.13 or later)	Input Proc- ess Data In- valid Error	Because the Ether- CAT master could not perform process data communications nor- mally when it was in the Operational state, the Input Data Invalid state continued for a certain period.	 The Ethernet cable connector is connected uncertainly. The Ethernet cable is almost broken. The contact of the Ethernet ca- ble connector is faulty, or parts are faulty. Hardware failure of EtherCAT slave Noise 			0			page 3-761

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					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
84300001 hex (Project Unit Ver. 1.40 or later)	Slave State Transition Failed	Slave state transition failed.	 An error occurred in a slave during the EtherCAT slave state transition. A non-recommended cable was used. The Ethernet cable connector is disconnected. The Ethernet cable is broken. The contact of the Ethernet ca- ble connector is faulty, or parts are faulty. A general-purpose Ethernet hub is connected. Noise The EtherCAT master or an EtherCAT slave failed. A slave returned an error re- sponse in the message com- munications that the EtherCAT master sent during EtherCAT slave state transition. The transition from Pre-Opera- tional state to Safe-Operational state failed when the Module config send method parame- ter was set to Send for MDP- compatible slave. 			0			page 3-763
84310002 hex (Project Unit Ver. 1.40 or later)	Illegal Slave Disconnec- tion Detect- ed	The slave was dis- connected incorrectly.	 The power supply to the slave is turned OFF, or an Ethernet cable is disconnected. The Ethernet cable connector is disconnected. A non-recommended cable was used. The Ethernet cable is broken. The contact of the Ethernet ca- ble connector is faulty, or parts are faulty. The wiring of slaves in the ring topology is incorrect. The slave node address was changed during operation. 			0			page 3-767
84320003 hex (Project Unit Ver. 1.40 or later)	Network Configura- tion Verifica- tion Error (Unnecessa- ry Slave Connected)	A slave that is not in the network configu- ration information is connected.	 A slave that is not in the net- work configuration information is connected. The maximum number of con- nected slaves was exceeded. The wiring of slaves in the ring topology is incorrect. 			0			page 3-769

3-729

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
84330004 hex (Project Unit Ver. 1.40 or later)	Network Configura- tion Verifica- tion Error (Mismatched Slave)	Slaves in the network configuration informa- tion and in the actual network configuration do not match.	 There is a node address mismatch. A slave that is not in the network configuration information is connected. The wiring of slaves in the ring topology is incorrect. 			0			page 3-771
84340000 hex (Project Unit Ver. 1.40 or later)	Slave PDI WDT Error Detected	A slave PDI WDT er- ror was detected.	 EtherCAT slave power supply voltage dropped EtherCAT slave failure No reply from the slave (For slaves that are manufactured by other companies only) 			0			page 3-773
84360000 hex (Project Unit Ver. 1.40 or later)	Slave AL Status Error Detected	An AL status error was detected from an EtherCAT slave.	• An error occurred on the EtherCAT slave side and the AL status code was reported by the EtherCAT slaves to the EtherCAT master.			0			page 3-774
84370000 hex (Project Unit Ver. 1.40 or later)	Clock Syn- chronization Compensa- tion Failed	Clock synchronization with slaves failed.	 The network configuration was changed during state transi- tion. EtherCAT slave failure Noise 			0			page 3-775
84380000 hex (Project Unit Ver. 1.40 or later)	Network Configura- tion Verifica- tion Error (Slave Un- connected)	A slave that is in the network configuration information is not connected.	 The power supply to the slave is not turned ON. The Ethernet cable connector is disconnected between the slaves. The wait time for slave startup was exceeded because the link establishment was too slow or the power supply start- up of the slaves was too long. A non-recommended Ethernet cable is used to connect slaves. The Ethernet cable is broken between slaves. The contact of the connector on the Ethernet cable that con- nects slaves is faulty, or parts are faulty. The wiring of slaves in the ring topology is incorrect. Hardware failure of a slave 			0			page 3-776

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
843A0000 hex (Project Unit Ver. 1.40 or later)	Network Configura- tion Verifica- tion Error (Incorrect Ring Wiring)	The ring topology that is not set in the net- work configuration in- formation, is config- ured on the actual network.	 The ring topology configured on the actual network is not defined in the network configu- ration information. The ring topology is configured in a different position from one that is defined in the network configuration information. 			0			page 3-778
843C0000 hex (Project Unit Ver. 1.40 or later)	Incorrect Wiring De- tected	The wiring of an EtherCAT network is incorrect.	 Input ports or output ports are connected to each other. Two or more ring topologies are configured. The start port of the ring and the end port of the ring are not combined correctly. The wiring for the start port of the ring and one for the end port of the ring are reversed. The wiring of a Junction Slave in the ring topology is incorrect. A ring topology that is not in the network configuration information is on the actual network. 			0			page 3-780
94520000 hex (Project Unit Ver. 1.40 or later)	Wait for Cy- cling Power Supply	It is necessary to cy- cle the power supply to the Controller or reset the Controller for the recovery from an error.	• An event, which is necessary to cycle the power supply or reset the Controller for the re- covery, occurred.			0			page 3-782

3 Error Descriptions and Corrections

					L	.eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
102F0000 hex (Ver. 1.03 or later and Project Unit Ver. earlier than 1.40)	EtherCAT Slave Back- up Failed	The backup operation for an EtherCAT slave ended in an error.	 There is no connection between the EtherCAT master and the slave (Link OFF). An error caused an incorrect EtherCAT master status. The EtherCAT network configuration information does not agree with the physical network configuration. The request to the EtherCAT slave failed. The EtherCAT master was temporarily unable to perform the processing because it was executing other processing. Initialization of the EtherCAT slave failed. It was not possible to read the backup parameters from the EtherCAT slave. Communications with an OM-RON Communications Coupler Unit or NX Unit failed. 				0		page 3-783

					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
1030000 hex (Ver. 1.03 or later and Project Unit Ver. earlier than 1.40)	EtherCAT Slave Re- store Opera- tion Failed	The restore operation for an EtherCAT slave ended in an error.	 There is no connection between the EtherCAT master and the slave (Link OFF). Wire the EtherCAT master and slave securely, and make sure that a connection is established before you attempt to restore the data. The EtherCAT network configuration information does not agree with the physical network configuration. The request to the EtherCAT slave failed. The EtherCAT master was temporarily unable to perform the processing because it was executing other processing. Initialization of the EtherCAT slave failed. It was not possible to write the backup parameters to the MX2/RX Series Inverter. (This applies only for unit version 1.10 or earlier of the CPU Unit.) It was not possible to write the backup parameters to the EtherCAT slave. Incorrect backup data was detected. The EtherCAT network configuration in the backup data does not agree with the physical network configuration. An error occurred at an OM-RON Communications Coupler Unit. 				0		page 3-785
10460001 hex (Project Unit Ver. 1.40 or later)	EtherCAT Slave Back- up Failed	The backup operation for an EtherCAT slave ended in an error.	 The EtherCAT master cannot start backup. It was not possible to read the backup parameters to the EtherCAT slave. The request to the EtherCAT slave failed. Communications with an OM- RON Communications Coupler Unit or NX Unit failed. Backup was executed for a disconnected slave. 				0		page 3-788

					L	eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
10470002 hex (Project Unit Ver. 1.40 or later)	EtherCAT Slave Re- store Opera- tion Failed	The restore operation for an EtherCAT slave ended in an error.	 The EtherCAT master cannot start restore operation. The EtherCAT network config- uration in the backup data does not agree with the physi- cal network configuration. It was not possible to write the backup parameters to the EtherCAT slave. The request to the EtherCAT slave failed. Incorrect backup data was de- tected. An error occurred at an OM- RON Communications Coupler Unit. 				0		page 3-790
64200000 hex	Emergency Message Detected	An emergency mes- sage was detected.	 An emergency message was received from a slave. 				0		page 3-793
842D0000 hex (Project Unit Ver. earlier than 1.40)	EtherCAT Message Er- ror	An error occurred in a message communi- cations with the slave.	 Refer to the attached informa- tion to check the error. 				0		page 3-794
84350000 hex (Project Unit Ver. 1.40 or later)	Illegal Mail- box Re- ceived	An illegal mailbox was received from a slave.	 A message with illegal destina- tion address was received from a slave. 				0		page 3-795
84390000 hex (Project Unit Ver. 1.40 or later)	Ring Discon- nection De- tected	A ring disconnection status was detected.	 An Ethernet cable was disconnected. An Ethernet cable connector is disconnected between the slaves. A non-recommended cable was used. The Ethernet cable is broken between slaves. The contact of the Ethernet cable connector is faulty, or parts are faulty. 				0		page 3-796
94400000 hex	Slave Dis- connected	A slave was discon- nected for a discon- nection command.	 An operation to disconnect the slave was executed from the Sysmac Studio. The EC_DisconnectSlave instruction was executed. 					0	page 3-797
94410000 hex	Slave Con- nected	A slave was recon- nected for a recon- nection command.	 An operation to reconnect the slave was executed from the Sysmac Studio. The EC_ConnectSlave instruction was executed. 					0	page 3-798

3 Error Descriptions and Corrections

					L	.eve	l		
Event code	Event name	Meaning	Assumed cause		P rt	M i n	O b s	l n f o	Reference
94430000 hex	Error Reset	A command was re- ceived to reset errors.	 An error reset operation was performed from the Sysmac Studio. The ResetECError instruction was executed. 					0	page 3-799
94440000 hex (Ver. 1.04 or later)	Slave Disa- bled	The EtherCAT Slave was disabled.	The EC_ChangeEnableSetting instruction was executed.					0	page 3-800
94450000 hex (Ver. 1.04 or later)	Slave Ena- bled	The EtherCAT Slave was enabled.	The EC_ChangeEnableSetting instruction was executed.					0	page 3-801
94500000 hex (Ver. 1.11 or later)	EtherCAT Diagnosis/ Statistics Log Started	EtherCAT diagnosis/ statistics log is start- ed.	• The value of the _EC_StatisticsLogEnable sys- tem-defined variable changed from FALSE to TRUE.					0	page 3-802
94510000 hex (Ver. 1.11 or later)	EtherCAT Diagnosis/ Statistics Log Ended	EtherCAT diagnosis/ statistics log is ended.	 An error that causes EtherCAT diagnosis/statistics log to end occurred. 					0	page 3-803

3-8-2 Error Descriptions

Built-in EtherCAT Port

Event name	Communications	Controller Error		Event code	04400000 hex				
Meaning	A Communication	ns Controller Error	was detected at sta	irtup.					
Source	EtherCAT Master	Function Module	Source details	Communica- tions port	Detection tim- ing	At power ON or Controller reset			
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category System				
Effects	User program	Continues.	Operation	Master: The master waits Slave: Message commu nications are not	nications and proc	ess data commu-			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT			
			Lights.						
System-de-	Variable		Data type		Name				
fined variables	_EC_LanHwErr		BOOL		Communications	Controller Error			
Cause and cor-	Assumed cause		Correction		Prevention				
rection	The Communicat failed.	ions Controller	Reset the Contro persists, replace		None				
Attached infor-	None				L				
mation									
Precautions/	None								
Remarks									

Event name	MAC Address Err	or		Event code	14400000 hex*1				
Meaning	The MAC address	s is incorrect.							
Source	EtherCAT Master	Function Module	Source details	Communica- tions port	Detection tim- ing	At power ON or Controller reset			
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category System				
Effects	User program	Continues.	Operation	Master: The master waits Slave: Message commu nications are not	nications and proc	ess data commu-			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	АСТ				
			Lights.						
System-de-	Variable		Data type		Name				
fined variables	_EC_MacAdrErr		BOOL		MAC Address Er	ror			
Cause and cor-	Assumed cause		Correction		Prevention				
rection	The CPU Unit has	s failed.	Replace the CPU	Unit.	None				
Attached infor-	None								
mation									
Precautions/	None								
Remarks									

*1. This event code occurs for project unit version earlier than 1.40.

NJ/NX-series Troubleshooting Manual (W503)

					04420000 1107			
Meaning	Slave or Unit para	ameter is not transf	erred.	•				
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim- ing	At power ON, Controller reset, or operating mode change		
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Continues.	Operation	Slave:	in the Pre-operational state. nications are possible. Process data			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK//	ACT		
			Flashes at 1-s inte	ervals.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Slave or Unit para downloaded.	ameter is not	Cycle the power s Controller after yo slave or Unit para Sysmac Studio.		If you execute the required to reset to complete the dow to the message do Sysmac Studio.	nload according		
Attached infor- mation	None							
Precautions/ Remarks	None	None						

Event code

*1. This event code occurs for unit version 1.40 or later of the CPU Unit.

Parameters Not Transferred

Event name

34420000 hex*1

3-8 Errors in the EtherCAT Master Function Module

3

3-8-2 Error Descriptions

3-737

Event name	EtherCAT Fault			Event code	44010000 hex		
Meaning	A fatal error was	detected in the Eth	erCAT Master Fund	tion Module.			
Source	EtherCAT Master Function Module		Source details	Master	Detection tim- ing	At power ON, at Controller reset, or during com- munications	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation Master: The EtherCAT Master Function Module stops Slave: Message communications and process data on nications stop. During communications, a com tions error occurs. The error is processed according settings in the slave. An error occurs. The error is processed according settings in the slave.		ess data commu- ins, a communica- essed according to		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT		
			Lights.				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred	in the software.	Obtain the Sysma on the Sysmac St your OMRON rep to the Sysmac Stu Operation Manua for how to obtain troller logs.	tudio and contact resentative. Refer udio Version 1 I (Cat. No. W504)	None		
	Attached information 1: System information						
Attached infor-	Attached Information	Attached information 2: System information					
Attached infor- mation		tion 2: System infor	mation				
	Attached informat Attached informat	tion 2: System infor tion 3: System infor tion 4: System infor	mation				
	Attached informat Attached informat	tion 3: System infor	mation				

				Event code			
Event name	Link OFF Error	Link OFF Error			84200000 hex		
Meaning	A Link OFF state	A Link OFF state occurred in the master.					
Source	EtherCAT Master	Function Module	Source details	Communica- tions port	Detection tim- ing	At power ON, at Controller reset, or during com- munications	
Error attributes	Level	Partial fault	Recovery	Error reset	Log category	System	
Effects	User program Continues.		Operation	Master:	Master:		
				The master waits in the Init state. If the master is not			
				in the Init state, it	changes to the Init	state. Other com-	
				munications error	s caused by this er	ror are not detect-	
				ed as an error.			
				Slave:			
				Message commu	nications and proce	ess data commu-	
				nications stop. Du	uring communicatio	ns, a communica-	
				tions error occurs. The error is processed according to		essed according to	
				settings in the slave.			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT		
	Not lit		Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EC_LinkOffErr		BOOL		Link OFF Error		
	 _EC_LinkStatus		BOOL		Link Status		

Cause and cor-	Assumed cause	Correction	Prevention
rection	The Ethernet cable is not connect- ed between the master and the first slave.	Connect the Ethernet cable be- tween the master and the first slave.	Confirm that the Ethernet cable is connected.
	The power supply to the first slave is not turned ON.	Turn ON the supply power to the first slave.	Confirm that the power supply to the first slave is turned ON.
	The Ethernet cable connector is disconnected between the master and the first slave.	Connect the Ethernet cable con- nector.	 Firmly connect the Ethernet cable connector until it clicks into place. Confirm that the Ethernet cable connector is mated securely.
	A non-recommended Ethernet ca- ble is used between the master and first slave.	Replace the Ethernet cable with a recommended one.	Use the recommended Ethernet cables.
	The Ethernet cable is broken be- tween the master and the first slave.	Replace the Ethernet cable.	Before you start wiring Ethernet ca- bles, use the cable tester or other devices to confirm that there is no broken cable. Refer to the Ether- CAT Network Wiring in <i>NJ/NX-</i> <i>series CPU Unit Built-in EtherCAT</i> <i>Port User's Manual (Cat. No.</i> <i>W505)</i> for precautions on wiring.
	The contact of the connector on the Ethernet cable between the master and the first slave is faulty, or parts are faulty.	Replace the Ethernet cable.	None
	Hardware failure of the first slave	If this error persists even after you cycle the power supply to the first slave, replace the slave.	None
	An EtherCAT Frame Not Received (842E0000 hex) occurred. ^{*1}	Make the corrections for an Ether- CAT Frame Not Received (842E0000 hex).	Implement preventive measures for an EtherCAT Frame Not Received (842E0000 hex).
	A general-purpose Ethernet hub or repeater hub is connected.	Remove the general-purpose Ethernet hub or repeater hub, and connect an EtherCAT Junction Slave.	Do not connect the general-pur- pose Ethernet hub and repeater hub. Use an EtherCAT Junction Slave when you want to configure a topology with branching or a ring topology.
Attached infor- mation	None		
Precautions/ Remarks		hub or repeater hub is connected, the malfunctions, and this error may occu	-

*1. Use the troubleshooting functions of the Sysmac Studio or the Troubleshooter of an HMI to check the error.

Event name	EtherCAT Frame	Not Received		Event code	842E0000 hex ^{*1}	
Meaning	The sent EtherCA	T frame was not re	eceived.		1	
Source	EtherCAT Master	erCAT Master Function Module Source detail		Master/Slave	Detection tim- ing	At power ON, at Controller reset, during commu- nications ^{*2} , or when a cable is connected to EtherCAT mas- ter
Error attributes	Level	Partial fault	Recovery	Error reset ^{*3}	Log category	System
Effects	User program	Continues.	Operation Master: If the master waits state, it changes a Slave: Message commun nications stop. Dur		s in the Init state or is not in the Init all slaves to the Init state. nications and process data commu- uring communications, a communica- s. The error is processed according to	
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT	
			Flashes at 1-s inte	ervals.	Flashes	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor- rection	Assumed cause		Correction		Prevention	
	One of the following 1) to 10) oc- curred.		not be identified b formation due to t setting not being	mation. If this er- o locations in the ke the corrections at is not end port error location can- by the attached in- he node address made or other at there is no error		
	1) A device other than an Ether- CAT slave is connected.		Remove the device other than an EtherCAT slave.		Confirm that devices other than EtherCAT slaves are not connect- ed to the EtherCAT network.	
	2) Output ports are connected to each other between EtherCAT slaves or between the EtherCAT master and EtherCAT slaves.		Correct the connection of the Ethernet cable that is connected to the relevant port of the slave or master which is shown in the at- tached information 3.		Confirm that there are no incorrect Ethernet cable connections.	
	3) The Ethernet cable connector is connected uncertainly between the EtherCAT master and EtherCAT slaves.		Connect the Ethernet cable con- nector.		place.	until it clicks into e Ethernet cable
	4) The contact of the Ethernet ca- ble between the EtherCAT master and an EtherCAT slave is faulty, or the connector is faulty.		Replace the Ethernet cable.		None	

	1	1	1			
	 5) The transmission delay time calculated based on the set value of the total cable length is shorter than the actual transmission delay time. 6) An EtherCAT slave manufactured by a company other than OMRON is included in the network configuration, or a non-recommended Ethernet cable is intentionally used. 7) The network configuration has been changed from the network configuration when the transmission delay time was set, causing increase in transmission delay time. 	Set a larger value in Total Cable Length and transfer the setting to the Controller. Or, change the set value in Transmission Delay Time with the measured value, and transfer the setting to the Controller. For the procedure to update the Transmission Delay Time with the measured value, refer to <i>Setting</i> <i>Transmission Delay Time by Actual</i> <i>Measurement</i> in the <i>NJ/NX-series</i> <i>CPU Unit Built-in EtherCAT Port</i> <i>User's Manual (Cat. No. W505).</i>	Same as the Correction.			
	8) Hardware failure of EtherCAT slave	If this error persists even after you cycle the power supply to the rele- vant slave, replace the slave.	None			
	9) Hardware failure of EtherCAT master	If this error persists even after you cycle the power supply to the CPU Unit, replace the CPU Unit.	None			
	10) An Incorrect Wiring Detected (843C0000 hex) occurred. ^{*4}	Make the corrections for an Incor- rect Wiring Detected (843C0000 hex).	Implement preventive measures for an Incorrect Wiring Detected (843C0000 hex).			
Attached infor-	Attached information 1: Error location	n diagnostic result				
mation	0: Error location is not identified Not	ote 1				
	1: Error location is identified Note 1					
	not be executed.	ons in the Sysmac Studio and EtherC/ tion of the CPU Unit and project down				
	• 0: Master	on (only when the value of attached in	formation 1 is 1). ^{Note 3}			
	Not 0: Slave node address					
		on Details (only when the value of atta				
	 If the attached information 2 is the master, 0 is output as the port name. If the attached information 2 is the slave node address, the port name that is displayed on the Support So ware is output. However, if the network configuration information does not agree with the physical network configuration of the relevant slave, any of PortA, PortB, PortC, and PortD is output as the default as the pname. 					
	 If the value of attached information 1 is not 1, 0 is output as the port name. Note 3. If there is a ring topology in the actual network, the error location may not be displayed correctly. If there is no problem on the error location displayed in the attached information 2, and 3, temporarily remove the cable on the end port of the ring, cycle the power supply to the Controller or reset the Controller, and then make the corrections for the event occurred. Attached information 4: System information 					

Precautions/	• For project unit version earlier than 1.42, the error location cannot be identified if there is a ring topology in
Remarks	the actual network configuration. Remove the cable on the end port of the ring, cycle the power supply to
	the Controller or reset the Controller, and then make an occurrence of this error again to identify the error
	location.
	For project unit version 1.42 or later, when this error occurred in two locations in the ring topology, make the
	corrections for the location that is not end port of the ring.
	• The attached information 1 becomes 2 only for the project unit version 1.40 or later.

This event code occurs for unit version 1.11 or later of the CPU Unit.

*2. This is detected for project unit version 1.40 or later.

*1.

*3. For project unit version 1.40 or later, it may be necessary to cycle the power supply.

*4. Use the troubleshooting functions of the Sysmac Studio or the Troubleshooter of an HMI to check the error.

Event name	Slave Node Addr	ess Duplicated		Event code	24200000 hex		
Meaning	The same slave a	ddress is used for	two nodes.				
Source	EtherCAT Master	Function Module	Source details	Slave	Detection tim- ing	At power ON, a Controller reset or during com- munications	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Communications state.	ected When the M stop. The master v ft Operation Is Set	vaits in the Init	
				the Error Is Detec Slaves that were Slaves after the r	cted during Operation is det normal continue to new slave that cause nain in the Init state	on operate. sed the duplicated	
				Error Is Detected For project unit ve The master chang the Pre-Operation	ft Operation Is Set during Operation ersion earlier than ges the slaves that nal state. Slaves at uplicated address	1.40: were normal to ter the new slave	
				For project unit version 1.40 or later: The master changes the slaves that were normal to the Safe-Operational state. Slaves after the new slav that caused the duplicated address error remain in th Init state.			
				cated address er	l. ne new slave that o ror, message comr nmunications are n	nunications and	
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT	
			Flashes at 1-s inter	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EC_SlavAdrDup	Err	BOOL		Slave Node Add Error	ess Duplicated	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The same node address is set for more than one slave.				Set the node add to prevent duplic	lress of the slave ation.	
Attached infor- mation	None		· · ·				
Precautions/ Remarks	The slave cannot	be used unless the	e slave node addre	ss is set.			

Event name	Network Configur	ation Information E	rror	Event code	34400000 hex	
Meaning					011000001100	
Source	There is an error in the network confi EtherCAT Master Function Module		Source details	Master	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System
Effects	User program	Continues.	Operation Master: The master waits in the Init state. Slave: Message communications and process data nications are not possible.		ess data commu-	
Indicators	EtherCAT NET R	UN	EtherCAT NET ERR		EtherCAT LINK/ACT	
			Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	_EC_NetCfgErr		BOOL		Network Configuration Information Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The power supply to the Controller was interrupted or communications with the Sysmac Studio were dis- connected while downloading or restoring the network configuration information is in progress.		Perform the Clear All Memory op- eration and then download or re- store the network configuration in- formation to the master again.		Do not turn OFF the power supply to the Controller and disconnect communications with the Sysmac Studio while downloading or restor- ing the network configuration infor- mation.	
Attached infor- mation	Attached Informat	tion 1: Error Details	(0001 hex: Illegal	parameter, 0014 h	ex: Error opening fi	le)
Precautions/ Remarks	None					

Event name	EtherCAT Comm	unications Cycle Ex	xceeded	Event code	34410000 hex ^{*1}		
Meaning	Process data con	nmunications could	not be performed	with the specified c	ommunications cyc	cle.	
Source	EtherCAT Master	Function Module			Detection tim- ing	At start of com- munications	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System	
Effects	User program	Continues.	Operation Master: The master waits Slave: Message communications are not p		nications and proc	ess data commu-	
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT		
			Flashes at 1-s int	ervals.			
System-de-	Variable		Data type	Name			
fined variables	_EC_CycleExcee	ded	BOOL	OOL		EtherCAT Communications Cycle Exceeded	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The transmission delay time in the actually connected configuration is longer than the transmission delay time calculated for the user-set cable length.		Set the cable leng agrees with the a tion.		Set the cable lengagrees with the a tion.	•	
	The set task period tions cycle is too			r and set a task cations cycle) that ications.	Use the Simulato period (communi- enables commun	cations cycle) that	
Attached infor- mation	None						
Precautions/ Remarks	None						

*1. This event code occurs for a CPU Unit with unit version 1.10 or later and project unit version earlier than 1.40.

Event name	Network Configuration Error			Event code	84210000 hex ^{*1}	
Meaning	The EtherCAT ne	twork configuration	is incorrect.			
Source	EtherCAT Master Function Module		Source details	Master	Detection tim- ing	At power ON, at Controller reset, or during com- munications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Refer to Precaution	ons/Remarks.	
Indicators	EtherCAT NET RUN		EtherCAT NET E	RR	EtherCAT LINK/ACT	
			Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	_EC_NetTopology	yErr	BOOL		Network Configuration Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Slave output ports	s are connected	Correct the Ethernet cable connec-		Confirm that there are no incorrect Ethernet cable connections	
	to each other. The master and s	lava ara compost	tions.		Ethernet cable co	onnections.
	ed with the slave					
	The number of co	onnected slaves	Disconnect unneo	cessary slaves	Confirm that no more than the	
	exceeded the ma		and keep the num		maximum number of slaves are	
	slaves for the Eth	erCAT master.	maximum numbe	r.	connected to the work.	EtherCAT net-
Attached infor- mation	Error Details: 000	0 hex: Too many sl	aves, 0001 hex: O	utput ports connect	ed to each other	

Precautions/	Operation					
Remarks	Master:					
	 The following applies if fail-soft operation is set to <i>Fail-soft</i>, the event was detected when the power supply was turned ON or the Controller was reset, and the error details in the attached information is 0000 hex: The master will change the maximum number of slaves from the beginning to the Operational state and continues to operate. The slaves past the maximum number of slaves will remain in the Init state and communications will stop. The following applies if fail-soft operation is set to <i>Stop</i>, the event was detected when the power supply was turned ON or the Controller was reset, and the error details in the attached information is 0000 hex: The master will change the maximum number of slaves from the beginning to the Pre-Operational state and only message communications will continue. The slaves past the maximum number of slaves will remain in the Init state and communications will stop. 					
	 The following applies if the event was detected when the power supply was turned ON or the Controller was reset, and the error details in the attached information is 0001 hex: All slaves will remain in the Init state and communications will stop. 					
	 The following applies if fail-soft operation is set to <i>Fail-soft</i>, the event was detected during communications, and the error details in the attached information is 0000 hex: 					
	The master will change the maximum number of slaves from the beginning to the Operational state and con- tinues to operate. The slaves past the maximum number of slaves will remain in the Init state and communi- cations will stop.					
	 The following applies if fail-soft operation is set to <i>Stop</i>, the event was detected during communications, and the error details in the attached information is 0000 hex: The master will change the maximum number of slaves from the beginning to the Pre-Operational state and communications will stop. The slaves past the maximum number of slaves will remain in the Init state and communications will stop. 					
	• The following applies if fail-soft operation is set to <i>Fail-soft</i> , the event was detected during communications, and the error details in the attached information is 0001 hex: The slaves that are normal continue to operate. If you are using distributed clocks to synchronize the slaves, a Synchronization Error may occur between the slaves.					
	Slave:					
	No error occurred.					
	 The following applies if fail-soft operation is set to <i>Fail-soft</i>, the event was detected when the power supply was turned ON or the Controller was reset, and the error details in the attached information is 0000 hex: The maximum number of slaves from the beginning are in the Operational state and both message communications and process data communications will continue. The slaves past the maximum number of slaves will remain in the Init state and both message communications and process communications will stop. The following applies if fail-soft operation is set to <i>Stop</i>, the event was detected when the power supply was turned ON or the Controller was reset, and the error details in the attached information is 0000 hex: The maximum number of slaves from the beginning are in the Pre-Operational state and message communications will continue, but process data communications will stop. The slaves past the maximum number of slaves from the beginning are in the Pre-Operational state and message communications will continue, but process data communications will stop. The slaves past the maximum number of slaves from the beginning are in the Pre-Operational state and message communications will continue, but process data communications will stop. The slaves past the maximum number of slaves will remain in the Init state and both message communications and process communications will stop. 					
	 The following applies if the event was detected when the power supply was turned ON or the Controller was reset, and the error details in the attached information is 0001 hex: All slaves will remain in the Init state and both message communications and process data communications will stop. 					

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3-8 Errors in the EtherCAT Master Function Module
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	 The following applies if fail-soft operation is set to <i>Fail-soft</i>, the event was detected during communications, and the error details in the attached information is 0000 hex: The slaves before the node where the error occurred are in the Operational state and both message communications and process data communications will continue. The slave where the error occurred and all slaves after it will remain in the Init state and both message communications and process data communications will stop.
	• The following applies if fail-soft operation is set to <i>Stop</i> , the event was detected during communications, and the error details in the attached information is 0000 hex:
	Message communications will be possible, but process data communications will not, for all slaves in the Pre-Operational state. Both message communications and process data communications will not be possi- ble for all slaves in the Init state.
	• The following applies if fail-soft operation is set to <i>Fail-soft</i> , the event was detected during communications, and the error details in the attached information is 0001 hex:
	Process data communications will be possible for all slaves that are operating normally. If you are using dis- tributed clocks to synchronize the slaves and a Synchronization Error is detected, only input refreshing is enabled. Message communications will be possible.
	There are restrictions on the number of slave node addresses, and not on the number of slaves. This is be- cause there are slaves, such as Junction Slaves, that use more than one node.
	Also, if the maximum number of slaves are connected and an attempt is made to make a ring connection, a Too Many Slaves error (0000 hex) occurs.

*1. This event code occurs for project unit version earlier than 1.40.

Event name	Network Configur	ation Verification E	irror	Event code 84220000 hex*1		
Meaning	A slave that is in the network configuration information is not connected. Or, a slave that is not in the network configuration information is connected.					
Source	EtherCAT Master Function Module		Source details	Master/Slave	Detection tim- ing	At power ON, at Controller reset, or during com- munications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program			<i>consistent with</i> n to the Opera- sistent with the ad all subsequent ons status. <i>Stop</i> consistent with n to the Pre-Op- consistent with the ad all subsequent		
Indicators	EtherCAT NET RUN		EtherCAT NET ERR		EtherCAT LINK/	ACT
			Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	_EC_NetCfgCmpErr		BOOL		Network Configuration Verification Error	
	When Inconsistencies Are Found in Verification _EC_CommErrTbl		ARRAY [1n] OF BOOL *2		Communications Error Slave Table	

fig ne Th A is rat A s co ne Th sla to W tio	A slave that is in the network con- iguration information is not con- lected. There is a node address mismatch. A different slave from the one that a specified in the network configu- ation information is connected.	Connect the slave that is specified in the network configuration infor- mation. Or, connect the Sysmac Studio and set and save the net- work configuration information with the slave deleted in the master. Make the slave node address set- tings consistent with the network configuration information. Connect the slave that is specified in the network configuration infor- mation. Or, connect the Sysmac Studio and set and save the net- work configuration information with the correct slaves in the master. Disconnect the slave that is not in the network configuration informa- tion from the network. Or, connect	Set and save the network configu- ration information for the configura- tion actually connected in the mas- ter.			
is rat A co ne Th sla to W tio	s specified in the network configu- ation information is connected.	configuration information. Connect the slave that is specified in the network configuration infor- mation. Or, connect the Sysmac Studio and set and save the net- work configuration information with the correct slaves in the master. Disconnect the slave that is not in the network configuration informa-				
co ne Th sla to W tio	configuration information is con-	the network configuration informa-				
sla to W tio		the Sysmac Studio and set and save the network configuration in- formation with the slave added in the master.				
	The hardware switches for the alave node address were changed to a value other than <i>0</i> after the Vrite Slave Node Address opera- tion was performed from the Sys- nac Studio.	To use the value that is set on the hardware switches, reset the error. When the error is reset, there will be a disagreement between the hardware switches and the value that was written from the Sysmac Studio. A Slave Application Error (84280000 hex) will occur and you must then reset the error again. If this error occurs when the slave is disconnected or disabled, reset the error first and then connect or enable the slave. When you do, a Slave Application Error (84280000 hex) will occur. Reset the error again and then connect or enable the slave. To use the node address that was set in the Write Slave Node Address from the Sysmac Studio, set the hardware switches to a node address of <i>0</i> and cycle the power supply to the slave.	To use the value that is set on the hardware switches, reset the error. When the error is reset, there will be a disagreement between the hardware switches and the value that was written from the Sysmac Studio. A Slave Application Error (84280000 hex) will occur and you must then reset the error again. If this error occurs when the slave is disconnected or disabled, reset the error first and then connect or enable the slave. When you do, a Slave Application Error (84280000 hex) will occur. Reset the error again and then connect or enable the slave. To use the node address that was set in the Write Slave Node Address from the Sysmac Studio, set the hardware switches to a node address of 0 and cycle the power supply to the slave.			
	he Ethernet cable is broken be- ween two slaves.	In cases not caused by the above causes, confirm the location of the break in the Ethernet cable and re- place the cable.	None			
mation						

This event code occurs for project unit version earlier than 1.40. *1.

*2. "n" is 512 for an NX-series CPU Unit and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave Initialization	n Error	Event code		84230000 hex ^{*1}	
Meaning	Slave initializatior	n failed.				
Source EtherCAT Master Function Module		Source details	Master/Slave	Detection tim- ing	At power ON, Controller reset error reset, or major fault level Controller error	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program Continues. Image: Second state st		Operation	 Master: When the mass state to the Pr Communication where the error the slave when Operational st When the mass Operational st Only the slave tions. Other not tional state an Slave: This depends on When Fail-soft O Master: When the mass state to the Pr The master ch communication When the mass Operational st The master ch tional state an Slave: 	Log category System soft Operation Is Set to Fail-soft the master failed to change from the Init the Pre-Operational state: nications stop in the Init state at the slave the error occurred. Slaves in topology up to the where the error occurred change to the the master fails to change states after Pre- the master fails to change to the Operate. the master fails to change to the Opera- there normal slaves change to the Opera- ate and continue to operate. the slave with the error will stop state transi- there normal slaves change to the Opera- ate and continue to operate. adds on the slave communications status. soft Operation Is Set to Stop the master failed to change from the Init the Pre-Operational state: ster changes all slaves to the Init state and inications stop. the master fails to change states after Pre-	
Indicators			EtherCAT NET ERR		EtherCAT LINK/	ACT
			Flashes at 1-s int	ervals.		
System-de- fined variables	Variable		Data type		Name	
	_EC_SlavInitErr		BOOL		Slave Initialization Error Communications Error Slave Table	
Course and	_EC_CommErrTbl		ARRAY [1n] OF BOOL *2		-	
Cause and cor- rection	Assumed cause An error occurred in EtherCAT		Correction Connect the Sysmac Studio and		Prevention Correctly set the slave synchroni-	
	An error occurred in EtherCAI master processing.		reconfigure and save the network configuration information in the master again. If this error occurs again, check that there are no er- rors in the slave synchronization settings and the PDO mapping in- formation, and correct any errors that are found.		zation settings, PDO mapping in- formation, and configure and save network configuration information in the master.	
	An initialization error occurred in the EtherCAT slave. An initialization error occurred in the EtherCAT Coupler Unit.	The Module config send method parameter is sometimes displayed for a slave in the EtherCAT net- work configuration on the Sysmac Studio even if a send method can- not be set. If that occurs, set the Module config send method pa- rameter to Do not send and per- form synchronization again. Or, cycle the power supply to the EtherCAT slave. If this error per- sists, replace the EtherCAT slave. Connect the Sysmac Studio to the USB port on the EtherCAT Coupler Unit, check the error details, and take suitable measures for the er-	None			
---------------------------	--	---	--			
	A major fault level Controller error occurred.	ror. If a major fault level Controller error occurs, process data communica- tions stop. If a Slave Application Error (84280000 hex) occurs at this time, this event also occurs. Perform corrections for the major fault level Controller error.	Perform preventive measures for major fault level Controller errors.			
	The transmission delay time calcu- lated based on the set value of the total cable length is shorter than the actual transmission delay time.	Set a larger value in Total Cable Length and transfer the setting to the Controller. If the total length of the cables is 1000m or less, set the initial value (1000m) for the Total Cable Length .	Same as the Correction.			
	The Ethernet cable is broken or the specified cable is not being used. A connector on the Ethernet cable is disconnected, the contact is faul- ty, or parts are faulty. A general-purpose Ethernet hub is connected.	The causes given on the left are possible if the error occurs from when the system starts operation or if it always occurs after a specif- ic time after the system starts oper- ation. Use the diagnostic and stat- istical information from the Sysmac Studio and check the EtherCAT	Make sure that the cable is not bro- ken and use the specified cable. Confirm that the Ethernet cable connector is mated securely. When branching an EtherCAT net- work, use an EtherCAT Junction Slave.			
	The master failed. The slave failed.	communications status. If the Ethernet cable between the master and slave is broken or if the specified cable was not used, re- place the cable. Or, reconnect the connector and make sure it is mat- ed correctly. If a general-purpose Ethernet hub is connected, replace it with an EtherCAT Junction Slave. If the CPU Unit or an EtherCAT slave fails, replace it.	None None			
	Noise	If this error occurs irregularly, im- plement noise countermeasures.	Implement noise countermeasures.			
Attached infor- mation	Attached information 1: System infor Attached information 2: System infor Attached information 3: System infor Attached information 4: System infor	mation 2 mation 3				

Precautions/	None
Remarks	

*1. This event code occurs for project unit version earlier than 1.40.

*2. "n" is 512 for an NX-series CPU Unit and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave Application	Error		Event code	84280000 hex ^{*1}	
Meaning	An error occurred	in the slave applic	ation.			
Source	EtherCAT Master	Function Module	Source details	Slave	Detection tim- ing	During commu- nications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	When Fail-soft Operation Is Set to Fail-soft Master: The slave communications status is not manipulate but operation continues. The status of slaves with a application layer status error is also not manipulate Slave: An error occurred. Operation is according to the statist transition behavior of the slave where the error occurred. When Fail-soft Operation Is Set to Stop Master: The master changes all slaves to the Pre-Operation state when an application layer status error occurs. Slave: An error occurred. All slaves change to the Pre-Operation		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT	
			Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EC_SlavAppErr		BOOL		Slave Application Error	
	_EC_CommErrTb	bl	ARRAY [1n] OF BOOL *2		Communications Error Slave Table	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error was dete slave's application ister.		Reset the error from slave where the a occurred. Use the in the slave docum	application error procedure given	None	
Attached infor- mation	Attached informat	Attached information 1: AL status code for the slave where the error was detected.				
Precautions/ Remarks	None					

*1. This event code occurs for project unit version earlier than 1.40.

*2. "n" is 512 for an NX-series CPU Unit and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Process Data Tra	nsmission Error		Event code	84290000 hex	
Meaning	Sending process	data failed.				
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim- ing	During commu- nications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	 When Fail-soft Operation Is Set to <i>Fail-soft</i> Master: Operation continues. Slave: An error may occur in synced slaves. The error is processed according to settings in the slave. When Fail-soft Operation Is Set to <i>Stop</i> For project unit version earlier than 1.40: Master: The master changes all slaves to the Pre-Operational state. Slave: An error may occur in synced slaves. The error is processed according to settings in the slave. For project unit version 1.40 or later: Master: The master changes all slaves to the Safe-Operational state. Slave: An error may occur in synced slaves. The error is processed according to settings in the slave. 		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
			Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EC_PDSendErr		BOOL		Process Data Tra	ansmission Error
Cause and cor-	Assumed cause		Correction		Prevention	
rection	It was not possible to send the EtherCAT frame during the Ether- CAT communications cycle. (When attached information 1 is 0000 hex) The frame transmission jitter ex- ceeded the limit. (When attached		Connect the Sysmac Studio, in- crease the task period setting of the primary periodic task or priori- ty-5 periodic task, and set and save the network configuration in- formation in the EtherCAT master.		Set the task period of the primar periodic task or priority-5 periodic task to a value that provides suff cient processing time. Use the Simulator to check the necessary EtherCAT communica	
Attechedinfe	information 1 is 0	•			tions period.	
Attached infor- mation	0000 hex: Fran0001 hex: The	 Attached Information 1: Error Details 0000 hex: Frame generation was late for the transmission timing. 0001 hex: The transmission jitter exceeded the limit. Attached information 2: System information 				
Precautions/ Remarks	None					

Event name	Process Data Re	ception Timeout		Event code	842B0000 hex	
Meaning	Process data rece	eption timed out.				
Source	EtherCAT Master				During commu- nications	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Master: Operation continu Slave: An error may occi to settings in the s When Fail-soft Op For project unit ve Master: The master chang state. Slave: Process data com processed accord For project unit ve Master: The master chang al state. Slave: Process data com	ur. The error is pro	cessed according itop 1.40: e Pre-Operationa The output is ne slave. : e Safe-Operationa
Indicators	EtherCAT NET R	UN	EtherCAT NET E		EtherCAT LINK/	ACT
System-de-	 Variable		Flashes at 1-s intervals.			
fined variables	_EC_PDTimeout	Err	Data type BOOL		Name Process Data Reception Timeou Error	

Cause and cor-	Assumed cause	Correction	Prevention
rection	 One of the following 1) to 11) occurred. Check the following items in the diagnostic and statistical information. The CRC error frames received in the master diagnostic and statistical information The frame reception timeout count in the master diagnostic and statistical information The number of error frames in the slave diagnostic and statistical information The number of error frames in the slave diagnostic and statistical information When the following is true, the factor may be 1). The count of CRC error frames received in the master diagnostic and statistical information increases. In the following case, you can find the assumed causes of 2) to 6). The count of CRC error frames received in the master diagnostic and statistical information does not increase. The frame reception timeout count in the master diagnostic and statistical information does not increase. Acquisition of the number of error frames in the slave diagnostic and statistical information increases. 		
	1) Noise 2) A general-purpose Ethernet hub	Implement countermeasures that are appropriate for the source of the noise. Then, make sure that CRC error frames received are no longer counted in the master diag- nostic and statistical information. Refer to the user's manuals for the Units for how to implement noise countermeasures.	If CRC error frames received are still counted in the master diagnos- tic and statistical information, re- move the noise source or imple- ment noise countermeasures while checking the slave diagnostic and statistical information. Even if you cannot remove the ef- fect of noise completely, increase the Process Data Reception Timeout value when you want that an event is not reported. When branching an EtherCAT net-
	3) A non-recommended cable was used.	Replace the Ethernet cable with a recommended one.	work, use an EtherCAT Junction Slave. Use the recommended Ethernet cables.
	used. 4) The Ethernet cable connector is disconnected.	Connect the Ethernet cable con- nector.	 Cables. Firmly connect the Ethernet cable connector until it clicks into place. Confirm that the Ethernet cable connector is mated securely.

	5) The Ethernet cable is broken.	Replace the Ethernet cable.	Before you start wiring Ethernet ca- bles, use the cable tester or other devices to confirm that there is no broken cable. Refer to the Ether- CAT Network Wiring in <i>NJ/NX-</i> <i>series CPU Unit Built-in EtherCAT</i> <i>Port User's Manual (Cat. No.</i> <i>W505)</i> for precautions on wiring.		
	6) The contact of the Ethernet ca- ble connector is faulty, or parts are faulty.	Replace the Ethernet cable.	None		
	 7) The transmission delay time calculated based on the set value of the total cable length is shorter than the actual transmission delay time. 8) An EtherCAT slave manufactured by a company other than OMRON is included in the network configuration, or a non-recommended cable is intentionally used. 9) The network configuration has been changed from the network configuration when the transmission delay time was set, causing increase in transmission delay time. 	Set a larger value in Total Cable Length and transfer the setting to the Controller. Or, change the set value in Transmission Delay Time with the measured value, and transfer the setting to the Controller. For the procedure to update the Transmission Delay Time with the measured value, refer to <i>Setting Transmission Delay Time</i> <i>by Actual Measurement</i> in the <i>NJ/NX-series CPU Unit Built-in</i> <i>EtherCAT Port User's Manual (Cat.</i> <i>No. W505)</i> .	Same as the Correction.		
	10) The CPU Unit task period is too short.	Connect the Sysmac Studio, in- crease the task periods of the pri- mary periodic task or priority-5 pe- riodic task, and set and save the network configuration information in the EtherCAT master.	Set the task period of the primary periodic task or priority-5 periodic task to a value that provides suffi- cient processing time. Use the Simulator to check the necessary EtherCAT communica- tions cycle.		
	11) A ring disconnection occurred in the ring topology for which a slave that does not support the ring topology is included.	In a ring topology, use slaves that support the ring topology.	Same as Correction		
Attached infor- mation	 Attached Information 1: Error Details 0001 hex: Occurred in the primary periodic task. 0002 hex: Occurred in the priority-5 periodic task. 				
Precautions/ Remarks	-	me reception timeout for process data communications timeout detection co			

Event name	Process Data Cor	mmunications Erro	r	Event code	842C0000 hex ^{*1}	
Meaning	An error occurred	in process data co	mmunications.			
Source	EtherCAT Master	Function Module	Source details	Slave	Detection tim- ing	During commu- nications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program Continues.		Operation	When Fail-soft Operation Is Set to <i>Fail-soft</i> Master: Operation continues. Slave: An error occurred. Operational state continues. If a PDI watchdog error occurs in a slave, the slave entry the Init state.		e continues. If a e, the slave enters
				 When Fail-soft Operation Is Set to Stop Master: The master changes all slaves to the Pre-Op state. Slave: An error occurred. When operation stops, the changes all slaves to the Pre-Operational state PDI watchdog error occurs in a slave, the slate changes to the Init state. 		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
			Flashes at 1-s int	ervals.		
System-de-	Variable	ariable		Data type		
fined variables	_EC_PDCommErr		BOOL		Process Data Communications Er- ror	
	_EC_CommErrTb	bl	ARRAY [1n] OF	BOOL *2	Communications	Error Slave Table
	_EC_PDActive		BOOL		Process Data Communications Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	 A slave left the network even though the disconnection operation or disable operation was not per- formed. The power supply of the slave is turned OFF. The Ethernet cable is removed. 		ation or disable turning OFF th the slave. • Perform the dis	sconnection oper- e operation before e power supply of sconnection oper- e operation before Ethernet cable.		rection.
	 A slave left the network even though the disconnection operation or disable operation was not per- formed. A connector on the Ethernet ca- ble is disconnected, the contact is faulty, or parts are faulty. The Ethernet cable is broken. The specified cable is not being used. 		The causes given on the left are possible if the error occurs from when the system starts operation or if it always occurs after a specif- ic time after the system starts oper- ation. Use the diagnostic and stat- istical information from the Sysmac Studio and check the EtherCAT communications status. If the Ethernet cable is broken or if the specified cable was not used, replace the cable. Or, reconnect the connector and make sure it is mated correctly.		if- ble is not broken. • Make sure that the specified c ble is being used. ac if	
	The slave failed.		If this error occurs again even after the above correction, replace the slave.		None	

Attached infor-	Attached Information 1: Error Details
mation	0001 hex: Slave WDT error (Slave failure)
	 0002 hex: Slave disconnected (A slave left the network even though the disconnection operation or disable operation was not performed.)
Precautions/	None
Remarks	

*1. This event code occurs for project unit version earlier than 1.40.

*2. "n" is 512 for an NX-series CPU Unit and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Input Process Da	ta Invalid Error		Event code	842F0000 hex ^{*1}		
Meaning				ess data communica d for a certain peric		en it was in the	
Source	EtherCAT Master	Function Module	Source details	Master Detection tim- During commu- ing nications			
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Master: Operation continu Slave: Process data con When Fail-soft O For project unit ve Master: The master chan state. Slave: Process data con processed accord For project unit ve Master: The master chan al state. Slave: Process data con	peration Is Set to <i>F</i> ues. nmunications conti peration Is Set to S ersion earlier than ges all slaves to th nmunications stop. ding to settings in t ersion 1.40 or later ges all slaves to th nmunications for or ed according to se	nue. Stop 1.40: e Pre-Operational The output is he slave. : e Safe-Operation- utput stop. The	
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT	
			Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EC_IndataInvali		BOOL		Input Process Da		
	_EC_InDataInvali		BOOL		Input Data Invalid		
	_EC_InData1Inva		BOOL		Input Data1 Invalid		
	_EC_InData2Inva	ılid	BOOL		Input Data2 Invalid		

Cause and cor-	Assumed cause	Correction	Prevention			
rection	One of the following 1) to 5) occur- red.					
	1) The Ethernet cable connector is connected uncertainly.	Firmly connect the Ethernet cable connector until it clicks into place.	 Firmly connect the Ethernet cable connector until it clicks into place. Confirm that the Ethernet cable connector is mated securely. 			
	2) The Ethernet cable is almost broken.	Replace the Ethernet cable.	Before you start wiring Ethernet ca- bles, use the cable tester or other devices to confirm that there is no broken cable. Refer to EtherCAT Network Wiring in the <i>NJ/NX-series</i> <i>CPU Unit Built-in EtherCAT Port</i> <i>User's Manual (Cat. No. W505)</i> for precautions on wiring.			
	3) The contact of the Ethernet ca- ble connector is faulty, or parts are faulty.	Replace the Ethernet cable.	None			
	4) Hardware failure of EtherCAT slave	To identify EtherCAT slaves failed, while disconnecting the slaves from the network one by one, cor- rect the error until the _EC_InDataInvalid (Input Data In- valid), _EC_InData1Invalid (Input Data1 Invalid), and _EC_InData2Invalid (Input Data2 Invalid) system-defined variables change to FALSE. When any of these variables change from TRUE to FALSE, the slave disconnected at that time is considered as failed. Replace the slave.	None			
	5) Noise	Check the number of error frames in the slave diagnostic and statisti- cal information. It is considered that the slave was affected by noise in each location where an er- ror frame was counted. Implement appropriate noise countermeas- ures for all locations considered to be affected by noise. Then, make sure that error frames are no lon- ger counted in the slave diagnostic and statistical information.	If error frames are still counted in the master diagnostic and statisti- cal information, remove the noise source or implement noise counter- measures while checking the slave diagnostic and statistical informa- tion.			
Attached infor- mation						
Precautions/ Remarks	None					

*1. This event code occurs for unit version 1.13 or later of the CPU Unit.

Event name	Slave State Trans	ition Failed		Event code	84300001 hex*1	
Meaning	Slave state transi	tion failed.			1	
Source	EtherCAT Master Function Module		Source details	Slave	Detection tim- ing	At power ON, Controller reset, error reset, or during commu- nications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	m Continues. Operation When Fail-soft Oper Master: Only the slave with t The master changes state and continues Slave: This depends on the When Fail-soft Oper Master: • When the master state to the Pre-O The master change • When the state tra state to the Safe-O The master change • When the master continues Slave: This depends on the When the master state to the Safe-O The master change • When the master operational state.		th the error will stop ges normal slaves es to operate. the slave communi peration Is Set to S ter failed to change p-Operational state anges all slaves to transition from the fe-Operational state anges all slaves to	e state transitions. to the Operational facations status. <i>Hop</i> e from the Init : the Init state. e Fre-Operational e failed: the Pre-Opera- e from the Safe- nal state: the Safe-Opera-	
Indicators	EtherCAT NET R	UN	EtherCAT NET E		EtherCAT LINK/	ACT
Sustam de			Flashes at 1-s int	ervals.	Nomo	
System-de- fined variables	Variable		Data type BOOL		Name	n Error
	EC_SlavInitErr EC CommErrTb	51		POOL *2	Slave Initialization	Error Slave Table
Cause and cor-		· ·	ARRAY [1n] OF Correction	BUUL -	Prevention	
rection	Assumed cause One of the following 1) to 4) occur- red. Identify the cause of the error according to the attached informa- tion 1 or 4.		CORECTOR		rievention	

1) An error occurred in a slave dur-	State transition may have failed	Refer to the information on the Ille-
ing the EtherCAT slave state tran-	due to the following errors. Elimi-	gal Slave Disconnection Detected
sition. (When attached information 1 is	nate the causes of any events that occurred.	or Slave PDI WDT Error Detected event, and implement preventive
0002 hex or 0003 hex)	 Illegal Slave Disconnection Detected Slave PDI WDT Error Detected Slave AL Status Error Detected 	measures. Do not disconnect a slave while the following processing is performed. • Error reset
	• Link OFF Error If a major fault level Controller error occurs, process data communica- tions stop, and this error may occur along with Slave AL Status Error Detected. Perform corrections for the major fault level Controller er- ror. When there are no above current errors, obtain the Sysmac Control- ler log on the Sysmac Studio and contact your OMRON representa- tive. Refer to Sysmac Studio Version 1 Operation Manual (Cat. No. W504) for how to obtain the Sysmac Controller logs.	 Disconnection command Reconnection command Disabling command Enabling command Restart Until the <i>_EC_MBXSlavTbl</i> (Message Communications Enabled Slave Table) system-defined variable changes to TRUE after disconnected or disabled slaves were connected. Perform preventive measures for major fault level Controller errors.
	State transition may have failed due to a slave failure. If the error persists even after you make the above corrections, replace the slave.	None
2) A state transition timeout occurred due to one of the following causes.(When attached information 1 is 0001 hex)		
2-1) A non-recommended cable was used.	Replace the Ethernet cable with a recommended one.	Use the recommended Ethernet cables.
2-2) The Ethernet cable connector is disconnected.	Connect the Ethernet cable con- nector.	 Firmly connect the Ethernet cable connector until it clicks into place. Confirm that the Ethernet cable connector is mated securely.
2-3) The Ethernet cable is broken.	Replace the Ethernet cable.	Before you start wiring Ethernet ca bles, use the cable tester or other devices to confirm that there is no broken cable. Refer to the Ether- CAT Network Wiring in the <i>NJ/NX-</i> <i>series CPU Unit Built-in EtherCAT</i> <i>Port User's Manual (Cat. No.</i> <i>W505)</i> for precautions on wiring.
2-4) The contact of the Ethernet cable connector is faulty, or parts are faulty.	Replace the Ethernet cable.	None
2-5) A general-purpose Ethernet hub is connected.	Replace it with a specified Ether- CAT Junction Slave.	When branching an EtherCAT net- work, use an EtherCAT Junction

2-6) Noise 2-7) The EtherCAT master or an EtherCAT slave failed.	Implement countermeasures that are appropriate for the source of the noise. Then, make sure that the number of CRC error frames received is no longer counted in the slave diagnostic and statistical information. Refer to the user's manuals for the Units for how to implement noise countermeasures. A state transition timeout may have occurred due to a failure of the	Before you start operation, identify the noise source with the slave di- agnostic and statistical information. Implement appropriate noise coun- termeasures.
	CPU unit or slave. If the error per- sists even after you make the above corrections, replace the CPU unit or slave.	
3) A slave returned an error re- sponse in the message communi- cations that the EtherCAT master sent during EtherCAT slave state transition. (When attached information 1 is 0004 hex)	 Check the abort code in attached information 3. Refer to the operation manual for the slave that returns an error response to check the abort code and make corrections. The following is an example correction for common abort code. Connect the Sysmac Studio, and configure and save the network configuration information in the master again. If this error occurs again, check that there are no errors in the slave synchronization settings and the PDO mapping information, and correct any errors that are found. If the error persists even after you make the corrections for assumed causes 1), 2) and 4), obtain the Sysmac Controller log and contact your OMRON representative. Refer to the <i>Sysmac Studio Version 1 Operation Manual (Cat. No. W504)</i> for how to obtain the Sysmac Controller logs. 	Refer to the operation manual for the slave that returns an error re- sponse to take preventive meas- ures. If you performed the example cor- rection, set the slave synchroniza- tion settings and the PDO mapping information correctly, and configure and save the network configuration information in the master.
 4) When the Module config send method parameter is set to Send for MDP-compatible slave, the transition from Pre-Operational state to Safe-Operational state failed. (When attached information 4 is any of the following: 00010004 hex 00020004 hex 00020004 hex 00020008 hex) 	The Module config send method parameter is sometimes displayed for a slave in the EtherCAT net- work configuration on the Sysmac Studio even if a send method can- not be set. If this occurs, set the Module config send method to Do not send and perform synchro- nization again. If this error occurs even after the synchronization, check attached in- formation 1 and make corrections.	None

Attached infor-	Attached information 1: Error Details
mation	0001 hex: State transition timeout
	0002 hex: No reply from the slave
	0003 hex: Slave state transition rejected
	0004 hex: SDO communications response error
	Attached information 2: Object accessed through SDO communications (Valid only when attached information
	1 is 0004 hex.)
	Upper 16 bits: Index of CoE
	Lower 16 bits: Subindex of CoE
	Attached information 3: Abort code (Valid only when Attached information 1 is 0004 hex)
	Attached information 4: States before and after transition
	Upper 16 bits: State before transition
	Lower 16 bits: State after transition
	States displayed in 16 bits
	0001: Init state
	0002: Pre-Operational state
	0004: Safe-Operational state
	0008: Operational state
Precautions/	None
Remarks	

Event name	Illegal Slave Disc	onnection Detected	d Event code		84310002 hex ^{*1}		
Meaning	The slave was dis	connected incorre	ctly.				
Source	EtherCAT Master	Function Module	Source details	Slave Detection tim- ing During connications		During commu- nications	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	 When Fail-soft Operation Is Set to <i>Fail-soft</i> Master: Operation continues. Slave: An error occurred in the disconnected slave and all slaves connected to it with a daisy chain. The error processed according to settings in the slave. For of slaves, process data communications continue. When Fail-soft Operation Is Set to <i>Stop</i> Master: The master changes all slaves to the Safe-Operation al state. Slave: For all slaves, process data communications for our put stop. The output is processed according to settings in the slave. A communication error occurred the disconnected slave and all slaves with daisy-ch connection after it. The error is processed according to settings in the slave. 			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	-	EtherCAT LINK/	АСТ	
			Flashes at 1-s int	tervals.			
System-de- fined variables	Variable _EC_PDCommErr _EC_CommErrTb _EC_PDActive		Data type BOOL ARRAY [1n] OF BOOL	BOOL *2	Name Process Data Communications Error ror Communications Error Slave Table Process Data Communications Status		
Cause and cor-			Correction		Prevention		
rection	Assumed cause One of the following 1) to 7) occurred. Note that these factors do not apply to the following slaves. • Disconnected slaves • Disabled slaves 1) The power supply to the slave is turned OFF, or an Ethernet cable is disconnected.		Confirm that all E connected and co that are not conn whether the powe the slaves, and co supply to the slave	er is supplied to ycle the power /es.	the network by turning OFF the		
	2) An Ethernet ca tween slaves is di		Connect the Ethernet cable con- nector.		 Firmly connect the Ethernet cable connector until it clicks into place. Confirm that the Ethernet cable connector is mated securely. 		
	3) A non-recomm used.	ended cable was	Replace the Ethernet cable with a recommended one.		Use the recommended Ethernet cables.		

	4) The Ethernet cable is broken.	Replace the Ethernet cable.	Before you start wiring Ethernet ca- bles, use the cable tester or other devices to confirm that there is no broken cable. Refer to the Ether- CAT Network Wiring in the <i>NJ/NX-</i> <i>series CPU Unit Built-in EtherCAT</i> <i>Port User's Manual (Cat. No.</i> <i>W505)</i> for precautions on wiring.
	5) The contact of the connector on the Ethernet cable is faulty, or parts are faulty.	Replace the Ethernet cable.	None
	6) The wiring of slaves in the ring topology is incorrect.	Slaves cannot be recognized from a master due to an incorrect wiring in the ring topology. Correct the wiring of the slave shown in the Source details. If the error remains, temporarily re- move the cable on the end port of the ring on the actual network con- figuration, reset the error, and then make the corrections for the event occurred. In addition, you can perform the compare and merge operation in the Sysmac Studio to more effi- ciently make the corrections.	Confirm that there are no incorrect Ethernet cable connections.
	7) The slave node address was changed during operation.	Make the node address of the ac- tual slave consistent with the node address in the network configura- tion information. When the physical configuration is correct and the network configuration information is wrong, then correct the node ad- dress in the network configuration information.	Do not change the slave node ad- dresses during operation.
Attached infor- mation	None		
Precautions/ Remarks	of _EC_EntrySlavTbl[] (Network C work Configuration Verification Err	e this error occurred to the network, if y connected Slave Table) changes to TF ror (Slave Unconnected) event occurs urred in the ring topology when the ca	RUE of the connected slave, a Net-

Meaning A slave that is not in the network configuration information is connected. Detection time_ing At power ON, at a power ON or controller reset. Effects User program Continues. Operation When Fail-soft Operation is Set to Fail-soft At power ON or Controller reset. Master: Operation continues. Stave: For slaves that are consistent with the network configuration information, message communications and process data communications start. For slaves that are not consistent with the network configuration information, message communications and process data communications at an process data communications at an process data communications at an oppose data communications at an oppose data communication and process data communications and process data communications at process data communications at process data communications and process data communications and process data communications at process data communications at process data communications and process data communications at process data communications and pro	Event name	Network Configur Slave Connected	ation Verification E	rror (Unnecessary	Event code	84320003 hex ^{*1}	
Source EtherCAT Master Function Module Source details Master/Slave Detection tim- ing At power ON, at Controller reset. Error attributes Level Minor fault Recovery Error reset'2 Log category System Effects User program Continues. Operation Operation continues. System Silve: For alwase that are consistent with the network config- uration information, message communications and process data communications start. For slaves that are consistent with the network config- uration information, message communications and process data communications stop. During communications is communications and process data communications stop. Operation continues. Silve: For slaves that are consistent with the network config- uration information, message communications and process data communications stop. When Fail-soft Operation IsSet to Alphane Consistent with the network config- uration information, message communications and process data communications and process data communications stop. When Fail-soft Operation IsSet to Alphane Alpower ON or Controller reset: Master: West Fail-soft Operation IsSet to Alphane Alpower ON or Controller reset: Master: Master: The master walts in the init state. Slave: Master: Master: The master value in the network config- vation information, process data communications and process data communications information, process data communications	Meaning			figuration informati	ion is connected.		
Effects User program Continues. Operation When Fail-soft peration is Set to Fail-soft At power ON or Controller reset: Master: Operation continues. Slave: Slave: For slaves that are consistent with the network configuration information, message communications and process data communications start. For slaves that are not consistent with the network configuration information, message communications and process data communications start. For slaves that are not consistent with the network configuration information, message communications and process data communications stop. During communications: Master: Operation continues. Slave: For slaves that are not consistent with the network configuration information, message communications and process data communications and process data communications stop. When Fail-soft Operation is Set to Stop At power ON or Controller reset: Master: The master waits in the Init state. Slave: Message communications and process data communications and process data communications is and process data communications is set to Stop At power ON or Controller reset: Master: The master changes all slaves to the Safe-Operation- al state. Slave: For slaves that are consistent with the network config- uration information, process data communications for output stop. The output is processed according to set- ting in the slave. For slaves that are not consistent with the network config- uration information, process data communications for output stop. The output is processed according to set- ting in the slave. For slaves that are not consistent with the network config- uration information, process data communications for output stop. The output is processed according to set- ting in the slave. For slaves that are not consistent with the network config- uration information, message c	Source			-			or during com-
At power ON or Controller reset: Master: Operation continues. Slave: For slaves that are consistent with the network configuration information, message communications and process data communications start. For slaves that are not consistent with the network configuration information, message communications and process data communications stop. During communications: Master: Operation continues. Slave: For slaves that are not consistent with the network configuration information, message communications and process data communications stop. When Fail-soft Operation is Set to Stop At power ON or Controller reset: Master: The master waits in the init state. Slave: Message communications and process data communications are not possible. During communications: Slave: Message contrunications and process data communications for output stop. The autput is processed according to settings in the slave. For slaves that are consistent with the network configuration inf	Error attributes	Level	Minor fault	Recovery	Error reset ^{*2}	Log category	System
	Effects	User program	Continues.	Operation	At power ON or C Master: Operation continu Slave: For slaves that ar uration informatio process data com For slaves that ar configuration infor and process data During communic Master: Operation continu Slave: For slaves that ar uration informatio process data com For slaves that ar configuration infor and process data When Fail-soft Op At power ON or C Master: The master waits Slave: Message communic Master: The master chang al state. Slave: For slaves that ar uration informatio output stop. The o tings in the slave. For slaves that ar uration informatio output stop. The o tings in the slave.	Controller reset: ues. re consistent with the in, message commendations start. re not consistent with rmation, message of communications start. ues. re consistent with the in, message commendations contin- re not consistent with rmation, message of communications contin- re not consistent with rmation, message of controller reset: in the lnit state. nications and proce- possible. cations: ges all slaves to the re consistent with the in, process data co- poutput is processed re not consistent with rmation, message of re not consistent with rmation, message of the re consistent with the re consistent with the re not consistent with the re not consistent with the re not consistent with the re not consistent withe re not consistent with the re	he network config- unications and th the network communications top. he network config- unications and nue. th the network communications top. <i>Cop</i> ess data commu- e Safe-Operation- he network config- mmunications for d according to set- th the network communications
Flashes at 1-s intervals.	Indicators	EtherCAT NET R	UN	EtherCAT NET E			
				Flashes at 1-s inte	ervals.		

System-de-	Variable	Data type	Name				
fined variables	_EC_NetCfgCmpErr (When attached information 1 is 0001 hex)	BOOL	Network Configuration Verification Error				
	_EC_NetTopologyErr (When attached information 1 is 0002 hex)	BOOL	Network Configuration Error				
Cause and cor-	Assumed cause	Correction	Prevention				
rection	 A slave that is not in the network configuration information is con- nected. (When attached information 1 is 0001 hex) 	Remove the slave that is not in the network configuration information, with focus on slaves connected to the slave shown in Source details.	Perform the compare and merge operation or use the network con- figuration information to confirm that the network configuration infor- mation on the Sysmac Studio is consistent with the actual network configuration.				
	2) The maximum number of con- nected slaves was exceeded. (When attached information 1 is 0002 hex)	Remove EtherCAT slaves that are not in the network configuration in- formation.	Use the network configuration in- formation to confirm that the net- work configuration information on the Sysmac Studio is consistent with the actual network configura- tion.				
	3) The wiring of slaves in the ring topology is incorrect.	Check the wiring of the slave shown in the Source details. If the error remains, temporarily re- move the cable on the end port of the ring, and then make the correc- tions for the event occurred. In addition, you can perform the compare and merge operation in the Sysmac Studio to more effi- ciently make the corrections.	Confirm that there are no incorrect Ethernet cable connections.				
Attached infor-	Attached information 1: Error Details	,	1				
mation	• 0001 hex: A slave that is not in the	e network configuration information is	connected.				
	Attached information 2: Port name o	 0002 hex: The maximum number of connected slaves was exceeded. Attached information 2: Port name of the port to which the slave that is not in the network configuration information is connected (When attached information 1 is 0001 hex) 					
Precautions/	None						
Remarks							

*2. It may be necessary to cycle the power supply.

Event name	Network Configur Slave)	ation Verification E	rror (Mismatched	Event code	84330004 hex*1	
Meaning	Slaves in the netv	vork configuration i	nformation and in t	he actual network	configuration do no	t match.
Source	EtherCAT Master	Function Module	Source details	Slave	Detection tim- ing At power ON, Controller res or during com munications	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	At power ON or 0 Master: Operation starts. Slave: For slaves that a uration informatio process data cor For slaves that a configuration info and process data During communit Master: Operation contin Slave: For slaves that a uration informatio process data cor For slaves that a configuration info and process data cor For slaves that a configuration info and process data When Fail-soft O At power ON or 0 Master: The master waits Slave: Message commu- nications stop. During community Master: The master chan al state. Slave:	re consistent with the construction is Set to <i>F</i> . Controller reset: re consistent with the constructions start. re not consistent with the constructions start. re not consistent with the construction message a communications is cations: ues. re consistent with the construction is conting in the consistent with the construction is conting in the construction is set to <i>S</i> . Controller reset: is in the lnit state.	ail-soft iail-soft ne network config- unications and th the network communications top. the network config- unications and nue. th the network communications top. top ess data commu- e Safe-Operation-
				uration information output stop. The tings in the slave For slaves that a configuration info	on, process data co output is processed re not consistent wi ormation, message	mmunications for d according to set- th the network communications
Indicators		UN		uration information output stop. The tings in the slave For slaves that a configuration infor and process data	on, process data co output is processed re not consistent wi prmation, message a communications s	mmunications for d according to set- th the network communications top.
Indicators	EtherCAT NET R	UN	EtherCAT NET E	uration information output stop. The tings in the slave For slaves that a configuration info and process data	on, process data co output is processed re not consistent wi prmation, message a communications s EtherCAT LINK/	mmunications for d according to set- th the network communications top.
		.UN	Flashes at 1-s int	uration information output stop. The tings in the slave For slaves that a configuration info and process data	on, process data co output is processed re not consistent wi ormation, message a communications s EtherCAT LINK//	mmunications for d according to set- th the network communications top.
Indicators System-de- fined variables		-		uration information output stop. The tings in the slave For slaves that a configuration info and process data	on, process data co output is processed re not consistent wi prmation, message a communications s EtherCAT LINK/	mmunications for d according to set- th the network communications top. ACT

Cause and cor-	Assumed cause	Correction	Prevention
rection	1) There is a node address mis- match. (When the attached information 1 is 0004 hex)	Change the node address of the EtherCAT slave so that it is consis- tent with the network configuration information.	Perform the compare and merge operation or use the network con- figuration information to confirm that the network configuration infor- mation on the Sysmac Studio is consistent with the actual network configuration.
	 2) A slave that is different from the network configuration information is connected. (When the attached information 1 is not 0004 hex) 	Check any mismatched items and change them so that the network configuration information is consis- tent with the physical slaves. When verification of the revision or serial number is not necessary or consistency is not required, review the values of Revision Check Method and Serial Number Check Method.	Perform the compare and merge operation or use the network con- figuration information to confirm that the network configuration infor- mation on the Sysmac Studio is consistent with the actual network configuration.
	3) The wiring of slaves in the ring topology is incorrect.	Check the wiring of the slave shown in the Source details. If the error remains, temporarily re- move the cable on the end port of the ring, and then make the correc- tions for the event occurred. In addition, you can perform the compare and merge operation in the Sysmac Studio to more effi- ciently make the corrections.	Confirm that there are no incorrect Ethernet cable connections.
Attached infor- mation	Attached information 1: Item that is v 0000 hex: Vendor ID 0001 hex: Product code 0002 hex: Revision 0003 hex: Serial number 0004 hex: Slave node address		1
Precautions/ Remarks	None		

Event name	Slave PDI WDT E	Error Detected		Event code	84340000 hex*1		
Meaning	A slave PDI WDT	error was detecte	d.				
Source	EtherCAT Master	Function Module	Source details	ing Controlle or during		At power ON, at Controller reset, or during com- munications	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	When Fail-soft Operation Is Set to <i>Fail-soft</i> Master: Operation continues. Slave: For slaves with a PDI WDT error, message communications and process data communications stop. When Fail-soft Operation Is Set to <i>Stop</i> Master: The master changes all slaves to the Safe-Operation al state. Slave: For slaves with a PDI WDT error, message communications and process data communications stop. For slaves with a PDI WDT error, process data communications for output stop. The output is proce essed according to settings in the slave.			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	-	EtherCAT LINK/		
			Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EC_PDCommErr		BOOL		Process Data Communications Er- ror		
	_EC_CommErrTbl		ARRAY [1n] OF BOOL *2		Communications Error Slave Table		
	_EC_PDActive		BOOL		Process Data Communications Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	One of the followi red.	ng 1) to 3) occur-					
	1) EtherCAT slave power supply voltage dropped		Check if the power supply voltage of the slave device has not drop- ped.		ake appropriate measures to en- sure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.		
	2) EtherCAT slave	e failure	Cycle the power s slave. If this error the slave.		None		
	3) No reply from t slaves that are ma other companies	anufactured by	Cycle the power supply to the slave. If this error persists, contact the manufacturer of the slave.		None		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Slave AL Status E	Error Detected		Event code	84360000 hex ^{*1}	
Meaning	An AL status erro	r was detected from	n an EtherCAT slav	/e.	·	
Source	EtherCAT Master	Function Module	ing Co or		At power ON, at Controller reset, or during com- munications	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation When Fail-soft Operation Is Set to Fail-soft Master: Operation continues. Slave: For slaves with an application layer status error, s tus transition occurs depending on the application er status. When Fail-soft Operation Is Set to Stop Master: The master changes all slaves to the Safe-Opera al state. Slave: For slaves with an application layer status error, s tus transition occurs depending on the application er status. For slaves without an application layer status error process data communications for output stop. The output is processed according to settings in the slave			status error, sta- he application lay- <i>Stop</i> e Safe-Operation- status error, sta- he application lay- ver status error, utput stop. The
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	АСТ
			Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	_EC_SlavAppErr		BOOL		Slave Application Error	
	_EC_CommErrTbl		ARRAY [1n] OF BOOL *2		Communications Error Slave Table	
Cause and cor-	Assumed cause		Correction		Prevention	
slave side and was reported by		An error occurred on the EtherCAT slave side and the AL status code was reported by the EtherCAT slaves to the EtherCAT master.		Refer to the attached information 1 to check the AL status code of the slave where the error occurred. Refer to the manual for the slave to remove the cause of the error of the code and then reset the error.		ual for the slave to neasures.
Attached infor- mation	Attached informat Attached informat	tion 1: AL status co ion 2: System infor ion 3: System infor ion 4: System infor	mation mation			
Precautions/ Remarks	None					

Event name	Clock Synchroniz	ation Compensatio	on Failed	Event code	84370000 hex ^{*1}		
Meaning	Clock synchroniza	ation with slaves fa	ailed.				
Source	EtherCAT Master	Function Module	Source details	ing Contro or duri		At power ON, at Controller reset, or during com- munications	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Master: Operation continu Slave: An error may occ according to setti When Fail-soft O Master: The master chan al state. Slave: Process data cor	ccur in slaves. The error is processed ttings in the slave. Operation Is Set to <i>Stop</i> inges all slaves to the Safe-Operation- ommunications for output stop. The ssed according to settings in the slave.		
Indicators	EtherCAT NET R	UN	EtherCAT NET B		EtherCAT LINK/	-	
			Flashes at 1-s in	tervals.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The network configuration was changed during state transition.		Implement countermeasures against the Illegal Slave Discon- nection Detected event.		None		
	EtherCAT slave failure		Cycle the power supply to the slave. If this error persists, replace the slave.		None		
	Noise		Check the number of error frames in the slave diagnostic and statisti- cal information. It is considered that the slave was affected by noise in each location where an er- ror frame was counted. Implement appropriate noise countermeas- ures for all locations considered to be affected by noise. Then, make sure that error frames are no lon- ger counted in the slave diagnostic		cal information, remove the noise source or implement noise counter measures while checking the slav diagnostic and statistical informa- tion.		
Attached infor-	None		and statistical inf	ormation.			
Addenied intol=							
mation							

Event name	Network Configur connected)	ation Verification E	rror (Slave Un-	Event code	84380000 hex*1	
Meaning	A slave that is in t	he network configu	ration information i	is not connected.		
Source	EtherCAT Master	Function Module	Source details	Slave	Detection tim- ing	At power ON, at Controller reset, or during com- munications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	At power ON or O Master: Operation starts. Slave: For slaves that an uration informatic process data com For slaves that an configuration info and process data During communic Master: Operation continu Slave: For slaves that an uration informatic process data com For slaves that an configuration info and process data When Fail-soft O At power ON or O Master: The master waits Slave: Message communic Master: The master waits Slave: Message communic Master: The master chang al state. Slave: For slaves that an uration informatic output stop. The tings in the slave. For slaves that an configuration informatic output stop. The tings in the slave.	re consistent with the on, message communications start. The not consistent with the on, message communications stations: Les. The consistent with the on, message communications conting the other of t	he network config- unications and ith the network communications stop. he network config- unications and nue. ith the network communications stop. Stop ess data commu- e Safe-Operation- he network config- mmunications for d according to set- ith the network communications
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	АСТ
			Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EC_NetCfgCmp	Err	BOOL		Network Configu Error	ration Verification
	_EC_CommErrTb		ARRAY [1n] OF	BOOL *2	Communications	Error Slave Table
Cause and cor- rection	Assumed cause		Correction		Prevention	

Precautions/ Remarks		is error occurred to the network, if you ected Slave Table) changes to TRUE of re Unconnected) event occurs.	
Attached infor- mation	None		
	8) Hardware failure of a slave	If this error persists even after you cycle the power supply to the rele- vant slave, replace the slave.	None
	the Ethernet cable that connects slaves is faulty, or parts are faulty. 7) The wiring of slaves in the ring topology is incorrect.	Slaves cannot be recognized from a master due to an incorrect wiring in the ring topology. Correct the wiring of the slave shown in the Source details. If the error remains, temporarily re- move the cable on the end port of the ring on the actual network con- figuration, reset the error, and then make the corrections for the event occurred. In addition, you can perform the compare and merge operation in the Sysmac Studio to more effi- ciently make the corrections.	Confirm that there are no incorrect Ethernet cable connections.
	 5) The Ethernet cable is broken between slaves. 6) The contact of the connector on 	Replace the Ethernet cable.	Before you start wiring Ethernet ca- bles, use the cable tester or other devices to confirm that there is no broken cable. Refer to the Ether- CAT Network Wiring in the <i>NJ/NX-</i> <i>series CPU Unit Built-in EtherCAT</i> <i>Port User's Manual (Cat. No.</i> <i>W505)</i> for precautions on wiring. None
	 3) The wait time for slave startup was exceeded because the link establishment was too slow or the power supply startup of the slaves was too long. 4) A non-recommended Ethernet cable is used to connect slaves. 	Set the wait time for slave startup sufficiently long. Replace the Ethernet cable with a recommended one.	Same as the Correction.
	2) The Ethernet cable connector is disconnected between the slaves.	Connect the Ethernet cable con- nector.	 Firmly connect the Ethernet cable connector until it clicks into place. Confirm that the Ethernet cable connector is mated securely.
	1) The power supply to the slave is not turned ON.	Turn ON the power supply to the slave.	Confirm that the power supply to the slave is turned ON.

*2. "n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

3

Meaning Source	Ring Wiring) The ring topology EtherCAT Master	that is not set in th				
		1101 13 1101 351 111 11	e network configur	ation information, is	s configured on the	e actual network.
			Source details	Master	Detection tim- ing	At power ON, at Controller reset, or during com- munications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	When Fail-soft Op At power ON or O Master: Operation starts. Slave: For slaves that ar uration informatio process data com For slaves that ar configuration info and process data During communic Master: Operation continu Slave: For slaves that ar uration informatio process data com For slaves that ar configuration infor and process data com For slaves that ar configuration infor and process data com For slaves that ar configuration infor and process data When Fail-soft Op At power ON or O Master: The master waits Slave: Message communic Master: The master chang al state. Slave: Process data com For slaves that ar uration informatio output stop. The o tings in the slave. For slaves that ar configuration infor	beration Is Set to <i>F</i> Controller reset: re consistent with t n, message comm munications start. re not consistent w rmation, message communications start. res. res. res. res. res. res. res. res	<i>Fail-soft</i> he network config- nunications and ith the network communications stop. he network config- nunications and nue. ith the network communications stop. <i>Stop</i> ess data commu- e Safe-Operation- he network config- ommunications for d according to set- ith the network communications
Indicators						-
Indicators	EtherCAT NET R	UN	EtherCAT NET E		EtherCAT LINK/	ACT
			Flashes at 1-s int	tervals.		
System-de-	Variable		Data type		Name	
fined variables	None					

Cause and cor-	Assumed cause	Correction	Prevention		
cause and cor- rection	Assumed cause One of the following 1) to 2) occur- red. 1) The ring topology configured on the actual network is not defined in the network configuration informa- tion. (When attached information 1 is 0)	CorrectionMake corrections as described below:For how to correct errors for eventsrelated to the ring topology, refer toA-8 Correction of Wiring for theEtherCAT Ring Topology Based onEvent on page A-301 in the appendices of the NJ/NX-seriesTroubleshooting Manual (Cat. No.W503).Temporarily remove the cable onthe end port of the ring to efficientlymake the corrections for the eventoccurred. You can also perform thecompare and merge operation inthe Sysmac Studio to more efficiently make the corrections.In the network configuration information, define the ring topology inthe position where the ring topology inthe position whe	Perform the compare and merge operation or use the network con- figuration information to confirm that the network configuration infor- mation on the Sysmac Studio is		
	2) The ring topology is configured in a different position from one that is defined in the network configura- tion information. (When attached information 1 is not 0)	Cancel the ring topology on the ac- tual network and configure a ring topology in the position where it is defined in the network configura- tion information.	consistent with the actual network configuration. Same as the above		
Attached infor- mation					
Precautions/ Remarks	None	,			

Event name	Incorrect Wiring E	Detected		Event code	843C0000 hex*1	
Meaning	The wiring of an E	EtherCAT network i	s incorrect.			
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim- ing At power ON Controller re or during con munications	
Error attributes	Level	Minor fault	Recovery	Error reset ^{*2}	Log category	System
Effects	User program	Continues.	Operation	When Fail-soft O At power ON or O Master: The master waits Slave: Message communic Master: Operation continu Slave: Message communic Master: Message communic At power ON or O Master: The master waits Slave: Message communic Master: The master waits Slave: Message communic Master: The master changed al state. Slave: Process data comoutput is process Message communic	in the Init state. nications and proce cations: ues. nications and proce op. peration Is Set to S Controller reset: in the Init state. nications and proce	ess data commu- ess data commu- <i>Stop</i> ess data commu- e Safe-Operation- utput stop. The ttings in the slave. ess data commu-
Indicators	EtherCAT NET R	UN	EtherCAT NET E	-	EtherCAT LINK/	
			Flashes at 1-s int			
System-de-	Variable		Data type		Name	
fined variables	_EC_NetTopology	yErr	BOOL		Network Configuration Error	

Cause and cor-	Assumed cause	Correction	Prevention			
rection	1) Input ports or output ports are connected to each other.	Confirm that input ports and output ports are not connected to each other.	Confirm that there are no incorrect Ethernet cable connections.			
	2) Two or more ring topologies are configured.	Confirm that the wiring of the ring topology is not connected other than the attached information 1 and 2.				
	3) The start port of the ring and the end port of the ring are not com- bined correctly.	Confirm that the wiring of the ring topology is connected according to the attached information 1 and 2.				
	4) The wiring for the start port of the ring and one for the end port of the ring are reversed.	Confirm that the wiring of the ring topology is connected according to the attached information 1 and 2.				
	5) The wiring of a Junction Slave in the ring topology is incorrect.	For a Junction Slave in the ring topology, confirm that the input port and the last port are used for the wiring which is the trunk line in the ring topology.				
	6) A ring topology that is not in the network configuration information is on the actual network.	Correct the actual network configu- ration to agree with the network configuration information.				
Attached infor- mation	 Attached information 1: Node address of the originating slave of the ring in the network configuration information. It is 0 when the cable redundancy is not set in network configuration information. Attached information 2: Names of the start port and end port of the ring in the network configuration information. (When the cable redundancy is set in the network configuration information.) Attached information 3: Depends on the project unit version For project unit version earlier than 1.42: System information For project unit version 1.42 or later: Node address of the slave whose wiring is not correct ^{Note 1} It is 0 when the slave whose wiring is not correct cannot be identified. Note 1. If there is a ring topology in the actual network configuration, the node address of the slave whose wiring is not correctly. If the error location cannot be identified by the attached information 3 or the wiring for the slave shown in the attached Information 3 is correct, check that there is no 					
	error for each slave and cable. If you cannot identify the error location yet, temporarily remove the cable on the end port of the ring, and then make the corrections for the event occurred.					
Precautions/ Remarks	None					

*2. It may be necessary to cycle the power supply.

