OMRON

Machine Automation Controller

NJ-series

Troubleshooting Manual

NJ501-15□□
NJ501-14□□
NJ501-13□□
NJ301-12□□
NJ301-11□□

SYSMAC
always in control

W503-E1-09

© **OMRON, 2011**

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form, or by any means, mechanical, electronic, photocopying, recording, or otherwise, without the prior written permission of OMRON.

No patent liability is assumed with respect to the use of the information contained herein. Moreover, because OMRON is constantly striving to improve its high-quality products, the information contained in this manual is subject to change without notice. Every precaution has been taken in the preparation of this manual. Nevertheless, OMRON assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained in this publication.

Trademarks

- Sysmac and SYSMAC are trademarks or registered trademarks of OMRON Corporation in Japan and other countries for OMRON factory automation products.
- Windows, Windows XP, Windows Vista, Windows 7, and Windows 8 are registered trademarks of Microsoft Corporation in the USA and other countries.
- EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.
- ODVA, CIP, CompoNet, DeviceNet, and EtherNet/IP are trademarks of ODVA.
- The SD and SDHC logos are trademarks of SD-3C, LLC.

Other company names and product names in this document are the trademarks or registered trademarks of their respective companies.

Introduction

Thank you for purchasing an NJ-series CPU Unit.
This manual contains information that is necessary to use the NJ-series CPU Unit. Please read this manual and make sure you understand the functionality and performance of the NJ-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.

- NJ-series CPU Units
  - NJ501-15□□
  - NJ501-14□□
  - NJ501-13□□
  - NJ301-12□□
  - NJ301-11□□

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-series CPU Units.
Read all of the manuals that are relevant to your system configuration and application before you use the NJ-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.

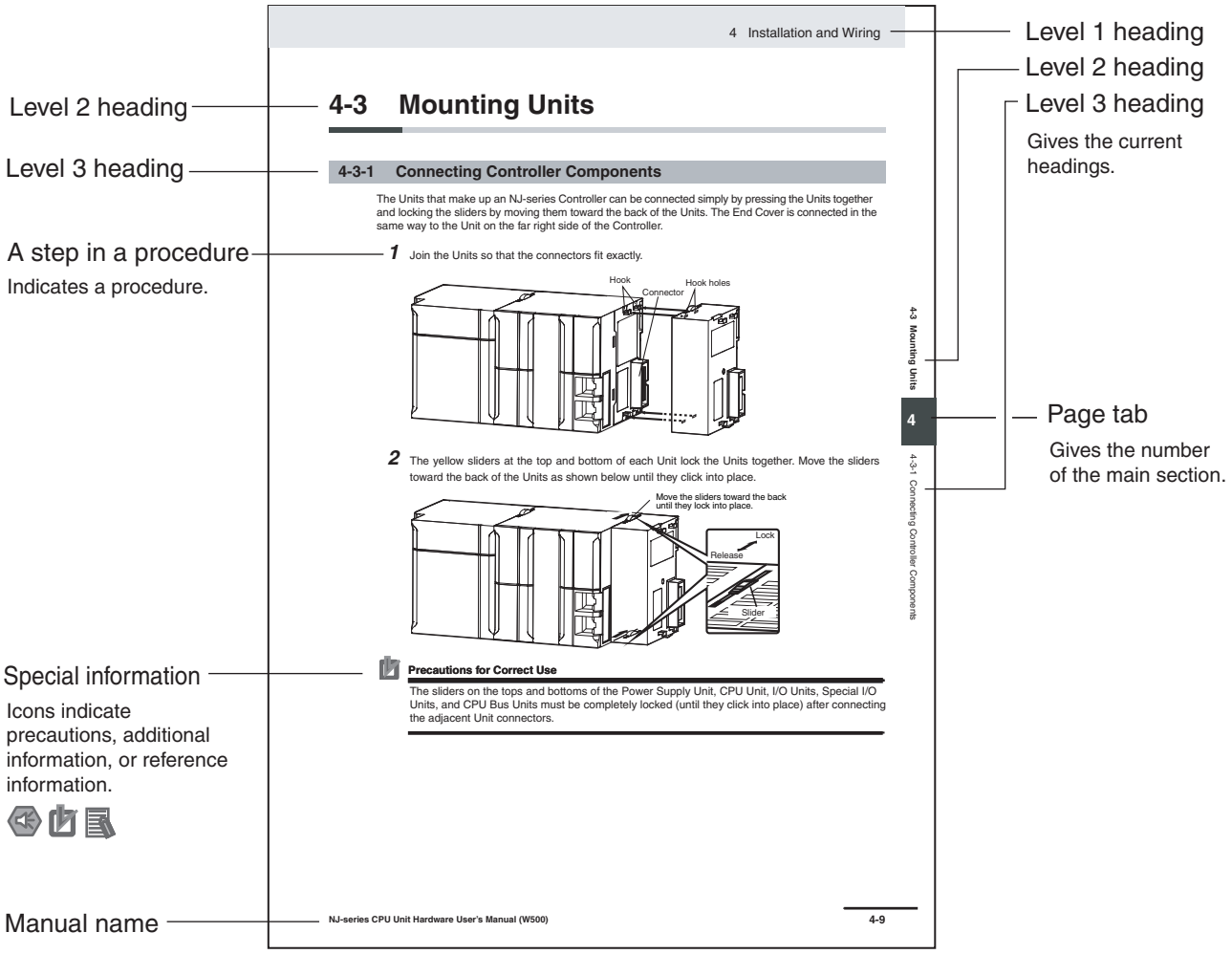
Purpose of use	Manual									
	Basic information									
	NJ-series CPU Unit Hardware User's Manual	NJ-series CPU Unit Software User's Manual	NJ-series Instructions Reference Manual	NJ-series CPU Unit Motion Control User's Manual	NJ-series Motion Control Instructions Reference Manual	NJ-series CPU Unit Built-in EtherCAT Port User's Manual	NJ-series CPU Unit Built-in EtherNet/IP Port User's Manual	NJ-series Database Connection CPU Unit User's Manual	NJ-series Troubleshooting Manual
Introduction to NJ-series Controllers	●								
Setting devices and hardware									
Using motion control				●					
Using EtherCAT	●					●			
Using EtherNet/IP							●		
Using the database connection service								●	
Software settings									
Using motion control				●					
Using EtherCAT		●				●			
Using EtherNet/IP							●		
Using the database connection service								●	
Writing the user program									
Using motion control				●	●				
Using EtherCAT		●	●			●			
Using EtherNet/IP							●		
Using the database connection service								●	
Programming error processing									●
Testing operation and debugging									
Using motion control		●		●					
Using EtherCAT						●			
Using EtherNet/IP							●		
Using the database connection service								●	
Learning about error management and corrections*1	▲	▲		▲		▲	▲	▲	●
Maintenance									
Using motion control	●			●					
Using EtherCAT						●			
Using EtherNet/IP							●		

*1 Refer to the *NJ-series Troubleshooting Manual* (Cat. No. W503) for the error management concepts and an overview of the error items. Refer to the manuals that are indicated with triangles for details on errors for the corresponding Units.

Manual Structure

Page Structure

The following page structure is used in this manual.



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.

Note References are provided to more detailed or related information.

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.

Sections in this Manual

1 Overview of Errors

2 Error Troubleshooting Methods

3 Error Tables

I Index

CONTENTS

Introduction 1
Relevant Manuals 2
Manual Structure 3
Sections in this Manual 5
Terms and Conditions Agreement 9
Safety Precautions 11
Precautions for Safe Use 12
Precautions for Correct Use 13
Regulations and Standards 14
Unit Versions 16
Related Manuals 19
Revision History 22

Section 1 Overview of Errors

1-1 Overview of NJ-series Errors 1-2
1-1-1 Types of Errors 1-2
1-1-2 CPU Unit Status 1-3
1-2 Fatal Errors 1-4
1-2-1 Types of Fatal Errors 1-4
1-2-2 Checking for Fatal Errors 1-4
1-3 Non-fatal Errors 1-5
1-3-1 Types of Non-fatal Errors 1-5
1-3-2 Checking for Non-fatal Errors 1-12
1-3-3 Resetting Non-fatal Errors 1-14

Section 2 Error Troubleshooting Methods

2-1 Troubleshooting Flowcharts 2-2
2-1-1 Checking to See If the CPU Unit Is Operating 2-2
2-1-2 Troubleshooting Flowchart for Non-fatal Errors 2-3
2-2 Troubleshooting Fatal Errors 2-4
2-3 Troubleshooting Non-fatal Errors 2-5
2-3-1 Identifying and Resetting Errors with the Sysmac Studio 2-5
2-3-2 Identifying and Resetting Errors with an NS-series PT 2-9
2-3-3 Identifying and Resetting Errors from the User Program 2-11
2-3-4 Checking for Errors with System-defined Variables 2-13
2-4 Troubleshooting When You Cannot Go Online from the Sysmac Studio 2-14
2-4-1 Causes and Correction When You Cannot Go Online from the Sysmac Studio 2-14
2-4-2 Troubleshooting for Each Cause 2-15

Section 3 Error Tables

3-1 Errors by Source 3-2
3-1-1 Interpreting Error Descriptions 3-2
3-1-2 Errors in the PLC Function Module 3-2
3-1-3 Errors in the Motion Control Function Module 3-50
3-1-4 Errors in the EtherNet/IP Function Module 3-80
3-1-5 Errors in the EtherCAT Master Function Module 3-84
3-1-6 Errors in the DB Connection Service Function 3-88
3-1-7 Errors in Slave Terminals 3-93
3-1-8 Errors in EtherCAT Slaves 3-114
3-1-9 Errors in CJ-series Units 3-135
3-2 Events in Order of Event Codes 3-155
3-2-1 Interpreting Error Descriptions 3-155
3-2-2 Error Table 3-156
3-3 Instruction Error Table 3-189

Index

Terms and Conditions Agreement

Warranty, Limitations of Liability

Warranties

- **Exclusive Warranty**

  Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.

- **Limitations**

  OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

  Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right.

- **Buyer Remedy**

  Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See http://www.omron.com/global/ or contact your Omron representative for published information.

Limitation on Liability; Etc

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

Application Considerations

Suitability of Use

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY 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 EQUIPMENT OR SYSTEM.

Programmable Products

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

Disclaimers

Performance Data

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

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.

Errors and Omissions

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

Safety Precautions

Refer to the following manuals for safety precautions.

- NJ-series CPU Unit Hardware User's Manual (Cat No. W500)
- NJ-series CPU Unit Software User's Manual (Cat No. W501)

Precautions for Safe Use

Refer to the following manuals for precautions for the safe use of the NJ-series Controller.
Installation precautions are also provided for the NJ-series CPU Unit and the NJ-series Controller system.

- NJ-series CPU Unit Hardware User's Manual (W500)
- NJ-series CPU Unit Software User's Manual (W501)

Precautions for Correct Use

Refer to the following manuals for precautions for the correct use of the NJ-series Controller.
Installation precautions are also provided for the NJ-series CPU Unit and the NJ-series Controller system.

- NJ-series CPU Unit Hardware User's Manual (W500)
- NJ-series CPU Unit Software User's Manual (W501)

Regulations and Standards

Conformance to EC Directives

Applicable Directives

- EMC Directives
- Low Voltage Directive

Concepts

● EMC Directive

OMRON devices that comply with EC Directives also conform to the related EMC standards so that they can be more easily built into other devices or the overall machine. The actual products have been checked for conformity to EMC standards.*
Whether the products conform to the standards in the system used by the customer, however, must be checked by the customer. EMC-related performance of the OMRON devices that comply with EC Directives will vary depending on the configuration, wiring, and other conditions of the equipment or control panel on which the OMRON devices are installed. The customer must, therefore, perform the final check to confirm that devices and the overall machine conform to EMC standards.

* Applicable EMC (Electromagnetic Compatibility) standards are as follows:
EMS (Electromagnetic Susceptibility): EN 61131-2 and EN 61000-6-2
EMI (Electromagnetic Interference): EN 61131-2 and EN 61000-6-4 (Radiated emission: 10-m regulations)

● Low Voltage Directive

Always ensure that devices operating at voltages of 50 to 1,000 VAC and 75 to 1,500 VDC meet the required safety standards. The applicable directive is EN 61131-2.

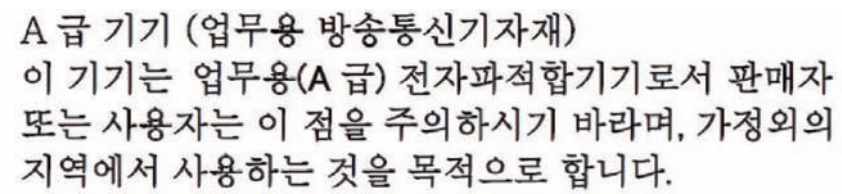
● Conformance to EC Directives

The NJ-series Controllers comply with EC Directives. To ensure that the machine or device in which the NJ-series Controller is used complies with EC Directives, the Controller must be installed as follows:

- The NJ-series Controller must be installed within a control panel.
- You must use reinforced insulation or double insulation for the DC power supplies connected to DC Power Supply Units and I/O Units.
- NJ-series Controllers that comply with EC Directives also conform to the Common Emission Standard (EN 61000-6-4). Radiated emission characteristics (10-m regulations) may vary depending on the configuration of the control panel used, other devices connected to the control panel, wiring, and other conditions.
  You must therefore confirm that the overall machine or equipment complies with EC Directives.

Conformance to KC Standards

Observe the following precaution if you use NX-series Units in Korea.


A 급 기기 (업무용 방송통신기자재)
이 기기는 업무용(A 급) 전자파적합기기로서 판매자
또는 사용자는 이 점을 주의하시기 바라며, 가정외의
지역에서 사용하는 것을 목적으로 합니다.

Class A Device (Broadcasting Communications Device for Office Use)

This device obtained EMC registration for office use (Class A), and it is intended to be used in places other than homes.

Sellers and/or users need to take note of this.

Conformance to Shipbuilding Standards

The NJ-series Controllers comply with the following shipbuilding standards. Applicability to the shipbuilding standards is based on certain usage conditions. It may not be possible to use the product in some locations. Contact your OMRON representative before attempting to use a Controller on a ship.

Usage Conditions for NK and LR Shipbuilding Standards

- The NJ-series Controller must be installed within a control panel.
- Gaps in the door to the control panel must be completely filled or covered with gaskets or other material.
- The following noise filter must be connected to the power supply line.

Noise Filter

Manufacturer	Model
Cosel Co., Ltd.	TAH-06-683

Software Licenses and Copyrights

This product incorporates certain third party software. The license and copyright information associated with this software is available at http://www.fa.omron.co.jp/nj_info_e/.

Unit Versions

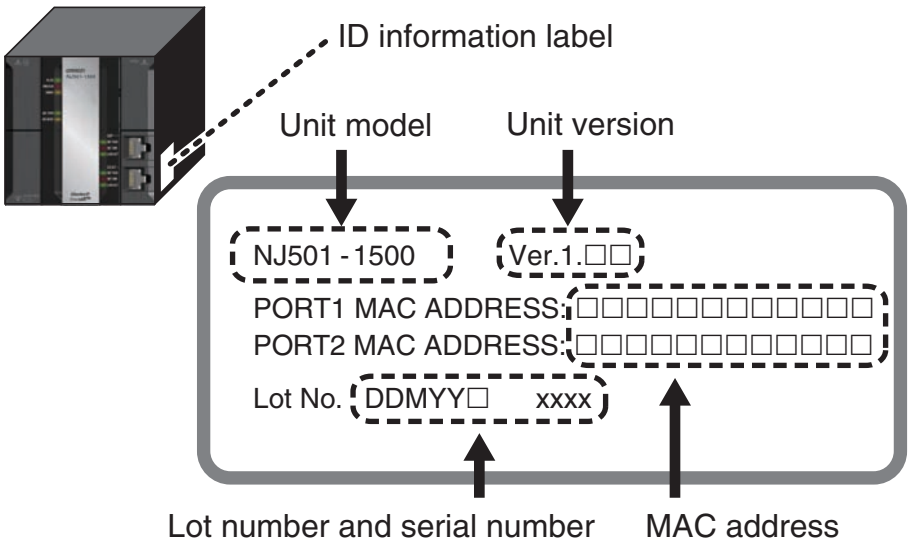
Unit Versions

A “unit version” has been introduced to manage CPU Units in the NJ Series according to differences in functionality accompanying Unit upgrades.

Notation of Unit Versions on Products

The unit version is given on the ID information label of the products for which unit versions are managed, as shown below.

Example for NJ-series NJ501-□□□□ CPU Unit:



The following information is provided on the ID information label.

Item	Description
Unit model	Gives the model of the Unit.
Unit version	Gives the unit version of the Unit.
Lot number and serial number	Gives the lot number and serial number of the Unit. DDMYY: Lot number, □: For use by OMRON, xxxx: Serial number “M” gives the month (1 to 9: January to September, X: October, Y: November, Z: December)
MAC address	Gives the MAC address of the built-in port on the Unit.

Confirming Unit Versions with Sysmac Studio

You can use the Unit Production Information on the Sysmac Studio to check the unit version of the CPU Unit, CJ-series Special I/O Units, CJ-series CPU Bus Units, and EtherCAT slaves. The unit versions of CJ-series Basic I/O Units cannot be checked from the Sysmac Studio.

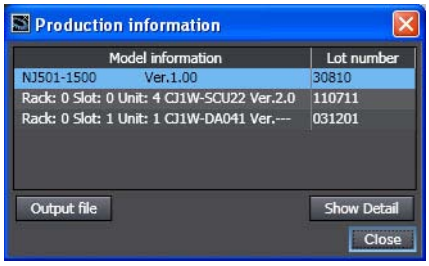
● CPU Unit and CJ-series Units

1 Double-click **CPU/Expansion Racks** under **Configurations and Setup** in the Multiview Explorer. Or, right-click **CPU/Expansion Racks** under **Configurations and Setup** and select ***Edit*** from the menu.

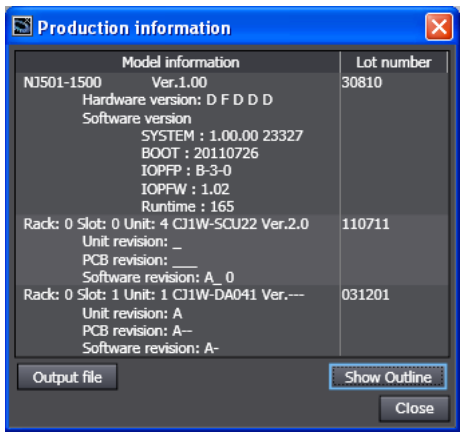
The Unit Editor is displayed for the Controller Configurations and Setup layer.

2 Right-click any open space in the Unit Editor and select ***Production Information***.

The Production Information Dialog Box is displayed.



Simple Display



Detailed Display

In this example, “Ver.1.00” is displayed next to the unit model.

The following items are displayed.

CPU Unit	CJ-series Units
Unit model	Unit model
Unit version	Unit version
Lot number	Lot number
	Rack number, slot number, and unit number

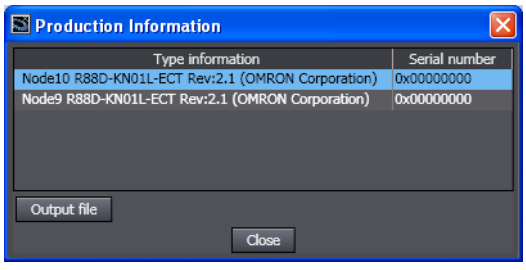
● EtherCAT Slaves

1 Double-click **EtherCAT** under **Configurations and Setup** in the Multiview Explorer. Or, right-click **EtherCAT** under **Configurations and Setup** and select ***Edit*** from the menu.

The EtherCAT Configuration Tab Page is displayed for the Controller Configurations and Setup layer.

2 Right-click the master in the EtherCAT Configurations Editing Pane and select **Display Production Information**.

The Production Information Dialog Box is displayed.



The following items are displayed.
Node address
Type information*
Serial number

* If the model number cannot be determined (such as when there is no ESI file), the vendor ID, product code, and revision number are displayed.

Confirming Unit Versions with System-defined Variable

You can access the *_UnitVersion* (Unit Version) system-defined variable from the user program to check the unit version of the CPU Unit.
_UnitVersion is an USINT array variable with two elements. *_UnitVersion[0]* and *_UnitVersion[1]* correspond to the integer part and the fractional part of the unit version, respectively.

Version Information

A CPU Unit with unit version 1.08 or later and the Sysmac Studio version 1.09 or higher are required to confirm the unit version using the system-defined variable.

Additional Information

Refer to the manual for the specific Unit for the unit versions of the CPU Units, Communications Coupler Units, NX Units, and Safety Control Units to which the database connection service and other functions were added.

Unit Versions and Sysmac Studio Versions

The events that can occur depend on the unit versions of the NJ-series CPU Unit and the EtherCAT slaves. 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 NS-series PT. Refer to the product manuals for information on the unit versions of the CPU Unit and EtherCAT slaves, and for the relationship with the version of the Sysmac Studio.

Unit Version Notation

In this manual, unit versions are specified as shown in the following table.

Product nameplate	Notation in this manual	Remarks
“Ver.1.0” or later to the right of the lot number	Unit version 1.0 or later	Unless unit versions are specified, the information in this manual applies to all unit versions.