Event name	Wait for Cycling F	ower Supply		Event code	94520000 hex ^{*1}	
Meaning	It is necessary to	cycle the power su	pply to the Control	ler or reset the Con	troller for the recov	very from an error.
Source	EtherCAT Master Function Module Source details Ma		Master	Detection tim- ing	*2	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation	*2		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
			Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variable	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An event, which is necessary to cy- cle the power supply or reset the Controller for the recovery, occur- red.		cle the power sup Controller. The cu EtherCAT Master	his event and then cy- er supply or reset the The current errors in the Master Function Module eset during the occur-		
Attached infor- mation	Attached informa	tion 1: Event code o	of the event caused	d by this event	I	
Precautions/ Remarks	None					

*2. According to the event caused by this event.

Event name	EtherCAT Slave E (Ver. 1.03 or later 1.40) ^{*1}	3ackup Failed and project unit ve	rsion earlier than	Event code	102F0000 hex*1		
Meaning	The backup operation for an EtherCAT slave ended in an error.						
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim- ing	During backup operation	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	There is no connection between		Wire the EtherCA slave securely.	T master and		nd make sure that stablished before	
	An error caused an incorrect Ether- CAT master status.		Use the Sysmac Studio or the Troubleshooter of an HMI to check for errors and eliminate any Ether- CAT errors.		Back up the data when there are no EtherCAT errors.		
	The EtherCAT network configura- tion information does not agree with the physical network configu- ration.		Make sure that network configura- tion information agrees with the physical network configuration.		Back up the data only when the network configuration information agrees with the physical network configuration.		
The request to the EtherCAT slave failed.		Connect the cable securely. Imple- ment noise countermeasures if there is excessive ambient noise. If the situation does not improve, re- place the EtherCAT slave.		Connect the cable securely. Imple ment noise countermeasures if there is excessive ambient noise.			
	The EtherCAT master was tempo- rarily unable to perform the proc- essing because it was executing other processing.		Try backing up th		None		
	Initialization of the EtherCAT slave failed.		Connect any slaves that are dis- connected. Use the Sysmac Studio or the Troubleshooter of an HMI to check for the following errors: Slave Initialization Error, Slave Ap- plication Error, and Process Data Communications Error. Eliminate any errors that you find.		CAT slave is part network and ther that are disconnet work. Also, back	· -	
	It was not possible to read the backup parameters from the Ether- CAT slave.		The ESI file may the manufacturer can read all of the	be incorrect. Ask of the slave if you e parameters that o parameters. If all ameters can be AT slave is faulty.	None		

	Communications with an OMRON Communications Coupler Unit or NX Unit failed.	Connect the cable securely. Mount the NX Unit securely. Implement noise countermeasures if there is excessive ambient noise. If the problem still exists, replace the Communications Coupler Unit or the NX Unit.	Connect the cable securely. Mour the NX Unit securely. Implement noise countermeasures if there is excessive ambient noise.		
Attached infor-	Attached Information 1: Error Details	(The following values are in the orde	r of the causes of the error.)		
mation	 0004 hex: The request to the Ethe 0005 hex: Master status temporar 0006 hex: An error occurred in sla 0007 hex: Reading the backup da 0008 hex: Error at OMRON Comr 	on does not agree with network config erCAT slave failed. ily prevented processing. ave initialization or a slave is disconne ta failed. nunications Coupler Unit			
	 Attached Information 2: Error Location 0: Master 1 or higher: Slave node address Attached Information 3: Error Location Details (only when attached information 1 is 000B hex). 0: Communications Coupler Unit 1 to 63: Unit number of NX Unit Attached Information 4: Cause of Error at OMRON Communications Coupler Unit (only when attached information 1 is 000B hex). 2: Communications with the Communications Coupler Unit or NX Unit failed. 				
Precautions/ Remarks	None				

*1. This event code occurs for a CPU Unit with unit version 1.03 or later and project unit version earlier than 1.40. For project unit version 1.40 or later, refer to the description of the event code 10460001 hex.

Event name		Restore Operation F and project unit ve		Event code	10300000 hex ^{*1}	
Meaning	The restore operation	ation for an EtherCA	AT slave ended in a	in error.	•	
Source	EtherCAT Master Function Module		Source details	Master	Detection tim- ing	During restore operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	АСТ
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	There is no connection between the EtherCAT master and the slave (Link OFF). Wire the EtherCAT master and slave securely, and make sure that a connection is established before you attempt to restore the data. The EtherCAT network configura- tion information does not agree with the physical network configu- ration.		Wire the EtherCA slave securely.	T master and	Wire the EtherCAT master and slave securely, and make sure th a connection is established befor you attempt to restore the data.	
			Use the Sysmac Studio or the Troubleshooter of an HMI to check for errors and eliminate any Ether- CAT errors.		Restore the data when there are no EtherCAT errors.	
			No check for the Method for backu for the Serial Nun od and then back you replace a slav Number Check M Setting = Actual of the restore function change the network from the Sysmac	grees with the configuration. Al- revision that is er than the slave used when the up even if you set Revision Check p. Set <i>No check</i> nber Check Meth- up the data. If we with the Serial ethod set to <i>device</i> , do not use on. Instead, ork configuration Studio, download guration, and then parameters. If is set on the s, use the same	Restore the data network configura agrees with the p configuration.	ation information

The request to the EtherCAT slave failed. (When attached information 1 is 0004 hex)	Connect the cable securely. Imple- ment noise countermeasures if there is excessive ambient noise. If the situation does not improve, execute the restore operation with restore function on the Sysmac Studio except for the EtherCAT slave. In this case, backup param- eters are not restored to the Ether- CAT slave. After the execution of the restore operation, transfer pa- rameters to the EtherCAT slave with synchronization function on the Sysmac Studio. If the situation does not improve yet, replace the EtherCAT slave.	Connect the cable securely. Imple- ment noise countermeasures if there is excessive ambient noise.
The EtherCAT master was tempo- rarily unable to perform the proc- essing because it was executing other processing.	Try restoring the data again.	None
Initialization of the EtherCAT slave failed.	Use the Sysmac Studio or the Troubleshooter of an HMI to check for the following errors: Slave Initi- alization Error, Slave Application Error, and Process Data Communi- cations Error. Eliminate any errors that you find.	Restore the data when there is no Process Data Communications Er- ror.
It was not possible to write the backup parameters to the MX2/RX Series Inverter. (This applies only for unit version 1.10 or earlier of the CPU Unit.)	Download the parameters to the Inverter using the "To Drive" menu of the Sysmac Studio.	Data is sometimes not restored due to Inverter restrictions. If that occurs, download the param- eters to the Inverter using the "To Drive" menu of the Sysmac Studio.
It was not possible to write the backup parameters to the Ether- CAT slave.	The ESI file may be incorrect. Ask the manufacturer of the slave if you can write all of the parameters that are set as backup parameters. If all of the backup parameters can be written, the slave is faulty. Replace the slave.	None
Incorrect backup data was detect- ed.	Format the SD Memory Card with the Sysmac Studio and then place the backup files on it.	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.
The EtherCAT network configura- tion in the backup data does not agree with the physical network configuration.	Make sure that the EtherCAT net- work configuration in the backup data agrees with the physical net- work configuration.	Make sure that the EtherCAT net- work configuration in the backup data agrees with the physical net- work configuration before you try to restore the data.

	 An error occurred at an OMRON Communications Coupler Unit. The following causes are possible. Reading a backup file failed at the Communications Coupler Unit (when attached information 4 is 1). Connect the cable securely. Mount the NX Unit securely. Im- plement noise countermeasures if there is excessive ambient noise. If the problem still exists, replace the Communications Coupler Unit or NX Units failed (when attached infor- mation 4 is 2). The Unit Configuration of the NX Units in the Communications Coupler Unit when data was backed up did not agree with the actual configuration of NX Units (when attached information 4 is 3). The Unit Configuration of NX Units (when attached information 4 is 3). The Unit Configuration of NX Units (when attached information 4 is 3). The Unit configuration of NX Units (when attached information 4 is 3). The Unit configuration of NX Units (when attached information 4 is 3). The Unit configuration of NX Units (when attached information 4 is 3). The Unit configuration of NX Units (when attached information 4 is 3). The Correct the hardware switches on the Communications Coupler Unit so that they are the same as when the data was backed up (when attached information 4 is 3). The Unit Configuration of NX Units (when attached information 4 is 2 or 3). Restore the data while the hard- ware switches on the Communi- cations Coupler Unit are the same as when the data was backed up (when attached information 4 is 3).
Attached infor- mation	Attached Information 1: Error Details (The following values are in the order of the causes of the error.) • 0001 hex: Link OFF • 0002 hex: Incorrect master status • 0003 hex: Configuration information does not agree with network configuration. • 0004 hex: The request to the EtherCAT slave failed. • 0005 hex: Master status temporarily prevented processing. • 0006 hex: An error occurred in slave initialization. • 0007 hex: Writing the backup data failed. • 0008 hex: The network configuration does not agree with the network configuration in the backup data. • 0009 hex: The network configuration does not agree with the network configuration in the backup data. • 0009 hex: The network configuration does not agree with the network configuration in the backup data. • 0009 hex: The network configuration does not agree with the network configuration in the backup data. • 0008 hex: The service is not supported • 0008 hex: Error at OMRON Communications Coupler Unit Attached Information 2: Error Location • 0: Master • 1 or higher: Slave node address Attached Information 4: Cause of Error at OMRON Communications Coupler Unit (only when attached information 1 is 000B hex). • 0: Communications Coupler Unit • 1 to 63: Unit number of NX Unit Attached Information 4: Cause of Error at OMRON Communications Coupler Unit (only when att
Precautions/ Remarks	3: The Unit Configuration does not agree with the Unit Configuration in the backup data. None

*1. This event code occurs for a CPU Unit with unit version 1.03 or later and project unit version earlier than 1.40. For project unit version 1.40 or later, refer to the description of the event code 10460001 hex.

Event name	EtherCAT Slave Backup Failed			Event code	10460001 hex ^{*1}	
	(Project unit version 1.40 or later) ^{*1}					
Meaning	The backup operation for an EtherCAT slave ended in an error.					
Source	EtherCAT Master Function Module		Source details	Master	Detection tim- ing	During backup operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherCAT NET RUN		EtherCAT NET ERR		EtherCAT LINK/ACT	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	One of the following 1) to 5) occur- red. Identify the cause of the error according to the attached informa- tion 1.					
	 The EtherCAT master cannot start backup. (When the attached information 1 is 0002 hex) 		Due to an event that occurred in the communications port or master, you cannot perform backup opera- tion. Identify the error cause and make the correction according to the information on the event that occurred in the communications port or master shown in Source de- tails.		Refer to the information on the event that occurred, and implement preventive measures for the error cause.	
	2) It was not possible to read the backup parameters to the Ether-CAT slave.(When the attached information 1 is 0007 hex)		Ask the manufacturer of the slave if you can read all of the parameters that are set as backup parameters in the order displayed on the Back- up Parameter Edit Pane for the slave. On the Backup Parameter Edit Pane, reorder the parameters that must be read in a specific order and delete any parameters that cannot be read.		Same as the Correction.	
	3) The request to the EtherCAT slave failed. (When the attached information 1 is 0004 hex) 4) Communications with an OM- RON Communications Coupler Unit or NX Unit failed. (When the attached information 1 is 000B hex)	 a. Reading the backup parameters failed due to an event that occurred in the master, slave, OMRON Communications Coupler Unit, or NX Unit. Identify the error cause and make the correction according to the information on the event that occurred. b. There is a possibility that reading the backup parameters failed due to a contact failure of the connector, connection failure of the cable, or noise. Check the number of error frames in the slave diagnostic and statistical information. If the error frame is counted, the contact failure of the connector, red in the location where an error frame was counted. Implement countermeasures such as reconnect the connector or cable, or remove the noise source while checking the slave diagnostic and statistical information. 	 a. Refer to the information on the event occurred, and implement preventive measures. b. Make sure that error frames are no longer counted in the slave diagnostic and statistical information. If the error frame is counted, implement countermeasures such as reconnecting the connector or cable or removing the noise source while checking the slave diagnostic and statistical information. 			
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	5) Backup was executed for a dis- connected slave. (When the attached information 1 is 0006 hex)	Connect any slaves that are dis- connected.	Back up the data when there are no disconnected slaves.			
Attached infor-	Attached Information 1: Error Details	;	ı			
mation	0002 hex: Incorrect master status					
	0004 hex: The request to the Ethe	erCAT slave failed.				
	0006 hex: A slave is disconnected					
	• 0007 hex: Reading the backup da					
	000B hex: Error at OMRON Comr					
	Attached Information 2: Error Locatio					
	Not 0: Slave node address					
	Attached information 3: Error Location	on Details				
	• When the attached information 1 i					
	0: OMRON Communications Cou	pler Unit				
	Not 0: Unit number of NX Unit					
		ne attached information 1 is 0007 hex				
	Attached information 4: Cause of the					
	• When the attached information 1 i					
		munications Coupler Unit or NX Unit fa	ailed.			
	Abort code, when the attached inf	ormation 1 is 0007 hex				
Precautions/	None					
Remarks						
*1. This event co	ode occurs for project unit version 1.40) or later. For a CPU Unit with unit ver	sion 1.03 or later and project unit			

*1. This event code occurs for project unit version 1.40 or later. For a CPU Unit with unit version 1.03 or later and project unit version earlier than 1.40, refer to the description of the event code 102F0000 hex.

*2. "n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

3

3-8-2 Error Descriptions

Event name	EtherCAT Slave F	Restore Operation I	Failed	Event code	10470002 hex ^{*1}		
	(Project unit versi	on 1.40 or later) ^{*1}					
Meaning	The restore operation for an EtherCAT slave ended in an error.						
Source	EtherCAT Master		Source details Master		Detection tim- ing	During restore operation	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
ndicators	hdicators EtherCAT NET RUN		EtherCAT NET E	RR	EtherCAT LINK/	АСТ	
System-de-	Variable		Data type		Name		
ined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	One of the followi red. Identify the c according to the a tion 1.	ause of the error					
	 The EtherCAT master cannot start restore operation. (When the attached information 1 is 0002 hex) 		The restore opera started due to the is being occurred Function Module. that is being occu error cause and n tion.	other event that in the EtherCAT Check the event irred, identify the	Refer to the information on the event that occurred, implement preventive measures for the error cause, and then execute the re- store operation.		
	2) The EtherCAT network configuration in the backup data does not agree with the physical network configuration.(When the attached information 1 is 0009 hex)		identify the error of the correction acc formation on the of Link OFF Error Network Config tion Error (Slav Network Config tion Error (Inco Network Config tion Error (Inco Network Config tion Error (Inco Network Config tion Error (Inco Illegal Slave Di tected Incorrect Wirin Ring Disconne	cording to the in- event that occur. guration Verifica- ve Unconnected) guration Verifica- matched Slave) guration Verifica- prrect Wiring) guration Verifica- prrect Ring Wiring) isconnection De- g Detected ction Detected	Make sure that the work configuratio data agrees with work configuratio store the data.	n in the backup the physical net-	
	3) It was not possible to write the backup parameters to the Ether-CAT slave.(When the attached information 1 is 0007 hex)		Ask the manufacturer of the slave if you can write all of the parameters that are set as backup parameters in the order displayed on the Back- up Parameter Edit Pane for the slave. On the Backup Parameter Edit Pane, sort the parameters if they must be written in a certain order and delete any parameters that cannot be written.		None		

4) The request to the EtherCAT	a. Identify the error cause and	a. Refer to the information on the
slave failed.	make the correction according	event occurred, and implement
(When the attached information 1	to the information on the event	preventive measures for the
is 0004 hex)	that occurred in the EtherCAT	error cause.
	slave.	b. Make sure that error frames
	b. Check the number of error	are no longer counted in the d
	frames in the slave diagnostic	agnostic and statistical infor-
	and statistical information.	mation for the master and
	Check whether the contact fail-	slaves. If the error frame is
	ure of the connector, connec-	counted, check whether the
	tion failure of the cable, or	connection failure of the cable
	noise occurred in the location	contact failure of the connec-
	where an error frame was	tor, or noise occurred and im-
	counted and implement coun-	plement countermeasures.
	termeasures.	
5) Incorrect backup data was de-	Create the backup files again.	Do not remove the SD Memory
tected.	If you fail to create the backup files	Card or turn OFF the power supply
(When the attached information 1	again, format the SD Memory Card	while the SD BUSY indicator is lit.
is 0008 hex)	with the Sysmac Studio and then	Or, replace the SD Memory Card
	place the backup files on it.	periodically according to the write
		life of the SD Memory Card.

3

6) An error occurred at an OMRONCommunications Coupler Unit.(When attached information 1 is000B hex)

The following causes are possible.

- Reading a backup file failed at the Communications Coupler Unit (when attached information 4 is 1).
- Communications with the Communications Coupler Unit or NX Unit failed (when attached information 4 is 2).
- The Unit Configuration of the NX Units in the Communications Coupler Unit when data was backed up did not agree with the actual configuration of NX Units (when attached information 4 is 3).

(When attached information 4 is 1)

Try backing up the data again.

- When attached information 4 is 2
 - A communication is not possible with the Communications Coupler Unit due to an event that occurred in the master or the Communications Coupler Unit. Identify the cause and make the correction according to the information on the event that occurred.
 - b) Mount the NX Unit securely.
 c) Check the number of error frames in the slave diagnostic and statistical information. Check whether the contact failure of the connector, connection failure of the cable, or noise occurred in the location where an error frame was counted and
 - ures. d) If the above situation a) to d) does not improve, replace the Communications Coupler Unit or the NX Unit.

implement countermeas-

If the problem still exists after you make the corrections a) to d), replace the Communications Coupler Unit or the NX Unit.

- When attached information 4 is 3
 - a) Make the Unit Configuration of the NX Units in the Communications Coupler Unit when data was backed up agree with the actual configuration of NX Units.
 - b) Correct the hardware switches on the Communications Coupler Unit so that they are the same as when the data was backed up.

• When attached information 4 is 1

- a) Do not edit the backup files.
- b) Format an SD Memory Card with the Sysmac Studio and then place the backup file on it. Also, do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit.
- When attached information 4 is 2
 - a) Take preventive measures for the cause of the event that occurred in the master or the Communications Coupler Unit.
 - b) Mount the NX Unit securely.
 - c) Refer to (b) in 4) above.
- (When attached information 4 is 3)

Restore the data while the hardware switches on the Communications Coupler Unit are the same as when the data was backed up.

3

3-8-2 Error Descriptions

Attached infor-	Attached Information 1: Error Details
mation	0002 hex: The restore operation failed to start.
	0004 hex: The request to the EtherCAT slave failed.
	0007 hex: Writing the backup data failed.
	0008 hex: The backup data is not correct.
	• 0009 hex: The network configuration does not agree with the network configuration in the backup data.
	000B hex: Error at OMRON Communications Coupler Unit
	Attached Information 2: Error Location
	O: Master
	Not 0: Slave node address
	Attached information 3: Error Location Details
	When the attached information 1 is 000B hex
	0: OMRON Communications Coupler Unit
	Not 0: Unit number of NX Unit
	 Index or subindex of CoE, when the attached information 1 is 0007 hex
	Attached information 4: Cause of the error
	When the attached information 1 is 000B hex
	1: Reading the backup file failed.
	2: Communications with the Communications Coupler Unit or NX Unit failed.
	3: The Unit Configuration does not agree with the Unit Configuration in the backup data.
	Abort code, when the attached information 1 is 0007 hex
Precautions/	None
Remarks	

*1. This event code occurs for project unit version 1.40 or later. For a CPU Unit with unit version 1.03 or later and project unit version earlier than 1.40, refer to the description of the event code 10300000 hex.

Event name	Emergency Message Detected			Event code	64200000 hex		
Meaning	An emergency me	An emergency message was detected.					
Source	EtherCAT Master	Function Module			Detection tim- ing	During commu- nications	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation Slave: An error occurred.		. Other operation is	s not affected.	
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	АСТ	
System-de-	Variable		Data type		Name		
fined variables	_EC_SlavEmerg	Err	BOOL		Emergency Message Detected		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An emergency message was re-		Refer to the attached information 1		Refer to the manual for the slave to		
	ceived from a slave.		to check the emergency code of		take preventive n	neasures.	
			the slave where the error occurred.				
				al for the slave to			
				nove the cause of the error of			
			the code and ther	n reset the error.			
Attached infor-	Attached Informa	tion 1: Slave emerg	jency code				
mation			egister object value				
	Attached Informa	tion 3: Slave emerg	gency data. Only the	e lower five bytes a	ire valid.		
Precautions/	None						
Remarks							

Event name	EtherCAT Message Error Event			Event code	842D0000 hex ^{*1}		
Meaning	An error occurred	l in a message com	munications with th	ne slave.			
Source	EtherCAT Master	Function Module	Source details	Source details Master		During commu- nications	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Slave: An error occurred	. Other operation i	s not affected.	
Indicators	EtherCAT NET R	RUN	EtherCAT NET E	RR	EtherCAT LINK/	ACT	
System-de-	Variable		Data type		Name		
fined variables	_EC_MsgErr		BOOL		EtherCAT Messa	ge Error	
Cause and cor-	Assumed cause		CorrectionSend messages only to slaves that support the message protocol. Identify the error message with the error details that are given in the attached information, and correct the message		Prevention		
	to check the error	r.			slave specifications. Also check to make sure that mes- sages are addressed to the correct node.		
Attached infor- mation	 1st byte: 00 he sage with illega 2nd byte: For Transmissi 0F hex: VoE For Reception: hex: VoE Attached informa Attached Informa 	the message. Attached Information 1: Error Details • 1st byte: 00 hex: Error message reception, 02 hex: Illegal or unsupported message discarded, 04 hex: sage with illegal destination address discarded • 2nd byte: For Transmission: 00 hex: Error, 01 hex: VoE (AoE), 02 hex: EoE, 03 hex: CoE, 04 hex: FoE, 05 hex: SOF hex: VoE For Reception: 80 hex: Error, 81 hex: VoE (AoE), 82 hex: EoE, 83 hex: CoE, 84 hex: FoE, 85 hex: SoE					
Precautions/ Remarks	None						

*1. This event code occurs for project unit version earlier than 1.40.

Event name	Illegal Mailbox Received Event			Event code	84350000 hex ^{*1}	
Meaning	An illegal mailbox was received from a slave.					
Source	EtherCAT Master	Function Module	Source details	Slave	Detection tim- ing During com	
Error attributes	Level	Observation	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not a	iffected.	
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
System-de-	Variable		Data type		Name	
fined variables	_EC_MsgErr		BOOL		EtherCAT Message Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A message with illegal destination		Confirm that the destination of the		Confirm that the destination of the	
	address was rece	ived from a slave.	message is an EtherCAT slave that		, and a second s	
	(When attached in	nformation 1 is	is in the network of	•	is in the network configuration in-	
	0002 hex)			he message to an	formation.	
			EtherCAT slave th			
			work configuration	n information.		
Attached infor-		tion 1: Error Details				
mation		•	stination address r	eceived		
		System informatior				
		tion 2: Source slave				
			slave node address	(If the source is th	e master: 0)	
	Attached informat	tion 4: System infor	mation			
Precautions/	None					
Remarks						

*1. This event code occurs for project unit version 1.40 or later.

Event name	Ring Disconnecti	on Detected		Event code	84390000 hex ^{*1}	
Meaning	A ring disconnect	tion status was det	ected.			
Source	EtherCAT Master	Function Module	Source details	ource details Master		At power ON, at Controller reset, or during com- munications
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation			
Indicators	EtherCAT NET R	RUN	EtherCAT NET	ERR	EtherCAT LINK/	ACT
System-de-	Variable		Data type		Name	
fined variables	_EC_RingBreaki	-	BOOL		Ring Disconnecti	
	_EC_RingBreakN	lodeAdr	UINT		Slave Node Addr Disconnection	ess Before Ring
Cause and cor-	Assumed cause	1	Correction		Prevention	
			cable connection slave shown in a tion 1 and the ne topology. For how to corre- related to the rin A-8 Correction of EtherCAT Ring Event on page A pendices of the	attached informa- ext slave in the ring act errors for events g topology, refer to <i>f Wiring for the</i> <i>Topology Based on</i> x-301 in the ap- <i>NJ/NX-series</i> <i>Manual (Cat. No.</i>	None	
	1) An Ethernet cable was discon- nected.					
	2) An Ethernet cable connector be- tween slaves is disconnected.		Connect the connector.		 Firmly connect the Ethernet con- nector until it clicks into place. Confirm that the Ethernet con- nector is mated securely. 	
	3) A non-recommended cable was used.		Replace the Ethernet cable with a recommended one.		Use recommended cables.	
	4) The Ethernet cable is broken between slaves.		Replace the Eth	ernet cable.	bles, use the cab devices to confirr broken cable. Ch Network Wiring ir <i>CPU Unit Built-in</i>	n that there is no eck the EtherCAT n the <i>NJ/NX-series</i> <i>EtherCAT Port</i> <i>Cat. No. W505)</i> for
	5) The contact of the Ethernet ca- ble connector is faulty, or parts are faulty.		Replace the Eth	ernet cable.	None	
Attached infor- mation	Attached informa	tion 1: Slave node	address before po	int of break		
Precautions/ Remarks	None					

*1. This event code occurs for project unit version 1.40 or later.

Event name	Slave Disconnected			Event code	e 94400000 hex		
Meaning	A slave was disco	onnected for a disc	onnection comman	d.			
Source	EtherCAT Master	Function Module	Source details	Slave Detection tim- ing		When slave dis- connection is specified during communications	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Master: The master char Slave: Message communications are not For project unit with Master: The master char state. Slave: Message commu	it version earlier than 1.40: nanges the slave to the Init state. numunications and process data commu		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	АСТ	
System-de-	Variable		Data type		Name		
fined variables	_EC_DisconnSlav	√Tbl	ARRAY [1n] OF BOOL *1		Disconnected Slave Table		
	_EC_PDSlavTbl		ARRAY [1n] OF BOOL *1		Process Data Communicating Slave Table		
	_EC_MBXSlavTbl		ARRAY [1n] OF BOOL *1		Message Communications Ena- bled Slave Table		
	_EC_PDActive		BOOL		Process Data Communications Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An operation to di slave was execute mac Studio.						
	The EC_DisconnectSlave instruc- tion was executed.						
	lion was executed	J					
Attached infor- mation	None						

*1. "n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave Connected Event code			94410000 hex		
Meaning	A slave was reco	nnected for a recor	nection command.			
Source	EtherCAT Master	Function Module	Source details Slave		Detection tim- ing	When slave re- connection is specified during communications
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	state. Slave: Message commu	he master changes the slave to the Operation ate.	
Indicators	EtherCAT NET RUN		EtherCAT NET ERR		EtherCAT LINK/ACT	
System-de-	Variable		Data type		Name	
fined variables	_EC_DisconnSlavTbl		ARRAY [1n] OF BOOL *1		Disconnected Slave Table	
	_EC_PDSlavTbl		ARRAY [1n] OF BOOL *1		Process Data Communicating Slave Table	
	_EC_MBXSlavTbl		ARRAY [1n] OF BOOL *1		Message Communications Ena- bled Slave Table	
	_EC_PDActive		BOOL		Process Data Communications Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection		An operation to reconnect the slave was executed from the Sysmac Studio.				
	The EC_ConnectSlave instruction was executed.					
Attached infor- mation	None					
Precautions/ Remarks	None					

*1. "n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Error Reset Event code			Event code	94430000 hex	
Meaning	A command was	received to reset e	rrors.			
Source	EtherCAT Master	Function Module	Source details	Master Detection tim- ing reset		When errors are reset
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Master: The current errors are reset and the network is verified again. If the error is not detected again, the network is verified again. If the error is not detected again, the network communications is stopped to the Operational state. Slave: For slaves that the error occured, message commissions and process data communications are possible.		d again, the mas- munications were essage communi-
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT	
System-de-	Variable		Data type		Name	
fined variables	_EC_PDSlavTbl		ARRAY [1n] OF BOOL *1		Process Data Communicating Slave Table	
	_EC_MBXSlavTbl		ARRAY [1n] OF BOOL *1		Message Communications Ena- bled Slave Table	
	_EC_CommErrTbl		ARRAY [1n] OF BOOL *1		Communications Error Slave Table	
	_EC_PDActive		BOOL		Process Data Communications Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error reset ope formed from the S	•				
	The ResetECErro executed.	or instruction was				
Attached infor- mation	None					
Precautions/ Remarks	None					

*1. "n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave Disabled			Event code 94440000 hex ^{*1}			
Meaning	The EtherCAT Slave was disabled.						
Source	EtherCAT Master	Function Module	Source details	Slave	lave Detection tim- ing At exect setting in tion		
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Master: The master changes the relevent slave to the Pre-O erational state. Slave: Message communications are possible. Process da communications are not possible.			
Indicators	EtherCAT NET RUN		EtherCAT NET ERR		EtherCAT LINK/ACT		
System-de-	Variable		Data type	Name			
fined variables	_EC_PDSlavTbl		ARRAY [1n] OF	ARRAY [1n] OF BOOL *2		Process Data Communicating Slave Table	
	_EC_DisableSlavTbl		ARRAY [1n] OF BOOL *2		Disabled Slave Table		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The EC_Changel struction was exe	•					
Attached infor- mation	None						
Precautions/ Remarks	None						

*1. This event code occurs for unit version 1.04 or later of the CPU Unit.

*2. "n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave Enabled			Event code	94450000 hex*1						
Meaning	The EtherCAT sla	ive was enabled.									
Source	EtherCAT Master	Function Module	Source details	Slave	Detection tim- ing	At execution of setting instruc-					
Error attributes	Level	Information	Recovery		Log category	Access					
Effects	User program	Continues.	Operation	Master: The master changes the relevent slational state again. Slave: Message communications and procent nications are possible.							
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT					
System-de-	Variable		Data type		Name						
fined variables	_EC_PDSlavTbl		ARRAY [1n] OF	BOOL *2	Process Data Co Slave Table	mmunicating					
	_EC_DisableSlav	Tbl	ARRAY [1n] OF	BOOL *2	Disabled Slave T	able					
Cause and cor-	Assumed cause		Correction		Prevention						
rection	The EC_Changel struction was exe	•									
Attached infor- mation	None		·								
Precautions/ Remarks	None										

*1. This event code occurs for unit version 1.04 or later of the CPU Unit.

*2. "n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	EtherCAT Diagno	sis/Statistics Log S	Started	Event code	94500000 hex ^{*1}						
Meaning	EtherCAT diagno	sis/statistics log is	started.	1							
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim- ing	When EtherCAT diagnosis/statis- tics log is start- ed					
Error attributes	Level	Information	Recovery		Log category	Access					
Effects	User program	Continues.	Operation	The response tim slaves will be exte	e to non-synchrono ended.	ous EtherCAT					
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT						
System-de-	Variable		Data type		Name						
fined variables	_EC_StatisticsLo	gEnable	BOOL		Diagnosis/Statisti	cs Log Enable					
	_EC_StatisticsLo	gBusy	BOOL		Diagnosis/Statisti	cs Log Busy					
Cause and cor-	Assumed cause		Correction		Prevention						
rection	The value of the _EC_StatisticsLo defined variable of FALSE to TRUE.										
Attached infor-	Attached information	tion 1: Automatic sa	aving interval to the	SD Memory Card	for the diagnosis/st	tatistics log					
mation	0: One-shot Me										
	Not 0: Interval	(sec)									
Precautions/ Remarks	None										

*1. This event code occurs for unit version 1.11 or later of the CPU Unit.

Event name	EtherCAT Diagno	sis/Statistics Log E	Ended	Event code	94510000 hex ^{*1}	
Meaning	EtherCAT diagno	sis/statistics log is	ended.			
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim- ing	When EtherCAT diagnosis/statis- tics log is ended
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
System-de-	Variable		Data type		Name	
fined variables	_EC_StatisticsLo	gEnable	BOOL		Diagnosis/Statist	ics Log Enable
	_EC_StatisticsLo	gBusy	BOOL		Diagnosis/Statist	ics Log Busy
	_EC_StatisticsLo	gErr	BOOL		Diagnosis/Statist	ics Log Error
Cause and cor-	Assumed cause		Correction		Prevention	
Attached infor- mation	 0: One-shot Ma Not 0: Interval Attached informat 1: The value of 2: The 1000th 3: The SD Mer 4: The SD Mer 5: The SD Mer 6: Synchroniza 7: An invalid vastatistics log. 8: The diagnostion instruction 	tion 1: Automatic sa ode (sec) tion 2: Causes to e f the <i>_EC_Statistic</i> : record was saved i mory Card does no mory Card does no mory Card does no mory Card cannot b nory Card cannot b tion (download) or alue was specified sis/statistics log was (EC_GetMasterSta	nd EtherCAT diagn sLogEnable system in the log file. t have sufficient ava protected. be recognized. Clear All Memory of to the automatic sa	osis/statistics log additional defined variable of ailable space to sa operation is execut ving interval to the execution of a mas rMasterStatistics),	SD Memory Card f ter diagnostic and s or a slave diagnost	to FALSE.
Precautions/ Remarks	None					

*1. This event code occurs for unit version 1.11 or later of the CPU Unit.

3-9 Errors in the OPC UA Function

This section provides tables of the errors (events) that can occur with the OPC UA function. Refer to *NJ/NX-series CPU Unit OPC UA User's Manual (Cat. No. W588)* for information on the unit versions of CPU Units with which you can use the OPC UA function and corresponding Sysmac Studio versions.

3-9-1 Error Tables

OPC UA Server Function

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
15000000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	Execution Log Save Failed	Failed to save the Ex- ecution Log to the SD Memory Card.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. The SD Memory Card is write protected. The SD Memory Card does not have sufficient available space. The SD Memory Card is damaged. 			0	٢		page 3-814
35D00000 hex (Ver. 1.17 or later) [NJ501-1000] (Ver. 1.60 or later) [NX502-1000] (Ver. 1.24 or later) [NX102-000, NX701-1000]	OPC UA Server Set- ting Error	The OPC UA Server Settings are incorrect.	 The power supply to the Controller was interrupted while the OPC UA Server Settings were being transferred. The power supply to the Controller was interrupted during a Clear All Memory operation. The OPC UA Server settings are not correct because the Controller was interrupted during a restore operation. TCP port number is duplicated. 			0			page 3-815
35D10000 hex (Ver. 1.17 or later) [NJ501-1000] (Ver. 1.60 or later) [NX502-1000] (Ver. 1.24 or later) [NX102-000, NX701-1000]	Server Cer- tificate Ex- pired	The server certificate expired.	 The period that is set in the server certificate expired. 			0	⊙		page 3-816

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
44180000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□]	OPC UA System Processing Error	A fatal error was de- tected in the OPC UA Server.	A soft error occurred.			0			page 3-816
44190000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□, NX701-1□□]	OPC UA Server Insuf- ficient Mem- ory Capacity	The amount of varia- ble data to be pub- lished has exceeded the amount of OPC UA server specifica- tion.	 The amount of variable data to be published has exceeded the amount of OPC UA server specification. 			0			page 3-821
15020000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□, NX701-1□□]	Server Cer- tificate Mis- match	The IP address of the server certificate in the CPU Unit is not the same as that of the built-in EtherNet/IP port on the CPU Unit.	 The IP address of the built-in EtherNet/IP port of the CPU Unit was changed when the OPC Server Use Option is set to Use. The IP address was changed by the ChangeIPAdr (Change IP Address) instruction. If the IP address setting meth- od was <i>Obtain from BOOTP</i> <i>server</i>, the IP address was changed when the power is turned ON. A project containing a different IP address for the built-in EtherNet/IP port of the CPU Unit was downloaded to the CPU Unit. 				0		page 3-817
35D20000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□, NX701-1□□□]	Server Cer- tificate Expi- ration Notice	The server certificate is close to expiring.	 The period that is set in the server certificate is close to ex- piring. 			•	0		page 3-818
35D30000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□, NX701-1□□]	Too Many Public Varia- bles	The number of varia- bles that can be pub- lished to the OPC UA client exceeded the upper limit when the OPC UA Server was prepared.	• When the OPC UA Server pre- pared the address space, the number of OPC UA variables exceeded the upper limit.				0		page 3-818

						_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35D40000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□0]	Unsupported Data Type/ Invalid Data	When the OPC UA server was built, vari- ables or nodes with a data type that cannot be published to the OPC UA client were included.	 Variables to be published had data types not yet supported by the OPC UA server. Or, re- served words for node names that cannot be published in the OPC UA address space were used for nodes corresponding to global variables, program names, and user-defined data type names. Unsupported data types and invalid data are as follows. Multidimensional array specified structure Structure containing multidi- mensional array(s) as mem- ber(s) Structure whose nesting number exceeds the limit value Union Array whose start number is not 0; e.g., Array[25] Variable whose size ex- ceeds the limit value Array whose number of ele- ments exceeds the limit val- ue Structure whose number of ele- ments exceeds the limit val- ue No variables that can be mapped Registered variable IDs are used. Unable to create name- space nodes 				0		page 3-819
35D50000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□, NX701-1□□□]	Too Many Public Value Attributes	The number of value attributes to be pub- lished to the OPC UA client exceeded the upper limit when the OPC UA Server was prepared.	• When the OPC UA Server pre- pared the address space, the number of OPC UA value at- tributes has exceeded the up- per limit.				0		page 3-820

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35D60000 hex (Ver. 1.17 or later) [NJ501-1000] (Ver. 1.60 or later) [NX502-1000] (Ver. 1.24 or later) [NX102-000, NX701-1000]	Too Many Structure Definitions	The number of struc- ture definitions to be published to the OPC UA client exceeded the upper limit when the OPC UA Server was prepared.	 When the OPC UA Server pre- pared the address space, the number of structure definitions has exceeded the upper limit. 				0		page 3-821
85600000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	OPC UA Cli- ent Connec- tion Reject- ed	A connection request from an OPC UA cli- ent was rejected.	 User authentication information was incorrect. The client certificate was incorrect. The client certificate was registered in the Rejected Certificate List. The CA certificate is not registered in the Trusted Certificate List for Client authentication or Issuer authentication. The number of sessions has exceeded the maximum number of connectable sessions. 				0		page 3-822
95D00000 hex (Ver. 1.17 or later) [NJ501-1000] (Ver. 1.60 or later) [NX502-1000] (Ver. 1.24 or later) [NX102-000, NX701-1000]	OPC UA Server Start- ed	The OPC UA Server started.	The OPC UA Server started.					0	page 3-823
95D10000 hex (Ver. 1.17 or later) [NJ501-1000] (Ver. 1.60 or later) [NX502-1000] (Ver. 1.24 or later) [NX102-000, NX701-1000]	OPC UA Server Stop- ped	The OPC UA Server stopped.	The OPC UA Server stopped.					0	page 3-823

3

					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
95D20000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	Server Cer- tificate Gen- erated	 A server certificate was generated. The server certificate is automatically generated when there is no server certificate. The server private key and server certificate are automatically generated when Regenerated when Regenerate certificate is performed. *1 	 A server certificate was gener- ated. 					0	page 3-824
95D30000 hex (Ver. 1.17 or later) [NJ501-1000] (Ver. 1.60 or later) [NX502-1000] (Ver. 1.24 or later) [NX102-000, NX701-1000]	Client Certifi- cate Dis- carded	Received client certif- icates were discard- ed.	 The maximum number of client certificates that can be regis- tered in the Rejected Certifi- cate List has been exceeded. 					0	page 3-824
95D40000 hex (Ver. 1.17 or later) [NJ501-1000] (Ver. 1.60 or later) [NX502-1000] (Ver. 1.24 or later) [NX102-000, NX701-1000]	OPC UA Server Cer- tificate and Security Pro- file Cleared	The OPC UA server certificate and securi- ty profile were delet- ed.	 Restore was executed using a backup file created on a CPU Unit with unit version that does not have the OPC UA server function. A project was downloaded from a CPU Unit without the OPC UA Server. Checked <i>Clearing the OPC UA server certificate and security profile.</i> and performed Clear All Memory operation. 					0	page 3-825
95D60000 hex (Ver.1.43 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.43 or later) [NX102-□□00] (Ver. 1.36 or later) [NX102-□□20] (Ver. 1.24 or later) [NX701-1□□0]	Client Certifi- cate Added	A client certificate was added.	A client certificate was added.					0	page 3-826

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
95D70000 hex (Ver. 1.43 or later) [NJ501-1□00]	Client Certifi- cate Deleted	A client certificate was deleted.	A client certificate was deleted.						page 3-826
(Ver. 1.60 or later) [NX502-1□00]									
(Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									
95D80000 hex (Ver. 1.43 or later) [NJ501-1□00]	Client Certifi- cate Moved	A client certificate was moved to the Trusted Certificate.	A client certificate was moved to the Trusted Certificate.						page 3-827
(Ver. 1.60 or later) [NX502-1□00]									
(Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									
95D90000 hex (Ver. 1.43 or later) [NJ501-1□00] (Ver. 1.60 or later)	Client Certifi- cate Revo- cation List Added	The client certificate revocation list was added.	The client certificate revocation list was added.						page 3-827
[NX502-1□00] (Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									
95DA0000 hex (Ver. 1.43 or later) [NJ501-1□00]	Client Certifi- cate Revo- cation List	The client certificate revocation list was deleted.	The client certificate revocation list was deleted.						page 3-828
(Ver. 1.60 or later) [NX502-1□00]	Deleted								
(Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
95DB0000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.29 or later) [NX701]	Server Cer- tificate Re- generated	 The server certificate was regenerated. The server private key and server cer- tificate are auto- matically generat- ed when Regener- ate certificate is performed. 	 The server certificate was re- generated. 					0	page 3-829
96200000 hex (Ver. 1.43 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.43 or later) [NX102-□□00] (Ver. 1.36 or later) [NX102-□□20] (Ver. 1.24 or later) [NX701-1□□□]	Security Set- tings Trans- ferred	The security settings were transferred.	The security settings were trans- ferred.					0	page 3-830
96210000 hex (Ver. 1.43 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.43 or later) [NX102-□□00] (Ver. 1.36 or later) [NX102-□□20] (Ver. 1.24 or later) [NX701-1□□□]	Execution Log Cleared	The Execution Log was cleared.	The Execution Log was cleared.					0	page 3-831
96220000 hex (Ver. 1.43 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.43 or later) [NX102-□□00] (Ver. 1.36 or later) [NX102-□□20] (Ver. 1.24 or later) [NX701-1□□□]	CA Certifi- cate Added	A CA certificate was added.	A CA certificate was added.					0	page 3-832

					L	.eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
96230000 hex (Ver. 1.43 or later) [NJ501-1□00]	CA Certifi- cate Deleted	A CA certificate was deleted.	A CA certificate was deleted.						page 3-832
(Ver. 1.60 or later) [NX502-1□00]									
(Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									
96240000 hex (Ver. 1.43 or later) [NJ501-1□00]	CA Certifi- cate Revo- cation List	The CA certificate revocation list was added.	The CA certificate revocation list was added.						page 3-833
(Ver. 1.60 or later) [NX502-1⊡00]	Added								
(Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									
96250000 hex (Ver. 1.43 or later) [NJ501-1□00]	CA Certifi- cate Revo- cation List	The CA certificate revocation list was deleted.	The CA certificate revocation list was deleted.						page 3-834
(Ver. 1.60 or later) [NX502-1⊡00]	Deleted								
(Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									

3

				Level				_	
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
96260000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.29 or later) [NX701]	Client Certifi- cate or CA Certificate Changed	 One of the following changes to the certifi- cate has been made. The client certifi- cate was added, deleted, or moved. The client certifi- cate revocation list was added or de- leted. The CA certificate was added, delet- ed, or moved. The CA certificate revocation list was added or deleted. 	 One of the following changes to the certificate has been made. The client certificate was added, deleted, or moved. The client certificate revocation list was added or deleted. The CA certificate was added, deleted, or moved. The CA certificate revocation list was added or deleted. 					0	page 3-835

*1. This applies to the following CPU Unit only.

• NJ501, NX102 CPU Unit: Version 1.48 or earlier

• NX701 CPU Unit: Version 1.28 or earlier

OPC UA Instructions

The lower four digits of an event code give the error code for the instruction. For details of error codes, refer to the description of the corresponding event code. For example, for an error code, 16#5000, refer to the description for event code 54015000 hex.

					Level					
Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□, NX701-1□□]	OPC UA Server Shut- down or Shutting Down	The OPC UA Server was already shut- down or was being shut down.		The OPCUA_Shutdown (Shut- down OPC UA Function) in- struction was executed while the OPC UA Server was al- ready shut down. The OPCUA_Shutdown (Shut- down OPC UA Function) in- struction was executed while the OPC UA Server was being shut down.				0		page 3-837
54015001 hex (Ver. 1.17 or later) [NJ501-1000] (Ver. 1.60 or later) [NX502-1000] (Ver. 1.24 or later) [NX102-000, NX701-1000]	OPC UA Server Being Initialized	The OPCUA_Shut- down (Shutdown OPC UA Function) in- struction could not be executed because the OPC UA Server was being initialized.	•	The OPCUA_Shutdown (Shut- down OPC UA Function) in- struction was executed while the OPC UA Server was being initialized.				0		page 3-838
54015002 hex (Ver. 1.17 or later) [NJ501-1000] (Ver. 1.60 or later) [NX502-1000] (Ver. 1.24 or later) [NX102-000, NX701-1000]	OPC UA Server Not Started	The relevant instruc- tion could not be exe- cuted because the OPC UA Server had not been started.	•	When the Server Use Option is set to <i>Do not use</i> , the relevant instruction was executed.				0		page 3-839

3-9 Errors in the OPC UA Function

3-9-2 Error Descriptions

OPC UA Server Function

Event name	Execution Log S	ave Failed		Event code	15000000 hex			
Meaning	Failed to save th	e Execution Log t	o the SD Memory	Card.				
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection tim- ing	Continuously		
Error attrib-	Level	Minor fault		Log category	System			
utes	Recovery	Automatic recov	ery					
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined varia- bles	None							
Cause and	Assumed cause	e	Correction F		Prevention			
correction	An SD Memory (serted.	Card is not in-	Insert an SD Me	mory Card.	Insert an SD Me	mory Card.		
	The SD Memory Card type is not correct.		Replace the SD with an SD or SI	•	Use an SD or SI	DHC card.		
	The format of the SD Memory Card is not correct.		Format the SD Memory Card with the Sysmac Studio.		Use a formatted SD Memory Card. Also, do not remove the SD Memory Card or turn OFF the power supply while the SD BUS' indicator is lit.			
	The SD Memory Card is write protected.			Remove write protection from the SD Memory Card.		he SD Memory protected.		
	The capacity of the SD Memory Card is insufficient.		Replace the SD Memory Card for one with sufficient available capacity.		Replace the SD Memory Card fo one with sufficient available ca- pacity.			
	The SD Memory aged.	Card is dam-	Replace the SD	Memory Card.	Do not remove the SD Memory Card or turn OFF the power sup- ply while the SD BUSY indicator is lit. Replace the SD Memory Card periodically according to the write life of the SD Memory Card. Do not remove the SD Memory Card while the SD PWR indicator is lit.			
Attached in- formation	 0001 hex: An 0002 hex: The Memory Card 0003 hex: The 0005 hex: The 	type is not correc SD Memory Care are is not sufficient le was not succes	rd is not inserted ard is faulty, the format of the SD Memory Card is not correct, or					
Precautions/ Remarks	None							

Event name	OPC UA Server	Setting Error		Event code	35D00000 hex		
Meaning	The OPC UA Se	erver Settings are i	ncorrect.				
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection tim- ing	At Download, at CPU Unit power ON, at Controller reset	
Error attrib-	Level	Minor fault		Log category	System	1	
utes	Recovery	Automatic recov	ery				
Effects	User program	Continues.	Operation	The operating	 The OPC UA Server cannot be started. The operating status of the OPC UA Server move to the Halt error state. 		
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	and Assumed cause		Correction		Prevention		
correction	 were being tra The power su troller was inte Clear All Mem The OPC UA are not correct 	errupted while Server Settings ansfered. pply to the Con- errupted during a nory operation. Server settings t because the s interrupted dur- operation.	tings again with t	ame port number cket communica-	None None Do not set the same port number as that of the socket communica- tions instructions or FTP server		
Attached in- formation	None		settings.		settings.		
Precautions/ Remarks	None						

Event name	Server certificate	e Expired		Event code	35D10000 hex		
Meaning	The server certif	ficate expired.		•			
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At Download, at CPU Unit power ON, at Controller re- set, or Periodically (every 24 hours)	
Error attrib-	Level	Minor fault		Log category System			
utes	Recovery	Automatic recov	ery				
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed caus	e	Correction		Prevention		
correction	The period that i er certificate exp	is set in the serv- pired.	Regenerate the	Regenerate the server certificate.		Consider the expiration date of the server certificate.	
Attached in- formation	Attached Inform • "YYYY-MM-D	ation 1: The expira D HH:MM:SS"	ation date of the se	erver certificate			
Precautions/ Remarks		ot be registered in the Server certific			the Controller is cy	ycled or the Con-	

Event name	OPC UA System	Processing Error	-	Event code	44180000 hex		
Meaning	A fatal error was	detected in the O	PC UA Server.		•		
Source	PLC Function M	odule	Source details	OPC UA Serv-	Detection tim-		
		1		er	ing		
Error attrib-	Level	vel Minor fault		Log category	System		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type	Data type			
fined varia-	None						
bles							
Cause and	Assumed cause	9	Correction		Prevention		
correction	A soft error occu	rred.	Cycle the power supply to the				
			Controller, or res	et the Controller.			
Attached in-	None						
formation							
Precautions/	None	lone					
Remarks							

Event name	Server Certificat	e Mismatch		Event code	15020000 hex		
Meaning	The IP address of	of the server certif	icate in the CPU L	Jnit is not the sam	e as that of the bu	ilt-in EtherNet/IP	
	port on the CPU	Unit.					
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At CPU Unit power ON, at Controller re- set, at Download, or Periodically (every 24 hours)	
Error attrib-	Level	Observation		Log category	System		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	e	Correction		Prevention		
correction	 Assumed cause The IP address of the built-in EtherNet/IP port of the CPU Unit was changed when the OPC UA Server Use Option is set to Use. The IP address was changed by the ChangeIPAdr (Change IP Address) instruction. If the IP address setting meth- od was Obtain from BOOTP server, the IP address was changed when the power is turned ON. A project containing a different IP address for the built-in EtherNet/IP port of the CPU Unit was downloaded to the 		Restore the IP a built-in EtherNet CPU Unit, or reg server certificate	/IP port on the enerate the	Regenerate the after changing the built-in Ether the CPU Unit.	ne IP address of	
Attached in- formation	Attached Informa	ation 1: The IP ad	dress of the serve	r certificate			
Precautions/ Remarks		-	duplicate until the ate is regenerated		the Controller is cy	cled or the Con-	
itemains		une Gerver Certino	are is regenerated	<i>.</i>			

Event name	Server Certificat	e Expiration Notice	е	Event code	35D20000 hex		
Meaning	The server certif	icate is close to ex	kpiring.				
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At CPU Unit power ON, at Controller re- set, or Periodi- cally (every 24 hours)	
Error attrib-	Level	Observation		Log category	System		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	e	Correction		Prevention		
correction	The period that i er certificate is c	s set in the serv- lose to expiring.	Regenerate the	server certificate.	Consider the expiration date of the server certificate.		
Attached in- formation		Attached Information 1: The expiration date of the server certificate • "YYYY-MM-DD HH:MM:SS"					
Precautions/ Remarks		•	duplicate until the ate is regenerated		the Controller is cy	vcled or the Con-	

Event name	Too Many Public	Variables		Event code	35D30000 hex		
Meaning	The number of v OPC UA Server		pe published to the	e OPC UA client e	exceeded the uppe	er limit when the	
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At CPU Unit power ON, at Controller re- set, restore op- eration, at download, or online editing	
Error attrib-	Level	Observation		Log category	System		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	9	Correction		Prevention		
correction	pared the address space, the		Reduce the number of variables to be published to the OPC UA client to below the upper limit.		Reduce the number of variables to be published to the OPC UA client to below the upper limit.		
Attached in- formation	None						
Precautions/ Remarks		not occur if the Ol atible with the OP	PC UA Server Use PC UA Server.	e Option is set to [Do not use or whe	n you use a	

Event name	Unsupported Da	ita Type/Invalid Da	ata	Event code	35D40000 hex	
Meaning	When the OPC OPC UA client w	UA server was bui vere included.	lt, variables or noc	les with a data typ	be that cannot be p	oublished to the
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection tim- ing	At CPU Unit power ON, at Controller re- set, restore op- eration, at download, or online editing
Error attrib-	Level	Observation		Log category	System	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	e	Correction		Prevention	
correction	 words for node r not be published address space v des correspondi ables, program r defined data typ Unsupported da valid data are as Multidimensio fied structure Structure cont mensional arr ber(s) Structure who ber exceeds t Union Array whose s not 0; e.g., Ar Variable whos the limit value Array whose r ments exceed Structure who members exc value 	et supported by ver. Or, reserved names that can- t in the OPC UA vere used for no- ing to global vari- names, and user- e names. ta types and in- s follows. inal array speci- taining multidi- ay(s) as mem- use nesting num- he limit value start number is ray[25] se size exceeds inumber of ele- ls the limit value see number of eeds the limit that can be map- triable IDs are	 ing data types to that can be public using reserved with names that cannot in the OPC UA at Multidimension fied structure Structure conton mensional arrators Structure who ber exceeds the Union Array whose so not 0; e.g., Arrators Variable whoso the limit value Array whose rest 	vord for node ot be published ddress space. nal array speci- aining multidi- ay(s) as mem- se nesting num- ne limit value start number is ray[25] e size exceeds number of ele- s the limit value se number of eeds the limit hat can be map- riable IDs are	 ing data types to that can be public using reserved we names that cannot in the OPC UA at Multidimension fied structure Structure conton mensional arrest ber(s) Structure who ber exceeds the Union Array whose so not 0; e.g., Arrest Variable whose the limit value Array whose rest 	vord for node not be published address space. nal array speci- taining multidi- ay(s) as mem- se nesting num- he limit value start number is ray[25] se size exceeds number of ele- ls the limit value se number of eeds the limit hat can be map- riable IDs are

Attached in-	Attached information 1: Error Details
formation	Bit 00: Multidimensional array specified structure
	Bit 01: Structure containing multidimensional structure(s) as member(s)
	Bit 02: Structure whose nesting number exceeds the limit value
	Bit 03: Union
	Bit 04: Array whose start number is not 0; e.g., Array[25]
	Bit 05: Variable whose size exceeds the limit value
	Bit 06: Array whose number of elements exceeds the limit value
	Bit 07: Structure whose number of members exceeds the limit value
	Bit 08: No mapping variable
	Bit 09: Registered variable ID
	Bit 10: Incorrect namespace
	• Bit 11: Reserved words for node names that cannot be published in the OPC UA address space were
	used for nodes corresponding to global variables, program names, and user-defined data type names.
Precautions/	None
Remarks	

Event name	Too Many Public	Value Attributes		Event code	35D50000 hex				
Meaning	The number of v OPC UA Server	alue attributes to b was prepared.	be published to the	e OPC UA client e	exceeded the uppe	er limit when the			
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At CPU Unit power ON, at Controller re- set, restore op- eration, at download, or online editing			
Error attrib-	Level	Observation	•	Log category	System				
utes	Recovery								
Effects	User program	Continues.	Operation	Not affected.					
System-de-	Variable		Data type		Name				
fined varia- bles	None								
Cause and	Assumed cause	e	Correction		Prevention				
correction	When the OPC UA Server pre- pared the address space, the number of OPC UA value attrib- utes has exceeded the upper lim- it.		Check the number or data type of the network-published global variables and make it less than the maximum number of value attributes.		Check the number or data type of the network-published global variables and make it less than the maximum number of value attributes.				
Attached in- formation	None								
Precautions/ Remarks	None								

Event name	Too Many Struct	ure Definitions		Event code	35D60000 hex				
Meaning		The number of structure definitions to be published to the OPC UA client exceeded the upper limit when the OPC UA Server was built.							
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection tim- ing	At power ON, Controller re- set, at restora- tion, when downloading or online editing			
Error attrib-	Level	Observation		Log category	System				
utes	Recovery								
Effects	User program	Continues.	Operation	Not affected.					
System-de-	Variable		Data type		Name				
fined varia- bles	None								
Cause and	Assumed cause	e	Correction		Prevention				
correction	When the OPC l	JA Server pre-	Check the data t	ype of the varia-	Check the data t	ype of the varia-			
	pared the addres	ss space, the	ble to be publish	ed, and reduce	ble to be published, and reduce				
	number of struct	ure definitions	the number of structure defini-		the number of structure defini-				
	has exceeded th	e upper limit.	tions to below th	e upper limit.	tions to below th	e upper limit.			
Attached in- formation	None								
Precautions/ Remarks	None								

Event name	OPC UA Server Insufficient Memory Capacity			Event code	44190000 hex		
Meaning	The amount of variable data to be published has exceeded the amount of OPC UA server specification.						
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	During online editing or downloading, or when a vari- able is ac- cessed from OPC UA client	
Error attrib-	Level	Minor fault		Log category System			
utes	Recovery	Automatic recover	ery				
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles							
Cause and	Assumed cause		Correction		Prevention		
correction	The amount of variable data to be published has exceeded the amount of OPC UA server speci- fication.		Reduce the number of variable to publish.				
Attached in- formation	None						
Precautions/ Remarks	None						

Event name	OPC UA Client (Connection Reject	ed	Event code	85600000 hex		
Meaning	A connection rec	quest from an OP	C UA client was re	jected.			
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection tim- ing When receive a connection request from OPC UA clie		
Error attrib-	Level	Observation		Log category	System		
utes	Recovery						
Effects	User program	Continues.	Operation	The OPC UA cli Server.	ent cannot connec	nt cannot connect to the OPC UA	
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	9	Correction		Prevention		
correction	User authentication information was incorrect.		Use the correct user name and password.		Set the correct user name and password for OPC UA client.		
	The client certificate was incor- rect.		Check that the client certificate registered in the CPU Unit is correct.		Register the correct client certificate in the CPU Unit.		
			Make sure the client certificate used by the OPC UA client is correct.		Register the correct client certificate in the CPU Unit.		
	The client certificate was regis- tered in the Rejected Certificate List.		Register the client certificate to the Trusted Certificate List, and then reconnect.		Register to the Trusted Client List the certificate of the client to be connected.		
	The CA certificate is not regis- tered in the Trusted Certificate List for Client authentication or Issuer authentication.		Register the CA certificate to the Trusted Certificate List for Client authentication or Issuer authenti- cation, and then reconnect.		Register the CA certificate to the Trusted Certificate List for Client authentication or Issuer authenti- cation.		
	The number of sessions has ex- ceeded the maximum number of connectable sessions.		Make sure the number of ses- sions is below the maximum con- nectable sessions.		Reconsider the configuration to make sure that the number of sessions is less than the maxi- mum number of sessions that can be connected.		
Attached in- formation	 01 hex: Incorr 02 hex: Untrus 04 hex: Maxin Attached information 	ect user authentic sted certificate num connectable ation 2: Details	sessions exceede	d	described above		
Precautions/ Remarks	User name if the reason for connection rejected is set to 01 hex, as described above. None						

Event name	OPC UA Server Started			Event code	95D00000 hex	
Meaning	The OPC UA Server started.					
Source	PLC Function Module		Source details	OPC UA Serv-	Detection tim-	At start of OPC
				er	ing	UA Server
Error attrib-	Level Information			Log category	System	
utes	Recovery	covery				
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia-	None					
bles						
Cause and	Assumed cause		Correction		Prevention	
correction	The OPC UA Server started.		None		None	
Attached in-	None					
formation						
Precautions/	None					
Remarks						

Event name	OPC UA Server Stopped			Event code	95D10000 hex		
Meaning	The OPC UA Server stopped.						
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At OPCUA_ Shutdown (Shutdown OPC UA Func- tion) instruction execution, shutdown oper- ation from the Sysmac Studio	
Error attrib-	Level	Information Log category System		System			
utes	Recovery						
Effects	User program	Continues. Operation The OPC UA Server stopped.					
System-de-	Variable	•	Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	9	Correction		Prevention		
correction	The OPC UA Server stopped.		None		None		
Attached in- formation	None						
Precautions/ Remarks	 This event is not registered when the OPC UA Server stops due to power OFF. To start the OPC UA Server, cycle the power supply to the Controller or reset the Controller. 						

Event name	Server Certificat	e Generated		Event code	95D20000 hex		
Meaning	 A server certificate was generated. The server certificate is automatically generated when there is no server certificate. The server private key and server certificate are automatically generated when Regenerate certificate is performed. *1 						
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection tim- ing When serve certificate is generated		
Error attrib-	Level	Information		Log category	System		
utes	Recovery						
Effects	User program	Jser program Continues. Operation Not affected.					
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	e	Correction		Prevention		
correction	The server certificate was regen- erated.		None None				
Attached in- formation	None						
Precautions/ Remarks	None						

*1. This applies to the following CPU Unit only.

• NJ501, NX102 CPU Unit: Version 1.48 or earlier

• NX701 CPU Unit: Version 1.28 or earlier

Event name	Client Certificate	Discarded		Event code	95D30000 hex	
Meaning	Received client certificates were discarded.					
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	When receiving a connection request from a OPC UA client
Error attrib-	Level Information			Log category	System	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause		Correction		Prevention	
correction	The maximum number of client certificates that can be registered in the Rejected Certificate List has been exceeded.		Delete registered client certifi- cates from the Rejected Certifi- cate List.Delete unnecessary c cates from the Rejected cate List.		-	
Attached in- formation	Attached information 1: The IP address of the discarded client certificate					
Precautions/ Remarks	None					
Event name	OPC UA Server Cleared	Certificate and Se	curity Profile	Event code	95D40000 hex	
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Meaning	The OPC UA Se	rver certificate and	d Security Profile ł	nave been cleared	1.	
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At Download, restore opera- tion, Clear All Memory opera- tion with the relevant check- box checked
Error attrib-	Level	Information		Log category	System	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause)	Correction		Prevention	
correction	 A restore was executed using a backup file created by a CPU Unit whose version does not support OPC UA Server. A project was downloaded from a CPU Unit without OPC UA Server. Checked Clearing the OPC UA server certificate and se- curity profile. and performed 					
Attached in- formation	Clear All Mem None		1		1	
Precautions/ Remarks	None					

Event name	Client Certificate	Added		Event code	95D60000 hex		
Meaning	A client certificat	e was added.		•			
Source	PLC Function Module \$		Source details	OPC UA Serv- er	Detection tim- ing	At successful client certificate addition	
Error attrib-	Level	Level Information Log cat		Log category	Access ^{*1}		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	e	Correction		Prevention		
correction	A client certificat	e was added.	None	None		None	
Attached in- formation	Attached informa	ation 1: The thumb	oprint of the added	l client certificate			
Precautions/	None						
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Client Certificate	Deleted		Event code	95D70000 hex	
Meaning	A client certificat	e was deleted.		•		
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful client certificate deletion
Error attrib-	Level	Information		Log category	Access ^{*1}	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.	lot affected.	
System-de-	Variable		Data type	Name		
fined varia- bles	None					
Cause and	Assumed cause	e	Correction		Prevention	
correction	A client certificat	e was deleted.	None		None	
Attached in-	Attached information	ation 1: The thumb	print of the delete	d client certificate		
formation	Attached Informa	ation 2: The store	location of the cer	tificate		
	• 0001 hex: Tru	sted Certificate				
	 0002 hex: Rej 	ected Certificate				
Precautions/	None					
Remarks						
User name in	When the user a	uthentication func	tion is enabled: U	ser name		
the access log	When the user a	uthentication func	tion is disabled: N	ULL		

*1. This applies to the following CPU Unit only. This is System for other CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

Event name	Client Certificate	Moved		Event code	95D80000 hex		
Meaning	A client certificat	e was moved to th	ne Trusted Certific	ate.	•		
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful client certificate move	
Error attrib-	Level Information			Log category	Access ^{*1}		
utes	Recovery		-		•		
Effects	User program	Continues.	Operation	Not affected.	t affected.		
System-de-	Variable		Data type	Data type		Name	
fined varia-	None						
bles							
Cause and	Assumed cause	9	Correction		Prevention		
correction	A client certificat the Trusted Certi		None		None		
Attached in- formation	Attached informa	ation 1: The thumb	oprint of the moved	d client certificate			
Precautions/	None						
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Client Certificate	Revocation List A	Added	Event code	95D90000 hex		
Meaning	The client certific	cate revocation list	t was added.				
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful client certificate revocation list addition	
Error attrib-	Level	Information		Log category	Access ^{*1}		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	9	Correction		Prevention		
correction	The client certific list was added.	cate revocation	None		None		
Attached in- formation	Attached informa	ation 1: The file na	me of the added o	client certificate re	vocation list		
Precautions/	None						
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

*1. This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

3-9-2 Error Descriptions

Event name	Client Certificate	Revocation List	Deleted	Event code	95DA0000 hex		
Meaning	The client certific	cate revocation lis	t was deleted.				
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful client certificate revocation list deletion	
Error attrib-	Level	Information		Log category	Access ^{*1}		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	e	Correction		Prevention		
correction	The client certific list was deleted.	The client certificate revocation list was deleted.		None		None	
Attached in- formation	Attached informa	ation 1: The file na	ame of the deleted	client certificate r	evocation list		
Precautions/	None						
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	Server Certificat	e Regenerated		Event code	95DB0000 hex ^{*1}	
Meaning		icate was regener vate key and serv		utomatically gene	rated when Reger	nerate certificate
Source	PLC Function Module \$		Source details	OPC UA Serv- er	Detection tim- ing	When server certificate is re- generated
Error attrib-	Level	Information		Log category	Access	
utes	Recovery			•		
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type	•	Name	
fined varia- bles	None					
Cause and	Assumed cause	e	Correction		Prevention	
correction	The server certif erated.	icate was regen-	None		None	
Attached in-	Attached information	ation 1: Connectio	n method			
formation	1: Direct conn	ection via USB				
		ection via Etherne	-			
		nnection via USB				
		ation 2: When atta ction is made thro			nection source IP	address is giv-
Precautions/	None					
Remarks						
User name in	When the user a	uthentication func	tion is enabled: U	ser name		
the access log	When the user a	uthentication func	tion is disabled: N	ULL		

*1. This event code occurs for the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

Event name	Security Settings	Transferred		Event code	96200000 hex		
Meaning	The security sett	ings were transfer	rred.	L			
Source	PLC Function M	odule	Source details	Source details OPC UA Serv- I er i		At successful security set- tings transfer	
Error attrib-	Level	Information		Log category	Access ^{*1}		
utes	Recovery			l			
Effects	User program	Continues.	Operation	Not affected.			
System-de-	stem-de- Variable		Data type		Name		
fined varia-	None						
bles							
Cause and	Assumed cause	9	Correction None		Prevention		
correction	The security sett	ings were trans-			None		
	ferred.						
Attached in-	Attached informa	ation 1: Connection	n method ^{*2}				
formation	• 1: Direct conn	ection via USB					
	• 2: Direct conn	ection via Etherne	et				
	3: Remote Connection via USB or Ethernet connection via a hub						
	Attached information	ation 2: When atta	ched information ?	1 is 2 or 3, the cor	nection source IP	address is giv-	
	en. When conne	ction is made thro	ugh proxy, proxy l	P address is give	n. ^{*2}		
Precautions/	None						
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled [.] N	UH			

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later
- *2. This applies to the following CPU Unit only. No attached information is given for other CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	Execution Log C	leared		Event code	96210000 hex			
Meaning	The Execution L	og was cleared.						
Source	PLC Function M	odule			Detection tim- ing	At successful Execution Log clear		
Error attrib-	Level	Information		Log category	Access ^{*1}			
utes	Recovery							
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined varia- bles	None							
Cause and	Assumed cause	9	Correction		Prevention			
correction	The Execution L	og was cleared.	None		None			
Attached in- formation	 1: Direct conn 2: Direct conn 3: Remote Co Attached information 	ection via Etherne nnection via USB ation 2: When atta	et or Ethernet conne ched information ′	1 is 2 or 3, the cor	nection source IP	address is giv-		
Precautions/ Remarks	None	en. When connection is made through proxy, proxy IP address is given.*2 None						
User name in	When the user a	uthentication func	tion is enabled: U	ser name				
the access log	When the user a	uthentication func	tion is disabled: N	ULL				

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

NX701 CPU Unit: Version 1.29 or later

*2. This applies to the following CPU Unit only. No attached information is given for other CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

NX502 CPU Unit: Version 1.60 or later

Event name	CA Certificate A	dded	CA Certificate Added Event code 96220000 hex						
Meaning	A CA certificate								
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful CA certificate addition			
Error attrib-	Level	Level Information		Log category	Access ^{*1}				
utes	Recovery								
Effects	User program	Continues.	Operation	Not affected.					
System-de-	Variable		Data type		Name				
fined varia- bles	None								
Cause and	Assumed cause	9	Correction		Prevention				
correction	A CA certificate	was added.	None		None				
Attached in- formation	Attached informa	ation 1: The thumb	oprint of the added	CA certificate					
Precautions/ Remarks	None								
User name in	When the user a	uthentication func	tion is enabled: U	ser name					
the access log	When the user a	uthentication func	tion is disabled: N	ULL					

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	CA Certificate D	eleted		Event code	96230000 hex		
Meaning	A CA certificate	was deleted.		2			
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful CA certificate deletion	
Error attrib-	Level	Information	•	Log category	Access ^{*1}	•	
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	9	Correction	Correction		Prevention	
correction	A CA certificate	was deleted.	None		None		
Attached in- formation	Attached informa	ation 1: The thumb	print of the delete	d CA certificate			
Precautions/ Remarks	None						
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

*1. This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	CA Certificate R	evocation List Add	led	Event code	96240000 hex		
Meaning	The CA certificat	e revocation list w	/as added.				
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful CA certificate revocation list addition	
Error attrib-	Level Information Log		Log category	Access ^{*1}			
utes	Recovery				1		
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause		Correction		Prevention		
correction	The CA certificate revocation list was added.		None		None		
Attached in- formation	Attached informa	ation 1: The file na	me of the added (CA certificate revo	cation list		
Precautions/	None						
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

Event name	CA Certificate Revocation List Deleted Event code 96250000 hex						
Meaning	The CA certificat	The CA certificate revocation list was deleted.					
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful CA certificate revocation list deletion	
Error attrib-	Level	Information		Log category	Access ^{*1}		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause		Correction		Prevention		
correction	The CA certificate revocation list was deleted.		None		None		
Attached in- formation	Attached informa	ation 1: The file na	me of the deleted	CA certificate rev	ocation list		
Precautions/	None						
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

3-9 Errors in the OPC UA Function

3

3-9-2 Error Descriptions

Event name	Client Certificate or CA Certificate Changed Event code 96260000 hex ^{*1}					
Meaning	 The client cert The client cert The CA certified 	ificate was added ificate revocation cate was added, c	e certificate has b , deleted, or move list was added or leleted, or moved. t was added or de	d. deleted.	a.	
Source	PLC Function Me		Source details	OPC UA Serv- er	Detection tim- ing	 When one of the following changes to the certificate is made The client certificate was added, deleted, or moved. The client certificate revocation list was add- ed or delet- ed. The CA cer- tificate was added, delet- ed, or moved. The CA cer- tificate revo- cation list was added or deleted.
Error attrib-	Level	Information		Log category	Access	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de- fined varia- bles	Variable None		Data type		Name	
Cause and	Assumed cause)	Correction		Prevention	
 the certificate H The client ce ed, deleted, The client ce tion list was The CA cert deleted, or r 		ificate was add- moved. ificate revoca- dded or deleted. cate was added, wed. cate revocation	None		None	

Attached in-	Attached information 1: Connection method							
formation	1: Direct connection via USB							
	2: Direct connection via Ethernet							
	3: Remote Connection via USB or Ethernet connection via a hub							
	Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is giv-							
	en. When connection is made through proxy, proxy IP address is given.							
Precautions/	None							
Remarks								
User name in	When the user authentication function is enabled: User name							
the access log	When the user authentication function is disabled: NULL							

*1. This event code occurs for the following CPU Units.

• NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

• NX502 CPU Unit: Version 1.60 or later

OPC UA Instructions

This section provides a table of errors (events) that occur for the following instruction. The lower four digits of the event code give the error code for the instruction.

OPC UA instruction	Name		
OPCUA_Shutdown	Shutdown OPC UA Server		

Event name	OPC UA Server Shutdown or Shutting Down Event code 54015000 hex					
Meaning		rver was already				
Source	PLC Function M		Source details	OPC UA Serv- er	Detection tim- ing	At instruction execution
Error attrib-	Level	Observation	•	Log category	System	•
utes	Recovery					
Effects	User program	Continues	Operation	The relevant inst fications.	truction will end a	ccording to speci-
System-de-	Variable	•	Data type	•	Name	
fined varia- bles	None					
Cause and	Assumed cause	9	Correction		Prevention	
correction	down OPC UA struction was the OPC UA S ready shut dov The OPCUA down OPC UA struction was	executed while Server was al- wn. Shutdown (Shut-	Cycle the power Controller and st Server before ex vant instruction.	art the OPC UA	When you write gram, make sure CUA_Shutdowr OPC UA Function cannot be repeat same instruction that the shutdown cannot be execu- same instruction from the Sysmat	e that an OP- n (Shutdown on) instruction ted after the is executed, or m instruction ited after the is performed
Attached in- formation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given If the instruction cannot be identified.					
Precautions/ Remarks	If a program is c	hanged after an ei	rror occurs, the att	ached informatior	n may not be corre	ectly displayed.

Event name	OPC UA Server Being Initialized			Event code	54015001 hex		
Meaning	The OPCUA_Shutdown (Shutdown OPC UA Function) instruction could not be executed because the OPC UA Server was being initialized.						
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection tim- ing	At instruction execution	
Error attrib-	Level	Observation	•	Log category	System		
utes	Recovery						
Effects	User program	Continues	Operation	The relevant ins fications.	truction will end ad	ccording to speci-	
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	e	Correction		Prevention		
correction	down OPC UA Function) instruc- tion was executed while the OPC		Execute the relevant instruction again.		Execute the relevant instruction again.		
Attached in- formation	UA Server was being initialized. Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given If the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x0000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	· ,	hanged after an ei	rror occurs, the at	ached information	n may not be corre	ectly displayed.	

Event name	OPC UA Server Not Started			Event code	54015002 hex		
Meaning	The relevant inst	The relevant instruction could not be executed because the OPC UA Server had not been started.					
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection tim- ing	At instruction execution	
Error attrib-	Level	Observation	•	Log category	System		
utes	Recovery				•		
Effects	User program	Continues	Operation	The relevant inst fications.	truction will end ac	ccording to speci-	
System-de-	Variable	•	Data type	•	Name		
fined varia- bles	None						
Cause and	Assumed cause	9	Correction		Prevention		
correction	When the OPC UA Server Use		Set the OPC UA Server Use Op-		Set the OPC UA Server Use Op-		
	Option is set to Do not use, the		tion to Use and cycle the power		tion to Use and cycle the power		
	relevant instructi	on was execut-	supply to the Co		supply to the Controller before		
	ed.		executing the rel	evant instruc-	executing the relevant instruc-		
			tion.		tion.		
Attached in- formation		ation 1: Error Loca					
formation			ition Details (Rung n. For ST, the line	, , ,	brogram section, u	ne rung number	
		•	the Instruction and	•	nce Where the Frr	or Occurred If	
			struction, informati				
	instruction canno	•		ien ie given en en	e	- <u>g</u>	
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion						
	Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes						
	(ErrorIDEx).						
Precautions/	If a program is c	hanged after an e	rror occurs, the att	ached information	n may not be corre	ctly displayed.	
Remarks							

3-9-3 OPC UA Server-specific Troubleshooting

This section shows the problems, causes, corrections, related event logs, and Execution Logs for OPC UA server-specific troubleshooting.

				Related logs		
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)	
Cannot connect	The connection des- tination is incorrect.	The IP address is different.	Specify the same value as set for OPC UA Server Settings - End point for the URL.			
	The connection des- tination is incorrect.	The IP address has been changed by BOOTP.	Specify the same value as set for OPC UA Server Settings - End point for the URL.	Server Cer- tificate Mis- match (15020000 hex)	Server Cer- tificate Mis- match (CERT, 0004, Mis- match_Host)	
	The connection des- tination is incorrect.	The port number is different or is dupli- cated with that of another communica- tions service.	Specify the same value as set for OPC UA Server Settings - End point for the URL.			
	The connection des- tination is incorrect.	The IP address has been changed by the Sysmac Studio, NetworkConfigura- tor, or instruction.	Change the connection setting of the OPC UA client with a correct IP address. Manually regenerate the server certificate in Sysmac Studio. Then, export the server certif- icate and import it into OPC UA client.	Server Cer- tificate Mis- match (15020000 hex)	Server Cer- tificate Mis- match (CERT, 0004, Mis- match_Host)	
	The Ethernet/IP ca- ble is not connected.	The cable is discon- nected. A relay device is faulty, etc.	Check the network en- vironment.			
	OPC UA server set- ting error	The OPC UA server settings are corrupt- ed.	Execute downloading using the Sysmac Stu- dio.	OPC UA Server Set- ting Error (35D00000 hex)	OPC UA Server Error (SERVER, 0007, Hal- tError)	
	The OPC UA Server Use setting is incor- rect.	OPC UA Server of OPC UA Server Settings is set to Do not use.	Set OPC UA Server to Use.			

				Related logs		
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)	
	The OPC UA Server Use setting is incor- rect.	The project is down- loaded from a CPU Unit with an old ver- sion.	Replace the CPU Unit with one which sup- ports OPC UA func- tionality and then transfer the project to the Controller.			
	Packet Filter setting error	The Use Option for Packet Filter is se- lected in the TCP/IP Settings View and OPC UA packets are not allowed. Se- lect Controller Setup - Built-in EtherNet/IP Port Settings for this set- ting.	Enter the settings for Packet Filter to allow OPC UA packets. For the details on the set- tings, refer to <i>Packet</i> <i>Filter</i> in the <i>NJ/NX</i> - <i>series CPU Unit Built-</i> <i>in EtherNet/IP Port</i> <i>User's Manual (Cat.</i> <i>No. W506).</i>			
	The OPC UA Server is in the shutdown state.	The OPCUA_Shut- down (Shutdown OPC UA Function) instruction was is- sued and then the OPC UA server was shut down from the Sys- mac Studio.	Cycle the power supply to the Controller, or re- set the Controller.	OPC UA Server Stopped (95D10000 hex)	OPC UA Server Shut- down (SERVER, 0006, Shut- down)	
	The OPC UA Server is in the Preparing state.	The OPC UA func- tion is being used during downloading, clearing all memory, or restoring.	Wait until the state of the OPC UA function becomes Running and then connect.			
	The client certificate is invalid.	The client certificate or CA certificate is not registered in the Trusted Certificate List for client au- thentication.	Add the client certifi- cate to the Trusted Certificate List. Add the CA certificate to the Trusted Certifi- cate Lits for client au- thentication. Add the revoked certifi- cate to the Certificate Revocation Lists for cli- ent authentication.	Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)	
	The client certificate is invalid.	The client certificate is corrupted.	Set the correct client certificate for the OPC UA client.	Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)	

				Related logs		
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)	
	The client certificate is invalid.	The client certificate is not registered in the Trusted Certifi- cate List for client authentication. Or the CA certificate is not registered in the Trusted Certifi- cate List for client authentication or the Trusted Certificate List for issuer au- thentication.	Add the client certifi- cate to the Trusted Certificate List for cli- ent authentication. Or add the CA certifi- cate to the Trusted Certificate List for cli- ent authentication or the Trusted Certificate List for issuer authenti- cation.	Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)	
	The CA-signed cli- ent certificate has been revoked.	The CA-signed cli- ent certificate has been revoked.	Update all CA certifi- cate revocation lists up to the root certificate.	Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)	
	The CA certificate has been revoked	The CA certificate it- self or the CA certifi- cates up to the root have been revoked.	Update all CA certifi- cate revocation lists up to the root certificate.	Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)	
	The server certificate is invalid.	The IP address specified in the serv- er certificate does not match the IP ad- dress of the Control- ler.	Regenerate the server certificate and install it on the OPC UA client.	Server Cer- tificate Mis- match (15020000 hex)	Server Cer- tificate Mis- match (CERT, 0004, Mis- match_ Host)	
	The server certificate is invalid.	The server certificate has expired.	Set an appropriate server certificate expi- ration date and then regenerate the server certificate.	Server Cer- tificate Ex- pired (35D10000 hex)	Server Cer- tificate Ex- pired (CERT, 0003, Ex- pired_Serv- er)	
	Anonymous login setting mismatch	The anonymous log- in setting on the OPC UA client does not match the anon- ymous login setting on the server.	Check the consistency of the anonymous login settings between the server and client.			

				Related logs		
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)	
	Security policy mis- match	The security policy set on the OPC UA client is outside of the allowable range of the server securi- ty policy.	Check the consistency of the security policies between the server and client. Add the security policy supported by OPC UA client to the security policy settings of the server.			
	Security policy mis- match	The OPC UA client does not support the encryption method of the server certifi- cate.	Check the consistency of the security policies between the server and client.			
	Self-signed certifi- cate acceptance re- jected	The OPC UA client does not accept the self-signed certifi- cate of the OPC UA server.	Consult with the sys- tem administrator to make sure that the self-signed certificate is accepted.			
	Server certificate mismatch	The OPC UA server certificate was cleared when all memory was cleared.	Reinstall the server certificate on the OPC UA client.	OPC UA Server Cer- tificate and OPC UA Security Profile De- leted (95D40000 hex)	Server Cer- tificate Up- dated (CERT, 0001, Up- date_Sever)	
	Server certificate mismatch	The server certifi- cate has been re- generated.	Reinstall the server certificate on the OPC UA client.		Server Cer- tificate Up- dated (CERT, 0001, Up- date_Sever)	
	Error occurs when a session is created.	The number of sup- ported sessions is exceeded.	Make sure that more than five sessions are not created.		Application Authentica- tion (AUTH, 0001, Appli- cation)	
	Error occurs when a session is created.	The specified data encoding method is not supported by the OPC UA server.	Set Data Encoding of the OPC UA client to UA Binary.			
	Error occurs when a session is created.	The specified trans- port protocol is not supported by the OPC UA server.	Set Transport Protocol of the OPC UA client to UA TCP.			

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
	Error occurs when a session is created.	The user name or password entered on the OPC UA cli- ent does not match the corresponding authentication set- ting on the server.	Check the consistency of the user name and password between the server and client.	OPC UA Client Con- nection Re- jected (85600000 hex)	User Au- thentication (AUTH, 0002, User)
	Error occurs when a session is created.	The user of the OPC UA client is not reg- istered in the user authentication set- tings.	Set the user authenti- cation settings correct- ly.	OPC UA Client Con- nection Re- jected (85600000 hex)	User Au- thentication (AUTH, 0002, User)
	Error occurs when a session is created.	The user authentica- tion settings have been changed.	Set the user authenti- cation settings correct- ly.	OPC UA Client Con- nection Re- jected (85600000 hex)	Security Set- tings Updat- ed (AUTH, 0100, Up- date)
	Error occurs when a session is created.	The OPC UA client is requesting au- thentication with user certificate.	Select the Permit Op- tion for Anonymous login in the Security Settings Dialog Box for the OPC UA Server. Or connect with the OPC UA client settings con- figured for user name and password authen- tication.	OPC UA Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)
	Error occurs when a session is created.	The settings of the OPC UA server are set for user name and password au- thentication but the OPC UA client is re- questing to connect anonymously.	Select the Permit Op- tion for Anonymous login in the Security Settings Dialog Box for the OPC UA Server. Or connect with the OPC UA client settings con- figured for user name and password authen- tication.	OPC UA Client Con- nection Re- jected (85600000 hex)	User Au- thentication (AUTH, 0002, User)

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
	The client certificate cannot be moved to the Trusted Certifi- cate List.	The maximum num- ber of client certifi- cates is already reg- istered in the Trust- ed Certificate List.	More than 32 client certificates cannot be registered in the Trust- ed Certificate List. De- lete the client certifi- cate of a client that is not connected and then add the client cer- tificate to the Trusted Certificate List.		
	The client certificate cannot be moved as it is not included in the Rejected Certifi- cate List.	The maximum num- ber of client certifi- cates is already reg- istered in the Reject- ed Certificate List.	More than 32 client certificates cannot be registered in the Re- jected Certificate List. Delete unnecessary client certificates from the Rejected Certifi- cate List to reconnect from the client. After the client certificate is added to the Rejected Certificate List, move it to the Trusted Certifi- cate List.	Client Cer- tificate Dis- carded (95D30000 hex)	Certificate Discarded (CERT, 0102, Dis- card_Client)
A variable cannot be viewed from an OPC UA	A global variable of the CPU Unit is not displayed correctly on the OPC UA cli- ent.	The publish attribute of the global variable is set to <i>Do not</i> <i>publish</i> .	Set the publish attrib- ute of the global varia- ble of the CPU Unit to <i>Publish Only, Input</i> or <i>Output.</i>		
client.	A system-defined variable of the CPU Unit is not displayed correctly on the OPC UA client.		A system-defined vari- able cannot be publish- ed. Copy it to a network- published variable in a user program.		