Related Manuals

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

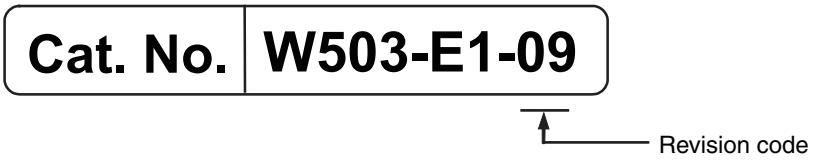
Manual name	Cat. No.	Model numbers	Application	Description
NJ-series CPU Unit Hardware User's Manual	W500	NJ501-□□□□ NJ301-□□□□	Learning the basic specifications of the NJ-series CPU Units, including introductory information, designing, installation, and maintenance. Mainly hardware information is provided.	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 Use this manual together with the *NJ-series CPU Unit Software User's Manual* (Cat. No. W501).
NJ-series CPU Unit Software User's Manual	W501	NJ501-□□□□ NJ301-□□□□	Learning how to program and set up an NJ-series CPU Unit. Mainly software information is provided.	The following information is provided on a Controller built with an NJ501 CPU Unit. • CPU Unit operation • CPU Unit features • Initial settings • Programming based on IEC 61131-3 language specifications Use this manual together with the *NJ-series CPU Unit Hardware User's Manual* (Cat. No. W500).
NJ-series Instructions Reference Manual	W502	NJ501-□□□□ NJ301-□□□□	Learning detailed specifications on the basic instructions of an NJ-series CPU Unit.	The instructions in the instruction set (IEC 61131-3 specifications) are described. When programming, use this manual together with the *NJ-series CPU Unit Hardware User's Manual* (Cat. No. W500) and *NJ-series CPU Unit Software User's Manual* (Cat. No. W501).
NJ-series CPU Unit Motion Control User's Manual	W507	NJ501-□□□□ NJ301-□□□□	Learning about motion control settings and programming concepts.	The settings and operation of the CPU Unit and programming concepts for motion control are described. Use this manual together with the *NJ-series CPU Unit Hardware User's Manual* (Cat. No. W500) and *NJ-series CPU Unit Software User's Manual* (Cat. No. W501).
NJ-series Motion Control Instructions Reference Manual	W508	NJ501-□□□□ NJ301-□□□□	Learning about the specifications of the motion control instructions that are provided by OMRON.	The motion control instructions are described. When programming, use this manual together with the *NJ-series CPU Unit Hardware User's Manual* (Cat. No. W500), *NJ-series CPU Unit Software User's Manual* (Cat. No. W501) and *NJ-series CPU Unit Motion Control User's Manual* (Cat. No. W507).
NJ-series CPU Unit Built-in EtherCAT® Port User's Manual	W505	NJ501-□□□□ NJ301-□□□□	Using the built-in EtherCAT port on an NJ-series CPU Unit.	Information on the built-in EtherCAT port is provided. This manual provides an introduction and provides information on the configuration, features, and setup. Use this manual together with the *NJ-series CPU Unit Hardware User's Manual* (Cat. No. W500) and *NJ-series CPU Unit Software User's Manual* (Cat. No. W501).
NJ-series CPU Unit Built-in EtherNet/IP™ Port User's Manual	W506	NJ501-□□□□ NJ301-□□□□	Using the built-in EtherNet/IP port on an NJ-series CPU Unit.	Information on the built-in EtherNet/IP port is provided. Information is provided on the basic setup, tag data links, and other features. Use this manual together with the *NJ-series CPU Unit Hardware User's Manual* (Cat. No. W500) and *NJ-series CPU Unit Software User's Manual* (Cat. No. W501).
NJ-series Database Connection CPU Units User's Manual	W527	NJ501-1□20	Using the database connection service with NJ-series Controllers	Describes the database connection service.

Manual name	Cat. No.	Model numbers	Application	Description
NJ-series Troubleshooting Manual	W503	NJ501-□□□□ NJ301-□□□□	Learning about the errors that may be detected in an NJ-series Controller.	Concepts on managing errors that may be detected in an NJ-series Controller and information on individual errors are described. Use this manual together with the *NJ-series CPU Unit Hardware User's Manual* (Cat. No. W500) and *NJ-series CPU Unit Software User's Manual* (Cat. No. W501).
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 Sysmac Studio.
NX-series Communications Coupler Unit User's Manual	W519	NX-ECC□□□	Leaning how to use an NX-series Communications Coupler Unit and Slave Terminals	Introduces the system, configuration methods, Unit hardware, setting methods, and functions of Slave Terminals that consist of a Communications Coupler Unit and NX Units.
NX-series NX Units User's Manuals	W521	NX-ID□□□□ NX-IA□□□□ NX-OC□□□□ NX-OD□□□□	Learning how to use NX Units	Describes the hardware, setup methods, and functions of the NX Units. Manuals are available for the following Units. Digital I/O Units, Analog I/O Units, System Units, and Position Interface Units.
	W522	NX-AD□□□□ NX-DA□□□□ NX-TS□□□□		
	W523	NX-PD1□□□ NX-PF0□□□ NX-PC0□□□ NX-TBX□□		
	W524	NX-EC0□□□ NX-ECS□□□ NX-PG0□□□		
NX-series Data Reference Manual	W525	NX-□□□□□□	Referring to the list of data required for NX-series unit system configuration.	Provides the list of data required for system configuration including the power consumption and weight of each NX-series unit.
NX-series Safety Control Unit User's Manual	Z930	NX-SL□□□□ NX-SI□□□□ NX-SO□□□□	Learning how to use NX-series Safety Control Units	Describes the hardware, setup methods, and functions of the NX-series Safety Control Units.
NX-series Safety Control Unit Instructions Reference Manual	Z931	NX-SL□□□□	Learning about the specifications of instructions for the Safety CPU Unit.	Describes the instructions for the Safety CPU Unit. When programming, use this manual together with the *NX-series Safety Control Unit User's Manual* (Cat. No. Z930).
GX-series EtherCAT Slave Units User's Manual	W488	GX-ID□□□□ GX-OD□□□□ GX-OC□□□□ GX-MD□□□□ GX-AD□□□□ GX-DA□□□□ GX-EC□□□□ XWT-ID□□ XWT-OD□□	Learning how to use the EtherCAT remote I/O terminals.	Describes the hardware, setup methods and functions of the EtherCAT remote I/O terminals.
MX2/RX Series Inverter EtherCAT Communication Unit User's Manual	I574	3G3AX-MX2-ECT 3G3AX-RX-ECT	Leaning how to connect a 3G3AX-MX2-ECT or 3G3AX-RX-ECT EtherCAT Communications Unit for MX2/RX-series Inverters.	Describes the following information for the 3G3AX-MX2-ECT and 3G3AX-RX-ECT EtherCAT Communications Unit for MX2/RX-series Inverters: installation, parameter settings required for operation, troubleshooting, and inspection methods.
G5-series AC Servomotors/Servo Drives User's Manuals	I576	R88M-K□ R88D-KN□-ECT	Leaning how to use the AC Servomotors/Servo Drives with built-in EtherCAT Communications.	Describes the hardware, setup methods and functions of the AC Servomotors/Servo Drives with built-in EtherCAT Communications. The linear motor type model and the model dedicated for position controls are available in G5-series.
	I577	R88L-EC-□ R88D-KN□-ECT-L		
EtherCAT Digital-type Sensor Communication Unit Operation Manual	E413	E3X-ECT	Leaning how to connect E3X-series EtherCAT Slave Units.	Provides the specifications of and describes application methods for E3X-series EtherCAT Slave Units.
E3NW-ECT EtherCAT Digital Sensor Communications Unit Operation Manual	E429	E3NW-ECT	Leaning how to connect E3NW EtherCAT Slave Units.	Provides the specifications of and describes application methods for E3NW EtherCAT Slave Units.

Manual name	Cat. No.	Model numbers	Application	Description
FQ-M-series Specialized Vision Sensor for Positioning User's Manual	Z314	FQ-MS12□	Leaning how to connect FQ-M-series Specialized Vision Sensor for Positioning.	Describes the following information for the FQ-M-series Specialized Vision Sensor for Positioning: installation, wiring methods, parameter settings required for operation, troubleshooting, and inspection methods.
FH/FZ5 Vision System FH/FZ5 Series User's Manual for Communications Settings	Z342	FH-3□□□□ FH-1□□□□	Leaning how to connect FH/FZ5-series Vision Systems	The functions, settings, and communications methods to communicate with FH/FZ5-series Vision Systems from a PLC or other external device are described.
ZW-CE1□T Confocal Fiber Type Displacement Sensor User's Manual	Z332	ZW-CE1□T	Learning how to connect ZW-CE1□T EtherCAT Slave Units.	Provides the specifications of and describes application methods for ZW-CE1□T EtherCAT Slave Units.
CJ-series Special Unit Manuals for NJ-series CPU Unit	W490	CJ1W-AD□□□ CJ1W-DA□□□ CJ1W-MAD42	Learning how to use CJ-series Units with an NJ-series CPU Unit.	The methods and precautions for using CJ-series Units with an NJ501 CPU Unit are described, including access methods and programming interfaces. Manuals are available for the following Units. Analog I/O Units, Insulated-type Analog I/O Units, Temperature Control Units, ID Sensor Units, High-speed Counter Units, Serial Communications Units, DeviceNet Units, EtherNet/IP Units, and CompoNet Master Units. Use these manuals together with the *NJ-series CPU Unit Hardware User's Manual* (Cat. No. W500) and *NJ-series CPU Unit Software User's Manual* (Cat. No. W501).
	W491	CJ1W-TC□□□		
	W492	CJ1W-CT021		
	W498	CJ1W-PDC15 CJ1W-PH41U CJ1W-AD04U		
	W493	CJ1W-CRM21		
	W494	CJ1W-SCU□□		
	W495	CJ1W-EIP21		
	W497	CJ1W-DRM21		
	Z317	CJ1W-V680□□□		
NS-series Programmable Terminals Programming Manual	V073	NS15-□□□□□ NS12-□□□□□ NS10-□□□□□ NS8-□□□□□ NS5-□□□□□	Learning how to use the NS-series Programmable Terminals.	Describes the setup methods, functions, etc. of the NS-series Programmable Terminals.

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 unit version 1.01, made additions and changes to events related to the addition of devices that can be connected, and corrected mistakes.
03	May 2012	Added information related to the upgrade to unit version 1.02, made additions and changes to events related to the addition of devices that can be connected, and corrected mistakes.
04	August 2012	Made additions to events and changes to the contents related to the upgrade to unit version 1.03, and corrected mistakes.
05	February 2013	Made additions to events and changes to the contents related to the upgrade to unit version 1.04, and corrected mistakes.
06	April 2013	Made additions to events and changes to the contents related to the upgrade to unit version 1.05, and corrected mistakes.
07	June 2013	Made additions to events and changes to the contents related to the upgrade to unit version 1.06, and corrected mistakes.
08	September 2013	Made additions to events and changes to the contents related to the upgrade to unit version 1.07, and corrected mistakes.
09	December 2013	Made additions to events and changes to the contents related to the upgrade to unit version 1.08, and corrected mistakes.

1

Overview of Errors

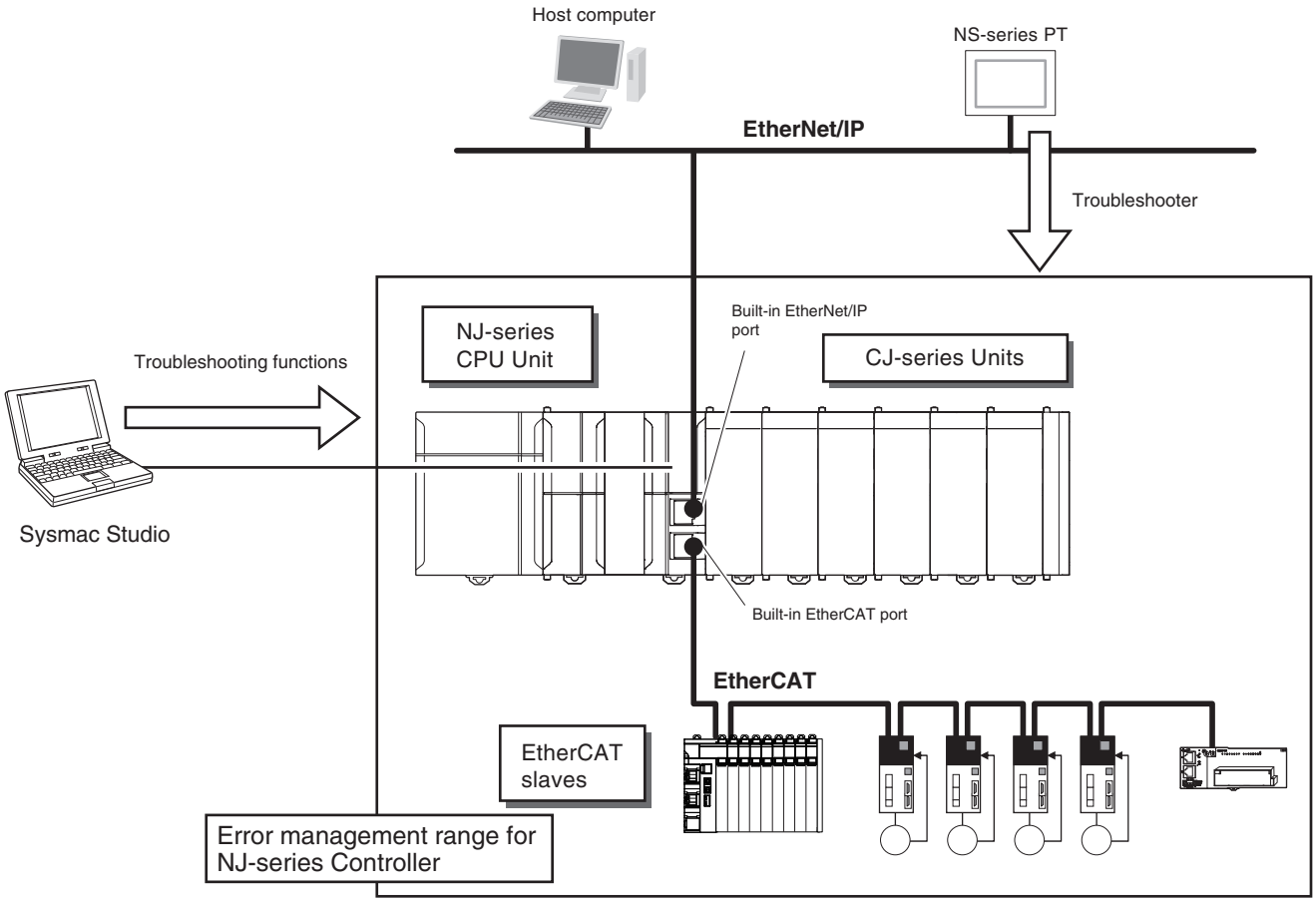
This section provides information that is required to troubleshoot errors. It introduces the types of errors that can occur on an NJ-series Controller, the operation that occurs in response to errors, and the methods you can use to check for errors. Refer to *Section 2 Error Troubleshooting Methods*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

1-1 Overview of NJ-series Errors 1-2
1-1-1 Types of Errors 1-2
1-1-2 CPU Unit Status 1-3
1-2 Fatal Errors 1-4
1-2-1 Types of Fatal Errors 1-4
1-2-2 Checking for Fatal Errors 1-4
1-3 Non-fatal Errors 1-5
1-3-1 Types of Non-fatal Errors 1-5
1-3-2 Checking for Non-fatal Errors 1-12
1-3-3 Resetting Non-fatal Errors 1-14

1-1 Overview of NJ-series Errors

You manage all of the errors that occur on the NJ-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-series Slave Terminals, EtherCAT slaves,* and CJ-series Units).

* Only Sysmac devices are supported. For information on EtherCAT slaves that are Sysmac devices, refer to the *NJ-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 NS-series PT to quickly check for errors that have occurred and find corrections for them.

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

1-1-1 Types of Errors

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

● Fatal Errors

These errors are not detected by the event management function of the NJ-series Controller because the CPU Unit stops operation. You cannot identify or reset these errors with the Sysmac Studio or an NS-series PT.

Refer to *1-2 Fatal Errors* for error types and confirmation methods for fatal errors.

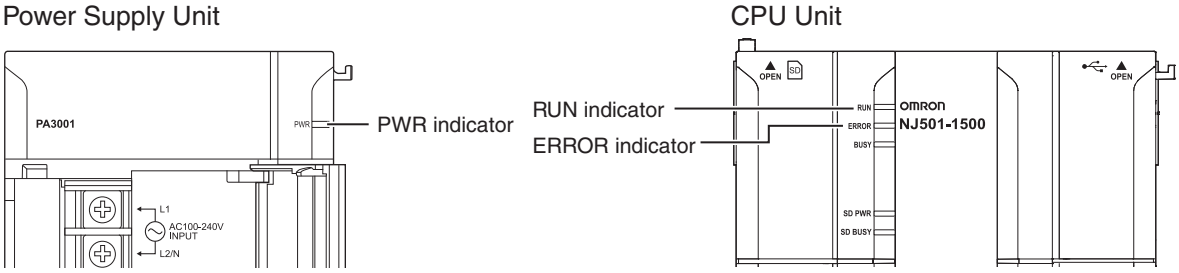
● Non-fatal Errors

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

Refer to *1-3 Non-fatal Errors* for error types and confirmation methods for non-fatal errors.

1-1-2 CPU Unit Status

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



The following table shows the status of the front-panel indicators, the status of user program execution, and the ability to make a software connection to the Sysmac Studio or an NS-series PT during startup, during normal operation, and when there are errors in the Controller.

CPU Unit operating status		Power Supply Unit	CPU Unit		User program execution status	Software connection to Sysmac Studio or NS-series PT
		PWR (green)	RUN (green)	ERROR (red)		
During startup		Lit	Flashing (1-s intervals).	Not lit	Stops.	Not possible.
During normal operation	RUN mode	Lit	Lit	Not lit	Continues.	Possible.
	PROGRAM mode	Lit	Not lit	Not lit	Stops.	
Fatal errors	Power Supply Error*1	Not lit	Not lit	Not lit	Stops.	Not possible.
	CPU Unit Reset*1	Lit	Not lit	Not lit	Stops.	
	Incorrect Power Supply Unit Connected*1	Lit	Flashing (3-s intervals).	Lit	Stops.	
	CPU Unit Watchdog Timer Error*1	Lit	Not lit	Lit	Stops.	
Non-fatal errors	Major fault*2	Lit	Not lit	Lit	Stops.	Possible. (Communications can be connected from an NS-series PT if EtherNet/IP is operating normally.)
	Partial fault*2	Lit	Lit	Flashing (1-s intervals).	Continues.*3	
	Minor fault*2	Lit	Lit	Flashing (1-s intervals).	Continues.	
	Observation*2	Lit	Lit	Not lit	Continues.	

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

*2 Refer to *1-3 Non-fatal Errors* 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 operation of the NJ-series CPU Unit to stop.
Software connections to the Sysmac Studio or an NS-series PT cannot be made if there is a fatal error in the Controller.

● Power Supply Error

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

● CPU Unit Reset

The CPU Unit stopped operation because of a hardware error. Other than hardware failures, this error also occurs at the following times.

- 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.

● Incorrect Power Supply Unit Connected

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

● CPU Unit Watchdog Timer Error

This error occurs in the CPU Unit. This error occurs when the watchdog timer times out because a hardware failure or when temporary data corruption causes the CPU Unit to hang.

1-2-2 Checking for Fatal Errors

You can identify fatal errors based on the status of the PWR indicator on the Power Supply Unit and the RUN and ERROR indicators on the CPU Unit, as well as by the ability to go online with the CPU Unit from the Sysmac Studio. Refer to *Section 2 Error Troubleshooting Methods* for information on identifying errors and corrections.

Indicators			Going online from the Sysmac Studio	CPU Unit operating status
PWR (green)	RUN (green)	ERROR (red)		
Not lit	Not lit	Not lit	Not possible.*	Power Supply Error
Lit	Not lit	Not lit		CPU Unit Reset
Lit	Flashing (3-s intervals).	Lit		Incorrect Power Supply Unit Connected
Lit	Not lit	Lit		CPU Unit Watchdog Timer Error

* 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

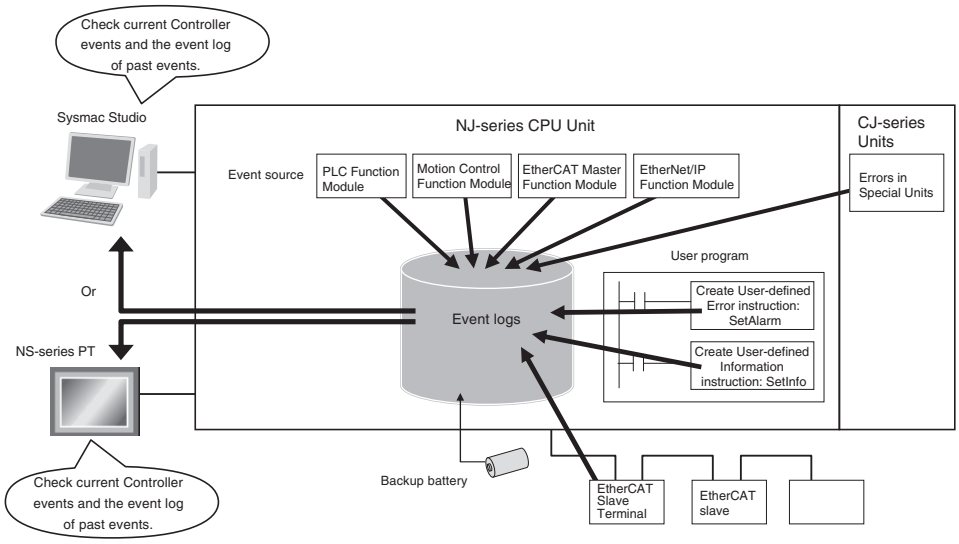
Non-fatal errors that occur are managed as events in the NJ-series Controller. You can check the event to find out what type of error occurred.

1-3-1 Types of Non-fatal Errors

Overview of Controller Events (Errors and Information)

You use the same methods to manage all of the events that occur on the NJ-series Controller. The events that occur are saved in battery-backup memory in the CPU Unit and NX-series Slave Terminals. You can use the Sysmac Studio or an NS-series PT to confirm current Controller events and the log of events that occurred before. This log is called an event log.

To use an NS-series PT to check events, connect the PT to the built-in EtherNet/IP port on the CPU Unit.



Note Refer to the manual for the Communications Coupler Unit for details on the event log in a Slave Terminal.