				Relate	ed logs
Symptom	Cause 1	Cause 2 Correction Event log		Event log	Execution Log (Category, log code, and log name)
	A global variable of the CPU Unit is not displayed correctly on the OPC UA cli- ent.	The variable is a variable that cannot be published.	 The following variables cannot be published by the OPC UA Server. Change the variable to a data type that can be published with the OPC UA Server. Multidimensional array specified structure Structure containing multidimensional array(s) as member(s) Structure whose nesting number exceeds the limit value Union Array whose start number is not 0 Variable whose size exceeds the limit value Array whose number of elements exceeds the limit value Structure whose number of members exceeds the limit value 	Unsupport- ed Data Type (35D40000 hex)	Variable In- cluding Un- supported Data Type (SERVER, 0101, Inva- lidDataType)
	No node for struc- ture member.	The structure mem- ber cannot be de- ployed.	Refer to the value at- tributes for details on the members of struc- ture variables.		
	A variable of the CPU Unit is not dis- played correctly on the OPC UA client.	The number of vari- ables that can be published is exceed- ed.	Set the number of pub- lic variables of the OPC UA Server to no more than the upper limit. Set the publish attrib- ute of any global varia- ble for which network publishing is not nec- essary to <i>Do not</i> <i>publish</i> .	Too Many Public Vari- ables (35D30000 hex)	Maximum Number of Variables That Can Be Published Is Exceeded (SERVER, 0100, Max- Variables)

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
	A variable of the CPU Unit is not dis- played correctly on the OPC UA client.	The maximum num- ber of value attrib- utes that can be published is exceed- ed.	Make sure that the number of public attrib- utes for the OPC UA Server does not ex- ceed the upper limit. Set the publish attrib- ute of any global varia- ble for which network publishing is not nec- essary to <i>Do not</i> <i>publish</i> .	Too Many Public Val- ue Attrib- utes (35D50000 hex)	Maximum Number of Variables That Can Be Published Is Exceeded (SERVER, 0100, Max- Variables)
	A variable of the CPU Unit is not dis- played correctly on the OPC UA client.	The maximum num- ber of structure defi- nitions that can be published is exceed- ed.	Make sure that the number of structure definitions that can be published for the OPC UA Server does not exceed the upper limit.	Too Many Structure Definitions (35D60000 hex)	Maximum Number of Variables That Can Be Published Is Exceeded (SERVER, 0100, Max- Variables)

				Related logs					
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)				
A variable cannot be read or written.	Read/write error	The variable is not published to OPC UA.	Set the publish attrib- ute of the variable to <i>Publish Only, Input</i> or <i>Output.</i>						
	Read/write error	OPC UA is in a shut- down state.	Cycle the power supply to the Controller, or re- set the Controller.	OPC UA Server Stopped (95D10000 hex)	OPC UA Server Shut- down (SERVER, 0006, Shut- down)				
	Read/write error	OPC UA is in the Preparing state.	Read/write after the state becomes Run- ning.						
	Read/write error	The variable cannot be accessed be- cause an element in its array is specified.	Specify the entire ar- ray.						
	Read/write error	The variable cannot be accessed be- cause its structure member is specified.	Specify the entire structure.						
	Read/write error	The EtherNet/IP ca- ble has become dis- connected, commu- nications has been cut off, or other com- munications failure has occurred.	Check the network en- vironment.		Application Authentica- tion (AUTH, 0001, Appli- cation)				

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
The sub- scription settings cannot be	Subscription error	The maximum value for subscriptions is exceeded.	Make sure that the number of OPC UA subscriptions does not exceed 100.		
config- ured.	Subscription error	The maximum value for Monitored Item is exceeded.	Make sure that the number of OPC UA cli- ent Monitored Items does not exceed 2,000 for NJ501-1 00 and 1,000 for NX102-0 0		
	Subscription error	OPC UA is in a shut- down state.	Cycle the power supply to the Controller, or re- set the Controller and then execute.	OPC UA Server Stopped (95D10000 hex)	OPC UA Server Shut- down (SERVER, 0006, Shut- down)
	Subscription error	OPC UA is in the Preparing state.	Execute after the state becomes Running.		
	Subscription error	The EtherNet/IP ca- ble has become dis- connected, commu- nications has been cut off, or other com- munications failure has occurred.	Check the network en- vironment.		Connection from OPC UA client (AUTH, 0001, Appli- cation)

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
Execution logs are not re- corded.	There is no SD Memory Card instal- led.	An SD Memory Card is not inserted cor- rectly in the CPU Unit. • The SD Memory Card is broken. • Unsupported SD Memory Card is installed. • The SD card is not formatted.	Insert an SD Memory Card into the CPU Unit correctly.	Execution Log Save Failed (15000000 hex)	
	SD Memory Card is write-protected.	The SD Memory Card is "write-pro- tected" with the write protection switch.	Change the write pro- tection switch setting of the SD Memory Card to allow writing.	Execution Log Save Failed (15000000 hex)	
	The settings are in- correct.	The <i>Do not record</i> Option is selected for Execution Log in the OPC UA Server Settings Tab Page.	Select the <i>Record</i> Op- tion for Execution Log in the OPC UA Server Settings Tab Page.		

Refer to 3-9 *Errors in the OPC UA Function* on page 3-804 for details on the event logs. Refer to *NJ/NX-series CPU Unit OPC UA User's Manual (Cat. No. W588)* for details on execution logs.

A

Appendices

The appendix describes the other errors (events) that can occur in models other than the standard CPU Units, the errors (events) that can occur in connected devices, the events in order of event codes, the applicable range of the HMI Troubleshooter and the correspondence of NX bus events for NX102 CPU Units, NX1P2 CPU Units and Slave Terminals.

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A-1 Other Errors (Events) That Can Occur in the CPU Units

This appendix provides tables of the errors (events) that can occur in models other than the standard NJ/NX-seriesCPU Units. These errors are not listed in *Section 3 Error Descriptions and Corrections* on page 3-1. Refer to *3-1 Interpreting Tables* on page 3-3 for interpreting error tables. Refer to the manual for the specific product for details on errors.

A-1-1 Errors in the DB Connection Service Function

The section provides tables of the errors (events) that can occur in the DB connection service or DB connection instructions.

Refer to *NJ/NX-series Database Connection CPU Units User's Manual(Cat. No. W527)* for information on the model and the unit version of the CPU Unit with which you can use the DB connection service and DB connection instructions.

The errors are divided into the following functional groups.

- Database connection service
- Database connection instructions

DB Connection Service

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W527	NJ/NX-series Database Connection CPU Units User's Manual

					L	.eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
14D00000 hex	Spool Mem- ory Corrupt- ed	Spool Memory Cor- rupted	 The user application made an invalid writing to the Spool memory. Service start in Run mode in the DB Connection Service Settings was changed from anything other than Do not use to Do not use, and then changed again to anything other than Do not use. 			0			W527

					l	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
14D20000 hex	Execution Log Save Failed	Failed to save the Ex- ecution Log to the SD Memory Card.	 An SD Memory Card is not inserted. The SD Memory Card is not the correct type of card. The format of the SD Memory Card is not correct. The SD Memory Card is write protected. The capacity of the SD Memory Card is insufficient. The SD Memory Card is damaged. 			0	۲		W527
14D30000 hex	SQL Execu- tion Failure Log Save Failed	Failed to save the SQL Execution Fail- ure Log to the SD Memory Card.	 An SD Memory Card is not inserted. The SD Memory Card is not the correct type of card. The format of the SD Memory Card is not correct. The SD Memory Card is write protected. The capacity of the SD Memory Card is insufficient. The SD Memory Card is damaged. 			0	٠		W527
35300000 hex	DB Connec- tion Setting Error	The DB Connection settings are not cor- rect.	 The power supply to the Controller was interrupted during a download of the DB Connection settings. The DB Connection settings are not correct because the power supply to the Controller was interrupted during a Clear All Memory operation. The DB Connection settings are not correct because the power supply to the Controller was interrupted during a Restore operation. Non-volatile memory failed. 			0			W527

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					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35310000 hex	DB Server Certificate Error	The format of a DB server certificate is in- correct.	 The DB server certificate, which must be formatted in the X.509 certificate, was down- loaded in an incorrect format. The CPU Unit was powered OFF during a transfer of DB connection settings. The DB connection settings are incorrect because the Con- troller was powered OFF dur- ing Clear All Memory opera- tion. The DB connection settings are incorrect because the Con- troller was powered OFF dur- ing restore operation. Non-volatile memory failure 			0			W527
441C0000 hex	DB Connec- tion Service System Er- ror	A fatal error was de- tected in DB connec- tion service.	A soft error occurred.			0			W527
85100000 hex	DB Connec- tion Discon- nected Error	DB connection was lost abnormally.	 The server was turned OFF. The DB is stopped in the server. The Ethernet cable connector is disconnected. The Ethernet cable is broken. Noise 			0			W527
95300000 hex	DB Connec- tion Service Started	The DB Connection Service was started.	The DB Connection Service was successfully started.					0	W527
95310000 hex	DB Connec- tion Service Stopped	The DB Connection Service was stopped.	The DB Connection Service was stopped.					0	W527
95320000 hex	DB Connec- tion Service Shutdown	The DB Connection Service was shut down.	The DB connection service was ended.					0	W527
95330000 hex	Spool Cleared	The SQL statements stored in the spool memory were cleared.	The SQL statements stored in the spool memory were cleared.					0	W527
95340000 hex	Operation to Start DB Connection Service	Operation for starting the DB connection service was per- formed.	 Operation for starting the DB connection service was per- formed with the Sysmac Stu- dio. 					0	W527
95350000 hex	Operation to Stop DB Connection Service	Operation for stop- ping the DB connec- tion service was per- formed.	Operation for stopping the DB connection service was per- formed with the Sysmac Stu- dio.					0	W527

					Level					
Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
95360000 hex	Operation to End DB Connection Service	Operation for ending the DB connection service was per- formed.	•	Operation for ending the DB connection service was per- formed with the Sysmac Stu- dio.					0	W527
95370000 hex	Operation to Clear Spool Memory	Operation for clearing the SQL statements stored in the spool memory was per- formed.	•	Operation for clearing the SQL statements stored in the spool memory was performed with the Sysmac Studio.					0	W527
95380000 hex	Operation to Clear Opera- tion Log	Operation for clearing the operation log was performed.	•	Operation for clearing the op- eration log was performed with the Sysmac Studio.					0	W527
95390000 hex	Operation to Start Debug Logging	Operation for starting debug logging was performed.	•	Operation for starting debug logging was performed with the Sysmac Studio.					0	W527
953A0000 hex	Operation to Stop Debug Logging	Operation for stop- ping debug logging was performed.	•	Operation for stopping debug logging was performed with the Sysmac Studio.					0	W527

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DB Connection Instructions

The lower four digits of the event code give the error code (ErrorID) for the instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code for the instruction is 16#3000, refer to the description for event code 54013000 hex.

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No. Manual name				
W527	NJ/NX-series Database Connection CPU Units User's Manual			

					l	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54013000 hex	DB Connec- tion Service Not Started	The DB Connection Service has not been started.	 A command to start the DB Connection Service was not given before the execution of relevant instruction. A command to stop the DB Connection Service was given before the execution of rele- vant instruction. 				0		W527
54013001 hex	DB Connec- tion Service Run Mode Change Failed	Failed to change the Run mode of the DB Connection Service.	 Run mode change to Test Mode was executed by the rel- evant instruction while running in Operation Mode. Run mode change to Opera- tion Mode was executed by the relevant instruction while run- ning in Test Mode. Start of the DB Connection Service was commanded while the DB Connection Service was being stopped. Shutdown of the DB Connec- tion Service was commanded while the DB Connection Serv- ice was being stopped. 				0		W527
54013002 hex	DB Connec- tion Service Shutdown or Shutting Down	The DB Connection Service is already shut down or being shut down.	The relevant instruction was executed after the DB Connec- tion Service was shut down. The relevant instruction was executed while the shutdown processing of the DB Connec- tion Service was in progress.				0		W527

					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54013003 hex	Invalid DB Connection Name	The specified DB Connection Name is not set in any DB Connection settings.	 The DB Connection Name specified in the <i>DBConnectionName</i> input vari- able of the relevant instruction is wrong. The DB Connection Name set in the DB Connection settings is wrong. 				0		W527
54013004 hex	DB Connec- tion Reject- ed	The DB rejected the connection.	• The user name or password set in the DB Connection set- tings is wrong.				0		W527
54013005 hex	DB Connec- tion Failed	Failed to connect to the DB.	 A server does not exist for the specified IP address or the specified host name. The power supply to the server is OFF. The DB is stopped in the server er. The Ethernet cable connector is disconnected. The Ethernet cable is broken. 				0		W527
54013006 hex	DB Connec- tion Already Established	A same-name DB Connection is already established.	 The relevant instruction was executed when a same-name DB Connection was already established. 				0		W527
54013007 hex	Too Many DB Connec- tions	The number of DB Connections that can be established at the same time is exceed- ed.	• The relevant instruction was executed when the maximum number of DB Connections that can be established at the same time were already estab- lished.				0		W527
54013008 hex	Invalid DB Connection	The specified DB Connection is not cor- rect, or the DB Con- nection is already closed.	 The DB Connection specified in the <i>DBConnection</i> input var- iable of the relevant instruction is wrong. The DB Connection specified in the <i>DBConnection</i> input var- iable of the relevant instruction is closed. 				0		W527
54013009 hex	Invalid DB Map Variable	The specified DB Map Variable is not correct.	 A structure variable that contains a derivative data type of member was specified as a DB Map Variable. A non-structure variable was specified as a DB Map Variable. A structure array variable was specified as a DB Map Variable was specified as a DB Map Variable for INSERT or UPDATE. 				0		W527

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401300A hex	Unregistered DB Map Var- iable	The specified DB Map Variable has not been registered.	 The DB Map Variable has not been created by a DB_Create-Mapping instruction. A variable that is not registered as a DB Map Variable was specified in <i>MapVar</i>. The DB Connection specified in the relevant instruction is different from the one specified at the execution of DB_Create-Mapping instruction. 				0		W527
5401300B hex	SQL Execu- tion Error	The executed SQL statement resulted in an error.	 There is no column with the same name as a structure member of the DB Map Variable. The table specified in the DB_CreateMapping instruction does not exist in the DB. One or more structure member values of the DB Map Variable cannot be converted to the corresponding column's data type. One or more column values cannot be converted to the corresponding structure member's data type of the DB Map Variable. One or more structure member values of the DB Map Variable. One or more structure member's data type of the DB Map Variable. One or more structure member values of the DB Map Variable. One or more structure member values of the DB Map Variable exceed the valid range of the corresponding column's data type. The column specified in the extraction condition does not exist in the DB's records. (DB_Select instruction, DB_Update instruction, DB_Update instruction, DB_Update instruction) The column specified in the sort condition does not exist in the DB's records. (DB_Select instruction) The column specified in the sort condition does not exist in the DB's records. (DB_Select instruction) The column specified in the sort condition does not exist in the DB's records. (DB_Select instruction) The column specified in the sort condition does not exist in the DB's records. (DB_Select instruction) The sort condition has a syntax error. (DB_Select instruction) The user does not have the access rights to the table. 				0		W527

Event code Event nar		Meaning			I	eve			
	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401300C hex	Spool Ca- pacity Ex- ceeded	The SQL statement could not be stored in the Spool memory because its maximum capacity was exceed- ed.	 The DB connection failure has been continuing due to network failure or other factors. The resend processing of the SQL statements stored in the Spool memory has not been executed (when the Resend spool data parameter is set to Manual). 				0		W527
5401300E hex	Invalid Ex- traction Con- dition	The entered extrac- tion condition is inva- lid.	 A text string that consists of a NULL (16#00) character only was specified in the <i>Where</i> in- put variable. 				0		W527
54013010 hex	Log Code Out of Range	The value of the en- tered log code is out- side the valid range.	 A value outside the valid range from 0 to 9999 was specified. 				0		W527
54013011 hex	DB Connec- tion Discon- nected Error Status	The instruction could not be executed be- cause the DB Con- nection had been dis- connected due to an error.	 The power supply to the server is OFF. The DB is stopped in the serv- er. The Ethernet cable connector is disconnected. The Ethernet cable is broken. Noise 				0		W527
54013012 hex	DB Connec- tion Instruc- tion Execu- tion Timeout	The instruction was not completed within the time specified for instruction execution timeout.	 The power supply to the server is OFF. The Ethernet cable connector is disconnected. The Ethernet cable is broken. The server's processing time is long. 				0		W527
54013013 hex	DB Connec- tion Service Error Stop	The instruction could not be executed be- cause the DB Con- nection Service was stopped due to an er- ror.	 The DB Connection settings are corrupted. 				0		W527
54013014 hex	Data Already Spooled	One or more SQL statements are al- ready stored in the Spool memory.	 A DB_Insert or DB_Update instruction was executed when one or more SQL statements were already stored in the Spool memory. A DB_Select or DB_Delete instruction was executed when one or more SQL statements were already stored in the Spool memory. 				0		W527

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Event code E					I	_eve			
	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54013015 hex	DB Connec- tion Service Initializing	The instruction could not be executed be- cause the initializa- tion processing of the DB Connection Serv- ice is in progress.	 The relevant instruction was executed during the initializa- tion processing of the DB Con- nection Service. 				0		W527
54013016 hex	DB in Proc- ess	The instruction could not be executed be- cause the DB is un- der processing in the server.	 Though a DB Connection In- struction Execution Timeout occurred for the previous in- struction, the relevant instruc- tion was executed before com- pletion of the DB's processing in the server. 				0		W527
54013017 hex	Operation Log Disa- bled	The log could not be recorded because the specified Operation Log is disabled.	 Though Execution Log was specified in the <i>LogType</i> input variable, the Execution Log is disabled. Though Debug Log was speci- fied in the <i>LogType</i> input varia- ble, recording to the Debug Log is stopped. 				0		W527
54013018 hex	Invalid Pro- cedure Han- dle	The specified proce- dure handles is inva- lid.	 The procedure handle speci- fied in the <i>ProcHandle</i> input variable of the relevant instruc- tion is wrong. 				0		W527
54013019 hex	Instruction Executed for Unsupported Database Type	The instruction was executed for a data- base type that is not supported by this in- struction.	 The database type specified in DB Connection Settings is not supported by the relevant in- struction. 				0		W527
5401301A hex	Invalid Stor- ed Proce- dure Name	The specified stored procedure name does not exist.	• The stored procedure name specified in the <i>ProcName</i> in- put variable of the relevant in- struction does not exist in the server-side database.				0		W527
5401301B hex	Invalid Stor- ed Proce- dure Argu- ment	The attached argu- ment information does not match the argument of the stor- ed procedure.	 The name, number, and type of the stored procedure argu- ment data that is retrieved from the server-side database do not match those of the input variables ArgIn, ArgOut, and ArgInOut of the relevant in- struction. 				0		W527
5401301C hex	Invalid Num- ber of Col- umns for Stored Pro- cedure Re- sult Set	The number of col- umns in the stored procedure result set do not match the number of structure variable members where the result is stored.	• The number of columns in the result set retrieved by the relevant instruction do not match the number of structure variable members where the result is stored.				0		W527
					L	eve	I		
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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	0 b s	l n f o	Reference
5401301E hex	DB Connec- tion Service Not Used	DB connection serv- ice is set to Do not use .	• The command was executed while DB connection service is set to Do not use .				0		W527

A-1-2 Errors in GEM Services

The section provides tables of the errors (events) that can occur in the GEM Services and GEM instructions.

You can use the GEM Services and GEM instructions with the NJ501-1340 CPU Unit. The unit version of the CPU Unit is 1.09 or later.

The errors are divided into the following functional groups.

- GEM Services
- GEM instructions

GEM Services

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W528	NJ-series SECS/GEM CPU Units User's Manual

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
14E00000 hex	Invalid GEM Setting Data	The GEM setting data is invalid.	 The power supply to the CPU Unit was interrupted during a transfer of the setting data of the GEM Service. The setting data of the GEM Service is not correct because the power supply to the Con- troller was interrupted during a Clear All Memory operation. Non-volatile memory failed. 			0			W528
14E20000 hex	Spool Data Discarded	The spool data is dis- carded.	 The spool data was discarded because the power supply to the CPU Unit was interrupted with no shutdown. 			0			W528
14E30000 hex	Spool Save Failed	Failed to save the spooled data to the SD Memory Card.	 The capacity of the SD Memory Card is insufficient. The SD Memory Card is damaged. 			0			W528
35400000 hex	Illegal Varia- ble Alloca- tion	Resolution of the vari- able allocation failed.	 The variable that is specified in the SECS/GEM Configurator does not exist in the global variables. The data type, constant attribute, number of array dimensions or number of array elements of the variable that is set in the SECS/GEM Configurator is different from the variable defined in the global variables. 			0			W528

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35410000 hex	Illegal TCP Port Number	The TCP port number for the host communi- cations is illegal.	 The TCP port number for the host communications is also used as the TCP port number of another function. 			0			W528
14E10000 hex	GEM Serv- ice Log Save Failed	An error occurred when the GEM Serv- ice log is written to the SD Memory Card.	The capacity of the SD Memory Card is insufficient.The SD Memory Card is damaged.				0		W528
14E40000 hex	Invalid SD Memory Card	An SD Memory Card is not inserted or an SD Memory Card that cannot be written is inserted.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. The SD Memory Card is write protected. 				0		W528
66000000 hex	Send Trans- action Queue Over- run	The send transaction exceeded the capaci- ty for temporary stor- age.	The capacity to process the send transaction is insufficient.				0		W528
66010000 hex	Reception Transaction Queue Over- run	The reception trans- action exceeded the capacity for tempora- ry storage.	 The capacity to process the re- ception transaction is insuffi- cient. 				0		W528
66020000 hex	Too Long SECS Mes- sage	The SECS message to be sent to the host exceeds the maxi- mum length.	 The SECS message to be sent to the host exceeds the maxi- mum length. 				0		W528
95420000 hex	GEM Serv- ice Started	The GEM Service started normally.	The GEM Service started nor- mally.					0	W528
95430000 hex	Shutdown Completed	The shutdown proc- essing was complet- ed normally.	The shutdown processing was completed normally.					0	W528
95440000 hex	GEM Setting Data Changed	The setting data of the GEM Service was changed.	 The setting data of the GEM Service from the SECS/GEM Configurator was changed. 					0	W528
95450000 hex	Valid SD Memory Card	An SD Memory Card that can be written is inserted.	An SD Memory Card that can be written is inserted.					0	W528

GEM Instructions

The lower four digits of the event code give the error code (ErrorID) for the instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code for the instruction is 16#0400, refer to the description for event code 54010400 hex.

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W502	NJ/NX-series Instructions Reference Manual
W528	NJ-series SECS/GEM CPU Units User's Manual

					L	.eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54010400 hex	Input Value Out of Range	An input parameter for an instruction ex- ceeded the valid range for an input variable. Or, division by an in- teger of 0 occurred in division or remainder calculations.	 An input parameter for an in- struction exceeded the valid range for an input variable. Or, division by an integer of 0 oc- curred in division or remainder calculations. 				0		W502
54010419 hex	Incorrect Da- ta Type	A data type that can- not be used for an in- struction is specified for an input or in-out variable.	 A data type that cannot be used for an instruction is speci- fied for an input or in-out varia- ble. 				0		W502
5401041D hex	Exceeded Simultane- ous Instruc- tion Execut- ed Resour- ces	The maximum re- sources that you can use for the relevant instruction group at the same time was exceeded.	 More than the maximum num- ber of relevant instructions were executed at the same time. 				0		W502
54013810 hex	GEM Serv- ice Status in Initializing	An instruction was executed when the GEM Service status was Initializing.	 The relevant instruction was executed when the GEM Serv- ice status was Initializing. 				0		W528
54013811 hex	GEM Serv- ice Status in EQStarting	An instruction was executed when the GEM Service status was EQStarting.	 The relevant instruction was executed when the GEM Serv- ice status was EQStarting. 				0		W528
54013812 hex	GEM Serv- ice Status in EQInitializ- ing	An instruction was executed when the GEM Service status was EQInitializing.	The relevant instruction was executed when the GEM Serv- ice status was EQInitializing.				0		W528
54013813 hex	GEM Serv- ice Status in EQRun	An instruction was executed when the GEM Service status was EQRun.	• The relevant instruction was executed when the GEM Serv- ice status was EQRun.				0		W528

		Meaning			I	eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54013814 hex	GEM Serv- ice Status in Stop	An instruction was executed when the GEM Service status was Stop.	• The relevant instruction was executed when the GEM Service status was Stop.				0		W528
54013815 hex	GEM Serv- ice Status in Error	An instruction was executed when the GEM Service status was Error.	The relevant instruction was executed when the GEM Serv- ice status was Error.				0		W528
54013816 hex	GEM Serv- ice Status in Shutting- Down	An instruction was executed when the GEM Service status was ShuttingDown.	The relevant instruction was executed when the GEM Serv- ice status was ShuttingDown.				0		W528
54013817 hex	GEM Serv- ice Status in Shutdown	An instruction was executed when the GEM Service status was Shutdown.	The relevant instruction was executed when the GEM Serv- ice status was Shutdown.				0		W528
54013818 hex	No Message Received	An instruction was executed without re- ceiving a SECS mes- sage from the host.	The relevant instruction was executed without receiving the relevant SECS message from the host.				0		W528
54013819 hex	Multi-execu- tion of In- structions	Processing of a trans- action for a different instance of the same instruction that was executed before this instruction is not com- pleted.	This instruction was executed before completing processing for a transaction for a different instance of the same instruc- tion.				0		W528
5401381A hex	State Transi- tion in Prog- ress	A state transition for a different instance of the same instruction that was executed before this instruction is not completed.	 This instruction was executed for a different instance of the GEM_ChangeCommState in- struction in <i>EnabledNotComm</i> state. This instruction was executed for a different instance of the GEM_ChangeControlState in- struction in <i>AttemptOnline</i> state. 				0		W528
5401381B hex	Insufficient Transaction Resource	The instruction was executed while the number of transac- tions that can be buf- fered exceeds the up- per limit.	The instruction was executed while the number of transac- tions that can be buffered ex- ceeds the upper limit.				0		W528
54013820 hex	Too Many Characters	More characters were specified than the number that was set and the instruction was executed.	 More characters were speci- fied than the number of char- acters set with the SECS/GEM Configurator. 				0		W528

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54013821 hex	Invalid Size	An incorrect array or an array with an in- correct number of el- ements was specified and the instruction was executed.	 A value was specified that is larger than the maximum table size set with the SECS/GEM Configurator. 				0		W528
54013822 hex	Set to Disa- ble	The instruction that was set to disable was executed.	The instruction executed for a GEM capability was disabled on the SECS/GEM Configura- tor.				0		W528
54013824 hex	Undefined CEID	An undefined CEID was specified and the instruction was exe- cuted.	 A CEID that was not defined in the SECS/GEM Configurator was specified. 				0		W528
54013825 hex	Undefined ALID	An undefined ALID was specified and the instruction was exe- cuted.	 An ALID that was not defined in the SECS/GEM Configurator was specified. 				0		W528
54013826 hex	Undefined CCODE	An undefined CCODE was speci- fied and the instruc- tion was executed.	 A CCODE that was not defined in the SECS/GEM Configurator was specified. 				0		W528
54013827 hex	Undefined Message Number	An undefined mes- sage number was specified and the in- struction was execut- ed.	 A message number that was not defined in the SECS/GEM Configurator was specified. 				0		W528
54013828 hex	HSMS Com- munications Setting Out of Range	An HSMS communi- cations setting that is out of range was specified and the in- struction was execut- ed.	 An HSMS communications setting that is out of range was specified. 				0		W528
54013829 hex	TID Out of Range	A TID that is out of range was specified and the instruction was executed.	 A TID that is out of range was specified. 				0		W528
5401382C hex	Undefined ECID	An undefined ECID was specified and the instruction was exe- cuted.	 An ECID that was not defined in the SECS/GEM Configurator was specified. 				0		W528
5401382D hex	Type Mis- match	A value with an incor- rect data type was specified and the in- struction was execut- ed.	 A different equipment constant data type than the one regis- tered with the SECS/GEM Configurator was specified. 				0		W528
5401382E hex	ECV Out of Range	An out-of-range value was specified for an equipment constant and the instruction was executed.	• A value was specified that is outside the upper and lower limits of the value of the equip- ment constant that was set on the SECS/GEM Configurator.				0		W528

			Level						
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401382F hex	Illegal CPNAME	A CPNAME that is different form the re- ceived CPNAME was specified and the in- struction was execut- ed.	 A CPNAME was specified that is different from the received CPNAME. 				0		W528
54013830 hex	HCACK Out of Range	An HCACK that is out of range was speci- fied and the instruc- tion was executed.	An <i>HCACK</i> that is out of range was specified.				0		W528
54013831 hex	CPACK Out of Range	A CPACK that is out of range was speci- fied and the instruc- tion was executed.	 A CPACK that is out of range was specified. 				0		W528
54013832 hex	CEPACK Out of Range	A CEPACK that is out of range was speci- fied and the instruc- tion was executed.	A CEPACK that is out of range was specified.				0		W528
54013833 hex	ACKC7 Out of Range	An ACKC7 that is out of range was speci- fied and the instruc- tion was executed.	 An ACKC7 that is out of range was specified. 				0		W528
54013834 hex	ACKC7A Out of Range	An ACKC7A that is out of range was specified and the in- struction was execut- ed.	 An ACKC7A that is out of range was specified. 				0		W528
54013835 hex	ACKC10 Out of Range	An ACKC10 that is out of range was specified and the in- struction was execut- ed.	 An ACKC10 that is out of range was specified. 				0		W528
54013836 hex	EAC Out of Range	An EAC that is out of range was specified and the instruction was executed.	• An EAC that is out of range was specified.				0		W528
54013838 hex	Illegal SECS Message	A message number for which an illegal SECS message is set was specified and the instruction was exe- cuted.	 A message number for which a SECS message that does not agree with the instruction specifications was specified. 				0		W528

A-1-3 Errors in Robot Control Function

This section provides tables of the errors (events) that can occur in the robot control functions and robot control instructions.

You can use the robot control functions and robot control instructions with the NJ501-R \Box CPU Unit. The unit version of the CPU Unit is 1.41 or later.

General Robot Control

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
O037	NJ-series Robot Integrated CPU Unit User's Manual

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
17C00000 hex	Robot Con- trol Parame- ter Setting Error	The robot control pa- rameter settings that were saved in non- volatile memory are missing.	 The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the robot control parameter settings or clearing memory. Built-in non-volatile memory in the CPU Unit failed. 		0				O037
17C10000 hex	Remove SD Memory Card with Robot Con- trol Function Enabled	The SD Memory Card was removed when the robot control func- tion was enabled.	 The SD Memory Card was removed when the robot control function was enabled. The files related to the robot control function in the SD Memory Card were edited or deleted when the robot control function was enabled. 		0				O037
17C20000 hex	Robot Con- trol Function Enabled without SD Memory Card	The robot control function was enabled without inserting an SD Memory Card.	 More than one robot device was assigned to the Robot Ba- sic Settings and the robot con- trol function was enabled with- out inserting an SD Memory Card. An SD Memory Card was in- serted, however, it cannot be written due to write-protection, insufficient memory, or dam- age. 		0				O037
37C00000 hex	Required Process Da- ta Object Not Set	The object that is ab- solutely required for the robot is not allo- cated to PDO.	 The PDOs that are required for the robot are not mapped. Non-volatile memory failed. 		0				O037

		Meaning			L	eve	el		
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
37C20000 hex	Robot Set- ting Mis- match	A mismatch was de- tected for the robot settings in the non- volatile memory and the SD Memory Card.	 An SD Memory Card was replaced. The files related to the robot control function in the SD Memory Card were overwritten without using the Sysmac Studio. 		0				O037
47C00000 hex	Robot Con- trol Initializa- tion Error	Initialization of the Robot Control Func- tion Module failed.	The CPU Unit has failed.		0				O037
47C10000 hex	Robot Con- trol Function Module Sys- tem Error	A fatal error was de- tected in the Robot Control Function Module.	A fatal error was detected in the Robot Control Function Module.		0				O037
75000000 hex	Robot Con- trol Period Exceeded	The robot control processing failures occurred two consec- utive times during task period of primary periodic task.	 The task period of primary periodic task is too short for the amount of the user program that is executed in the primary periodic task. Too many robot control instructions are executed for the task period of primary periodic task. 		0				O037
47C20000 hex	Robot Con- trol Function Module Processing Error	An unexpected error occurred in the Robot Control Function Module.	An unexpected error was detect- ed in the Robot Control Function Module.			0			O037
55100000 hex	Robot Con- trol Instruc- tion Re-exe- cution Disa- bled	An attempt was made to re-execute a robot control instruction that cannot be re- executed.	The <i>Execute</i> (Execute) input variable was re-executed during execution of the robot control instruction that has the <i>Execute</i> (Execute) input variable.			0			O037
55110000 hex	V+ Task Number Set- ting Out of Range	The value of <i>TaskNo</i> (Task Number) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55120000 hex	Illegal Robot Specification	The robot specified for the <i>Robot</i> (Robot) in-out variable to a ro- bot control instruction does not exist.	The value of variable that is used for the subscript for array of _RC_RBT[] robot variable speci- fied for the <i>Robot</i> (Robot) in-out variable to an instruction, is specified to the robot that does not exist.			0			O037
55130000 hex	Illegal Pa- rameter List Specification	The value of <i>PrgParam</i> (Parame- ter List) input variable to a robot control in- struction is not cor- rect.	The length of the parameter list specified for the <i>PrgParam</i> (Parameter List) input variable to an instruction was outside of the valid range.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
55140000 hex	Starting Step Setting Out of Range	The parameter speci- fied in the <i>StartStep</i> (Start Step) input var- iable to a robot con- trol instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55150000 hex	Target Posi- tion Setting Out of Range	The value of <i>Position</i> (Target Position) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55160000 hex	Lefty and Righty Set- ting Out of Range	The value of LeftyRighty (Lefty/ Righty Setting) mem- ber in the ArmConfig (Arm Configuration) input variable to a ro- bot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55170000 hex	Above and Below Set- ting Out of Range	The value of AboveBelow (Above/ Below Setting) mem- ber in the ArmConfig (Arm Configuration) input variable to a ro- bot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55180000 hex	Flip Setting Out of Range	The value of <i>Flip</i> (Flip Setting) member in the <i>ArmConfig</i> (Arm Configuration) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55190000 hex	Velocity Pro- file Selection Out of Range	The value of VelocityProfile (Veloc- ity Profile) member in the MotionParams (Motion Parameters) input variable to a ro- bot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
551A0000 hex	Velocity Mode Selec- tion Out of Range	The value of VelocityMode (Veloci- ty Selection) member in the MotionParams (Motion Parameters) input variable to a ro- bot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
551B0000 hex	Velocity Ra- tio Setting Out of Range	The value of VelocityRatio (Veloci- ty Ratio) member in the MotionParams (Motion Parameters) input variable to a ro- bot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
551C0000 hex	Rotation Ve- locity Ratio Setting Out of Range	The value of <i>RotationVelocityRatio</i> (Rotation VelocityRa- tio) member in the <i>MotionParams</i> (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
551D0000 hex	Velocity Set- ting Out of Range	The value of Velocity (Velocity) member in the MotionParams (Motion Parameters) input variable to a ro- bot control instruction is out of range. The value of Velocity (Velocity) input varia- ble or Velocity (Veloc- ity) member in the MotionParams (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
551E0000 hex	Acceleration Ratio Setting Out of Range	The value of AccelerationRatio (Acceleration Ratio) member in the MotionParams (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
551F0000 hex	Deceleration Ratio Setting Out of Range	The value of DecelerationRatio (Deceleration Ratio) member in the <i>MotionParams</i> (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
55200000 hex	Positioning Accuracy Selection Out of Range	The value of <i>NullingTolerance</i> (Po- sitioning Accuracy) member in the <i>MotionParams</i> (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55210000 hex	Rotation Limit Selec- tion Out of Range	The value of SingleTurn (Rotation Limit) member in the MotionParams (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55220000 hex	Buffer Mode Selection Out of Range	The value of <i>BufferMode</i> (Buffer Mode Selection) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55230000 hex	Target Posi- tion Specifi- cation Meth- od Setting Out of Range	The value of <i>PositionMode</i> (Target Position Specification Method) input varia- ble to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55240000 hex	Master Ma- chine ID Set- ting Out of Range	The value of <i>MasterID</i> (Master Ma- chine ID) input varia- ble to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55250000 hex	Belt ID Set- ting Out of Range	The value of <i>BeltID</i> (Belt Number) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55260000 hex	Scale Factor Setting Out of Range	The value of ScaleFactor (Scale Factor) member in the BeltData (Belt Da- ta) input variable to a robot control instruc- tion is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
55270000 hex	Coordinate System Set- ting Out of Range	The value of <i>CoordTransform</i> (Co- ordinate System) member in the <i>BeltData</i> (Belt Data), <i>AxisData</i> (Axis Data), <i>AxesGroupData</i> (Ax- es Group Data), or <i>RobotData</i> (Robot Data) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55280000 hex	Upstream Limit Setting Out of Range	The value of Upstream (Upstream Limit) member in the BeltData (Belt Data) or AxisData (Axis Da- ta) input variable to a robot control instruc- tion is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55290000 hex	Downstream Limit Setting Out of Range	The value of <i>Downstream</i> (Down- stream Limit) member in the <i>BeltData</i> (Belt Data) or <i>AxisData</i> (Axis Data) input vari- able to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
552A0000 hex	Sensor Co- ordinate System Set- ting Out of Range	The value of SensorCoordTransfor <i>m</i> (Sensor Coordi- nate System) mem- ber in the <i>BeltData</i> (Belt Data), <i>AxisData</i> (Axis Data), or <i>AxesGroupData</i> (Ax- es Group Data) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037

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Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
552B0000 hex	Position Type Selec- tion Out of Range	The value of <i>Referecne Type</i> (Posi- tion Type Selection) member in the <i>AxisData</i> (Axis Data), <i>AxesGroupData</i> (Ax- es Group Data), or <i>RobotData</i> (Robot Data) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
552C0000 hex	Axis Assign- ment Out of Range	The value of Assignment (Axis As- signment) member in the AxesGroupData (Axes Group Data) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
552D0000 hex	Offset Posi- tion Setting Out of Range	The value of OffsetPosition (Offset Position) input varia- ble to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
552E0000 hex	Depart Height Set- ting Out of Range	The value of DepartHeight (Depart Height) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
552F0000 hex	Target Offset Setting Out of Range	The value of <i>Offset</i> (Target Offset) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55300000 hex	Acceleration Setting Out of Range	The value of Acceleration (Accel- eration) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55310000 hex	Deceleration Setting Out of Range	The value of Deceleration (Decel- eration) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037

		Meaning			L	Leve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
55320000 hex	Jerk Setting Out of Range	The value of <i>Jerk</i> (Jerk) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55330000 hex	Robot Con- trol Instruc- tion Execut- ed while Ro- bot is not At- tached	An instruction re- quired that a robot has been attached was executed for the robot that has not been attached.	An instruction that controls a ro- bot was executed for the robot that has not been attached.			0			O037
55340000 hex	Synchroni- zation Ratio Setting Out of Range	The value of SyncRatio (Synchro- nization Ratio) in the AxisData (Axis Data), AxesGroupData (Ax- es Group Data), or RobotData (Robot Data) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55350000 hex	Tool Coordi- nation Transform Setting Out of Range	The value of <i>ToolCoordTransform</i> (Tool Conversion Co- ordinates) input varia- ble to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.			0			O037
55360000 hex	Robot Con- trol Instruc- tion Multi-ex- ecution Dis- abled	Multiple robot control instructions that can- not be executed si- multaneously were executed.	Multiple robot control instructions that cannot be executed simulta- neously were executed.			0			O037
55370000 hex	Cannot Exe- cute Robot Control In- struction during Syn- chronization	An instruction that cannot be executed during the synchroni- zation was executed for a robot that was synchronized.	The RC_MoveDirect (Robot Joint Interpolation) instruction was exe- cuted for a robot that was synchronized.			0			O037
55380000 hex	Illegal Mas- ter Machine Specification	The master machine specified for the <i>MasterID</i> (Master Ma- chine ID) input varia- ble to a robot control instruction is not de- fined or the machine type is not correct.	 The master machine specified in the <i>MasterID</i> (Master Ma- chine ID) input variable to the instruction is not defined. The machine type specified for the <i>MasterID</i> (Master Machine ID) input variable of the RC_ReadBeltLatch (Read Belt Latch) instruction, is not a belt. 			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
55390000 hex	Illegal Axis Assignment	Multiple axes were assigned to the same element of the axis group coordinate sys- tem.	The specified value of Assignment (Axis Assignment) in the AxesGroupData (Axes Group Data) input variable to the RC_DefineGroup (Define Master Axes Group) instruction, is dupli- cated.			0			O037
553A0000 hex	Synchroni- zation Stop- ped	An instruction that can be executed only during synchroniza- tion was executed for a robot that was not synchronized.	The RC_SyncOut (End Robot Synchronization) instruction or RC_MasterOffset (Master Posi- tion Compensation) instruction was executed for a robot that was not synchronized.			0			O037
553C0000 hex	Robot Con- trol Instruc- tion Multi-ex- ecution Buf- fer Limit Ex- ceeded	The number of multi- execution for the ro- bot control instruc- tions exceeded the upper limit.	The total number of current robot control instructions and buffered robot control instructions exceed- ed eight.			0			O037
553D0000 hex	Robot Con- trol Instruc- tion Execut- ed with Cali- bration Not Completed	An instruction that is required for the cali- bration completion was executed for a robot whose calibra- tion was not complet- ed.	 An instruction that controls a robot was executed for the robot that the calibration has not been completed. An instruction to synchronize the master machine and the robot was executed for a robot whose calibration was not completed. 			0			O037
553E0000 hex	Robot Con- trol Instruc- tion Execut- ed while Ro- bot High Power is OFF	An instruction re- quired for the robot in a Power Enabled state was executed for the robot in which high power turns OFF.	An instruction that controls a ro- bot was executed for the robot in which high power turns OFF.			0			O037
553F0000 hex	Robot Al- ready At- tached	An attempt was made to attach a robot again or execute cali- bration for the robot that was already at- tached.	The target robot was already at- tached in the sequence control program.			0			O037
55400000 hex	Robot Con- trol Instruc- tion Execut- ed while Ro- bot is MAN- UAL Mode or is not COMP Mode	A robot control in- struction for which the robot is MANUAL mode or is not COMP mode was executed.	 The robot that you control is MANUAL mode. The robot in Auto mode that you control is not COMP mode. 			0			O037
55410000 hex	Illegal Mas- ter Axis Specification	The axis specified for the master machine does not exist.	An axis does not exist for the var- iable specified for the <i>Axis</i> (Axis) in-out variable to the instruction.			0			O037

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
55420000 hex	Illegal Mas- ter Axes Group Spec- ification	The axes group that is specified for the master machine does not exist.	An axes group does not exist for the variable specified for the <i>AxesGroup</i> (Axes Group) in-out variable to the instruction.			0			O037
55430000 hex	Illegal Mas- ter Robot Specification	The robot specified for the master ma- chine does not exist.	A robot does not exist for the var- iable specified for the <i>MasterRobot</i> (Master Robot) in- out variable to the instruction.			0			O037
55440000 hex	Cannot Exe- cute Robot Control In- struction	The Robot Control Function Module is not running.	The robot control instruction was executed while the Robot Control Function Module was not run- ning.			0			O037
55450000 hex	Master Ma- chine in Synchron- ized Control	The master machine specified for the <i>MasterID</i> (Master Ma- chine ID) input varia- ble to a robot control instruction is being used for synchron- ized control.	For the master machine that is currently used for synchronized control, an attempt was made to overwrite the definition of the master machine.			0			O037
55460000 hex	Master Posi- tion Com- pensation Enabled	Multiple Master Posi- tion Compensation in- structions were ena- bled for the same ro- bot.	For a robot whose master posi- tion was being corrected, an at- tempt was made to enable anoth- er Master Position Compensation instruction.			0			O037
55470000 hex	Simultane- ous Master Machine Definition	The master machine specified for the <i>MasterID</i> (Master Ma- chine ID) input varia- ble to a robot control instruction is defined with another instruc- tion.	For the master machine specified for the <i>MasterID</i> (Master Machine ID) input variable to the instruc- tion, an attempt was made to ex- ecute multiple defining operations at the same time.			0			O037
55480000 hex	Illegal Pro- gram Name Specification	The program name specified for the <i>PrgName</i> (Program Name) input variable to a robot control in- struction is incorrect.	The length of the program name specified for the <i>PrgName</i> (Pro- gram Name) input variable to the instruction was outside of the val- id range.			0			O037
55490000 hex	Cannot Read Belt Latch Simul- taneously	Multiple Read Belt Latch instructions were executed for the same belt.	For the belt for which a Read Belt Latch instruction was already be- ing executed, an attempt was made to execute another Read Belt Latch instruction.			0			O037
554A0000 hex	Unsupported Function Executed	The function that is not supported was executed.	The function that is not supported by the robot was executed.			0			O037
554B0000 hex	Illegal IP Ad- dress Speci- fication	The value of <i>IPAddr</i> input variable to a ro- bot control instruction is not correct.	The length of the parameter list specified for the <i>IPAddr</i> input var- iable to an instruction was out- side of the valid range.			0			O037

		Meaning			L	_eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
554C0000 hex	Vision Error Occurred	An error occurred during execution of the vision function in the IPC Application Controller from a se- quence control pro- gram.	An error occurred during execu- tion of the vision function in the IPC Application Controller.			0			O037
75010000 hex	Robot Con- trol Common Error Occur- red	A robot control com- mon error occurred.	A partial fault level robot control common error occurred.			0			O037
75020000 hex	EtherCAT Slave Dis- connection Error	One of the following occurred for the EtherCAT slave that is allocated to a ro- bot. • Disconnect or re- place the slave • Disable the slave	One of the following occurred for the EtherCAT slave that is allo- cated to a robot.Disconnection or replacementDisablement			0			O037
75030000 hex	Robot Error Occurred	An error occurred in the robot that the ro- bot control instruction execution is in prog- ress.	An error occurred in the robot that the robot control instruction execution is in progress.			0			O037
75040000 hex	Robot Con- trol Period Exceeded	The robot control processing failures occurred two consec- utive times during task period of primary periodic task.	 The task period of primary periodic task is too short for the amount of the user program that is executed in the primary periodic task. Too many robot control instructions are executed for the task period of primary periodic task. 			0			O037
85800000 hex	EtherCAT Slave Com- munications Error	A communications er- ror occurred for the EtherCAT slave that is allocated to a ro- bot.	A communications error occurred for the EtherCAT slave that is al- located to a robot.			0			O037
96040000 hex	V+ Program Error	An error occurred in the V+ program.	An error occurred in the V+ pro- gram that was being executed.					0	O037
96050000 hex	V+ Program Warning	The V+ program is- sued a warning mes- sage.	The V+ program that was being executed issued a warning mes- sage.					0	O037
96060000 hex	V+ Program Information	The V+ program is- sued an information message.	The V+ program that was being executed issued an information message.					0	O037
96090000 hex	Robot Man- ual Mode Started	The robot was set to Manual mode.	The robot was set to Manual mode.					0	O037
960A0000 hex	Robot Auto Mode Start- ed	The robot was set to Auto mode.	The robot was set to Auto mode.					0	O037

Robot Control Instructions

The lower four digits of the event code represents the error code (ErrorID) for the instruction. For descriptions of error codes, refer to the description of the corresponding event code. For example, if the error code of the instruction is 16#5510, refer to the description of event code 54015510 hex.

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
O037	NJ-series Robot Integrated CPU Unit User's Manual

				Level			el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015510 hex	Robot Con- trol Instruc- tion Re-exe- cution Disa- bled	An attempt was made to re-execute a robot control instruction that cannot be re- executed.	The <i>Execute</i> (Execute) input variable was re-executed during execution of the robot control instruction that has the <i>Execute</i> (Execute) input variable.				0		O037
54015511 hex	V+ Task Number Set- ting Out of Range	The value of <i>TaskNo</i> (Task Number) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015512 hex	Illegal Robot Specification	The robot specified for the <i>Robot</i> (Robot) in-out variable to a ro- bot control instruction does not exist.	The value of variable that is used for the subscript for array of _RC_RBT[] robot variable speci- fied for the <i>Robot</i> (Robot) in-out variable to a instruction, is speci- fied to the robot that does not ex- ist.				0		O037
54015513 hex	Illegal Pa- rameter List Specification	The value of <i>PrgParam</i> (Parame- ter List) input variable to a robot control in- struction is not cor- rect.	The length of the parameter list specified for the <i>PrgParam</i> (Parameter List) input variable to an instruction was outside of the valid range.				0		O037
54015514 hex	Starting Step Setting Out of Range	The value specified in the <i>StartStep</i> (Start Step) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015515 hex	Target Posi- tion Setting Out of Range	The value of <i>Position</i> (Target Position) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015516 hex	Lefty and Righty Set- ting Out of Range	The value of LeftyRighty (Lefty/ Righty Setting) mem- ber in the ArmConfig (Arm Configuration) input variable to a ro- bot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015517 hex	Above and Below Set- ting Out of Range	The value of <i>AboveBelow</i> (Above/ Below Setting) mem- ber in the <i>ArmConfig</i> (Arm Configuration) input variable to a ro- bot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015518 hex	Flip Setting Out of Range	The value of <i>Flip</i> (Flip Setting) member in the <i>ArmConfig</i> (Arm Configuration) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015519 hex	Velocity Pro- file Selection Out of Range	The value of VelocityProfile (Veloc- ity Profile) member in the <i>MotionParams</i> (Motion Parameters) input variable to a ro- bot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
5401551A hex	Velocity Mode Selec- tion Out of Range	The value of VelocityMode (Veloci- ty Selection) member in the MotionParams (Motion Parameters) input variable to a ro- bot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
5401551B hex	Velocity Ra- tio Setting Out of Range	The value of VelocityRatio (Veloci- ty Ratio) member in the MotionParams (Motion Parameters) input variable to a ro- bot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401551C hex	Rotation Ve- locity Ratio Setting Out of Range	The value of <i>RotationVelocityRatio</i> (Rotation VelocityRa- tio) member in the <i>MotionParams</i> (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
5401551D hex	Velocity Set- ting Out of Range	The value of <i>Velocity</i> (Velocity) member in the <i>MotionParams</i> (Motion Parameters) input variable to a ro- bot control instruction is out of range. The value of <i>Velocity</i> (Velocity) input varia- ble or <i>Velocity</i> (Veloc- ity) member in the <i>MotionParams</i> (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
5401551E hex	Acceleration Ratio Setting Out of Range	The value of AccelerationRatio (Acceleration Ratio) member in the MotionParams (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
5401551F hex	Deceleration Ratio Setting Out of Range	The value of DecelerationRatio (Deceleration Ratio) member in the MotionParams (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015520 hex	Positioning Accuracy Selection Out of Range	The value of <i>NullingTolerance</i> (Po- sitioning Accuracy) member in the <i>MotionParams</i> (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015521 hex	Rotation Limit Selec- tion Out of Range	The value of SingleTurn (Rotation Limit) member in the MotionParams (Mo- tion Parameters) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015522 hex	Buffer Mode Selection Out of Range	The value of <i>BufferMode</i> (Buffer Mode Selection) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015523 hex	Target Posi- tion Specifi- cation Meth- od Setting Out of Range	The value of <i>PositionMode</i> (Target Position Specification Method) input varia- ble to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015524 hex	Master Ma- chine ID Set- ting Out of Range	The value of <i>MasterID</i> (Master Ma- chine ID) input varia- ble to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015525 hex	Belt ID Set- ting Out of Range	The value of <i>BeltID</i> (Belt Number) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015526 hex	Scale Factor Setting Out of Range	The value of ScaleFactor (Scale Factor) member in the BeltData (Belt Da- ta) input variable to a robot control instruc- tion is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015527 hex	Coordinate System Set- ting Out of Range	The value of CoordTransform (Co- ordinate System) member in the BeltData (Belt Data), AxisData (Axis Data), AxesGroupData (Ax- es Group Data), or RobotData (Robot Data) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015528 hex	Upstream Limit Setting Out of Range	The value of Upstream (Upstream Limit) member in the BeltData (Belt Data) or AxisData (Axis Da- ta) input variable to a robot control instruc- tion is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015529 hex	Downstream Limit Setting Out of Range	The value of <i>Downstream</i> (Down- stream Limit) member in the <i>BeltData</i> (Belt Data) or <i>AxisData</i> (Axis Data) input vari- able to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
5401552A hex	Sensor Co- ordinate System Set- ting Out of Range	The value of SensorCoordTransfor m (Sensor Coordi- nate System) mem- ber in the BeltData (Belt Data), AxisData (Axis Data), or AxesGroupData (Ax- es Group Data) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
5401552B hex	Position Type Selec- tion Out of Range	The value of <i>Referecne Type</i> (Posi- tion Type Selection) member in the <i>AxisData</i> (Axis Data), <i>AxesGroupData</i> (Ax- es Group Data), or <i>RobotData</i> (Robot Data) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
5401552C hex	Axis Assign- ment Out of Range	The value of Assignment (Axis As- signment) member in the AxesGroupData (Axes Group Data) in- put variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401552D hex	Offset Posi- tion Setting Out of Range	The value of OffsetPosition (Offset Position) input varia- ble to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
5401552E hex	Depart Height Set- ting Out of Range	The value of <i>DepartHeight</i> (Depart Height) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
5401552F hex	Target Offset Setting Out of Range	The value of <i>Offset</i> (Target Offset) input variable to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015530 hex	Acceleration Setting Out of Range	The value of Acceleration (Accel- eration) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015531 hex	Deceleration Setting Out of Range	The value of Deceleration (Decel- eration) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015532 hex	Jerk Setting Out of Range	The value of <i>Jerk</i> (Jerk) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015533 hex	Robot Con- trol Instruc- tion Execut- ed while Ro- bot is not At- tached	An instruction re- quired that a robot has been attached was executed for the robot that has not been attached.	An instruction that controls a ro- bot was executed for the robot that has not been attached.				0		O037
54015534 hex	Synchroni- zation Ratio Setting Out of Range	The value of SyncRatio (Synchro- nization Ratio) in the AxisData (Axis Data), AxesGroupData (Ax- es Group Data), or RobotData (Robot Data) input variable to a robot control in- struction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037

			Assumed cause		l	_eve			
Event code	Event name			M a j	P rt	M i n	O b s	l n f o	Reference
54015535 hex	Tool Coordi- nation Transform Setting Out of Range	The value of <i>ToolCoordTransform</i> (Tool Conversion Co- ordinates) input varia- ble to a robot control instruction is out of range.	Instruction input parameter ex- ceeded the valid range of the in- put variable.				0		O037
54015536 hex	Robot Con- trol Instruc- tion Multi-ex- ecution Dis- abled	Multiple robot control instructions that can- not be executed si- multaneously were executed.	Multiple robot control instructions that cannot be executed simulta- neously were executed.				0		O037
54015537 hex	Cannot Exe- cute Robot Control In- struction during Syn- chronization	An instruction that cannot be executed during the synchroni- zation was executed for a robot that was synchronized.	The RC_MoveDirect (Robot Joint Interpolation) instruction was exe- cuted for a robot that was synchronized.				0		O037
54015538 hex	Illegal Mas- ter Machine Specification	The master machine specified for the <i>MasterID</i> (Master Ma- chine ID) input varia- ble to a robot control instruction is not de- fined or the machine type is not correct.	 The master machine specified in the <i>MasterID</i> (Master Ma- chine ID) input variable to the instruction is not defined. The machine type specified for the <i>MasterID</i> (Master Machine ID) input variable of the RC_ReadBeltLatch (Read Belt Latch) instruction, is not a belt. 				0		O037
54015539 hex	Illegal Axis Assignment	Multiple axes were assigned to the same element of the axis group coordinate sys- tem.	The specified value of Assignment (Axis Assignment) in the AxesGroupData (Axes Group Data) input variable to the RC_DefineGroup (Define Master Axes Group) instruction, is dupli- cated.				0		O037
5401553A hex	Synchroni- zation Stop- ped	An instruction that can be executed only during synchroniza- tion was executed for a robot that was not synchronized.	The RC_SyncOut (End Robot Synchronization) instruction or RC_MasterOffset (Master Posi- tion Compensation) instruction was executed for a robot that was not synchronized.				0		O037
5401553C hex	Robot Con- trol Instruc- tion Multi-ex- ecution Buf- fer Limit Ex- ceeded	The number of multi- execution for the ro- bot control instruc- tions exceeded the upper limit.	The total number of current robot control instructions and buffered robot control instructions exceed- ed eight.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401553D hex	Robot Con- trol Instruc- tion Execut- ed with Cali- bration Not Completed	An instruction that is required for the cali- bration completion was executed for a robot whose calibra- tion was not complet- ed.	 An instruction that controls a robot was executed for the robot that the calibration has not been completed. An instruction to synchronize the master machine and the robot was executed for a robot whose calibration was not completed. 				0		O037
5401553E hex	Robot Con- trol Instruc- tion Execut- ed while Ro- bot High Power is OFF	An instruction re- quired for the robot in a Power Enabled state was executed for the robot in which high power turns OFF.	An instruction that controls a ro- bot was executed for the robot in which high power turns OFF.				0		O037
5401553F hex	Robot Al- ready At- tached	An attempt was made to attach a robot again or execute cali- bration for the robot that was already at- tached.	The target robot was already at- tached in the sequence control program.				0		O037
54015540 hex	Robot Con- trol Instruc- tion Execut- ed while Ro- bot is MAN- UAL Mode or is not COMP Mode	A robot control in- struction for which the robot is MANUAL mode or is not COMP mode was executed.	 The robot that you control is MANUAL mode. The robot in Auto mode that you control is not COMP mode. 				0		O037
54015541 hex	Illegal Mas- ter Axis Specification	The axis specified for the master machine does not exist.	An axis does not exist for the var- iable specified for the <i>Axis</i> (Axis) in-out variable to the instruction.				0		O037
54015542 hex	Illegal Mas- ter Axes Group Spec- ification	The axes group that is specified for the master machine does not exist.	An axes group does not exist for the variable specified for the <i>AxesGroup</i> (Axes Group) in-out variable to the instruction.				0		O037
54015543 hex	Illegal Mas- ter Robot Specification	The robot specified for the master ma- chine does not exist.	A robot does not exist for the var- iable specified for the <i>MasterRobot</i> (Master Robot) in- out variable to the instruction.				0		O037
54015544 hex	Cannot Exe- cute Robot Control In- struction	The Robot Control Function Module is not running.	The robot control instruction was executed while the Robot Control Function Module was not run- ning.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015545 hex	Master Ma- chine in Synchron- ized Control	The master machine specified for the <i>MasterID</i> (Master Ma- chine ID) input varia- ble to a robot control instruction is being used for synchron- ized control.	For the master machine that is currently used for synchronized control, an attempt was made to overwrite the definition of the master machine.				0		O037
54015546 hex	Master Posi- tion Com- pensation Enabled	Multiple Master Posi- tion Compensation in- structions were ena- bled for the same ro- bot.	For a robot whose master posi- tion was being corrected, an at- tempt was made to enable anoth- er Master Position Compensation instruction.				0		O037
54015547 hex	Simultane- ous Master Machine Definition	The master machine specified for the <i>MasterID</i> (Master Ma- chine ID) input varia- ble to a robot control instruction is defined with another instruc- tion.	For the master machine specified for the <i>MasterID</i> (Master Machine ID) input variable to the instruc- tion, an attempt was made to ex- ecute multiple defining operations at the same time.				0		O037
54015548 hex	Illegal Pro- gram Name Specification	The program name specified for the <i>PrgName</i> (Program Name) input variable to a robot control in- struction is incorrect.	The length of the program name specified for the <i>PrgName</i> (Pro- gram Name) input variable to the instruction was outside of the val- id range.				0		O037
54015549 hex	Cannot Read Belt Latch Simul- taneously	More than one Read Belt Latch instruction was executed for the same belt at the same time.	For the belt for which a Read Belt Latch instruction was already be- ing executed, an attempt was made to execute another Read Belt Latch instruction.				0		O037
5401554A hex	Unsupported Function Executed	The function that is not supported was executed.	The function that is not supported by the robot was executed.				0		O037
5401554B hex	Illegal IP Ad- dress Speci- fication	The value of <i>IPAddr</i> input variable to a ro- bot control instruction is not correct.	The length of the parameter list specified for the <i>IPAddr</i> input var- iable to an instruction was out- side of the valid range.				0		O037

A-1-4 Errors in NJ Robotics Function

This section provides tables of the errors (events) that can occur in the NJ Robotics functions and robot instructions.

You can use the NJ Robotics functions and robot instructions with the NJ501-4 CPU Unit and the NJ501-R CPU Unit. The unit version of the CPU Unit is 1.09 or later.

NJ Robotics Function

The upper four digits of the event code give the error code (ErrorID) for the instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code for the instruction is 16#5422, refer to the description for event code 54220000 hex.

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W539	NJ-series NJ Robotics CPU Unit User's Manual

					L	.eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54220000 hex	Target Ve- locity Setting Out of Range	The parameter speci- fied for the <i>Velocity</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			W539
54230000 hex	Acceleration Setting Out of Range	The parameter speci- fied for the <i>Acceleration</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			W539
54240000 hex	Deceleration Setting Out of Range	The parameter speci- fied for the <i>Deceleration</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			W539
542B0000 hex	Buffer Mode Selection Out of Range	The parameter speci- fied for the <i>BufferMode</i> input var- iable to a motion con- trol instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			W539

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
542C0000 hex	Coordinate System Se- lection Out of Range	The parameter speci- fied for the <i>CoordSystem</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			W539
542E0000 hex	Direction Se- lection Out of Range	The parameter speci- fied for the <i>Direction</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			W539
54320000 hex	Transition Mode Selec- tion Out of Range	The parameter speci- fied for the <i>TransitionMode</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. _mcAborting or _mcBuffered was specified for <i>BufferMode</i> and _mcTMNone was not specified for <i>TransitionMode</i>. 			0			W539
543B0000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled	An attempt was made to re-execute a mo- tion control instruction that cannot be re- executed.	 A motion control instruction that cannot be re-executed was re-executed. 			0			W539
543C0000 hex	Motion Con- trol Instruc- tion Multi-ex- ecution Dis- abled	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or ax- es group).	 Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group). 			0			W539
543E0000 hex	Instruction Cannot Be Executed during Multi- axes Coordi- nated Con- trol	 A motion instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. A robot instruction that you cannot use for an axes group in a Group-Enable state was executed. 	 A motion instruction was executed for an axis or an axes group that was in a coordinated multiaxes motion. The MC_SetKinTransform instruction was executed for an axes group in a GroupEnable state. 			0			W539

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
543F0000 hex	Multi-axes Coordinated Control In- struction Executed for Disabled Ax- es Group	A multi-axes coordi- nated control instruc- tion was executed for an axes group that was in a GroupDisa- ble state.	 A multi-axes coordinated control instruction was executed for an axes group that was in the Axes Group Disabled state. One of the following instructions was executed for an axes group that was in a GroupDisable state. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog 			0			W539
54410000 hex	Impossible Axis Opera- tion Speci- fied when the Servo is OFF	A motion instruction was executed for an axis for which the Servo is OFF.	 A motion instruction was executed for an axis for which the Servo is OFF. A zero position preset was performed with the MC_Home or MC_HomeWithParameter instruction for an axis for which EtherCAT process data communications are not established. 			0			W539
54420000 hex	Composition Axis Stop- ped Error	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition ax- is.	 A motion instruction was exe- cuted for an axes group while the MC_Stop instruction was being executed for a composi- tion axis. 			0			W539
54430000 hex	Motion Con- trol Instruc- tion Multi-ex- ecution Buf- fer Limit Ex- ceeded	The number of mo- tion control instruc- tions that is buffered for Buffered or Blend- ing Buffer Modes ex- ceeded the buffer lim- it.	 An axis instruction was executed when there was already a current instruction and a buffered instruction for the same axis. An axes group instruction was executed when there was already eight current instructions and buffered instructions for the same axis. 			0			W539
54570000 hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled (Axes Group Spec- ification)	An attempt was made to change the param- eter for the <i>AxesGroup</i> input vari- able when re-execut- ing a motion control instruction. (This in- put variable cannot be changed when re- executing an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 			0			W539

					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54610000 hex	Illegal Axes Group Spec- ification	The axes group specified for the <i>AxesGroup</i> input vari- able to a motion con- trol instruction does not exist or is not a used group.	 An axes group does not exist for the variable specified for the <i>AxesGroup</i> input variable to the instruction. The axes group specified for the <i>AxesGroup</i> input variable to the instruction is not speci- fied as a used group. 			0			W539
54660000 hex	Instruction Execution Error with Undefined Home	High-speed homing, an interpolation in- struction, or a robot instruction was exe- cuted when home was undefined.	 High-speed homing was executed when home was undefined. An interpolation instruction was executed for an axes group that includes an axis with no defined home. One of the following robot instructions was executed for an axes group that includes a logical axis with no defined home. MC_SetKinTransform MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_GroupMon MC_RobotJog 			0			W539
54780000 hex	Target Posi- tion Setting Out of Range	The parameter speci- fied for the <i>Position</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The target position of a Rotary Mode axis is not within the ring setting range. 			0			W539
57050000 hex	Kinematics Unsupported Instruction	An attempt was made to execute an instruc- tion that cannot be used for an axes group for which the kinematics transform was set.	 One of the following instruc- tions was executed for an axes group for which the kinematics transform was set. MC_MoveLinear MC_MoveLinearAbsolute MC_MoveLinearRelative MC_MoveCircular2D MC_ChangeAxesInGroup 			0			W539

					l	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
57060000 hex	Axes Group Mismatch with Kine- matics	The configuration ele- ments of the specified axes group and the specified kinematics do not match.	 The number of axes in the axes group and the number of axes in the specified robot (kinematics type) do not match. The count mode for axes in the axes group and the count mode for the specified robot (kinematics type) do not match. The display unit for axes in the axes group and the display unit for the specified robot (kinematics type) do not match. 			0			W539
57070000 hex	Kinematics Type Out of Range	<i>KinType</i> specified for the <i>KinTransform</i> in- put variable to a mo- tion control instruction is out of range.	• <i>KinType</i> is outside the setting range.			0			W539
57080000 hex	Kinematics Parameter Out of Range	<i>KinParam</i> or <i>ExpansionParam</i> specified for the <i>KinTransform</i> input variable to a motion control instruction is out of range.	 <i>KinParam</i> is outside the setting range. <i>ExpansionParam</i> is outside the setting range. 			0			W539
57090000 hex	Workspace Type Out of Range	WorkspaceType specified for the Workspace input vari- able to a motion con- trol instruction is out of range.	 WorkspaceType is outside the setting range. 			0			W539
570A0000 hex	Workspace Parameter Out of Range	WorkspaceParam specified for the Workspace input vari- able to a motion con- trol instruction is out of range.	• <i>WorkspaceParam</i> is outside the setting range.			0			W539
570B0000 hex	Invalid Coor- dinate Sys- tem Number	The coordinate sys- tem ID specified for the <i>CSID</i> input varia- ble to a motion con- trol instruction is out of range or not de- fined.	 The coordinate system ID is outside the setting range. The specified coordinate system ID is not defined by the MC_DefineCoordSystem instruction. 			0			W539

Event code		Meaning	Assumed cause		I	_eve			
	Event name			M a j	P rt	M i n	O b s	l n f o	Reference
570C0000 hex	Coordinate Transforma- tion Parame- ter Out of Range	The coordinate trans- formation parameter <i>Pose</i> , which was specified for the <i>CoordTransform</i> input variable to a motion control instruction, is out of range.	• The coordinate transformation parameter <i>Pose</i> is outside the setting range.			0			W539
570D0000 hex	Transition parameters out of range	The Transition Pa- rameters specified for the <i>TransitionParameter</i> input variable to a motion control in- struction is out of range.	 TransitionParameter is outside the setting range. 			0			W539
570F0000 hex	Cannot Cal- culate Kine- matics	The inverse kinemat- ics or direct kinemat- ics cannot be calcu- lated.	 The kinematics parameter is outside the setting range. One of the robot axes (A0 to A2) is stopped at the position for which direct kinematics calculation cannot be performed. Inverse kinematics calculation cannot be performed for the target position specified in the machine coordinate system. 			0			W539
57100000 hex	Kinematics Transform Not Set	The kinematics trans- form is not set for the specified axes group.	• The kinematics transform is not set for the axes group.			0			W539
57110000 hex	Target Posi- tion Out of Range	The position parame- ter specified as varia- ble for the <i>Position</i> is out of range.	 Specified wrong value of Position input. 			0			W539
57120000 hex	Velocity Er- ror Detection Value Out of Range	MaxVelocity specified for the TrajData input variable to a motion control instruction is out of range.	• <i>MaxVelocity</i> is outside the set- ting range.			0			W539
57130000 hex	Acceleration Error Detec- tion Value Out of Range	MaxAcceleration specified for the <i>TrajData</i> input varia- ble to a motion con- trol instruction is out of range.	• <i>MaxAcceleration</i> is outside the setting range.			0			W539
57140000 hex	Trajectory Target Time Out of Range	<i>TrajTime</i> specified for the <i>TrajData</i> input variable to a motion control instruction is out of range.	• <i>TrajTime</i> is outside the setting range.			0			W539

Event code		Meaning			l	_eve			
	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
57150000 hex	Trajectory Type Out of Range	<i>MoveTrajType</i> speci- fied for the <i>TrajData</i> input variable to a motion control in- struction is out of range.	 MoveTrajType or SyncTrajType is outside the setting range. 			0			W539
57160000 hex	Trajectory Transition Out of Range	<i>TrajTransition</i> speci- fied for the <i>TrajData</i> input variable to a motion control in- struction is out of range.	• <i>TrajTransition</i> is outside the setting range.			0			W539
57170000 hex	Trajectory Travel Dis- tance Out of Range	<i>TrajDistance</i> specified for the <i>TrajData</i> input variable to a motion control instruction is out of range.	• <i>TrajDistance</i> is outside the set- ting range.			0			W539
57190000 hex	Initial Work- piece Posi- tion Outside Workspace	The position of the workpiece specified for the <i>InitWorkpiecePosition</i> input variable to a motion control in- struction is outside the workspace.	 InitWorkpiecePosition is out- side the workspace. 			0			W539
571A0000 hex	Invalid Con- veyor Axis Specified	The axis specified for the <i>ConveyorAxis</i> in- out variable to a mo- tion control instruction is not correct.	 The specified axis is registered in the axes group which is specified for <i>AxesGroup</i>. The specified axis is an unused axis. The unit of the conveyor axis is incorrect. 			0			W539
571B0000 hex	Target Posi- tion Outside Workspace	The target position specified for the <i>Position</i> input varia- ble to a motion con- trol instruction is out- side the workspace.	• <i>Position</i> is outside the work-space.			0			W539
571C0000 hex	Cannot Can- cel Synchro- nization	The MC_SyncOut in- struction cannot be executed.	 The MC_SyncLinearConveyor instruction was not executed. The MC_SyncLinearConveyor instruction execution is in prog- ress, but synchronization is not currently performed. 			0			W539
571E0000 hex	Too Many Kinematics	The number of kine- matics exceeded the limit.	The number kinematics set by the MC_SetKinTransform in- struction exceeded the limit.			0			W539
571F0000 hex	Kinematics Initialization Error	Kinematics initializa- tion failed.	 One of the robot axes (A0 to A3) is stopped at the position for which direct kinematics cal- culation cannot be performed. 			0			W539

Event code					Level				
	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
57320000 hex	Invalid Tool Number	The tool ID specified for the <i>ToolID</i> input variable to a motion control instruction is out of range or not defined.	 <i>ToolID</i> is outside the setting range. The specified tool ID is not defined by the MC_DefineTool-Transform instruction. 			0			W539
57330000 hex	Tool Param- eter Out of Range	The transform param- eter specified for the <i>ToolTransform</i> input variable to a motion control instruction is out of range.	 The transform parameter is outside the setting range. 			0			W539
57340000 hex	Unsupported Transition Data	The transition mode specified for the <i>TransitionMode</i> input variable to a motion control instruction does not support the current instruction or the buffered instruc- tion.	 The parameters specified for the <i>TransitionParameter</i> input variable cannot be used for transition in the mode specified for the <i>TransitionMode</i> input variable. The trajectory data which is set for the buffered instruction cannot be used for transition in the mode specified for the <i>TransitionMode</i> input variable. 			0			W539
57360000 hex	Offset Not Allowed	During the MC_Syn- cLinearConveyor in- struction execution, the offset function can be used only in Phase6.	• The <i>EnableOffset</i> input variable changed to TRUE before the MC_SyncLinearConveyor instruction operation entered Phase6.			0			W539
57370000 hex	Motion Con- trol Instruc- tion Multiex- ecution Dis- abled (Tra- jectory Type)	An input variable that cannot be changed was changed during multi-execution of in- structions.	 MoveTrajType or SyncTrajType for the current instruction do not match MoveTrajType or SyncTrajType for the next in- struction executed with Buf- fered or Blending. 			0			W539
57390000 hex	Unsupported Transition Mode	The next instruction was executed with <i>TransitionMode</i> which does not support the combination of the current and next in- structions.	 The transition mode specified for the <i>TransitionMode</i> input variable to a motion control in- struction does not support the combination of the current in- struction and buffered instruc- tion. 			0			W539
57440000 hex	Jog Mode Out of Range	The <i>JogMode</i> input variable to the MC_RobotJog in- struction is out of range.	 The JogMode input variable to the MC_RobotJog instruction is outside the setting range. 			0			W539

Event code		Meaning	Assumed cause		L	eve			
	Event name			M a j	P rt	M i n	O b s	l n f o	Reference
57450000 hex	Initial Work- piece Posi- tion Out of Range	The InitWorkpiecePosition input variable to the MC_SyncLinearCon- veyor instruction is out of range.	 The InitWorkpiecePosition in- put variable to the MC_SyncLi- nearConveyor instruction is outside the setting range. 			0			W539
57460000 hex	Maximum In- terpolation Velocity Out of Range	The <i>MaxVelocityTCP</i> input variable to the MC_SetKinTransform instruction is out of range.	• The <i>MaxVelocityTCP</i> input var- iable to the MC_SetKinTrans- form instruction is outside the setting range.			0			W539
57470000 hex	Maximum In- terpolation Acceleration Out of Range	The MaxAccelerationTCP input variable to the MC_SetKinTransform instruction is out of range.	• The <i>MaxAccelerationTCP</i> in- put variable to the MC_SetKin- Transform instruction is out- side the setting range.			0			W539
57480000 hex	Maximum In- terpolation Deceleration Out of Range	The MaxDecelerationTCP input variable to the MC_SetKinTransform instruction is out of range.	• The <i>MaxDecelerationTCP</i> in- put variable to the MC_SetKin- Transform instruction is out- side the setting range.			0			W539
64430000 hex	Positive Lim- it Input	An instruction was executed for a motion in the positive direc- tion when the positive limit input was ON.	 An instruction for a motion in the positive direction was exe- cuted when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit input was ON. An axes group mo- tion control instruction was executed when the positive limit input was ON. 			0			W539
64440000 hex	Negative Limit Input	An instruction for a motion in the nega- tive direction was executed when the negative limit input was ON.	 An instruction for a motion in the negative direction was exe- cuted when the negative limit input was ON, or an instruction for a motion with no direction specification was executed when the negative limit input was ON. An axes group mo- tion control instruction was executed when the negative limit input was ON. 			0			W539
		Meaning	Assumed cause		L	_eve			
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Event code	Event name			M a j	P rt	M i n	O b s	l n f o	Reference
64590000 hex	Home Unde- fined during Coordinated Motion	Home of the logical axis became unde- fined during axes group motion or while decelerating to a stop.	 The command position or actual position overflowed or underflowed for a logical axis in an axes group motion or a logical axis that was decelerating to a stop and the home definition was lost. A slave communications error occurred for a logical axis and home became undefined during axes group motion or while decelerating to a stop. A slave for a logical axis left the network or was disabled and home became undefined during axes group motion or while decelerating to a stop. 			0			W539
645A0000 hex	Maximum In- terpolation Velocity Er- ror	The command veloci- ty exceeded the max- imum interpolation velocity specified for the <i>MaxVelocityTCP</i> input variable to the MC_SetKinTransform instruction.	 The trajectory data for the current instruction is incorrect. The maximum interpolation velocity specified for the <i>MaxVelocityTCP</i> input variable to the MC_SetKinTransform instruction is incorrect or too low. 			0			W539
645B0000 hex	Maximum In- terpolation Acceleration Error	The command acceleration rate exceeded the maximum interpolation acceleration specified for the <i>MaxAccelerationTCP</i> input variable to the MC_SetKinTransform instruction.	 The trajectory data for the current instruction is incorrect. The maximum interpolation acceleration specified for the <i>MaxAccelerationTCP</i> input variable to the MC_SetKin-Transform instruction is incorrect or too low. 			0			W539
645C0000 hex	Maximum In- terpolation Deceleration Error	The command decel- eration rate exceeded the maximum interpo- lation deceleration specified for the Max <i>DecelerationTCP</i> in- put variable to the MC_SetKinTransform instruction.	 The trajectory data for the current instruction is incorrect. The maximum interpolation deceleration specified for the <i>MaxDecelerationTCP</i> input variable to the MC_SetKin-Transform instruction is incorrect or too low. 			0			W539
6700000 hex	Command Position Out- side Work- space	The command posi- tion is outside the workspace.	 The specified trajectory data is incorrect. 			0			W539

		e Meaning			_ L	eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
67010000 hex	Current Po- sition Out- side Work- space	The current position was outside the work- space when an in- struction was execut- ed.	 The current position was out- side the workspace when one of the following instructions was executed. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog 			0			W539
67020000 hex	Workpiece Synchroni- zation Ex- cessive Fol- lowing Error	The robot could not catch up the work- piece on the convey- or.	 The conveyor position was changed before the robot reached the workpiece. The conveyor current position is incorrect. 			0			W539
67030000 hex	Velocity Er- ror Detection	The command veloci- ty exceeded <i>MaxVelocity</i> specified for the <i>TrajData</i> input variable to a motion control instruction.	 The combination of parameters specified for the <i>TrajData</i> input variable caused a too high command velocity. The parameters specified for the <i>TrajData</i> input variable are incorrect. <i>MaxVelocity</i> is too low. 			0			W539
67040000 hex	Acceleration Error Detec- tion	The command acceleration rate exceeded the <i>MaxAcceleration</i> specified for the <i>TrajData</i> input variable to a motion control instruction.	 The combination of parameters specified for the <i>TrajData</i> input variable caused a too high command acceleration rate. The parameters specified for the <i>TrajData</i> input variable are incorrect. <i>MaxAcceleration</i> is too low. 			0			W539
67050000 hex	Command Current Ve- locity Limit Exceeded	The command cur- rent velocity exceed- ed the axis maximum velocity.	 The axis maximum velocity was exceeded. 			0			W539
74300000 hex	Axes Group Composition Axis Error	An error occurred for an axis in an axes group.	• An error occurred for an axis in an axes group that was in mo- tion.			0			W539
77000000 hex	Conveyor Axis Position Read Error	The MC_SyncLinear- Conveyor instruction cannot be executed due to a conveyor ax- is position error.	 EtherCAT process data communications are not established for the conveyor axis. The slave of the conveyor axis was disconnected. An Absolute Encoder Current Position Calculation Failed error (64580000 hex) was detected for the conveyor axis. 			0			W539

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
94230000 hex	Transition Parameter Adjusted	The specified <i>TransitionParameter</i> input variable was ad- justed before transi- tion started.	 The transition start condition specified for <i>TransitionParameter</i> input vari- able for multi-execution of in- structions was already exceed- ed by the current instruction. 				0		W539

Robot Instructions

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W539	NJ-series NJ Robotics CPU Unit User's Manual

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015422 hex	Target Ve- locity Setting Out of Range	The parameter speci- fied for the <i>Velocity</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		W539
54015423 hex	Acceleration Setting Out of Range	The parameter speci- fied for the <i>Acceleration</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		W539
54015424 hex	Deceleration Setting Out of Range	The parameter speci- fied for the <i>Deceleration</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		W539
5401542B hex	Buffer Mode Selection Out of Range	The parameter speci- fied for the <i>BufferMode</i> input var- iable to a motion con- trol instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		W539
5401542C hex	Coordinate System Se- lection Out of Range	The parameter speci- fied for the <i>CoordSystem</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		W539
5401542E hex	Direction Se- lection Out of Range	The parameter speci- fied for the <i>Direction</i> input variable to a motion control in- struction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		W539

		Meaning				eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015432 hex	Transition Mode Selec- tion Out of Range	The parameter speci- fied for the <i>TransitionMode</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. _mcAborting or _mcBuffered was specified for <i>BufferMode</i> and _mcTMNone was not specified for <i>TransitionMode</i>. 				0		W539
5401543B hex	Motion Con- trol Instruc- tion Re-exe- cution Disa- bled	An attempt was made to re-execute a mo- tion control instruction that cannot be re- executed.	 A motion control instruction that cannot be re-executed was re-executed. 				0		W539
5401543C hex	Motion Con- trol Instruc- tion Multi-ex- ecution Dis- abled	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or ax- es group).	 Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group). 				0		W539
5401543E hex	Instruction Cannot Be Executed during Multi- axes Coordi- nated Con- trol	 A motion instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. A robot instruction that you cannot use for an axes group in a Group-Enable state was executed. 	 A motion instruction was executed for an axis or an axes group that was in a coordinated multiaxes motion. The MC_SetKinTransform instruction was executed for an axes group in a GroupEnable state. 				0		W539
5401543F hex	Multi-axes Coordinated Control In- struction Executed for Disabled Ax- es Group	A multi-axes coordi- nated control instruc- tion was executed for an axes group that was in a GroupDisa- ble state.	 A multi-axes coordinated control instruction was executed for an axes group that was in a GroupDisable state. One of the following instructions was executed for an axes group that was in a GroupDisable state. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog 				0		W539

						eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015441 hex	Impossible Axis Opera- tion Speci- fied when the Servo is OFF	A motion instruction was executed for an axis for which the Servo is OFF.	 A motion instruction was executed for an axis for which the Servo is OFF. A zero position preset was performed with the MC_Home or MC_HomeWithParameter instruction for an axis for which EtherCAT process data communications are not established. 				0		W539
54015442 hex	Composition Axis Stop- ped Error	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition ax- is.	 A motion instruction was exe- cuted for an axes group while the MC_Stop instruction was being executed for a composi- tion axis. 				0		W539
54015443 hex	Motion Con- trol Instruc- tion Multi-ex- ecution Buf- fer Limit Ex- ceeded	The number of mo- tion control instruc- tions that is buffered for Buffered or Blend- ing Buffer Modes ex- ceeded the buffer lim- it.	 An axis instruction was executed when there was already a current instruction and a buffered instruction for the same axis. An axes group instruction was executed when there was already eight current instructions and buffered instructions for the same axis. 				0		W539
54015461 hex	Illegal Axes Group Spec- ification	The axes group specified for the <i>AxesGroup</i> input vari- able to a motion con- trol instruction does not exist or is not a used axes group.	 An axes group does not exist for the variable specified for the <i>AxesGroup</i> input variable to the instruction. The axes group specified for the <i>AxesGroup</i> input variable to the instruction is not speci- fied as a used axes group. 				0		W539
54015466 hex	Instruction Execution Error with Undefined Home	High-speed homing, an interpolation in- struction, or a robot instruction was exe- cuted when home was undefined.	 High-speed homing was exe- cuted when home was unde- fined. An interpolation instruction was executed for an axes group that includes an axis with no defined home. One of the following robot in- structions was executed for an axes group that includes a log- ical axis with no defined home. MC_SetKinTransform MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_GroupMon MC_RobotJog 				0		W539

				Level					
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015478 hex	Target Posi- tion Setting Out of Range	The parameter speci- fied for the <i>Position</i> input variable to a motion control in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The target position of a Rotary Mode axis is not within the ring setting range. 				0		W539
54015706 hex	Axes Group Mismatch with Kine- matics	The configuration ele- ments of the specified axes group and the specified kinematics do not match.	 The number of axes in the axes group and the number of axes in the specified robot (kinematics type) do not match. The count mode for axes in the axes group and the count mode for the specified robot (kinematics type) do not match. The display unit for axes in the axes group and the display unit for the specified robot (kinematics type) do not match. 				0		W539
54015707 hex	Kinematics Type Out of Range	<i>KinType</i> specified for the <i>KinTransform</i> in- put variable to a mo- tion control instruction is out of range.	• <i>KinType</i> is outside the setting range.				0		W539
54015708 hex	Kinematics Parameter Out of Range	<i>KinParam</i> or <i>ExpansionParam</i> specified for the <i>KinTransform</i> input variable to a motion control instruction is out of range.	 <i>KinParam</i> is outside the setting range. <i>ExpansionParam</i> is outside the setting range. 				0		W539
54015709 hex	Workspace Type Out of Range	WorkspaceType specified for the Workspace input vari- able to a motion con- trol instruction is out of range.	 WorkspaceType is outside the setting range. 				0		W539
5401570A hex	Workspace Parameter Out of Range	WorkspaceParam specified for the Workspace input vari- able to a motion con- trol instruction is out of range.	 WorkspaceParam is outside the setting range. 				0		W539
5401570B hex	Invalid Coor- dinate Sys- tem Number	The coordinate sys- tem ID specified for the <i>CSID</i> input varia- ble to a motion con- trol instruction is out of range or not de- fined.	 The coordinate system ID is outside the setting range. The specified coordinate system ID is not defined by the MC_DefineCoordSystem instruction. 				0		W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401570C hex	Coordinate Transforma- tion Parame- ter Out of Range	The coordinate trans- formation parameter <i>Pose</i> , which was specified for the <i>CoordTransform</i> input variable to a motion control instruction, is out of range.	• The coordinate transformation parameter <i>Pose</i> is outside the setting range.				0		W539
5401570D hex	Transition parameters out of range	The Transition Pa- rameters specified for the <i>TransitionParameter</i> input variable to a motion control in- struction is out of range.	 TransitionParameter is outside the setting range. 				0		W539
54015710 hex	Kinematics Transform Not Set	The kinematics trans- form is not set for the specified axes group.	The kinematics transform is not set for the axes group.				0		W539
54015711 hex	Target Posi- tion Out of Range	The position parame- ter specified as varia- ble for the <i>Position</i> is out of range.	 Specified wrong value of Position input. 				0		W539
54015712 hex	Velocity Er- ror Detection Value Out of Range	<i>MaxVelocity</i> specified for the <i>TrajData</i> input variable to a motion control instruction is out of range.	• <i>MaxVelocity</i> is outside the set- ting range.				0		W539
54015713 hex	Acceleration Error Detec- tion Value Out of Range	MaxAcceleration specified for the <i>TrajData</i> input varia- ble to a motion con- trol instruction is out of range.	MaxAcceleration is outside the setting range.				0		W539
54015714 hex	Trajectory Target Time Out of Range	<i>TrajTime</i> specified for the <i>TrajData</i> input variable to a motion control instruction is out of range.	 TrajTime is outside the setting range. 				0		W539
54015715 hex	Trajectory Type Out of Range	<i>MoveTrajType</i> speci- fied for the <i>TrajData</i> input variable to a motion control in- struction is out of range.	 MoveTrajType or SyncTrajType is outside the setting range. 				0		W539
54015716 hex	Trajectory Transition Out of Range	<i>TrajTransition</i> speci- fied for the <i>TrajData</i> input variable to a motion control in- struction is out of range.	• <i>TrajTransition</i> is outside the setting range.				0		W539

			Assumed cause		l	Leve			
Event code	Event name			M a j	P rt	M i n	O b s	l n f o	Reference
54015717 hex	Trajectory Travel Dis- tance Out of Range	<i>TrajDistance</i> specified for the <i>TrajData</i> input variable to a motion control instruction is out of range.	• <i>TrajDistance</i> is outside the set- ting range.				0		W539
54015719 hex	Initial Work- piece Posi- tion Outside Workspace	The position of the workpiece specified for the <i>InitWorkpiecePosition</i> input variable to a motion control in- struction is outside the workspace.	 InitWorkpiecePosition is out- side the workspace. 				0		W539
5401571A hex	Invalid Con- veyor Axis Specified	The axis specified for the <i>ConveyorAxis</i> in- out variable to a mo- tion control instruction is not correct.	 The specified axis is registered in the axes group which is specified for <i>AxesGroup</i>. The specified axis is an unused axis. The unit of the conveyor axis is incorrect. 				0		W539
5401571B hex	Target Posi- tion Outside Workspace	The target position specified for the <i>Position</i> input varia- ble to a motion con- trol instruction is out- side the workspace.	• <i>Position</i> is outside the work-space.				0		W539
5401571C hex	Cannot Can- cel Synchro- nization	The MC_SyncOut in- struction cannot be executed.	 The MC_SyncLinearConveyor instruction was not executed. The MC_SyncLinearConveyor instruction execution is in prog- ress, but synchronization is not currently performed. 				0		W539
5401571E hex	Too Many Kinematics	The number of kine- matics exceeded the limit.	The number kinematics set by the MC_SetKinTransform in- struction exceeded the limit.				0		W539
5401571F hex	Kinematics Initialization Error	Kinematics initializa- tion failed.	 One of the robot axes (A0 to A3) is stopped at the position for which direct kinematics cal- culation cannot be performed. 				0		W539
54015732 hex	Invalid Tool Number	The tool ID specified for the <i>ToolID</i> input variable to a motion control instruction is out of range or not defined.	 <i>TooIID</i> is outside the setting range. The specified tool ID is not defined by the MC_DefineTool-Transform instruction. 				0		W539
54015733 hex	Tool Param- eter Out of Range	The transform param- eter specified for the <i>ToolTransform</i> input variable to a motion control instruction is out of range.	 The transform parameter is outside the setting range. 				0		W539

		name Meaning	Assumed cause		I	Leve			
Event code	Event name			M a j	P rt	M i n	O b s	l n f o	Reference
54015736 hex	Offset Not Allowed	During the MC_Syn- cLinearConveyor in- struction execution, the offset function can be used only in Phase6.	 The EnableOffset input varia- ble changed to TRUE before the MC_SyncLinearConveyor instruction operation entered Phase6. 				0		W539
54015744 hex	Jog Mode Out of Range	The <i>JogMode</i> input variable to the MC_RobotJog in- struction is out of range.	 The JogMode input variable to the MC_RobotJog instruction is outside the setting range. 				0		W539
54015745 hex	Initial Work- piece Posi- tion Out of Range	The InitWorkpiecePosition input variable to the MC_SyncLinearCon- veyor instruction is out of range.	 The InitWorkpiecePosition in- put variable to the MC_SyncLi- nearConveyor instruction is outside the setting range. 				0		W539
54015746 hex	Maximum In- terpolation Velocity Out of Range	The <i>MaxVelocityTCP</i> input variable to the MC_SetKinTransform instruction is out of range.	 The MaxVelocityTCP input var- iable to the MC_SetKinTrans- form instruction is outside the setting range. 				0		W539
54015747 hex	Maximum In- terpolation Acceleration Out of Range	The MaxAccelerationTCP input variable to the MC_SetKinTransform instruction is out of range.	 The MaxAccelerationTCP in- put variable to the MC_SetKin- Transform instruction is out- side the setting range. 				0		W539
54015748 hex	Maximum In- terpolation Deceleration Out of Range	The MaxDecelerationTCP input variable to the MC_SetKinTransform instruction is out of range.	• The <i>MaxDecelerationTCP</i> in- put variable to the MC_SetKin- Transform instruction is out- side the setting range.				0		W539
54016443 hex	Positive Lim- it Input	An instruction was executed for a motion in the positive direc- tion when the positive limit input was ON.	 An instruction for a motion in the positive direction was exe- cuted when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit input was ON. An axes group mo- tion control instruction was executed when the positive limit input was ON. 				0		W539

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54016444 hex	Negative Limit Input	An instruction for a motion in the nega- tive direction was executed when the negative limit input was ON.	 An instruction for a motion in the negative direction was exe- cuted when the negative limit input was ON, or an instruction for a motion with no direction specification was executed when the negative limit input was ON. An axes group mo- tion control instruction was executed when the negative limit input was ON. 				0		W539
54016701 hex	Current Po- sition Out- side Work- space	The current position was outside the work- space when an in- struction was execut- ed.	 The current position was out- side the workspace when one of the following instructions was executed. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog 				0		W539

A-1-5 Errors in the CNC Function

This section provides tables of the errors (events) that can occur in the CNC functions and CNC instructions.

You can use the CNC functions and CNC instructions with an NJ501-5300 Controller. The unit version of the CPU Unit is 1.16 or later.

CNC Function

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
O030	NJ/NY-series NC Integrated Controller User's Manual

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
47810000 hex	CNC Param- eter Setting Invalid	A fatal error was de- tected during setting of the CNC Function Module.	• The system failed to transfer the CNC parameter setting. Otherwise, an error occurred in the software.	0					O030
17800000 hex	CNC Param- eter Setting Error	The CNC parameters that were saved in non-volatile memory are missing.	 The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the CNC parameter settings or clearing memory. Non-volatile memory failure 		0				O030
17810000 hex	Absolute En- coder Home Offset Read Error	The absolute encoder current position that is retained during power interruptions was lost.	 When the retained variables are backed up with a battery, this event indicates that the life of the battery in the CPU Unit has expired. Backup memory failure 		0				O030
17820000 hex	CNC Motor Compensa- tion Table Read Error	The CNC motor com- pensation table that was saved in non-vol- atile memory is miss- ing.	 The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the CNC parameter settings or clearing memory. Non-volatile memory failure 		0				O030
37800000 hex	Required Process Da- ta Object Not Set	The object that is re- quired for the as- signed axis type in the CNC motor pa- rameter settings is not allocated to PDO.	 The required PDOs are not mapped when the assigned axis type in the CNC motor pa- rameter settings is set to a ser- vo axis or encoder axis. Non-volatile memory failure 		0				O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
47800000 hex	CNC Initiali- zation Error	A fatal error occurred in the system and prevented initializa- tion of the CNC Func- tion Module.	Hardware failure		0				O030
77800000 hex	CNC Control Period Ex- ceeded	The primary periodic task processing has not been completed within two control cy- cles.	The processing load in the p mary periodic task is too heavy.	ri-	0				O030
37810000 hex	Process Da- ta Object Setting Miss- ing	The PDO mapping is not correct.	The relevant instruction was executed for a device that does not have an object that supports the instruction.			0			O030
56000000 hex	Illegal CNC Coordinate System Specification	The CNC coordinate system specified for the <i>Coord</i> in-out vari- able to a CNC in- struction does not ex- ist.	CNC coordinate system doe not exist for the variable spe fied for the <i>Coord</i> in-out vari ble to the instruction.	ci-		0			O030
56010000 hex	Deceleration Setting Out of Range	The parameter speci- fied for the <i>Deceleration</i> input variable to a CNC in- struction is out of range.	 Instruction input parameter e ceeded the valid range of th input variable. 			0			O030
56020000 hex	Jerk Setting Out of Range	The parameter speci- fied for the <i>Jerk</i> input variable to a CNC in- struction is out of range.	Instruction input parameter e ceeded the valid range of th input variable.			0			O030
56030000 hex	CNC Instruc- tion Re-exe- cution Disa- bled	A CNC instruction that cannot be re- executed was re-exe- cuted.	A CNC instruction that cann be re-executed was re-exec ed.			0			O030
56040000 hex	CNC Multi- execution Disabled	Multiple functions that cannot be executed simultaneously were executed for the same target (CNC co- ordinate system).	 Multiple functions that cannot be executed simultaneously were executed for the same target (CNC coordinate system). The CNC_LoadProgramFile struction was executed when any of CNC coordinate system was Executing (Executing) of Hold (Holding). 	in- า		0			O030

			Assumed cause		L	eve			
Event code	Event name	Meaning		M a j	P rt	M i n	O b s	l n f o	Reference
56050000 hex	Unassigned Logical CNC Motor Num- ber Speci- fied	The CNC motor of the parameter speci- fied for the <i>LogicalMotorNo</i> input variable to the CNC instruction is not as- signed.	The logical CNC motor number for which the CNC motor is not assigned to the <i>LogicalMotorNo</i> input variable to the CNC instruction was specified, and the instruction was executed.			0			O030
56060000 hex	Logical CNC Motor Num- ber Out of Range	The parameter speci- fied for the <i>LogicalMotorNo</i> input variable to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			O030
56070000 hex	Target Posi- tion Setting Out of Range	The parameter speci- fied for the <i>Position</i> input variable to a CNC instruction is out of range.	• Instruction input parameter ex- ceeded the valid range of the input variable. Or, there was an overflow/underflow in the target position.			0			O030
56080000 hex	Impossible CNC Motor Operation Specified when the Servo is OFF	An operation instruc- tion was executed for the CNC motor for which the Servo is OFF.	Home was preset with the CNC_Home or CNC_Home- WithParameter instruction for an axis for which EtherCAT process data communications are not established.			0			O030
56090000 hex	Target Ve- locity Setting Out of Range	The parameter speci- fied for the <i>Velocity</i> input variable to a CNC instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			O030
560A0000 hex	Acceleration/ Deceleration Setting Out of Range	The parameter speci- fied for the <i>Acceleration</i> input variable to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			O030
560B0000 hex	Travel Mode Selection Out of Range	The parameter speci- fied for the <i>MoveMode</i> input vari- able to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			O030
560C0000 hex	Immediate Stop Instruc- tion Execut- ed	An Immediate Stop (CNC_CoordImme- diateStop) instruction was executed.	 An Immediate Stop instruction was executed. 			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
560D0000 hex	Parameter Selection Out of Range	The parameter speci- fied for the <i>ParameterNumber</i> in- put variable to a CNC instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			O030
560E0000 hex	CNC Param- eter Setting Read/Write Setting Val- ue Out of Range	The parameter speci- fied for the <i>SettingValue</i> in-out variable to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the in-out variable. 			0			O030
560F0000 hex	CNC Param- eter Setting Read/Write Target Out of Range	The parameter speci- fied for the <i>Target</i> in- out variable to a CNC instruction is out of range.	 Instruction input parameter exceeded the valid range of the in-out variable. 			0			O030
56100000 hex	Cycle Start Error with Undefined Home	A cycle start was exe- cuted for a CNC coor- dinate system includ- ing the positioning ax- is with no defined home.	 A cycle start was executed for a CNC coordinate system in- cluding the positioning axis with no defined home. 			0			O030
56110000 hex	Homing Pa- rameter Set- ting Out of Range	The parameter speci- fied for the <i>HomingParameter</i> in- out variable of the CNC instruction is out of range.	 Instruction input parameter exceeded the valid range of the in-out variable. 			0			O030
56120000 hex	M Code Number Out of Range	The parameter speci- fied for the <i>MCodeNo</i> input variable to a CNC instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			O030
56130000 hex	CNC Instruc- tion Re-exe- cution Disa- bled (CNC Coordinate System Specifica- tion)	An attempt was made to change the param- eter for the <i>Coord</i> in- out variable when re- executing a CNC in- struction. (This in-out variable cannot be changed when re-ex- ecuting an instruc- tion.)	 A parameter for an in-out vari- able that cannot be changed for re-execution was changed. 			0			O030

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Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
56140000 hex	CNC Instruc- tion Re-exe- cution Disa- bled (Logical CNC Motor Number)	An attempt was made to change the param- eter for the <i>LogicalMotorNo</i> input variable when re-exe- cuting a CNC instruc- tion. (This input varia- ble cannot be changed when re-ex- ecuting an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 			0			O030
56150000 hex	Illegal NC Program	An error was detect- ed in the NC program transferred from Sys- mac Studio.	 NC program transfer process- ing failed. 			0			O030
56160000 hex	Cycle Start Multi-execu- tion Disabled	A cycle start was exe- cuted multiple times for the same target (CNC coordinate sys- tem).	 A cycle start was executed while the CNC coordinate sys- tem is Executing (Executing), MovingOnHold (Manual Oper- ation While Holding), or Mov- ing (Moving). 			0			O030
56170000 hex	Impossible CNC Motor Cycle Start Specified when the Servo is OFF	A cycle start was exe- cuted for a CNC coor- dinate system includ- ing the CNC motor for which the Servo is OFF.	 A cycle start was executed for the CNC motor for which Ser- vo is turned OFF. 			0			O030
56180000 hex	Illegal NC Program Number Specification	The NC program specified for <i>ProgramNo</i> in the <i>ControlInputs</i> in-out variable to the CNC_CoordControl instruction is not load- ed.	 A cycle start was executed after an unloaded NC program is specified for <i>ProgramNo</i> in the <i>ControlInputs</i> in-out variable to the CNC_CoordControl in- struction. 			0			O030
56190000 hex	Illegal Back Trace Speci- fication	A cycle start was exe- cuted when the CNC coordinate system is Standby (Standby) while <i>BackTrace</i> in the <i>ControlInputs</i> in- out variable to the CNC_CoordControl instruction is set to TRUE.	 A cycle start was executed when the CNC coordinate sys- tem is Standby (Standby) while BackTrace in the ControlInputs in-out variable to the CNC_Co- ordControl instruction is set to TRUE. 			0			O030
56250000 hex	Illegal CNC Motor Speci- fication	The CNC motor specified for the <i>Target</i> input variable to a CNC instruction does not exist.	• A CNC motor does not exist for the variable specified for the <i>Target</i> input variable to the instruction.			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
56260000 hex	Illegal CNC Motor Com- pensation Table Speci- fication	The CNC motor com- pensation table speci- fied for the <i>Target</i> in- put variable to a CNC instruction does not exist.	• A CNC motor compensation table does not exist for the var- iable specified for the <i>Target</i> input variable to the instruc- tion.			0			O030
56290000 hex	NC Program Capacity Ex- ceeded	Loading failed be- cause the NC pro- gram downloaded from Sysmac Studio exceeded the maxi- mum capacity.	 The NC program that has a capacity above the maximum was downloaded from Sysmac Studio. 			0			O030
562A0000 hex	Skew Con- trol Mode Out of Range	The parameter speci- fied for the <i>SkewMode</i> input vari- able to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			O030
562B0000 hex	Offset Value Setting Out of Range	The parameter speci- fied for the <i>OffsetValue</i> input var- iable to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 			0			O030
67800000 hex	Immediate Stop Input	The immediate stop input turned ON.	 An immediate stop input signal was detected. The immediate stop input signal is not connected correctly or the logic setting for the immediate stop input is wrong. 			0			O030
67810000 hex	Positive Lim- it Input De- tected	The positive limit in- put turned ON.	 A positive limit input signal was detected. The positive limit input signal is not connected correctly or the logic setting for the positive limit input is wrong. 			0			O030
67820000 hex	Negative Limit Input Detected	The negative limit in- put turned ON.	 A negative limit input signal was detected. The negative limit input signal is not connected correctly or the logic setting for the nega- tive limit input is wrong. 			0			O030

		Meaning			L	_eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
67830000 hex	Target Posi- tion Positive Software Limit Ex- ceeded	The specified position exceeds the positive software limit.	 The parameter specified for the <i>Position</i> input variable to the instruction is beyond the positive software limit. The first position is beyond the positive software limit and an instruction that specifies mo- tion in the opposite direction of the software limit was execut- ed. 			0			O030
67840000 hex	Target Posi- tion Nega- tive Software Limit Ex- ceeded	The specified position exceeds the negative software limit.	 The parameter specified for the <i>Position</i> input variable to the instruction is beyond the negative software limit. While the starting position is out of the negative software limit, an operation was speci- fied in the opposite direction of the software limit. 			0			O030
67850000 hex	Command Position Overflow/ Underflow	Positioning, an in- struction in the under- flow/overflow direc- tion, or an instruction for which the direction is not specified was executed when there was an underflow/ overflow in the com- mand position.	 One of the following was exe- cuted when there was a com- mand position overflow/under- flow. A positioning instruction A continuous control instruc- tion in the underflow/overflow direction An instruction for which the di- rection is not specified (sync- ing) 			0			O030
67860000 hex	Positive Lim- it Input	An instruction was executed for a motion in the positive direc- tion when the positive limit input was <i>ON</i> .	 An instruction for a motion in the positive direction was exe- cuted when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit input was ON. 			0			O030
67870000 hex	Negative Limit Input	While the negative limit input is set to <i>ON</i> , an instruction that runs in the nega- tive direction was executed.	 While the negative limit input is set to ON, an instruction that runs in the negative direction was executed, or an instruction with no direction specified was executed. 			0			O030
67880000 hex	Positive Software Limit Ex- ceeded	The position exceed- ed the positive soft- ware limit while the CNC motor was run- ning.	 The position exceeded the positive software limit. 			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
67890000 hex	Negative Software Limit Ex- ceeded	The position exceed- ed the negative soft- ware limit while the CNC motor was run- ning.	 The position exceeded the negative software limit. 			0			O030
678A0000 hex	In-position Check Time Exceeded	The in-position check was not completed within the monitoring time.	 Time is required to complete positioning. 			0			O030
678B0000 hex	Following Error Limit Exceeded	The error between the command current position and actual current value exceed- ed the Following Er- ror Over Value.	 The positioning operation has poor following performance and the actual motion is slower than the command. 			0			O030
67910000 hex	Illegal Fol- lowing Error	The difference be- tween the command position and the ac- tual current position exceeds the range of 30-bit data when con- verted to pulses.	 The command current position was restricted so that the velocity of the CNC motor would not exceed the maximum velocity for the specified travel distance. The CNC motor's positioning operation has poor following performance and the actual motion is slower than the command. 			0			O030
67920000 hex	Absolute En- coder Cur- rent Position Calculation Failed	It was not possible to correctly restore the current position from the absolute encoder information that was saved when power was interrupted.	 The position to restore when converted to pulses exceeded the range of signed 40-bit da- ta. 			0			O030

		Meaning			L	eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
67930000 hex	Home Unde- fined during Coordinated Motion	Home of the CNC motor became unde- fined while the status of CNC coordinate system is Executing (Executing), Hold (Holding), MovingOn- Hold (Manual Opera- tion While Holding).	 The command position or actual position overflowed or underflowed for a CNC motor while the status of CNC coordinate system is Executing (Executing), Hold (Holding), or MovingOnHold (Manual Operation While Holding), and the home definition was lost. A slave communications error occurred in the CNC motor and the home become undefined while the status of CNC coordinate system is Executing (Executing), Hold (Holding), or MovingOnHold (Manual Operation While Holding). A slave for a logical axis left the network or was disabled and home became undefined while the status of CNC coordinate system is Executing (Executing), Hold (Holding). 			0			O030
67940000 hex	Cycle Start Specified during Posi- tive Software Limit Ex- ceeded	The first position ex- ceeds the positive software limit.	 The command current position of the positioning cartesian ax- is or positioning rotational axis in the CNC coordinate system is out of range of the positive software limit. 			0			O030
67950000 hex	Cycle Start Specified during Nega- tive Software Limit Ex- ceeded	The first position ex- ceeds the negative software limit.	 The command current position of the positioning cartesian ax- is or positioning rotational axis in the CNC coordinate system is out of range of the negative software limit. 			0			O030
67960000 hex	Cycle Start Specified during Com- mand Posi- tion Over- flow (Under- flow)	Positioning, an in- struction in the under- flow/overflow direc- tion, or an instruction for which the direction is not specified was executed when there was an underflow/ overflow in the com- mand position.	 One of the following was executed when there was a command position overflow/underflow. A positioning instruction A continuous control instruction in the underflow/overflow direction An instruction for which the direction is not specified (syncing) 			0			O030

		Meaning			L	eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
67970000 hex	Cycle Start Specified during Posi- tive Limit In- put	A cycle start was exe- cuted when the posi- tive limit input was <i>ON</i> .	• A cycle start was executed when the positive limit input was <i>ON</i> .			0			O030
67980000 hex	Cycle Start Specified during Nega- tive Limit In- put	A cycle start was exe- cuted when the nega- tive limit input was <i>ON</i> .	• A cycle start was executed when the negative limit input was <i>ON</i> .			0			O030
67990000 hex	NC Program Execution Error	An error was detect- ed while the NC pro- gram was running.	An error was detected in the running NC program.Refer to the Error Codes in Attached information for the error contents.			0			O030
679B0000 hex	Position De- viation be- tween Axes Limit Ex- ceeded	The deviation of the feedback current po- sition between the gantry master axis and the gantry slave axis exceeded the Position Deviation Between Axes Over Value.	• The gantry slave axis is mov- ing slower than the gantry master axis due to poor follow- ing performance of the slave axis.			0			O030
679D0000 hex	CNC Motor Maximum Velocity Ex- ceeded Error	The command veloci- ty of the CNC motor exceeded the maxi- mum velocity due to the feedrate override.	 The value of feedrate override factor is too large. 			0			O030
77820000 hex	CNC Coordi- nate System Composition CNC Motor Error	An error occurred for a composition CNC motor in a CNC coor- dinate system.	 An error occurred for a compo- sition CNC motor in a CNC co- ordinate system while it was moving. 			0			O030
77830000 hex	CNC Com- mon Error Occurrence	A CNC common error occurred.	Partial fault level CNC com- mon error occurred.			0			O030
77840000 hex	Servo Main Circuits OFF	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive was OFF.	 An attempt was made to turn ON the Servo when the main circuit power supply to the Ser- vo Drive was OFF. 			0			O030
77850000 hex	Servo Main Circuit Pow- er OFF	The main circuit pow- er of the Servo Drive turned OFF while the Servo was ON.	The main circuit power of the Servo Drive was interrupted while the Servo was ON.			0			O030

		Meaning			l	_eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
77860000 hex	Slave Error Detected	An error was detect- ed for the EtherCAT slave or NX Unit that is allocated to the CNC motor.	 An error was detected for the EtherCAT slave or NX Unit that is allocated to the CNC motor. 			0			O030
77880000 hex	Slave Dis- connection during Servo ON	An EtherCAT slave or NX Unit that is allo- cated to the CNC mo- tor was disconnected, replaced, or disabled while the Servo was ON.	 An EtherCAT slave or NX Unit that is allocated to the CNC motor was disconnected, re- placed, or disabled while the Servo was ON. 			0			O030
77890000 hex	Homing Op- posite Direc- tion Limit In- put Detected	The limit signal in the direction opposite to the homing direction was detected during a homing operation.	 The Operation Selection at Negative Limit Input or Opera- tion Selection at Positive Limit Input parameter is set to <i>No</i> <i>reverse turn</i>. The location of the homing in- put signal sensors, homing settings, and homing start po- sition cause a limit input to be reached. The input signal sensor wiring is incorrect or the sensor is faulty. 			0			O030
778A0000 hex	Homing Di- rection Limit Input Detect- ed	The limit signal in the homing direction was detected during a homing operation.	 The Operation Selection at Negative Limit Input or Opera- tion Selection at Positive Limit Input parameter is set to <i>No</i> <i>reverse turn</i>. The location of the homing in- put signal sensors, homing settings, and homing start po- sition cause a limit input to be reached. The input signal sensor wiring is incorrect or the sensor is faulty. 			0			O030
778B0000 hex	Homing Lim- it Inputs De- tected in Both Direc- tions	The limit signals in both directions were detected during a homing operation.	 The wiring of the limit signal is incorrect. The limit sensor is installed in the wrong location. The contact logic of the limit signal is not correct. The limit sensor failed. 			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
778C0000 hex	Home Prox- imity/Homing Opposite Di- rection Limit Input Detect- ed	The home proximity input and the limit sig- nal in the direction opposite to the hom- ing direction were de- tected at the same time during a homing operation.	 The wiring of the home proximity signal or limit signal is incorrect. The home proximity sensor or limit sensor is installed in the wrong location. The contact logic of the home proximity signal or limit signal is not correct. The home proximity sensor or limit sensor failed. 			0			O030
778D0000 hex	Home Prox- imity/Homing Direction Limit Input Detected	The home proximity input and the limit sig- nal in the homing di- rection were detected at the same time dur- ing a homing opera- tion.	 The wiring of the home proximity signal or limit signal is incorrect. The home proximity sensor or limit sensor is installed in the wrong location. The contact logic of the home proximity signal or limit signal is not correct. The home proximity sensor or limit sensor failed. 			0			O030
778E0000 hex	Home Input/ Homing Op- posite Direc- tion Limit In- put Detected	The home input and the limit signal in the direction opposite to the homing direction were detected at the same time during a homing operation.	 The wiring of the home input signal or limit signal is incorrect. The home input sensor or limit sensor is installed in the wrong location. The contact logic of the home input signal or limit signal is not correct. The home input signal output device or limit sensor failed. 			0			O030
778F0000 hex	Home Input/ Homing Di- rection Limit Input Detect- ed	The home input and the limit signal in the homing direction were detected at the same time during a homing operation.	 The wiring of the home input signal or limit signal is incorrect. The home input sensor or limit sensor is installed in the wrong location. The contact logic of the home input signal or limit signal is not correct. The home input signal output device or limit sensor failed. 			0			O030

		Meaning	Assumed cause		L	eve			
Event code	Event name			M a j	P rt	M i n	O b s	l n f o	Reference
77900000 hex	Invalid Home Input Mask Dis- tance	The setting of the home input mask dis- tance is not suitable for the CNC_Home or CNC_HomeWith- Parameter instruc- tion.	The set value of the home in- put mask distance when the operating mode of the MC_Home instruction is set to <i>Proximity Reverse Turn/Home</i> <i>Input Mask Distance</i> is insuffi- cient to decelerate from the homing velocity to the homing approach velocity.			0			O030
77910000 hex	No Home In- put	There was no home signal input during the homing operation. Or, a limit signal was detected before there was a home input.	 There was no home signal input during the homing operation. A limit signal was detected before there was a home input. 			0			O030
77920000 hex	No Home Proximity In- put	There was no home proximity signal input during the homing op- eration.	 There was no home proximity signal input during the homing operation when a <i>home</i> <i>proximity input signal</i> was specified. 			0			O030
87800000 hex	EtherCAT Slave Com- munications Error	A communications er- ror occurred for the EtherCAT slave or NX Unit that is allocated to a CNC motor.	• A communications error occur- red for the EtherCAT slave or NX Unit that is allocated to the CNC motor.			0			O030
561D0000 hex	SD Memory Card Access Failure	SD Memory Card ac- cess failed when an instruction was exe- cuted.	 An SD Memory Card is not inserted. The SD Memory Card is damaged. The SD Memory Card slot is broken. 				0		O030
561E0000 hex	File Does Not Exist	The file specified for an instruction does not exist.	The specified file does not ex- ist.				0		O030
561F0000 hex	Illegal Load NC Program Number Specification	Loading has failed because an attempt was made to load the NC program with an invalid program num- ber specified.	 An attempt was made to load the NC program with an invalid program number specified. 				0		O030
56200000 hex	Too Many Files Open	The maximum num- ber of open files was exceeded when opening a file for an instruction.	• The maximum number of open files was exceeded when opening a file for an instruction.				0		O030
56210000 hex	File or Direc- tory Name Is Too Long	The file name or di- rectory name that was specified for an instruction is too long.	 The file name or directory name that was specified for the instruction to create is too long. 				0		O030

		Meaning				Leve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
56220000 hex	SD Memory Card Access Failed	SD Memory Card ac- cess failed.	 The SD Memory Card is damaged. The SD Memory Card slot is broken. 				0		O030
56230000 hex	Load NC Program Ca- pacity Ex- ceeded	Loading has failed because an attempt was made to load the NC program that has a capacity above the maximum.	 An attempt was made to load the NC program that has a ca- pacity above the maximum. 				0		O030
56240000 hex	Number of NC Program Exceeded	Loading failed be- cause an attempt was made to load NC pro- grams over the maxi- mum number of NC programs.	 A new NC program was load- ed while the number of loaded NC programs reaches the maximum. 				0		O030
56280000 hex	Illegal Load NC Program	An error was detect- ed in the loaded NC program.	 A syntax error was detected in the NC program you attempted to load. 				0		O030
678C0000 hex	Following Error Warn- ing	The following error exceeded the Follow- ing Error Warning Value.	 The positioning operation has poor following performance and the actual motion is slower than the command. 				0		O030
678D0000 hex	Command Position Overflow	The number of pulses for the command po- sition overflowed.	 When the command position was converted to the pulse unit for the positioning cartesian axis or positioning rotational axis, the specified value ex- ceeded the upper limit of the signed 40-bit data (signed 54- bit data for the spindle axis). 				0		O030
678E0000 hex	Command Position Un- derflow	The number of pulses for the command po- sition exceeded the valid range. (It under- flowed.)	 When the command position was converted to the pulse unit for the positioning cartesian axis or positioning rotational axis, the specified value ex- ceeded the lower limit of the signed 40-bit data (signed 54- bit data for the spindle axis). 				0		O030
678F0000 hex	Actual Posi- tion Over- flow	The number of pulses for the actual position overflowed.	• When the command position was converted to the pulse unit for the positioning cartesian axis or positioning rotational axis, the specified value ex- ceeded the upper limit of the signed 40-bit data (signed 54- bit data for the spindle axis).				0		O030

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Event code	Event name	me Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
67900000 hex	Actual Posi- tion Under- flow	The number of pulses for the actual position underflowed.	 When the command position was converted to the pulse unit for the positioning cartesian axis or positioning rotational axis, the specified value ex- ceeded the lower limit of the signed 40-bit data (signed 54- bit data for the spindle axis). 				0		O030
679A0000 hex	Position De- viation be- tween Axes Limit Warn- ing	The deviation of the feedback current po- sition between the gantry master axis and the gantry slave axis exceeded the Position Deviation Between Axes Warn- ing Value.	The gantry slave axis is mov- ing slower than the gantry master axis due to poor follow- ing performance of the slave axis.				0		O030
679C0000 hex	CNC Motor Maximum Velocity Ex- ceeded Warning	The command veloci- ty of the CNC motor exceeded the maxi- mum velocity due to the feedrate override.	The value of feedrate override factor is too large.				0		O030
77810000 hex	CNC Plan- ner Service Period Ex- ceeded	CNC planner service processing was not finished within two periods.	• The processing load of the NC program in a period of the CNC planner service is too heavy.				0		O030
77870000 hex	Slave Ob- servation Detected	A warning was de- tected for an Ether- CAT slave or NX Unit.	 A warning was detected for the EtherCAT slave or NX Unit that is allocated to a CNC motor. 				0		O030
97810000 hex	Software Limit Path Limited	The path exceeded the software limit was specified during Exe- cuting (Executing). Therefore, the path was limited within the software limit range.	 The path exceeded the soft- ware limit was specified during Executing (Executing). 				0		O030
97830000 hex	Velocity Control Command Value Satu- rated	The velocity control command value for the servo drive is sa- turated.	 The output value by feedback loop calculation exceeded Maximum Velocity defined in the CNC motor parameter, or the actual operation is slower than the commanded one be- cause of the poor following performance of the positioning operation. The spindle rotation velocity (S) or spindle velocity override value was commanded over the Maximum Velocity defined in the CNC motor parameter. 				0		O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
97800000 hex	Slave Error Code Report	The error code was reported by the slave when a <i>Slave Error</i> <i>Detected</i> error occur- red.	• The error code was reported by the slave when a <i>Slave</i> <i>Error Detected</i> error (77860000 hex) occurred.					0	O030
97820000 hex	CNC Func- tion System Information	This event provides internal information from the CNC Func- tion Module.	 This event provides internal in- formation from the CNC Func- tion Module. It is recorded to provide additional information for another event. 					0	O030

CNC Instructions

This section shows lists of errors (events) that may occur in CNC instructions. The lower four digits of the event code represents the error code (ErrorID) for the instruction. For details of error codes, refer to the description of the corresponding event code. For example, when the error code of the target instruction is 16#3781, refer to the explanation of event code, 54013781 hex.

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
O030	NJ/NY-series NC Integrated Controller User's Manual

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54013781 hex	Process Da- ta Object Setting Miss- ing	The PDO mapping is not correct.	 The PDOs that are required for the CNC instruction are not mapped. The relevant instruction was executed for a device that does not have an object that supports the instruction. 				0		O030
54015600 hex	Illegal CNC Coordinate System Specification	The CNC coordinate system specified for the <i>Coord</i> in-out vari- able to a CNC in- struction does not ex- ist.	 CNC coordinate system does not exist for the variable speci- fied for the <i>Coord</i> in-out varia- ble to the instruction. 				0		O030
54015601 hex	Deceleration Setting Out of Range	The parameter speci- fied for the <i>Deceleration</i> input variable to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		O030
54015602 hex	Jerk Setting Out of Range	The parameter speci- fied for the Jerk input variable to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		O030
54015603 hex	CNC Instruc- tion Re-exe- cution Disa- bled	A CNC instruction that cannot be re- executed was re-exe- cuted.	 A CNC instruction that cannot be re-executed was re-execut- ed. 				0		O030

		Meaning				Leve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015604 hex	CNC Multi- execution Disabled	Multiple functions that cannot be executed simultaneously were executed for the same target (CNC co- ordinate system).	 Multiple functions that cannot be executed simultaneously were executed for the same target (CNC coordinate sys- tem). The CNC_LoadProgramFile in- struction was executed when any of CNC coordinate system was Executing (Executing) or Hold (Holding). 				0		O030
54015605 hex	Unassigned Logical CNC Motor Num- ber Speci- fied	The CNC motor of the parameter speci- fied for the Logical- MotorNo input varia- ble to the CNC in- struction is not as- signed.	 The logical CNC motor number for which the CNC motor is not assigned to the LogicalMotor- No input variable to the CNC instruction was specified, and the instruction was executed. 				0		O030
54015606 hex	Logical CNC Motor Num- ber Out of Range	The parameter speci- fied for the Logical- MotorNo input varia- ble to a CNC instruc- tion is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		O030
54015607 hex	Target Posi- tion Setting Out of Range	The parameter speci- fied for the <i>Position</i> input variable to a CNC instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable. Or, there was an overflow/underflow in the target position.				0		O030
54015608 hex	Impossible CNC Motor Operation Specified when the Servo is OFF	An operation instruc- tion was executed for the CNC motor for which the Servo is OFF.	 An operation instruction was executed for the CNC motor for which the Servo is OFF. Home was preset with the CNC_Home or CNC_Home- WithParameter instruction for an axis for which EtherCAT process data communications are not established. 				0		O030
54015609 hex	Target Ve- locity Setting Out of Range	The parameter speci- fied for the <i>Velocity</i> input variable instruc- tion is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				0		O030
5401560A hex	Acceleration/ Deceleration Setting Out of Range	The parameter speci- fied for the <i>Acceleration</i> input variable to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
5401560B hex	Travel Mode Selection Out of Range	The parameter speci- fied for the <i>MoveMode</i> input vari- able to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		O030
5401560D hex	Parameter Selection Out of Range	The parameter speci- fied for the <i>ParameterNumber</i> in- put variable to a CNC instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		O030
5401560E hex	CNC Param- eter Setting Read/Write Setting Val- ue Out of Range	The parameter speci- fied for the <i>SettingValue</i> in-out variable to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the in-out variable. 				0		O030
5401560F hex	CNC Param- eter Setting Read/Write Target Out of Range	The parameter speci- fied for the <i>Target</i> in- out variable to a CNC instruction is out of range.	 Instruction input parameter exceeded the valid range of the in-out variable. 				0		O030
54015611 hex	Homing Pa- rameter Set- ting Out of Range	The parameter speci- fied for the <i>HomingParameter</i> in- out variable of the CNC instruction is out of range.	 Instruction input parameter exceeded the valid range of the in-out variable. 				0		O030
54015612 hex	M Code Number Out of Range	The parameter speci- fied for the <i>MCodeNo</i> input variable to a CNC instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		O030
54015613 hex	CNC Instruc- tion Re-exe- cution Disa- bled (CNC Coordinate System Specifica- tion)	An attempt was made to change the param- eter for the <i>Coord</i> in- out variable when re- executing a CNC in- struction. (This in-out variable cannot be changed when re-ex- ecuting an instruc- tion.)	 A parameter for an in-out vari- able that cannot be changed for re-execution was changed. 				0		O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015614 hex	CNC Instruc- tion Re-exe- cution Disa- bled (Logical CNC Motor Number)	An attempt was made to change the param- eter for the <i>LogicalMotorNo</i> input variable when re-exe- cuting a CNC instruc- tion. (This input varia- ble cannot be changed when re-ex- ecuting an instruc- tion.)	 A parameter for an input variable that cannot be changed for re-execution was changed. 				0		O030
5401561D hex	SD Memory Card Access Failure	SD Memory Card ac- cess failed when an instruction was exe- cuted.	 An SD Memory Card is not inserted. The SD Memory Card is damaged. The SD Memory Card slot is broken. 				0		O030
5401561E hex	File Does Not Exist	The file specified for an instruction does not exist.	The specified file does not ex- ist.				0		O030
5401561F hex	Illegal Load NC Program Number Specification	Loading has failed because an attempt was made to load the NC program with an invalid program num- ber specified.	 An attempt was made to load the NC program with an invalid program number specified. 				0		O030
54015620 hex	Too Many Files Open	The maximum num- ber of open files was exceeded when opening a file for an instruction.	• The maximum number of open files was exceeded when opening a file for an instruction.				0		O030
54015621 hex	File or Direc- tory Name Is Too Long	The file name or di- rectory name that was specified for an instruction is too long.	 The file name or directory name that was specified for the instruction to create is too long. 				0		O030
54015622 hex	SD Memory Card Access Failed	SD Memory Card ac- cess failed.	 The SD Memory Card is damaged. The SD Memory Card slot is broken. 				0		O030
54015623 hex	Load NC Program Ca- pacity Ex- ceeded	Loading has failed because an attempt was made to load the NC program that has a capacity above the maximum.	 An attempt was made to load the NC program that has a ca- pacity above the maximum. 				0		O030
54015624 hex	Number of NC Program Exceeded	Loading failed be- cause an attempt was made to load NC pro- grams over the maxi- mum number of NC programs.	 A new NC program was load- ed while the number of loaded NC programs reaches the maximum. 				0		O030

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Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54015625 hex	Illegal CNC Motor Speci- fication	The CNC motor specified for the <i>Target</i> in-out variable to a CNC instruction does not exist.	• A CNC motor does not exist for the variable specified for the <i>Target</i> input variable to the instruction.				0		O030
54015626 hex	Illegal CNC Motor Com- pensation Table Speci- fication	The CNC motor com- pensation table speci- fied for the <i>Target</i> in- put variable to a CNC instruction does not exist.	• A CNC motor compensation table does not exist for the var- iable specified for the <i>Target</i> input variable to the instruc- tion.				0		O030
54015628 hex	Illegal Load NC Program	An error was detect- ed in the loaded NC program.	 A syntax error was detected in the NC program you attempted to load. 				0		O030
5401562A hex	Skew Con- trol Mode Out of Range	The parameter speci- fied for the <i>SkewMode</i> input vari- able to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		O030
5401562B hex	Offset Value Setting Out of Range	The parameter speci- fied for the <i>OffsetValue</i> input var- iable to a CNC in- struction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. 				0		O030
54016783 hex	Target Posi- tion Positive Software Limit Ex- ceeded	The specified position exceeds the positive software limit.	 The parameter specified for the <i>Position</i> input variable to the instruction is beyond the positive software limit. The first position is beyond the positive software limit and an instruction that specifies mo- tion in the opposite direction of the software limit was execut- ed. 				0		O030
54016784 hex	Target Posi- tion Nega- tive Software Limit Ex- ceeded	The specified position exceeds the negative software limit.	 The parameter specified for the <i>Position</i> input variable to the instruction is beyond the negative software limit. While the first position is out of the negative software limit, an operation was specified in the opposite direction of the soft- ware limit. 				0		O030

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Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54016785 hex	Command Position Overflow/ Underflow	Positioning, an in- struction in the under- flow/overflow direc- tion, or an instruction for which the direction is not specified was executed when there was an underflow/ overflow in the com- mand position.	•	One of the following was exe- cuted when there was a com- mand position overflow/under- flow. A positioning instruction A continuous control instruc- tion in the underflow/overflow direction An instruction for which the di- rection is not specified (sync- ing)				0		O030
54016786 hex	Positive Lim- it Input	An instruction was executed for a motion in the positive direc- tion when the positive limit input was <i>ON</i> .	•	An instruction for a motion in the positive direction was exe- cuted when the positive limit input was <i>ON</i> , or an instruction for a motion with no direction specification was executed when the positive limit input was <i>ON</i> .				0		O030
54016787 hex	Negative Limit Input	While the negative limit input is set to <i>ON</i> , an instruction that runs in the nega- tive direction was executed.	•	While the negative limit input is set to <i>ON</i> , an instruction that runs in the negative direction was executed, or an instruction with no direction specified was executed.				0		O030
54017784 hex	Servo Main Circuits OFF	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive was OFF.	•	An attempt was made to turn ON the Servo when the main circuit power supply to the Ser- vo Drive was <i>OFF</i> .				0		O030

A-2 Errors (Events) That Can Occur in Connected Devices

The section provides tables of the errors (events) that can occur in the devices connected to NJ/NXseriesCPU Unit. Refer to *3-1 Interpreting Tables* on page 3-3 for interpreting error tables. Refer to the manual for the specific product for details on errors.

A-2-1 Errors in Slave Terminals

The section provides tables of the errors (events) that can occur in the following Units in OMRON Slave Terminals.

- NX-series EtherCAT Coupler Units
- NX-series Digital I/O Units
- NX-series Analog I/O Units
- NX-series System Units
- NX-series Position Interface Units
- NX-series Communications Interface Unit
- NX-series Safety CPU Units
- NX-series Safety I/O Units
- NX-series Load Cell Input Units
- NX-series IO-Link Master Units
- NX-series Temperature Control Units
- NX-series EtherNet/IP Unit

NX-series EtherCAT Coupler Units

The section provides a table of the errors (events) that can occur in the following Unit. NX-ECC $\Box\Box\Box$

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W519	NX-series EtherCAT Coupler Unit User's Manual

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00210000 hex	Bus Control- ler Error	An internal bus error occurred.	 A Unit failed or an I/O commu- nications error occurred be- tween the Communications Coupler Unit and the NX Unit. 			0			W519

	Event name	Meaning	Assumed cause	Level					
Event code				M a j	P rt	M i n	O b s	l n f o	Reference
00220000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W519
05010000 hex	ESC Error	An error occurred in the EtherCAT slave communications con- troller.	An error occurred in the Ether- CAT slave communications controller.			0			W519
05020000 hex	ESC Initiali- zation Error	Initialization of the EtherCAT slave com- munications controller failed.	An initialization error occurred in the EtherCAT slave commu- nications controller.			0			W519
05030000 hex	Slave Unit Verification Error	An error occurred in Slave Unit verifica- tion.	An error occurred in Slave Unit information.			0			W519
10420000 hex	Non-volatile Memory Control Pa- rameter Er- ror	An error occurred in the control parame- ters.	The power supply to the Com- munications Coupler Unit was turned OFF or Support Soft- ware communications were disconnected while writing the Unit operation settings was in progress.			0			W519
10430000 hex	Memory Corruption Detected	Memory corruption was detected.	Memory corruption was detect- ed.			0			W519
24A00000 hex	Unit Config- uration Error, Too Many Units	The number of con- nected NX Units ex- ceeds the maximum value for the Commu- nications Coupler Unit.	 More than the maximum num- ber of NX Units is connected to the Communications Coupler Unit. 			0			W519
24A10000 hex	Unit Config- uration Error, Unsupported Configura- tion	An unsupported NX Unit is mounted. Or, the total byte size of all I/O data for the connected NX Units exceeds the predeter- mined maximum val- ue for the Communi- cations Coupler Unit.	 An unsupported NX Unit was detected. The total byte size of all I/O data for the connected NX Units exceeds the predetermined maximum value for the Communications Coupler Unit. 			0			W519
35000000 hex	Unit Config- uration Infor- mation Error	An error occurred in the Unit configuration information in the Communications Coupler Unit.	The power supply to the Com- munications Coupler Unit was turned OFF or Support Soft- ware communications were disconnected while download- ing the Unit configuration infor- mation.			0			W519

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35010000 hex	Unit Config- uration Veri- fication Error	There is an inconsis- tency between the Unit configuration in- formation in the Com- munications Coupler Unit and the Units that are actually con- nected. Or, the Unit configuration was changed during oper- ation while the Unit configuration informa- tion was not set in the Communications Coupler Unit.	 An NX Unit that is registered in the Unit configuration information is not connected. A connected NX Unit does not agree with the NX Unit that is registered in the Unit configuration information. An NX Unit that is not registered in the Unit configuration information is connected. A mounted Unit is disabled in the NX Unit Mounting Setting for the Unit configuration information. An NX Unit became disconnected during operation. An NX Unit was connected during operation. An NX Unit was connected during operation. The serial number of a Unit that is registered in the Unit configuration does not agree with the serial number of the Unit that is connected. (The Serial Number Check Method is set to Setting = Actual device.) The version of a Unit that is registered in the Unit configuration information is newer than the version of the Unit that is connected. The power supply to the Additional NX Unit Power Supply Unit is not turned ON. 			0			W519
35020000 hex	NX Unit Mi- nor Fault	A minor fault was de- tected in an NX Unit.	 A minor fault level error occur- red in a Unit where an error was detected. 			0			W519
35040000 hex	Mailbox Set- ting Error	An incorrect mailbox setting was detected for the Sync Manag- er. (AL-Status Code: 0016 hex)	 An incorrect mailbox setting was detected for the Sync Manager. 			0			W519
35050000 hex	RxPDO Set- ting Error	An error was detect- ed in the RxPDO set- tings. (AL-Status Code: 001D hex)	 An error was detected in the RxPDO settings. 			0			W519
35060000 hex	TxPDO Set- ting Error	An error was detect- ed in the TxPDO set- tings. (AL-Status Code: 001E hex)	 An error was detected in the TxPDO settings. 			0			W519
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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35070000 hex	PDO WDT Setting Error	An incorrect PDO WDT setting was de- tected. (AL-Status Code: 001F hex)	 An incorrect PDO WDT setting was detected. 			0			W519
35080000 hex	SM Event Mode Set- ting Error	An SM Event Mode that is not supported was set. (AL-Status Code: 0028 hex)	 An SM Event Mode that is not supported was set. 			0			W519
35090000 hex	TxPDO Mapping Er- ror	An incorrect TxPDO was set. (AL-Status Code: 0024 hex)	 An incorrect TxPDO was set, e.g., the index, subindex, or size was outside of the allowa- ble range. 			0			W519
350A0000 hex	RxPDO Mapping Er- ror	An incorrect RxPDO was set. (AL-Status Code: 0025 hex)	 An incorrect RxPDO was set, e.g., the index, subindex, or size was outside of the allowa- ble range. 			0			W519
350B0000 hex	Illegal State Transition Request Re- ceived	An incorrect state transition request was received. (AL-Status Code: 0011 hex)	 An incorrect state transition re- quest was received. 			0			W519
350C0000 hex	Error State Transition Received	An incorrect state transition request was received. (AL-Status Code: 0012 hex)	 An unclear state transition re- quest was received. 			0			W519
350D0000 hex	Synchroni- zation Cycle Setting Error	When DC Mode was confirmed, the cycle time was set to a val- ue that made opera- tion impossible. (AL- Status Code: 0035 hex)	 When DC Mode was con- firmed, the cycle time was set to a value that made operation impossible. 			0			W519
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	• An error occurred in the soft- ware.			0			W519
84C00000 hex	NX Unit Communica- tions Time- out	An error occurred in I/O data communica- tions with the NX Units.	An NX Unit is not mounted properly.An NX Unit has failed.			0			W519
84C10000 hex	NX Unit Initi- alization Er- ror	Initializing an NX Unit failed.	 An error occurred in processing the Communications Coupler Unit. An initialization error occurred in an NX Unit. The Enabled Channel Settings for all channels of the Analog Input Unit are set to Disable. The Enabled Channel Settings for all channels of the Analog Output Unit are set to Disable. 			0			W519

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
85000000 hex	Process Da- ta WDT Er- ror	Process data commu- nications were stop- ped for more than the specified period of time.	 The EtherCAT communica- tions cable is disconnected or broken. There is an error in the host controller. 			0			W519
85010000 hex	Synchroni- zation Inter- ruption Error	A synchronization in- terruption error occur- red.	 The EtherCAT communications cable is disconnected or broken. There is a synchronization setting error in the EtherCAT Coupler Unit. There is a hardware error in the EtherCAT Coupler Unit. 			0			W519
85020000 hex	Synchroni- zation Error	A synchronization er- ror occurred.	 The EtherCAT communications cable is disconnected or broken. There is a synchronization setting error in the EtherCAT master or EtherCAT Coupler Unit. There is a hardware error in the EtherCAT Coupler Unit. 			0			W519
85030000 hex	Communica- tions Syn- chronization Error	The number of con- secutive communica- tions errors in receiv- ing the synchroniza- tion data exceeded the value that is set for the Consecutive Communications Er- ror Detection Count parameter in the Communications Er- ror Settings.	 Power to the host controller was interrupted during process data communications. The EtherCAT communica- tions cable is disconnected or broken. Noise is entering on an Ether- CAT communications cable. 			0			W519
84C50000 hex	NX Unit Startup Error	Starting an NX Unit failed.	A startup error occurred in an NX Unit.			0			W519
35030000 hex	NX Unit Ob- servation	An observation was detected in an NX Unit.	 An observation level error oc- curred in a Unit where an error was detected. This event is re- corded in the event log in the Communications Coupler Unit. 				0		W519
350E0000 hex	NX Bus Cy- cle Delay Detected	Exceeding the NX bus cycle was detected.	• The NX bus cycle was exceeded.				0		W519

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80220000 hex	NX Message Communica- tions Error	An error was detect- ed in message com- munications and the message frame was discarded.	 For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. This cause does not apply if attach- ed information 2 is 0 (NX bus). Message communications were cutoff in communications. 				0		W519
90400000 hex	Event Log Cleared	The event log was cleared.	• The event log was cleared by the user.					0	W519
90420000 hex	Restart Exe- cuted	A restart was execut- ed.	• A restart command was re- ceived.					0	W519
90430000 hex	Memory All Cleared	The Unit settings were cleared.	• The non-volatile memory in the EtherCAT Coupler Unit was cleared.					0	W519
94600000 hex (Ver. 1.07 or later)	I/O Check Execution Started	I/O checking was started.	 I/O checking was started. 					0	W519

NX-series Digital I/O Units

The section provides a table of the errors (events) that can occur in the following Units.

NX-ID

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W521	NX-series Digital I/O Unit User's Manual

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W521
10410000 hex	Control Pa- rameter Er- ror in Master	An error occurred in the control parame- ters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation set- tings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit op- eration settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Com- munications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communica- tions Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved. 			0			W521

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
8020000 hex	NX Unit I/O Communica- tions Error	An I/O communica- tions error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Units The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply is disconnected. Or, the wiring from the Unit power supply is disconnected. Or, the viring from the Unit power supply is broken. The power cable for the Unit power supply is broken. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply is disconnected. Or, the wiring from the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is not mounted properly. 			0			W521

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80210000 hex	NX Unit Out- put Synchro- nization Er- ror	An output synchroni- zation error occurred in the NX Unit.	 For the NX bus of CPU Units I/O refreshing on the NX bus is not performed normally due to an error in the CPU Unit. For Communications Coupler Units The communications cable connected to the Communica- tions Coupler Unit is broken or the connection is faulty. The communications cable is affected by noise. 			0			W521
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information er- ror occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W521
70010000 hex (Ver. 1.06)	Previous Time Speci- fied	A previous time was specified for output refreshing with a specified time stamp.	 For the NX bus of CPU Units A past time is specified due to an error in the user program. A Task Period Exceeded error occurred in a CPU Unit. For Communications Coupler Units A past time is specified due to an error in the user program. A Task Period Exceeded error occurred in a CPU Unit. The arrival of I/O data at an NX Unit was delayed due to a Communications Synchroniza- tion Error or other communica- tions error. 				0		W521
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W521

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A-2-1 Errors in Slave Terminals

NX-series Analog I/O Units

The section provides a table of the errors (events) that can occur in the following Units.

NX-AD

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W522	NX-series Analog I/O Units User's Manual for Analog Input Units and Analog Output Units
W566 ^{*1}	NX-series Analog I/O Units User's Manual for Temperature Input Units and Heater Burnout Detection Units

*1. Temperature Input Units are introduced in Cat. No. W522 before Cat. No. W566 is released.

● Analog Input Units and Analog Output Units (NX-AD□□□□, NX-DA□□□ □)

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W522
10400000 hex	Analog Unit Calibration Parameter Error	An error occurred for the calibration data in the Analog Unit.	 The power supply to the Ana- log Unit was turned OFF or Support Software communica- tions were disconnected while writing the calibration values to the Analog Unit. 			0			W522
10410000 hex	Control Pa- rameter Er- ror in Master	An error occurred in the control parame- ters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation set- tings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit op- eration settings for the relevant NX Unit are saved. 			0			W522
14C00000 hex	Unit Calibra- tion Value Parity Error	An error occurred in the user calibration data in the NX Unit.	An error was detected in the calibration data.			0			W522
65030000 hex	Unit I/O Dis- connection Detected for Channel 1	A disconnected input was detected for channel 1.	Input wiring is broken.Input wiring is disconnected.			0	۲		W522

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
65040000 hex	Unit I/O Dis- connection Detected for Channel 2	A disconnected input was detected for channel 2.	Input wiring is broken.Input wiring is disconnected.			0	۲		W522
65050000 hex	Unit I/O Dis- connection Detected for Channel 3	A disconnected input was detected for channel 3.	Input wiring is broken.Input wiring is disconnected.			0	۲		W522
65060000 hex	Unit I/O Dis- connection Detected for Channel 4	A disconnected input was detected for channel 4.	Input wiring is broken.Input wiring is disconnected.			0	۲		W522
65070000 hex	Unit I/O Dis- connection Detected for Channel 5	A disconnected input was detected for channel 5.	Input wiring is broken.Input wiring is disconnected.			0	۲		W522
65080000 hex	Unit I/O Dis- connection Detected for Channel 6	A disconnected input was detected for channel 6.	Input wiring is broken.Input wiring is disconnected.			0	۲		W522
65090000 hex	Unit I/O Dis- connection Detected for Channel 7	A disconnected input was detected for channel 7.	Input wiring is broken.Input wiring is disconnected.			0	۲		W522
650A0000 hex	Unit I/O Dis- connection Detected for Channel 8	A disconnected input was detected for channel 8.	Input wiring is broken.Input wiring is disconnected.			0			W522

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
8020000 hex	NX Unit I/O Communica- tions Error	An I/O communica- tions error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications coupler Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply is disconnected. Or, the wiring from the Unit power supply is broken. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is notification. The voltage of the Unit power supply is horken. The voltage of the Unit power supply is notification. There is a hardware error in the NX Unit. 			0			W522

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80210000 hex	NX Unit Out- put Synchro- nization Er- ror	An output synchroni- zation error occurred in the NX Unit.	 For the NX bus of CPU Units I/O refreshing on the NX bus is not performed normally due to an error in the CPU Unit. For Communications Coupler Units The communications cable connected to the Communica- tions Coupler Unit is broken or the connection is faulty. The communications cable is affected by noise. 			0			W522
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information er- ror occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W522
64F00000 hex	Unit Over Range for Channel 1	The analog input data for input channel 1 exceeded the upper limit of the input range. Or, the analog output data for output channel 1 exceeded the upper limit of the output range.	• The analog input data exceed- ed the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			۲	0		W522
64F10000 hex	Unit Over Range for Channel 2	The analog input data for input channel 2 exceeded the upper limit of the input range. Or, the analog output data for output channel 2 exceeded the upper limit of the output range.	 The analog input data exceed- ed the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range. 			۲	0		W522
64F20000 hex	Unit Over Range for Channel 3	The analog input data for input channel 3 exceeded the upper limit of the input range. Or, the analog output data for output channel 3 exceeded the upper limit of the output range.	 The analog input data exceed- ed the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range. 			•	0		W522

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64F30000 hex	Unit Over Range for Channel 4	The analog input data for input channel 4 exceeded the upper limit of the input range. Or, the analog output data for output channel 4 exceeded the upper limit of the output range.	 The analog input data exceed- ed the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range. 			۲	0		W522
64F40000 hex	Unit Over Range for Channel 5	The analog input data for input channel 5 exceeded the upper limit of the input range. Or, the analog output data for output channel 5 exceeded the upper limit of the output range.	• The analog input data exceed- ed the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			٠	0		W522
64F50000 hex	Unit Over Range for Channel 6	The analog input data for input channel 6 exceeded the upper limit of the input range. Or, the analog output data for output channel 6 exceeded the upper limit of the output range.	 The analog input data exceed- ed the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range. 			۲	0		W522
64F60000 hex	Unit Over Range for Channel 7	The analog input data for input channel 7 exceeded the upper limit of the input range. Or, the analog output data for output channel 7 exceeded the upper limit of the output range.	 The analog input data exceed- ed the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range. 			•	0		W522
64F70000 hex	Unit Over Range for Channel 8	The analog input data for input channel 8 exceeded the upper limit of the input range. Or, the analog output data for output channel 8 exceeded the upper limit of the output range.	 The analog input data exceed- ed the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range. 			٠	0		W522

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64F80000 hex	Unit Under Range for Channel 1	The analog input data for input channel 1 went below the lower limit of the input range. Or, the analog output data for output channel 1 went below the lower limit of the output range.	 The analog input data went be- low the lower limit of the input range. Or, the analog output data went below the lower limit of the output range. 			۲	0		W522
64F90000 hex	Unit Under Range for Channel 2	The analog input data for input channel 2 went below the lower limit of the input range. Or, the analog output data for output channel 2 went below the lower limit of the output range.	 The analog input data went be- low the lower limit of the input range. Or, the analog output data went below the lower limit of the output range. 			٢	0		W522
64FA0000 hex	Unit Under Range for Channel 3	The analog input data for input channel 3 went below the lower limit of the input range. Or, the analog output data for output channel 3 went below the lower limit of the output range.	 The analog input data went be- low the lower limit of the input range. Or, the analog output data went below the lower limit of the output range. 			۲	0		W522
64FB0000 hex	Unit Under Range for Channel 4	The analog input data for input channel 4 went below the lower limit of the input range. Or, the analog output data for output channel 4 went below the lower limit of the output range.	 The analog input data went be- low the lower limit of the input range. Or, the analog output data went below the lower limit of the output range. 			۲	0		W522
64FC0000 hex	Unit Under Range for Channel 5	The analog input data for input channel 5 went below the lower limit of the input range. Or, the analog output data for output channel 5 went below the lower limit of the output range.	 The analog input data went be- low the lower limit of the input range. Or, the analog output data went below the lower limit of the output range. 			۲	0		W522

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64FD0000 hex	Unit Under Range for Channel 6	The analog input data for input channel 6 went below the lower limit of the input range. Or, the analog output data for output channel 6 went below the lower limit of the output range.	• The analog input data went be- low the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			۲	0		W522
64FE0000 hex	Unit Under Range for Channel 7	The analog input data for input channel 7 went below the lower limit of the input range. Or, the analog output data for output channel 7 went below the lower limit of the output range.	 The analog input data went be- low the lower limit of the input range. Or, the analog output data went below the lower limit of the output range. 			•	0		W522
64FF0000 hex	Unit Under Range for Channel 8	The analog input data for input channel 8 went below the lower limit of the input range. Or, the analog output data for output channel 8 went below the lower limit of the output range.	• The analog input data went be- low the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			•	0		W522
90400000 hex	Event Log Cleared	The event log was cleared.	 The event log was cleared by the user. 					0	W522

• Temperature Input Units (NX-TSDDD)

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W566 (W522)
05100000 hex	A/D Convert- er Error	An error occurred in the A/D converter	NoiseA/D Converter Error			0			W566 (W522)
05110000 hex	Cold Junc- tion Sensor Error	The temperature can- not be converted be- cause the cold junc- tion sensor is discon- nected.	 There is a faulty connection to the cold junction sensor. The cold junction sensor failed. 			0	۲		W566 (W522)
10410000 hex	Control Pa- rameter Er- ror in Master	An error occurred in the control parame- ters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation set- tings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit op- eration settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Com- munications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communica- tions Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved. 			0			W566 (W522)
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			W566 (W522)
65100000 hex	Sensor Dis- connected Error	A disconnected tem- perature sensor was detected.	 The temperature sensor is damaged or the wires are bro- ken. An unused channel is not disa- bled. 			0	۲		W566 (W522)

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
8020000 hex	NX Unit I/O Communica- tions Error	An I/O communica- tions error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications oc- curred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insuffi- cient. There is a hardware error in the NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications oc- curred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insuffi- cient. There is a hardware error in the NX Unit. 			0			W566 (W522)

					l	eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information er- ror occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W566 (W522)
65110000 hex	Process Val- ue Over Range	The process temper- ature exceeded the upper limit of temper- ature conversion range.	 The sensor is disconnected. The sensor or the compensating cables are not wired correctly. The sensor and the input type setting do not agree. The range of the input type is too narrow for the temperatures that need to be measured. An unused channel is not disabled. 			٢	0		W566 (W522)
65120000 hex	Process Val- ue Under Range	The process temper- ature went below the lower limit of temper- ature conversion range.	 The sensor or the compensating cables are not wired correctly. The sensor and the input type setting do not agree. The range of the input type is too narrow for the temperatures that need to be measured. 			۲	0		W566 (W522)
80220000 hex	NX Message Communica- tions Error	An error was detect- ed in message com- munications and the message frame was discarded.	 For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. This cause does not apply if attached information 2 is 0 (NX bus). Message communications were cutoff in communications. 				0		W566 (W522)
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W566 (W522)

• Heater Burnout Detection Units (NX-HB

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W566
05100000 hex	A/D Convert- er Error	An error occurred in the A/D converter	NoiseA/D Converter Error			0			W566
10410000 hex	Control Pa- rameter Er- ror in Master	An error occurred in the control parame- ters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation set- tings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit op- eration settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Com- munications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communica- tions Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved. 			0			W566
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			W566
652C0000 hex	Heater Burn- out Detected	A heater burnout was detected.	 A heater was burned out or damaged. The setting of the Heater Burn- out Detection Current is too high. A CT input that is not used is allocated to a control output in the CT Allocation setting. 			0	⊙		W566
652D0000 hex	SSR Failure Detected	An SSR failure was detected.	 The SSR was short-circuited or damaged. The setting of the SSR Failure Detection Current is too small. A CT input that is not used is allocated to a control output in the CT Allocation setting. 			0	٠		W566

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
8020000 hex	NX Unit I/O Communica- tions Error	An I/O communica- tions error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications oc- curred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insuffi- cient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications oc- curred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The power cable for the Unit power supply is broken. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insuffi- cient. There is a hardware error in the NX Unit. 			0			W566

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information er- ror occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W566
80220000 hex	NX Message Communica- tions Error	An error was detect- ed in message com- munications and the message frame was discarded.	 For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications. 				0		W566
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W566

NX-series System Units

The section provides a table of the errors (events) that can occur in the following Units.

NX-PD1

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W523	NX-series System Unit User's Manual

					L	.eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W523
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W523

NX-series Position Interface Units

The section provides a table of the errors (events) that can occur in the following Units.

NX-EC0

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W524	NX-series Position Interface Units User's Manual

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W524
10410000 hex	Control Pa- rameter Er- ror in Master	An error occurred in the control parame- ters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation set- tings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit op- eration settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Com- munications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communica- tions Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved. 			0			W524
35100000 hex	External In- put Setting Error	A setting for an exter- nal input is not cor- rect.	• The same function (other than a general-purpose input) is as- signed to more than one of the external inputs (I0 to I2).			0			W524

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35110000 hex	SSI Data Setting Error	There is an error in the SSI data settings.	 The sum of the values set for the Valid Data Length and the Leading Bits parameters ex- ceeds 32. The sum of the values set for the Multi-turn Data Length, Single- turn Data Length, and the Status Data Length param- eters exceeds 32. The sum of the value set for the start bit position and the data length of the SSI data ex- ceeds the value set for the Val- id Data Length parameter. The value set for the Encoder Resolution parameter exceeds the range expressed by the data length set for the Single- turn Data Length parameter. 			0			W524
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			W524
743D0000 hex	Incorrect Synchroni- zation Com- mand	Updating the target position data in the synchronization re- fresh failed consecu- tively for more than the specified number of times.	 The communications cable that connects the Communica- tions Coupler Unit is discon- nected or a connection is faul- ty. Noise 			0	٠		W524
743E0000 hex	Illegal Fol- lowing Error	The difference be- tween the command position and actual position exceeds the range expressed by 29 bits.	 A command that exceeded the maximum velocity (for a model that allows maximum velocity setting, the set value applies to this maximum velocity) was output continuously, so the following error for the actual output, which is restricted by the maximum velocity, has increased. A command velocity that does not correspond to the command position was specified when a velocity-continuous pulse output was used, so the number of pulses that were actually output for the updated command position has increased. 			0			W524

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
743F0000 hex	Illegal State Transition	The EtherCAT master or EtherCAT Coupler Unit executed a com- mand to change the communications sta- tus when the Pulse Output Unit is in the Operation Enabled status.	 A communications command to change the current commu- nications status was received from the communications mas- ter while the Unit is in the Op- eration Enabled status. 			0			W524
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communica- tions error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications coccurred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply is disconnected. Or, the wiring from the Unit power supply is broken. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is insufficient. There is a hardware error in an NX Unit. 			0			W524

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80210000 hex	NX Unit Out- put Synchro- nization Er- ror	An output synchroni- zation error occurred in the NX Unit.	 For the NX bus of CPU Units I/O refreshing on the NX bus is not performed normally due to an error in the CPU Unit. For Communications Coupler Units The communications cable connected to the Communica- tions Coupler Unit is broken or the connection is faulty. The communications cable is affected by noise. 			0			W524
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information er- ror occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W524
80220000 hex	NX Message Communica- tions Error	An error was detect- ed in message com- munications and the message frame was discarded.	 For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications. 				0		W524
84D00000 hex	SSI Commu- nications Er- ror	An error occurred in SSI communications.	 The SSI data settings do not agree with the SSI communications settings in the connected device. The wiring between the NX Unit and the connected device is not correct or disconnected. Noise 			٠	0		W524
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W524

NX-series Communications Interface Units

The section provides a table of the errors (events) that can occur in the following Units. NX-CIF $\Box\Box\Box$

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W540	NX-series Communications Interface Units User's Manual

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W540
10410000 hex	Control Pa- rameter Er- ror in Master	An error occurred in the control parame- ters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation set- tings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit op- eration settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Com- munications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communica- tions Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved. 			0			W540
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			W540

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
8020000 hex	NX Unit I/O Communica- tions Error	An I/O communica- tions error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Units The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply is disconnected. Or, the wiring from the Unit power supply is broken. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply is disconnected. Or, the wiring from the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. 			0			W540

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information er- ror occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W540
85400000 hex	Data Dis- carded Due to Full Inter- nal Buffer	The internal buffer is full. The input data is discarded.	 If the internal buffer for received data is full, the Controller cannot read the received data. If the internal buffer for transmission data is full, the transmission data was too large or there are too many send requests. 			0	•		W540
80220000 hex	NX Message Communica- tions Error	An error was detect- ed in message com- munications and the message frame was discarded.	 For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications. 				0		W540
85410000 hex	Parity Error	A parity error occur- red.	 The communications settings and baud rate setting do not agree with those of the remote device. Noise 			•	0		W540
85420000 hex	Framing Er- ror	A framing error occur- red.	 The communications settings and baud rate setting do not agree with those of the remote device. Noise 			•	0		W540
85430000 hex	Overrun Er- ror	An overrun error oc- curred.	 The next data was received during processing of received data because the baud rate is too high. 			·	0		W540
90400000 hex	Event Log Cleared	The event log was cleared.	• The event log was cleared by the user.					0	W540

NX-series Safety CPU Units

The section provides a table of the errors (events) that can occur in the following Safety Control Units. NX-SL5 $\Box\Box\Box$

NX-SL3

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
Z930	NX-series Safety Control Unit User's Manual

• System Error

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
05200000 hex	System Er- ror	A hardware error was detected during self- diagnosis of the hard- ware.	 Hardware has failed. A memory error occurred due to a transient cause, such as a soft error or excessive noise. 			0			Z930

• Communications Errors

					L	.eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35200000 hex	Safety Proc- ess Data Communica- tions Not Es- tablished Er- ror	Safety process data communications was not established with one or more safety slaves.	 The communications settings for safety process data are not correct, the safety slave is not in the correct status, etc. The safety slave for safety process data communications is not connected. The NX Unit Mounting Setting for the safety slave for safety process data communications is set to Disabled. 			0			Z930
35200001 hex	FSoE Mas- ter Connec- tion Not Es- tablished Er- ror	FSoE communica- tions were not estab- lished with the FSoE slave.	 The FSoE communications settings are not correct, the FSoE slave is not in the correct status, etc. The FSoE slave for FSoE communications is not connected. The FSoE slave set in the NX Unit Mounting Setting for FSoE communications is disabled. The version of the FSoE slave to be communicated is older than the configured version. 			0			Z930

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
8020000 hex	NX Unit I/O Communica- tions Error	An I/O communica- tions error occurred in an NX Unit.	 NX Bus of the CPU Unit An error occurred in the CPU Unit, which prevents the NX bus communications from be- ing carried out normally. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The Unit power voltage is out of the supported range, or the Unit power capacity is not suf- ficient. There is a hardware error in the NX Unit. Communications Coupler Unit An error occurred in the Com- munications Coupler Unit, which prevents the NX bus communications from being carried out normally. The NX Unit is not mounted properly. The power cable for the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply to the NX Units is incorrect. The Unit power voltage is out of the supported range, or the Unit power capacity is not suf- ficient. There is a hardware error in the NX Unit. 			0			Z930

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
8030000 hex	Safety Proc- ess Data Communica- tions Time- out	A communications timeout occurred in safety process data communications with the Safety Control Unit.	 A setting is not correct. The setting of the safety task period is too short. There is excessive noise. The Safety CPU Unit or safety slave entered a status where it could not continue safety process data communications. An error or status change occurred in the NX Bus Master to which the Unit is connected, preventing correct process data communications. 			0			Z930
80300001 hex	FSoE Mas- ter Connec- tion Timeout	A communication timeout occurred in FSoE communica- tions with the FSoE slave.	 A setting is not correct. The setting of the safety task period is too short. There is excessive noise. The Safety CPU Unit or FSoE slave entered a state where it could not continue FSoE communications. The process data communications were not performed correctly because an error or status change occurred in the NX bus master to which the Unit is connected. 			0			Z930

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80310000 hex	CIP Safety Originator Connection Not Estab- lished Error	CIP safety originator connection was not established.	 The target node is different. The target node is not configured. The target node status is invalid. The Do not use Option is selected for CIP message server setting in the EtherNet/IP Port Settings. The settings of the NX-series CPU Unit and NX-series EtherNet/IP Unit related to CIP Safety communications do not match the settings of the Safety CPU Unit. Setting to use tag data link communications was made to the NX-series EtherNet/IP Unit that is included in the CIP Safety connection settings. The NX-series EtherNet/IP Unit that is included in the CIP Safety connection settings. The NX-series EtherNet/IP Unit with tag data link communications was added to the CIP Safety connection settings. The Do not use Option is selected for CIP Safety communications. The Do not use Option is selected for CIP Safety communications was added to the CIP Safety communications in the Built-in EtherNet/IP Port Settings. 			0			Z930
80320000 hex	CIP Safety Originator Connection Timeout	A timeout occurred in CIP safety originator connection.	 The communications cable is disconnected or broken. The target node entered a state where it could not accept the connection. The timeout value in the communications setup is too small. CIP message communications at the target node are stopped. When the Packet Filter function is enabled in the EtherNet/IP Port Settings, CIP Safety packets from the target node are not allowed. CIP Safety packets are not allowed by the Packet Filter functions on the target node or the devices on the communication path. There is excessive noise. 			0			Z930

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80330000 hex	CIP Safety Target Does Not Exist	The target node does not exist.	 The communications cable is disconnected or broken. The target node entered a state where it could not accept the connection. The timeout value in the communications setup is too small. CIP message communications at the target node are stopped. CIP Safety packets from the originator node are not allowed by the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path. There is excessive noise. 			0			Z930
80340000 hex	CIP Safety Target Con- nection Timeout	A timeout occurred in the CIP Safety Target connection.	 The communications cable is disconnected or broken. The originator device entered a state where it could not accept the connection. The timeout value for the communications settings is too small. CIP Safety packets from the originator node are not allowed by the Packet Filter (Simple) or Packet Filter functions in the EtherNet/IP Port Settings or on the devices on the communication path. The CIP message server setting for the originator node is set to Do not use. When the Packet Filter functions is set to Do not use. When the Packet Filter function of the originator node is enabled, CIP Safety packets from the target node are not allowed. There is excessive noise. The Do not use Option is selected for CIP Safety communications in the Built-in EtherNet/IP Port Settings. 			0			Z930
84F00000 hex	NX Bus I/O Communica- tions Stop- ped	An error occurred in I/O communications between the NX bus master and an NX Unit.	 There is a hardware error in the NX bus master or an NX Unit. 			0			Z930

	Operation Continua	tion Error Related to	o Program Execution Function
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Event code	Event name	Possible settings	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
74A00000 hex	SF_Antiva- lent Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the <i>NX</i> - series Safety ControlUnit InstructionsReference Manual (Cat No. 2931).			0			Z930
74A10000 hex	SF_EDM Er- ror	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A20000 hex	SF_Emer- gencyStop Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A30000 hex	SF_Enable- Switch Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A40000 hex	SF_Equiva- lent Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A50000 hex	SF_ESPE Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A60000 hex	SF_Guar- dLocking Er- ror	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A70000 hex	SF_Guard- Monitoring Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the <i>NX</i> - series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930

					Level				
Event code	Event name	Possible settings	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference Z930
74A80000 hex	SF_Mode- Selector Er- ror	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A90000 hex	SF_Muting- Par Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74AA0000 hex	SF_Muting- Par_2Sen- sor Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74AB0000 hex	SF_Muting- Seq Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74AC0000 hex	SF_OutCon- trol Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74AD0000 hex	SF_Safe- tyRequest Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74AE0000 hex	SF_Testa- bleSafety- Sensor Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the .			0			Z930
74AF0000 hex	SF_Two- HandCon- trolTypell Er- ror	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. 2931).			0			Z930
74B00000 hex	SF_Two- HandCon- trolTypeIII Error	An error was detect- ed in execution of a safety function block.	Refer to information on the diag- nostic code that is given for at- tached information 1 in the NX- series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930

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Event code	Event name	Possible settings	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
55000000 hex	Division by Zero	Division by zero was detected.	The divisor is zero.			0			Z930
55010000 hex	Cast Error	A casting error was detected.	A value was input that exceeded the range of the receiving varia- ble.			0			Z930
55020000 hex	MUX Error	An MUX instruction error was detected.	The value of the selection input (K) to the MUX instruction is not correct.			0			Z930

Operation Stop Error Related to Program Execution

• Setting Error

					l	eve	el		
Event code	Event name	Possible settings	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
10500000 hex	NX Bus Communica- tions Set- tings Read Error	There is an error in the NX Bus communi- cations settings that are saved in non-vol- atile memory.	 A hardware failure occurred in the non-volatile memory. Power was turned OFF while saving data to the non-volatile memory. 			0			Z930
10510000 hex	Safety Appli- cation Data Read Error	There is an error in the safety application data that is saved in non-volatile memory.	 A hardware failure occurred in the non-volatile memory. Power was turned OFF while saving data to the non-volatile memory. 			0			Z930
10520000 hex	NX Bus Communica- tions Set- tings and Safety Appli- cation Data Mismatch	There is an error in the safety application data that is saved in non-volatile memory.	 The NX bus communications settings that were transferred to the Safety CPU Unit do not match the safety application data. 			0			Z930
10530000 hex	Non-volatile Memory Ac- cess Error	Reading/writing non- volatile memory failed.	Non-volatile memory failure.			0			Z930
24AA0000 hex	DIP Switch Setting Error	The DIP switch set- ting is invalid.	 The DIP switch setting was changed. 				0		Z930

• Restore Function Errors

					Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference	
35250000 hex	Safety Unit Restore Op- eration Failed to Start (SD Memory Card Access Failed)	Access to the SD Memory Card failed when you start the re- store operation for a Safety Unit.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. The SD Memory Card is damaged. 				0		Z930	
35260000 hex	Safety Unit Restore Op- eration Failed to Start (Safety Unit Restore File Read Failure)	Reading the Safety Unit Restore File failed.	 The Safety Unit Restore File is not stored in the specified fold- er. The Safety Unit Restore File is corrupted. 				0		Z930	
35270000 hex	Safety Unit Restore Op- eration Failed to Start (Model Mismatch)	A model mismatch was detected during pre-execution checks for a restore opera- tion for a Safety Unit.	 The restore operation for a Safety Unit was performed on an incorrect Unit. An incorrect Safety Unit Re- store File was used. 				0		Z930	
35280000 hex	Safety Unit Restore Op- eration Failed to Start (Ver- sion Mis- match)	A version mismatch was detected during pre-execution checks for a restore opera- tion for a Safety Unit.	 The restore operation for a Safety Unit was performed on an incompatible unit. An incorrect Safety Unit Re- store File was used. 				0		Z930	
35290000 hex	Safety Unit Restore Op- eration Failed to Start (Node Name Mis- match)	A node name mis- match was detected during pre-execution checks for a restore operation for a Safety Unit.	 The restore operation for a Safety Unit was performed on an incorrect Unit. An incorrect Safety Unit Re- store File was used. The node name specified when the Safety Unit Restore File was generated is incor- rect. 				0		Z930	
352A0000 hex	Safety Unit Restore Op- eration Failed to Start (Safety Password Mismatch)	A safety password mismatch was detect- ed during pre-execu- tion checks for a re- store operation for a Safety Unit.	 The restore operation for a Safety Unit was performed on an incorrect Unit. An incorrect Safety Unit Re- store File was used. The safety password specified when the Safety Unit Restore File was generated is incor- rect. 				0		Z930	
						L	eve			
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Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
352B0000 hex	Safety Unit Restore Op- eration Failed	The restore operation for a Safety Unit ended in an error.	•	The SD Memory Card was re- moved during a restore opera- tion for a Safety Unit. Data was read from or written to the SD Memory Card via the Support Software or an FTP client during a restore opera- tion for a Safety Unit.				0		Z930

• Other Errors

			Level							
Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80220000 hex	NX Message Communica- tions Error	An error was detect- ed in message com- munications for an NX Unit and the mes- sage frame was dis- carded.		The message communications load is high. The communications cable is disconnected or broken. This cause does not apply if attach- ed information 2 is 0 (NX bus). Message communications were cut off as the result of ex- ecuting a synchronization or restoration operation on the Sysmac Studio or as the result of disconnecting an EtherCAT slave.				0		Z930
951E0000 hex	Sysmac Stu- dio Commu- nications Connection Timeout	A communications timeout occurred be- tween the Sysmac Studio and the Safety CPU Unit.	•	The communications cable was disconnected.					0	Z930
951F0000 hex	Clear All Memory Re- jected	Clearing all of memo- ry failed.	•	The Clear All Memory opera- tion for a Controller or a Slave Terminal was performed.					0	Z930