The following events can occur.

● Controller Events

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

The error logs from within the EtherCAT slaves and the CJ-series Special Units are not included. Refer to the manuals for the slaves or Special Units for the procedures to read their error logs. You can check the error logs from CJ-series Special Units on the Controller Event Log Tab Page of the Sysmac Studio.

● User-defined Events

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

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

Non-fatal errors are managed as Controller events. This section describes mainly the Controller events.

Details on Controller Events (Errors and Information)

● 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*. The following information is provided as the event source details.

Event source	Source details
PLC Function Module	Instructions, I/O bus master, or CJ-series 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, CIP, FTP, NTP, or SNMP

The event source is displayed on the Sysmac Studio or NS-series PT.

● 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.

No.	Level	Classification	Level name
1	High	Controller errors	Major fault level
2	↑		Partial fault level
3	↕		Minor fault level
4	↓		Observation
5	Low	Controller information	Information

Errors with a higher level have a greater impact on the functions that the NJ-series Controller provides, and are more difficult to recover from. When an event occurs, the Sysmac Studio or PT will display the level.

Event Levels

- 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 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 NS-series PT. To recover from a major fault level error, remove the cause of the error, and either cycle the power supply to the Controller, or reset the Controller from the Sysmac Studio.
- Partial Fault Level
  These errors prevent control operations in a certain function module in the Controller. The NJ-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 NS-series PT.
  - 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 indicate errors.

You can change the event level for some events. Refer to the *NJ-series CPU Unit Software User's Manual* (Cat. No. W501) for details on changing event levels. Refer to *3-1 Errors by Source* 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.

Event level / Item		Controller errors				Controller information
		Major fault level	**Partial fault level**	**Minor fault level**	**Observation**	**Information**
Definition		These errors are serious errors that prevent control operations for the entire Controller.	These errors prevent all of the control in a function module other than PLC Function Module.	These errors prevent part of the control operations in a certain function module.	These errors do not affect system control operations.	These are not errors, but appear in the event log to notify the user of specific information.
Event examples (Only a few examples are provided here. Refer to *Section 3 Error Tables* for a list of all of the errors.		• I/O Bus Check Error (PLC Function Module)	• Motion Control Period Exceeded (Motion Control Function Module) • Communications Controller Failure (EtherCAT Master Function Module)	• Positive Limit Input Detected (Motion Control Function Module) • Analog Input Disconnection Detected (CJ-series Unit) • Low Battery Voltage (PLC Function Module)	• Packet Discarded Due to Full Reception Buffer (EtherNet/IP Function Module)	• Power Turned ON • Power Interrupted • Memory All Cleared
Front-panel indicators*1	**PWR (green)**	Lit	Lit	Lit	Lit	Lit
	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

Item \ Event level		Controller errors				Controller information
		Major fault level	Partial fault level	Minor fault level	Observation	Information
NJ-series CPU Unit operation	RUN output on Power Supply Unit	OFF	ON	ON	ON	ON
	User program execution status	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.	---	---
	Event logs	Recorded. (Some errors are not recorded.)	Recorded.	Recorded.	Recorded.	Recorded.
Outputs from EtherCAT slaves and Basic Output Units		Refer to *I/O Operation for Major Fault Level Controller Errors* on page 1-9.	• Errors in EtherCAT Master Function Module: Depends on settings in the slave. • Errors in other function modules: According to user program.	According to user program.	According to user program.	According to user program.
Sysmac Studio display (when online)		Error messages are automatically displayed in the Controller Status Pane. The user can display detailed information in the Troubleshooting Dialog Box.			These errors and events are not shown on the display of Controller errors.	

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

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

Operation in the Function Module Where an Error Event Occurred

Event level / Function module	Major fault level	Partial fault level	Minor fault level	Observation
PLC Function Module	User program execution stops.	---	Operation continues.	
Motion Control Function Module	All axes stop. (The stop method depends on the error.)	All axes stop. (The stop method depends on the error.)	• The affected axes/axes group stops. (The stop method depends on the settings.) • The motion control instruction is not executed (for instructions related to axis operation.)	• Axis operation continues. • The motion control instruction is not executed (for instructions not related to axis operation).
EtherCAT Master Function Module	I/O refreshing for EtherCAT communications stops. (The slaves operate according to the settings in the slaves.)	EtherCAT communications stop. (The slaves operate according to the settings in the slaves.)	I/O refreshing for EtherCAT communications stops or continues according to the fail-soft operation settings in the master. (If I/O refreshing stops, the slaves operate according to the settings in the slaves.)	I/O refreshing for EtherCAT communications continues.
EtherNet/IP Function Module	Part of the EtherNet/IP communications stop. (Online connections to the Sysmac Studio and communications connections with NS-series PTs are possible. (Output (produce) tags in the tag data links operate according to the tag set settings.)	EtherNet/IP communications stop. (A software connection from the Sysmac Studio or an NS-series PT is not possible.)	Part of the EtherNet/IP communications stop. (A software connection from the Sysmac Studio or an NS-series PT is possible if the communications connection is not the cause of the error.)	EtherNet/IP communications continue.

I/O Operation for Major Fault Level Controller Errors

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

- 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 slave *1	The slave is placed in the Safe-Operational state.	Depends on the slave settings. *2
Servo Drive or NX Unit assigned to an axis	Updating the command values is stopped.	All axes stop immediately.

Unit	CPU Unit operation	Unit or slave operation
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 operating specifications (the ERH indicator lights).
Devices connected with EtherNet/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 specifications of the connected devices.

*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-series 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 errors that are not listed above.

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 slave *1	The slave is placed in the Safe-Operational state.	Depends on the slave settings. *2
Servo Drive or NX Unit assigned to an axis	Updating the command values is stopped.	All axes stop immediately.
CJ-series Basic I/O Unit	• The values of all outputs are cleared to zero. • Input refreshing continues.	• All outputs are turned OFF. • External inputs are refreshed.
CJ-series Special Unit	Refreshing continues.	Depends on the Unit operating specifications.
Devices connected with EtherNet/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 specifications of the connected devices.

*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-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 PT 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 corruption 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, parameters 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 example, 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 conditions 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 A123 hex
Classification	Used in	Upper 4 digits	Lower 4 digits	
Error codes in the Motion Control Function Module	• *ErrorID* output variable for motion control instructions • System-defined variables for motion control*	Error code	0000 hex	A123 0000 hex
Error codes for basic instructions	*ErrorID* output variable for basic instructions	5401 hex	Error code	5401 A123 hex
Error codes in CJ-series Special Units	Error logs from CJ-series Special Units	0000 hex	Error code	0000 A123 hex

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

Variable	Name
_MC_COM.PFaultLvl.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[0..63].MFaultLvl.Code	Axis Minor Fault Code

Variable	Name
_MC_AX[0..63].Obsr.Code	Axis Observation Code
_MC_GRP[0..31].MFaultLvl.Code	Axes Group Minor Fault Code
_MC_GRP[0..31].Obsr.Code	Axes Group Observation Code

For descriptions of the error codes for the Motion Control Function Module or basic instructions, refer to the descriptions of the corresponding event codes. Refer to the *NJ-series CPU Unit Motion Control User's Manual* (Cat. No. W507) and *NJ-series Motion Control Instructions Reference Manual* (Cat. No. W508) for error information on the Motion Control Function Module, and to the *NJ-series Instructions Reference Manual* (Cat. No. W502) for error information on basic instructions. For error information on a CJ-series Special Unit, refer to the manual for the relevant Unit. For the corresponding event codes, refer to the descriptions of the error codes.

● Exporting the Error Log

You can use the Sysmac Studio or an NS-series PT to export the displayed event log to a CSV file. Refer to the *NJ-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

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

Checking method	What you can check
Checking the indicators	You can use the indicators to confirm the Controller error level, the error status of the EtherCAT Master Function Module, and the error status of the EtherNet/IP Function Module.
Checking with the Troubleshooting Function of Sysmac Studio	You can check for current Controller errors, a log of past Controller errors, error sources, error causes, and corrections. You can also check error logs from CJ-series Special Units.*1
Checking with the Troubleshooter of an NS-series PT*2	You can check for current Controller errors, a log of past Controller errors, error sources, error causes, and corrections.
Instructions that read function module error status	You can check the highest-level status and highest-level event code in the current Controller errors.
Checking with system-defined variables	You can check the current Controller error status for each function module.

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

*2 To perform troubleshooting from an NS-series PT, connect the PT to the built-in EtherNet/IP port on the CPU Unit.

This section describes the above checking methods.

Checking the Indicators

● Checking the Level of a Controller Error

You can use the PWR indicator on the Power Supply Unit and the RUN and ERROR indicators on the CPU Unit to determine the level of an error. The following table shows the relationship between the Controller's indicators and the event level.

Indicators			Event level
PWR (green)	RUN (green)	ERROR (red)	
Lit	Not lit	Lit	Major fault level
Lit	Lit	Flashing (1-s intervals).	Partial fault level
			Minor fault level

Indicators			Event level
PWR (green)	RUN (green)	ERROR (red)	
Lit	Lit	Not lit	Observation

● Checking Errors in the EtherCAT Master Function Module and EtherNet/IP Function Module

For the EtherCAT Master Function Module and EtherNet/IP Function Module, 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.

Indicators	Indicated status
EtherCAT NET ERR	EtherCAT Master Function Module Status • Lit: Errors for which normal status cannot be recovered through user actions (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 NET ERR	EtherNet/IP Function Module Status • Lit: Errors for which normal status cannot be recovered through user actions (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. • No 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 Sysmac Studio's Controller Error Tab Page to check the current error's level, source, source details, event name, event code, details, attached information 1 to 4, actions, and corrections. Errors are not displayed for observations.

● Log of Past Errors

Open the Sysmac Studio's Controller Event Log Tab Page to check the times, levels, sources, source details, event names, event codes, details, attached information 1 to 4, actions, and corrections for previous 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)* under *1-3-1 Types of Non-fatal Errors*.

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

Checking with the Troubleshooter of an NS-series PT

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

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

● Current Errors

Open the Controller Error Tab Page on the NS-series PT's Troubleshooter to check the current error's event name, event code, level, source, source details, time, details, and attached information 1 to 4. However, for some NX Units, you cannot check the event names, event codes, details, and attached information for current errors. Also, observations are not displayed as errors.

● Log of Past Errors

Open the Controller Event Log Tab Page on the NS-series PT's Troubleshooter to check the time, level, source, event name, event code, details, and attached information 1 to 4 for previous errors. However, you cannot check the log of previous errors for the Communications Coupler Units, NX Units, EtherCAT slaves, and CJ-series Units.

Refer to the *NS-series Programmable Terminals Programming Manual* (Cat. No. V073) for details on the NS-series PT's Troubleshooter.

Instructions That Read Function Module 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
Motion Control Function Module	Get Motion Control Error Status	GetMCError
EtherCAT Master Function Module	Get EtherCAT Error Status	GetECError
EtherNet/IP Function Module	Get EtherNet/IP Error Status	GetEIPError

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

Checking with System-defined Variables

You can check the Error Status variable 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. Refer to the *NJ-series CPU Unit Software User's Manual* (Cat. No. W501) for information on system-defined variables.

1-3-3 Resetting Non-fatal Errors

Unless you reset an error, the CPU Unit 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 the 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.

Error Resetting Methods

Method	Operation	Errors that are reset	Description
Commands from Sysmac Studio	Resetting Controller errors	Resetting all errors in the entire Controller	Reset the Controller errors from the Sysmac Studio's Troubleshooting Dialog Box.
		Resetting all Slave Terminal errors	Refer to the manual for the Communications Coupler Unit for details on resetting errors in a Slave Terminal.
		Resetting errors for individually specified NX Units	
	Downloading	Resetting all errors for a specific function module	After the causes of the Controller errors are removed, all Controller errors in the relevant function module are reset as a result. Errors are not reset when you download the Controller Configurations and Setup.
	Clear All Memory	Resetting all errors for all function modules	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
	Controller reset		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	Resetting all Slave Terminal errors	If the causes for the Controller errors are removed, all Controller errors in the Slave Terminals are reset.
	Restarting the Slave Terminal		
Commands from an NS-series PT*2	Resetting Controller errors	Resetting all errors in the entire Controller	Reset Controller errors from the Troubleshooter of an NS-series PT that is compatible with NJ-series Controllers. You can reset errors from a PT that is not directly compatible with the NJ-series Controller or another company's HMI if you use the PT/HMI in combination with the reset error instruction for the function module in the user program.

Method	Operation	Errors that are reset	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 I/O bus, you can reset all errors or just the errors for a particular Unit.
Commands from a host computer	Resetting Controller errors with CIP messages	Resetting all errors for all function modules	Use a CIP message from a host computer to reset errors.
Cycling the Controller'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 NS-series PT, connect the PT to the built-in EtherNet/IP port on the CPU Unit.

2

Error Troubleshooting Methods

This section describes troubleshooting methods for specific errors.

2-1 Troubleshooting Flowcharts 2-2
2-1-1 Checking to See If the CPU Unit Is Operating 2-2
2-1-2 Troubleshooting Flowchart for Non-fatal Errors 2-3
2-2 Troubleshooting Fatal Errors 2-4
2-3 Troubleshooting Non-fatal Errors 2-5
2-3-1 Identifying and Resetting Errors with the Sysmac Studio 2-5
2-3-2 Identifying and Resetting Errors with an NS-series PT 2-9
2-3-3 Identifying and Resetting Errors from the User Program 2-11
2-3-4 Checking for Errors with System-defined Variables 2-13
2-4 Troubleshooting When You Cannot Go Online from the Sysmac Studio 2-14
2-4-1 Causes and Correction When You Cannot Go Online from the Sysmac Studio 2-14
2-4-2 Troubleshooting for Each Cause 2-15

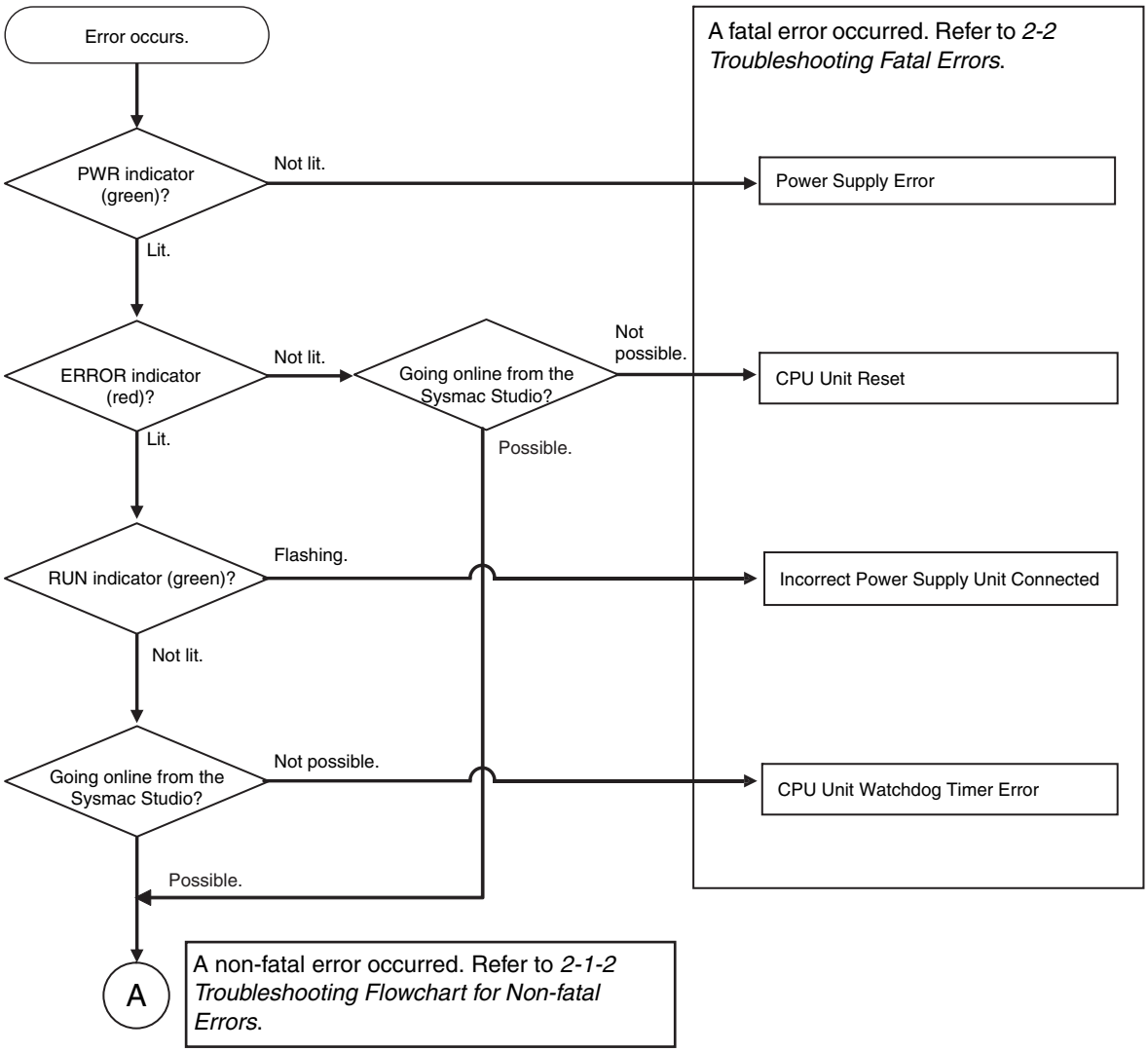
2-1 Troubleshooting Flowcharts

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

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

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

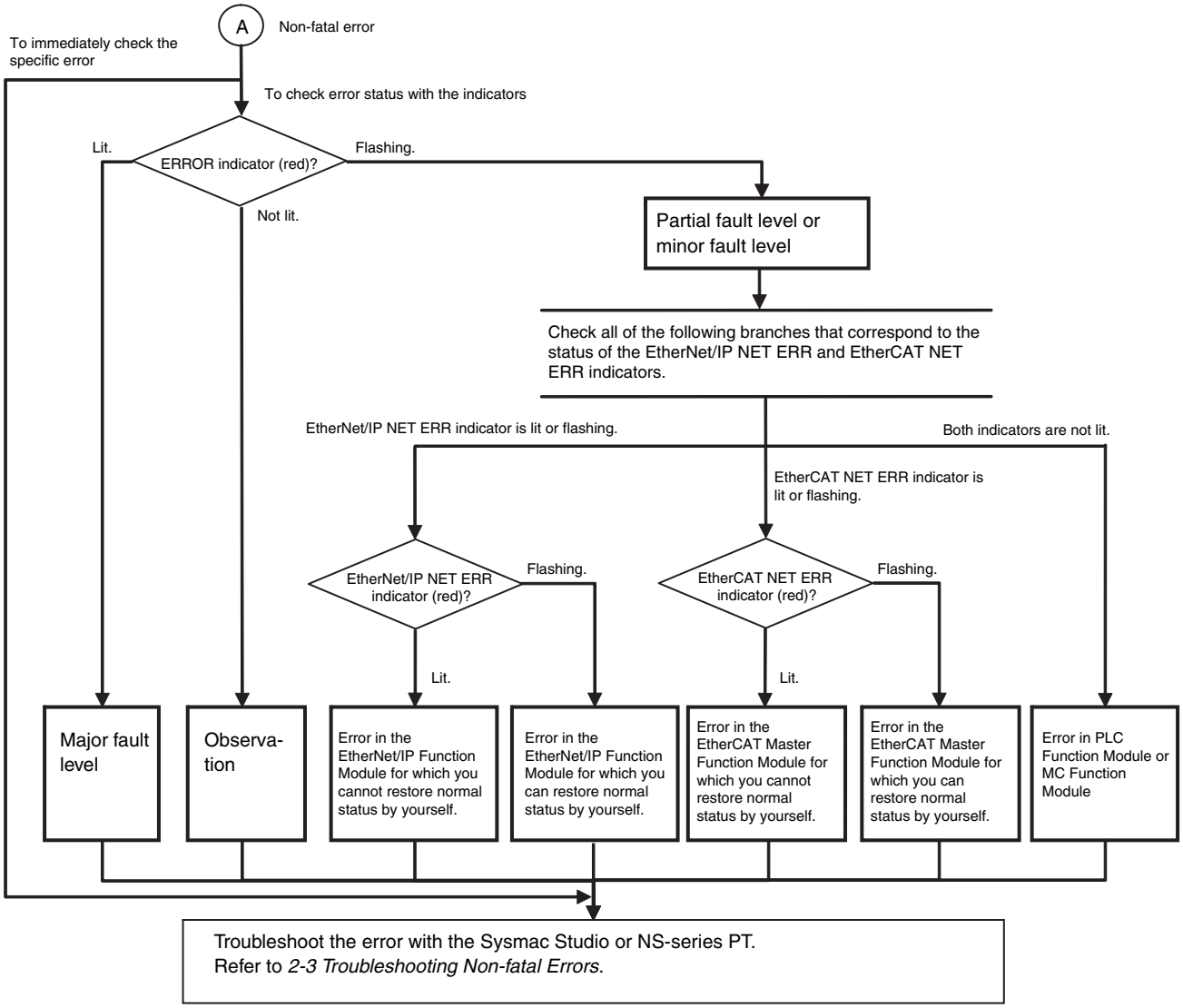
Whenever possible, set the Sysmac Studio's software connection method in the flowchart to a direct USB connection. If you use Ethernet, there are many reasons that prevent a software connection from the Sysmac Studio, so time is required to determine if a fatal or non-fatal error has occurred. If you cannot go online from the Sysmac Studio, perform *2-4 Troubleshooting When You Cannot Go Online from the Sysmac Studio* before you assume that the error is a fatal error.



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

For a non-fatal error, use the Sysmac Studio or an NS-series PT 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 Function Module or the EtherCAT Master Function Module
- If the sources of the error is the EtherNet/IP Function Module or the EtherCAT Master Function Module, whether you can restore normal status yourself



2-2 Troubleshooting Fatal Errors

The section describes the procedure to troubleshoot fatal errors.