• User Access Log

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
90400000 hex	Event Log Cleared	The event log was cleared.	 The event log was cleared by the user. 					0	Z930
90430000 hex	Memory All Cleared	The Unit settings were cleared.	The Clear All Memory opera- tion was performed.					0	Z930

NX-series Safety I/O Units (NX-SIDDD/NX-SODDD)

The section provides a table of the errors (events) that can occur in the following Safety Control Units. NX-SI \square

NX-SO

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
Z930	NX-series Safety Control Unit User's Manual

• System Error

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference	
05200000 hex	System Er- ror	A hardware error was detected during self- diagnosis of the hard- ware.	 Hardware has failed. A memory error occurred due to a transient cause, such as a soft error or excessive noise. 			0			Z930	

• Communications Errors

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35210000 hex	Safety Proc- ess Data Communica- tions Not Es- tablished - Incorrect Unit Param- eter Error	Safety process data communications was not established with the Safety CPU Unit.	The model or safety I/O termi- nal settings are not correct.			0			Z930
35230000 hex	Safety Proc- ess Data Communica- tions Not Es- tablished, In- correct FSoE Slave Address Er- ror	Safety process data communications was not established with the Safety CPU Unit because of an incor- rect FSoE slave ad- dress.	 The setting of the FSoE slave address in the safety process data communications settings is different from the setting in the Unit. 			0			Z930
35240000 hex	Safety Proc- ess Data Communica- tions Not Es- tablished, In- correct Frame Error	Safety process data communications were not established with the Safety CPU Unit because an incorrect frame was received.	 An incorrect frame was received in safety process data communications. There is excessive noise. 			0			Z930

					I	_eve	I		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communica- tions error occurred between the NX bus master and the NX Unit.	 The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The unit power voltage is out of the supported range, or the unit power capacity is not sufficient. There is a hardware error in the NX Unit. 			0			Z930
80300000 hex	Safety Proc- ess Data Communica- tions Time- out	A communications timeout occurred in safety process data communications with the Safety Control Unit.	 A setting is not correct. The setting of the safety task period is too short. There is excessive noise. The Safety CPU Unit or safety slave entered a status where it could not continue safety process data communications. The process data communications. The process data communications were not performed correctly because an error or status change occurred in the NX bus master to which the Unit is connected. 			0			Z930
84F10000 hex	NX Bus I/O Communica- tions Stop- ped	An error occurred in I/O communications between the NX bus master and an NX Unit.	There is a hardware error in the NX bus master or an NX Unit.			0			Z930

• Safety I/O Errors

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	0 b s	l n f o	Reference
05210000 hex	Internal Cir- cuit Error at Safety Input	A fault was detected in the internal circuit for the safety input terminal.	 The internal circuit for the safe- ty input terminal is faulty. A memory error or signal error occurred due to a transient cause, such as an excessive noise. 			0			Z930

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		Meaning			L	_eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
05220000 hex	Internal Cir- cuit Error at Test Output	A fault was detected in the internal circuit for the test output ter- minal.	 The internal circuit for the test output terminal is faulty. A memory error or signal error occurred due to a transient cause, such as an excessive noise. 			0			Z930
05230000 hex	Internal Cir- cuit Error at Safety Out- put	A fault was detected in the internal circuit for the safety output terminal.	 The internal circuit for the safe- ty output terminal is faulty. A memory error or signal error occurred due to a transient cause, such as an excessive noise. 			0			Z930
65200000 hex	I/O Power Supply Volt- age Error	An incorrect I/O pow- er supply voltage was detected.	The input power or output power is not supplied correctly.			0			Z930
65210000 hex	Output Pow- er Interrupt Circuit Error	An error was detect- ed by the output pow- er interruption test.	• The wiring is not correct or there is a fault in the hardware.			0			Z930
65220000 hex	External Test Signal Fail- ure at Safety Input	An error was detect- ed in test pulse evalu- ation of the safety in- put terminals.	 The positive power supply wire is in contact with the input sig- nal line. The input signal lines are shorted. The external device is faulty. 			0			Z930
65230000 hex	Discrepancy Error at Safety Input	An error was detect- ed in discrepancy evaluation of safety input terminals.	 There is a ground fault or disconnection in the input signal line. The connected device is faulty. The setting of the discrepancy time is not correct. Chattering occurred in the input signal from the external input device, such as a safety door. 			0			Z930
65240000 hex	Overload Detected at Test Output	An overcurrent was detected at the test output terminal.	There is a ground fault on the output signal line.The external device is faulty.			0			Z930
65250000 hex	Stuck-at- high Detect- ed at Test Output	It was detected that the test output termi- nal is stuck ON.	 The positive power supply line is in contact with the output signal line. The internal circuit is faulty. A memory error or signal error occurred due to a transient cause, such as a soft error or excessive noise. 			0			Z930
65270000 hex	Short Circuit Detected at Safety Out- put	A ground fault was detected on the safe- ty output terminal.	 There is a ground fault on the output signal line. 			0			Z930

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
65280000 hex	Stuck-at- high Detect- ed at Safety Output	It was detected that the safety output ter- minal is stuck ON.	 The positive power supply line is in contact with the output signal line. The output power supply is outside the specifications. The internal circuit is faulty. A memory error or signal error occurred due to a transient cause, such as a soft error or excessive noise. 			0			Z930

• Other Errors

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80220000 hex	NX Message Communica- tions Error	An error was detect- ed in message com- munications for an NX Unit and the mes- sage frame was dis- carded.	 The message communications load is high. The communications cable is disconnected or broken. Message communications were cut off as the result of ex- ecuting a synchronization or restoration operation on the Sysmac Studio or as the result of disconnecting an EtherCAT slave. 				0		Z930

• User Access Log

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	Z930
90430000 hex	Memory All Cleared	The Unit settings were cleared.	The Clear All Memory operation was performed.					0	Z930

NX-series Load Cell Input Units

The section provides a table of errors (events) that can occur in the following Unit. NX-RS $\Box\Box\Box\Box$

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W565	NX-series Load Cell Input Unit User's Manual

					l	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W565
05120000 hex	A/D Conver- sion Error	AD conversion was not performed by the AD converter.	 EXC+ terminal and EXC- terminal are short-circuited. Noise A/D converter failure 			0			W565
10410000 hex	Control Pa- rameter Er- ror in Master	An error occurred in the control parame- ters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation set- tings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit op- eration settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Com- munications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communica- tions Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved. 			0			W565
10440000 hex	Unit Calibra- tion Value Error	There is an error in the area in which the Unit calibration val- ues are saved.	There is an error in the area of the non-volatile memory in which the Unit calibration val- ues are saved.			0			W565
10450000 hex	Actual Load Calibration Value Error	There is an error in the area in which the actual load calibration values are saved.	• There is an error in the area of the non-volatile memory in which the actual load calibra- tion values are saved.			0			W565

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	 An error occurred in the soft- ware. 			0			W565
65130000 hex	Sensor Dis- connected Error	A disconnection with the load cell was de- tected.	 Wiring with the load cell is not connected. Wiring with the load cell is broken. The input signal exceeds the input conversion range. Load cell failure. 			0			W565
8020000 hex	NX Unit I/O Communica- tions Error	An I/O communica- tions error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply is disconnected. Or, the wiring from the Unit power supply is broken. The voltage of the Unit power supply is broken. The power cable for the Unit power supply is broken. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is broken. The voltage of the Unit power supply is nutside the specified range. Or, the capacity of the Unit power supply is broken. The row supply is insufficient. There is a hardware error in the NX Unit. 			0			W565

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80210000 hex	NX Unit Out- put Synchro- nization Er- ror	An output synchroni- zation error occurred in the NX Unit.	 For the NX bus of CPU Units I/O refreshing on the NX bus is not performed normally due to an error in the CPU Unit. For Communications Coupler Units The communications cable connected to the Communica- tions Coupler Unit is broken or the connection is faulty. The communications cable is affected by noise. 			0			W565
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information er- ror occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W565
65140000 hex	Over Range	The input signal from the load cell exceed- ed the upper limit of the input conversion range.	 Wiring with the load cell is not connected. Wiring with the load cell is broken. EXC+ terminal and EXC- terminal are short-circuited. Load cell failure. A load cell with which the rated output exceeds the input range of the Load Cell Input Unit is used. A load that exceeds the rated capacity is applied to the load cell. Noise 			•	0		W565

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Event code Event na	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
65150000 hex	Under Range	The input signal from the load cell went be- low the lower limit of the input conversion range.	 Wiring with the load cell is not connected. Wiring with the load cell is broken. EXC+ terminal and EXC- terminal are short-circuited. Load cell failure. A load cell with which the rated output exceeds the input range of the Load Cell Input Unit is used. A load that exceeds the rated capacity is applied to the load cell. Noise 			٢	0		W565
80220000 hex	NX Message Communica- tions Error	An error was detect- ed in message com- munications and the message frame was discarded.	 For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications. 				0		W565
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W565

NX-series IO-Link Master Units

The section provides a table of errors (events) that can occur in the following Unit. NX-ILM $\Box\Box$

The manual name is given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W570	IO-Link System User's Manual

					l	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W570
10410000 hex	Control Pa- rameter Er- ror in Master	An error occurred in the control parame- ters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation set- tings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit op- eration settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Com- munications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communica- tions Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved. 			0			W570
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the software.			0			W570

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
8020000 hex	NX Unit I/O Communica- tions Error	An I/O communica- tions error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications oc- curred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insuffi- cient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications oc- curred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insuffi- cient. There is a hardware error in the NX Unit. 			0			W570

					I	Leve	el		
Event code Event	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information er- ror occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W570
848F0000 hex	Device Con- figuration Verification Error	The connected de- vice is different from the IO-Link device registered for a port of the IO-Link Master.	• The connected device is differ- ent from the IO-Link device registered for a port of the IO- Link Master.			0			W570
84970000 hex	I/O Cable Short-circuit	There is a short-cir- cuit in the cable that connects the IO-Link master and device.	There is a short-circuit in the I/O cable.An IO-Link device has failed.			0			W570
849A0000 hex	IO-Link Communica- tions Module Processing Error	A hardware failure occurred in the IO- Link Communications Module.	A hardware failure occurred.			0			W570
80220000 hex	NX Message Communica- tions Error	An error was detect- ed in message com- munications and the message frame was discarded.	 For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications. 				0		W570
848C0000 hex	Error-level Device Event	An error-level event occurred in the IO- Link device.	Use CX-Configurator FDT to con- firm the event code of the IO-Link device.				0		W570
848D0000 hex	IO-Link Communica- tions Error	An error occurred in IO-Link communica- tions with a device.	 The I/O cable is broken. IO-Link device failure. The communications were affected by noise. 				0		W570
84990000 hex	Warning-lev- el Device Event Flag	A warning-level event occurred in the IO- Link device.	Use CX-Configurator FDT to confirm the event code of the IO-Link device.				0		W570
84950000 hex	IO-Link De- vice Config- uration Infor- mation Cre- ated	IO-Link device config- uration information was created.	IO-Link device configuration infor- mation was created.					0	W570

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
84980000 hex	I/O Power	The I/O power supply	The I/O power supply ON was						W570
	Supply ON	ON was detected in	detected in several times.					0	
	Detected	several times.							
90400000 hex	Event Log	The event log was	The event log was cleared by the					0	W570
	Cleared	cleared.	user.					0	

NX-series Temperature Control Units

The section provides a table of the errors (events) that can occur in the following Unit. NX-TC $\Box\Box\Box\Box$

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
H228	NX-series Temperature Control Units User's Manual

					l	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			H228
05100000 hex	A/D Convert- er Error	An error occurred in the A/D converter.	NoiseA/D converter failure			0			H228
05110000 hex	Cold Junc- tion Sensor Error	The temperature can- not be converted be- cause the cold junc- tion sensor is discon- nected.	 There is a faulty connection to the cold junction sensor. The cold junction sensor failed. 			0	۲		H228
10410000 hex	Control Pa- rameter Er- ror in Master	An error occurred in the control parame- ters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation set- tings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit op- eration settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Com- munications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communica- tions Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved. 			0			H228

					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
14C10000 hex	Invalid Tun- ing Parame- ters Saved in the Unit	Failed to write the tuning result to the non-volatile memory, the tuning parameters saved in the Unit be- came invalid.	 Power was turned OFF during tuning. 			0			H228
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			H228
65100000 hex	Sensor Dis- connected Error	A disconnected tem- perature sensor was detected.	 The temperature sensor is damaged or the wires are broken. An unused channel is not disabled. The wiring to the temperature sensor is incorrect. The input type is not set correctly when this error occurs in the Temperature Control Unit. The measured value exceeds the input indication range when this error occurs in the Temperature Control Unit. The PV Input Shift or the PV Input Slope Coefficient is not set correctly when this error occurs in the Temperature Control Unit. 			0	٢		H228
652C0000 hex	Heater Burn- out Detected	A heater burnout was detected.	 A heater was burned out or damaged. The setting of the Heater Burnout Detection Current is too high. A CT input that is not used is allocated to a control output in the CT Allocation setting when this error occurs in the Heater Burnout Detection Unit. An unused channel is not disabled when this error occurs in the Temperature Control Unit. 			0	٢		H228

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
652D0000 hex	SSR Failure Detected	An SSR failure was detected.	 The SSR was short-circuited or damaged. The setting of the SSR Failure Detection Current is too small. A CT input that is not used is allocated to a control output in the CT Allocation setting when this error occurs in the Heater Burnout Detection Unit. An unused channel is not disa- bled when this error occurs in the Temperature Control Unit. 			0	٢		H228
652E0000 hex	Alarm De- tected	The alarm set for the alarm type was de- tected.	 An alarm was detected, which was set to output in the following cases according to the alarm type: - if a measured value deviates for the amount specified by the alarm upper limit and/or alarm lower limit, or - if a measured value is greater or smaller than the specified alarm value. The following values that are set according to the alarm type do not conform to the alarm that is to be detected. Alarm upper limit and alarm lower limit 			0	٢		H228

					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
8020000 hex	NX Unit I/O Communica- tions Error	An I/O communica- tions error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications oc- curred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insuffi- cient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications oc- curred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insuffi- cient. There is a hardware error in an NX Unit. 			0			H228

						_eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information er- ror occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			H228
80220000 hex	NX Message Communica- tions Error	An error was detect- ed in message com- munications and the message frame was discarded.	 For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications. 				0		H228
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	H228
94D00000 hex	Tuning Pa- rameter Up- dated	The parameters were updated by tuning.	 Tuning of one of the following functions by the user operation was completed normally and the tuning parameters were updated. AT Automatic filter adjustment PID update by Adaptive control with the Notification D-AT 					0	H228
94D10000 hex	Related Pa- rameters Ini- tialized	Related parameters were initialized by pa- rameter changes.	 The model parameters of adaptive control were initial- ized because either the input type parameter or the temper- ature unit parameter had been changed. 					0	H228
94F00000 hex	Tuning Pa- rameter Au- tomatically Updated	The parameters were automatically updated by tuning.	 Tuning by automatic execution of the following functions was com- pleted normally, and the tuning parameters were updated. Water-cooling output adjust- ment Adaptive control with the Auto- matic update 					0	H228

NX-series EtherNet/IP Units

The section provides a table of the errors (events) that can occur in the following Unit. NX-EIP201

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W627	NX-series EtherNet/IP Unit User's Manual

• Ethernet Function

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04310000 hex	Communica- tions Con- troller Error	A hardware error was detected in the Com- munications Control- ler of the EtherNet/IP port.	Hardware failure of Communi- cations Controller			0			W627
14310000 hex	MAC Ad- dress Error	MAC address in non- volatile memory could not be read correctly.	Non-volatile memory failure			0			W627
14340000 hex	Ethernet Processing Error	A fatal error was de- tected in the Ethernet Function Module.	Hardware failure			0			W627
36010000 hex	Basic Ether- net Setting Error	An Ethernet setting error was detected.	 Parameter error Power interruption while down- loading EtherNet/IP port set- tings Memory error 			0			W627
36020000 hex	IP Address Setting Error	An IP address setting error was detected.	 Parameter error Power interruption while down- loading EtherNet/IP port set- tings The IP address obtained from the BOOTP server is invalid. Memory error 			0			W627
36030000 hex	IP Rout Ta- ble Setting Error	An error was detect- ed in the IP routing function settings.	 Parameter error Power interruption while down- loading EtherNet/IP port set- tings Memory error 			0			W627
36060000 hex	SNMP Set- ting Error	A setting error in SNMP agent/trap was detected.	 Parameter error Power interruption while down- loading SNMP agent/trap set- tings Memory error 			0			W627

		Meaning			l	_eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
36080000 hex	DNS Setting Error	Errors were detected in DNS setting and Hosts setting.	 Parameter error Power interruption while down- loading EtherNet/IP port set- tings Memory error 			0			W627
85D00000 hex	IP Address Duplication Error	The IP address is du- plicated.	 The IP address of the Ether- Net/IP port is duplicated with the IP address of another node. 			0			W627
85D10000 hex	BOOTP Server Con- nection Error	Connection to the BOOTP server failed.	 The server is misconfigured. The server went down. Abnormalities occurred in the communication path. 			0			W627
85D40000 hex	Packet Dis- carded Due to Full Re- ception Buf- fer	A packet drop occur- red.	Network congestion occurred.				0		W627
85D50000 hex	Link OFF Detected	An Ethernet link OFF was detected.	 An Ethernet cable is broken, disconnected, or loose. The Ethernet switch's power supply is turned OFF. Communications speed mis- matched. Noise The identity object was reset. Settings for Ethernet were downloaded from the Network Configurator or Sysmac Stu- dio, or the Clear All Memory operation was performed. The built-in EtherNet/IP port was restarted. 			٢	0		W627
96440000 hex	Link Detect- ed	Establishment of an Ethernet link was de- tected.	Establishment of an Ethernet link was detected.					0	W627
96470000 hex	IP Address Fixed	The correct IP ad- dress has been deter- mined and Ethernet communications can start.	The correct IP address has been determined and Ethernet communications can start.					0	W627
96480000 hex	BOOTP Cli- ent Started	The BOOTP client started requesting an IP address.	The BOOTP client started re- questing an IP address.					0	W627
964B0000 hex	SNMP Start- ed	The SNMP agent started normally.	The SNMP agent started nor- mally.					0	W627
96500000 hex	IP Address Changed	The IP address was changed.	The IP address was changed.					0	W627
96510000 hex	SNMP Set- tings Changed	SNMP Settings were changed.	SNMP Settings were changed.					0	W627

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
96520000 hex	Subnet Mask Changed	The subnet mask was changed.	 The subnet mask was changed. 					0	W627

• EtherNet/IP Function

					L	eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
14210000 hex	Identity Error	The CIP identity infor- mation in non-volatile memory was not read correctly.	Non-volatile memory failure			0			W627
34200000 hex	Tag Data Link Setting Error	An error was detect- ed in the communica- tions settings for tag data links.	 Power was interrupted when a download was in progress for the tag data link settings. Memory error 			0			W627
34270000 hex	Tag Name Resolution Error	Resolution of a tag used in a tag data link failed.	 The size of the network variable is different from the tag settings. The I/O direction that is set in the tag data link settings does not agree with the I/O direction of the variable in the Controller. There is no network variable in the Controller that corresponds to the tag setting. A variable in the Controller that is set for a tag data link has the Network Publish attribute set to Input but also has the Constant attribute. 			0			W627

					l	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
84070000 hex	Tag Data Link Con- nection Failed	Establishing a tag da- ta link connection failed.	 The tag data link connection information is not the same for the originator and target. Insufficient connections CIP message communications at the target node are stopped. Setting to use tag data link communications was made to the NX-series EtherNet/IP Unit that is included in the CIP Safety connection settings (for NX-series EtherNet/IP Units). The NX-series EtherNet/IP Unit with tag data link commu- nications was added to the CIP Safety connection settings (for NX-series EtherNet/IP 			0			W627
84080000 hex	Tag Data Link Timeout	A timeout occurred in a tag data link.	 The power supply to the target node is OFF. Communications at the target node are stopped. The Ethernet cable connector for EtherNet/IP is disconnected. The Ethernet cable for EtherNet/IP is broken. The link to the EtherNet/IP port is OFF. CIP message communications at the target node are stopped. When the Packet Filter function is enabled in the EtherNet/IP Port Settings, packets from the target are not allowed. CIP communications are not allowed by the firewall function or Packet Filter function on the target node or the devices on the communication path. The packet loss occurred on the path due to the network communications load. Noise 			0			W627

					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
84090000 hex	Tag Data Link Con- nection Timeout	A timeout occurred while trying to estab- lish a tag data link connection.	 The power supply to the target node is OFF. Communications at the target node are stopped. CIP message communications are stopped at the target node or the EtherNet/IP port. The EtherNet cable connector for EtherNet/IP is disconnected. The Ethernet cable for EtherNet/IP is broken. CIP communications are not allowed by the firewall function or Packet Filter function on the target node or the devices on the communication path. Abnormalities occurred in the communication path. 			0	·		W627
840C0000 hex	Allowed Communica- tions Band- width per Unit Exceed- ed	The total bandwidth for the connections that are set or estab- lished for all of the EtherNet/IP ports ex- ceeded the allowed communications bandwidth of tag data links and CIP Safety communications per Unit.	 An attempt was made to es- tablish a connection of com- munications bandwidth (PPS), which is the sum of the packet transmission rates of the tag data links and CIP Safety com- munications used for all Ether- Net/IP ports, and it exceeded the allowable communications bandwidth of the Unit. 			0			W627
840E0000 hex	Number of Tag Sets for Tag Data Links Ex- ceeded	The total number of tag sets for tag data links for all Ethernet/IP ports ex- ceeds the upper limit.	• The total number for all ports of tag sets for tag data links that are set for each Ethernet/IP port exceeded the total number the product al- lows.			0			W627
342C0000 hex	Unit Config- uration Error, Combined Use of CIP Safety and Tag Data Link	Tag data link commu- nications and CIP Safety communica- tions cannot be used together in one NX- series EtherNet/IP Unit.	 Setting to use tag data link communications was made to the NX-series EtherNet/IP Unit that is included in the CIP Safety connection settings. The NX-series EtherNet/IP Unit with tag data link commu- nications was added to the CIP Safety connection settings. 				0		W627

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54E00000 hex	Access De- tected Out- side Range of Variable	Accessing a value that is out of range was detected for a tag variable that is used in a tag data link.	 An out-of-range value was written by an EtherNet/IP tag data link for a variable with a specified range. A value that does not specify an enumera- tor was written by an EtherNet/IP tag data link for an enumeration variable. 				0		W627
94010000 hex	Tag Data Link Down- load Started	Changing the tag da- ta link settings start- ed.	Changing the tag data link set- tings started.					0	W627
94020000 hex	Tag Data Link Down- Ioad Finish- ed	Changing the tag da- ta link settings finish- ed.	 Changing the tag data link set- tings finished. 					0	W627
94030000 hex	Tag Data Link Stop- ped	Tag data links were stopped by the Net- work Configurator, Sysmac Studio, or manipulation of a sys- tem-defined variable. Or, the data link table was downloaded from Network Configurator or Sysmac Studio.	 Tag data links were stopped by the Network Configurator, Sys- mac Studio, or manipulation of a system-defined variable. 					0	W627
94040000 hex	Tag Data Link Started	Tag data links were started by the Net- work Configurator, Sysmac Studio, or manipulation of a sys- tem-defined variable. Or, the data link table was downloaded from Network Configurator or Sysmac Studio.	 Tag data links were started by the Network Configurator, Sys- mac Studio, or manipulation of a system-defined variable. 					0	W627
94070000 hex	Tag Data Link All Run	Tag data link connec- tions to all nodes have been normally established.	 Tag data link connections to all target nodes have been nor- mally established. 					0	W627
96450000 hex	Restarting Ethernet Port	The EtherNet/IP port was restarted.	 The EtherNet/IP port was re- started. 					0	W627

A-2-2 Errors in EtherCAT Slaves

This section provides tables of the errors (events) for which the following OMRON EtherCAT slaves provide notification to the NJ/NX-series CPU Unit.

- GX-series EtherCAT Slave Units
- Servo 1S (1S-series AC Servo Drives with Built-in EtherCAT Communications) R88M-1□, R88D-1SN□-ECT and R88D-1SAN□-ECT
- Servo G5 (G5-series AC Servo Drives with Built-in EtherCAT Communications) and G5 Linear (G5-series Linear Motors/Drives with Built-in EtherCAT Communications Linear Motor Type)
- MX2/RX-series Inverters with EtherCAT Communications Units
- FH-series Vision Systems
- EtherCAT FQ-M-series Specialized Vision Sensors for Positioning
- E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors
- E3NW-ECT EtherCAT Digital Sensor Communications Unit
- ZW-CE1 T Confocal Fiber Type Displacement Sensor

GX-series EtherCAT Slave Units

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W488	GX-series EtherCAT Slave Units User's Manual
W570	IO-Link System User's Manual

Block I/O

				Level		Level		Level		Level			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference				
04A00000 hex	Expansion Unit Hard- ware Error	An Expansion Unit was disconnected during operation or a signal between the Slave Unit and Ex- pansion Unit was bro- ken.	 The Expansion Unit is disconnected. The Expansion Unit is faulty. 			0			W488				
04A20000 hex	Slave Hard- ware Error	A hardware error oc- curred in the Slave Unit.	The Slave Unit is faulty.			0			W488				
14A00000 hex	Non-volatile Memory Checksum Error	An error occurred in the control parame- ters.	Noise			0			W488 W640				
24610000 hex	Switch Set- ting Error	The setting switch is set out of range.	• The analog range that is set on the switch is outside the set- ting range.			0			W488				

					L	evel			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64CC0000 hex	I/O Discon- nection De- tected	An I/O signal line is disconnected.	 I/O signal wiring is disconnected or has a faulty connection. An I/O signal line is disconnected. 			0			W488
84A00000 hex	Slave Unit Verification Error	A verification error occurred for the SII.	An error occurred in the control board.			0			W488 W640
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	 Non-volatile memory failure Noise 				0		W488 W640

IO-Link Master Units

					L	eve	el		
Event code	Event name	Meaning	g Assumed cause				O b s	l n f o	Reference
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failureNoise			0			W570 W640
04A20000 hex	Slave Hard- ware Error	A hardware error oc- curred in the Slave Unit.	The Slave Unit is faulty.			0			W570
14A00000 hex	Non-volatile Memory Checksum Error	An error occurred in the control parame- ters.	• Noise			0			W570 W640
847C0000 hex	Device Con- figuration Verification Error	The connected de- vice is different from the IO-Link device registered for a port of the IO-Link Master.	 The connected device is differ- ent from the IO-Link device registered for a port of the IO- Link Master. 			0			W570 W640
84840000 hex	I/O Cable Short-circuit	There is a short-cir- cuit in the cable that connects the IO-Link master and device.	 There is a short-circuit in the I/O cable. An IO-Link device has failed. 			0			W570 W640
84870000 hex	IO-Link Communica- tions Module Processing Error	A hardware failure occurred in the IO- Link Communications Module.	A hardware failure occurred.			0			W570
84A00000 hex	Slave Unit Verification Error	An error occurred in Slave Unit verifica- tion.	An error occurred in the control board.			0			W570 W640
84790000 hex	Error-level Device Event	An error-level event occurred in the IO- Link device.	Use CX-Configurator FDT to confirm the event code of the IO-Link device.				0		W570 W640
847A0000 hex	IO-Link Communica- tions Error	An error occurred in IO-Link communica- tions with a device.	 The I/O cable is broken. Or, the IO-Link device is discon- nected from the port. The communications were af- fected by noise. IO-Link device failure. 				0		W570 W640
84860000 hex	Warning-lev- el Device Event Flag	A warning-level event occurred in the IO- Link device.	Use CX-Configurator FDT to con- firm the event code of the IO-Link device.				0		W570 W640
84820000 hex	IO-Link De- vice Config- uration Infor- mation Cre- ated	IO-Link device config- uration information was created.	 IO-Link device configuration in- formation was created. 					0	W570 W640
84850000 hex	I/O Power Supply ON Detected	The I/O power supply ON was detected in several times.	The I/O power supply ON was detected in several times.					0	W570

Servo 1S (1S-series AC Servo Drives with Built-in EtherCAT Communications) R88M-1□, R88D-1SN□-ECT, and R88D-1SAN□-ECT

The section provides a table of the errors (events) that can occur in R88M-1□ (AC Servomotors), R88D-1SN□-ECT (AC Servo Drives) and R88D-1SAN□-ECT (AC Servo Drives).

The manual name is given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
1586	AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT Communications User's Manual
1621	AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT Communications and Safe- ty Functionality User's Manual

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04B30000 hex	Regenera- tion Circuit Error Detect- ed during Power ON	An error of the Re- generation Circuit was detected at pow- er ON.	 Power supply voltage is insufficient at power ON, or rising slowly. Power supply voltage fluctuated at power ON. L1, L2, and L3 terminals are not connected or disconnected. N1 and N2 terminals are opened. Servo Drive failure 			0			1586
04B50000 hex	Inrush Cur- rent Preven- tion Circuit Error	An error of inrush cur- rent prevention circuit was detected.	Inrush current prevention circuit failure			0			1586
04B60000 hex	Regenera- tion Circuit Error	An regeneration cir- cuit error was detect- ed.	 There is a short circuit be- tween B2 and N2/N3 Regeneration circuit failure Noise into wiring of the exter- nal regeneration resistor 			0			1586 1621
05430000 hex	ESC Error	An error occurred in the EtherCAT slave communications con- troller.	 Error of the EtherCAT slave communications controller or false detection when the AL status code is 0051 hex Error access from the non-OM- RON EtherCAT master when the AL status code is 0050 hex 			0			1586 1621

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
08390000 hex	Power Mod- ule Error	An error was detect- ed in the power mod- ule.	 There is a short-circuit, ground fault, or contact failure on the U, V, or W motor cable There is a short-circuit on the wiring of External Regeneration Resistor or the resistance value is small The insulation resistance failed between the U, V, or W motor cable and the motor ground wire Servo Drive failure 			0			1586 1621
083B0000 hex	Self-diagno- sis Error	An error was detect- ed by the self-diagno- sis of the safety func- tion.	 False detection due to a data read error that was caused by excessive noise Hardware failure 			0			I586 I621
083C0000 hex	Main Circuit Temperature Monitoring Circuit Fail- ure	A temperature moni- toring circuit failure was detected on the main circuit.	Broken wiring of the thermistor, temperature monitoring circuit failure			0			1586 1621
083D0000 hex	Fan Error	The rotation speed of the fan is 40% or less of the rating and the cooling performance decreases.	 There is a foreign matter in the cooling fan and it blocks the rotation Cooling fan failure 			0			1586 1621
083F0000 hex	Regenera- tion Proc- essing Error	The regeneration processing was stop- ped to protect the Re- generation Resistor.	 The regeneration processing is set inappropriately The Regeneration Resistor is selected inappropriately The Regeneration Resistor is used for continuous regenerative braking The applied power supply voltage is higher than the specified value Regeneration Resistor failure 			0			1586 1621
08410000 hex	Overvoltage Error	The main circuit pow- er supply voltage (P- N voltage) exceeded the operation guaran- tee range.	 The P-N voltage exceeded the specified value The input voltage increased The Regeneration Resistor wiring is broken The External Regeneration Resistor is set or selected inappropriately Servo Drive failure 			0			1586 1621
08420000 hex	Motor Over- heat Error	The encoder detected the temperature that exceeded the protec- tion level of motor.	 The temperature is high around the motor The motor is overloaded Encoder failure 			0			1586

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
08430000 hex	1-rotation Counter Er- ror	The encoder detected a one-rotation coun- ter error.	 There is excessive noise Failure due to vibration, impact, condensation, foreign matter, etc. 			0			I586 I621
08440000 hex	Overspeed Error	The encoder detected the overspeed.	 The motor was rotated by ex- ternal forces Encoder failure and false de- tection 			0			1586
08450000 hex	Encoder Memory Er- ror	The encoder detected a nonvolatile memory error.	 False detection due to a data read error that was caused by excessive noise Non-volatile memory failure 			0			I586 I621
08460000 hex	Absolute Po- sition Detec- tion Error	The encoder detected a multi-rotation coun- ter error.	 A detection error was detected in the multi-rotation detection section of the encoder There is excessive noise 			0			I586 I621
08480000 hex	Main Power Supply Un- dervoltage (insufficient voltage be- tween P and N)	The main circuit pow- er supply voltage fell below the operation guarantee range dur- ing Servo ON.	 Incorrect wiring of the main circuit power supply The low power supply voltage is applied to the Servo Drive The long time was set in Momentary Hold Time and the voltage was decreased momentarily Servo Drive failure 			0			I586 I621
08490000 hex	Overcurrent Error	The current flowing to the motor exceeded the protection level.	 There is a short-circuit, ground fault, or contact failure on the U, V, or W motor cable There is a short-circuit on the wiring of External Regeneration Resistor The insulation resistance failed between the U, V, or W motor cable and the motor ground wire False detection due to the noise Servo Drive failure 			0			I586 I621
084A0000 hex	Encoder Communica- tions Discon- nection Error	The communications disconnection was detected between the encoder and the Ser- vo Drive.	 Noise into the encoder cable Contact failure of the signal line, and disconnection of the encoder Power supply undervoltage to the encoder Encoder failure 			0			1586
084B0000 hex	Encoder Communica- tions Error	Illegal data was re- ceived from the en- coder the specified number of times.	 Noise into the encoder cable Contact failure of the signal line, and disconnection of the encoder Power supply undervoltage to the encoder 			0			1586 1621

					l	eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
084D0000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	 False detection due to a data read error that was caused by excessive noise Non-volatile memory failure 			0			I586 I621
086D0000 hex	Motor Tem- perature Er- ror	The encoder detected the temperature that exceeded the protec- tion level of motor.	 The temperature around the motor is not operating temperature The motor is overloaded Encoder failure 			0			1621
086E0000 hex	Encoder Er- ror	The encoder detected the position informa- tion error.	 Noise into the encoder Hardware failure from mechanical impact, and fault of power supply to the encoder. Contact failure of the signal line Encoder failure 			0			1621
086F0000 hex	Encoder power sup- ply Error	Encoder power sup- ply error was detect- ed.	 Noise into the encoder cable Contact failure of the signal line Power supply undervoltage to the encoder Encoder failure 			0			1621
08700000 hex	Encoder Self-diagno- sis Error	An error was detect- ed by the self-diagno- sis of the encoder.	 False detection due to a data read error that was caused by excessive noise Encoder failure 			0			1621
08710000 hex	Internal Cir- cuit Error at SF Input	Internal circuit error at SF input terminal was detected.	 Memory error or signal abnormality due to transient factors such as soft errors and excessive noise Failure of safety input circuit of Servo Drive 			0			1621
08720000 hex	Internal Cir- cuit Error at SOPT Input	Internal circuit error was detected at SOPT input terminal.	 Memory error or signal abnormality due to transient factors such as soft errors and excessive noise Failure of SOPT input circuit of Servo Drive 			0			1621
08730000 hex	Internal Cir- cuit Error at Test Output	Internal circuit errors were detected at test output terminal.	 Memory error or signal abnormality due to transient factors such as soft errors and excessive noise Failure of test output circuit of Servo Drive 			0			1621
08740000 hex	Internal Cir- cuit Error at SBC Output	Internal circuit error was detected at SBC Output terminal.	 Memory error or signal abnormality due to transient factors such as soft errors and excessive noise Failure of SBC output circuit of Servo Drive 			0			1621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
08750000 hex	Overspeed Error	The encoder detected the overspeed.	 The motor was rotated by ex- ternal forces Encoder failure and the false detection 			0			l621
08760000 hex	Absolute En- coder Multi- rotation Counter Er- ror	The encoder detected a multi-rotation coun- ter error.	 A temporary error occurred in the encoder multi-rotation de- tection function due to vibra- tion, impact, or condensation Encoder failure 			0			1621
08780000 hex	Encoder Communica- tions Discon- nection Error	The communications disconnection was detected between the encoder and the Ser- vo Drive.	 Noise into the encoder cable Contact failure of the signal line, and No connection to the integrated cable Power supply undervoltage to the encoder Encoder failure 			0			1621
18230000 hex	Absolute En- coder Multi- rotation Counter Er- ror	The encoder detected a multi-rotation coun- ter error.	 A temporary error occurred in the encoder multi-rotation de- tection function due to vibra- tion, impact, or condensation Encoder failure 			0			1586
18380000 hex	System Er- ror	A hardware error due to the self-diagnosis and a fatal soft error were detected.	 False detection due to a data read error that was caused by excessive noise A fatal soft error was detected Hardware failure 			0			1586 1621
183A0000 hex	Non-volatile Memory Da- ta Error	An error of data saved in the nonvola- tile memory was de- tected.	 Power interruption or noise oc- curred while parameters other than the safety were saved Power interruption or noise oc- curred while the motor identity information was saved Power interruption or noise oc- curred while safety parameters were saved 			0			I586 I621
246D0000 hex	Motor Non- conformity	The Servo Drive and motor combination is not correct.	The Servo Drive and motor combination is not correct			0			I586 I621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
28080000 hex	Main Circuit Power Sup- ply Phase Loss Error	The phase loss of the main circuit power supply was detected.	 Incorrect wiring, for example the single-phase power supply is input to a 3-phase input type Servo Drive In the case where the single-phase power supply is input to a single- and 3-phase input type Servo Drive, the phase loss detection is enabled. The power supply voltage is low or insufficient Broken wiring of the main circuit power supply input Servo Drive failure 			0			1586 1621
280D0000 hex	Runaway Detected	The motor rotated in the direction opposite to the command.	 There is incorrect wiring of the motor cable or a broken cable. The motor rotated in the direction opposite to the command by external forces. 			0			1586 1621
357D0000 hex	DC Setting Error	A mistake was made in the DC Mode oper- ation setting.	• A mistake was made in the DC Mode operation setting			0			I586 I621
357E0000 hex	Synchroni- zation Cycle Setting Error	When the DC mode was established, the cycle time was set to the inoperable value.	 The variable PDO mapping is used, and the number of objects is more than the maximum number of mapped objects for the cycle time The cycle time setting is incorrect 			0			1586 1621
357F0000 hex	Mailbox Set- ting Error	An incorrect mailbox setting of Sync Man- ager was detected.	An incorrect mailbox setting of Sync Manager was detected			0			I586 I621
35800000 hex	RxPDO Set- ting Error	An RxPDO setting er- ror was detected.	 The RxPDO setting of Ether- CAT master is incorrect Servo Drive failure 			0			I586 I621
35810000 hex	TxPDO Set- ting Error	A TxPDO setting er- ror was detected.	 The TxPDO setting of Ether- CAT master is incorrect Servo Drive failure 			0			I586 I621
35820000 hex	RxPDO Mapping Er- ror	An incorrect RxPDO was set.	 An incorrect RxPDO was set, such as out of the allowable range of Index, Subindex, or size 			0			I586 I621
35830000 hex	TxPDO Mapping Er- ror	An incorrect TxPDO was set.	 An incorrect TxPDO was set, such as out of the allowable range of Index, Subindex, or size 			0			I586 I621
35840000 hex	PDO WDT Setting Error	An incorrect PDO WDT setting was de- tected.	An incorrect PDO WDT setting was detected			0			l586 l621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
35850000 hex	Node Ad- dress Updat- ed	The node address is changed to a value of the ID switches.	 The node address is changed from a set value in Sysmac Studio to a value of the ID switches 			0			I586 I621
35860000 hex	SM Event Mode Set- ting Error	The unsupported SM Event Mode was set.	The unsupported SM Event Mode was set			0			I586 I621
38570000 hex	Function Setting Error	The function that was set does not support the communications period.	 The electronic gear ratio was not 1:1 when the communica- tions period was set to 125 µs. The Backlash Compensation was enabled when the com- munications period was set to 125 µs. 			0			1586 1621
38780000 hex	General In- put Alloca- tion Dupli- cate Error	More than one func- tion input is allocated to one general input.	More than one function input is allocated to one general input			0			1586 1621
38790000 hex	General Out- put Alloca- tion Dupli- cate Error	More than one func- tion output is allocat- ed to one general output.	 More than one function output is allocated to one general out- put 			0			I586 I621
387B0000 hex	Pulse Output Setting Error	The dividing numera- tor exceeded the di- viding denominator when the Encoder Di- viding Pulse Output - Dividing Denominator was set to a value other than 0.	 The dividing numerator exceeded the dividing denominator when the Encoder Dividing Pulse Output - Dividing Denominator was set to a value other than 0 			0			1586 1621
387C0000 hex	Motor Re- placement Detected	The connected motor is different from the motor that was con- nected the last time.	The motor was replacedThe Servo Drive was replaced			0			1586 1621
387F0000 hex	Electronic Gear Setting Error	The electronic gear ratio exceeded the al- lowable range.	The electronic gear ratio ex- ceeded the allowable range			0			I586 I621
38800000 hex	Servo Drive Overheat	The internal tempera- ture of Servo Drive exceeded the circuit protection level.	 The ambient temperature of the Servo Drive exceeded the specified value Overload 			0			1586 1621
38810000 hex	Overload Er- ror	The Load Ratio of Servo Drive or motor (4150-81 hex) ex- ceeded 100%.	 Operation was continued for a long time with high load There is incorrect wiring of the motor cable or a broken cable Increase in friction 			0			I586 I621

Event code	Event name	Meaning	Assumed cause	Level					
				M a j	P rt	M i n	O b s	l n f o	Reference
38820000 hex	Regenera- tion Over- load Error	The Regeneration Load Ratio (4310-81 hex) exceeded the re- generation overload ratio.	 The regeneration processing is set inappropriately The Regeneration Resistor is selected inappropriately The Regeneration Resistor is used for continuous regenerative braking The applied power supply voltage is higher than the specified value Regeneration Resistor failure 			0			1586 1621
38830000 hex	Excessive Position De- viation Error	The position deviation is greater than or equal to the value set in the Following error window.	 Motor operation does not follow the command The value of Following error window is small 			0			I586 I621
38840000 hex	Excessive Speed Devi- ation Error	The speed deviation is greater than or equal to the value set in the Excessive Ve- locity Deviation De- tection Level.	 The motor operation does not follow the command because a parameter value is inappropri- ate The output axis of motor is lim- ited on the operation by exter- nal forces The value of the Excessive Ve- locity Deviation Detection Lev- el is inappropriate 			0			1586 1621
38850000 hex	Excessive Speed Error	The feedback motor speed is greater than or equal to the value set in the Excessive Speed Detection Lev- el.	 The velocity command value is too large Overshooting occurred The motor was rotated by external forces 			0			1586 1621
38860000 hex	Following Error Coun- ter Overflow	The following error value exceeded the range from - 2147483648 to 2147483647.	 The motor operation does not follow the command The motor is rotated or limited on the operation by external forces 			0			I586 I621
38870000 hex	Absolute En- coder Coun- ter Overflow Error	The multi-rotation counter of the encod- er exceeded the max- imum number of rota- tions.	 An inappropriate value was set in the Encoder - Operation Selection when Using Absolute Encoder (4510-01 hex) The multi-rotation number of the encoder exceeded the maximum number of rotations 			0			1586 1621

Event code				Level					
	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
38880000 hex	Safety Com- munications Setting Error	Safety process data communications were not established with the Safety CPU Unit because of an incor- rect communications setting.	 The watchdog time was set incorrectly The processing was not completed within the watchdog time because communications were not established due to the noise 			0			1586 1621
38890000 hex	Safety Frame Error	Safety process data communications were not established with the Safety CPU Unit because an incorrect frame was received.	 An incorrect frame was received in safety process data communications. There is excessive noise 			0			1586 1621
388A0000 hex	Safety Pa- rameter Er- ror	Safety process data communications were not established with the Safety CPU Unit because an incorrect parameter was re- ceived.	 The set safety slave model is incorrect 			0			1586
388B0000 hex	FSoE Slave Address Er- ror	Safety process data communications were not established with the Safety CPU Unit because of an incor- rect FSoE slave ad- dress.	• The setting of the FSoE slave address in the safety process data communications settings is different from the setting in the Unit			0			1586 1621
38980000 hex	Safety Func- tion Setting Error	Incorrect safety func- tion setting was de- tected.	 Safety function setting is broken Safety function setting is incorrect in the attached information 			0			l621
38990000 hex	Safety Pa- rameter Er- ror	Safety process data communications were not established with the Safety CPU Unit because an incorrect parameter was re- ceived.	 The specified safety slave model is incorrect There is discrepancy between safety function setting down- loaded to EtherCAT master and safety application data downloaded to safety control- ler 			0			1621
48080000 hex	FPGA WDT Error	An FPGA error was detected.	 False detection due to a data read error that was caused by excessive noise Hardware failure 			0			I586 I621
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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64E30000 hex	Drive Pro- hibition Input Error	Both the Positive Drive Prohibition (POT) and the Nega- tive Drive Prohibition Input (NOT) turned ON.	 An error occurred on the switch, wire, power supply, and wiring that were connected to the Positive Drive Prohibition (POT) or Negative Drive Pro- hibition Input (NOT) False detection occurred be- cause the control signal power supply was turned ON slowly 			0			1586 1621
68200000 hex	Drive Pro- hibition De- tected	The operation was stopped according to the user setting be- cause the motor ran in the prohibited di- rection when the Drive Prohibition was enabled.	 Incorrect or broken wiring of Positive Drive Prohibition Input (POT) or Negative Drive Pro- hibition Input (NOT) Incorrect setting of the Drive Prohibition Input 			0			1586 1621
68210000 hex	Control Right Re- lease Error	Communications be- tween the Sysmac Studio and Servo Drive were interrupt- ed while a specific function was used from the Sysmac Stu- dio.	 The USB cable or EtherCAT cable was disconnected during the connection with the Sysmac Studio There is excessive noise A command sent from the Sysmac Studio was not sent to the Servo Drive because the computer was in a busy state or the like 			0			1586 1621
68220000 hex	Error stop in- put	The Error Stop Input (ESTP) is active.	 The Error Stop Input (ESTP) was input The Error Stop Input (ESTP) is incorrectly wired 			0			I586 I621
68230000 hex	Software Limit Ex- ceeded	The Position actual value detected the position that exceed- ed the value set in the Software Position Limit, and stopped the operation accord- ing to the user set- ting.	 Incorrect setting of Software Position Limit When the Software Position Limit - Stop Selection was set to Stop according to the setting of Fault reaction option code, the position exceeded the val- ue set in the Software Position Limit 			0			1586 1621

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Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
68370000 hex	SOPT Input Monitoring Error	Improper installation of SOPT input device and the malfunction were detected.	 Detected a gap of the installation positions of SOPT input devices The setting of Discrepancy Distance (4F00-05 hex) is inappropriate The setting of Safety Origin Position Offset (4F00-04 hex) is inappropriate The setting of Safety Origin Position Tolerance (4F00-06 hex) is inappropriate SOPT Input Terminal Setting is different from specification of input device Speed where a work passed SOPT1/SOPT2 exceeded 200 r/min Failure of input device Disconnection of input device 			0			1621
68380000 hex	Safety Func- tion Error	A problem on use of safety functions is de- tected.	 SLP function: Safety origin position is not determined SLP function: Discrepancy Distance is incorrectly set SLP function: Disconnection of cable for connection with SOPT input device SLS function: Operation of SLS command is not appropri- ate Safety Position/Velocity Valida- tion Monitoring Function: A motor does not rotate as com- manded or the overshooting occurs Safety Position/Velocity Valida- tion Monitoring Function: Ex- ternal forces rotate a motor or limit the operation SOPT input device and encod- er are broken 			0			1621
68390000 hex	Discrepancy Error at SF Input	Discrepancy between safety input1 and safety input2 was de- tected.	 SF+ input contacts power line (+ side) with 24V DC Ground fault of SF+ input Disconnection of SF+ input or SF- input Short circuit of SF1+ input and SF2+ input Inappropriate safety controller setting or the failure 			0			1621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
683A0000 hex	SBC Relay Diagnosis Error	Improper wiring of terminals between SBC RFB and an er- ror of safety relay for SBC were detected.	 Wrong wiring between a safety relay and SBC RFB terminals Safety Relay OFF Delay Time is inappropriate Safety Relay Activate is set inappropriately Wrong wiring of SBC RFB terminals Failure of safety relay 			0			1621
683B0000 hex	External Test Signal Fail- ure at SOPT Input	An error was detect- ed in test pulse diag- nosis for SOPT input.	 SOPT input wiring contacts IOV input wiring There is short circuit in the wir- ing of SOPT1 input and SOPT2 input Failure of externally connected equipment Test Pulse Diagnosis is set inappropriately 			0			1621
683C0000 hex	Overload Detected at Test Output	Overcurrent was de- tected at the test out- put terminals.	 Ground fault of the test output to IOG input Failure of externally connected equipment 			0			1621
683D0000 hex	Stuck-at- high Detect- ed at Test Output	Stuck ON was detect- ed at test output ter- minals.	 The wiring of the test output contacts the wiring of IOV in- put There is short circuit in SOPT1 input and SOPT2 input Memory abnormality or signal abnormality due to transient factors such as soft errors and excessive noise Failure of the test output circuit of Servo Drive 			0			1621
683E0000 hex	Overload Detected at SBC Output	Overcurrent was de- tected at the SBC output terminal.	 Ground fault of SBC+ output to SBC CM input The wiring of SBC- output con- tacts SBC PS input Output of a power supply is out of specifications Memory error or signal abnor- mality due to transient factors such as soft errors and exces- sive noise Failure of SBC circuit of Servo Drive 			0			1621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
683F0000 hex	Stuck-at- high Detect- ed at SBC Output	Stuck ON was detected at the SBC output terminals.	 The wiring of SBC+ output contacts SBC PS input Ground fault of SBC- output to IOG input Memory error or signal abnor- mality due to transient factors such as soft errors and exces- sive noise Failure of SBC circuit of Servo Drive 			0			1621
68400000 hex	IOV Power Supply Volt- age Error	Voltage error of IOV power supply was de- tected.	 IOV power supply is not turned on Overvoltage of IOV power sup- ply 			0			l621
68410000 hex	SBC Power Supply Volt- age Error	Voltage error of SBC power supply was de- tected.	 SBC power supply is not turned on Overvoltage of the SBC power supply 			0			l621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
68420000 hex	Monitoring Limit Ex- ceedance Error	A monitoring error was detected in safe- ty monitoring func- tions.	 a. Each position and velocity exceeded a monitoring range/limit for safety monitor- ing functions SOS function: Safety Cur- rent Pulse Position ex- ceeded SOS position zero window. Safety Current Motor Velocity exceeded SOS velocity zero window SLS function: Safety Cur- rent Motor Velocity ex- ceeded SLS velocity limit SLP function: Safety Cur- rent Position exceeded a range from SLP Monitoring Upper Limit Position to SLP Monitoring Lower Limit Position SDI function: Safety Cur- rent Motor Velocity ex- ceeded SDI velocity zero window to rotation limit di- rection. And, Safety Cur- rent Pulse Position zero window to rotation limit di- rection Safety Position/Velocity Vali- dation Monitoring Function: The monitoring limit values/ ranges for the safety func- tions are set lower than the allowable ranges of the safe- ty position/the velocity appro- priateness monitoring func- tion 			0			1621
78200000 hex	Pulse Output Overspeed Error	The speed, which ex- ceeded the frequency that could be output by the Encoder Divid- ing Pulse Output function, was detect- ed.	 The dividing ratio setting is in- appropriate for the actual us- age condition 			0			1586 1621

		Meaning	Assumed cause		L	_eve			
Event code	Event name			M a j	P rt	M i n	O b s	l n f o	Reference
78210000 hex	Brake Inter- lock Error	The Brake Interlock Output (BKIR) was output by the Timeout at Servo OFF.	 The Brake Interlock Output (BKIR) was output because the motor rotation speed did not decrease to or less than the speed set in the Threshold Speed at Servo OFF within the time set in the Timeout at Ser- vo OFF when Servo OFF was performed during the motor operation 			0			1586 1621
78230000 hex	Command Error	A mistake was made in using a command.	 When bit 9 (Remote) of the Statusword was set to 1 (re- mote), and the Servo Drive was in Operation enabled state (Servo ON), the Servo Drive received a command to change the communications state from Operational to an- other state (Init, Pre-Opera- tional, or Safe-Operational) A mode of operation other than the hm mode was set during the homing operation Modes of operation was set to pp, pv or hm mode when the communications period was set to shorter than 250 µs 			0			1586 1621
84B10000 hex	EtherCAT State Change Er- ror	A communications state change com- mand was received for which the current communications state could not be changed.	 A communications state change command was re- ceived for which the current communications state could not be changed 			0			1586 1621
84B20000 hex	EtherCAT II- legal State Change Er- ror	An undefined com- munications state change command was received.	 An undefined communications state change command was received 			0			1586 1621
84B40000 hex	Synchroni- zation Error	A signal for synchro- nous communications could not be detect- ed.	 Noise Error of the EtherCAT slave communications controller 			0			1586 1621
84B50000 hex	Sync Man- ager WDT Error	PDO communications were interrupted for the allowable period or longer.	 An EtherCAT communications cable is disconnected, loose, or broken Host controller error 			0			I586 I621
84B60000 hex	ESC Initiali- zation Error	Initialization of the EtherCAT slave com- munications controller failed.	 Data was incorrectly overwrit- ten in the non-volatile memory of the EtherCAT slave commu- nications controller Failure of the EtherCAT slave communications controller 			0			1586 1621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
84B70000 hex	SII Verifica- tion Error	An error occurred in SII data of the Ether- CAT slave communi- cations controller.	 Data was incorrectly overwritten in the non-volatile memory of the EtherCAT slave communications controller Failure of the EtherCAT slave communications controller or false detection 			0			I586 I621
84B90000 hex	Synchroni- zation Inter- ruption Error	Synchronization inter- ruption did not occur within the specified period	 Incorrect EtherCAT synchroni- zation setting of the host con- troller Failure of the EtherCAT slave communications controller or false detection 			0			1586 1621
84BA0000 hex	Bootstrap State Transi- tion Request Error	The state transition to unsupported Boot- strap was requested.	The EtherCAT master request- ed the transition of unsupport- ed Bootstrap			0			I586 I621
88100000 hex	Communica- tions Syn- chronization Error	Communications were not established consecutively be- cause the synchroni- zation with the Ether- CAT Master could not be achieved.	 The power supply to the host controller was interrupted dur- ing PDO communications An EtherCAT communications cable is disconnected, loose, broken, or has a contact failure Noise 			0			I586 I621
88120000 hex	Safety Com- munications Timeout	A communications timeout occurred in safety process data communications with the Safety CPU Unit.	 A setting is not correct. The setting of the safety task period of the Safety CPU Unit is too short There is excessive noise The Safety CPU Unit or safety slave entered a status where it could not continue safety process data communications 			0			I586 I621
98200000 hex	Absolute Value Cleared	The multi-rotation counter of the abso- lute encoder was cleared.	The multi-rotation counter of the absolute encoder was cleared			0			I586 I621
081C0000 hex	Capacitor Lifetime Warning	The capacitor built in- to the Servo Drive reached the service life.	• The operating time of the ca- pacitor in the Servo Drive ex- ceeded the service life				0		I586 I621
081D0000 hex	Inrush Cur- rent Preven- tion Relay Lifetime Warning	The inrush current prevention relay built into the Servo Drive reached the service life.	• The number of operating times of the inrush current preven- tion relay in the Servo Drive exceeded the service life				0		I586 I621
081F0000 hex	Brake Inter- lock Output Relay Life- time Warn- ing	The brake interlock output (BKIR) relay built into the Servo Drive reached the service life.	• The number of operating times of the brake interlock output in the Servo Drive exceeded the service life				0		1586

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Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
083A0000 hex	Encoder Communica- tions Warn- ing	Encoder communica- tions errors occurred in series more fre- quently than the specified value.	 Power supply undervoltage to the encoder Noise into the encoder cable Contact failure of the encoder cable 				0		1586
08470000 hex	Encoder Lifetime Warning	The encoder lifetime is close to the end.	Temporary noiseThe end of the encoder life				0		I586 I621
084C0000 hex	Fan Rotation Warning	The rotation speed of the fan is 80% or less of the rating and the cooling performance decreases.	 There is a foreign matter in the cooling fan and it blocks the rotation Cooling fan failure 				0		I586 I621
084E0000 hex	Absolute En- coder Coun- ter Overflow Warning	The multi-rotation counter of the encod- er exceeded the val- ue set in Encoder - Absolute Encoder Counter Overflow Warning Level (4510-02 hex).	 An inappropriate value was set in the Encoder - Operation Selection (4510-01 hex) The multi-rotation number of the encoder exceeded the warning level 				0		1586 1621
08770000 hex	Safety Relay Lifetime Warning	A safety relay for SBC reached the life- time counting.	Use numbers of safety relay for SBC surpassed Safety Relay Lifetime Warning Detection Threshold				0		l621
18390000 hex	Lifetime In- formation Corruption Warning	An error was detect- ed in the saved life- time information.	 The lifetime information cor- ruption was detected when the power supply was turned ON 				0		I586 I621
34E00000 hex	Data Setting Warning	The object set value is out of the range.	• The object set value is out of the range				0		I586 I621
387A0000 hex	Overload Warning	The Load Ratio of Servo Drive or motor (4150-81 hex) ex- ceeded the level set in Overload - Warning Notification Level (4150-01 hex).	 Operation was continued for a long time with high load. There is incorrect wiring of the motor cable or a broken cable Increase in friction 				0		1586 1621
387D0000 hex	Regenera- tion Over- load Warn- ing	The Regeneration Load Ratio(4310-81Hex) exceeded 85% of the regeneration overload ratio.	 The regeneration processing is set inappropriately The Regeneration Resistor is selected inappropriately The Regeneration Resistor is used for continuous regenerative braking The applied power supply voltage is higher than the specified value Regeneration Resistor failure 				0		1586 1621

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Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
387E0000 hex	Motor Vibra- tion Warning	The motor vibration, which was higher than or equal to the level set in the Vibration Detection - Detection Level (3B70-01 hex), was detected.	 The control parameter is set inappropriately The rigidity decreased due to mechanical looseness or wear 				0		1586 1621
78220000 hex	Command Warning	A command could not be executed.	 The Switch ON command was received The Enable operation command was received An operation command in the prohibition direction was received after the immediate stop by the Drive Prohibition Input or Software Position Limit Homing started The positioning start command was received in the Profile position mode 				0		1586 1621
84B00000 hex	EtherCAT Communica- tions Warn- ing	An EtherCAT commu- nications error occur- red more than one time.	 An EtherCAT communications cable has a contact failure, or is connected incorrectly or bro- ken Noise 				0		I586 I621
90A00000 hex	Unit Restart- ed	Restart was per- formed.	Restart was performed					0	I586 I621
98210000 hex	STO Detect- ed	The safety input OFF state was detected via the safety input signal or EtherCAT communications.	 The cable is disconnected or broken The STO input was turned OFF via EtherCAT communi- cations 					0	1586
98220000 hex	Memory All Cleared	The Unit setting was cleared.	Clear All Memory was per- formed					0	I586 I621
98230000 hex	Motor Rota- tion Direc- tion Selec- tion Non- conformity	Discrepancy of Motor Rotation Direction Selection and Safety Motor Rotation Direction Selection was de- tected.	Motor rotation settings are differ- ent between Motor Rotation Direction Selection and Safety Motor Rotation Direction Selection					0	1621
98240000 hex	Event Log Cleared	The event log was cleared.	Clear Event Log was performed					0	I586 I621

				Level				Level		Level		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference			
98250000 hex	STO Detect- ed	The safety input OFF state was detected via the safety input signal or EtherCAT communications.	 There are detached wires and the disconnection of safety in- put cable Incorrect safety programming of safety controller Torque off request was detect- ed at safety input signal Torque off request was detect- ed by commands via EtherCAT communication 					0	1621			

Servo G5 (G5-series AC Servo Drives with Built-in EtherCAT Communications) and G5 Linear (G5-series Linear Motors/Drives with Built-in EtherCAT Communications Linear Motor Type)

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
1576	AC Servomotors/Servo Drives G5-series with Built-in EtherCAT Communications User's Manual
1577	AC Servomotors/Servo Drives G5-series with Built-in EtherCAT Communications Linear
	Motor Type User's Manual

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04A80000 hex	Control Pow- er Supply Undervolt- age	The voltage between the positive and neg- ative terminals in the control power supply converter dropped below the specified value.	 Power supply undervoltage. Or, the power supply voltage dropped because there was in- rush current when the main power supply was turned ON. A momentary power interrup- tion occurred. The Servo Drive failed. 			0			1576 1577
04A90000 hex	Overvoltage	The power supply voltage exceeded the allowable input volt- age range.	 The voltage between the positive and negative terminals in the control power supply converter exceeded the specified value. The voltage was suddenly increased by the phase advance capacitor or the uninterruptible power supply (UPS). The Regeneration Resistor wiring is broken. The External Regeneration Resistor is not suitable. The Servo Drive failed. 			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04AA0000 hex	Main Circuit Power Sup- ply Under- voltage (Un- dervoltage between positive and negative ter- minals)	If the Undervoltage Error Selection (3508 hex) is set to 1, a mo- mentary power inter- ruption occurred be- tween L1 and L3 for longer than the value specified for the Mo- mentary Hold Time. The voltage between the positive and neg- ative terminals in the main power supply converter dropped below the specified value while the Servo was ON.	 Insufficient power supply capacity The electromagnetic contactor in the main circuit power supply was tripped. A momentary power interruption occurred. A Servo Drive with 3-phase input specifications was operated with a single-phase power supply. The Servo Drive failed. 			0			1576 1577
04AB0000 hex	Main Circuit Power Sup- ply Under- voltage (AC Cutoff De- tected)	If the Undervoltage Error Selection (3508 hex) is set to 1, a mo- mentary power inter- ruption occurred be- tween L1 and L3 for longer than the value specified for the Mo- mentary Hold Time. The voltage between the positive and neg- ative terminals in the main power supply converter dropped below the specified value while the Servo was ON.	 Insufficient power supply capacity The electromagnetic contactor in the main circuit power supply was tripped. A momentary power interruption occurred. A Servo Drive with 3-phase input specifications was operated with a single-phase power supply. The Servo Drive failed. 			0			1576 1577
04AC0000 hex	Overcurrent	The current flowing through the converter exceeded the speci- fied value.	 A short-circuit, line-to-ground fault, contact failure, or insulation failure occurred on the U, V, or W motor line. The Servo Drive failed. The relay for the dynamic brake has been welded due to frequent Servo ON/OFF operations. Motor windings are burned out. The Servomotor is not suitable for the Servo Drive. The command input timing is the same as or earlier than the Servo ON timing. 			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04AD0000 hex	IPM Error	The current flowing through the converter exceeded the speci- fied value.	 A short-circuit, line-to-ground fault, contact failure, or insulation failure occurred on the U, V, or W motor line. The Servo Drive failed. The relay for the dynamic brake has been welded due to frequent Servo ON/OFF operations. Motor windings are burned out. The Servomotor is not suitable for the Servo Drive. The pulse input timing is the same as or earlier than the Servo ON timing. 			0			1576 1577
04AE0000 hex	Regenera- tion Tr Error	The Servo Drive re- generation drive Tr is faulty.	 The Servo Drive regeneration drive Tr is faulty. 			0			1576 1577
04AF0000 hex	Encoder Phase-Z Er- ror	A missing serial in- cremental encoder phase-Z pulse was detected.	The encoder is faulty.			0			1576
04B00000 hex	Encoder CTS Signal Error	A missing serial in- cremental encoder CTS signal logic error was detected.	The encoder is faulty.			0			1576
04B10000 hex	Node Ad- dress Set- ting Error	The node address that was read from the rotary switches was not between 00 and 99.	The Servo Drive failed.			0			1576 1577
04B20000 hex	Other Errors	The Servo Drive mal- functioned, or an er- ror occurred in the Servo Drive.	 The control circuit malfunc- tioned temporarily due to ex- cess noise. The Servo Drive's self-diagno- sis function detected an error in the Servo Drive. 			0			1577
08080000 hex	Encoder Communica- tions Discon- nection Error	A disconnection was detected because communications be- tween the encoder and the Servo Drive were stopped more frequently than the specified value.	The encoder is not wired cor- rectly.			0			1576
08090000 hex	Encoder Communica- tions Error	There is a communi- cations error for the encoder.	The power supply voltage of the encoder is low.Noise			0			1576

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
080A0000 hex	Encoder Communica- tions Data Error	There is an error in the communications data of the encoder.	The power supply voltage of the encoder is low.Noise			0			1576
080B0000 hex	Safety Input Error	At least one of the in- put photocouplers for safety inputs 1 and 2 turned OFF.	 The cable is disconnected or broken. 			0			1576 1577
080C0000 hex	External En- coder Con- nection Error	A disconnection was detected because communications be- tween the external encoder and the Ser- vo Drive were stop- ped more frequently than the specified val- ue.	The wiring is incorrect.			0			1576 1577
080D0000 hex	External En- coder Com- munications Data Error	There was a commu- nications error in data from the external en- coder.	 There is insufficient external encoder power supply voltage. Noise 			0			1576 1577
080E0000 hex	External En- coder Status Error 0	Bit 00 of the external encoder error code (ALMC) was set to 1.	 Bit 00 of the external encoder error code (ALMC) was set to 1. 			0			1576 1577
080F0000 hex	External En- coder Status Error 1	Bit 01 of the external encoder error code (ALMC) was set to 1.	• Bit 01 of the external encoder error code (ALMC) was set to 1.			0			1576 1577
08100000 hex	External En- coder Status Error 2	Bit 02 of the external encoder error code (ALMC) was set to 1.	 Bit 02 of the external encoder error code (ALMC) was set to 1. 			0			1576 1577
08110000 hex	External En- coder Status Error 3	Bit 03 of the external encoder error code (ALMC) was set to 1.	 Bit 03 of the external encoder error code (ALMC) was set to 1. 			0			1576 1577
08120000 hex	External En- coder Status Error 4	Bit 04 of the external encoder error code (ALMC) was set to 1.	 Bit 04 of the external encoder error code (ALMC) was set to 1. 			0			1576 1577
08130000 hex	External En- coder Status Error 5	Bit 05 of the external encoder error code (ALMC) was set to 1.	 Bit 05 of the external encoder error code (ALMC) was set to 1. 			0			1576 1577
08140000 hex	Phase-A Connection Error	An error such as bro- ken wiring was de- tected in the external encoder phase-A connection.	• An error such as broken wiring was detected in the external encoder phase-A connection.			0			1576 1577
08150000 hex	Phase-B Connection Error	An error such as bro- ken wiring was de- tected in the external encoder phase-B connection.	• An error such as broken wiring was detected in the external encoder phase-B connection.			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
08160000 hex	Phase-Z Connection Error	An error such as bro- ken wiring was de- tected in the external encoder phase-Z connection.	• An error such as broken wiring was detected in the external encoder phase-Z connection.			0			1576 1577
08170000 hex	Encoder Da- ta Restora- tion Error	Initialization of inter- nal position data was not processed cor- rectly in Semi-closed Control Mode and Absolute Value Mode.	 There is insufficient power supply voltage for the encoder. Noise is entering on the en- coder line. 			0			1576
08180000 hex	External En- coder Data Restoration Error	Initialization of inter- nal position data was not processed cor- rectly in Fully-closed Control Mode and Absolute Value Mode.	 There is insufficient power supply voltage for the external encoder. Noise is entering on the exter- nal encoder line. 			0			1576
14A80000 hex	Object Error	The object area data in non-volatile memo- ry is corrupted.	NoiseNon-volatile memory failure			0			1576 1577
14A90000 hex	Object Error	The object area data in non-volatile memo- ry is corrupted.	NoiseNon-volatile memory failure			0			1576 1577
14AA0000 hex	Object Error	The object area data in non-volatile memo- ry is corrupted.	NoiseNon-volatile memory failure			0			1576 1577
14AB0000 hex	Object Cor- rupted	The checksum data in non-volatile memo- ry is corrupted.	Non-volatile memory failure			0			1576 1577
14AC0000 hex	Object Cor- rupted	The checksum data in non-volatile memo- ry is corrupted.	Non-volatile memory failure			0			1576 1577
14AD0000 hex	Object Cor- rupted	The checksum data in non-volatile memo- ry is corrupted.	Non-volatile memory failure			0			1576 1577
18200000 hex	Absolute En- coder Over- speed Error	The Servomotor rota- tion speed exceeded the specified value when only the battery power supply was used during a power interruption.	 There is insufficient power supply voltage for the encoder. The wiring of the CN2 connec- tor is wrong. An external force is rotating the motor when the Servo is OFF. 			0			1576
18210000 hex	Encoder Ini- tialization Er- ror	An encoder initializa- tion error was detect- ed.	Servomotor failed.			0			1576
18220000 hex	Absolute En- coder One- rotation Counter Er- ror	The encoder detected a one-rotation coun- ter error.	Servomotor failed.			0			1576

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
18230000 hex	Absolute En- coder Multi- rotation Counter Er- ror	The encoder detected a multi-rotation coun- ter error.	Servomotor failed.			0			1576
24680000 hex	Motor Non- conformity	The Servo Drive and Servomotor combina- tion is not correct.	The Servo Drive and motor combination is not correct			0			1576
24690000 hex	Motor Non- conformity	The Servo Drive and Servomotor combina- tion is not correct.	The Servo Drive and motor combination is not correct			0			1576
246A0000 hex	Motor Non- conformity	The Servo Drive and Servomotor combina- tion is not correct.	The Servo Drive and Servomo- tor combination is not correct.			0			1576
246B0000 hex	Motor Non- conformity	The Servo Drive and Servomotor combina- tion is not correct.	The Servo Drive and Servomo- tor combination is not correct.			0			1576
246C0000 hex	Motor Non- conformity	The Servo Drive and Servomotor combina- tion is not correct.	The Servo Drive and Servomo- tor combination is not correct.			0			1576
28010000 hex	Motor Set- ting Error	Settings associated with the motor and external encoder are missing.	Settings associated with the mo- tor and external encoder are missing.			0			1577
28020000 hex	Motor Com- bination Er- ror 1	The value set for the motor current ex- ceeds the maximum motor capacity al- lowed for the Servo Drive.	The Motor Rated Rms Current/ Motor Peak Absolute Current ex- ceeds the maximum motor ca- pacity allowed for the Servo Drive.			0			1577
28030000 hex	Motor Com- bination Er- ror 2	The value set for the motor exceeds the drive range of the motor.	 The Motor Rated Rms Current is too low compared with the maximum motor capacity of the Servo Drive. The percentage of the Motor Coil Unit Mass to the Motor Rated Force is too high. The automatically adjusted Current Loop Proportional Gain/Current Loop Integral Gain is too high. The percentage of the Motor Peak Absolute Current to the Motor Rated Rms Current is greater than 500%. 			0			1577
34E10000 hex	Servo Drive Overheat	The temperature of the Servo Drive radia- tor or power elements exceeded the speci- fied value.	 The ambient temperature of the Servo Drive exceeded the specified value. Overload 			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
34E20000 hex	Overload	When the feedback value for torque/force command exceeds the overload level specified in the Over- load Detection Level Setting (3512 hex), overload protection is performed according to the overload char- acteristics.	 Operation was continued for a long time while overloaded. There is incorrect wiring of the motor line or a broken cable. 			0			1576 1577
34E30000 hex	Regenera- tion Over- load	The regenerative en- ergy exceeds the processing capacity of the Regeneration Resistor.	 The load inertia/load mass is too large. Or, the Servomotor rotation speed/motor speed is too high is too high to absorb the regenerative energy within the specified deceleration time. This Regeneration Resistor cannot be used for continuous regenerative braking. (The op- erating limit of the external re- sistor is limited to a 10% duty.) 			0			1576 1577
34E40000 hex	Error Coun- ter Overflow	Position error pulses exceeded the setting of the Following error window (6065 hex).	 Motor operation does not follow the command. The value of the Following error window (6065 hex) is small. The encoder/external encoder wiring is incorrect. 			0			1576 1577
34E50000 hex	Excessive Velocity Er- ror	The difference be- tween the internal po- sition command ve- locity and the actual velocity (i.e., the ve- locity error) exceeded the Excessive Veloci- ty Error Setting (3602 hex).	 Motor operation does not follow the command. The setting of the Excessive Velocity Error Setting (3602 hex) is too small. 			0			1576 1577
34E60000 hex	Overspeed	The Servomotor rota- tion speed/motor speed exceeded the value set on the Overspeed Detection Level Setting (3513 hex).	 The velocity command value is too large. There is overshooting. The wiring is incorrect. 			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
383F0000 hex	Excessive Hybrid Fol- lowing Error	During fully-closed control, the difference between the load po- sition from the exter- nal encoder and the Servomotor position from the encoder was larger than the num- ber of pulses set as the Hybrid Following Error Counter Over- flow Level (3328 hex).	 Connections are not correct. The settings are not correct. 			0			1576
38400000 hex	Overspeed 2	The Servomotor rota- tion speed/motor speed exceeded the value set on Over- speed Detection Lev- el Setting at Immedi- ate Stop (3615 hex).	 The velocity command value is too large. There is overshooting. The wiring is incorrect. 			0			1576 1577
38410000 hex	Command Error	The position com- mand variation after the electronic gear exceeded the speci- fied value.	 The change in position command is too large. The backlash compensation amount is too large. 			0			1576 1577
38420000 hex	Command Generation Error	During position com- mand processing, an error such as a calcu- lation range error oc- curred.	 During position command processing, an error such as a calculation range error occur- red. 			0			1576 1577
38430000 hex	Error Coun- ter Overflow 1	The absolute encoder position/ absolute scale position in puls- es divided by the electronic gear ratio exceeded $\pm 2^{31}(2,147,483,648).$	 The absolute encoder position/ absolute scale position in puls- es divided by the electronic gear ratio exceeded ±2³¹(2,147,483,648). 			0			1576 1577
38440000 hex	Error Coun- ter Overflow 2	The position following error in pulses ex- ceeded $\pm 2^{29}(536,870,912)$. Or, the position fol- lowing error in com- mand units exceeded $\pm 2^{30}(1,073,741,824)$.	 There is insufficient torque/ force. There is insufficient gain. The encoder/external encoder wiring is incorrect. 			0			1576 1577
38450000 hex	Interface In- put Dupli- cate Alloca- tion Error 1	There is a duplicate setting in the input signal (IN1, IN2, IN3, and IN4) function al- locations.	• There is a duplicate setting in the input signal (IN1, IN2, IN3, and IN4) function allocations.			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
38460000 hex	Interface In- put Dupli- cate Alloca- tion Error 2	There is a duplicate setting in the input signal (IN5, IN6, IN7, and IN8) function al- locations.	 There is a duplicate setting in the input signal (IN5, IN6, IN7, and IN8) function allocations. 			0			1576 1577
38470000 hex	Interface In- put Function Number Er- ror 1	There is an undefined number specification in the input signal (IN1, IN2, IN3, and IN4) function alloca- tions. Or, a logic set- ting error was detect- ed.	 There is an undefined number specification in the input signal (IN1, IN2, IN3, and IN4) function allocations. Different logic is set for the same function in the function assignments of the input signals (IN1, IN2, IN3, and IN4). 			0			1576 1577
38480000 hex	Interface In- put Function Number Er- ror 2	There is an undefined number specification in the input signal (IN5, IN6, IN7, and IN8) function alloca- tions. Or, a logic set- ting error was detect- ed.	 There is an undefined number specification in the input signal (IN5, IN6, IN7, and IN8) function allocations. Different logic is set for the same function in the function assignments of the input signals (IN5, IN6, IN7, and IN8). 			0			1576 1577
38490000 hex	Interface Output Function Number Er- ror 1	There is an undefined number specification in the output signal (OUTM1) function al- location.	 There is an undefined number specification in the output sig- nal (OUTM1) function alloca- tion. 			0			1576 1577
384A0000 hex	Interface Output Function Number Er- ror 2	There is an undefined number specification in the output signal (OUTM2) function al- location.	 There is an undefined number specification in the output sig- nal (OUTM2) function alloca- tion. 			0			1576 1577
384B0000 hex	External Latch Input Allocation Error	There is an error in the latch input func- tion allocation.	 The latch input was allocated to an input signal other than IN5, IN6, or IN7. A latch input is assigned to an NC signal. The same latch input is not assigned to the same pin in all Control Modes. 			0			1576 1577
384C0000 hex	Overrun Limit Error	The Servomotor ex- ceeded the allowable operating range set in the Overrun Limit Setting (3514 hex) with respect to the position command in- put range.	 The gain or inertial ratio/mass ratio is not suitable. The set value of the Overrun Limit Setting (3514 hex) is too small. 			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
384D0000 hex	Absolute En- coder Sys- tem Down Error	The voltage of the built-in capacitor dropped below the specified value be- cause the power sup- ply to the encoder or the battery power supply was down.	 The voltage of the built-in ca- pacitor dropped below the specified value because the power supply to the encoder or the battery power supply was down. 			0			1576
384E0000 hex	Absolute En- coder Coun- ter Overflow Error	The multi-rotation counter of the encod- er exceeded the specified value.	 The set value for switching operation with the absolute encoder is too large. The traveling distance from home of the machine exceeded 32,767 revolutions. 			0			1576
384F0000 hex	Object Set- ting Error 1	The electronic gear ratio exceeded the al- lowable range.	The electronic gear ratio ex- ceeded the allowable range			0			1576 1577
38500000 hex	Object Set- ting Error 2	External encoder ra- tio exceeded the al- lowable range.	External encoder ratio exceed- ed the allowable range.			0			1576 1577
38510000 hex	External En- coder Con- nection Error	The set value of the External Feedback Pulse Type Selection (3323 hex) differs from the external en- coder type that is connected for serial communications.	• The set value of the External Feedback Pulse Type Selec- tion (3323 hex) differs from the external encoder type that is connected for serial communi- cations.			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
38520000 hex	Function Setting Error	The function that was set does not support the communications period.	 The electronic gear object ratio was not 1:1 when the communications period was set to 500 µs. Modes of operation (6060 hex) was set to pp or hm when the communications period was set to 500 µs. More than 12 bytes were mapped for RxPDO in Fully-closed Control Mode (This applies only to Cylinder-type Servomotors.). Modes of operation (6060 hex) was set to pp or hm in Fully-closed Control Mode (This applies only to Cylinder-type Servomotors.). Modes of operation (6060 hex) was set to pp or hm in Fully-closed Control Mode when the communications period was set to 1 ms and the electronic gear parameter ratio was not set to 1:1 (This applies only to Cylinder-type Servomotors.). No bytes (i.e., no objects) were mapped for RxPDO. More than 10 objects were mapped for TxPDO. CSP Switching Reference Position (4020 hex) was mapped for TxPDO. CSP Switching Reference Position (4020 hex) was mapped for TxPDO. 			0			1576 1577
38530000 hex	Magnetic Pole Posi- tion Estima- tion Error 1	Magnetic pole posi- tion estimation was not completed suc- cessfully.	 Settings associated with the external encoder are incorrect. The command time or force command value for magnetic pole position estimation is too low. There is a large unbalanced load or friction. 			0			1577
38540000 hex	Magnetic Pole Posi- tion Estima- tion Error 2	Magnetic pole posi- tion estimation was not completed suc- cessfully because the motor did not stop within the Magnetic Pole Position Estima- tion Time Limit for Stop.	 The value set for the Magnetic Pole Position Estimation Time Limit for Stop (3927 hex) is small compared with the actual stop time of the motor. The motor is moving when no force is applied. 			0			1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
38550000 hex	Magnetic Pole Posi- tion Estima- tion Error 3	Magnetic pole posi- tion restoration was not completed suc- cessfully.	 The Magnetic Pole Detection Method (3920 hex) object was set to 3 (Magnetic pole posi- tion restoration method), al- though magnetic pole position estimation had never been executed. The Magnetic Pole Detection Method (3920 hex) was set to 3 (Magnetic pole position re- storation method) when a non- absolute type external encoder was used. 			0			1577
38560000 hex	Motor Auto- setting Error	The current exceeded the limit when it was applied to the Motor when the Servo was locked or when FFT measurement prepa- rations were per- formed.	The Current Loop Proportional Gain or the Current Loop Integral Gain was too large before auto- setting was performed.			0			1577
64E00000 hex	Drive Pro- hibition Input Error 1	When the Drive Pro- hibition Input Selec- tion (3504 hex) was set to 0, both the For- ward/ Positive Drive Prohibition Input (POT) and Reverse/ Negative Drive Pro- hibition Input (NOT) turned ON. Or, when the Drive Prohibition Input Selection (3504 hex) was set to 2, ei- ther the Forward/ Positive Drive Prohib- ition Input (POT) or Reverse/Negative Drive Prohibition In- put (NOT) turned ON.	 A problem occurred with the switches, wires, and power supplies that are connected to the Forward/Positive Drive Prohibition Input (POT) and Reverse/Negative Drive Pro- hibition Input (NOT). 			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64E10000 hex	Drive Pro- hibition Input Error 2	An operation com- mand (such as a trial run of FFT) was re- ceived from the CX- Drive when the Drive Prohibition Input Se- lection (3504 hex) was set to 0, Ether- CAT communications was interrupted, and either POT or NOT was ON. Or, POT or NOT turned ON while operation was being performed for a CX- Drive operation com- mand.	 A problem occurred with the switches, wires, and power supplies that are connected to the Forward/Positive Drive Prohibition Input (POT) and Reverse/Negative Drive Pro- hibition Input (NOT). 			0			1576 1577
64E20000 hex	Immediate Stop Input Error	An Immediate Stop (STOP) signal was in- put.	 An Immediate Stop (STOP) signal was input. Incorrect wiring of the immedi- ate stop input (STOP). 			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
74810000 hex	Command Error	A mistake was made in using a command.	 When bit 09 (Remote) of the Statusword (6041 hex) was set to 1 (remote), and the Servo Drive was in operation enabled state (Servo ON), a command was received that changes the communications state from Operational to another state (Init, Pre-Operational, or Safe-Operational state). When bit 09 (Remote) of the Statusword (6041 hex) was set to 0 (local), a command was received during FFT or test run status that changes the ESM state from Operational, Safe-Operational, or Pre-Operational state to 1 nit state. An unsupported number was set for 6060 hex (Operation Mode). During Fully-closed Control Mode, csv or cst was set for 6060 hex (Operation Mode) (This applies to Cylinder-type Servomotors.). The setting of 6060 hex (Operation Mode) (This applies to a value other than 8, 12, 19, 20, 33, 34, or 35. Data setting Warning Detection Count). 			0			1576 1577
78010000 hex	Operation Command Competition	An attempt was made to establish EtherCAT communications or to turn ON the Servo from the Controller (enable operation) while executing an FFT that operates with the Servo Drive alone or a trial run.	• EtherCAT communications (change from Init to Pre-Op- erational state) was establish- ed or an attempt to turn ON the Servo from the Controller (enable operation) was made while executing an FFT that operates with the Servo Drive trial run.			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
78020000 hex	Absolute En- coder Status Error	The rotation of the encoder was higher than the specified val- ue when the power supply was turned ON.	 The rotation of the encoder was higher than the specified value when the power supply was turned ON. 			0			1576
84B10000 hex	EtherCAT State Change Er- ror	A communications state change com- mand was received for which the current communications state could not be changed.	 A communications state change command was re- ceived for which the current communications state could not be changed 			0			1576 1577
84B20000 hex	EtherCAT II- legal State Change Er- ror	An undefined com- munications state change command was received.	 An undefined communications state change command was received 			0			1576 1577
84B30000 hex	Communica- tions Syn- chronization Error	The number of con- secutive errors in re- ceiving data during the communication sync time exceeded the value specified for the Communications Error Setting (2200 hex).	 Power to the host controller was interrupted during PDO communications. An EtherCAT communications cable is disconnected, broken, or incorrectly connected. Noise 			0			1576 1577
84B40000 hex	Synchroni- zation Error	A synchronization er- ror occurred.	Noise Control PCB error			0			1576 1577
84B50000 hex	Sync Man- ager WDT Error	PDO communications were stopped for more than the speci- fied period of time.	 The EtherCAT communica- tions cable is disconnected or broken. There is an error in the host controller. 			0			1576 1577
84B60000 hex	ESC Initiali- zation Error	An error occurred in ESC initialization.	Control PCB error			0			1576 1577
84B70000 hex	Slave Unit Verification Error	An error occurred in Slave Unit verifica- tion.	Control PCB error			0			1576 1577
84B80000 hex	Communica- tions Setting Error	There is an error in the communications settings.	 An out-of-range value was set from the host controller. A command that changes the communications state to an unsupported state was re- ceived. 			0			1576 1577
84B90000 hex	Synchroni- zation Inter- ruption Error	A synchronization in- terruption error occur- red.	Control PCB error			0			1576 1577

Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
98010000 hex	Absolute Value Cleared	The multi-rotation counter for the abso- lute encoder was cleared during USB communications by the CX-Drive.	 The multi-rotation counter for the absolute encoder was cleared during USB communi- cations by the CX-Drive. 			0			1576
98020000 hex	Position Da- ta Initialized	A Config operation was performed or the multi-rotation counter was cleared for the absolute encoder dur- ing EtherCAT com- munications.	 A Config operation was performed during EtherCAT communications. The multi-rotation counter was cleared for the absolute encoder. (This applies only to Cylinder-type Servomotors.) 			0			1576 1577
08010000 hex	Battery Warning	The battery voltage is 3.2 V or less.	The battery voltage is 3.2 V or lower.				0		1576
08020000 hex	Fan Warning	The fan stop state continued for 1 sec- ond.	 There is foreign matter in the fan. The Servo Drive failed. 				0		1576 1577
08030000 hex	Encoder Communica- tions Warn- ing	Encoder communica- tions errors occurred in series more fre- quently than the specified value.	 There is insufficient power supply voltage for the encoder. Noise is entering on the en- coder line. 				0		1576
08040000 hex	Encoder/ Serial Con- version Unit Overheating Warning	The encoder temper- ature exceeded the specified value or an overheating warning was detected for the Serial Conversion Unit.	 The ambient temperature is too high. Servomotor/Linear Motor failed. 				0		1576 1577
08050000 hex	Life Expect- ancy Warn- ing	The remaining life of the capacitor or the fan is shorter than the specified value.	 The life expectancy of the ca- pacitor or the fan is shorter than the specified value. 				0		1576 1577
08060000 hex	External En- coder Error Warning	The external encoder detected a warning.	 There is insufficient power supply voltage for the external encoder. Noise is entering on the exter- nal encoder connector cable. The external encoder failed. 				0		1576 1577
08070000 hex	External En- coder Com- munications Warning	The external encoder had more communi- cations errors than the specified value.	 There is insufficient power supply voltage for the external encoder. Noise is entering on the exter- nal encoder connector cable. 				0		1576 1577
34E00000 hex	Data Setting Warning	An object setting is out of range.	• The object set value is out of the range				0		1576 1577
383C0000 hex	Overload Warning	The load ratio is 85% or more of the protec- tion level.	 Overload There is incorrect wiring of the motor line or a broken cable. 				0		1576 1577

					I	_eve	el		
Event code Eve	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
383D0000 hex	Excessive Regenera- tion Warning	The regeneration load ratio is 85% or more of the level.	 There is excessive regeneration. This Regeneration Resistor cannot be used for continuous regenerative braking. 				0		1576 1577
383E0000 hex	Vibration De- tection Warning	Vibration was detect- ed.	• The gain or inertial ratio/mass ratio setting is not suitable.				0		1576 1577
74800000 hex	Command Warning	A command could not be executed.	 The absolute multi-rotation counter was cleared when the Servo was not OFF when using an absolute encoder for semi-closed control (This applies only to Cylinder-type Servomotors.). A forced brake operation request was sent while the Servo was ON. A Switch ON command was sent when the main power was OFF. (When 3508 hex = 0) An Enable Operation command was sent to request turning ON the Servo when the Servomotor was operating at 30 r/min or 30 mm/s, or higher. A latch operation was started under the following conditions. An absolute external encoder was used and phase Z was selected as the trigger for fully-closed control (This applies only to Cylinder-type Servomotors.). The absolute multi-rotation data was being cleared or the Config operation was being performed. The Statusword (6041 hex) bit 09 (remote) was 0 (local). An operation command is given in the prohibited direction after the motor made an immediate stop due to a drive prohibition input. 				0		1576 1577
84B00000 hex	EtherCAT Communica- tions Warn- ing	An EtherCAT commu- nications error occur- red one or more times.	 The EtherCAT communica- tions cable is disconnected or broken. Noise 				0		1576 1577

MX2/RX-series Inverters with EtherCAT Communications Units

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
1574	MX2/RX Series Inverter EtherCAT Communication Unit User's Manual

					L	.eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failureNoise			0			I574 W640
04BA0000 hex	Connection Error be- tween Inver- ter and Communica- tions Unit	An error occurred in the connection be- tween the Inverter and the EtherCAT Communications Unit for the Inverter.	 Contact failure between the Inverter and the EtherCAT Communications Unit for the Inverter. Inverter trip was reset. The Inverter was initialized or the mode was changed. The EtherCAT Communications Unit for the Inverter failed. 			0			1574
04BB0000 hex	Inverter Warning	An Inverter warning was detected.	An Inverter warning was de- tected.			0			1574
04BC0000 hex	Inverter Trip	An Inverter trip was detected.	An Inverter trip was detected.			0			1574
34F00000 hex	PDO Setting Error	There is an illegal setting value in the PDO mapping.	 The PDO mapping or Syn- cManager settings are incor- rect. 			0			1574

FH/FZ5 Series Vision System

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
Z342	FH/FZ5 Vision System FH/FZ5 Series User's Manual for Communications Settings

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
08210000 hex	Fan/Power Supply Error	An error occurred in the fan or power sup- ply.	 A foreign object is interfering with fan operation. A suitable power supply volt- age is not being used, result- ing in an overvoltage or under- voltage. 			0			Z342
08220000 hex	Camera Overcurrent Detected	An overcurrent flowed to the Camera.	 There is a short circuit inside the Camera cable or in a cir- cuit inside the Controller. 			0			Z342
08230000 hex	Parallel I/O Overcurrent Detected	An overcurrent occur- red in the parallel I/O interface.	A parallel I/O interface line is short-circuited.			0			Z342
182D0000 hex	Setting Data Load Error	Loading the scene group data failed.	 The data is corrupted because the power supply was turned OFF while saving the previous scene data. As the result of changing the operation mode, the required amount of memory increased, resulting in insufficient memo- ry. 			0			Z342
38590000 hex	Camera Connection Error	The Camera connec- tion is wrong.	 A Camera is not connected to the Controller. The Camera cable is broken. The Camera Selection settings are not correct in the Camera Image Input and Camera Switching processing items. A Camera is not connected to the Camera port on the Con- troller according to the Camera Selection settings in the Cam- era Image Input and Camera Switching processing items. 			0			Z342
385A0000 hex	Change in Connected Camera	The Camera that is connected is different from when data was last saved.	The Camera connection infor- mation in the scene data does not agree with the connection information for the Camera connected to the Controller.			0			Z342

		Meaning			L	eve			
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
385B0000 hex	Light instal- lation error	The Light installation is incorrect.	 The power consumption of the light installed onto a camera with a Lighting Controller is incorrect. The lighting mode of the light installed onto a camera with a Lighting Controller is incorrect. No external power supply is connected to the camera with a Lighting Controller. 			0			Z342
48020000 hex	System Er- ror	An error occurred in the system.	• A serious error occurred in the system in the Controller.			0			Z342
58210000 hex	Output Con- trol Timeout for Parallel I/O, PLC Link, or EtherNet/ IP	A timeout occurred in data output hand- shaking control for measurement results.	 The data output handshaking controls in the program (i.e., the ON/OFF timing of the DSA signal) are not correct. The output control timeout time is too short in comparison with the program processing time. The parallel I/O DSA or Result Notification signal is not wired correctly. 			0			Z342
58220000 hex	Output Con- trol Timeout for EtherCAT	A timeout occurred in data output hand- shaking control for measurement results.	 The data output handshaking controls in the program (i.e., the ON/OFF timing of the Result Set Request signal) are not correct. The output control timeout time is too short in comparison with the program processing time. 			0			Z342
58230000 hex	Initial scene group error	Initial scene group setting is incorrect.	 The external storage specified as the scene group destination by the Scene Group Saving Destination Settings tool is not connected at the time of start- up. The destination directory is not detected at the time of startup. Initial scene group number is not within the range of scene group accepted by the system. 			0			Z342
58240000 hex	Initial scene number error	Initial scene number setting is incorrect.	 Initial scene number is not within the range of scenes ac- cepted by the system. 			0			Z342
78190000 hex	Image Log- ging Disk Write Error	Writing data to the im- age logging disk failed.	 A logging disk is not inserted. The available space on the logging disk is not sufficient. There is no logging folder. Security restrictions are set on the logging disk. 			0			Z342

			Level	
Event code	Event name	Meaning	Assumed cause M P M O I n Refer	ence
781A0000 hex	Setting Data Transfer Er- ror	An error occurred while transferring the scene data.	Scene data was edited when there was little available space on the RAM disk and the oper- ation mode was Double Speed Multiinput.Z342The data transfer button was clicked when there was little available space on the RAM disk and the operation mode was Non-stop Adjustment Mode.OIII	
781B0000 hex	Output Buf- fer Error (EtherCAT)	The data output buf- fer for measurement data is full.	Data measurements are being performed on a period that is shorter than the time that is re- quired for data output hand- shake controls in the program.	
88080000 hex	PLC Link Communica- tions Error	A PLC Link cannot be established.	There is a mistake in the PLC or Vision Sensor communica- tions settings.Z342The Ethernet or RS-232C ca- ble is damaged.O	

EtherCAT FQ-M-series Specialized Vision Sensors for Positioning

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
Z314	FQ-M-series Specialized Vision Sensor for Positioning User's Manual

					L	eve	I		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
78080000 hex	TRIG Input Error	A TRIG signal was in- put when the BUSY signal for Sensor measurement was ON.	 A TRIG signal was input when the BUSY signal for Sensor measurement was ON. Chattering occurred for a con- tact input. 			0			Z314
780A0000 hex	Scene Data Error	The scene data to switch to is corrupted.	 The power supply was inter- rupted when the scene data to switch to was saved. 			0			Z314
780B0000 hex	Model Error	A model was re-regis- tered with an image with low contrast.	A model was re-registered with an image with low contrast.			0			Z314
780C0000 hex	Logging Er- ror	Some data was not saved when logging data to files on an SD card.	 Too much data to log in files occurred in a short period of time, and writing to the SD card could not keep up. 			0			Z314
780D0000 hex	Output Time- out	A timeout occurred in data output hand- shaking control for measurement results.	 The data output handshaking controls in the program (i.e., the ON/OFF timing of the DSA signal) are not correct. The output control timeout time is too short in comparison with the program processing time. 			0			Z314
780E0000 hex	Output Size Error	The data output size setting and the PDO mapping setting do not agree.	 The EtherCAT data output size setting in the Sensor and the PDO mapping setting in the EtherCAT master do not agree. 			0			Z314

E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
E413	EtherCAT Digital-type Sensor Communication Unit Operation Manual

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04C40000 hex	Sensor Communica- tions Error	An error occurred in a Sensor connection.	The Sensor is disconnected.			0			E413
04C50000 hex	Sensor Communica- tions Has Not Been Established	Communications has not been established with the Sensor.	A Sensor is not connected.			0			E413
14A00000 hex	Non-volatile Memory Checksum Error	An error occurred in the control parame- ters.	• Noise			0			E413 W640
24780000 hex	Number of Sensors Ver- ify Error	The number of Sen- sors that is connected does not agree with the settings.	• The set value does not match the number of Sensors that are actually connected.			0			E413
24790000 hex	Number of Sensors Over Limit	Too many Sensors are connected.	More than the maximum num- ber of Sensors are connected.			0			E413
34F80000 hex	Dummy Sensors Set- ting Error	Too many Dummy Units are set.	 There are too many Dummy Units set, so some Sensors are not assigned logical unit numbers. 			0			E413
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failureNoise				0		E413 W640

E3NW-ECT EtherCAT Digital Sensor Communications Unit

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No. Manual name				
E429	EtherCAT Digital-type Sensor Communication Unit Operation Manual			

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04C40000 hex	Sensor Communica- tions Error	An error occurred in a Sensor connection.	The Sensor is disconnected.			0			E429
04C50000 hex	Sensor Communica- tions Has Not Been Established	Communications has not been established with the Sensor.	A sensor is not connected.			0			E429
14A00000 hex	Non-volatile Memory Checksum Error	An error occurred in the control parameters.	Noise			0			E429 W640
247A 0000 hex	Number of Distributed Sensor Unit Verify Error	The number of Dis- tributed Sensor Unit that is checked at power up is de- creased.	The Distributed Sensor Unit is disconnected			0			E429
247B 0000 hex	Number of Sensors Over Limit	Too many Sensors are connected.	• More than the maximum num- ber of Sensors are connected.			0			E429
247C 0000 hex	Number of Sensors Ver- ify Error	The number of Sen- sors that is connected does not agree with the settings.	• The set value does not match the number of Sensors that are actually connected.			0			E429
247D 0000 hex	Number of Sensors Over at Dis- tributed Sen- sor Unit	Too many Sensors are connected at Dis- tributed Sensor Unit.	 More than the maximum num- ber of Sensors are connected at Distributed Sensor Unit. 			0			E429
34F80000 hex	Dummy Sensors Set- ting Error	Too many Dummy Units are set.	 There are too many Dummy Units set, so some Sensors are not assigned logical unit numbers. 			0			E429
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failureNoise				0		E429 W640

ZW-CE1□T Confocal Fiber Type Displacement Sensor

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
Z332	ZW-CE1□T Confocal Fiber Type Displacement Sensor User's Manual

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04D00000 hex	Hardware error	Some abnormality oc- curred on the dis- placement sensor hardware.	• Hardware damage			0			Z332
14B00000 hex	Linearity cor- rection data error	The linearity correc- tion data of the dis- placement sensor is damaged.	Calibration ROM damage			0			Z332
14B10000 hex	Linearity cor- rection data read error	Reading of the dis- placement sensor lin- earity correction data was not executed correctly.	Calibration ROM not insertedCalibration ROM damage			0			Z332
14B20000 hex	System set- ting error	The system settings saved to the displace- ment sensor are cor- rupt.	• The displacement sensor pow- er was turned OFF during sav- ing/loading of system settings.			0			Z332
14B30000 hex	Bank data error	The bank data saved to the displacement sensor is corrupt.	• The displacement sensor pow- er was turned OFF during sav- ing/loading of bank data.			0			Z332
24810000 hex	Ethernet communica- tion parame- ter error	An invalid IP address is set for the displace- ment sensor.	Invalid IP address setting			0			Z332
74900000 hex	Multiple con- trol signal in- put error	Multiple control sig- nals turned ON in the same cycle.	Multiple control signals turned ON in the same cycle.			0			Z332
74910000 hex	EXE input error	EXE input processing was not executed correctly.	 EXE input turned ON in the FUN mode. EXE input turned ON with READY output OFF. 			0			Z332
74920000 hex	SYNC input error	SYNC input process- ing was not executed correctly.	SYNC input turned ON in the FUN mode.			0			Z332

					Level				
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
74930000 hex	TIMING in- put error	TIMING input proc- essing was not exe- cuted correctly.	 TIMINGx input turned ON in the FUN mode. TIMINGx input turned ON or OFF while RESETx input was ON. TIMINGx input turned ON in a non-measurement state. TIMINGx input turned ON be- fore the "delay time + sampling time" elapsed. 			0			Z332
74940000 hex	RESET input error	RESET input proc- essing was not exe- cuted correctly.	RESETx input turned ON in the FUN mode.			0			Z332
74950000 hex	ZERO input error	ZERO input process- ing was not executed correctly.	 ZEROx input turned ON in the FUN mode. ZEROx input turned ON in a non-measurement state. ZEROx input turned ON for a task whose status is OFF. 			0			Z332
74960000 hex	ZEROCLR input error	ZEROCLR input processing was not executed correctly.	ZEROCLRx input turned ON in the FUN mode.			0			Z332
A-2-3 Errors in CJ-series Units

The section provides tables of the errors (events) that can occur in the following CJ-series Units.

- Analog I/O Units
- Process I/O Units
- Temperature Control Units
- ID Sensor Units
- High-speed Counter Units
- Serial Communications Units
- DeviceNet Units
- EtherNet/IP Units
- CompoNet Master Units
- EtherCAT Slave Units

CJ-series Analog I/O Units

The section provides tables of the errors (events) that can occur in the following Units. CJ1W-AD041-V1/AD081-V1 CJ1W-AD042 CJ1W-DA021/DA041 CJ1W-DA08V/DA08C CJ1W-DA042V CJ1W-MAD42

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W490	CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit

					L	.eve	_		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04600000 hex	A/D Conver- sion Error	An error occurred in A/D conversion.	 There is a source of noise nearby. A/D converter failed. 			0	۲		W490
04620000 hex	Non-volatile Memory Er- ror	An error occurred in non-volatile memory.	There is a source of noise nearby.Non-volatile memory failed.			0			W490
34800000 hex	Mean Value Processing Setting Error	There is a mistake in the setting of the number of samplings for mean value proc- essing.	 There is a mistake in the set- ting of the number of sam- plings for mean value process- ing. 			0			W490

		Meaning			l				
Event code	Event name		Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
34830000 hex	Scaling Data Setting Error	There is a mistake in the scaling data set- tings.	• The upper or lower limit data for scaling is outside the set- ting range. Or, the maximum value and minimum value are not 0 and they are the same.			0			W490
34840000 hex	Input Signal Range Set- ting Error or Error in Number of Inputs Set- ting	There is a mistake in the input signal range setting or in the num- ber of inputs setting.	• The settings of the input signal range or the setting of the number of analog inputs that are used is incorrect.			0			W490
34850000 hex	Mean Value Processing Setting Error	There is a mistake in the setting of the number of samplings for mean value proc- essing.	• There is a mistake in the set- ting of the number of sam- plings for mean value process- ing.			0			W490
34860000 hex	Error in Set- ting of Con- version Mode	There is a mistake is the Conversion Mode setting.	The specification of the Cyclic Conversion Mode or Direct Conversion Mode is not cor- rect.			0			W490
34870000 hex	Output Hold Setting Error	There is a mistake in the output hold set- ting.	The setting for output status when conversion stops is in- correct.			0			W490
34890000 hex	Conversion Time/Reso- lution or Op- eration Mode Set- ting Error	There is a mistake in the conversion time/ resolution or opera- tion mode setting.	 There is a mistake in the con- version time/resolution or oper- ation mode setting. 			0			W490
348A0000 hex	Output Sig- nal Range Setting Error or Error In Number of Outputs Used Setting	There is a mistake in the output signal range setting or in the number of outputs setting.	• There is a mistake in the out- put signal range setting or in the number of outputs setting.			0			W490
38010000 hex	Scaling Data Setting Er- ror/Ratio Conversion Use Setting Error	There is an error in the scaling data set- ting or ratio conver- sion use setting.	 The upper or lower limit data for scaling is outside the set- ting range. Or, the maximum value and minimum value are not 0 and they are the same. The I/O number for ratio con- version is set to Not used in the I/O specifications. 			0			W490
38020000 hex	Ratio Set Value Error	There is a mistake is the ratio setting for ratio conversion.	• A value other than 16#0000 to 16#9999 (0.00 to 99.99) was specified for the ratio conver- sion A constant for ratio con- version.			0			W490

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64780000 hex	Input Dis- connection Detected	The input is discon- nected.	Input wiring is broken.Input wiring disconnection			0	٠		W490
64790000 hex	Output Set Value Error	The output setting is out of range.	 An output set value setting is out of range. 			0	\odot		W490
34810000 hex	Input Value Exceeded Adjustment Range in Adjustment Mode	In Adjustment Mode, the input value ex- ceeded the range for which adjustment is possible.	 In Adjustment Mode, the input value exceeded the range for which adjustment is possible, so the offset and gain cannot be adjusted. 			•	0		W490
34820000 hex	Input Num- ber Specifi- cation Error in Adjust- ment Mode	The input number specified in Adjust- ment Mode is not en- abled or the input number is wrong.	 The input number that was specified in Adjustment Mode is not enabled. The setting of the Adjustment Input Number (device variable *_AdjCh) is incorrect, so adjustment is not possible. 			•	0		W490
34880000 hex	Output Num- ber Specifi- cation Error in Adjust- ment Mode	The output number specified in Adjust- ment Mode is not en- abled or the output number is wrong.	 The output number that was specified in Adjustment Mode is not enabled. The setting of the Adjustment Output Number (device variable *_AdjCh) is incorrect, so adjustment is not possible. 			•	0		W490
348C0000 hex	I/O Number Specification Error in Ad- justment Mode	The I/O numbers specified in Adjust- ment Mode are not enabled or the I/O numbers are wrong.	 The I/O numbers that were specified in Adjustment Mode are not enabled. The setting of the Adjustment I/O Number (device variable *_AdjCh) is incorrect, so adjustment is not possible. 			٠	0		W490

CJ-series Process I/O Units

The section provides tables of the errors (events) that can occur in the following Units.

CJ1W-PDC15 CJ1W-AD04U CJ1W-PH41U

Cat. No.	Manual name
W498	CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit

					L	.eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04600000 hex	A/D Conver- sion Error	An error occurred in A/D conversion.	 There is a source of noise nearby. A/D converter failed. 			0	۲		W498
04610000 hex	Cold Junc- tion Sensor Error	An error occurred in the cold junction sen- sor.	 Faulty connection to the cold junction sensor for the CJ1W- PH41U. The cold junction sensor failed. 			0	٢		W498
04620000 hex	Non-volatile Memory Er- ror	An error occurred in non-volatile memory.	There is a source of noise nearby.Non-volatile memory failed.			0			W498
348D0000 hex	Data Range Error	A set value is out of range.	• A set value is out of range.			0			W498
647A0000 hex	Input Error	An input error occur- red.	 The analog input signal is out of range. Input wiring is broken. Input wiring disconnection or loose terminal 			0	٢		W498
647D0000 hex	Zero/Span Adjustment Period End	The zero/span adjust- ment period expired.	 The zero/span adjustment pe- riod expired. 			۲	0		W498
647E0000 hex	Zero/Span Adjustment Period No- tice	The zero/span adjust- ment period is close to expiring.	 The notification period for the expiration of zero/span adjust- ment occurred. 			۲	0		W498

CJ-series Temperature Control Units

The section provides tables of the errors (events) that can occur in the following Units. CJ1W-TC003 CJ1W-TC004 CJ1W-TC103

CJ1W-TC103

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W491	CJ-series Temperature Control Units Operation Manual for NJ-series CPU Unit

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04680000 hex	Cold Junc- tion Sensor Error	An error occurred in the cold junction sen- sor.	 Faulty connection to the cold junction sensor. The cold junction sensor failed. 			•	0		W491
34940000 hex	Setting Error	There is an illegal setting.	The set value is incorrect.			٠	0		W491
64840000 hex	Sensor Error	An error occurred in the sensor input.	Error in input from the Sensor.			٠	0		W491
64850000 hex	CT Overflow	An overflow occurred in the CT input.	The heater current exceeded 55.0 A.			\odot	0		W491
64860000 hex	Heater Burn- out Alarm	A heater burnout oc- curred.	 The power supply to the heater is not ON. The heater is burned out or de- teriorated. 			۲	0		W491

CJ-series ID Sensor Units

The section provides tables of the errors (events) that can occur in the following Units.

CJ1W-V680C11 CJ1W-V680C12

Cat. No.	Manual name
Z317	CJ-series ID Sensor Units Operation Manual for NJ-series CPU Unit

					L	.eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
046C0000 hex	Unit Status, Antenna Power Sup- ply Error	An error occurred in the power supply to the Antenna.	 An error occurred in the power supply (24 V) to the Antenna. 			0			Z317
046D0000 hex	Unit Status, Memory Er- ror	An error occurred when reading non- volatile memory.	There is a source of noise nearby.Non-volatile memory failure			0			Z317
046E0000 hex	Results In- formation, Antenna Er- ror	An error occurred in the Antenna.	The Antenna is not connected.Antenna failureThe ID Sensor Unit failed.			0			Z317
046F0000 hex	Unit Status, Unit Busy	An error occurred in an ID Sensor Unit.	There is a source of noise nearby.The ID Sensor Unit failed.			0			Z317
24400000 hex	Unit Status, Antenna Er- ror	An error occurred in the Antenna.	 The setting of the Connected Antenna Setting (device varia- ble *_Ch#_AntConn) does not agree with the Antenna that is connected. The V680-H01 or V680-H01- V2 was connected to the CJ1WV680C12. 			0			Z317
34980000 hex	Results In- formation, Data Stor- age Area Specification Error	The data storage area specification is not correct.	• The user program specifies addresses in the DM, CIO, AR, EM, or other areas that exceed the ranges defined for the data storage area specifications.			0			Z317
54A00000 hex	Results In- formation, ID Tag Address Error	The address of the ID Tag is wrong.	 The address of an ID Tag specified in a command is in- correct. 			0			Z317

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54A10000 hex	Results In- formation, Write Protec- tion Error	An attempt was made to write to a write-pro- tected area of the ID Tag.	 The specified address or number of bytes is incorrect. Write-protection is enabled for the area you attempted to write to in the ID Tag. 			0			Z317
54A20000 hex	Results In- formation, Command Error	The command to the ID Sensor Unit is not correct.	 The contents of the following external device variables is not data that can be specified (where # is the channel num- ber). *_Ch#_CmdSet *_Ch#_ProcAdr *_Ch#_ProcByte *_Ch#_CmdOption "#" in the variable name is the Antenna (Head) number. 			0			Z317
648C0000 hex	Unit Status, Command Error End	A processing error occurred.	A processing error occurred.			0			Z317
648D0000 hex	Results In- formation, Verification Error	The correct data could not be written to the ID Tag.	 The travel speed of the ID Tag is outside the specified range. The distance between the An- tenna and ID Tag is outside the specified range. Noise 			0			Z317
648E0000 hex	Results In- formation, ID Tag Commu- nications Er- ror	An error occurred in communications with an ID Tag, preventing a normal end.	 The travel speed of the ID Tag is outside the specified range. The distance between the An- tenna and ID Tag is outside the specified range. Noise 			0			Z317
648F0000 hex	Results In- formation, ID Tag Missing Error	There is no ID Tag in the communications area.	 The communications specification is set to trigger, and the ID Tag is not in the communications area when the trigger occurs. The communications specification is set to single auto or repeat auto, and the wait time reached the Auto Wait Time. An Amplifier is connected, but an Antenna is not connected. 			0			Z317
64900000 hex	Results In- formation, ID System Er- ror 1	ID system error 1 oc- curred.	System error 1 occurred.			0			Z317
64910000 hex	Results In- formation, ID System Er- ror 2	ID system error 2 oc- curred.	System error 2 occurred.			0			Z317

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64920000 hex	Results In- formation, ID System Er- ror 3	ID system error 3 oc- curred.	System error 3 occurred.			0			Z317
64930000 hex	Results In- formation, ID Tag Status	 One of the following occurred. The number of writes was exceeded for a Number of Writes Control command. An overflow or underflow occurred for a Calculation Write command. The data did not verify for a Data Check command. An error occurred in the data for a Read with Error Correction command. An error occurred when writing for a Copy command. 	 The number of writes was exceeded for a Number of Writes Control command. An overflow or underflow occurred for a Calculation Write command. The data did not verify for a Data Check command. An error occurred in the data for a Read with Error Correction command. An error occurred when writing for a Copy command. 			0			Z317
64940000 hex	Results In- formation, Error Cor- rection	A Write with Error Correction command performed a 1-bit er- ror correction.	 There is ambient noise where the ID Tag is used. ID Tag error. 			0			Z317

A-2 Errors (Events) That Can Occur in Connected Devices

A-2-3 Errors in CJ-series Units

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CJ-series High-speed Counter Units

The section provides tables of the errors (events) that can occur in the following Units. CJ1W-CT021

Cat. No.	Manual name
W492	CJ-series High-speed Counter Units Operation Manual for NJ-series CPU Unit

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
68010000 hex	Unit Error	An error occurred in the High-speed Counter Unit.	 There is an error in the Special Unit Setup. An overflow or underflow error occurred. An illegal preset value was used. A CPU Unit monitor error or bus error occurred. The start delay time at startup was set to more than 10 sec- onds for the the CPU Unit. 			0			W492

CJ-series Serial Communications Units

The section provides tables of the errors (events) that can occur in the following Units. CJ1W-SCU22

CJ1W-SCU32 CJ1W-SCU42

Cat. No.	Manual name
W494	CJ-series Serial Communications Units Operation Manual for NJ-series CPU Unit

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04740000 hex	Error Log Data Error	An error occurred in the error log data.	There is a source of noise nearby.Non-volatile memory failure			0			W494
14800000 hex	Protocol Da- ta Error	A protocol data checksum error has occurred.	 The communications connector with the CX-Protocol was disconnected or the power supply to the Controller was interrupted during transfer of the protocol data from the CX-Protocol. The Serial Communications Unit failed. 			0			W494
34A40000 hex	System Set- up Error	There is an error in the system settings for the Serial Com- munications Unit.	• There is an error in the system settings for the Serial Commu- nications Unit.			0			W494
04750000 hex	DTR Check Error	An error was found during the DTR check.	 Loopback test jig failure. Noise The communications circuits in the Serial Communications Unit are faulty. 				0		W494
04760000 hex	CTS Check Error	An error was found during the CTS check.	 Loopback test jig failure. Noise The communications circuits in the Serial Communications Unit are faulty. 				0		W494
54A80000 hex	Command Error	A command error oc- curred.	• The constant in the expected receive message that is set in the protocol macro is different from the constant in the message that was received.				0		W494

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54A90000 hex	Sequence Abort Com- pleted	The sequence was ended by an Abort setting for the next processing or error processing.	 The protocol macro data is not set correctly. The baud rate, frame format, or other system setting does not agree with the remote node. 				0		W494
54AA0000 hex	Protocol Macro Error	An error occurred in the protocol macro.	 Sequence No. Error: An unregistered number was specified for SeqNo (communi- cations sequence number) of the ExecPMCR instruction (no indicators light). Data read/write area exceeded error: The specified area range was exceeded when data was writ- ten to or read from the CPU Unit. (The ERC indicator and ERR/ALM indicator will flash.) Protocol data syntax error: There was a code that cannot be executed during protocol execution. (The ERC indicator and ERR/ALM indicator will flash.) The total of the areas speci- fied for link words O1, O2, I1, and I2 exceeded 500 words. The same link word is used by both ports 1 and 2. Writing was specified with a constant. Interrupt notification was specified for a Serial Com- munications Unit. Thirty one or more items were set for the write attrib- ute data for one message. A length of 0 bytes was specified for a message that was sent or received. The length of a message to be sent or received exceeds the maximum send/receive bytes. A message is not registered for matrix reception. The transmission control is set to both RTS/CTS flow control and Xon/Xoff flow control. 				0		W494

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64A00000 hex	Tfs (Send Finished Monitoring Time) Ex- ceeded	The time required to complete a send op- eration exceeded the Send Finished Moni- toring Time.	 Noise The monitoring time is shorter than the actual completion time. 				0		W494
64A10000 hex	Tfr (Receive Finished Monitoring Time) Ex- ceeded	The time required to complete a reception operation exceeded the Receive Finished Monitoring Time.	 Noise The monitoring time is shorter than the actual completion time. 				0		W494
64A20000 hex	Tr (Receive Wait Moni- toring Time) Exceeded	The receive waiting time exceeded the Receive Wait Moni- toring Time.	 Noise The monitoring time is shorter than the actual completion time. 				0		W494
64A30000 hex	FCS Check Error	 One of the following errors occurred in the converted protocol at the serial gateway. When converting to CompoWay/F command: BCC error When converting to Modbus-RTU command: CRC error When converting to Modbus-ASCII command: CRC error When converting to Host Link FINS command: FCS error Protocol Macros The check code attached to the received message does not match the check code that was calculated from the received message. 	 Noise There was a mistake in the CRC code that was attached to the command frame. 				0		W494

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
64A40000 hex	Timeout Er- ror	A timeout error occur- red.	 The steps in the communications sequence of a protocol macro are not progressing. There is no remote device to receive the command. The command frame is incorrect. The remote device is not using the same serial communications settings. Wiring is not correct or terminating resistance is not set correctly. The remote device could not interpret the protocol command. The response from the remote device was sent too soon. The response timeout monitoring time of the serial gateway is too short. The communications circuits in the Serial Communications unit are faulty. A serial gateway interrupted processing between protocol macro steps. Noise occurred. The Serial Communications Mode setting is incorrect. 				0		W494
64A50000 hex	Comparison Error	A comparison error occurred.	 Loopback test jig failure. Noise The communications circuits in the Serial Communications Unit are faulty. 				0		W494
64A60000 hex	Reception Overflow	More than the speci- fied amount of re- ceive data was re- ceived in No-protocol Mode.	 One or more bytes of data was received after the completion the reception. 				0		W494
64A70000 hex	Command Format Error	An illegal function code or address was specified in a re- ceived Modbus-RTU command.	 An illegal function code, ad- dress, or data was specified in a received Modbus-RTU com- mand. 				0		W494

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
84680000 hex	Transmis- sion Error	A transmission error occurred.	 One of the following errors occurred. Tfs (Send Finished Monitoring Time) Exceeded Tfr (Receive Finished Monitoring Time) Exceeded Tr (Receive Wait Monitoring Time) Exceeded FCS Check Error Command Error Timeout Error Overrun Error Framing Error Parity Error 				0		W494
84690000 hex	Overrun Er- ror	An overrun occurred.	 In Serial Gateway Mode or Protocol Macro Mode: The reception circuits in the Serial Communications Unit are faulty. A transmission error occur- red due to noise or other factors. No-protocol Mode: The reception buffer re- ceived more than 259 bytes of data before the Seri- alRcv/Serial- RcvNoClear instruction was executed. During Loopback Test Loopback test jig failure. Noise The communications circuits in the Serial Communica- tions Unit are faulty. 				0		W494
846A0000 hex	Framing Er- ror	A frame error occur- red.	 In Serial Gateway Mode or Protocol Macro Mode: The reception circuits in the Serial Communications Unit are faulty. A transmission error occur- red due to noise or other factors. During Loopback Test Loopback test jig failure. Noise The communications circuits in the Serial Communica- tions Unit are faulty. 				0		W494

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
846B0000 hex	Parity Error	A parity error occur- red.	 In Serial Gateway Mode or Protocol Macro Mode: The reception circuits in the Serial Communications Unit are faulty. A transmission error occur- red due to noise or other factors. During Loopback Test Loopback test jig failure. Noise The communications circuits in the Serial Communica- tions Unit are faulty. 				0		W494
846C0000 hex	Overrun Er- ror, Framing Error, or Par- ity Error (Transmis- sion Error)	An overrun error, framing error, or pari- ty error occurred.	 The communications conditions and baud rate settings do not match the host. Noise or other external interference. The baud rate is outside the allowable range or there are bit errors due to different stop bit settings or other parameters. The communications cable wiring is faulty. Terminating resistance is not set correctly for the RS-422A/485 ports. Wiring is faulty or terminating resistance is not set correctly on an NT-AL001 or other Adapter. 				0		W494
846D0000 hex	Transmis- sion Error (CRC Error)	A CRC error occur- red.	 Noise CRC calculation method does not match the device. 				0		W494

CJ-series DeviceNet Units

The section provides tables of the errors (events) that can occur in the following Units. CJ1W-DRM21

Cat. No.	Manual name
W497	CJ-series DeviceNet Units Operation Manual for NJ-series CPU Unit

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
04880000 hex	Unit Memory Error	An error occurred when writing to inter- nal memory where the error history is saved.	 There is a source of noise nearby. Non-volatile memory failure 			0	۲		W497
04890000 hex	Network Power Error	Network power is not being supplied.	 Communications power is not being supplied normally from the network. 			0			W497
148D0000 hex	Invalid Scan List Data	There is an error in the contents of the slave scan list or master scan list stor- ed in non-volatile memory.	 The power was interrupted during writing the scan list to the non-volatile memory. 			0			W497
148E0000 hex	Invalid Setup Data	There is illegal data in the settings for the slave function.	 The power was interrupted while the system was writing the parameters. Non-volatile memory life 			0			W497
24480000 hex	Node Ad- dress Dupli- cated Error	An error was discov- ered during the node address duplication check when starting the DeviceNet Unit.	 The node address of the Devi- ceNet Unit is also set for an- other node. 			0			W497
34BC0000 hex	Routing Ta- ble Error	There is illegal data in the routing tables set in the CPU Unit.	 The local DeviceNet Unit is not in the routing tables. The routing table format is in- correct. Reading the routing tables timed out. 			0	۲		W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
34BD0000 hex	Verification Error	The slave information registered in the scan list does not agree with the actual slave information.	 A slave that is in the scan list does not exist. The node address of the local Unit, which is the master, is registered in the scan list. If the system is set to check the vendor in the detailed verification settings, the vendor of the slave does not match the registration in the scan list. If the connection path is set in the detailed verification setting the connection path that is set in the scan list. The size of the slave I/O data does not match the registration in the scan list. If the device type is set in the detailed verification settings, then setting the registration in the scan list. If the device type is set in the scan list failed. If the device type is set in the detailed verification settings, then setting the device type that is set in the scan list failed. If the product code is set in the detailed verification settings, then setting the product code that is set in the scan list failed. If the device does not support the I/O service specified in the scan list. 			0			W497
34BE0000 hex	Structure Er- ror	The scan list is disa- bled and an error oc- curred that prevented making I/O alloca- tions.	 The I/O words allocated to slave overlap. The I/O words allocated to the slave exceed the valid range. The I/O size of the slave exceeds 200 bytes for outputs or 200 bytes for inputs. 			0			W497
34BF0000 hex	Master I/O Refresh Er- ror	The I/O memory in the destination CPU Unit for I/O refreshing could not be found when refreshing the master function data in the CPU Unit.	 I/O words are allocated in an EM bank that does not exist. 			0			W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
34C00000 hex	Master User- set Alloca- tions User Setting Failed	An error occurred in the following opera- tion for user alloca- tion of the master.	 The master function is not enabled. There is a mistake in the user allocations in the master. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch. 			0			W497
34C10000 hex	Communica- tions Cycle Time Setting Failed	An error occurred in one of the following operations when set- ting the communica- tions cycle time.	 There is an error in the set information. CPU Unit is not in PROGRAM mode. 			0			W497
34C20000 hex	Slave I/O Refresh Er- ror	The I/O memory in the destination CPU Unit for I/O refreshing could not be found when refreshing the slave function data in the CPU Unit.	 I/O words are allocated in an EM bank that does not exist. 			0			W497
34C30000 hex	Slave User Allocation Area Setting Failed	An error occurred in the following opera- tion for user alloca- tion of the slave.	 The slave function is not disabled. There is a mistake in the user allocations to a slave. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch. 			0			W497
64AC0000 hex	Send Time- out Error	A send timeout occur- red.	 There is no slave or other device on the network. The same baud rate is not set for all nodes. Communications cable lengths (trunk line and branch lines) are unsuitable. A communications cable is disconnected or loose. The terminating resistance is somewhere other than the ends of the trunk line. Noise There is an error in the CAN controller. 			0			W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
74600000 hex	Master Function En- able/Disable Failed	An operating error oc- curred when enabling or disabling the mas- ter function.	 An attempt was made to enable the master function when it was already enabled. An attempt was made to disable the master function when it was already disabled. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch. 			0			W497
74610000 hex	Master Fixed Allocation Area Setting Failed	An error occurred in one of the following operations for fixed allocation of the mas- ter.	 The master function is not enabled. The scan list is not disabled. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch. 			0			W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
74620000 hex	Scan List Register/ Clear Failed	An operating error oc- curred when register- ing or clearing the scan list by perform- ing one of the follow- ing operations.	 CPU Unit is not in PROGRAM mode. Request processing is not possible in this status or the request was made when the operation was already in progress. The following are the main causes of Unit status errors. A software switch operation for the master function was executed when the master function was disabled. A switch that can be used only when the scan list is disabled was used when the scan list was enabled. A switch that can be used only when the scan list is enables was used when the scan list was disabled. A switch that can be used only when the scan list is enables was used when the scan list was disabled. A software switch operation for the slave function was disabled. A software switch operation for the slave function was disabled. A configuration error has occurred. There is an error in the parameters specified in the user settings, and the requested setting could not be made. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch. 			0			W497
74630000 hex	Slave Func- tion Enable/ Disable Failed	An error occurred in one of the following operations in the slave function.	 An attempt was made to enable the slave function when it was already enabled. An attempt was made to disable the slave function when it was already disabled. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch. 			0			W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
74640000 hex	Slave Fixed Allocation Area Setting Failed	An error occurred in one of the following operations for fixed allocation of the slave.	 The slave function is not disabled. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch. 			0			W497
84740000 hex	Bus Off De- tected	A Bus Off error occur- red (i.e., communica- tions stopped be- cause there were too many communica- tions errors).	 The master and slaves have different baud rates. Communications cable lengths (trunk line and branch lines) are unsuitable. A communications cable is disconnected or loose. The terminating resistance is somewhere other than the ends of the trunk line. Noise 			0			W497
84750000 hex	Remote I/O Communica- tions Error	A timeout occurred in remote I/O communi- cations.	 The master and slaves have different baud rates. Communications cable lengths (trunk line and branch lines) are unsuitable. A communications cable is disconnected or loose. The terminating resistance is somewhere other than the ends of the trunk line. Noise 			0	٢		W497
84760000 hex	Remote I/O Communica- tions Error (during Slave Oper- ation)	An error occurred in remote I/O communi- cations.	 The master is not in operation. The master and slaves have different baud rates. Communications cable lengths (trunk line and branch lines) are unsuitable. A communications cable is disconnected or loose. The terminating resistance is somewhere other than the ends of the trunk line. Noise 			0			W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
84770000 hex	Slave COS Send Failed	An attempt was made to send COS data to the master using the Slave COS Send Switch (software switch 2, device vari- able *_Sw2SlavCOSSend Cmd), but the send failed.	 A COS connection to the master is not open. A Bus Off state occurred. A network power error occurred. A send timeout occurred. 			0			W497
048A0000 hex	File Read/ Write Error	An error occurred when user setup data was read from an SD Memory Card in the CPU Unit or when da- ta was written as a file to an SD Memory Card.	 The available capacity on the SD Memory Card was insuffi- cient to write a file. Write-protection is set on the SD Memory Card when you write to a file. Noise The SD Memory Card is dam- aged. The CPU Unit has failed. 			٠	0		W497
148C0000 hex	Invalid Mes- sage Timer List Error	The data in the mes- sage monitoring timer list is not correct.	 The power supply was inter- rupted while writing the mes- sage-monitoring timer list to the non-volatile memory. 			۲	0		W497

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A-2-3 Errors in CJ-series Units

CJ-series EtherNet/IP Unit

The section provides tables of the errors (events) that can occur in the following Units. CJ1W-EIP21 CJ1W-EIP21S

Cat. No.	Manual name
W495	CJ-series EtherNet/IP Units Operation Manual for NJ-series CPU Unit

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
047A0000 hex	Unit Memory Error (De- vice Error)	An error occurred when writing to the error history or device parameters in non- volatile memory in the EtherNet/IP Unit.	 There is a source of noise nearby. Non-volatile memory failure 			0			W495
047B0000 hex	Non-volatile Memory Er- ror	An error occurred in non-volatile memory.	There is a source of noise nearby.Non-volatile memory failure			0			W495
047C0000 hex	Communica- tions Con- troller Error	An error occurred in the communications controller.	 Noise Communications Controller hardware error 			0			W495
14840000 hex	Invalid Com- munications Parameter	An error was found in the validation check of the parameters for tag data links that are saved in non-volatile memory.	 The power was interrupted during a download. A communications error occur- red during a download. Non-volatile memory failure 			0			W495
14850000 hex	Tag Data- base Error	A tag database error occurred in the CPU Unit when using vari- ables for tag data links, status layout, etc.	 The power was interrupted during a download. A communications error occur- red during a download. 			0			W495
34A80000 hex	Verification Error	The information regis- tered for a target node in the tag data link parameters is dif- ferent from the actual node information.	 The specified target does not exist. Variable names do not match. The connection size is incorrect. Insufficient connection resources 			0			W495

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
34A90000 hex	Tag Data Link Error	 There were two or more errors in a con- nection as an origina- tor. The following are ex- cluded. Connections as a target Connection time- outs due to a Link OFF Error with the Ethernet switch. 	 The power supply to the target node is OFF. Communications with the target node stop. The Ethernet cable for EtherNet/IP is disconnected. The Ethernet cable for EtherNet/IP is disconnected. Noise 			0			W495
34AA0000 hex	Tag Refresh Error	An unsupported data area or address range is specified for the tag data links.	 An unsupported data area or address range was specified for the tag data links. 			0			W495
34AB0000 hex	Basic Ether- net Setting Error	There is an illegal TCP/IP setting.	 The power was interrupted during a download. A communications error occur- red during a download. 			0			W495
34AC0000 hex	IP Address Table Error	The IP address table information is incorrect.	 The power was interrupted during a download. A communications error occur- red during a download. 			0			W495
34AD0000 hex	IP Router Table Error	The IP router table in- formation is incorrect.	 The power was interrupted during a download. A communications error occur- red during a download. 			0			W495
34AE0000 hex	Routing Ta- ble Error	The routing table in- formation is incorrect.	 The power was interrupted during a download. A communications error occur- red during a download. 			0			W495
34AF0000 hex	Ethernet Ad- vanced Set- ting Error	There is an illegal FINS setting.	 The power was interrupted during a download. A communications error occur- red during a download. 			0			W495
34B00000 hex	Address Mismatch	The host ID of the lo- cal IP address is in- consistent with the FINS node address. Or, the last segment of the local IP ad- dress is inconsistent with the setting on the node address switches.	 The IP address conversion method is set to automatic generation, but the host ID of the local IP address is incon- sistent with the FINS node ad- dress or the last segment of the local IP address is incon- sistent with the setting on the node address switch. 			0			W495
381C0000 hex	Status Area Layout Set- ting Error	An error occurred in the layout setting of the EtherNet/IP Unit.	• There is an error in the layout settings of the EtherNet/IP Unit.			0			W495

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
54AE0000 hex	Multiple Switches ON Error	More than one soft- ware switch changed to TRUE at the same time.	 More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE be- fore processing was completed for a previous software switch. 			0	•		W495
84E00000 hex	IP Address Duplication Error	The same IP address is used more than once.	• The IP address of the Ether- Net/IP port is also used as the IP address of another node.			0			W495
84E10000 hex	BOOTP Server Error	Connection with the BOOTP server failed.	 Server setting error (The acquired IP address is illegal.) The server went down. An error occurred in the communications path. 			0			W495
54AF0000 hex	Access De- tected Out- side Range of Variable	Accessing a value that is out of range was detected for a tag variable that is used in a tag data link.	 An out-of-range value was written by an EtherNet/IP tag data link for a variable with a specified range. A value that does not specify an enumerator was written by an EtherNet/IP tag data link for an enumeration variable. 				0		W495
84E20000 hex	Link OFF Er-	The Ethernet link sta- tus turned OFF.	 The Ethernet cable is disconnected. An Ethernet cable is disconnected or loose. The switching hub power supply is turned OFF. Baud rate mismatch. Noise 			•	0		W495

CJ-series CompoNet Master Unit

The section provides a table of the errors (events) that can occur in the following Unit. CJ1W-CRM21

Cat. No.	Manual name
W493	CJ-series CompoNet Master Units Operation Manual for NJ-series CPU Unit

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
349C0000 hex	Registration Table Verifi- cation Error	An inconsistency was found when verifying the slave registration table.	• There is at least one entry in the slave registration table where the node address and Slave Unit model are inconsis- tent.			0			W493
349D0000 hex	Slave Unit Duplicated Address Er- ror	The same address is used by more than one Slave Unit or the same word has been allocated to more than one Slave Unit.	 The same node address is set for more than one Slave Unit. There are no duplicated node addresses set for the Slave Units, but allocated words overlap. A Slave Unit was disconnected from the network, and then an- other Slave Unit with the same node address but a different I/O capacity joined the net- work. 			0			W493
349E0000 hex	Repeater Unit Node Duplicated Address Er- ror	The node address of the Repeater Unit is also set for another node.	• The node address of the Repeater Unit is also used for anther node.			0			W493
84600000 hex	Communica- tions Error	A Slave Unit was dis- connected from the network.	 Cable lengths (trunk line and branch lines) are unsuitable. A cable is disconnected or loose. A terminating resistance is not connected. Or, the terminating resistance is somewhere other than the end of the trunk line. Noise The Slave Unit does not respond to communications from the Master Unit because the Slave Unit is faulty, the line is disconnected, or the communications power supply is interrupted. 			0	٢		W493

					I	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
84610000 hex	Repeater Unit Com- munications Error	An error occurred in Repeater Unit com- munications.	 Cable lengths (trunk line and branch lines) are unsuitable. A cable is disconnected or loose. A terminating resistance is not connected. Or, the terminating resistance is somewhere other than the end of the trunk line. Noise The Repeater Unit does not respond to communications from the Master Unit because the Repeater Unit is faulty, the line is disconnected, or the communications power is interrupted. 			0	۲		W493
64980000 hex	Representa- tive Warning	A warning has occur- red in at least one Slave Unit.	 A warning has occurred in at least one Slave Unit. 				0		W493
64990000 hex	Representa- tive Alarm	An alarm has occur- red in at least one Slave Unit.	 An alarm has occurred in at least one Slave Unit. 				0		W493

CJ-series EtherCAT Slave Unit

The section provides a table of the errors (events) that can occur in the following Unit. CJ1W-ECT21

Cat. No.	Manual name
W542	CJ-series EtherCAT Slave Units Operation Manual for NJ-series CPU Unit

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
05400000 hex	ESC Error	An error occurred in the EtherCAT slave communications con- troller.	An error occurred in the Ether- CAT slave communications controller.			0			W542
05410000 hex	Special Unit Memory Er- ror	An error occurred when writing to inter- nal memory where the error log is saved.	Non-volatile memory failure			0			W542
05420000 hex	SII Unit Veri- fication Error	An error occurred in Slave Unit verifica- tion.	An error occurred in Slave Unit information.			0			W542
35680000 hex	I/O Refresh Error	The I/O memory in the destination CPU Unit for I/O refreshing could not be found when refreshing in the CPU Unit.	 The data area type, data area size and first word in the data area were outside of the specified range. I/O words are allocated in an EM bank that does not exist. 			0			W542
35690000 hex	Mailbox Set- ting Error	An incorrect mailbox setting was detected for the Sync Manag- er. (AL-Status Code:0016hex)	 An incorrect mailbox setting was detected for the Sync Manager. 			0			W542
356A0000 hex	Verification Error	 An error was detected in the RxPDO settings. (AL-Status Code:001Dhex) An error was detected in the TxPDO settings. (AL-Status Code:001E hex) 	 An error was detected in the PDO settings. 			0			W542

					l	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	l n f o	Reference
356B0000 hex	Illegal State Transition Request Re- ceived	 An incorrect state transition request was received. (AL-Status Code:0011hex) An unclear state transition request was received. (AL-Status Code:0012hex) 	 An incorrect state transition request was received. An unclear state transition request was received. 			0			W542
852C0000 hex	II/O Commu- nication Er- ror	Process data commu- nications were stop- ped for more than the specified period of time.	 The EtherCAT communica- tions cable is disconnected or broken. There is an error in the Ether- CAT master. 			0			W542

A-3 An Error Log Table for CJ-series Special Units

Error logs for CJ-series Special Units are also displayed with event logs. If the upper four digits of the event code are 0000, the lower four digits of the event code give the error code for error logs from CJ-series Special Units.

For descriptions of error codes for the relevant error logs, refer to the manual of models that are displayed in Source Details on the Sysmac Studio or in Source on the HMI. The following table gives the corresponding manuals for models.

Model	Manual name	Cat. No.
CJ1W-AD0 CJ1W-DA0 CJ1W-MAD42	CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit	W490
CJ1W-TC003 CJ1W-TC004 CJ1W-TC103 CJ1W-TC104	CJ-series Temperature Control Units Operation Manual for NJ-series CPU Unit	W491
CJ1W-CT021	CJ-series High-speed Counter Units Operation Manual for NJ-series CPU Unit	W492
CJ1W-PDC15 CJ1W-PH41U CJ1W-AD04U	CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit	W498
CJ1W-CRM21	CJ-series CompoNet Master Units Operation Manual for NJ-series CPU Unit	W493
CJ1W-SCU22 CJ1W-SCU32 CJ1W-SCU42	CJ-series Serial Communications Units Operation Manual for NJ-series CPU Unit	W494
CJ1W-EIP21 CJ1W-EIP21S	CJ-series EtherNet/IP Units Operation Manual for NJ-series CPU Unit	W495
CJ1W-DRM21	CJ-series DeviceNet Units Operation Manual for NJ-series CPU Unit	W497
CJ1W-ECT21	CJ-series EtherCAT Slave Units Operation Manual for NJ- series CPU Unit	W542
CJ1W-V680C11 CJ1W-V680C12	CJ-series ID Sensor Units Operation Manual for NJ-series CPU Unit	Z317

For example, if the following information is displayed on the Sysmac Studio, refer to descriptions for the error code 000E in the *CJ-series EtherNet/IP Units Operation Manual for NJ-series CPU Unit (Cat. No. W495)*, which is the manual for the CJ1W-EIP21/EIP21S.

Source	Source details	Event name	Event code
I/O bus	Rack 0, Slot 3 CJ1W-EIP21/EIP21S	I/O Bus Error	0x0000000E

The following table gives error logs for CJ-series Special Units. The level of all errors is Observation. The Controller errors do not occur because they are not events.

Event code	Error name
00000001 hex	CPU Unit watchdog timer error
00000002 hex	CPU Unit service monitor error, or Cyclic refresh Time-out
00000003 hex	CPU Unit shared RAM error
00000004 hex	CPU Bus Unit ID number error
00000005 hex	Unit number error
00000006 hex	CPU Unit error
00000007 hex	PF Return
00000008 hex	System setting error
00000009 hex	System setting read error
0000000A hex	Routing table lost
0000000B hex	Routing Table Error
0000000C hex	Routing table read error
0000000D hex	PLC model error
0000000E hex	I/O Bus Error
0000000F hex	PLC Initialization error
00000010 hex	Insufficient system setup area
00000011 hex	Event timeout
00000012 hex	CPU Unit memory error
00000013 hex	CPU Unit protected
00000014 hex	Inner bus error
00000015 hex	CPU fatal error
00000016 hex	CPU Unit non-fatal error
00000017 hex	Tag database error
00000101 hex	Transmission failed (local node not in network)
00000102 hex	Transmission failed (Time out with token)
00000103 hex	Transmission failed (retry count exceeded)
00000104 hex	Transmission failed (max. number of frames exceeded)
00000105 hex	Transmission failed (node address setting error)
00000106 hex	Transmission failed (node address duplication error)
00000107 hex	Transmission failed (destination node not in network)
00000108 hex	Transmission failed (specified Unit does not exist)
00000109 hex	Transmission failed (destination busy)
0000010A hex	Transmission failed (communication controller error)
0000010B hex	Transmission failed (PLC error)
0000010C hex	Transmission failed (unit number incorrect)
0000010D hex	Transmission failed (no destination address in routing table)
0000010E hex	Transmission failed (routing table not registered)
0000010F hex	Transmission failed (routing table error)
00000110 hex	Transmission failed (too many relay points)
00000111 hex	Transmission failed (command packet too long)
00000112 hex	Transmission failed (header error)
00000113 hex	Transmission failed (I/O setting error)
00000114 hex	Transmission failed (CPU Bus error)
00000115 hex	Transmission failed (redundant I/O allocations)
00000116 hex	Transmission failed (CPU Bus Unit error)

Event code	Error name
00000117 hex	Internal buffer full
00000118 hex	Illegal packet discarded
00000119 hex	Transmission failed (local node busy)
0000011A hex	Packets discarded due to initialization
0000011B hex	Packets discarded due to parity error
0000011C hex	Packets discarded due to framing error
0000011D hex	Packets discarded due to overrun error
0000011E hex	Packets discarded due to FCS error
0000011F hex	Packets discarded due to break detection
00000120 hex	Unexpected routing error
00000121 hex	Packet discarded (no setting in IP address table)
00000122 hex	Packet discarded (service not supported in current mode)
00000123 hex	Packet discarded (internal send buffer full)
00000124 hex	Routing failed (maximum frame size exceeded)
00000125 hex	Packet discarded (response timeout)
00000201 hex	Network parameter file loss
00000202 hex	Network parameter file destroyed
00000203 hex	EEPROM error
00000206 hex	Participating nodes decreased (local node still participating)
00000207 hex	Participating nodes decreased (local node not participating)
00000208 hex	Polling node changed
00000209 hex	Inconsistent network parameter
0000020A hex	RESET error
0000020B hex	SELF-TEST error completed
0000020C hex	Time out with token
0000020D hex	Time out with polling
0000020E hex	Communication chip controller WDT error
0000020F hex	Communication chip controller chip error
00000210 hex	Communications controller send error
00000211 hex	Duplicate address error
00000212 hex	Transceiver error
00000213 hex	Server demon startup error
00000214 hex	Node address setting error
00000215 hex	Network participation failed
00000216 hex	Backup power supply error (optical Units only)
00000217 hex	Loop error
00000218 hex	Message send error
00000219 hex	Network status unstable
0000021A hex	Logic error in setting table
0000021B hex	Hardware error
0000021C hex	Datalink error inactive
0000021D hex	Datalink table communications cycle time setting error
0000021E hex	Network disconnection occurred
00000220 hex	Participating nodes reduced (removed node information)
00000221 hex	Participating nodes reduced (removed node information)
00000222 hex	Participating nodes reduced (removed node information)
00000223 hex	Participating nodes reduced (removed node information)

Event code	Error name
00000230 hex	Data link stop requested
000002B0 hex	FALS detected
00000300 hex	Packet Discarded (Parameter Error), Out of Range, or Flash failure
00000301 hex	Protocol macro operation error
00000302 hex	Packet discarded due to protocol violation
00000303 hex	Invalid DM setting
00000304 hex	Sensor error
00000305 hex	Invalid Unit type
00000310 hex	Invalid BCD-code, or System parameter destroyed
00000311 hex	Program destroyed
00000312 hex	G unjust instruction
00000313 hex	Program range exceeded
00000314 hex	Origin signal
00000315 hex	Deviation counter over flow
00000316 hex	ABS data error
00000317 hex	No origin proximity
00000318 hex	CW direction over travelled
00000319 hex	CCW direction over travelled
0000031A hex	Both direction over travelled
0000031B hex	Current position counter over flow
0000031C hex	ABS multiple rotation error
0000031D hex	Field back pulse error
00000320 hex	PARUSU RE-TO RENJI FUSEI
00000330 hex	Invalid Range Limits(s)/Comparison Value, or Low battery
00000331 hex	Duplicate Target Error
00000335 hex	Duplicate Rate Range Error
00000340 hex	Bus Off detected
00000341 hex	Network power supply error
00000342 hex	Transmission timeout
00000343 hex	Structure error
00000344 hex	Verification error
00000345 hex	Remote I/O communications error
00000346 hex	Remote I/O communications stopped (remote I/O communications error)
00000347 hex	I/O refreshing error
00000348 hex	Message discarded (new request was received)
00000350 hex	Invalid Control Code, or NC Unit error
00000351 hex	X-axis error
00000352 hex	Y-axis error
00000353 hex	Z-axis error
00000354 hex	U-axis error
00000360 hex	Invalid number of words, or Unit system error
00000370 hex	Verification error (OUT slave missing)
00000371 hex	Verification error (IN slave missing)
00000372 hex	Verification error (Unregistered OUT slave participating)
00000373 hex	Verification error (Unregistered IN slave participating)
00000374 hex	Communications error
00000375 hex	Communication stopped due to communications error

Event code	Error name
00000376 hex	Address duplication error
00000378 hex	Illegal Repeater Unit/configuration error
000003B0 hex	DM system setting read error
000003B1 hex	Commands error
000003B2 hex	GP-IB I/F error
000003B3 hex	GP-IB send time out error
000003B4 hex	GP-IB receive time out error
000003C0 hex	Lower-Level Communication Error or FINS/TCP settings error
000003C1 hex	Server settings error
000003C2 hex	FINS/TCP packets discarded
000003C3 hex	FINS/UDP packets discarded
000003C4 hex	Server connection error
000003C5 hex	Mail maintenance function error
000003C6 hex	Clock information write error
000003D0 hex	Ethernet basic setting error
000003D1 hex	Ethernet advanced setting error
000003D2 hex	Packet discarded
000003D3 hex	Link OFF error
000003D4 hex	Verification error (Tag data link)
000003D5 hex	Tag data link error
00000400 hex	Setting of Reset with Z-Phase
00000412 hex	Invalid Count Range
00000413 hex	Invalid Counter Present Value
00000420 hex	Invalid Rate Range Limits
00000430 hex	Invalid Range Limits(s) / Comparison Value
00000431 hex	Duplicate Target Error
00000435 hex	Duplicate Rate Range Error
00000450 hex	Overflow
00000460 hex	Underflow
00000470 hex	Invalid Preset Value
00000480 hex	External Interrupt Task Buffer Full
00000490 hex	Parity error/Not Ready/Time-out
00000500 hex	System call error (address error)
00000501 hex	System call error (parameter error)
00000502 hex	System call error (error in the board)
00000503 hex	System call error (block error)
00000504 hex	System call error (command error)
00000505 hex	Message send failed
00000510 hex	Comm server startup condition file loss
00000511 hex	Comm server startup condition file undefined
00000512 hex	Comm server startup failed
00000513 hex	Temperature error
00000514 hex	Low battery voltage
00000515 hex	HDD-0 error
00000516 hex	HDD-1 error
00000517 hex	Message send failed
00000601 hex	CPU Bus Unit error

Event code	Error name
00000602 hex	CPU Bus Unit memory error
00000701 hex	Configuration error
00000702 hex	I/O area overlap
00000703 hex	I/O area range exceeded
00000704 hex	Unsupported slave
00000705 hex	Verification error (slave missing)
00000706 hex	Verification error (slave I/O size differs)
00000707 hex	Communication error
00000708 hex	Scan list operation failed
00000709 hex	PLC mounting error
00000781 hex	Node address duplication
00000782 hex	Bus Off detected
00000783 hex	No communications power supply
00000784 hex	Send timeout

A-4 Events in Order of Event Codes

This section provides a table of all events in order of the event codes. Events that are not errors are also given in the tables.

A-4-1 Interpreting Error Descriptions

The contents of the error tables are described below.

ltem	Description
Event code	The event code of the error in the NJ/NX-series Controller is given. The codes are given in eight hexadecimal digits.
Event name	The name of the error is given
Functional classi-	A functional classification of the source is given.
fication	
Reference	The catalog number of the manual that provides details on the event are given.

Refer to information for the specified functional classification of the error in the error descriptions in the manual given in the Reference column in the tables for detailed information on an error.

Cat. No.	Manual name
W503	NJ/NX-series Troubleshooting Manual
W521	NX-series Digital I/O Units User's Manual
W522	NX-series Analog I/O Units User's Manual for Analog Input Units and Analog Output Units
W523	NX-series System Unit User's Manual
W527	NJ/NX-series Database Connection CPU Units User's Manual
W528	NJ-series SECS/GEM CPU Units User's Manual (NJ501-1340)
W539	NJ-series NJ Robotics CPU Unit User's Manual
W540	NX-series Communications Interface Units User's Manual
W565	NX-series Load Cell Input Unit User's Manual
W566	NX-series Analog I/O Units User's Manual for Temperature Input Units and Heater Burnout
	Detection Units
W490	CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit
W491	CJ-series Temperature Control Units Operation Manual for NJ-series CPU Unit
W492	CJ-series High-speed Counter Units Operation Manual for NJ-series CPU Unit
W498	CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit
W488	GX-series EtherCAT Slave Units User's Manual
W493	CJ-series CompoNet Master Units Operation Manual for NJ-series CPU Unit
W494	CJ-series Serial Communications Units Operation Manual for NJ-series CPU Unit
W495	CJ-series EtherNet/IP Units Operation Manual for NJ-series CPU Unit
W497	CJ-series DeviceNet Units Operation Manual for NJ-series CPU Unit
W519	NX-series EtherCAT Coupler Unit User's Manual
W542	CJ-series EtherCAT Slave Units Operation Manual for NJ-series CPU Unit
W570	IO-Link System User's Manual
W588	NJ/NX-series CPU Unit OPC UA User's Manual
1574	MX2/RX Series Inverter EtherCAT Communication Unit User's Manual

The manual names are given below for the catalog numbers.
Cat. No.	Manual name
1576	AC Servomotors/Servo Drives G5-series with Built-in EtherCAT Communications User's Manual
1577	AC Servomotors/Servo Drives G5-series with Built-in EtherCAT Communications Linear Mo- tor Type User's Manual
W524	NX-series Position Interface Units User's Manual
1586	AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT Communications User's Manual
O030	NJ/NY-series NC Integrated Controller User's Manual
O037	NJ-series Robot Integrated CPU Unit User's Manual
1621	AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT Communications and Safety Functionality User's Manual
E413	EtherCAT Digital-type Sensor Communications Unit Operation Manual
E429	EtherCAT Digital Sensor Communications Unit Operation Manual
Z317	CJ-series ID Sensor Units Operation Manual for NJ-series CPU Unit
Z314	FQ-M-series Specialized Vision Sensor for Positioning User's Manual
Z342	FH/FZ5 Vision System FH/FZ5 Series User's Manual for Communications Settings
Z332	ZW-CE1□T Confocal Fiber Type Displacement Sensor User's Manual
Z930	NX-series Safety Control Unit User's Manual
H228	NX-series Temperature Control Units User's Manual
W627	NX-series EtherNet/IP Unit User's Manual

A-4-2	Error Table
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Event code	Event name	Functional classification	Reference
00070000 hex	Real-Time Clock Stopped	Errors for Self Diagnosis	W503
00080000 hex	Real-Time Clock Failed	Errors for Self Diagnosis	W503
00090000 hex	DIP Switch Setting Error	Errors for Self Diagnosis	W503
000B0000 hex	Low Battery Voltage	Errors for Self Diagnosis	W503
000C0000 hex	CPU Unit Overheat	Errors for Self Diagnosis	W503
000D0000 hex	Internal Bus Check Error	Errors for Self Diagnosis	W503
000E0000 hex	Non-volatile Memory Life Ex-	Errors for Self Diagnosis	W503
	ceeded		14/500
000F0000 hex	SD Memory Card Invalid Type	Errors for Self Diagnosis	W503
00100000 hex	SD Memory Card Life Exceeded	Errors for Self Diagnosis	W503
00110000 hex	CPU Unit Overheat (Operation Stopped)	Errors for Self Diagnosis	W503
00120000 hex	Slow Fan	Errors for Self Diagnosis	W503
00130000 hex	Main Memory Check Error	Errors for Self Diagnosis	W503
00150000 hex	Non-volatile Memory Life Warn- ing	Errors for Self Diagnosis	W503
00200000 hex	Non-volatile Memory Hardware	NX-series Digital I/O Units, NX-	W521
	Error	series Analog I/O Units, NX-ser-	W522
		ies System Units, NX-series Po-	W566
		sition Interface Units, NX-series	W523
		Communications Interface Units,	W524
		NX-series Load Cell Input Units,	W540
		NX-series IO-Link Master Units,	W565
		and NX-series Temperature	W570
		Control Units	H228
00210000 hex	Bus Controller Error	NX-series EtherCAT Coupler Unit	W519
00220000 hex	Non-volatile Memory Hardware Error	NX-series EtherCAT Coupler Unit	W519
00640000 hex	Main Memory Check Error	X Bus Unit	W503
00650000 hex	Non-volatile Memory Life Warn-	X Bus Unit	W503
04010000 hex	I/O Bus Check Error	Errors Related to CJ-series Unit Configuration	W503
04020000 hex	PLC System Information	Errors Related to CJ-series Unit Configuration	W503
04100000 hex	NX Bus Controller Error	NX Bus	W503
041100000 hex	NX Bus Hardware Error	NX Bus	W503
04200000 hex	Communications Controller Er-	EtherNet/IP	W503
	ror		
04210000 hex	Communications Controller Er- ror	EtherNet/IP	W503
04310000 hex	Communications Controller Er- ror	NX-series EtherNet/IP Unit	W627
04400000 hex	Communications Controller Er- ror	EtherCAT Master	W503
04600000 hex	A/D Conversion Error	CJ-series Analog I/O Units and	W490
		CJseries Process I/O Units	W498

Event code	Event name	Functional classification	Reference
04610000 hex	Cold Junction Sensor Error	CJ-series Process I/O Units	W498
04620000 hex	Non-volatile Memory Error	CJ-series Analog I/O Units and	W490
		CJseries Process I/O Units	W498
04680000 hex	Cold Junction Sensor Error	CJ-series Temperature Control Units	W491
046C0000 hex	Unit Status, Antenna Power	CJ-series ID Sensor Units	Z317
	Supply Error		2317
046D0000 hex	Unit Status, Memory Error	CJ-series ID Sensor Units	Z317
046E0000 hex	Results Information, Antenna Er- ror	CJ-series ID Sensor Units	Z317
046F0000 hex	Unit Status, Unit Busy	CJ-series ID Sensor Units	Z317
04740000 hex	Error Log Data Error	CJ-series Serial Communica- tions Units	W494
04750000 hex	DTR Check Error	CJ-series Serial Communica- tions Units	W494
04760000 hex	CTS Check Error	CJ-series Serial Communica- tions Units	W494
047A0000 hex	Unit Memory Error (Device Er- ror)	CJ-series EtherNet/IP Units	W495
047B0000 hex	Non-volatile Memory Error	CJ-series EtherNet/IP Units	W495
047C0000 hex	Communications Controller Er-	CJ-series EtherNet/IP Units	W495
04880000 hex	Unit Memory Error	CJ-series DeviceNet Units	W497
04890000 hex	Network Power Error	CJ-series DeviceNet Units	W497
048A0000 hex	File Read/Write Error	CJ-series DeviceNet Units	W497
04A00000 hex	Expansion Unit Hardware Error	GX-series EtherCAT Slave Units	W488
04A10000 hex	Non-volatile Memory Hardware	GX-series EtherCAT Slave	W488
	Error	Units, MX2/RX-series Inverters	1574
		with Ether- CAT Communica-	E413
		tions Units, Ether- CAT M3X	E429
		Photoelectric Fiber Amplifiers,	W570
		E3X-series Fiber Sensors with	W640
		EtherCAT Communications Unit	
		for Digital Sensors, and Ether- CAT Digital Sensor Communica-	
		tions Units	
04A20000 hex	Slave Hardware Error	GX-series EtherCAT Slave Units	W488 W570
04A80000 hex	Control Power Supply Under-	Servo G5 and G5 Linear	1576
	voltage		1577
04A90000 hex	Overvoltage	Servo G5 and G5 Linear	1576
			1577
04AA0000 hex	Main Circuit Power Supply Un-	Servo G5 and G5 Linear	1576
	dervoltage (Undervoltage be-		1577
	tween positive and negative ter- minals)		
04AB0000 hex	Main Circuit Power Supply Un-	Servo G5 and G5 Linear	1576
	dervoltage (AC Cutoff Detected)		1577
04AC0000 hex	Overcurrent	Servo G5 and G5 Linear	1576
			1577

Event code	Event name	Functional classification	Reference
04AD0000 hex	IPM Error	Servo G5 and G5 Linear	1576
			1577
04AE0000 hex	Regeneration Tr Error	Servo G5 and G5 Linear	1576
			1577
04AF0000 hex	Encoder Phase-Z Error	Servo G5	1576
04B00000 hex	Encoder CTS Signal Error	Servo G5	1576
04B10000 hex	Node Address Setting Error	Servo G5 and G5 Linear	1576 1577
04B20000 hex	Other Errors	G5 Linear	1577
04B30000 hex	Regeneration Circuit Error De- tected during Power ON	Servo 1S	1586
04B50000 hex	Inrush Current Prevention Cir- cuit Error	Servo 1S	1586
04B60000 hex	Regeneration Circuit Error	Servo 1S	I586 I621
04BA0000 hex	Connection Error between Inver- ter and Communications Unit	MX2/RX-series Inverters with EtherCAT Communications Units	1574
04BB0000 hex	Inverter Warning	MX2/RX-series Inverters with EtherCAT Communications Units	1574
04BC0000 hex	Inverter Trip	MX2/RX-series Inverters with EtherCAT Communications Units	1574
04C40000 hex	Sensor Communications Error	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors and Ether- CAT Digital Sensor Communica- tions Units	E413 E429
04C50000 hex	Sensor Communications Has Not Been Established	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors and Ether-	E413 E429
		CAT Digital Sensor Communica- tions Units	
04D00000 hex	Hardware error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
05010000 hex	ESC Error	NX-series EtherCAT Coupler Unit	W519
05020000 hex	ESC Initialization Error	NX-series EtherCAT Coupler Unit	W519
05030000 hex	Slave Unit Verification Error	NX-series EtherCAT Coupler Unit	W519
05100000 hex	A/D Converter Error	NX-series Analog I/O Units and NX-series Temperature Control Units	W566 H228
05110000 hex	Cold Junction Sensor Error	NX-series Analog I/O Units and NX-series Temperature Control Units	W566 H228
05120000 hex	A/D Conversion Error	NX-series Load Cell Input Units	W565
05200000 hex	System Error	NX-series Safety Control Unit	Z930

Event code	Event name	Functional classification	Reference
05210000 hex	Internal Circuit Error at Safety Input	NX-series Safety Control Unit	Z930
05220000 hex	Internal Circuit Error at Test Out- put	NX-series Safety Control Unit	Z930
05230000 hex	Internal Circuit Error at Safety Output	NX-series Safety Control Unit	Z930
05400000Hex	ESC Error	CJ-series EtherCAT Slave Unit	W542
05410000Hex	Special Unit Memory Error	CJ-series EtherCAT Slave Unit	W542
05420000Hex	SII Unit Verification Error	CJ-series EtherCAT Slave Unit	W542
05430000 hex	ESC Error	Servo 1S	I586 I621
05440000 hex	Option Board Error	Built-in I/O and Option Boards	W503
08010000 hex	Battery Warning	Servo G5	1576
08020000 hex	Fan Warning	Servo G5 and G5 Linear	1576 1577
08030000 hex	Encoder Communications Warn- ing	Servo G5	1576
08040000 hex	Encoder/Serial Conversion Unit Overheating Warning	Servo G5 and G5 Linear	1576 1577
08050000 hex	Life Expectancy Warning	Servo G5 and G5 Linear	1576 1577
08060000 hex	External Encoder Error Warning	Servo G5 and G5 Linear	1576 1577
08070000 hex	External Encoder Communica- tions Warning	Servo G5 and G5 Linear	1576 1577
08080000 hex	Encoder Communications Dis-	Servo G5	1576
08090000 hex	Encoder Communications Error	Servo G5	1576
080A0000 hex	Encoder Communications Data Error	Servo G5	1576
080B0000 hex	Safety Input Error	Servo G5 and G5 Linear	1576 1577
080C0000 hex	External Encoder Connection	Servo G5 and G5 Linear	1576 1577
080D0000 hex	External Encoder Communica- tions Data Error	Servo G5 and G5 Linear	1576 1577
080E0000 hex	External Encoder Status Error 0	Servo G5 and G5 Linear	1576 1577
080F0000 hex	External Encoder Status Error 1	Servo G5 and G5 Linear	1576 1577
08100000 hex	External Encoder Status Error 2	Servo G5 and G5 Linear	1576 1577
08110000 hex	External Encoder Status Error 3	Servo G5 and G5 Linear	1576 1577
08120000 hex	External Encoder Status Error 4	Servo G5 and G5 Linear	1576 1577
08130000 hex	External Encoder Status Error 5	Servo G5 and G5 Linear	1576 1577
08140000 hex	Phase-A Connection Error	Servo G5 and G5 Linear	1576 1577

Event code	Event name	Functional classification	Reference
08150000 hex	Phase-B Connection Error	Servo G5 and G5 Linear	1576
			1577
08160000 hex	Phase-Z Connection Error	Servo G5 and G5 Linear	1576
			1577
08170000 hex	Encoder Data Restoration Error	Servo G5	1576
08180000 hex	External Encoder Data Restora- tion Error	Servo G5	1576
081C0000 hex	Capacitor Lifetime Warning	Servo 1S	I586 I621
081D0000 hex	Inrush Current Prevention Relay Lifetime Warning	Servo 1S	I586 I621
081F0000 hex	Brake Interlock Output Relay Lifetime Warning	Servo 1S	1586
08210000 hex	Fan/Power Supply Error	FH/FZ5 Series Vision System	Z342
08220000 hex	Camera Overcurrent Detected	FH/FZ5 Series Vision System	Z342
08230000 hex	Parallel I/O Overcurrent Detect- ed	FH/FZ5 Series Vision System	Z342
08390000 hex	Power Module Error	Servo 1S	I586 I621
083A0000 hex	Encoder Communications Warn-	Servo 1S	1586
083B0000 hex	Self-diagnosis Error	Servo 1S	I586 I621
083C0000 hex	Main Circuit Temperature Moni- toring Circuit Failure	Servo 1S	I586 I621
083D0000 hex	Fan Error	Servo 1S	I586 I621
083F0000 hex	Regeneration Processing Error	Servo 1S	I586 I621
08410000 hex	Overvoltage Error	Servo 1S	I586 I621
08420000 hex	Motor Overheat Error	Servo 1S	1586
08430000 hex	1-rotation Counter Error	Servo 1S	I586 I621
08440000 hex	Overspeed Error	Servo 1S	1586
08450000 hex	Encoder Memory Error	Servo 1S	I586 I621
08460000 hex	Absolute Position Detection Er-	Servo 1S	I586 I621
08470000 hex	Encoder Lifetime Warning	Servo 1S	I586 I621
08480000 hex	Main Power Supply Undervolt- age (insufficient voltage between P and N)	Servo 1S	I586 I621
08490000 hex	Overcurrent Error	Servo 1S	I586 I621
084A0000 hex	Encoder Communications Dis- connection Error	Servo 1S	1586
084B0000 hex	Encoder Communications Error	Servo 1S	I586 I621

Event code	Event name	Functional classification	Reference
084C0000 hex	Fan Rotation Warning	Servo 1S	1586
		0	1621
084D0000 hex	Non-volatile Memory Hardware Error	Servo 1S	I586 I621
084E0000 hex	Absolute Encoder Counter Over-	Servo 1S	1586
064E0000 nex	flow Warning		1566
086D0000 hex	Motor Temperature Error	Servo 1S	1621
086E0000 hex	Encoder Error	Servo 1S	1621
086F0000 hex	Encoder Power Supply Error	Servo 1S	1621
08700000 hex	Encoder Self-diagnosis Error	Servo 1S	1621
08710000 hex	Internal Circuit Error at SF Input	Servo 1S	1621
08720000 hex	Internal Circuit Error at SOPT In-	Servo 1S	1621
	put		
08730000 hex	Internal Circuit Error at Test Out- put	Servo 1S	1621
08740000 hex	Internal Circuit Error at SBC Output	Servo 1S	1621
08750000 hex	Overspeed Error	Servo 1S	1621
08760000 hex	Absolute Encoder Multirotation Counter Error	Servo 1S	1621
08770000 hex	Safety Relay Lifetime Warning	Servo 1S	1621
08780000 hex	Encoder Communications Dis- connection Error	Servo 1S	1621
10010000 hex	Non-volatile Memory Restored or Formatted	Errors for Self Diagnosis	W503
10020000 hex	Non-volatile Memory Data Cor- rupted	Errors for Self Diagnosis	W503
10030000 hex	SD Memory Card Invalid Format	Errors for Self Diagnosis	W503
10040000 hex	SD Memory Card Restored or Formatted	Errors for Self Diagnosis	W503
10060000 hex	SD Memory Card Data Corrupt- ed	Errors for Self Diagnosis	W503
10070000 hex	SD Memory Card Access Power OFF Error	Errors for Self Diagnosis	W503
10080000 hex	Main Memory Check Error	Errors for Self Diagnosis	W503
10090000 hex	Battery-backup Memory Check Error	Errors for Self Diagnosis	W503
100A0000 hex	Data Not Saved to Battery-back- up Memory	Errors for Self Diagnosis	W503
100B0000 hex	Non-volatile Memory Data Cor- rupted	Errors for Self Diagnosis	W503
100C0000 hex	Event Level Setting Error	Errors for Self Diagnosis	W503
100F0000 hex	Present Values of Retained Vari- ables Restoration Error	Errors for Self Diagnosis	W503
10100000 hex	Present Values of Retained Vari- ables Not Saved	Errors for Self Diagnosis	W503
10130000 hex	PLC System Information	Errors for Self Diagnosis	W503
10200000 hex	User Program/Controller Config- urations and Setup Transfer Er- ror	Errors Related to Controller Op- eration	W503

Event code	Event name	Functional classification	Reference
10210000 hex	Illegal User Program Execution	Errors Related to Controller Op- eration	W503
10230000 hex	Event Log Save Error	Errors Related to Controller Op- eration	W503
10240000 hex	Illegal User Program	Errors Related to Controller Op- eration	W503
10250000 hex	Illegal User Program/Controller Configurations and Setup	Errors Related to Controller Op- eration	W503
10260000 hex	Trace Setting Transfer Failure	Errors Related to Controller Operation	W503
10270000 hex	Error in Starting Automatic Transfer	Errors Related to Controller Op- eration	W503
10280000 hex	Error in Executing Automatic Transfer	Errors Related to Controller Op- eration	W503
10290000 hex	Backup Failed to Start	Errors Related to Controller Op- eration	W503
102A0000 hex	Backup Failed	Errors Related to Controller Op- eration	W503
102B0000 hex	Restore Operation Failed to Start	Errors Related to Controller Op- eration	W503
102C0000 hex	Restore Operation Failed	Errors Related to Controller Op- eration	W503
102D0000 hex	CJ-series Unit Backup Failed	Errors Related to CJ-series Unit Configuration	W503
102E0000 hex	CJ-series Unit Restore Opera- tion Failed	Errors Related to CJ-series Unit Configuration	W503
102F0000 hex	EtherCAT Slave Backup Failed	EtherCAT Master	W503
10300000 hex	EtherCAT Slave Restore Opera- tion Failed	EtherCAT Master	W503
10310000 hex	Incorrect SD Memory Card Re- moval	Errors for Self Diagnosis	W503
10320000 hex	SD Memory Card Program Transfer Failed to Start	Errors Related to Controller Op- eration	W503
10330000 hex	SD Memory Card Program Transfer Pre-execution Check Error	Errors Related to Controller Op- eration	W503
10340000 hex	Error in Executing SD Memory Card Program Transfer	Errors Related to Controller Op- eration	W503
103C0000 hex	NX Unit Backup Failed	NX Bus	W503
103D0000 hex	NX Unit Restore Operation Failed	NX Bus	W503
103E0000 hex	Restore Pre-execution Check Failure	Errors Related to Controller Op- eration	W503
103F0000 hex	Online Edits Transfer Failure	Errors Related to Controller Op- eration	W503
10400000 hex	Analog Unit Calibration Parame- ter Error	NX-series Analog I/O Units	W522