● Power Supply Error

Cause	Correction
Power is not being input.	Turn ON the power.
The voltage is outside of the allowable range for the power supply.	Check the Controller's power supply system, and correct it so that the voltage is within the allowable range.
Power supply system error caused by mounted Unit	Remove the Units from the CPU Rack one by one. If the error is eliminated, replace that Unit.
Power Supply Unit failure	If the error persists even after you make the above corrections, replace the Power Supply 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.
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 connected to the CPU Rack.	Connect an NJ-series Power Supply Unit to the CPU Rack.

● 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

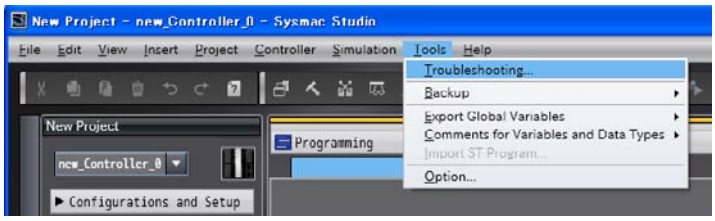
2-3-1 Identifying and Resetting Errors with the Sysmac Studio

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.

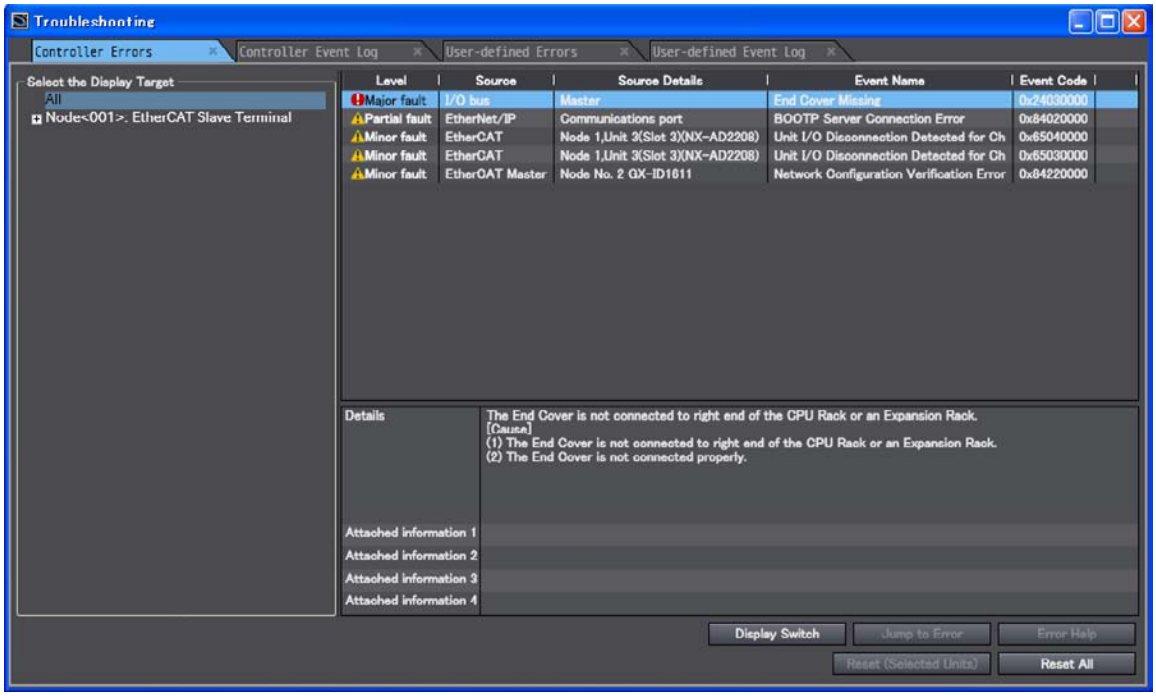
Displaying Errors on the Sysmac Studio

If an error occurs while the Sysmac Studio is online with the CPU Unit, 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 Window.

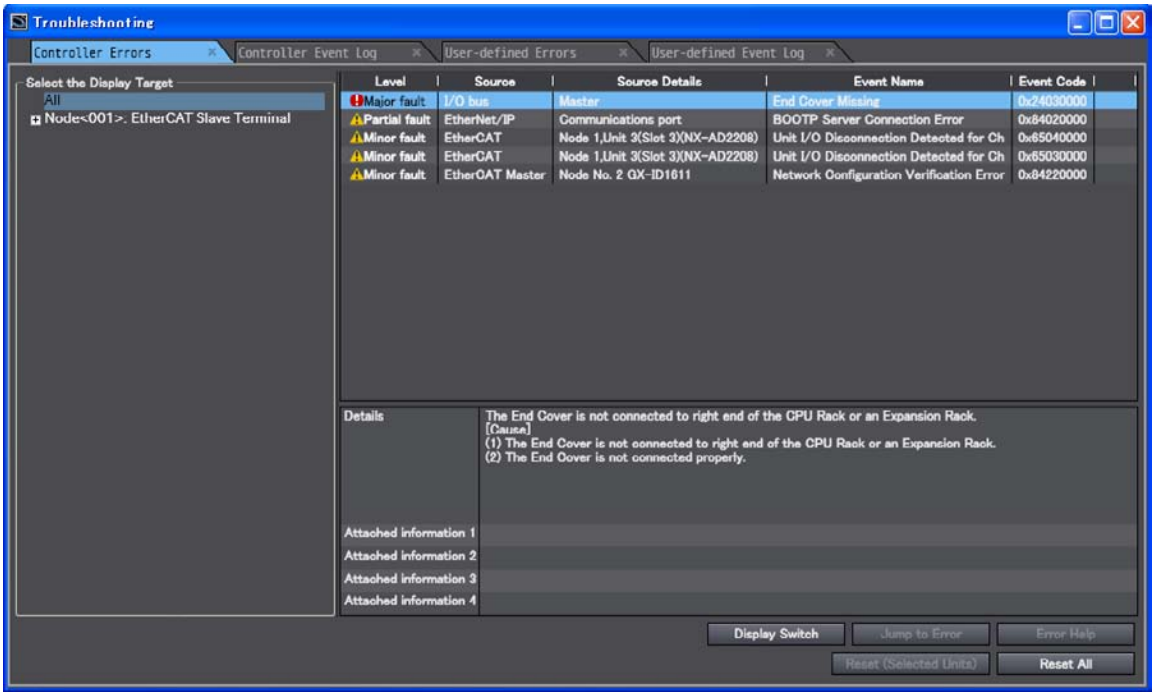


Checking Current Errors and the Event Logs with the Sysmac Studio

Checking Current Errors with the Sysmac Studio

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

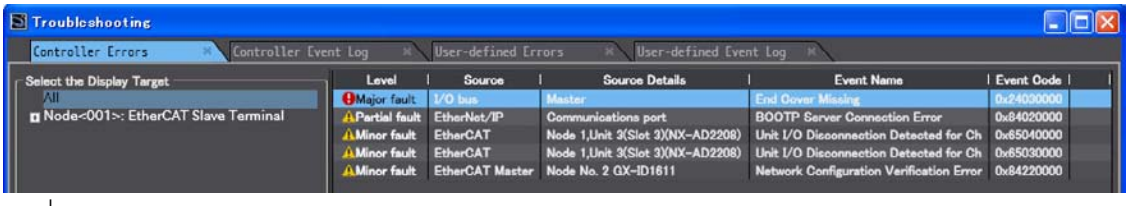
The Controller Errors Tab Page lists the current errors in order of their levels.



Display 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.

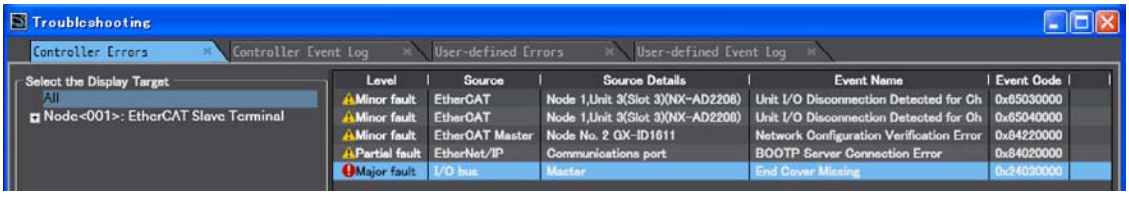
You can click the column headings in the Controller error list, such as the *Level* or *Source*, to reorder the table rows according to that heading. For example, the following change occurs when you click the Source heading.

Before *Source* heading is clicked.



↓

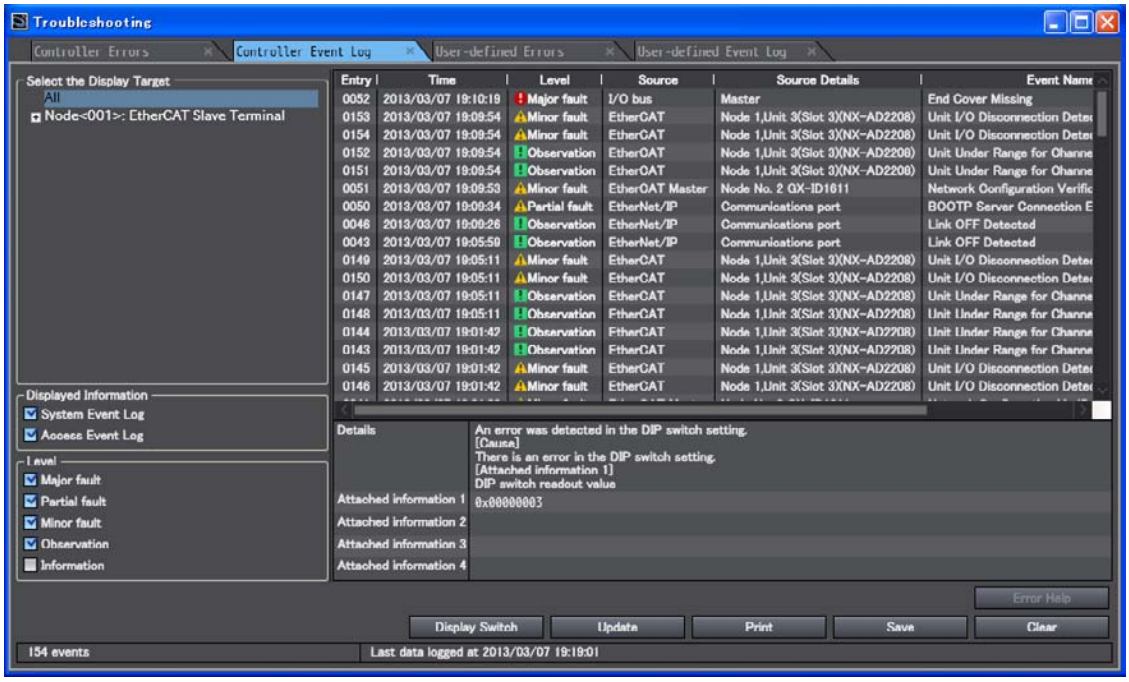
After *Source* heading is clicked.