Event code	Event name	Functional classification	Reference
10410000 hex	Control Parameter Error in Mas-	NX-series Digital I/O Units, NX-	W521
	ter	series Analog I/O Units, NX-ser-	W522
		ies Position Interface Units, NX-	W566
		series Communications Inter-	W524
		face Units, NX-series Load Cell	W540
		Input Units, NX-series IO-Link	W565
		Master Units, and NX-series	W570
		Temperature Control Units	H228
10420000 hex	Non-volatile Memory Control Pa- rameter Error	NX-series EtherCAT Coupler Unit	W519
10430000 hex	Memory Corruption Detected	NX-series EtherCAT Coupler Unit	W519
10440000 hex	Unit Calibration Value Error	NX-series Load Cell Input Units	W565
10450000 hex	Actual Load Calibration Value Error	NX-series Load Cell Input Units	W565
10460001 hex	EtherCAT Slave Backup Failed	EtherCAT Master	W503
10470002 hex	EtherCAT Slave Restore Opera- tion Failed	EtherCAT Master	W503
10500000 hex	NX Bus Communications Set- tings Read Error	NX-series Safety Control Unit	Z930
10510000 hex	Safety Application Data Read Error	NX-series Safety Control Unit	Z930
10520000 hex	NX Bus Communications Set- tings and Safety Application Da- ta Mismatch	NX-series Safety Control Unit	Z930
10530000 hex	Non-volatile Memory Access Er- ror	NX-series Safety Control Unit	Z930
10600000 hex	NX Bus Memory Check Error	NX Bus	W503
10610000 hex	Failed to Read NX Unit Opera- tion Settings	NX Bus	W503
10620000 hex	NX Unit Event Log Save Error	NX Bus	W503
10630000 hex	Safety Data Logging Failed to Start	Errors Related to Controller Op- eration	W503
10640000 hex	Safety Data Log File Save Failed	Errors Related to Controller Op- eration	W503
11000000 hex	X Bus Unit Settings Transfer Er- ror	X Bus Unit	W503
11010000 hex	Event Log Save Error	X Bus Unit	W503
110C0000 hex	Incorrect X Bus Unit Settings	X Bus Unit	W503
110D0000 hex	Present Values of Retained Vari- ables Not Saved	X Bus Unit	W503
110E0000 hex	Non-volatile Memory Restored or Formatted	X Bus Unit	W503
110F0000 hex	Non-volatile Memory Data Cor- rupted	X Bus Unit	W503
11100000 hex	Main Memory Check Error	X Bus Unit	W503
11110000 hex	X Bus Common System Infor- mation	X Bus Unit	W503
14010000 hex	CPU Bus Unit Setup Area Error	Errors Related to FINS Commu- nications	W503

Event code	Event name	Functional classification	Reference
14200000 hex	MAC Address Error	EtherNet/IP	W503
14210000 hex	Identity Error	EtherNet/IP	W503
14220000 hex	EtherNet/IP Processing Error	EtherNet/IP	W503
14230000 hex	MAC Address Error	EtherNet/IP	W503
14310000 hex	MAC Address Error	NX-series EtherNet/IP Unit	W627
14340000 hex	Ethernet Processing Error	NX-series EtherNet/IP Unit	W627
14400000 hex	MAC Address Error	EtherCAT Master	W503
14600000 hex	Absolute Encoder Home Offset	General Motion Control	W503
	Read Error		
14610000 hex	Motion Control Parameter Set- ting Error	General Motion Control	W503
14620000 hex	Cam Data Read Error	General Motion Control	W503
14630000 hex	Cam Table Save Error	General Motion Control	W503
14800000 hex	Protocol Data Error	CJ-series Serial Communica- tions Units	W494
14840000 hex	Invalid Communications Param- eter	CJ-series EtherNet/IP Units	W495
14850000 hex	Tag Database Error	CJ-series EtherNet/IP Units	W495
148C0000 hex	Invalid Message Timer List Error	CJ-series DeviceNet Units	W497
148D0000 hex	Invalid Scan List Data	CJ-series DeviceNet Units	W497
148E0000 hex	Invalid Setup Data	CJ-series DeviceNet Units	W497
14A00000 hex	Non-volatile Memory Checksum	GX-series EtherCAT Slave	W488
	Error	Units, E3X-series Fiber Sensors	E413
		with EtherCAT Communications	E429
		Unit for Digital Sensors, and	W570
		EtherCAT Digital Sensor Com-	W640
		munications Units	
14A80000 hex	Object Error	Servo G5 and G5 Linear	1576
			1577
14A90000 hex	Object Error	Servo G5 and G5 Linear	1576 1577
14AA0000 hex	Object Error	Servo G5 and G5 Linear	1576
			1577
14AB0000 hex	Object Corrupted	Servo G5 and G5 Linear	1576 1577
14AC0000 hex	Object Corrupted	Servo G5 and G5 Linear	1576 1577
14AD0000 hex	Object Corrupted	Servo G5 and G5 Linear	1576 1577
14B00000 hex	Linearity Correction Data Error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
14B10000 hex	Linearity Correction Data Read	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
14B20000 hex	System Setting Error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
14B30000 hex	Bank Data Error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
14C00000 hex	Unit Calibration Value Parity Er-	NX-series Analog I/O Units	W522

Event code	Event name	Functional classification	Reference
14C10000 hex	Invalid Tuning Parameters	NX-series Temperature Control	H228
	Saved in the Unit	Units	
14D00000 hex	Spool Memory Corrupted	DB Connection Service	W527
14D20000 hex	Execution Log Save Failed	DB Connection Service	W527
14D30000 hex	SQL Execution Failure Log Save Failed	DB Connection Service	W527
14E00000 hex	Invalid GEM Setting Data	GEM Services	W528
14E10000 hex	GEM Service Log Save Failed	GEM Services	W528
14E20000 hex	Spool Data Discarded	GEM Services	W528
14E30000 hex	Spool Save Failed	GEM Services	W528
14E40000 hex	Invalid SD Memory Card	GEM Services	W528
15000000 hex	Execution Log Save Failed	OPC UA Server Function	W503
15020000 hex	Server Certificate Mismatch	OPC UA Server Function	W503
15100000 hex	X Bus Unit Configuration Setting Error	X Bus	W503
15110000 hex	X Bus Unit Backup Failed	X Bus	W503
15120000 hex	X Bus Unit Restore Operation Failed	X Bus	W503
152C0000 hex	Variable Log Save Failed	Errors Related to Controller Op- eration	W503
17800000 hex	CNC Parameter Setting Error	CNC Function	O030
17810000 hex	Absolute Encoder Home Offset Read Error	CNC Function	O030
17820000 hex	CNC Motor Compensation Table Read Error	CNC Function	O030
17C00000 hex	Robot Control Parameter Setting Error	General Robot Control	O037
17C10000 hex	Remove SD Memory Card with Robot Control Function Enabled	General Robot Control	O037
17C20000 hex	Robot Control Function Enabled without SD Memory Card	General Robot Control	O037
18200000 hex	Absolute Encoder Overspeed Error	Servo G5	1576
18210000 hex	Encoder Initialization Error	Servo G5	1576
18220000 hex	Absolute Encoder One-rotation Counter Error	Servo G5	1576
18230000 hex	Absolute Encoder Multi-rotation Counter Error	Servo G5 and Servo 1S	1576 1586
182D0000 hex	Setting Data Load Error	FH/FZ5 Series Vision System	Z342
18380000 hex	System Error	Servo 1S	I586 I621
18390000 hex	Lifetime Information Corruption Warning	Servo 1S	1586
183A0000 hex	Non-volatile Memory Data Error	Servo 1S	I586 I621
24010000 hex	Unsupported Unit Detected	Errors Related to CJ-series Unit Configuration	W503
24020000 hex	Too Many I/O Points	Errors Related to CJ-series Unit Configuration	W503

Event code	Event name	Functional classification	Reference
24030000 hex	End Cover Missing	Errors Related to CJ-series Unit Configuration	W503
24040000 hex	Incorrect Unit/Expansion Rack Connection	Errors Related to CJ-series Unit Configuration	W503
24050000 hex	Duplicate Unit Number	Errors Related to CJ-series Unit Configuration	W503
24200000 hex	Slave Node Address Duplicated	EtherCAT Master	W503
24400000 hex	Unit Status, Antenna Error	CJ-series ID Sensor Units	Z317
24480000 hex	Node Address Duplicated Error	CJ-series DeviceNet Units	W497
24610000 hex	Switch Setting Error	GX-series EtherCAT Slave Units	W488
24680000 hex	Motor Non-conformity	Servo G5	1576
24690000 hex	Motor Non-conformity	Servo G5	1576
246A0000 hex	Motor Non-conformity	Servo G5	1576
246B0000 hex	Motor Non-conformity	Servo G5	1576
246C0000 hex	Motor Non-conformity	Servo G5	1576
246D0000 hex	Motor Non-conformity	Servo 1S	I586 I621
24780000 hex	Number of Sensors Verify Error	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors	E413
24790000 hex	Number of Sensors Over Limit	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors	E413
247A 0000 hex	Number of Distributed Sensor Unit Verify Error	EtherCAT Digital Sensor Com- munications Units	E429
247B 0000 hex	Number of Sensors Over Limit	EtherCAT Digital Sensor Com- munications Units	E429
247C 0000 hex	Number of Sensors Verify Error	EtherCAT Digital Sensor Com- munications Units	E429
247D 0000 hex	Number of Sensors Over at Dis- tributed Sensor Unit	EtherCAT Digital Sensor Com- munications Units	E429
24810000 hex	Ethernet Communications Pa- rameter Error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
24A00000 hex	Unit Configuration Error, Too Many Units	NX-series EtherCAT Coupler Unit	W519
24A10000 hex	Unit Configuration Error, Unsupported Configuration	NX-series EtherCAT Coupler Unit	W519
24AA0000 hex	Incorrect DIP Switch Setting	NX-series Safety Control Unit	Z930
24C00000 hex	Number of Mountable X Bus Units Exceeded	X Bus	W503
24C10000 hex	Unsupported X Bus Unit Mount- ed	X Bus	W503
24D00000 hex	Number of Mountable NX Units Exceeded	NX Bus	W503
24D20000 hex	Total I/O Data Size in NX Units Excessive	NX Bus	W503
28010000 hex	Motor Setting Error	G5 Linear	1577
28020000 hex	Motor Combination Error 1	G5 Linear	1577
28030000 hex	Motor Combination Error 2	G5 Linear	1577

Event code	Event name	Functional classification	Reference
28080000 hex	Main Circuit Power Supply	Servo 1S	1586
	Phase Loss Error		1621
280D0000 hex	Runaway Detected	Servo 1S	1586
			1621
30200000 hex	Unsupported Unit Setting	Errors Related to CJ-series Unit	W503
		Configuration	
34010000 hex	I/O Setting Check Error	Errors Related to CJ-series Unit	W503
		Configuration	
34100000 hex	IP Address Table Setting Error	Errors Related to FINS Commu- nications	W503
34110000 hex	Unknown Destination Node	Errors Related to FINS Commu- nications	W503
34130000 hex	FINS/TCP Connection Table	Errors Related to FINS Commu-	W503
	Setting Error	nications	
34200000 hex	Tag Data Link Setting Error	EtherNet/IP	W503
34210000 hex	Basic Ethernet Setting Error	EtherNet/IP	W503
34220000 hex	IP Address Setting Error	EtherNet/IP	W503
34230000 hex	IP Route Table Setting Error	EtherNet/IP	W503
34240000 hex	FTP Server Setting Error	EtherNet/IP	W503
34250000 hex	NTP Client Setting Error	EtherNet/IP	W503
34260000 hex	SNMP Setting Error	EtherNet/IP	W503
34270000 hex	Tag Name Resolution Error	EtherNet/IP	W503
34280000 hex	Basic Ethernet Setting Error	EtherNet/IP	W503
34290000 hex	IP Address Setting Error	EtherNet/IP	W503
342A0000 hex	DNS Setting Error	EtherNet/IP	W503
342B0000 hex	Link Setting Not Supported	EtherNet/IP	W503
342C0000 hex	Unit Configuration Error, Com-	EtherNet/IP	W627
	bined Use of CIP Safety and Tag Data Link		
34400000 hex	Network Configuration Informa- tion Error	EtherCAT Master	W503
34410000 hex	EtherCAT Communications Cy- cle Exceeded	EtherCAT Master	W503
34420000 hex	Parameters Not Transferred	EtherCAT Master	W503
34600000 hex	Required Process Data Object Not Set	General Motion Control	W503
34610000 hex	Process Data Object Setting Missing	Motion Control Instructions	W503
34630000 hex	Axis Slave Disabled	General Motion Control	W503
34640000 hex	Network Configuration Informa-	General Motion Control	W503
	tion Missing for Axis Slave		
34800000 hex	Mean Value Processing Setting Error	CJ-series Analog I/O Units	W490
34810000 hex	Input Value Exceeded Adjust- ment Range in Adjustment Mode	CJ-series Analog I/O Units	W490
34820000 hex	Input Number Specification Error in Adjustment Mode	CJ-series Analog I/O Units	W490
34830000 hex	Scaling Data Setting Error	CJ-series Analog I/O Units	W490

Event code	Event name	Functional classification	Reference
34840000 hex	Input Signal Range Setting Error or Error in Number of Inputs Set- ting	CJ-series Analog I/O Units	W490
34850000 hex	Mean Value Processing Setting Error	CJ-series Analog I/O Units	W490
34860000 hex	Error in Setting of Conversion Mode	CJ-series Analog I/O Units	W490
34870000 hex	Output Hold Setting Error	CJ-series Analog I/O Units	W490
34880000 hex	Output Number Specification Er- ror in Adjustment Mode	CJ-series Analog I/O Units	W490
34890000 hex	Conversion Time/Resolution or Operation Mode Setting Error	CJ-series Analog I/O Units	W490
348A0000 hex	Output Signal Range Setting Er- ror or Error In Number of Out- puts Used Setting	CJ-series Analog I/O Units	W490
348C0000 hex	I/O Number Specification Error in Adjustment Mode	CJ-series Analog I/O Units	W490
348D0000 hex	Data Range Error	CJ-series Process I/O Units	W498
34940000 hex	Setting Error	CJ-series Temperature Control Units	W491
34980000 hex	Results Information, Data Stor- age Area Specification Error	CJ-series ID Sensor Units	Z317
349C0000 hex	Registration Table Verification Error	CJ-series CompoNet Master Unit	W493
349D0000 hex	Slave Unit Duplicated Address Error	CJ-series CompoNet Master Unit	W493
349E0000 hex	Repeater Unit Node Duplicated Address Error	CJ-series CompoNet Master Unit	W493
34A40000 hex	System Setup Error	CJ-series Serial Communica- tions Units	W494
34A80000 hex	Verification Error	CJ-series EtherNet/IP Units	W495
34A90000 hex	Tag Data Link Error	CJ-series EtherNet/IP Units	W495
34AA0000 hex	Tag Refresh Error	CJ-series EtherNet/IP Units	W495
34AB0000 hex	Basic Ethernet Setting Error	CJ-series EtherNet/IP Units	W495
34AC0000 hex	IP Address Table Error	CJ-series EtherNet/IP Units	W495
34AD0000 hex	IP Router Table Error	CJ-series EtherNet/IP Units	W495
34AE0000 hex	Routing Table Error	CJ-series EtherNet/IP Units	W495
34AF0000 hex	Ethernet Advanced Setting Error	CJ-series EtherNet/IP Units	W495
34B00000 hex	Address Mismatch	CJ-series EtherNet/IP Units	W495
34BC0000 hex	Routing Table Error	CJ-series DeviceNet Units	W497
34BD0000 hex	Verification Error	CJ-series DeviceNet Units	W497
34BE0000 hex	Structure Error	CJ-series DeviceNet Units	W497
34BF0000 hex	Master I/O Refresh Error	CJ-series DeviceNet Units	W497
34C00000 hex	Master User-set Allocations User Setting Failed	CJ-series DeviceNet Units	W497
34C10000 hex	Communications Cycle Time Setting Failed	CJ-series DeviceNet Units	W497
34C20000 hex	Slave I/O Refresh Error	CJ-series DeviceNet Units	W497

Event code	Event name	Functional classification	Reference
34C30000 hex	Slave User Allocation Area Set- ting Failed	CJ-series DeviceNet Units	W497
34E00000 hex	Data Setting Warning	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586
34E10000 hex	Servo Drive Overheat	Servo G5 and G5 Linear	1576 1577
34E20000 hex	Overload	Servo G5 and G5 Linear	1576 1577
34E30000 hex	Regeneration Overload	Servo G5 and G5 Linear	1576 1577
34E40000 hex	Error Counter Overflow	Servo G5 and G5 Linear	1576 1577
34E50000 hex	Excessive Velocity Error	Servo G5 and G5 Linear	1576 1577
34E60000 hex	Overspeed	Servo G5 and G5 Linear	1576 1577
34F00000 hex	PDO Setting Error	MX2/RX-series Inverters with EtherCAT Communications Units	1574
34F80000 hex	Dummy Sensors Setting Error	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors and Ether- CAT Digital Sensor Communica- tions Units	E413 E429
35000000 hex	Unit Configuration Information Error	NX-series EtherCAT Coupler Unit	W519
35010000 hex	Unit Configuration Verification Error	NX-series EtherCAT Coupler Unit	W519
35020000 hex	NX Unit Minor Fault	NX-series EtherCAT Coupler Unit	W519
35030000 hex	NX Unit Observation	NX-series EtherCAT Coupler Unit	W519
35040000 hex	Mailbox Setting Error	NX-series EtherCAT Coupler Unit	W519
35050000 hex	RxPDO Setting Error	NX-series EtherCAT Coupler Unit	W519
35060000 hex	TxPDO Setting Error	NX-series EtherCAT Coupler Unit	W519
35070000 hex	PDO WDT Setting Error	NX-series EtherCAT Coupler Unit	W519
35080000 hex	SM Event Mode Setting Error	NX-series EtherCAT Coupler Unit	W519
35090000 hex	TxPDO Mapping Error	NX-series EtherCAT Coupler Unit	W519
350A0000 hex	RxPDO Mapping Error	NX-series EtherCAT Coupler Unit	W519
350B0000 hex	Illegal State Transition Request Received	NX-series EtherCAT Coupler Unit	W519
350C0000 hex	Error State Transition Received	NX-series EtherCAT Coupler Unit	W519

Event code	Event name	Functional classification	Reference
350D0000 hex	Synchronization Cycle Setting Error	NX-series EtherCAT Coupler Unit	W519
350E0000 hex	NX Bus Cycle Delay Detected	NX-series EtherCAT Coupler	W519
35100000 hex	External Input Setting Error	NX-series Position Interface Units	W524
35110000 hex	SSI Data Setting Error	NX-series Position Interface Units	W524
35200000 hex	Safety Process Data Communi- cations Not Established Error	NX-series Safety Control Unit	Z930
35210000 hex	Safety Process Data Communi- cations Not Established - Incor- rect Unit Parameter Error	NX-series Safety Control Unit	Z930
35230000 hex	Safety Process Data Communi- cations Not Established, Incor- rect FSoE Slave Address Error	NX-series Safety Control Unit	Z930
35240000 hex	Safety Process Data Communi- cations Not Established, Incor- rect Frame Error	NX-series Safety Control Unit	Z930
35250000 hex	Safety Unit Restore Operation Failed to Start (SD Memory Card Access Failed)	NX-series Safety Control Unit	Z930
35260000 hex	Safety Unit Restore Operation Failed to Start (Safety Unit Re- store File Read Failure)	NX-series Safety Control Unit	Z930
35270000 hex	Safety Unit Restore Operation Failed to Start (Model Mismatch)	NX-series Safety Control Unit	Z930
35280000 hex	Safety Unit Restore Operation Failed to Start (Version Mis- match)	NX-series Safety Control Unit	Z930
35290000 hex	Safety Unit Restore Operation Failed to Start (Node Name Mis- match)	NX-series Safety Control Unit	Z930
352A0000 hex	Safety Unit Restore Operation Failed to Start (Safety Password Mismatch)	NX-series Safety Control Unit	Z930
352B0000 hex	Safety Unit Restore Operation Failed	NX-series Safety Control Unit	Z930
35300000 hex	DB Connection Setting Error	DB Connection Service	W527
35310000 hex	DB Server Certificate Error	DB Connection Service	W527
35400000 hex	Illegal Variable Allocation	GEM Services	W528
35410000 hex	Illegal TCP Port Number	GEM Services	W528
35600000 hex	X Bus Unit Version Not Matched	X Bus	W503
35610000 hex	Unregistered X Bus Unit Mount- ed	X Bus	W503
35620000 hex	Registered X Bus Unit Not Mounted	X Bus	W503
35630000 hex	X Bus Unit Serial Number Mis- match	X Bus	W503
35680000Hex	I/O Refresh Error	CJ-series EtherCAT Slave Unit	W542
35690000Hex	Mailbox Setting Error	CJ-series EtherCAT Slave Unit	W542

Event code	Event name	Functional classification	Reference
356A0000Hex	Verification Error	CJ-series EtherCAT Slave Unit	W542
356B0000Hex	Illegal State Transition Request Received	CJ-series EtherCAT Slave Unit	W542
356D0000 hex	Parameters Not Transferred	NX Bus	W503
357D0000 hex	DC Setting Error	Servo 1S	1586
			l621
357E0000 hex	Synchronization Cycle Setting	Servo 1S	1586
	Error		1621
357F0000 hex	Mailbox Setting Error	Servo 1S	I586 I621
35800000 hex	RxPDO Setting Error	Servo 1S	I586 I621
35810000 hex	TxPDO Setting Error	Servo 1S	1586
			1621
35820000 hex	RxPDO Mapping Error	Servo 1S	1586
			l621
35830000 hex	TxPDO Mapping Error	Servo 1S	I586 I621
35840000 hex	PDO WDT Setting Error	Servo 1S	1586
			l621
35850000 hex	Node Address Updated	Servo 1S	1586
			l621
35860000 hex	SM Event Mode Setting Error	Servo 1S	1586
2500000 k			1621
35900000 hex	NX Unit Version Not Matched	NX Bus	W503
35910000 hex	Unregistered NX Unit Mounted	NX Bus	W503
35920000 hex	Registered NX Unit Not Mount- ed	NX Bus	W503
35930000 hex	NX Unit Serial Number Mis- match	NX Bus	W503
35940000 hex	Option Board Configuration Veri- fication Error	Built-in I/O and Option Boards	W503
35950000 hex	Unsupported Option Board Mounted	Built-in I/O and Option Boards	W503
35D00000 hex	OPC UA Server Setting Error	OPC UA Server Function	W503
35D10000 hex	Server Certificate Expired	OPC UA Server Function	W503
35D20000 hex	Server Certificate Expiration No- tice	OPC UA Server Function	W503
35D30000 hex	Too Many Public Variables	OPC UA Server Function	W503
35D40000 hex	Unsupported Data Type/Invalid Data	OPC UA Server Function	W503
35D50000 hex	Too Many Public Value Attrib-	OPC UA Server Function	W503
35D60000 hex	Too Many Structure Definitions	OPC UA Server Function	W503
35EF0000 hex	Automation Playback Startup Er- ror	Errors Related to Controller Op- eration	W503
36010000 hex	Basic Ethernet Setting Error	NX-series EtherNet/IP Unit	W627
36020000 hex	IP Address Settings Error	NX-series EtherNet/IP Unit	W627
36030000 hex	IP Rout Table Setting Error	NX-series EtherNet/IP Unit	W627
36060000 hex	SNMP Setting Error	NX-series EtherNet/IP Unit	W627

Event code	Event name	Functional classification	Reference
36080000 hex	DNS Setting Error	NX-series EtherNet/IP Unit	W627
37800000 hex	Required Process Data Object Not Set	CNC Function	O030
37810000 hex	Process Data Object Setting Missing	CNC Function	O030
37C20000 hex	Robot Setting Mismatch	General Robot Control	O037
38010000 hex	Scaling Data Setting Error/Ratio Conversion Use Setting Error	CJ-series Analog I/O Units	W490
38020000 hex	Ratio Set Value Error	CJ-series Analog I/O Units	W490
381C0000 hex	Status Area Layout Setting Error	CJ-series EtherNet/IP Units	W495
383C0000 hex	Overload Warning	Servo G5 and G5 Linear	1576 1577
383D0000 hex	Excessive Regeneration Warn- ing	Servo G5 and G5 Linear	1576 1577
383E0000 hex	Vibration Detection Warning	Servo G5 and G5 Linear	1576 1577
383F0000 hex	Excessive Hybrid Following Er-	Servo G5	1576
38400000 hex	Overspeed 2	Servo G5 and G5 Linear	I576 I577
38410000 hex	Command Error	Servo G5 and G5 Linear	1576 1577
38420000 hex	Command Generation Error	Servo G5 and G5 Linear	1576 1577
38430000 hex	Error Counter Overflow 1	Servo G5 and G5 Linear	I576 I577
38440000 hex	Error Counter Overflow 2	Servo G5 and G5 Linear	1576 1577
38450000 hex	Interface Input Duplicate Alloca- tion Error 1	Servo G5 and G5 Linear	1576 1577
38460000 hex	Interface Input Duplicate Alloca- tion Error 2	Servo G5 and G5 Linear	1576 1577
38470000 hex	Interface Input Function Number Error 1	Servo G5 and G5 Linear	1576 1577
38480000 hex	Interface Input Function Number Error 2	Servo G5 and G5 Linear	1576 1577
38490000 hex	Interface Output Function Num- ber Error 1	Servo G5 and G5 Linear	1576 1577
384A0000 hex	Interface Output Function Num- ber Error 2	Servo G5 and G5 Linear	1576 1577
384B0000 hex	External Latch Input Allocation Error	Servo G5 and G5 Linear	1576 1577
384C0000 hex	Overrun Limit Error	Servo G5 and G5 Linear	1576 1577
384D0000 hex	Absolute Encoder System Down Error	Servo G5	1576
384E0000 hex	Absolute Encoder Counter Over- flow Error	Servo G5	1576
384F0000 hex	Object Setting Error 1	Servo G5 and G5 Linear	1576
38500000 hex	Object Setting Error 2	Servo G5 and G5 Linear	1576

Event code	Event name	Functional classification	Reference
38510000 hex	External Encoder Connection Error	Servo G5 and G5 Linear	1576
38520000 hex	Function Setting Error	Servo G5 and G5 Linear	1576
38530000 hex	Magnetic Pole Position Estima- tion Error 1	G5 Linear	1577
38540000 hex	Magnetic Pole Position Estima- tion Error 2	G5 Linear	1577
38550000 hex	Magnetic Pole Position Estima- tion Error 3	G5 Linear	1577
38560000 hex	Motor Auto-setting Error	G5 Linear	1577
38570000 hex	Function Setting Error	Servo 1S	I586 I621
38590000 hex	Camera Connection Error	FH/FZ5 Series Vision System	Z342
385A0000 hex	Change in Connected Camera	FH/FZ5 Series Vision System	Z342
385B0000 hex	Light installation error	FH/FZ5 Series Vision System	Z342
38780000 hex	General Input Allocation Dupli-	Servo 1S	I586 I621
38790000 hex	General Output Allocation Dupli- cate Error	Servo 1S	I586 I621
387A0000 hex	Overload Warning	Servo 1S	1586
387B0000 hex	Pulse Output Setting Error	Servo 1S	I586 I621
387C0000 hex	Motor Replacement Detected	Servo 1S	I586 I621
387D0000 hex	Regeneration Overload Warning	Servo 1S	1586
387E0000 hex	Motor Vibration Warning	Servo 1S	1586
387F0000 hex	Electronic Gear Setting Error	Servo 1S	I586 I621
38800000 hex	Servo Drive Overheat	Servo 1S	I586 I621
38810000 hex	Overload Error	Servo 1S	I586 I621
38820000 hex	Regeneration Overload Error	Servo 1S	I586 I621
38830000 hex	Excessive Position Deviation Er- ror	Servo 1S	I586 I621
38840000 hex	Excessive Speed Deviation Er- ror	Servo 1S	I586 I621
38850000 hex	Excessive Speed Error	Servo 1S	I586 I621
38860000 hex	Following Error Counter Over- flow	Servo 1S	I586 I621
38870000 hex	Absolute Encoder Counter Over- flow Error	Servo 1S	I586 I621
38880000 hex	Safety Communications Setting Error	Servo 1S	I586 I621
38890000 hex	Safety Frame Error	Servo 1S	I586 I621
388A0000 hex	Safety Parameter Error	Servo 1S	1586

Event code	Event name	Functional classification	Reference
388B0000 hex	FSoE Slave Address Error	Servo 1S	1586
			1621
38980000 hex	Safety Function Setting Error	Servo 1S	1621
38990000 hex	Safety Parameter Error	Servo 1S	1621
40010000 hex	PLC System Processing Error	Errors for Self Diagnosis	W503
40020000 hex	PLC System Processing Error	Errors for Self Diagnosis	W503
40030000 hex	PLC System Processing Error	Errors for Self Diagnosis	W503
40040000 hex	PLC System Processing Error	Errors for Self Diagnosis	W503
40050000 hex	PLC System Processing Error	Errors for Self Diagnosis	W503
40110000 hex	PLC Function Processing Error	Errors Related to Controller Op-	W503
	· ·	eration	
40120000 hex	PLC Function Processing Error	Errors Related to Controller Op-	W503
		eration	
40130000 hex	PLC Function Processing Error	Errors Related to Controller Op-	W503
		eration	
40140000 hex	PLC System Information	Errors Related to Controller Op-	W503
		eration	
40150000 hex	PLC System Information	Errors Related to Controller Op-	W503
		eration	
40160000 hex	Safe Mode	Errors Related to Controller Op-	W503
		eration	
40170000 hex	Safe Mode	Errors Related to Controller Op-	W503
		eration	
40200000 hex	NX Unit Processing Error	NX-series EtherCAT Coupler	W519
		Units, NX-series Analog I/O	W566
		Units, NX-series Position Inter-	W524
		face Units, NX-series Communi-	W540
		cations Interface Units, NX-ser-	W565
		ies Load Cell Input Units, NX- series IO-Link Master Units, and	W570 H228
		NX-series Temperature Control	11220
		Units	
41000000 hex	X Bus Unit Common Function	X Bus Unit	W503
	Processing Error		
41010000 hex	X Bus Unit Common Function	X Bus Unit	W503
	Processing Error		
41020000 hex	X Bus Unit Common Function	X Bus Unit	W503
	Processing Error		
41030000 hex	X Bus Unit System Information	X Bus Unit	W503
41040000 hex	X Bus Unit System Information	X Bus Unit	W503
41050000 hex	X Bus Unit Common Function	X Bus Unit	W503
	Processing Error		
41060000 hex	X Bus Unit Common Function	X Bus Unit	W503
	Processing Error		
44010000 hex	EtherCAT Fault	EtherCAT Master	W503
44180000 hex	OPC UA System Processing Er-	OPC UA Server Function	W503
	ror		
44190000 hex	OPC UA Server Insufficient	OPC UA Server Function	W503
	Memory Capacity		

Event code	Event name	Functional classification	Reference
441C0000 hex	DB Connection Service System Error	DB Connection Instructions	W527
44200000 hex	Motion Control Initialization Error	General Motion Control	W503
44210000 hex	Motion Control Function Proc- essing Error	General Motion Control	W503
44300000 hex	X Bus Function Processing Error	X Bus	W503
44400000 hex	PLC Function Processing Error	Errors Related to CJ-series Unit Configuration	W503
44410000 hex	PLC System Information	Errors Related to CJ-series Unit Configuration	W503
44420000 hex	PLC Function Processing Error	Errors Related to Controller Op- eration	W503
44430000 hex	PLC System Information	Errors Related to Controller Op- eration	W503
44440000 hex	NX Bus Function Processing Er- ror	NX Bus	W503
44450000 hex	NX Bus System Information	NX Bus	W503
47800000 hex	CNC Initialization Error	CNC Function	O030
47810000 hex	CNC Parameter Setting Invalid	CNC Function	O030
47C00000 hex	Robot Control Initialization Error	General Robot Control	O037
47C10000 hex	Robot Control Function Module System Error	General Robot Control	O037
47C20000 hex	Robot Control Function Module Processing Error	General Robot Control	O037
48020000 hex	System Error	FH/FZ5 Series Vision System	Z342
48080000 hex	FPGA WDT Error	Servo 1S	I586 I621
50010000 hex	Controller Insufficient Memory Warning	EtherCAT Master, EtherNet/IP	W503
54010400 hex	Input Value Out of Range	Instructions	W503
54010401 hex	Input Mismatch	Instructions	W503
54010402 hex	Floating-point Error	Instructions	W503
54010403 hex	BCD Error	Instructions	W503
54010404 hex	Signed BCD Error	Instructions	W503
54010405 hex	Illegal Bit Position Specified	Instructions	W503
54010406 hex	Illegal Data Position Specified	Instructions	W503
54010407 hex	Data Range Exceeded	Instructions	W503
54010409 hex	No Errors to Clear	Instructions	W503
5401040B hex	No User Errors to Clear	Instructions	W503
5401040C hex	Limit Exceeded for User-defined Errors	Instructions	W503
5401040D hex	Illegal Unit Specified	Instructions	W503
5401040F hex	Unit Restart Failed	Instructions	W503
54010410 hex	Text String Format Error	Instructions	W503
54010411 hex	Illegal Program Specified	Instructions	W503
54010413 hex	Undefined CJ-series Memory Address	Instructions	W503
54010414 hex	Stack Underflow	Instructions	W503
54010415 hex	Firmware Error	Instructions	W503

Event code	Event name	Functional classification	Reference
54010416 hex	Illegal Number of Array Ele- ments or Dimensions	Instructions	W503
54010417 hex	Specified Task Does Not Exist	Instructions	W503
54010418 hex	Unallowed Task Specification	Instructions	W503
54010419 hex	Incorrect Data Type	Instructions	W503
5401041A hex	Multi-execution of Instructions	Instructions	W503
5401041B hex	Data Capacity Exceeded	Instructions	W503
5401041C hex	Different Data Sizes	Instructions	W503
5401041D hex	Exceeded Simultaneous Instruc- tion Executed Resources	Instructions	W503
54010421 hex	Failed to Get The Program Hash Code	Instructions	W503
54010800 hex	FINS Error	Instructions	W503
54010801 hex	FINS Port Already in Use	Instructions	W503
54010C00 hex	Illegal Serial Communications Mode	Instructions	W503
54010C02 hex	Port Setup Already Busy	Instructions	W503
54010C03 hex	Full Reception Buffer	Instructions	W503
54010C04 hex	Multi-execution of Ports	Instructions	W503
54010C05 hex	Parity Error	Instructions	W503
54010C06 hex	Framing Error	Instructions	W503
54010C07 hex	Overrun Error	Instructions	W503
54010C08 hex	CRC Mismatch	Instructions	W503
54010C0B hex	Serial Communications Timeout	Instructions	W503
54010C0C hex	Instruction Executed to Inappli- cable Port	Instructions	W503
54010C0D hex	CIF Unit Initialized	Instructions	W503
54010C10 hex	Exceptional Modbus Response	Instructions	W503
54010C11 hex	Invalid Modbus Response	Instructions	W503
54011400 hex	SD Memory Card Access Fail- ure	Instructions	W503
54011401 hex	SD Memory Card Write-protect- ed	Instructions	W503
54011402 hex	SD Memory Card Insufficient Capacity	Instructions	W503
54011403 hex	File Does Not Exist	Instructions	W503
54011404 hex	Too Many Files/Directories	Instructions	W503
54011405 hex	File Already in Use	Instructions	W503
54011406 hex	Open Mode Mismatch	Instructions	W503
54011407 hex	Offset Out of Range	Instructions	W503
54011408 hex	Directory Not Empty	Instructions	W503
54011409 hex	That File Name Already Exists	Instructions	W503
5401140A hex	Write Access Denied	Instructions	W503
5401140B hex	Too Many Files Open	Instructions	W503
5401140C hex	Directory Does Not Exist	Instructions	W503
5401140D hex	File or Directory Name Is Too Long	Instructions	W503
5401140E hex	SD Memory Card Access Failed	Instructions	W503

Event code	Event name	Functional classification	Reference
5401140F hex	Backup Operation Already in Progress	Instructions	W503
54011410 hex	Cannot Execute Backup	Instructions	W503
54011411 hex	Unit/Slave Backup Failed	Instructions	W503
54011800 hex	EtherCAT Communications Error	Instructions	W503
54011801 hex	EtherCAT Slave Does Not Re- spond	Instructions	W503
54011802 hex	EtherCAT Timeout	Instructions	W503
54011803 hex	Reception Buffer Overflow	Instructions	W503
54011804 hex	SDO Abort Error	Instructions	W503
54011805 hex	Saving Packet Monitor File	Instructions	W503
54011806 hex	Packet Monitoring Function Not Started	Instructions	W503
54011807 hex	Packet Monitoring Function in Operation	Instructions	W503
54011808 hex	Communications Resource Overflow	Instructions	W503
54011809 hex	Packet Monitoring Function Not Supported	Instructions	W503
5401180A hex	Cannot Execute Instruction for Slave	Instruction	W503
5401180D hex	Diagnosis/Statistics Log Execut- ing	Instructions	W503
5401180E hex	Master Diagnostic and Statistical Information Instruction Multi-ex- ecution Disabled	Instructions	W503
5401180F hex	Slave Diagnostic and Statistical Information Instruction Multi-ex- ecution Disabled	Instructions	W503
54011C00 hex	Explicit Message Error	Instructions	W503
54011C01 hex	Incorrect Route Path	Instructions	W503
54011C02 hex	CIP Handle Out of Range	Instructions	W503
54011C03 hex	CIP Communications Resource Overflow	Instructions	W503
54011C04 hex	CIP Timeout	Instructions	W503
54011C05 hex	Class-3 Connection Not Estab- lished	Instructions	W503
54011C06 hex	CIP Communications Data Size Exceeded	Instructions	W503
54012000 hex	Local IP Address Setting Error	Instructions	W503
54012001 hex	TCP/UDP Port Already in Use	Instructions	W503
54012002 hex	Address Resolution Failed	Instructions	W503
54012003 hex	Socket Status Error	Instructions	W503
54012004 hex	Local IP Address Not Set	Instructions	W503
54012006 hex	Socket Timeout	Instructions	W503
54012007 hex	Socket Handle Out of Range	Instructions	W503
54012008 hex	Socket Communications Re- source Overflow	Instructions	W503
5401200A hex	Invalid TLS Session Name	Instructions	W503

Event code	Event name	Functional classification	Reference
5401200B hex	Access to the Certificate Failed	Instructions	W503
5401200C hex	TLS Session Establishment Er- ror	Instructions	W503
5401200E hex	Invalid TLS Session Handle	Instructions	W503
5401200F hex	TLS Error	Instructions	W503
54012400 hex	No Execution Right	Instructions	W503
54012401 hex	Settings Update Failed	Instructions	W503
54012402 hex	Too Many Simultaneous Instruc- tion Executions	Instructions	W503
54012403 hex	FTP Client Execution Limit Ex- ceeded	Instructions	W503
54012404 hex	File Number Limit Exceeded	Instructions	W503
54012405 hex	Directory Does Not Exist (FTP)	Instructions	W503
54012406 hex	FTP Server Connection Error	Instructions	W503
54012407 hex	Destination FTP Server Execu- tion Failure	Instructions	W503
54012408 hex	SD Memory Card Access Failed for FTP	Instructions	W503
54012409 hex	Specified File Does Not Exist	Instructions	W503
5401240A hex	Specified File Is Write Protected	Instructions	W503
5401240B hex	Failed To Delete Specified File	Instructions	W503
5401240C hex	Specified File Access Failed	Instructions	W503
5401240D hex	IP Address Setting Invalid	Instructions	W503
54012C00 hex	NX Message Error	Instructions	W503
54012C01 hex	NX Message Resource Overflow	Instructions	W503
54012C02 hex	NX Message Timeout	Instructions	W503
54012C03 hex	Incorrect NX Message Length	Instructions	W503
54012C05 hex	NX Message EtherCAT Network Error	Instructions	W503
54012C06 hex	External Restart Already Execut- ed for Specified NX Units	Instructions	W503
54012C07 hex	Unapplicable Unit Specified for Instruction	Instructions	W503
54012C08 hex	Invalid Total Power ON Time Re- cord	Instructions	W503
54013000 hex	DB Connection Service Not Started	DB Connection Instructions	W527
54013001 hex	DB Connection Service Run Mode Change Failed	DB Connection Instructions	W527
54013002 hex	DB Connection Service Shut- down or Shutting Down	DB Connection Instructions	W527
54013003 hex	Invalid DB Connection Name	DB Connection Instructions	W527
54013004 hex	DB Connection Rejected	DB Connection Instructions	W527
54013005 hex	DB Connection Failed	DB Connection Instructions	W527
54013006 hex	DB Connection Already Estab- lished	DB Connection Instructions	W527
54013007 hex	Too Many DB Connections	DB Connection Instructions	W527
54013008 hex	Invalid DB Connection	DB Connection Instructions	W527
54013009 hex	Invalid DB Map Variable	DB Connection Instructions	W527

Event code	Event name	Functional classification	Reference
5401300A hex	Unregistered DB Map Variable	DB Connection Instructions	W527
5401300B hex	SQL Execution Error	DB Connection Instructions	W527
5401300C hex	Spool Capacity Exceeded	DB Connection Instructions	W527
5401300E hex	Invalid Extraction Condition	DB Connection Instructions	W527
54013010 hex	Log Code Out of Range	DB Connection Instructions	W527
54013011 hex	DB Connection Disconnected Error Status	DB Connection Instructions	W527
54013012 hex	DB Connection Instruction Exe- cution Timeout	DB Connection Instructions	W527
54013013 hex	DB Connection Service Error Stop	DB Connection Instructions	W527
54013014 hex	Data Already Spooled	DB Connection Instructions	W527
54013015 hex	DB Connection Service Initializ- ing	DB Connection Instructions	W527
54013016 hex	DB in Process	DB Connection Instructions	W527
54013017 hex	Operation Log Disabled	DB Connection Instructions	W527
54013018 hex	Invalid Procedure Handle	DB Connection Instructions	W527
54013019 hex	Instruction Executed for Unsup- ported Database Type	DB Connection Instructions	W527
5401301A hex	Invalid Stored Procedure Name	DB Connection Instructions	W527
5401301B hex	Invalid Stored Procedure Argu- ment	DB Connection Instructions	W527
5401301C hex	Invalid Number of Columns for Stored Procedure Result Set	DB Connection Instructions	W527
5401301E hex	DB Connection Service Not Used	DB Connection Instructions	W527
54013461 hex	Process Data Object Setting Missing	Instructions	W503
54013781 hex	Process Data Object Setting Missing	CNC Instructions	O030
54013810 hex	GEM Service Status in Initializ- ing	GEM Instructions	W528
54013811 hex	GEM Service Status in EQStart- ing	GEM Instructions	W528
54013812 hex	GEM Service Status in EQInitial- izing	GEM Instructions	W528
54013813 hex	GEM Service Status in EQRun	GEM Instructions	W528
54013814 hex	GEM Service Status in Stop	GEM Instructions	W528
54013815 hex	GEM Service Status in Error	GEM Instructions	W528
54013816 hex	GEM Service Status in Shutting- Down	GEM Instructions	W528
54013817 hex	GEM Service Status in Shut- down	GEM Instructions	W528
54013818 hex	No Message Received	GEM Instructions	W528
54013819 hex	Multi-execution of Instructions	GEM Instructions	W528
5401381A hex	State Transition in Progress	GEM Instructions	W528
5401381B hex	Insufficient Transaction Re- source	GEM Instructions	W528
54013820 hex	Too Many Characters	GEM Instructions	W528

Event code	Event name	Functional classification	Reference
54013821 hex	Invalid Size	GEM Instructions	W528
54013822 hex	Set to Disable	GEM Instructions	W528
54013824 hex	Undefined CEID	GEM Instructions	W528
54013825 hex	Undefined ALID	GEM Instructions	W528
54013826 hex	Undefined CCODE	GEM Instructions	W528
54013827 hex	Undefined Message Number	GEM Instructions	W528
54013828 hex	HSMS Communications Setting Out of Range	GEM Instructions	W528
54013829 hex	TID Out of Range	GEM Instructions	W528
5401382C hex	Undefined ECID	GEM Instructions	W528
5401382D hex	Type Mismatch	GEM Instructions	W528
5401382E hex	ECV Out of Range	GEM Instructions	W528
5401382F hex	Illegal CPNAME	GEM Instructions	W528
54013830 hex	HCACK Out of Range	GEM Instructions	W528
54013831 hex	CPACK Out of Range	GEM Instructions	W528
54013832 hex	CEPACK Out of Range	GEM Instructions	W528
54013833 hex	ACKC7 Out of Range	GEM Instructions	W528
54013834 hex	ACKC7A Out of Range	GEM Instructions	W528
54013835 hex	ACKC10 Out of Range	GEM Instructions	W528
54013836 hex	EAC Out of Range	GEM Instructions	W528
54013838 hex	Illegal SECS Message	GEM Instructions	W528
54014800 hex	Device Error Received	Instructions	W503
54014801 hex	Specified Unit Does Not Exist	Instructions	W503
54014802 hex	Message Processing Limit Ex- ceeded	Instructions	W503
54014803 hex	Specified Unit Status Error	Instructions	W503
54014804 hex	Too Many Simultaneous Instruc- tion Executions	Instructions	W503
54014805 hex	Communications Timeout	Instructions	W503
54014806 hex	Invalid Mode	Instructions	W503
54014807 hex	I/O Power OFF Status	Instructions	W503
54014808 hex	Verification Error	Instructions	W503
54014809 hex	Incorrect Device Port Setting	Instructions	W503
54015000 hex	OPC UA Server Shutdown or Shutting Down	OPC UA Instructions	W503
54015001 hex	OPC UA Server Being Initialized	OPC UA Instructions	W503
54015002 hex	OPC UA Server Not Started	OPC UA Instructions	W503
54015420 hex	Electronic Gear Ratio Numerator Setting Out of Range	Instructions	W503
54015421 hex	Electronic Gear Ratio Denomi- nator Setting Out of Range	Instructions	W503
54015422 hex	Target Velocity Setting Out of	Instructions and Robot Instruc-	W503
	Range	tions	W539
54015423 hex	Acceleration Setting Out of Range	Instructions and Robot Instruc- tions	W503 W539
54015424 hex	Deceleration Setting Out of Range	Instructions and Robot Instruc- tions	W503 W539
54015425 hex	Jerk Setting Out of Range	Instructions	W503

Event code	Event name	Functional classification	Reference
54015427 hex	Torque Ramp Setting Out of Range	Instructions	W503
54015428 hex	Master Coefficient Scaling Out of Range	Instructions	W503
54015429 hex	Slave Coefficient Scaling Out of Range	Instructions	W503
5401542A hex	Feeding Velocity Setting Out of Range	Instructions	W503
5401542B hex	Buffer Mode Selection Out of Range	Instructions and Robot Instruc- tions	W503 W539
5401542C hex	Coordinate System Selection Out of Range	Instructions and Robot Instruc- tions	W503 W539
5401542D hex	Circular Interpolation Mode Se- lection Out of Range	Instructions	W503
5401542E hex	Direction Selection Out of Range	Instructions and Robot Instruc- tions	W503 W539
5401542F hex	Path Selection Out of Range	Instructions	W503
54015430 hex	Position Type Selection Out of Range	Instructions	W503
54015431 hex	Travel Mode Selection Out of Range	Instructions	W503
54015432 hex	Transition Mode Selection Out of Range	Instructions and Robot Instruc- tions	W503 W539
54015433 hex	Continue Method Selection Out of Range	Instructions	W503
54015434 hex	Combine Mode Selection Out of Range	Instructions	W503
54015435 hex	Synchronization Start Condition Selection Out of Range	Instructions	W503
54015436 hex	Master and Slave Defined as Same Axis	Instructions	W503
54015437 hex	Master and Auxiliary Defined as Same Axis	Instructions	W503
54015438 hex	Master/Slave Axis Numbers Not in Ascending Order	Instructions	W503
54015439 hex	Incorrect Cam Table Specifica- tion	Instructions	W503
5401543A hex	Synchronization Stopped	Instructions	W503
5401543B hex	Motion Control Instruction Re- execution Disabled	Instructions and Robot Instruc- tions	W503 W539
5401543C hex	Motion Control Instruction Multi- execution Disabled	Instructions and Robot Instruc- tions	W503 W539
5401543D hex	Instruction Not Allowed for En- coder Axis Type	Instructions	W503
5401543E hex	Instruction Cannot Be Executed during Multi-axes Coordinated Control	Instructions and Robot Instruc- tions	W503 W539
5401543F hex	Multi-axes Coordinated Control Instruction Executed for Disa- bled Axes Group	Instructions and Robot Instruc- tions	W503 W539

Event code	Event name	Functional classification	Reference
54015440 hex	Axes Group Cannot Be Enabled	Instructions	W503
54015441 hex	Impossible Axis Operation Specified when the Servo is OFF	Instructions and Robot Instruc- tions	W503 W539
54015442 hex	Composition Axis Stopped Error	Instructions and Robot Instruc- tions	W503 W539
54015443 hex	Motion Control Instruction Multi- execution Buffer Limit Exceeded	Instructions and Robot Instruc- tions	W503 W539
54015444 hex	Insufficient Travel Distance	Instructions	W503
54015445 hex	Insufficient Travel Distance to Achieve Blending Transit Veloci- ty	Instructions	W503
54015446 hex	Move Link Constant Velocity In- sufficient Travel Distance	Instructions	W503
54015447 hex	Positioning Gear Operation In- sufficient Target Velocity	Instructions	W503
54015448 hex	Same Start Point and End Point for Circular Interpolation	Instructions	W503
54015449 hex	Circular Interpolation Center Specification Position Out of Range	Instructions	W503
5401544A hex	Instruction Execution Error Caused by Count Mode Setting	Instructions	W503
5401544C hex	Parameter Selection Out of Range	Instructions	W503
5401544D hex	Stop Method Selection Out of Range	Instructions	W503
5401544E hex	Latch ID Selection Out of Range for Trigger Input Condition	Instructions	W503
5401544F hex	Setting Out of Range for Writing MC Setting	Instructions	W503
54015450 hex	Trigger Input Condition Mode Selection Out of Range	Instructions	W503
54015451 hex	Drive Trigger Signal Selection Out of Range for Trigger Input Condition	Instructions	W503
54015453 hex	Motion Control Instruction Re- execution Disabled (Axis Speci- fication)	Instructions	W503
54015454 hex	Motion Control Instruction Re- execution Disabled (Buffer Mode Selection)	Instructions	W503
54015455 hex	Motion Control Instruction Re- execution Disabled (Direction Selection)	Instructions	W503
54015456 hex	Motion Control Instruction Re- execution Disabled (Execution Mode)	Instructions	W503
54015457 hex	Motion Control Instruction Re- execution Disabled (Axes Group Specification)	Instructions	W503

Event code	Event name	Functional classification	Reference
54015458 hex	Motion Control Instruction Re- execution Disabled (Jerk Set- ting)	Instructions	W503
54015459 hex	Motion Control Instruction Re- execution Disabled (Master Ax- is)	Instructions	W503
5401545A hex	Motion Control Instruction Re- execution Disabled (MasterOff- set)	Instructions	W503
5401545B hex	Motion Control Instruction Re- execution Disabled (MasterScal- ing)	Instructions	W503
5401545C hex	Motion Control Instruction Re- execution Disabled (Master- StartDistance)	Instructions	W503
5401545D hex	Motion Control Instruction Re- execution Disabled (Continuous)	Instructions	W503
5401545E hex	Motion Control Instruction Re- execution Disabled (MoveMode)	Instructions	W503
5401545F hex	Illegal Auxiliary Axis Specifica- tion	Instructions	W503
54015460 hex	Illegal Axis Specification	Instructions	W503
54015461 hex	Illegal Axes Group Specification	Instructions and Robot Instruc- tions	W503 W539
54015462 hex	Illegal Master Axis Specification	Instructions	W503
54015463 hex	Motion Control Instruction Re- execution Disabled (SlaveOffset)	Instructions	W503
54015464 hex	Motion Control Instruction Re- execution Disabled (SlaveScal- ing)	Instructions	W503
54015465 hex	Motion Control Instruction Re- execution Disabled (StartPosi- tion)	Instructions	W503
54015466 hex	Instruction Execution Error with Undefined Home	Instructions and Robot Instruc- tions	W503 W539
54015467 hex	Motion Control Instruction Re- execution Disabled (Position Type)	Instructions	W503
54015468 hex	Unused Axis Specification for Master Axis	Instructions	W503
54015469 hex	First Position Setting Out of Range	Instructions	W503
5401546A hex	Last Position Setting Out of Range	Instructions	W503
5401546B hex	Illegal First/Last Position Size Relationship (Linear Mode)	Instructions	W503
5401546C hex	Master Sync Start Position Set- ting Out of Range	Instructions	W503
5401546D hex	Slave Sync Start Position Set- ting Out of Range	Instructions	W503

Event code	Event name	Functional classification	Reference
5401546E hex	Duplicate Latch ID for Trigger In- put Condition	Instructions	W503
5401546F hex	Jerk Override Factor Out of Range	Instructions	W503
54015470 hex	Acceleration/Deceleration Over- ride Factor Out of Range	Instructions	W503
54015471 hex	First Position Method Specifica- tion Out of Range	Instructions	W503
54015472 hex	Motion Control Instruction Re- execution Disabled (First Posi- tion Method)	Instructions	W503
54015474 hex	Unused Axis Specification for Auxiliary Axis	Instructions	W503
54015475 hex	Position Gear Value Error	Instructions	W503
54015476 hex	Position Gear Master Axis Zero Velocity	Instructions	W503
54015478 hex	Target Position Setting Out of Range	Instructions and Robot Instruc- tions	W503 W539
54015479 hex	Travel Distance Out of Range	Instructions	W503
5401547A hex	Cam Table Start Point Setting Out of Range	Instructions	W503
5401547B hex	Cam Master Axis Following First Position Setting Out of Range	Instructions	W503
5401547C hex	Circular Interpolation Radius Setting Error	Instructions	W503
5401547D hex	Circular Interpolation Radius Overflow	Instructions	W503
5401547E hex	Circular Interpolation Setting Out of Range	Instructions	W503
5401547F hex	Auxiliary/Slave Axis Numbers Not in Ascending Order	Instructions	W503
54015480 hex	Cam Table Property Ascending Data Error at Update	Instructions	W503
54015481 hex	MC_Write Target Out of Range	Instructions	W503
54015482 hex	Master Travel Distance Specifi- cation Out of Range	Instructions	W503
54015483 hex	Master Distance in Acceleration Specification Out of Range	Instructions	W503
54015484 hex	Master Distance in Deceleration Specification Out of Range	Instructions	W503
54015487 hex	Execution Mode Selection Out of Range	Instructions	W503
54015488 hex	Permitted Following Error Out of Range	Instructions	W503
54015489 hex	Border Point/Center Position/ Radius Specification Out of Range	Instructions	W503
5401548A hex	End Point Specification Out of Range	Instructions	W503

Event code	Event name	Functional classification	Reference
5401548B hex	Slave Travel Distance Specifica- tion Out of Range	Instructions	W503
5401548C hex	Phase Shift Amount Out of Range	Instructions	W503
5401548D hex	Feeding Distance Out of Range	Instructions	W503
5401548E hex	Auxiliary and Slave Defined as Same Axis	Instructions	W503
5401548F hex	Relative Position Selection Out of Range	Instructions	W503
54015490 hex	Cam Transition Specification Out of Range	Instructions	W503
54015491 hex	Synchronized Control End Mode Selection Out of Range	Instructions	W503
54015492 hex	Enable External Latch Instruc- tion Execution Disabled	Instructions	W503
54015493 hex	Master Axis Offset Out of Range	Instructions	W503
54015494 hex	Slave Axis Offset Out of Range	Instructions	W503
54015495 hex	Command Current Position Count Selection Out of Range	Instructions	W503
54015496 hex	Master Axis Gear Ratio Numera- tor Out of Range	Instructions	W503
54015497 hex	Master Axis Gear Ratio Denomi- nator Out of Range	Instructions	W503
54015498 hex	Auxiliary Axis Gear Ratio Nu- merator Out of Range	Instructions	W503
54015499 hex	Auxiliary Axis Gear Ratio De- nominator Out of Range	Instructions	W503
5401549A hex	Master Axis Position Type Se- lection Out of Range	Instructions	W503
5401549B hex	Auxiliary Axis Position Type Se- lection Out of Range	Instructions	W503
5401549C hex	Target Position Ring CounterOut of Range	Instructions	W503
5401549D hex	Axes Group Composition Axis Setting Out of Range	Instructions	W503
5401549E hex	Axis Use Setting Out of Range	Instructions	W503
54015510 hex	Robot Control Instruction Re-ex- ecution Disabled	Robot Control Instructions	0037
54015511 hex	V+ Task Number Setting Out of Range	Robot Control Instructions	0037
54015512 hex	Illegal Robot Specification	Robot Control Instructions	O037
54015513 hex	Illegal Parameter List Specifica- tion	Robot Control Instructions	0037
54015514 hex	Starting Step Setting Out of Range	Robot Control Instructions	0037
54015515 hex	Target Position Setting Out of Range	Robot Control Instructions	0037
54015516 hex	Lefty and Righty Setting Out of Range	Robot Control Instructions	O037

Event code	Event name	Functional classification	Reference
54015517 hex	Above and Below Setting Out of Range	Robot Control Instructions	O037
54015518 hex	Flip Setting Out of Range	Robot Control Instructions	O037
54015519 hex	Velocity Profile Selection Out of Range	Robot Control Instructions	O037
5401551A hex	Velocity Mode Selection Out of Range	Robot Control Instructions	O037
5401551B hex	Velocity Ratio Setting Out of Range	Robot Control Instructions	O037
5401551C hex	Rotation Velocity Ratio Setting Out of Range	Robot Control Instructions	O037
5401551D hex	Velocity Setting Out of Range	Robot Control Instructions	O037
5401551E hex	Acceleration Ratio Setting Out of Range	Robot Control Instructions	O037
5401551F hex	Deceleration Ratio Setting Out of Range	Robot Control Instructions	O037
54015520 hex	Positioning Accuracy Selection Out of Range	Robot Control Instructions	O037
54015521 hex	Rotation Limit Selection Out of Range	Robot Control Instructions	O037
54015522 hex	Buffer Mode Selection Out of Range	Robot Control Instructions	O037
54015523 hex	Target Position Specification Method Setting Out of Range	Robot Control Instructions	O037
54015533 hex	Robot Control Instruction Exe- cuted while Robot is not Attach- ed	Robot Control Instructions	O037
54015535 hex	Tool Coordination Transform Setting Out of Range	Robot Control Instructions	O037
54015536 hex	Robot Control Instruction Multi- execution Disabled	Robot Control Instructions	O037
5401553C hex	Robot Control Instruction Multi- execution Buffer Limit Exceeded	Robot Control Instructions	O037
5401553D hex	Robot Control Instruction Exe- cuted with Calibration Not Com- pleted	Robot Control Instructions	O037
5401553E hex	Robot Control Instruction Exe- cuted while Robot High Power is OFF	Robot Control Instructions	O037
5401553F hex	Robot Already Attached	Robot Control Instructions	O037
54015540 hex	Robot Control Instruction Exe- cuted while Robot is MANUAL Mode or is not COMP Mode	Robot Control Instructions	0037
54015544 hex	Cannot Execute Robot Control Instruction	Robot Control Instructions	O037
54015548 hex	Illegal Program Name Specifica- tion	Robot Control Instructions	O037
54015600 hex	Illegal CNC Coordinate System Specification	CNC Instructions	O030
54015601 hex	Deceleration Setting Out of Range	CNC Instructions	O030

Event code	Event name	Functional classification	Reference
54015602 hex	Jerk Setting Out of Range	CNC Instructions	O030
54015603 hex	CNC Instruction Re-execution Disabled	CNC Instructions	O030
54015604 hex	CNC Multi-execution Disabled	CNC Instructions	O030
54015605 hex	Unassigned Logical CNC Motor Number Specified	CNC Instructions	O030
54015606 hex	Logical CNC Motor Number Out of Range	CNC Instructions	O030
54015607 hex	Target Position Setting Out of Range	CNC Instructions	O030
54015608 hex	Impossible CNC Motor Opera- tion Specified when the Servo is OFF	CNC Instructions	O030
54015609 hex	Target Velocity Setting Out of Range	CNC Instructions	O030
5401560A hex	Acceleration/Deceleration Set- ting Out of Range	CNC Instructions	O030
5401560B hex	Travel Mode Selection Out of Range	CNC Instructions	O030
5401560D hex	Parameter Selection Out of Range	CNC Instructions	O030
5401560E hex	CNC Parameter Setting Read/ Write Setting Value Out of Range	CNC Instructions	O030
5401560F hex	CNC Parameter Setting Read/ Write Target Out of Range	CNC Instructions	O030
54015611 hex	Homing Parameter Setting Out of Range	CNC Instructions	O030
54015612 hex	M Code Number Out of Range	CNC Instructions	O030
54015613 hex	CNC Instruction Re-execution Disabled (CNC Coordinate Sys- tem Specification)	CNC Instructions	O030
54015614 hex	CNC Instruction Re-execution Disabled (Logical CNC Motor Number)	CNC Instructions	O030
5401561D hex	SD Memory Card Access Fail- ure	CNC Instructions	O030
5401561E hex	File Does Not Exist	CNC Instructions	O030
5401561F hex	Illegal Load NC Program Num- ber Specification	CNC Instructions	O030
54015620 hex	Too Many Files Open	CNC Instructions	O030
54015621 hex	File or Directory Name Is Too Long	CNC Instructions	O030
54015622 hex	SD Memory Card Access Failed	CNC Instructions	O030
54015623 hex	Load NC Program Capacity Ex- ceeded	CNC Instructions	O030
54015624 hex	Number of NC Program Exceed- ed	CNC Instructions	O030
54015625 hex	Illegal CNC Motor Specification	CNC Instructions	O030

Event code	Event name	Functional classification	Reference
54015626 hex	Illegal CNC Motor Compensa- tion Table Specification	CNC Instructions	O030
54015628 hex	Illegal Load NC Program	CNC Instructions	O030
54015700 hex	Homing Parameter Setting Out of Range	Instructions	W503
54015702 hex	Axis Use Change Error	Instructions	W503
54015703 hex	Cannot Change Axis Use	Instructions	W503
54015706 hex	Axes Group Mismatch with Kine- matics	Robot Instructions	W539
54015707 hex	Kinematics Type Out of Range	Robot Instructions	W539
54015708 hex	Kinematics Parameter Out of Range	Robot Instructions	W539
54015709 hex	Workspace Type Out of Range	Robot Instructions	W539
5401570A hex	Workspace Parameter Out of Range	Robot Instructions	W539
5401570B hex	Invalid Coordinate System Num- ber	Robot Instructions	W539
5401570C hex	Coordinate Transformation Pa- rameter Out of Range	Robot Instructions	W539
5401570D hex	Transition parameters out of range	Robot Instructions	W539
54015710 hex	Kinematics Transform Not Set	Robot Instructions	W539
54015711 hex	Target Position Out of Range	Robot Instructions	W539
54015712 hex	Velocity Error Detection Value Out of Range	Robot Instructions	W539
54015713 hex	Acceleration Error Detection Val- ue Out of Range	Robot Instructions	W539
54015714 hex	Trajectory Target Time Out of Range	Robot Instructions	W539
54015715 hex	Trajectory Type Out of Range	Robot Instructions	W539
54015716 hex	Trajectory Transition Out of Range	Robot Instructions	W539
54015717 hex	Trajectory Travel Distance Out of Range	Robot Instructions	W539
54015719 hex	Initial Workpiece Position Out- side Workspace	Robot Instructions	W539
5401571A hex	Invalid Conveyor Axis Specified	Robot Instructions	W539
5401571B hex	Target Position Outside Work- space	Robot Instructions	W539
5401571C hex	Cannot Cancel Synchronization	Robot Instructions	W539
5401571E hex	Too Many Kinematics	Robot Instructions	W539
5401571F hex	Kinematics Initialization Error	Robot Instructions	W539
54015720 hex	Motion Control Parameter Set- ting Error When Changing Axis Use	Instructions	W503
54015721 hex	Required Process Data Object Not Set When Changing Axis Use	Instructions	W503
54015722 hex	Actual Position Overflow/Under- flow	Instructions	W503

Event code	Event name	Functional classification	Reference
54015723 hex	Switch Structure Track Number Setting Out of Range	Instructions	W503
54015724 hex	Switch Structure First ON Posi- tion Setting Out of Range	Instructions	W503
54015725 hex	Switch Structure Last ON Posi- tion Setting Out of Range	Instructions	W503
54015726 hex	Switch Structure Axis Direction Out of Range	Instructions	W503
54015727 hex	Switch Structure Cam Switch Mode Out of Range	Instructions	W503
54015728 hex	Switch Structure Duration Set- ting Out of Range	Instructions	W503
54015729 hex	Track Option Structure ON Com- pensation Setting Out of Range	Instructions	W503
5401572A hex	Track Option Structure OFF Compensation Setting Out of Range	Instructions	W503
5401572B hex	Number of Array Elements in Switch Structure Variable Out of Range	Instructions	W503
5401572C hex	Number of Array Elements in Output Signal Structure Variable Out of Range	Instructions	W503
5401572D hex	Number of Array Elements in Track Option Structure Variable Out of Range	Instructions	W503
5401572E hex	Numbers of Elements in Output Signals and Track Option Arrays Not Matched	Instructions	W503
5401572F hex	Motion Control Instruction Multi- execution Disabled (Master Ax- is)	Instructions	W503
54015730 hex	Motion Control Instruction Multi- execution Disabled (Position Type Selection)	Instructions	W503
54015731 hex	Same Track Number Setting in Switch Structure Out of Range	Instructions	W503
54015732 hex	Invalid Tool Number	Robot Instructions	W539
54015733 hex	Tool Parameter Out of Range	Robot Instructions	W539
54015736 hex	Offset Not Allowed	Robot Instructions	W539
5401573A hex	Cannot Write Axis Parameters	Instructions	W503
5401573B hex	Axis Parameter Setting Out of Range	Instructions	W503
5401573C hex	Cam Property Setting Out of Range	Instructions	W503
5401573D hex	Cam Node Setting Out of Range	Instructions	W503
5401573E hex	Incorrect Cam Node Type Speci- fication	Instructions	W503
5401573F hex	Insufficient Nodes in Cam Table	Instructions	W503
54015740 hex	Cam Node Master Axis Phase Not in Ascending Order	Instructions	W503

Event code	Event name	Functional classification	Reference
54015741 hex	Too Many Data Points in Cam Table	Instructions	W503
54015742 hex	Cam Table Displacement Over- flow	Instructions	W503
54015743 hex	Aborted Cam Table Used	Instructions	W503
54015744 hex	Jog Mode Out of Range	Robot Instructions	W539
54015745 hex	Initial Workpiece Position Out of Range	Robot Instructions	W539
54015746 hex	Maximum Interpolation Velocity Out of Range	Robot Instructions	W539
54015747 hex	Maximum Interpolation Acceler- ation Out of Range	Robot Instructions	W539
54015748 hex	Maximum Interpolation Deceler- ation Out of Range	Robot Instructions	W539
54015749 hex	Execution ID Setting Out of Range	Instructions	W503
5401574A hex	Position Offset Out of Range	Instructions	W503
5401574B hex	PDS State Transition Command Selection Out of Range	Instructions	W503
5401574C hex	Single-axis Position Control Axis Motion Control Instruction Exe- cution Disabled	Instructions	W503
54015751 hex	Cam Monitor Mode Selection Out of Range	Instructions	W503
54015752 hex	Data Type of Cam Monitor Val- ues Mismatch	Instructions	W503
54015800 hex	X Bus Unit Does Not Exist	Instructions	W503
54015801 hex	Response Timeout	Instructions	W503
54015C00 hex	Cannot Execute at Specified Unit/Port	Instructions	W503
54015C01 hex	Too Many Simultaneous Instruc- tion Executions	Instructions	W503
54015C03 hex	Target Node IP Address Does Not Exist	Instructions	W503
54015C04 hex	Connection Communications Er- ror	Instructions	W503
54015C05 hex	Connection Setting Error	Instructions	W503
54016440 hex	Target Position Positive Soft- ware Limit Exceeded	Instructions	W503
54016441 hex	Target Position Negative Soft- ware Limit Exceeded	Instructions	W503
54016442 hex	Command Position Overflow/ Underflow	Instructions	W503
54016443 hex	Positive Limit Input	Instructions and Robot Instruc- tions	W503 W539
54016444 hex	Negative Limit Input	Instructions and Robot Instruc- tions	W503 W539
54016701 hex	Current Position Outside Work- space	Robot Instructions	W539
Event code	Event name	Functional classification	Reference
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54016783 hex	Target Position Positive Soft- ware Limit Exceeded	CNC Instructions	O030
54016784 hex	Target Position Negative Soft- ware Limit Exceeded	CNC Instructions	O030
54016785 hex	Command Position Overflow/ Underflow	CNC Instructions	O030
54016786 hex	Positive Limit Input	CNC Instructions	O030
54016787 hex	Negative Limit Input	CNC Instructions	O030
54017422 hex	Servo Main Circuits OFF	Instructions	W503
54017784 hex	Servo Main Circuits OFF	CNC Instructions	O030
54200000 hex	Electronic Gear Ratio Numerator Setting Out of Range	Motion Control Instructions	W503
54210000 hex	Electronic Gear Ratio Denomi- nator Setting Out of Range	Motion Control Instructions	W503
54220000 hex	Target Velocity Setting Out of	Motion Control Instructions	W503
	Range	NJ Robotics Function	W539
54230000 hex	Acceleration Setting Out of	Motion Control Instructions	W503
	Range	NJ Robotics Function	W539
54240000 hex	Deceleration Setting Out of	Motion Control Instructions	W503
	Range	NJ Robotics Function	W539
54250000 hex	Jerk Setting Out of Range	Motion Control Instructions	W503
54270000 hex	Torque Ramp Setting Out of Range	Motion Control Instructions	W503
54280000 hex	Master Coefficient Scaling Out of Range	Motion Control Instructions	W503
54290000 hex	Slave Coefficient Scaling Out of Range	Motion Control Instructions	W503
542A0000 hex	Feeding Velocity Setting Out of Range	Motion Control Instructions	W503
542B0000 hex	Buffer Mode Selection Out of	Motion Control Instructions	W503
	Range	NJ Robotics Function	W539
542C0000 hex	Coordinate System Selection	Motion Control Instructions	W503
	Out of Range	NJ Robotics Function	W539
542D0000 hex	Circular Interpolation Mode Se- lection Out of Range	Motion Control Instructions	W503
542E0000 hex	Direction Selection Out of	Motion Control Instructions	W503
	Range	NJ Robotics Function	W539
542F0000 hex	Path Selection Out of Range	Motion Control Instructions	W503
54300000 hex	Position Type Selection Out of Range	Motion Control Instructions	W503
54310000 hex	Travel Mode Selection Out of Range	Motion Control Instructions	W503
54320000 hex	Transition Mode Selection Out of	Motion Control Instructions	W503
	Range	NJ Robotics Function	W539
54330000 hex	Continue Method Selection Out of Range	Motion Control Instructions	W503
54340000 hex	Combine Mode Selection Out of Range	Motion Control Instructions	W503
54350000 hex	Synchronization Start Condition Selection Out of Range	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
54360000 hex	Master and Slave Defined as Same Axis	Motion Control Instructions	W503
54370000 hex	Master and Auxiliary Defined as Same Axis	Motion Control Instructions	W503
54380000 hex	Master/Slave Axis Numbers Not in Ascending Order	Motion Control Instructions	W503
54390000 hex	Incorrect Cam Table Specifica- tion	Motion Control Instructions	W503
543A0000 hex	Synchronization Stopped	Motion Control Instructions	W503
543B0000 hex	Motion Control Instruction Re- execution Disabled	Motion Control Instructions NJ Robotics Function	W503 W539
543C0000 hex	Motion Control Instruction Multi- execution Disabled	Motion Control Instructions NJ Robotics Function	W503 W539
543D0000 hex	Instruction Not Allowed for En- coder Axis Type	Motion Control Instructions	W503
543E0000 hex	Instruction Cannot Be Executed during Multi-axes Coordinated Control	Motion Control Instructions NJ Robotics Function	W503 W539
543F0000 hex	Multi-axes Coordinated Control Instruction Executed for Disa- bled Axes Group	Motion Control Instructions NJ Robotics Function	W503 W539
54400000 hex	Axes Group Cannot Be Enabled	Motion Control Instructions	W503
54410000 hex	Impossible Axis Operation Specified when the Servo is OFF	Motion Control Instructions NJ Robotics Function	W503 W539
54420000 hex	Composition Axis Stopped Error	Motion Control Instructions NJ Robotics Function	W503 W539
54430000 hex	Motion Control Instruction Multi- execution Buffer Limit Exceeded	Motion Control Instructions NJ Robotics Function	W503 W539
54440000 hex	Insufficient Travel Distance	Motion Control Instructions	W503
54450000 hex	Insufficient Travel Distance to Achieve Blending Transit Veloci- ty	Motion Control Instructions	W503
54460000 hex	Move Link Constant Velocity In- sufficient Travel Distance	Motion Control Instructions	W503
54470000 hex	Positioning Gear Operation In- sufficient Target Velocity	Motion Control Instructions	W503
54480000 hex	Same Start Point and End Point for Circular Interpolation	Motion Control Instructions	W503
54490000 hex	Circular Interpolation Center Specification Position Out of Range	Motion Control Instructions	W503
544A0000 hex	Instruction Execution Error Caused by Count Mode Setting	Motion Control Instructions	W503
544C0000 hex	Parameter Selection Out of Range	Motion Control Instructions	W503
544D0000 hex	Stop Method Selection Out of Range	Motion Control Instructions	W503
544E0000 hex	Latch ID Selection Out of Range for Trigger Input Condition	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
544F0000 hex	Setting Out of Range for Writing MC Setting	Motion Control Instructions	W503
54500000 hex	Trigger Input Condition Mode Selection Out of Range	Motion Control Instructions	W503
54510000 hex	Drive Trigger Signal Selection Out of Range for Trigger Input Condition	Motion Control Instructions	W503
54530000 hex	Motion Control Instruction Re- execution Disabled (Axis Speci- fication)	Motion Control Instructions	W503
54540000 hex	Motion Control Instruction Re- execution Disabled (Buffer Mode Selection)	Motion Control Instructions	W503
54550000 hex	Motion Control Instruction Re- execution Disabled (Direction Selection)	Motion Control Instructions	W503
54560000 hex	Motion Control Instruction Re- execution Disabled (Execution Mode)	Motion Control Instructions	W503
54570000 hex	Motion Control Instruction Re-	Motion Control Instructions	W503
	execution Disabled (Axes Group Specification)	NJ Robotics Function	W539
54580000 hex	Motion Control Instruction Re- execution Disabled (Jerk Set- ting)	Motion Control Instructions	W503
54590000 hex	Motion Control Instruction Re- execution Disabled (Master Ax- is)	Motion Control Instructions	W503
545A0000 hex	Motion Control Instruction Re- execution Disabled (MasterOff- set)	Motion Control Instructions	W503
545B0000 hex	Motion Control Instruction Re- execution Disabled (MasterScal- ing)	Motion Control Instructions	W503
545C0000 hex	Motion Control Instruction Re- execution Disabled (Master- StartDistance)	Motion Control Instructions	W503
545D0000 hex	Motion Control Instruction Re- execution Disabled (Continuous)	Motion Control Instructions	W503
545E0000 hex	Motion Control Instruction Re- execution Disabled (MoveMode)	Motion Control Instructions	W503
545F0000 hex	Illegal Auxiliary Axis Specifica- tion	Motion Control Instructions	W503
54600000 hex	Illegal Axis Specification	Motion Control Instructions	W503
54610000 hex	Illegal Axes Group Specification	Motion Control Instructions NJ Robotics Function	W503 W539
54620000 hex	Illegal Master Axis Specification	Motion Control Instructions	W503
54630000 hex	Motion Control Instruction Re- execution Disabled (SlaveOffset)	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
54640000 hex	Motion Control Instruction Re- execution Disabled (SlaveScal- ing)	Motion Control Instructions	W503
54650000 hex	Motion Control Instruction Re- execution Disabled (StartPosi- tion)	Motion Control Instructions	W503
54660000 hex	Instruction Execution Error with Undefined Home	Motion Control Instructions NJ Robotics Function	W503 W539
54670000 hex	Motion Control Instruction Re- execution Disabled (Position Type)	Motion Control Instructions	W503
54680000 hex	Unused Axis Specification for Master Axis	Motion Control Instructions	W503
54690000 hex	First Position Setting Out of Range	Motion Control Instructions	W503
546A0000 hex	Last Position Setting Out of Range	Motion Control Instructions	W503
546B0000 hex	Illegal First/Last Position Size Relationship (Linear Mode)	Motion Control Instructions	W503
546C0000 hex	Master Sync Start Position Set- ting Out of Range	Motion Control Instructions	W503
546D0000 hex	Slave Sync Start Position Set- ting Out of Range	Motion Control Instructions	W503
546E0000 hex	Duplicate Latch ID for Trigger In- put Condition	Motion Control Instructions	W503
546F0000 hex	Jerk Override Factor Out of Range	Motion Control Instructions	W503
54700000 hex	Acceleration/Deceleration Over- ride Factor Out of Range	Motion Control Instructions	W503
54710000 hex	First Position Method Specifica- tion Out of Range	Motion Control Instructions	W503
54720000 hex	Motion Control Instruction Re- execution Disabled (First Posi- tion Method)	Motion Control Instructions	W503
54740000 hex	Unused Axis Specification for Auxiliary Axis	Motion Control Instructions	W503
54750000 hex	Position Gear Value Error	Motion Control Instructions	W503
54760000 hex	Position Gear Master Axis Zero Velocity	Motion Control Instructions	W503
54770000 hex	Cam Table Data Error during Cam Motion	General Motion Control	W503
54780000 hex	Target Position Setting Out of	Motion Control Instructions	W503
	Range	NJ Robotics Function	W539
54790000 hex	Travel Distance Out of Range	Motion Control Instructions	W503
547A0000 hex	Cam Table Start Point Setting Out of Range	Motion Control Instructions	W503
547B0000 hex	Cam Master Axis Following First Position Setting Out of Range	Motion Control Instructions	W503
547C0000 hex	Circular Interpolation Radius Setting Error	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
547D0000 hex	Circular Interpolation Radius Overflow	Motion Control Instructions	W503
547E0000 hex	Circular Interpolation Setting Out of Range	Motion Control Instructions	W503
547F0000 hex	Auxiliary/Slave Axis Numbers Not in Ascending Order	Motion Control Instructions	W503
54800000 hex	Cam Table Property Ascending Data Error at Update	Motion Control Instructions	W503
54810000 hex	MC_Write Target Out of Range	Motion Control Instructions	W503
54820000 hex	Master Travel Distance Specifi- cation Out of Range	Motion Control Instructions	W503
54830000 hex	Master Distance in Acceleration Specification Out of Range	Motion Control Instructions	W503
54840000 hex	Master Distance in Deceleration Specification Out of Range	Motion Control Instructions	W503
54850000 hex	Immediate Stop Instruction Exe- cuted	General Motion Control	W503
54860000 hex	Axes Group Immediate Stop In- struction Executed	General Motion Control	W503
54870000 hex	Execution Mode Selection Out of Range	Motion Control Instructions	W503
54880000 hex	Permitted Following Error Out of Range	Motion Control Instructions	W503
54890000 hex	Border Point/Center Position/ Radius Specification Out of Range	Motion Control Instructions	W503
548A0000 hex	End Point Specification Out of Range	Motion Control Instructions	W503
548B0000 hex	Slave Travel Distance Specifica- tion Out of Range	Motion Control Instructions	W503
548C0000 hex	Phase Shift Amount Out of Range	Motion Control Instructions	W503
548D0000 hex	Feeding Distance Out of Range	Motion Control Instructions	W503
548E0000 hex	Auxiliary and Slave Defined as Same Axis	Motion Control Instructions	W503
548F0000 hex	Relative Position Selection Out of Range	Motion Control Instructions	W503
54900000 hex	Cam Transition Specification Out of Range	Motion Control Instructions	W503
54910000 hex	Synchronized Control End Mode Selection Out of Range	Motion Control Instructions	W503
54920000 hex	Enable External Latch Instruc- tion Execution Disabled	Motion Control Instructions	W503
54930000 hex	Master Axis Offset Out of Range	Motion Control Instructions	W503
54940000 hex	Slave Axis Offset Out of Range	Motion Control Instructions	W503
54950000 hex	Command Current Position Count Selection Out of Range	Motion Control Instructions	W503
54960000 hex	Master Axis Gear Ratio Numera- tor Out of Range	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
54970000 hex	Master Axis Gear Ratio Denomi-	Motion Control Instructions	W503
54980000 hex	nator Out of Range Auxiliary Axis Gear Ratio Nu-	Motion Control Instructions	W503
	merator Out of Range		
54990000 hex	Auxiliary Axis Gear Ratio De- nominator Out of Range	Motion Control Instructions	W503
549A0000 hex	Master Axis Position Type Se-	Motion Control Instructions	W503
540B0000 box	lection Out of Range	Mation Control Instructions	WE02
549B0000 hex	Auxiliary Axis Position Type Se- lection Out of Range	Motion Control Instructions	W503
549C0000 hex	Target Position Ring Counter Out of Range	Motion Control Instructions	W503
549D0000 hex	Axes Group Composition Axis Setting Out of Range	Motion Control Instructions	W503
549E0000 hex	Axis Use Setting Out of Range	Motion Control Instructions	W503
54A00000 hex	Results Information, ID Tag Ad- dress Error	CJ-series ID Sensor Units	Z317
54A10000 hex	Results Information, Write Pro- tection Error	CJ-series ID Sensor Units	Z317
54A20000 hex	Results Information, Command Error	CJ-series ID Sensor Units	Z317
54A80000 hex	Command Error	CJ-series Serial Communica- tions Units	W494
54A90000 hex	Sequence Abort Completed	CJ-series Serial Communica- tions Units	W494
54AA0000 hex	Protocol Macro Error	CJ-series Serial Communica- tions Units	W494
54AE0000 hex	Multiple Switches ON Error	CJ-series EtherNet/IP Units	W495
54AF0000 hex	Access Detected Outside Range of Variable	CJ-series EtherNet/IP Units	W495
54E00000 hex	Access Detected Outside Range of Variable	EtherNet/IP	W503
55000000 hex	Division by Zero	NX-series Safety Control Unit	Z930
55010000 hex	Cast Error	NX-series Safety Control Unit	Z930
55020000 hex	MUX Error	NX-series Safety Control Unit	Z930
55100000 hex	Robot Control Instruction Re-ex- ecution Disabled	General Robot Control	O037
55110000 hex	V+ Task Number Setting Out of Range	General Robot Control	O037
55120000 hex	Illegal Robot Specification	General Robot Control	0037
55130000 hex	Illegal Parameter List Specifica-	General Robot Control	0037
55140000 hex	Starting Step Setting Out of Range	General Robot Control	O037
55150000 hex	Target Position Setting Out of Range	General Robot Control	O037
55160000 hex	Lefty and Righty Setting Out of Range	General Robot Control	O037
55170000 hex	Above and Below Setting Out of Range	General Robot Control	O037

Event code	Event name	Functional classification	Reference
55180000 hex	Flip Setting Out of Range	General Robot Control	O037
55190000 hex	Velocity Profile Selection Out of Range	General Robot Control	O037
551A0000 hex	Velocity Mode Selection Out of Range	General Robot Control	O037
551B0000 hex	Velocity Ratio Setting Out of Range	General Robot Control	O037
551C0000 hex	Rotation Velocity Ratio Setting Out of Range	General Robot Control	O037
551D0000 hex	Velocity Setting Out of Range	General Robot Control	O037
551E0000 hex	Acceleration Ratio Setting Out of Range	General Robot Control	O037
551F0000 hex	Deceleration Ratio Setting Out of Range	General Robot Control	O037
55200000 hex	Positioning Accuracy Selection Out of Range	General Robot Control	O037
55210000 hex	Rotation Limit Selection Out of Range	General Robot Control	O037
55220000 hex	Buffer Mode Selection Out of Range	General Robot Control	O037
55230000 hex	Target Position Specification Method Setting Out of Range	General Robot Control	O037
55330000 hex	Robot Control Instruction Exe- cuted while Robot is not Attach- ed	General Robot Control	O037
55350000 hex	Tool Coordination Transform Setting Out of Range	General Robot Control	O037
55360000 hex	Robot Control Instruction Multi- execution Disabled	General Robot Control	O037
553C0000 hex	Robot Control Instruction Multi- execution Buffer Limit Exceeded	General Robot Control	O037
553D0000 hex	Robot Control Instruction Exe- cuted with Calibration Not Com- pleted	General Robot Control	O037
553E0000 hex	Robot Control Instruction Exe- cuted while Robot High Power is OFF	General Robot Control	O037
553F0000 hex	Robot Already Attached	General Robot Control	O037
55400000 hex	Robot Control Instruction Exe- cuted while Robot is MANUAL Mode or is not COMP Mode	General Robot Control	O037
55440000 hex	Cannot Execute Robot Control Instruction	General Robot Control	O037
55480000 hex	Illegal Program Name Specifica- tion	General Robot Control	O037
56000000 hex	Illegal CNC Coordinate System Specification	CNC Function	O030
56010000 hex	Deceleration Setting Out of Range	CNC Function	O030
56020000 hex	Jerk Setting Out of Range	CNC Function	O030

Event code	Event name	Functional classification	Reference
56030000 hex	CNC Instruction Re-execution Disabled	CNC Function	O030
56040000 hex	CNC Multi-execution Disabled	CNC Function	O030
56050000 hex	Unassigned Logical CNC Motor Number Specified	CNC Function	O030
56060000 hex	Logical CNC Motor Number Out of Range	CNC Function	O030
56070000 hex	Target Position Setting Out of Range	CNC Function	O030
56080000 hex	Impossible CNC Motor Opera- tion Specified when the Servo is OFF	CNC Function	O030
56090000 hex	Target Velocity Setting Out of Range	CNC Function	O030
560A0000 hex	Acceleration/Deceleration Set- ting Out of Range	CNC Function	O030
560B0000 hex	Travel Mode Selection Out of Range	CNC Function	O030
560C0000 hex	Immediate Stop Instruction Exe- cuted	CNC Function	O030
560D0000 hex	Parameter Selection Out of Range	CNC Function	O030
560E0000 hex	CNC Parameter Setting Read/ Write Setting Value Out of Range	CNC Function	O030
560F0000 hex	CNC Parameter Setting Read/ Write Target Out of Range	CNC Function	O030
56100000 hex	Cycle Start Error with Undefined Home	CNC Function	O030
56110000 hex	Homing Parameter Setting Out of Range	CNC Function	O030
56120000 hex	M Code Number Out of Range	CNC Function	O030
56130000 hex	CNC Instruction Re-execution Disabled (CNC Coordinate Sys- tem Specification)	CNC Function	O030
56140000 hex	CNC Instruction Re-execution Disabled (Logical CNC Motor Number)	CNC Function	O030
56150000 hex	Illegal NC Program	CNC Function	O030
56160000 hex	Cycle Start Multi-execution Disa- bled	CNC Function	O030
56170000 hex	Impossible CNC Motor Cycle Start Specified when the Servo is OFF	CNC Function	O030
56180000 hex	Illegal NC Program Number Specification	CNC Function	O030
56190000 hex	Illegal Back Trace Specification	CNC Function	O030
561D0000 hex	SD Memory Card Access Fail- ure	CNC Function	O030
561E0000 hex	File Does Not Exist	CNC Function	O030

Event code	Event name	Functional classification	Reference
561F0000 hex	Illegal Load NC Program Num- ber Specification	CNC Function	O030
56200000 hex	Too Many Files Open	CNC Function	O030
56210000 hex	File or Directory Name Is Too Long	CNC Function	O030
56220000 hex	SD Memory Card Access Failed	CNC Function	O030
56230000 hex	Load NC Program Capacity Ex- ceeded	CNC Function	O030
56240000 hex	Number of NC Program Exceed- ed	CNC Function	O030
56250000 hex	Illegal CNC Motor Specification	CNC Function	O030
56260000 hex	Illegal CNC Motor Compensa- tion Table Specification	CNC Function	O030
56280000 hex	Illegal Load NC Program	CNC Function	O030
56290000 hex	NC Program Capacity Exceeded	CNC Function	O030
57000000 hex	Homing Parameter Setting Out of Range	Motion Control Instructions	W503
57020000 hex	Axis Use Change Error	Motion Control Instructions	W503
57030000 hex	Cannot Change Axis Use	Motion Control Instructions	W503
57050000 hex	Kinematics Unsupported Instruc- tion	NJ Robotics Function	W539
57060000 hex	Axes Group Mismatch with Kine- matics	NJ Robotics Function	W539
57070000 hex	Kinematics Type Out of Range	NJ Robotics Function	W539
57080000 hex	Kinematics Parameter Out of Range	NJ Robotics Function	W539
57090000 hex	Workspace Type Out of Range	NJ Robotics Function	W539
570A0000 hex	Workspace Parameter Out of Range	NJ Robotics Function	W539
570B0000 hex	Invalid Coordinate System Num- ber	NJ Robotics Function	W539
570C0000 hex	Coordinate Transformation Pa- rameter Out of Range	NJ Robotics Function	W539
570D0000 hex	Transition parameters out of range	NJ Robotics Function	W539
570F0000 hex	Cannot Calculate Kinematics	NJ Robotics Function	W539
57100000 hex	Kinematics Transform Not Set	NJ Robotics Function	W539
57110000 hex	Target Position Out of Range	NJ Robotics Function	W539
57120000 hex	Velocity Error Detection Value Out of Range	NJ Robotics Function	W539
57130000 hex	Acceleration Error Detection Val- ue Out of Range	NJ Robotics Function	W539
57140000 hex	Trajectory Target Time Out of Range	NJ Robotics Function	W539
57150000 hex	Trajectory Type Out of Range	NJ Robotics Function	W539
57160000 hex	Trajectory Transition Out of Range	NJ Robotics Function	W539
57170000 hex	Trajectory Travel Distance Out of Range	NJ Robotics Function	W539

Event code	Event name	Functional classification	Reference
57190000 hex	Initial Workpiece Position Out- side Workspace	NJ Robotics Function	W539
571A0000 hex	Invalid Conveyor Axis Specified	NJ Robotics Function	W539
571B0000 hex	Target Position Outside Work- space	NJ Robotics Function	W539
571C0000 hex	Cannot Cancel Synchronization	NJ Robotics Function	W539
571D0000 hex	Too Many Reset Motion Control Error Instructions	General Motion Control	W503
571E0000 hex	Too Many Kinematics	NJ Robotics Function	W539
571F0000 hex	Kinematics Initialization Error	NJ Robotics Function	W539
57200000 hex	Motion Control Parameter Set- ting Error When Changing Axis Use	Motion Control Instructions	W503
57210000 hex	Required Process Data Object Not Set When Changing Axis Use	Motion Control Instructions	W503
57220000 hex	Actual Position Overflow/Under- flow	Motion Control Instructions	W503
57230000 hex	Switch Structure Track Number Setting Out of Range	Motion Control Instructions	W503
57240000 hex	Switch Structure First ON Posi- tion Setting Out of Range	Motion Control Instructions	W503
57250000 hex	Switch Structure Last ON Posi- tion Setting Out of Range	Motion Control Instructions	W503
57260000 hex	Switch Structure Axis Direction Out of Range	Motion Control Instructions	W503
57270000 hex	Switch Structure Cam Switch Mode Out of Range	Motion Control Instructions	W503
57280000 hex	Switch Structure Duration Set- ting Out of Range	Motion Control Instructions	W503
57290000 hex	Track Option Structure ON Com- pensation Setting Out of Range	Motion Control Instructions	W503
572A0000 hex	Track Option Structure OFF Compensation Setting Out of Range	Motion Control Instructions	W503
572B0000 hex	Number of Array Elements in Switch Structure Variable Out of Range	Motion Control Instructions	W503
572C0000 hex	Number of Array Elements in Output Signal Structure Variable Out of Range	Motion Control Instructions	W503
572D0000 hex	Number of Array Elements in Track Option Structure Variable Out of Range	Motion Control Instructions	W503
572E0000 hex	Numbers of Elements in Output Signals and Track Option Arrays Not Matched	Motion Control Instructions	W503
572F0000 hex	Motion Control Instruction Multi- execution Disabled (Master Ax- is)	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
57300000 hex	Motion Control Instruction Multi-	Motion Control Instructions	W503
	execution Disabled (Position		
	Type Selection)		
57310000 hex	Same Track Number Setting in Switch Structure Out of Range	Motion Control Instructions	W503
57320000 hex	Invalid Tool Number	NJ Robotics Function	W539
57330000 hex	Tool Parameter Out of Range	NJ Robotics Function	W539
57340000 hex	Unsupported Transition Data	NJ Robotics Function	W539
57360000 hex	Offset Not Allowed	NJ Robotics Function	W539
57370000 hex	Motion Control Instruction Multi-	NJ Robotics Function	W539
	execution Disabled (Trajectory Type)		
57390000 hex	Unsupported Transition Mode	NJ Robotics Function	W539
573A0000 hex	Cannot Write Axis Parameters	Motion Control Instructions	W503
573B0000 hex	Axis Parameter Setting Out of Range	Motion Control Instructions	W503
573C0000 hex	Cam Property Setting Out of Range	Motion Control Instructions	W503
573D0000 hex	Cam Node Setting Out of Range	Motion Control Instructions	W503
573E0000 hex	Incorrect Cam Node Type Speci- fication	Motion Control Instructions	W503
573F0000 hex	Insufficient Nodes in Cam Table	Motion Control Instructions	W503
57400000 hex	Cam Node Master Axis Phase Not in Ascending Order	Motion Control Instructions	W503
57410000 hex	Too Many Data Points in Cam Table	Motion Control Instructions	W503
57420000 hex	Cam Table Displacement Over- flow	Motion Control Instructions	W503
57430000 hex	Aborted Cam Table Used	Motion Control Instructions	W503
57440000 hex	Jog Mode Out of Range	NJ Robotics Function	W539
57450000 hex	Initial Workpiece Position Out of Range	NJ Robotics Function	W539
57460000 hex	Maximum Interpolation Velocity Out of Range	NJ Robotics Function	W539
57470000 hex	Maximum Interpolation Acceler- ation Out of Range	NJ Robotics Function	W539
57480000 hex	Maximum Interpolation Deceler- ation Out of Range	NJ Robotics Function	W539
57490000 hex	Execution ID Setting Out of Range	Motion Control Instructions	W503
574A0000 hex	Position Offset Out of Range	Motion Control Instructions	W503
574B0000 hex	PDS State Transition Command Selection Out of Range	Motion Control Instructions	W503
574C0000 hex	Single-axis Position Control Axis Motion Control Instruction Exe- cution Disabled	Motion Control Instructions	W503
57510000 hex	Cam Monitor Mode Selection Out of Range	Motion Control Instructions	W503
57520000 hex	Data Type of Cam Monitor Val- ues Mismatch	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
58210000 hex	Output Control Timeout for Par- allel I/O, PLC Link, or EtherNet/ IP	FH/FZ5 Series Vision System	Z342
58220000 hex	Output Control Timeout for EtherCAT	FH/FZ5 Series Vision System	Z342
58230000 hex	Initial scene group error	FH/FZ5 Series Vision System	Z342
58240000 hex	Initial scene number error	FH/FZ5 Series Vision System	Z342
60010000 hex	Task Period Exceeded	Errors Related to Tasks	W503
60020000 hex	Task Execution Timeout	Errors Related to Tasks	W503
60030000 hex	I/O Refreshing Timeout Error	Errors Related to Tasks	W503
60040000 hex	Insufficient System Service Time Error	Errors Related to Tasks	W503
60050000 hex	Task Period Exceeded	Errors Related to Tasks	W503
64010000 hex	Impossible to Access Special Unit	Errors Related to CJ-series Unit Configuration	W503
64040000 hex	Upper Limit of Sampling Proc- essing Capacity	Errors Related to Controller Operation	W503
64050000 hex	Capacity Warning of Variable Log Save Destination	Errors Related to Controller Op- eration	W503
64060000 hex	No Variable Log Concurrency	Errors Related to Controller Op- eration	W503
64070000 hex	Cycle with No Variable Sampling	Errors Related to Controller Op- eration	W503
64080000 hex	Secure Communication Forced Start	Errors Related to Controller Op- eration	W503
64200000 hex	Emergency Message Detected	EtherCAT Master	W503
64400000 hex	Target Position Positive Soft- ware Limit Exceeded	Motion Control Instructions	W503
64410000 hex	Target Position Negative Soft- ware Limit Exceeded	Motion Control Instructions	W503
64420000 hex	Command Position Overflow/ Underflow	Motion Control Instructions	W503
64430000 hex	Positive Limit Input	Motion Control Instructions	W503
		NJ Robotics Function	W539
64440000 hex	Negative Limit Input	Motion Control Instructions	W503
		NJ Robotics Function	W539
64450000 hex	Positive Software Limit Exceed- ed	General Motion Control	W503
64460000 hex	Negative Software Limit Exceed- ed	General Motion Control	W503
64470000 hex	In-position Check Time Exceed- ed	General Motion Control	W503
64480000 hex	Following Error Limit Exceeded	General Motion Control	W503
64490000 hex	Immediate Stop Input	General Motion Control	W503
644A0000 hex	Positive Limit Input Detected	General Motion Control	W503
644B0000 hex	Negative Limit Input Detected	General Motion Control	W503
644C0000 hex	Following Error Warning	General Motion Control	W503
644D0000 hex	Velocity Warning	General Motion Control	W503
644E0000 hex	Acceleration Warning	General Motion Control	W503

Event code	Event name	Functional classification	Reference
644F0000 hex	Deceleration Warning	General Motion Control	W503
64500000 hex	Positive Torque Warning	General Motion Control	W503
64510000 hex	Negative Torque Warning	General Motion Control	W503
64520000 hex	Command Position Overflow	General Motion Control	W503
64530000 hex	Command Position Underflow	General Motion Control	W503
64540000 hex	Actual Position Overflow	General Motion Control	W503
64550000 hex	Actual Position Underflow	General Motion Control	W503
64560000 hex	Illegal Following Error	General Motion Control	W503
64570000 hex	Servo OFF Error	General Motion Control	W503
64580000 hex	Absolute Encoder Current Posi- tion Calculation Failed	General Motion Control	W503
64590000 hex	Home Undefined during Coordi-	General Motion Control	W503
	nated Motion	NJ Robotics Function	W539
645A0000 hex	Maximum Interpolation Velocity Error	NJ Robotics Function	W539
645B0000 hex	Maximum Interpolation Acceler- ation Error	NJ Robotics Function	W539
645C0000 hex	Maximum Interpolation Deceler- ation Error	NJ Robotics Function	W539
64780000 hex	Input Disconnection Detected	CJ-series Analog I/O Units	W490
64790000 hex	Output Set Value Error	CJ-series Analog I/O Units	W490
647A0000 hex	Input Error	CJ-series Process I/O Units	W498
647D0000 hex	Zero/Span Adjustment Period End	CJ-series Process I/O Units	W498
647E0000 hex	Zero/Span Adjustment Period Notice	CJ-series Process I/O Units	W498
64840000 hex	Sensor Error	CJ-series Temperature Control Units	W491
64850000 hex	CT Overflow	CJ-series Temperature Control Units	W491
64860000 hex	Heater Burnout Alarm	CJ-series Temperature Control Units	W491
648C0000 hex	Unit Status, Command Error End	CJ-series ID Sensor Units	Z317
648D0000 hex	Results Information, Verification Error	CJ-series ID Sensor Units	Z317
648E0000 hex	Results Information, ID Tag Communications Error	CJ-series ID Sensor Units	Z317
648F0000 hex	Results Information, ID Tag Missing Error	CJ-series ID Sensor Units	Z317
64900000 hex	Results Information, ID System Error 1	CJ-series ID Sensor Units	Z317
64910000 hex	Results Information, ID System Error 2	CJ-series ID Sensor Units	Z317
64920000 hex	Results Information, ID System Error 3	CJ-series ID Sensor Units	Z317
64930000 hex	Results Information, ID Tag Sta- tus	CJ-series ID Sensor Units	Z317
64940000 hex	Results Information, Error Cor- rection	CJ-series ID Sensor Units	Z317

Event code	Event name	Functional classification	Reference
64980000 hex	Representative Warning	CJ-series CompoNet Master Unit	W493
64990000 hex	Representative Alarm	CJ-series CompoNet Master Unit	W493
64A00000 hex	Tfs (Send Finished Monitoring Time) Exceeded	CJ-series Serial Communica- tions Units	W494
64A10000 hex	Tfr (Receive Finished Monitoring Time) Exceeded	CJ-series Serial Communica- tions Units	W494
64A20000 hex	Tr (Receive Wait Monitoring Time) Exceeded	CJ-series Serial Communica- tions Units	W494
64A30000 hex	FCS Check Error	CJ-series Serial Communica- tions Units	W494
64A40000 hex	Timeout Error	CJ-series Serial Communica- tions Units	W494
64A50000 hex	Comparison Error	CJ-series Serial Communica- tions Units	W494
64A60000 hex	Reception Overflow	CJ-series Serial Communica- tions Units	W494
64A70000 hex	Command Format Error	CJ-series Serial Communica- tions Units	W494
64AC0000 hex	Send Timeout Error	CJ-series DeviceNet Units	W497
64CC0000 hex	I/O Disconnection Detected	GX-series EtherCAT Slave Units	W488
64E00000 hex	Drive Prohibition Input Error 1	Servo G5 and G5 Linear	1576 1577
64E10000 hex	Drive Prohibition Input Error 2	Servo G5 and G5 Linear	1576 1577
64E20000 hex	Immediate Stop Input Error	Servo G5 and G5 Linear	1576 1577
64E30000 hex	Drive Prohibition Input Error	Servo 1S	I586 I621
64F00000 hex	Unit Over Range for Channel 1	NX-series Analog I/O Units	W522
64F10000 hex	Unit Over Range for Channel 2	NX-series Analog I/O Units	W522
64F20000 hex	Unit Over Range for Channel 3	NX-series Analog I/O Units	W522
64F30000 hex	Unit Over Range for Channel 4	NX-series Analog I/O Units	W522
64F40000 hex	Unit Over Range for Channel 5	NX-series Analog I/O Units	W522
64F50000 hex	Unit Over Range for Channel 6	NX-series Analog I/O Units	W522
64F60000 hex	Unit Over Range for Channel 7	NX-series Analog I/O Units	W522
64F70000 hex	Unit Over Range for Channel 8	NX-series Analog I/O Units	W522
64F80000 hex	Unit Under Range for Channel 1	NX-series Analog I/O Units	W522
64F90000 hex	Unit Under Range for Channel 2	NX-series Analog I/O Units	W522
64FA0000 hex	Unit Under Range for Channel 3	NX-series Analog I/O Units	W522
64FB0000 hex	Unit Under Range for Channel 4	NX-series Analog I/O Units	W522
64FC0000 hex	Unit Under Range for Channel 5	NX-series Analog I/O Units	W522
64FD0000 hex	Unit Under Range for Channel 6	NX-series Analog I/O Units	W522
64FE0000 hex	Unit Under Range for Channel 7	NX-series Analog I/O Units	W522
64FF0000 hex	Unit Under Range for Channel 8	NX-series Analog I/O Units	W522
65030000 hex	Unit I/O Disconnection Detected for Channel 1	NX-series Analog I/O Units	W522

Event code	Event name	Functional classification	Reference
65040000 hex	Unit I/O Disconnection Detected for Channel 2	NX-series Analog I/O Units	W522
65050000 hex	Unit I/O Disconnection Detected for Channel 3	NX-series Analog I/O Units	W522
65060000 hex	Unit I/O Disconnection Detected for Channel 4	NX-series Analog I/O Units	W522
65070000 hex	Unit I/O Disconnection Detected for Channel 5	NX-series Analog I/O Units	W522
65080000 hex	Unit I/O Disconnection Detected for Channel 6	NX-series Analog I/O Units	W522
65090000 hex	Unit I/O Disconnection Detected for Channel 7	NX-series Analog I/O Units	W522
650A0000 hex	Unit I/O Disconnection Detected for Channel 8	NX-series Analog I/O Units	W522
65100000 hex	Sensor Disconnected Error	NX-series Analog I/O Units and NX-series Temperature Control Units	W566 H228
65110000 hex	Process Value Over Range	NX-series Analog I/O Units	W566
65120000 hex	Process Value Under Range	NX-series Analog I/O Units	W566
65130000 hex	Sensor Disconnected Error	NX-series Load Cell Input Units	W565
65140000 hex	Over Range	NX-series Load Cell Input Units	W565
65150000 hex	Under Range	NX-series Load Cell Input Units	W565
65200000 hex	I/O Power Supply Voltage Error	NX-series Safety Control Unit	Z930
65210000 hex	Output Power Interrupt Circuit Error	NX-series Safety Control Unit	Z930
65220000 hex	External Test Signal Failure at Safety Input	NX-series Safety Control Unit	Z930
65230000 hex	Discrepancy Error at Safety In- put	NX-series Safety Control Unit	Z930
65240000 hex	Overload Detected at Test Out- put	NX-series Safety Control Unit	Z930
65250000 hex	Stuck-at-high Detected at Test Output	NX-series Safety Control Unit	Z930
65270000 hex	Short Circuit Detected at Safety Output	NX-series Safety Control Unit	Z930
65280000 hex	Stuck-at-high Detected at Safety Output	NX-series Safety Control Unit	Z930
652C0000 hex	Heater Burnout Detected	NX-series Analog I/O Units and NX-series Temperature Control Units	W566 H228
652D0000 hex	SSR Failure Detected	NX-series Analog I/O Units and NX-series Temperature Control Units	W566 H228
652E0000 hex	Alarm Detected	NX-series Temperature Control Units	H228
65900000 hex	I/O Refreshing Timeout Error	X Bus Unit	W503
66000000 hex	Send Transaction Queue Over- run	GEM Services	W528
66010000 hex	Reception Transaction Queue Overrun	GEM Services	W528

Event code	Event name	Functional classification	Reference
66020000 hex	Too Long SECS Message	GEM Services	W528
67000000 hex	Command Position Outside Workspace	NJ Robotics Function	W539
67010000 hex	Current Position Outside Work- space	NJ Robotics Function	W539
67020000 hex	Workpiece Synchronization Ex- cessive Following Error	NJ Robotics Function	W539
67030000 hex	Velocity Error Detection	NJ Robotics Function	W539
67040000 hex	Acceleration Error Detection	NJ Robotics Function	W539
67050000 hex	Command Current Velocity Limit Exceeded	NJ Robotics Function	W539
67800000 hex	Immediate Stop Input	CNC Function	O030
67810000 hex	Positive Limit Input Detected	CNC Function	O030
67820000 hex	Negative Limit Input Detected	CNC Function	O030
67830000 hex	Target Position Positive Soft- ware Limit Exceeded	CNC Function	O030
67840000 hex	Target Position Negative Soft- ware Limit Exceeded	CNC Function	O030
67850000 hex	Command Position Overflow/ Underflow	CNC Function	O030
67860000 hex	Positive Limit Input	CNC Function	O030
67870000 hex	Negative Limit Input	CNC Function	O030
67880000 hex	Positive Software Limit Exceed- ed	CNC Function	O030
67890000 hex	Negative Software Limit Exceed- ed	CNC Function	O030
678A0000 hex	In-position Check Time Exceed- ed	CNC Function	O030
678B0000 hex	Following Error Limit Exceeded	CNC Function	O030
678C0000 hex	Following Error Warning	CNC Function	O030
678D0000 hex	Command Position Overflow	CNC Function	O030
678E0000 hex	Command Position Underflow	CNC Function	O030
678F0000 hex	Actual Position Overflow	CNC Function	O030
67900000 hex	Actual Position Underflow	CNC Function	O030
67910000 hex	Illegal Following Error	CNC Function	O030
67920000 hex	Absolute Encoder Current Posi- tion Calculation Failed	CNC Function	O030
67930000 hex	Home Undefined during Coordi- nated Motion	CNC Function	O030
67940000 hex	Cycle Start Specified during Positive Software Limit Exceed- ed	CNC Function	O030
67950000 hex	Cycle Start Specified during Negative Software Limit Exceed- ed	CNC Function	O030
67960000 hex	Cycle Start Specified during Command Position Overflow (Underflow)	CNC Function	O030
67970000 hex	Cycle Start Specified during Positive Limit Input	CNC Function	O030

Event code	Event name	Functional classification	Reference
67980000 hex	Cycle Start Specified during Negative Limit Input	CNC Function	O030
67990000 hex	NC Program Execution Error	CNC Function	O030
68010000 hex	Unit Error	CJ-series High-speed Counter Units	W492
68200000 hex	Drive Prohibition Detected	Servo 1S	1586
			1621
68210000 hex	Control Right Release Error	Servo 1S	1586 1621
68220000 hex	Error stop input	Servo 1S	1586 1621
68230000 hex	Software Limit Exceeded	Servo 1S	I586 I621
68370000 hex	SOPT Input Monitoring Error	Servo 1S	1621
68380000 hex	Safety Function Error	Servo 1S	1621
68390000 hex	Discrepancy Error at SF Input	Servo 1S	1621
683A0000 hex	SBC Relay Diagnosis Error	Servo 1S	1621
683B0000 hex	External Test Signal Failure at SOPT Input	Servo 1S	1621
683C0000 hex	Overload Detected at Test Out- put	Servo 1S	1621
683D0000 hex	Stuck-at-high Detected at Test Output	Servo 1S	1621
683E0000 hex	Overload Detected at SBC Out- put	Servo 1S	1621
683F0000 hex	Stuck-at-high Detected at SBC Output	Servo 1S	1621
68400000 hex	IOV Power Supply Voltage Error	Servo 1S	1621
68410000 hex	SBC Power Supply Voltage Er-	Servo 1S	1621
68420000 hex	Monitoring Limit Exceedance Er-	Servo 1S	1621
70010000 hex	Previous Time Specified	NX-series Digital I/O Units	W521
74200000 hex	Motion Control Period Exceeded	General Motion Control	W503
74210000 hex	Servo Main Circuit Power OFF	General Motion Control	W503
74220000 hex	Servo Main Circuits OFF	Motion Control Instructions	W503
74230000 hex	Interrupt Feeding Interrupt Sig- nal Missing	General Motion Control	W503
74240000 hex	Homing Opposite Direction Limit Input Detected	General Motion Control	W503
74250000 hex	Homing Direction Limit Input De- tected	General Motion Control	W503
74260000 hex	Homing Limit Inputs Detected in Both Directions	General Motion Control	W503
74270000 hex	Home Proximity/Homing Oppo- site Direction Limit Input Detect- ed	General Motion Control	W503
74280000 hex	Home Proximity/Homing Direc- tion Limit Input Detected	General Motion Control	W503

Event code	Event name	Functional classification	Reference
74290000 hex	Home Input/Homing Opposite Direction Limit Input Detected	General Motion Control	W503
742A0000 hex	Home Input/Homing Direction Limit Input Detected	General Motion Control	W503
742B0000 hex	Invalid Home Input Mask Dis- tance	General Motion Control	W503
742C0000 hex	No Home Input	General Motion Control	W503
742D0000 hex	No Home Proximity Input	General Motion Control	W503
742F0000 hex	Slave Error Detected	General Motion Control	W503
74300000 hex	Axes Group Composition Axis Error	General Motion Control NJ Robotics Function	W503 W539
74320000 hex	Slave Observation Detected	General Motion Control	W503
74330000 hex	MC Common Error Occurrence	General Motion Control	W503
74340000 hex	Latch Position Overflow	General Motion Control	W503
74350000 hex	Latch Position Underflow	General Motion Control	W503
74360000 hex	Master Sync Direction Error	General Motion Control	W503
74370000 hex	Slave Disconnection during Ser- vo ON	General Motion Control	W503
74380000 hex	Feed Distance Overflow	General Motion Control	W503
74390000 hex	Error in Changing Servo Drive Control Mode	General Motion Control	W503
743A0000 hex	Master Axis Position Read Error	General Motion Control	W503
743B0000 hex	Auxiliary Axis Position Read Er- ror	General Motion Control	W503
743C0000 hex	Cannot Execute Save Cam Ta- ble Instruction	General Motion Control	W503
743D0000 hex	Incorrect Synchronization Com- mand	NX-series Position Interface Units	W524
743E0000 hex	Illegal Following Error	NX-series Position Interface Units	W524
743F0000 hex	Illegal State Transition	NX-series Position Interface Units	W524
74600000 hex	Master Function Enable/Disable Failed	CJ-series DeviceNet Units	W497
74610000 hex	Master Fixed Allocation Area Setting Failed	CJ-series DeviceNet Units	W497
74620000 hex	Scan List Register/Clear Failed	CJ-series DeviceNet Units	W497
74630000 hex	Slave Function Enable/Disable Failed	CJ-series DeviceNet Units	W497
74640000 hex	Slave Fixed Allocation Area Set- ting Failed	CJ-series DeviceNet Units	W497
74800000 hex	Command Warning	Servo G5 and G5 Linear	1576 1577
74810000 hex	Command Error	Servo G5 and G5 Linear	1576 1577
74900000 hex	Multiple control signal input error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
74910000 hex	EXE input error	ZW-CE1⊡T Confocal Fiber Type Displacement Sensor	Z332

Event code	Event name	Functional classification	Reference
74920000 hex	SYNC input error	ZW-CE1□T Confocal Fiber Type	Z332
		Displacement Sensor	
74930000 hex	TIMING input error	ZW-CE1□T Confocal Fiber Type	Z332
		Displacement Sensor	
74940000 hex	RESET input error	ZW-CE1□T Confocal Fiber Type	Z332
		Displacement Sensor	
74950000 hex	ZERO input error	ZW-CE1 T Confocal Fiber Type	Z332
7400000 hav			7000
74960000 hex	ZEROCLR input error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
74A00000 hex	SF_Antivalent Error	NX-series Safety Control Unit	Z930
74A10000 hex	SF_EDM Error	NX-series Safety Control Unit	Z930
74A20000 hex	SF_EmergencyStop Error	NX-series Safety Control Unit	Z930
74A30000 hex	SF EnableSwitch Error	NX-series Safety Control Unit	Z930
74A40000 hex	SF_Equivalent Error	NX-series Safety Control Unit	Z930
74A50000 hex	SF ESPE Error	NX-series Safety Control Unit	Z930
74A60000 hex	SF_GuardLocking Error	NX-series Safety Control Unit	Z930
74A70000 hex	SF_GuardMonitoring Error	NX-series Safety Control Unit	Z930
74A80000 hex	SF_ModeSelector Error	NX-series Safety Control Unit	Z930
		-	
74A90000 hex	SF_MutingPar Error	NX-series Safety Control Unit	Z930
74AA0000 hex	SF_MutingPar_2Sensor Error	NX-series Safety Control Unit	Z930
74AB0000 hex	SF_MutingSeq Error	NX-series Safety Control Unit	Z930
74AC0000 hex	SF_OutControl Error	NX-series Safety Control Unit	Z930
74AD0000 hex	SF_SafetyRequest Error	NX-series Safety Control Unit	Z930
74AE0000 hex	SF_TestableSafetySensor Error	NX-series Safety Control Unit	Z930
74AF0000 hex	SF_TwoHandControlTypeII Error	NX-series Safety Control Unit	Z930
74B00000 hex	SF_TwoHandControlTypeIII Er- ror	NX-series Safety Control Unit	Z930
75000000 hex	Robot Control Period Exceeded	General Robot Control	O037
75010000 hex	Robot Control Common Error Occurred	General Robot Control	O037
75020000 hex	EtherCAT Slave Disconnection Error	General Robot Control	O037
75030000 hex	Robot Error Occurred	General Robot Control	O037
77000000 hex	Conveyor Axis Position Read	NJ Robotics Function	W539
77000000 Hex	Error		1000
77800000 hex	CNC Control Period Exceeded	CNC Function	O030
77810000 hex	CNC Planner Service Period Ex- ceeded	CNC Function	O030
77820000 hex	CNC Coordinate System Com- position CNC Motor Error	CNC Function	O030
77830000 hex	CNC Common Error Occurrence	CNC Function	O030
77840000 hex	Servo Main Circuits OFF	CNC Function	O030
77850000 hex	Servo Main Circuit Power OFF	CNC Function	O030
77860000 hex	Slave Error Detected	CNC Function	O030
77870000 hex	Slave Observation Detected	CNC Function	O030
		CNC Function	O030 O030
77880000 hex	Slave Disconnection during Ser- vo ON		0030

Event code	Event name	Functional classification	Reference
77890000 hex	Homing Opposite Direction Limit Input Detected	CNC Function	O030
778A0000 hex	Homing Direction Limit Input De- tected	CNC Function	O030
778B0000 hex	Homing Limit Inputs Detected in Both Directions	CNC Function	O030
778C0000 hex	Home Proximity/Homing Oppo- site Direction Limit Input Detect- ed	CNC Function	O030
778D0000 hex	Home Proximity/Homing Direc- tion Limit Input Detected	CNC Function	O030
778E0000 hex	Home Input/Homing Opposite Direction Limit Input Detected	CNC Function	O030
778F0000 hex	Home Input/Homing Direction Limit Input Detected	CNC Function	O030
77900000 hex	Invalid Home Input Mask Dis- tance	CNC Function	O030
77910000 hex	No Home Input	CNC Function	O030
77920000 hex	No Home Proximity Input	CNC Function	O030
78010000 hex	Operation Command Competi- tion	Servo G5 and G5 Linear	1576 1577
78020000 hex	Absolute Encoder Status Error	Servo G5	1576
78080000 hex	TRIG Input Error	EtherCAT FQ-M-series Special- ized Vision Sensors for Position- ing	Z314
780A0000 hex	Scene Data Error	EtherCAT FQ-M-series Special- ized Vision Sensors for Position- ing	Z314
780B0000 hex	Model Error	EtherCAT FQ-M-series Special- ized Vision Sensors for Position- ing	Z314
780C0000 hex	Logging Error	EtherCAT FQ-M-series Special- ized Vision Sensors for Position- ing	Z314
780D0000 hex	Output Timeout	EtherCAT FQ-M-series Special- ized Vision Sensors for Position- ing	Z314
780E0000 hex	Output Size Error	EtherCAT FQ-M-series Special- ized Vision Sensors for Position- ing	Z314
78190000 hex	Image Logging Disk Write Error	FH/FZ5 Series Vision System	Z342
781A0000 hex	Setting Data Transfer Error	FH/FZ5 Series Vision System	Z342
781B0000 hex	Output Buffer Error (EtherCAT)	FH/FZ5 Series Vision System	Z342
78200000 hex	Pulse Output Overspeed Error	Servo 1S	I586 I621
78210000 hex	Brake Interlock Error	Servo 1S	I586 I621
78220000 hex	Command Warning	Servo 1S	1586
78230000 hex	Command Error	Servo 1S	I586 I621

Event code	Event name	Functional classification	Reference
80010000 hex	Illegal Packet Discarded	Errors Related to CJ-series Unit Configuration	W503
80100000 hex	Packet Discarded	Errors Related to FINS Commu-	W503
00100000 Hex		nications	10000
80110000 hex	Packet Discarded	Errors Related to FINS Commu-	W503
		nications	
80120000 hex	Packet Discarded	Errors Related to FINS Commu-	W503
		nications	
80200000 hex	NX Unit I/O Communications Er-	NX-series Digital I/O Units, NX-	W521
	ror	series Analog I/O Units, NX-ser-	W522
		ies Position Interface Units, NX-	W566
		series Communications Inter-	W524
		face Units, NX-series Safety	W540
		Control Units, NX-series Load	Z930
		Cell Input Units, NX-series IO-	W565
		Link Master Units, and NX-ser-	W570
		ies Temperature Control Units	H228
80210000 hex	NX Unit Output Synchronization	NX-series Digital I/O Units, NX-	W521
	Error	series Analog I/O Units, NX-ser-	W522
		ies Position Interface Units, and	W524
		NX-series Load Cell Input Units	W565
80220000 hex	NX Message Communications	NX-series EtherCAT Coupler	W522
	Error	Units, NX-series Analog I/O	W566
		Units, NX-series Position Inter-	W524
		face Units, NX-series Communi-	W540
		cations Interface Units, NX-ser-	Z930
		ies Safety Control Unit, NX-ser-	W565
		ies Load Cell Input Units, NX-	W570
		series IO-Link Master Units, and	H228
		NX-series Temperature Control Units	
80230000 hex	NX Message Communications	Errors Related to Controller Op-	W503
00200000 1102	Error	eration	10000
80240000 hex	NX Unit Clock Not Synchronized	NX-series Digital I/O Units, NX-	W521
	Error	series Analog I/O Units, NX-ser-	W522
		ies Position Interface Units, NX-	W566
		series Communications Inter-	W524
		face Units, NX-series Load Cell	W540
		Input Units, NX-series IO-Link	W565
		Master Units, and NX-series	W570
		Temperature Control Units	H228
80300000 hex	Safety Process Data Communi- cations Timeout	NX-series Safety Control Unit	Z930
80310000 hex	CIP Safety Originator Connec- tion Not Established Error	NX-series Safety Control Unit	Z930
80320000 hex	CIP Safety Originator Connec- tion Timeout	NX-series Safety Control Unit	Z930
80330000 hex	CIP Safety Target Does Not Ex- ist	NX-series Safety Control Unit	Z930
80340000 hex	CIP Safety Target Connection	NX-series Safety Control Unit	Z930
	Timeout		

Event code	Event name	Functional classification	Reference
84020000 hex	BOOTP Server Connection Er- ror	EtherNet/IP	W503
84030000 hex	DNS Server Connection Error	EtherNet/IP	W503
84040000 hex	NTP Server Connection Error	EtherNet/IP	W503
84050000 hex	Packet Discarded Due to Full Reception Buffer	EtherNet/IP	W503
84060000 hex	Link OFF Detected	EtherNet/IP	W503
84070000 hex	Tag Data Link Connection Failed	EtherNet/IP	W503
84080000 hex	Tag Data Link Timeout	EtherNet/IP	W503
84090000 hex	Tag Data Link Connection Time- out	EtherNet/IP	W503
840A0000 hex	IP Address Duplication Error	EtherNet/IP	W503
840B0000 hex	BOOTP Server Connection Er- ror	EtherNet/IP	W503
840C0000 hex	Allowed Communications Band- width per Unit Exceeded	EtherNet/IP	W503
840E0000 hex	Number of Tag Sets for Tag Da- ta Links Exceeded	EtherNet/IP	W503
840F0000 hex	DHCP Server Connection Error	EtherNet/IP	W503
84200000 hex	Link OFF Error	EtherCAT Master	W503
84210000 hex	Network Configuration Error	EtherCAT Master	W503
84220000 hex	Network Configuration Verifica- tion Error	EtherCAT Master	W503
84230000 hex	Slave Initialization Error	EtherCAT Master	W503
84280000 hex	Slave Application Error	EtherCAT Master	W503
84290000 hex	Process Data Transmission Er- ror	EtherCAT Master	W503
842B0000 hex	Process Data Reception Time- out	EtherCAT Master	W503
842C0000 hex	Process Data Communications Error	EtherCAT Master	W503
842D0000 hex	EtherCAT Message Error	EtherCAT Master	W503
842E0000 hex	EtherCAT Frame Not Received	EtherCAT Master	W503
842F0000 hex	Input Process Data Invalid Error	EtherCAT Master	W503
84300001 hex	Slave State Transition Failed	EtherCAT Master	W503
84310002 hex	Illegal Slave Disconnection De- tected	EtherCAT Master	W503
84320003 hex	Network Configuration Verifica- tion Error (Incorrect Wiring)	EtherCAT Master	W503
84330004 hex	Network Configuration Verifica- tion Error (Mismatched Slave)	EtherCAT Master	W503
84340000 hex	Slave PDI WDT Error Detected	EtherCAT Master	W503
84350000 hex	Illegal Mailbox Received	EtherCAT Master	W503
84360000 hex	Slave AL Status Error Detected	EtherCAT Master	W503
84370000 hex	Clock Synchronization Compen- sation Failed	EtherCAT Master	W503
84380000 hex	Network Configuration Verifica- tion Error (Slave Unconnected)	EtherCAT Master	W503
84390000 hex	Ring Disconnection Detected	EtherCAT Master	W503

Event code	Event name	Functional classification	Reference
843A0000 hex	Network Configuration Verifica- tion Error (Incorrect Ring Wiring)	EtherCAT Master	W503
843C0000 hex	Incorrect Wiring Detected	EtherCAT Master	W503
84400000 hex	EtherCAT Slave Communica- tions Error	General Motion Control	W503
84600000 hex	Communications Error	CJ-series CompoNet Master Unit	W493
84610000 hex	Repeater Unit Communications Error	CJ-series CompoNet Master Unit	W493
84680000 hex	Transmission Error	CJ-series Serial Communica- tions Units	W494
84690000 hex	Overrun Error	CJ-series Serial Communica- tions Units	W494
846A0000 hex	Framing Error	CJ-series Serial Communica- tions Units	W494
846B0000 hex	Parity Error	CJ-series Serial Communica- tions Units	W494
846C0000 hex	Overrun Error, Framing Error, or Parity Error (Transmission Error)	CJ-series Serial Communica- tions Units	W494
846D0000 hex	Transmission Error (CRC Error)	CJ-series Serial Communica- tions Units	W494
84740000 hex	Bus Off Detected	CJ-series DeviceNet Units	W497
84750000 hex	Remote I/O Communications Er- ror	CJ-series DeviceNet Units	W497
84760000 hex	Remote I/O Communications Er- ror (during Slave Operation)	CJ-series DeviceNet Units	W497
84770000 hex	Slave COS Send Failed	CJ-series DeviceNet Units	W497
84790000 hex	Error-level Device Event	GX-series EtherCAT Slave Units	W570 W640
847A0000 hex	IO-Link Communications Error	GX-series EtherCAT Slave Units	W570 W640
847C0000 hex	Device Configuration Verification Error	GX-series EtherCAT Slave Units	W570 W640
84820000 hex	IO-Link Device Configuration In- formation Created	GX-series EtherCAT Slave Units	W570 W640
84840000 hex	I/O Cable Short-circuit	GX-series EtherCAT Slave Units	W570 W640
84850000 hex	I/O Power Supply ON Detected	GX-series EtherCAT Slave Units	W570
84860000 hex	Warning-level Device Event Flag	GX-series EtherCAT Slave Units	W570 W640
84870000 hex	IO-Link Communications Module Processing Error	GX-series EtherCAT Slave Units	W570
848C0000 hex	Error-level Device Event	NX-series IO-Link Master Units	W570
848D0000 hex	IO-Link Communications Error	NX-series IO-Link Master Units	W570
848F0000 hex	Device Configuration Verification Error	NX-series IO-Link Master Units	W570
84950000 hex	IO-Link Device Configuration In- formation Created	NX-series IO-Link Master Units	W570
84970000 hex	I/O Cable Short-circuit	NX-series IO-Link Master Units	W570
84980000 hex	I/O Power Supply ON Detected	NX-series IO-Link Master Units	W570

Event code	Event name	Functional classification	Reference
84990000 hex	Warning-level Device Event Flag	NX-series IO-Link Master Units	W570
849A0000 hex	IO-Link Communications Module Processing Error	NX-series IO-Link Master Units	W570
84A00000 hex	Slave Unit Verification Error	GX-series EtherCAT Slave Units	W488 W570 W640
84B00000 hex	EtherCAT Communications Warning	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586
84B10000 hex	EtherCAT State Change Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84B20000 hex	EtherCAT Illegal State Change Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84B30000 hex	Communications Synchroniza- tion Error	Servo G5 and G5 Linear	1576 1577
84B40000 hex	Synchronization Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84B50000 hex	Sync Manager WDT Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84B60000 hex	ESC Initialization Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84B70000 hex	Slave Unit Verification Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84B80000 hex	Communications Setting Error	Servo G5 and G5 Linear	1576 1577
84B90000 hex	Synchronization Interruption Er- ror	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84BA0000 hex	Bootstrap State Transition Re- quest Error	Servo 1S	I586 I621
84C00000 hex	NX Unit Communications Time- out	NX-series EtherCAT Coupler Unit	W519
84C10000 hex	NX Unit Initialization Error	NX-series EtherCAT Coupler Unit	W519
84C50000 hex	NX Unit Startup Error	NX-series EtherCAT Coupler Unit	W519
84D00000 hex	SSI Communications Error	NX-series Position Interface Units	W524

Event code	Event name	Functional classification	Reference
84E00000 hex	IP Address Duplication Error	CJ-series EtherNet/IP Units	W495
84E10000 hex	BOOTP Server Error	CJ-series EtherNet/IP Units	W495
84E20000 hex	Link OFF Error	CJ-series EtherNet/IP Units	W495
84F00000 hex	NX Bus I/O Communications Stopped	NX-series Safety Control Unit	Z930
84F10000 hex	NX Bus I/O Communications Stopped	NX-series Safety Control Unit	Z930
85000000 hex	Process Data WDT Error	NX-series EtherCAT Coupler Unit	W519
85010000 hex	Synchronization Interruption Er- ror	NX-series EtherCAT Coupler Unit	W519
85020000 hex	Synchronization Error	NX-series EtherCAT Coupler Unit	W519
85030000 hex	Communications Synchroniza- tion Error	NX-series EtherCAT Coupler Unit	W519
85100000 hex	DB Connection Disconnected Error	DB Connection Service	W527
852C0000Hex	I/O Communication Error	CJ-series EtherCAT Slave Unit	W542
85400000 hex	Data Discarded Due to Full In- ternal Buffer	NX-series Communications In- terface Units	W540
85410000 hex	Parity Error	NX-series Communications In- terface Units	W540
85420000 hex	Framing Error	NX-series Communications In- terface Units	W540
85430000 hex	Overrun Error	NX-series Communications In- terface Units	W540
85500000 hex	NX Bus Communications Error	NX Bus	W503
85510000 hex	NX Unit Communications Time- out	NX Bus	W503
85520000 hex	NX Unit Initialization Error	NX Bus	W503
85530000 hex	NX Unit Startup Error	NX Bus	W503
85540000 hex	NX Bus I/O Communications Stopped Due to Another Event	NX Bus	W503
85600000 hex	OPC UA Client Connection Re- jected	OPC UA Server Function	W503
85800000 hex	EtherCAT Slave Communica- tions Error	General Robot Control	O037
85A00000 hex	X Bus Unit Startup Error	X Bus	W503
85A10000 hex	X Bus Unit Communications Er- ror	X Bus	W503
85D00000 hex	IP Address Duplication Error	NX-series EtherNet/IP Unit	W627
85D10000 hex	BOOTP Server Connection Er- ror	NX-series EtherNet/IP Unit	W627
85D40000 hex	Packet Discarded Due to Full Reception Buffer	NX-series EtherNet/IP Unit	W627
85D50000 hex	Link OFF Detected	NX-series EtherNet/IP Unit	W627
87800000 hex	EtherCAT Slave Communica- tions Error	CNC Function	O030
88080000 hex	PLC Link Communications Error	FH/FZ5 Series Vision System	Z342

Event code	Event name	Functional classification	Reference
88100000 hex	Communications Synchroniza-	Servo 1S	1586
	tion Error		1621
88120000 hex	Safety Communications Timeout	Servo 1S	1586
			1621
88130000 hex	Analog Option Board Startup Er- ror	Built-in I/O and Option Boards	W503
88140000 hex	Analog Option Board Communi- cations Error	Built-in I/O and Option Boards	W503
90010000 hex	Clock Changed	Errors Related to Controller Op- eration	W503
90020000 hex	Time Zone Changed	Errors Related to Controller Op- eration	W503
90030000 hex	Online Connection Started	Errors Related to Controller Op- eration	W503
90040000 hex	Online Connection Ended	Errors Related to Controller Op- eration	W503
90050000 hex	User Program/Controller Config- urations and Setup Downloaded	Errors Related to Controller Op- eration	W503
90070000 hex	Online Edits Transferred	Errors Related to Controller Op- eration	W503
90080000 hex	Variable Changed to TRUE with Forced Refreshing	Errors Related to Controller Op- eration	W503
90090000 hex	Variable Changed to FALSE with Forced Refreshing	Errors Related to Controller Op- eration	W503
900A0000 hex	All Forced Refreshing Cleared	Errors Related to Controller Op- W503 eration	
900B0000 hex	Memory All Cleared	Errors Related to Controller Op- eration	W503
900C0000 hex	Event Log Cleared	Errors Related to Controller Op- eration	W503
900F0000 hex	Automatic Transfer Completed	Errors Related to Controller Op- eration	W503
90110000 hex	Power Turned ON	Errors Related to Controller Op- eration	W503
90120000 hex	Power Interrupted	Errors Related to Controller Op- eration	W503
90130000 hex	Operation Started	Errors Related to Controller Op- eration	W503
90140000 hex	Operation Stopped	Errors Related to Controller Op- eration	W503
90150000 hex	Reset Executed	Errors Related to Controller Op- eration	W503
90160000 hex	User Program Execution ID Write	Errors Related to Controller Op- eration	W503
90170000 hex	Authentication Setting Transfer- red	Errors Related to Controller Operation	W503
90180000 hex	All Controller Errors Cleared	Errors Related to Controller Op- W503 eration	
90190000 hex	Forced Refreshing Cleared	Errors Related to Controller Op- eration	W503

Event code	Event name	Functional classification	Reference
901A0000 hex	Backup Started	Errors Related to Controller Op- eration	W503
901B0000 hex	Backup Completed	Errors Related to Controller Op- eration W503	
901C0000 hex	Restore Operation Started	Errors Related to Controller Op- eration W503	
901D0000 hex	Restore Operation Completed	Errors Related to Controller Op- eration W503	
90200000 hex	SD Memory Card Program Transfer Started	Errors Related to Controller Op- eration	W503
90210000 hex	SD Memory Card Program Transfer Completed	Errors Related to Controller Op- eration	W503
90290000 hex	Project Unit Version Changed	Errors Related to Controller Op- eration	W503
902A0000 hex	Change to RUN Mode Com- manded	Errors Related to Controller Op- eration	W503
902B0000 hex	Change to PROGRAM Mode Commanded	Errors Related to Controller Op- eration	W503
902C0000 hex	Access Rights Forcibly Re- leased	Errors Related to Controller Op- eration	W503
902D0000 hex	CPU Unit Name Changed	Errors Related to Controller Op- eration	W503
902E0000 hex	CPU Unit Write Protected	Errors Related to Controller Op- eration W503	
902F0000 hex	Operation Mode Change Setting Written		
90300000 hex	Backup Start Commanded	Errors Related to Controller Op- eration	W503
90310000 hex	Restore Start Commanded	Errors Related to Controller Op- eration	W503
90320000 hex	Firmware Update Prohibition Setting Changed	Errors Related to Controller Op- eration	W503
90330000 hex	Start Instruction of Omron Main- tenance	Errors Related to Controller Op- eration	W503
90340000 hex	End Instruction of Omron Main- tenance	Errors Related to Controller Op- eration	W503
90400000 hex	Event Log Cleared	NX-series EtherCAT Coupler Units, NX-series Digital I/O Units, NX-series Analog I/O Units, NX-series System Units, NX-series Position Interface Units, NX-series Communica- tions Interface Units, NX-series Safety Control Unit, NX-series Load Cell Input Units, NX-series IO-Link Master Units, and NX- series Temperature Control Units	W519 W521 W522 W566 W523 W524 W540 Z930 W565 W570 H228
90420000 hex	Restart Executed	NX-series EtherCAT Coupler Unit	W519

Event code	Event name	Functional classification	Reference
90430000 hex	Memory All Cleared	NX-series EtherCAT Coupler	W519
		Unit and NX-series Safety Con- trol Unit	Z930
90460000 hex	Safety Data Logging Started	Errors Related to Controller Op- eration	W503
90470000 hex	Safety Data Logging Aborted	Errors Related to Controller Op- eration	W503
90480000 hex	Safety Data Logging Completed	Errors Related to Controller Op- eration	W503
90A00000 hex	Unit Restarted	Servo 1S	1586
90A20000 hex	User Authentication Enabled	Errors Related to Controller Op- eration	W503
90A30000 hex	User Authentication Disabled	Errors Related to Controller Op- eration	W503
90A40000 hex	User Added	Errors Related to Controller Op- eration	W503
90A50000 hex	User Deleted	Errors Related to Controller Op- eration	W503
90A60000 hex	User Authority Changed	Errors Related to Controller Op- eration	W503
90A70000 hex	User Password Changed	Errors Related to Controller Operation	W503
90A80000 hex	User Password Validity Period Control Enabled	Errors Related to Controller Op- W503 eration	
90A90000 hex	User Password Validity Period Control Disabled	Errors Related to Controller Op- eration W503	
90AA0000 hex	User Password Validity Period Changed	Errors Related to Controller Op- W503 eration	
90AB0000 hex	User Authentication Operation Lock Enabled	Errors Related to Controller Op- eration	W503
90AC0000 hex	User Authentication Operation Lock Disabled	Errors Related to Controller Op- eration	W503
90AD0000 hex	User Authentication Operation Lock Time Changed	Errors Related to Controller Op- eration	W503
90AE0000 hex	Operation Authority Verification Enabled	Errors Related to Controller Op- eration	W503
90AF0000 hex	Operation Authority Verification Disabled	Errors Related to Controller Op- eration	W503
90B00000 hex	Operation Authority Password Changed	Errors Related to Controller Op- eration	W503
90B10000 hex	Operation Authority for Pass- word Input Omission Changed	Errors Related to Controller Op- W503 eration	
90B20000 hex	Operation Authority Verification Operation Lock Enabled	Errors Related to Controller Op- eration W503	
90B30000 hex	Operation Authority Verification Operation Lock Disabled		
90B40000 hex	Operation Authority Verification Operation Lock Time Changed		
90B50000 hex	User Password Expiration No- tice Enabled	Errors Related to Controller Op- eration	W503

Event code	Event name	Functional classification	Reference
90B60000 hex	User Password Expiration No- tice Disabled	Errors Related to Controller Operation	W503
90B70000 hex	Days for Prior Notice of User	Errors Related to Controller Op-	W503
	Password Expiration Changed	eration	
90B80000 hex	Secure Communications Version Changed	Errors Related to Controller Op- eration	W503
91000000 hex	X Bus Unit Settings Downloaded	X Bus Unit	W503
91020000 hex	X Bus Unit Settings All Cleared	X Bus Unit	W503
91030000 hex	All Errors Cleared	X Bus Unit	W503
91040000 hex	Event Log Cleared	X Bus Unit	W503
91050000 hex	Power Turned ON	X Bus Unit	W503
91060000 hex	Power Interrupted	X Bus Unit	W503
94010000 hex	Tag Data Link Download Started	EtherNet/IP	W503
94020000 hex	Tag Data Link Download Finish- ed	EtherNet/IP	W503
94030000 hex	Tag Data Link Stopped	EtherNet/IP	W503
94040000 hex	Tag Data Link Started	EtherNet/IP	W503
94050000 hex	Link Detected	EtherNet/IP	W503
94060000 hex	Restarting Ethernet Port	EtherNet/IP	W503
94070000 hex	Tag Data Link All Run	EtherNet/IP	W503
94080000 hex	IP Address Fixed	EtherNet/IP	W503
94090000 hex	BOOTP Client Started	EtherNet/IP	W503
940A0000 hex	FTP Server Started	EtherNet/IP	W503
940B0000 hex	NTP Client Started	EtherNet/IP	W503
940C0000 hex	SNMP Started	EtherNet/IP	W503
940E0000 hex	Secure Socket Communications Log Started/Stopped	EtherNet/IP	W503
940F0000 hex	Secure Socket Communications Log Saving Failed	EtherNet/IP	W503
94100000 hex	Access to Secure Socket Setting	EtherNet/IP	W503
94110000 hex	Access to Secure Socket Setting	EtherNet/IP	W503
94120000 hex	Change or Reading of Secure Socket Setting	EtherNet/IP	W503
94130000 hex	IP Address Changed	EtherNet/IP	W503
94140000 hex	SNMP Settings Changed	EtherNet/IP	W503
94150000 hex	Subnet Mask Changed	EtherNet/IP	W503
94200000 hex	Notice of Insufficient Travel Dis- tance to Achieve Blending Transit Velocity	General Motion Control	W503
94210000 hex	Error Clear from MC Test Run Tab Page	General Motion Control	W503
94220000 hex	Slave Error Code Report	General Motion Control	W503
94230000 hex	Transition Parameter Adjusted	NJ Robotics Function	W539
94400000 hex	Slave Disconnected	EtherCAT Master	W503
94410000 hex	Slave Connected	EtherCAT Master	W503
94430000 hex	Error Reset	EtherCAT Master	W503
94440000 hex	Slave Disabled	EtherCAT Master	W503
94450000 hex	Slave Enabled	EtherCAT Master	W503

Event code	Event name	Functional classification	Reference
94500000 hex	EtherCAT Diagnosis/Statistics Log Started	EtherCAT Master	W503
94510000 hex	EtherCAT Diagnosis/Statistics Log Ended	EtherCAT Master	W503
94520000 hex	Wait for Cycling Power Supply	EtherCAT Master	W503
94600000 hex	I/O Check Execution Started	NX-series EtherCAT Coupler Unit	W519
94D00000 hex	Tuning Parameter Updated	NX-series Temperature Control Units	H228
94D10000 hex	Related Parameters Initialized	NX-series Temperature Control Units	H228
94F00000 hex	Tuning Parameter Automatically Updated	NX-series Temperature Control Units	H228
951E0000 hex	Sysmac Studio Communications Connection Timeout	NX-series Safety Control Unit	Z930
951F0000 hex	Clear All Memory Rejected	NX-series Safety Control Unit	Z930
95300000 hex	DB Connection Service Started	DB Connection Service	W527
95310000 hex	DB Connection Service Stopped	DB Connection Service	W527
95320000 hex	DB Connection Service Shut- down	DB Connection Service	W527
95330000 hex	Spool Cleared	DB Connection Service	W527
95340000 hex	Operation to Start DB Connec- tion Service	DB Connection Service	W527
95350000 hex	Operation to Stop DB Connec- tion Service	DB Connection Service	W527
95360000 hex	Operation to End DB Connec- tion Service	DB Connection Service	W527
95370000 hex	Operation to Clear Spool Memo- ry	DB Connection Service	W527
95380000 hex	Operation to Clear Operation Log	DB Connection Service	W527
95390000 hex	Operation to Start Debug Log- ging	DB Connection Service	W527
953A0000 hex	Operation to Stop Debug Log- ging	DB Connection Service	W527
95420000 hex	GEM Service Started	GEM Services	W528
95430000 hex	Shutdown Completed	GEM Services	W528
95440000 hex	GEM Setting Data Changed	GEM Services	W528
95450000 hex	Valid SD Memory Card	GEM Services	W528
95720000 hex	Automation Playback Settings Changed	Errors Related to Controller Operation	W503
95730000 hex	Variable Sampling Started	Errors Related to Controller Op- eration	W503
95740000 hex	Variable Sampling Stopped	Errors Related to Controller Op- eration	W503
95750000 hex	Variable Log Output Completed	Errors Related to Controller Op- eration	W503
95760000 hex	Variable Log Overwritten	Errors Related to Controller Op- eration	W503

Event code	Event name	Functional classification	Reference
95770000 hex	Upper Limit of Variable Sampling	Errors Related to Controller Op-	W503
		eration	
95780000 hex	Variable Log Output Completed	Errors Related to Controller Op- W503	
		eration	
95790000 hex	Upper Limit of Variable Sampling	Errors Related to Controller Op-	W503
05740000 hov	Variable Lag Sava Nat Dessible	eration	WE02
957A0000 hex	Variable Log Save Not Possible	Errors Related to Controller Op- eration	W503
95800000 hex	NX Bus Restart Executed	NX Bus	W503
95810000 hex	NX Unit Memory All Cleared	NX Bus	W503
95D00000 hex	OPC UA Server Started	OPC UA Server Function	W503
95D10000 hex	OPC UA Server Stopped	OPC UA Server Function	W503
95D20000 hex	Server Certificate Generated	OPC UA Server Function	W503
95D30000 hex	Client Certificate Discarded	OPC UA Server Function	W503
95D40000 hex	OPC UA Server Certificate and	OPC UA Server Function	W503
	Security Profile Cleared		
95D60000 hex	Client Certificate Added	OPC UA Server Function	W503
95D70000 hex	Client Certificate Deleted	OPC UA Server Function	W503
95D80000 hex	Client Certificate Moved	OPC UA Server Function	W503
95D90000 hex	Client Certificate Revocation List Added	OPC UA Server Function	W503
95DA0000 hex	Client Certificate Revocation List Deleted	OPC UA Server Function	W503
95DB0000 hex	Server Certificate Regenerated	OPC UA Server Function	W503
96040000 hex	V+ Program Error	General Robot Control	O037
96050000 hex	V+ Program Warning	General Robot Control	O037
96060000 hex	V+ Program Information	General Robot Control	O037
96090000 hex	Robot Manual Mode Started	General Robot Control	O037
960A0000 hex	Robot Auto Mode Started	General Robot Control	O037
96200000 hex	Security Settings Transferred	OPC UA Server Function	W503
96210000 hex	Execution Log Cleared	OPC UA Server Function	W503
96220000 hex	CA Certificate Added	OPC UA Server Function	W503
96230000 hex	CA Certificate Deleted	OPC UA Server Function	W503
96240000 hex	CA Certificate Revocation List Added	OPC UA Server Function	W503
96250000 hex	CA Certificate Revocation List Deleted	OPC UA Server Function	W503
96260000 hex	Client Certificate or CA Certificate Changed	OPC UA Server Function	W503
96440000 hex	Link Detected	NX-series EtherNet/IP Unit	W627
96450000 hex	Restarting Ethernet Port	EtherNet/IP	W503
96470000 hex	IP Address Fixed	NX-series EtherNet/IP Unit	W627
96480000 hex	BOOTP Client Started	NX-series EtherNet/IP Unit	W627
964B0000 hex	SNMP Started	NX-series EtherNet/IP Unit	W627
96500000 hex	IP Address Changed	NX-series EtherNet/IP Unit	W627
96510000 hex	SNMP Settings Changed	NX-series EtherNet/IP Unit	W627
96520000 hex	Subnet Mask Changed	NX-series EtherNet/IP Unit	W627
97800000 hex	Slave Error Code Report	CNC Function	O030

Event code	Event name	Functional classification	Reference
97810000 hex	Software Limit Path Limited	CNC Function	O030
97820000 hex	CNC Function System Informa- tion	CNC Function	O030
97830000 hex	Velocity Control Command Val- ue Saturated	CNC Function	O030
98010000 hex	Absolute Value Cleared	Servo G5	1576
98020000 hex	Position Data Initialized	Servo G5 and G5 Linear	1576
			1577
98200000 hex	Absolute Value Cleared	Servo 1S	1586
			1621
98210000 hex	STO Detected	Servo 1S	1586
98220000 hex	Memory All Cleared	Servo 1S	1586
98230000 hex	Motor Rotation Direction Selec-	Servo 1S	l621
	tion Nonconformity		
98240000 hex	Event Log Cleared	Servo 1S	1586
98250000 hex	STO Detected	Servo 1S	1621

A-5 Applicable Range of the HMI Troubleshooter

Whether the HMI Troubleshooter can be used depends on the combination of the HMI and the CPU Unit.

Also, the system configuration elements that are supported by the HMI Troubleshooter are different for each Troubleshooter function.

A-5-1 Combinations of HMIs and CPU Units That Enable Using the Troubleshooter

Whether the HMI Troubleshooter can be used depends on the combination of the HMI and the CPU Unit.

• NA-series HMIs

The models of HMIs on which the Troubleshooter can be used are given in the following table.



Precautions for Correct Use

The troubleshooter function of NA-series HMIs cannot be used when the CPU Unit is set to secure communications version 2.

HMI	Model
NA5	NA5-🗆

Whether the Troubleshooter can be used for specific system versions of the above HMI models is given in the following table.

	Connected CPU Unit	
HMI system version	NX-series CPU Unit	NJ-series CPU Unit
Version 1.02 or higher	Can be	e used.
Version 1.01 or lower	The HMI does not have a Troubleshooter.	

NS-series HMIs

The models of HMIs on which the Troubleshooter can be used are given in the following table.

HMI	Model
NS8, NS10, NS12, and NS15	NS□-T□01-V2 (The V2 versions have an Ethernet port.)
NS5	NS5-□Q11-V2 (These models have expanded memory and an Ether-
	net port.)
NSJ8, NSJ10, and NSJ12	All models
NSJ5	NSJ5-□Q11-□ (These models have expanded memory and an Ether-
	net port.)

Whether the Troubleshooter can be used for specific system versions of the above HMI models is given in the following table.

	Connected CPU Unit		
HMI system version	NX-series CPU Unit	NJ-series CPU Unit	
Version 8.9 or higher	Can be used.		
Version 8.5 to 8.8	Cannot be used. Can be used.		
Version 8.4 or lower	The HMI does not have a Troubleshooter.		

A-5-2 System Configuration Elements Supported by the Troubleshooter

The troubleshooting functions that you can use on the HMI depend on the system configuration element.

Refer to the following manuals for the NA-series HMIs and NS-series HMIs for the system configuration elements that are supported by the HMI Troubleshooter.

- NA-series Programmable Terminal Hardware User's Manual (Cat. No. V117)
- NS-series Programmable Terminals Programming Manual (Cat No. V073)



Precautions for Correct Use

On the NA-series HMI, operation related to the NX Bus Function Module is limited as follows. Use the troubleshooting function of Sysmac Studio as necessary.

- Current errors in the NX bus master are displayed, but NX Bus Function Module is not displayed at Source. Current errors in NX Units mounted to the CPU Unit are not displayed.
- Resetting all errors is the only way to reset current errors.
- Event logs for the NX bus master are displayed, but NX Bus Function Module is not displayed at Source. Event logs for NX Units mounted to the CPU Unit are not displayed.
- Event logs for the NX bus master can be deleted, but event logs for NX Units mounted to the CPU Unit cannot be deleted.



Precautions for Correct Use

On the NS-series HMI, operation related to the NX Bus Function Module is limited as follows. Use the troubleshooting function of Sysmac Studio as necessary.

- Current errors are not displayed.
- Resetting all errors is the only way to reset current errors.
- Event logs are not displayed.
- Event logs for the NX bus master can be deleted, but event logs for NX Units mounted to the CPU Unit cannot be deleted.

A-6 Correspondence of Events between Project Unit Version Earlier than 1.40 and Project Unit Version 1.40 or Later

Events that occur in CPU Units are determined by the CPU unit versions, and they do not change even if you change the project unit versions^{*1}.

*1. In this manual, the unit version set for a project is called "project unit version". A project unit version is set for a project in the Select Device Area of Project Properties Dialog Box on the Sysmac Studio.

However, some events that occur in the EtherCAT Master Function Module differ between project unit version earlier than 1.40 and project unit version 1.40 or later. When you obtain the event code of an event that occurred by the host system and implement a processing, consider that the event code is different according to the setting of the project unit version and design the host system. The following table shows the correspondence of events between project unit version earlier than 1.40 and project unit version 1.40 or later.

Function module	Type of corre- spondence	Project unit version		
		Version earlier than 1.40	Version 1.40 or later	
EtherCAT Master Function Module	Events changed for project unit version 1.40 or later	EtherCAT Slave Backup Failed (Ver- sion 1.03 or later) (102F0000 hex)	EtherCAT Slave Backup Failed (10460001 hex)	
		EtherCAT Slave Restore Operation Failed (Version 1.03 or later) (10300000 hex)	EtherCAT Slave Restore Operation Failed (10470002 hex)	
		Network Configuration Error (84210000 hex)	Incorrect Wiring Detected (843C0000 hex)	
		Network Configuration Verification Er- ror (84220000 hex)	Network Configuration Verification Er- ror (Incorrect Wiring) (84320003 hex)	
			Network Configuration Verification Er- ror (Slave Unconnected) (84380000 hex)	
			Network Configuration Verification Er- ror (Mismatched Slave) (84330004 hex)	
		Slave Initialization Error (84230000 hex)	Slave State Transition Failed (84300001 hex)	
		Slave Application Error (84280000 hex)	Slave AL Status Error Detected (84360000 hex)	
		Process Data Communications Error (842C0000 hex)	Illegal Slave Disconnection Detected (84310002 hex)	
			Slave PDI WDT Error Detected (84340000 hex)	
		EtherCAT Message Error (842D0000 hex)	Illegal Mailbox Received (84350000 hex)	
	Events occurred	MAC Address Error (14400000 hex)	None	
	only in project unit version earli- er than 1.40	EtherCAT Communications Cycle Ex- ceeded (Version 1.10 or later) (34410000 hex)	None	
Function	Type of corre-	Project u	nit version	
----------	--	---	---	--
module	spondence	Version earlier than 1.40	Version 1.40 or later	
	Events occurred only in project	None	Parameters Not Transferred (34420000 hex)	
	unit version 1.40 or later	None	Clock Synchronization Compensation Failed (84370000 hex)	
		None	Ring Disconnection Detected (84390000 hex)	
		None	Network Configuration Verification Er- ror (Incorrect Ring Wiring) (843A0000 hex)	
		None	Wait for Cycling Power Supply (94520000 hex)	
	Events commonly	Communications Controller Error (0440	00000 hex)	
	occurred in	Slave Node Address Duplicated (24200000 hex)		
	project unit ver- sion earlier than	Network Configuration Information Error (34400000 hex)		
	1.40 and project	EtherCAT Fault (44010000 hex)		
	unit version 1.40	Controller Insufficient Memory Warning (50010000 hex)		
	or later	Emergency Message Detected (64200000 hex)		
		Link OFF Error (84200000 hex)		
		Process Data Transmission Error (84290000 hex)		
		Process Data Reception Timeout (842B0000 hex)		
		EtherCAT Frame Not Received (Version 1.11 or later) (842E0000 hex)		
		Input Process Data Invalid Error (Version 1.13 or later) (842F0000 hex)		
		Slave Disconnected (94400000 hex)		
		Slave Connected (94410000 hex)		
		Error Reset (94430000 hex)		
		Slave Disabled (Version 1.04 or later) (94440000 hex)		
		Slave Enabled (Version 1.04 or later) (94450000 hex)		
		EtherCAT Diagnosis/Statistics Log Stat hex)	ted (Version 1.11 or later) (94500000	
		EtherCAT Diagnosis/Statistics Log End hex)	ed (Version 1.11 or later) (94510000	

A-7 Correspondence of NX Bus Events between NX102 CPU Units, NX1P2 CPU Units and Slave Terminals

The NX102 CPU Units, NX1P2 CPU Units and Slave Terminals support the mounting of NX Units. This means that NX102 CPU Units, NX1P2 CPU Units and Slave Terminals are subject to the same errors. However, with the NX102 CPU Units, NX1P2 CPU Unit, it is easier to identify the cause of an NX bus error because two or more events with more specific names may correspond to one Slave Terminal event.

The table below shows the correspondence of NX bus events, where two or more NX102 CPU Unit and NX1P2 CPU Unit events correspond to one Slave Terminal event.

NX102 CPU Unit and NX1P2 CPU Unit event	Slave Terminal event	
NX Bus Function Processing Error (44440000 hex)	NX Unit Processing Error (40200000 hex)	
NX Bus System Information (44450000 hex)		
Unsupported NX Unit Mounted ^{*1}	Unit Configuration Error, Unsupported Configuration	
Total I/O Data Size in NX Units Excessive (24D20000	(24A10000 hex)	
hex)		
NX Unit Version Not Matched (35900000 hex)	Unit Configuration Verification Error (35010000 hex)	
Unregistered NX Unit Mounted (35910000 hex)		
Registered NX Unit Not Mounted (35920000 hex)		
NX Unit Serial Number Mismatch (35930000 hex)		
NX Bus Communications Error (85500000 hex)		

*1. This event will occur if the NX102 CPU Unit and NX1P2 CPU Unit do not support any required function of NX Units that will be released in the future.

A-8 Correction of Wiring for the EtherCAT Ring Topology Based on Event

To correct the wiring for the EtherCAT ring topology on the actual network based on the current error event in the Controller, you must handle the event in the specified order. This is efficient to clear the error and correct the wiring. This section describes how to correct the wiring for the EtherCAT ring topology on the actual network based on the current error event, and how to handle events related to ring topologies.

For restrictions on configuring a ring topology, refer to the description of the ring topology in the *NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505)*.

The following tables describes the meanings of terms used for descriptions of correction of wiring for a ring topology.

Term	Description
Ring topology	A network configuration in which nodes are connected
	in a ring.
Junction Slave	A slave for branching an EtherCAT network. To be
	specific, it is a GX-JC03 Junction Slave and GX-JC06
	Junction Slave.
Start port of the ring	A port that becomes the start point of the ring topology.
End port of the ring	A port that becomes the end point of the ring topology.
Originating slave of the ring	A slave that becomes the starting point of the ring top-
	ology. To be specific, any of the following slaves for
	which the cable redundancy is enabled.
	GX-JC03 Junction Slave
	One of the two slaves contained in a GX-JC06
	Junction Slave
Cable redundancy	Property of being able to continue communications
	even if a wire is broken in the ring topology or a slave
	is not connected.
Cable redundancy setting	A setting operation to enable and disable the cable re-
	dundancy.
Cable redundancy status	A state in which the network has the cable redundan-
	cy. A network has the cable redundancy status when
	the ring topology in the actual network configuration
	agrees with the ring topology that is set in the network configuration information.
Discussion attended to the first state of the state of th	
Ring disconnection status	A state in which there is only one wire break in a ring
Lastrant	topology with the cable redundancy status.
Last port	For a Junction Slave, a port to which EtherCAT frames are output last. X3 for a GX-JC03 Junction Slave, and
	X6 for a GX-JC06 Junction Slave.
Pingling	
Ring line	Means a ring topology. This term is used to compare with a drop line from the ring.
Drop line from the ring	
Drop line from the ring	A network configuration that is branched and wired from a Junction Slave in the ring topology.
Input ports are connected	A state in which input ports are connected to each oth-
	er.



A-8-1 Flowchart of the Procedure for the Correction of Wiring for the EtherCAT Ring Topology Based on Event

The following figure shows a flowchart of operation to correct the wiring for the actual network of the EtherCAT ring topology based on the current error. Handle an event in the order shown in the flow-chart.





- *1. Link OFF Error (page 3-739)
- *2. EtherCAT Frame Not Received (page 3-741)
- *3. If Incorrect Wiring Detected is Registered on page A-305
- *4. Ring Disconnection Detected (page 3-796)
- *5. If Ring Disconnection Detected Is Registered on page A-312
- *6. Network Configuration Verification Error (Mismatched Slave) (page 3-771)
- *7. Network Configuration Verification Error (Incorrect Wiring) (page 3-769)
- *8. Network Configuration Verification Error (Slave Unconnected) (page 3-776)
- *9. Network Configuration Verification Error (Incorrect Ring Wiring) (page 3-778)
- *10. If Network Configuration Verification Error (Incorrect Ring Wiring) Is Registered on page A-313
- *11. Process Data Reception Timeout Error (page 3-756)
- *12. If Process Data Reception Timeout Is Registered on page A-315

A-8-2 How to Correct the Wiring of Ring Topology Based on Event

Causes and corrections based on events are displayed on the Sysmac Studio or described in *Built-in EtherCAT Port* on page 3-736. Among them, this section describes the causes and corrections related to the correction of wiring for ring topologies.

If Incorrect Wiring Detected is Registered

The following figure shows a flowchart of troubleshooting when the Incorrect Wiring Detected occurs. Handle the trouble in the order shown in the flowchart.



- *1. If Two or More Ring Topologies Are Configured on the Actual Network on page A-307
- *2. If the Ring Topology on the Actual Network Is Connected to a Different Position from One That Is Defined in the Network Configuration Information on page A-308

- *3. If the Wiring for the Start Port of the Ring and One for the End Port of the Ring Are Reversed on the Actual Network on page A-309
- *4. If the Subsequent Slave in the Ring Topology Is Connected to a Port That Is Not the Last Port on a Junction Slave in the Ring Topology on page A-310
- *5. If Either Input Ports or Output Ports Are Connected to Each Other on page A-311

• If Two or More Ring Topologies Are Configured on the Actual Network

Reduce the number of ring topologies on the actual network to one. Use the following procedure.

- 1. For each ring topology set in the network configuration information, confirm the originating slave of the ring (attached information 1), the start port of the ring and the end port of the ring (attached information 2).
- 2. Remove the last cable of each of the ring topologies excluded in step (1) above (the cable whose ends are both connected to output ports).

An example is shown below.

ltem	Description	Value
Attached infor- mation 1	Node address of the originating slave of the ring in the network configu- ration information	#12
Attached infor- mation 2	Names of the start port and end port of the ring in the network configu- ration information	X2_X3



For the ring connections made to ports X2 and X3 of slave #13 not described in the attached information, remove the cable connected to X3 of the end port of the ring.

• If the Ring Topology on the Actual Network Is Connected to a Different Position from One That Is Defined in the Network Configuration Information

On the actual network, wire the ring topology to the start port of the ring and the end port of the ring.

Use the following procedure.

- 1. For each ring topology set in the network configuration information, confirm the originating slave of the ring (attached information 1), the start port of the ring and the end port of the ring (attached information 2).
- 2. If the ring topology on the actual network is connected to ports not as confirmed in step (1), connect the ring topology again to the start port of the ring and the end port of the ring.

An example is shown below.

ltem	Description	Value
Attached infor- mation 1	Node address of the originating slave of the ring in the network configu- ration information	#11
Attached infor- mation 2	Names of the start port and end port of the ring in the network configu- ration information	X2_X3

For the ring connections made to ports X5 and X6 of slave #12, which are different from the description in the attached information, make connections again to ports X4 and X5 so that the start point and end point are correct.



• If the Wiring for the Start Port of the Ring and One for the End Port of the Ring Are Reversed on the Actual Network

Reverse the wiring for the start port of the ring and one for the end port of the ring on the actual network.

Use the following procedure.

- 1. For each ring topology set in the network configuration information, confirm the originating slave of the ring (attached information 1), the start port of the ring and the end port of the ring (attached information 2).
- 2. Reverse the wiring for the start port of the ring and one for the end port of the ring confirmed in step (1) as reversed on the actual network.

An example is shown below.

Item	Description	Value
Attached infor- mation 1	Node address of the originating slave of the ring in the network configu- ration information	#11
Attached infor- mation 2	Names of the start port and end port of the ring in the network configu- ration information	X2_X3

For the ring connections made to ports X2 and X3 of slave #11, which are the same as the description in the attached information, if the start point and end point of the cable are reversed, change the positions of the cables connected to X2 and X3 and re-connect.



• If the Subsequent Slave in the Ring Topology Is Connected to a Port That Is Not the Last Port on a Junction Slave in the Ring Topology

Connect the cable for the subsequent slave on the ring line to the last port on the Junction Slave on the actual network.

Use the following procedure.

- 1. Check that the cable for the subsequent slave on the ring line is connected to the last port on the Junction Slave in the ring topology.
- 2. If the cable for the subsequent slave on the ring line is not connected to the last port on the Junction Slave in the ring topology, connect the cable for the subsequent slave on the ring line to the last port. If the cable for the drop line from the ring is connected to the last port, reconnect the cable for the drop line to a port that is not the last port.
- 3. If it is difficult to check as in step (1), remove the last cable in the ring topology. If the Network Configuration Verification Error (Incorrect Wiring) occurs, make corrections for the assumed causes and then connect the removed cable again.

An example is shown below.

ltem	Description	Value
Attached infor-	Node address of the originating slave of the ring in the network configu-	#11
mation 1	ration information	
Attached infor-	Names of the start port and end port of the ring in the network configu-	X2_X3
mation 2	ration information	



Start port of the ring

• If Either Input Ports or Output Ports Are Connected to Each Other

Correct cable connections on the actual network so that a cable whose ends are both connected to input ports or output ports is connected correctly to an input port on one end and to an output port on the other end.

Use the following procedure.

- 1. Check if input ports or output ports are not connected to each other on the actual network.
- 2. If input ports or output ports are connected to each other, correct the wiring so that an output port is connected to an input port.

The following shows an example where output ports are connected to each other in the ring topology.

Item	Description	Value
Attached infor- mation 1	Node address of the originating slave of the ring in the network configu- ration information	#11
Attached infor- mation 2	Names of the start port and end port of the ring in the network configu- ration information	X2_X3



Between slaves in the ring topology connected to ports X2 and X3 of slave #11 described in the attached information, re-connect the cable whose ends are both connected to output ports to the input port in the next slave.

Also re-connect the cable connected to the above input port correctly.

Additional Information

When this event occurs, you can perform the compare and merge operation in the Sysmac Studio to possibly identify where input ports and output ports are connected to each other. If the ring topology is configured, you can disconnect the last cable of the ring topology to possibly identify where input ports or output ports are connected to each other.

If Ring Disconnection Detected Is Registered

There is an error in the cables in the ring topology. The ring topology is not in the cable redundancy status.

Remove the following causes in the cables between the slave with the node address in the attached information 1 and the subsequent slave.

- The Ethernet cable was disconnected.
- The Ethernet cable connector was disconnected.
- A non-recommended cable was used.
- The Ethernet cable is broken.
- · Contact failure or part failure occurred in the connector.



Additional Information

When this event occurs, you can check the current error in the EtherCAT configuration view on the Sysmac Studio to possibly identify where a wire break occurred.

An example is shown below.

Item	Description	Value
Attached infor-	Slave node address before point of break	#2
mation 1		





Precautions for Correct Use

The Ring Disconnection Detected is displayed among current errors when the event level is a minor fault.

When the level of the Ring Disconnection Detected is set to an observation, the Ring Disconnection Detected is not displayed among current errors. Check it with the event log. For the correction of the Ring Disconnection Detected whose level is an observation, perform the same correction as one when the level is a minor fault.

If Network Configuration Verification Error (Incorrect Ring Wiring) Is Registered

The ring topology that is not set in the network configuration information is configured on the actual network. Remove the last cable of the ring topology for which the cable redundancy is not set in the network configuration information.

Use the following procedure.

- 1. For each ring topology set in the network configuration information, confirm the originating slave of the ring (attached information 1), the start port of the ring and the end port of the ring (attached information 2).
- 2. Remove any ring topology other than those not confirmed in (1).



Additional Information

When this event occurs, you can perform the compare and merge operation in the Sysmac Studio to possibly identify incorrectly wired parts.

If you want to configure a ring topology, make the cable redundancy setting in the network configuration information when the attached information 1 is 0.

An example is shown below.

Item	Description	Value
Attached infor-	Node address of the originating slave of the ring in the network configura-	#12
mation 1	tion information	
Attached infor-	Names of the start port and end port of the ring in the network configura-	X2_X3
mation 2	tion information	



Remove the last cable (i.e., the cable whose ends are both connected to output ports) $% \left(\frac{\partial f_{i}}{\partial t} \right) = \int_{-\infty}^{\infty} \left(\frac{\partial f_{i}}{\partial t} \right) \left(\frac{\partial$

If Process Data Reception Timeout Is Registered

When the ring topology includes a slave that does not support the ring topology, the Process Data Reception Timeout also occurs after a ring disconnection or cycling the power to the slave. Check with the event log that the Ring Disconnection Detected or Illegal Slave Disconnection Detected has not occurred as the same time as the Process Data Reception Timeout. In a ring topology, use only slaves that support the ring topology.

A-9 Operation Related to the X Bus Unit

The operation related to the Controller event of the X Bus Unit is shown below.

A-9-1 Controller Behavior for Each Level of Error

The operation and behavior of the Controller differ depending on the level of the Controller event.

	Level of the event occurred					
Item		Controller errors				Controller in- formation
		Major fault level	Partial fault level	Minor fault level	Observation	Information
Definition		An error that causes all con- trol operations in the Control- ler to stop	An error that causes all con- trol operations in one of the function mod- ules other than the PLC Func- tion Module to stop	An error that causes some control opera- tions in one of the function modules to stop	An error that do not affect con- trol	An event that is not an error but is recorded in the event log to notify the user of specific in- formation
X Bus Unit	RUN (green)			Lit	Lit	Lit
opera- tion	ERROR (red)			Lights or flash- es at 500-ms intervals.	Not lit	Not lit
	Operating status			Operation stops or contin- ues.	Operation con- tinues.	Operation con- tinues.
	Error reset			Possible or not possible.	Possible.	Possible.
	Outputs turned OFF			Yes or No	No	No
	Event logs			Recorded. (Some errors are not record- ed.)	Recorded.	Recorded.

A-9-2 Operation of the Function Module When It Becomes an Event Source

Function module	Level of the error occurred					
Function module	Major fault level	Partial fault level	Minor fault level	Observation		
X Bus Unit Com-			Operation of the	Operation contin-		
mon Function			X Bus Unit stops.	ues.		
Module			Operation of the			
			X Bus Unit parti-			
			ally continues.			

Function module	Level of the error occurred			
Function module	Major fault level	Partial fault level	Minor fault level	Observation
X Bus Ethernet Function Module			 Ethernet communications stop (online connection with the Sysmac Studio and communication with an HMI are not possible). Ethernet communications partially stop (if the error is caused by communications other than con- nection with the Sysmac Studio or an HMI, online connection with the Sysmac Stu- dio and communi- cation with an HMI are possi- ble). 	Ethernet communi- cations continue.
X Bus EtherNet/IP Function Module			 EtherNet/IP communications stop. EtherNet/IP communications partially stop. 	EtherNet/IP commu- nications continue.



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CJ1W-TC003	
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