● 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 events that you specify are displayed in the detailed information area.



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)* under *1-3-1 Types of Non-fatal Errors*.

Resetting Errors with the Sysmac Studio

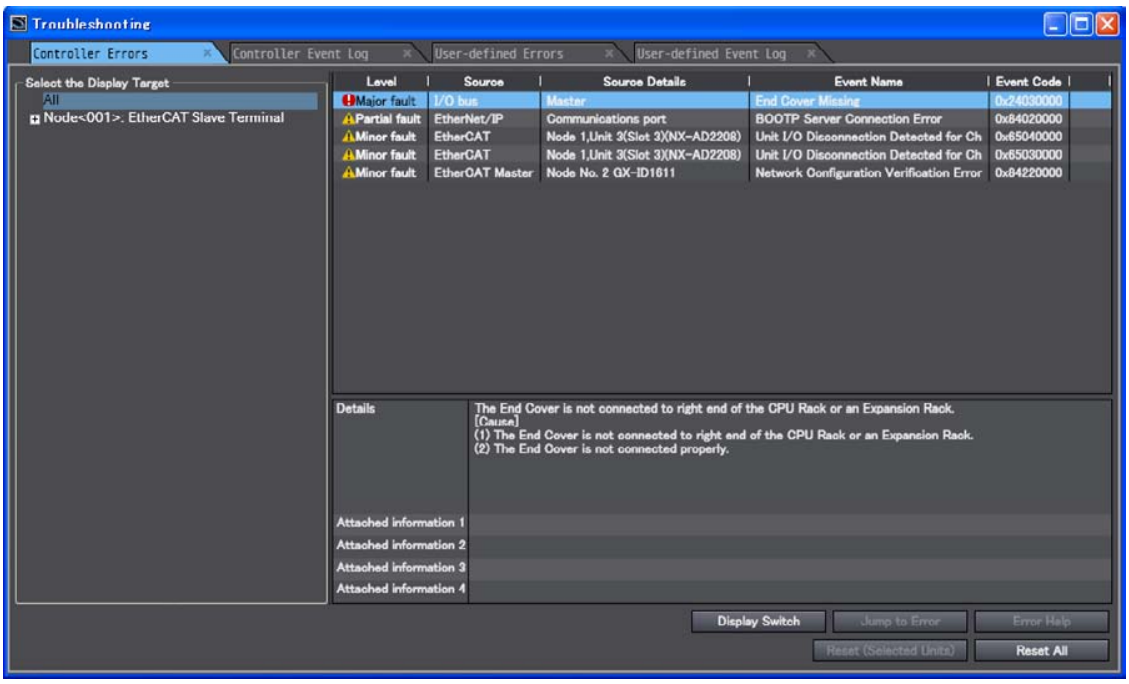
You can use the Sysmac Studio to reset errors that occur in a Controller. With a CPU Unit with unit version 1.05 or later and Sysmac Studio version 1.06 or higher you can also reset errors for individual Units.

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.

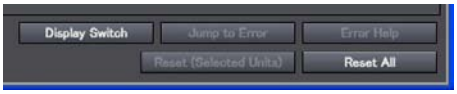
Display item	Description
Details	Detailed information on the error is displayed, such as the probable causes.
Attached information 1 through 4	Detailed information about the source of the error is displayed.
Action and Correction	Methods to correct the probable causes of the error are displayed.

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.



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.



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-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 NS-series PT

You can connect one of the following OMRON NS-series PTs to an NJ-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 PT is used.)

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

- 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 Ethernet port.)
- NSJ8, NSJ10, and NSJ12
  All models
- NSJ5
  NSJ5-□Q11-□ (These models have expanded memory and an Ethernet port.)

The above models of NS-series PTs with system version 8.5 or higher are compatible with the NJ-series Controllers.

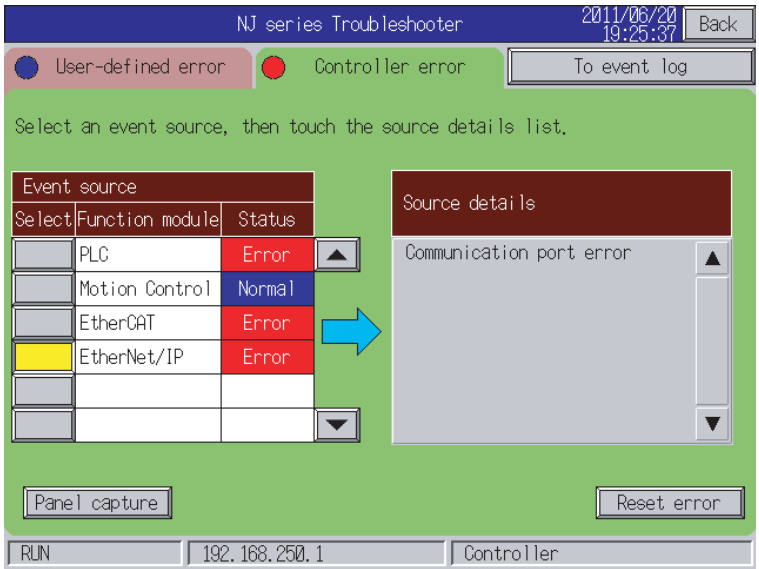
Checking for Current Errors with an NS-series PT

You can check for errors in the Controller using the Troubleshooter of an NS-series PT that is compatible with NJ-series Controllers. You can also use the Troubleshooter to read detailed error information and corrections for current errors. However, for some NX Units, you cannot check the event name, event code, details, and attached information for current errors.

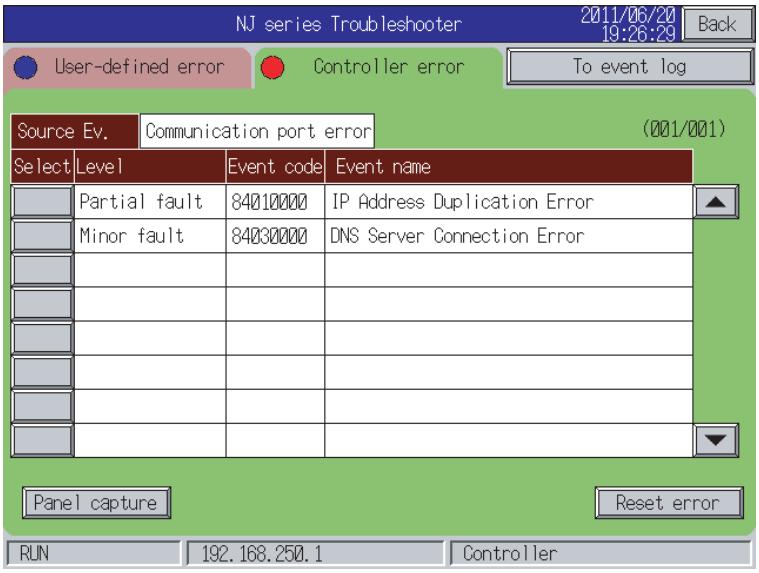
Refer to the *NS-series Programmable Terminals Programming Manual* (Cat. No. V073) for details on the NS-series PT's Troubleshooter.

The following example demonstrates the procedure used to check for errors with an NS8, NS10, NS12, or NS15 PT.

You can check the event source in the Function Module View of the Troubleshooter. If you click the **Select** Button for a function module in the *Event source* Table, you can display the *Source details* for events for that function module. You can select the list in the *Source details* Table to display the List View.



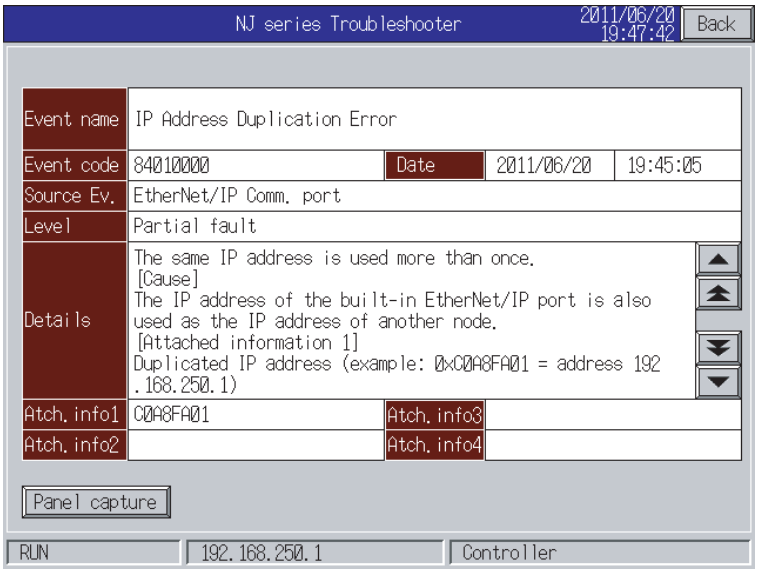
The List View displays a list of the errors produced by the event source that you selected in the Function Module View.



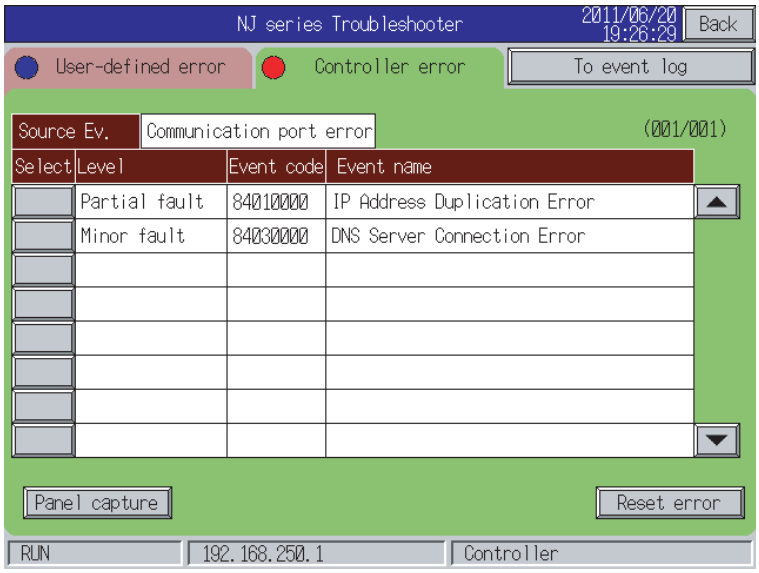
Resetting Errors with an NS-series PT

You can use the Troubleshooter in an NS-series PT to reset errors that occur in the Controller. Before you attempt to reset a Controller error, isolate and remove the cause of the error.

Click the **Select** Button in the List View to display information such as the error's causes and corrections. If you selected the Detail View for the error, the display shows the error's cause and corrections. After you confirm the cause of the displayed error and the conditions in which it occurred, perform the steps in the displayed correction.



After you complete all of the correction steps for the current errors, click the **Reset error** 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.



In order to reset the Controller errors, it is necessary to confirm your rights according to the operation authority settings for the Troubleshooter. Refer to the *NS-series Programmable Terminals Programming Manual* (Cat. No. V073) for details on the operation authority.

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

In an NJ-series 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

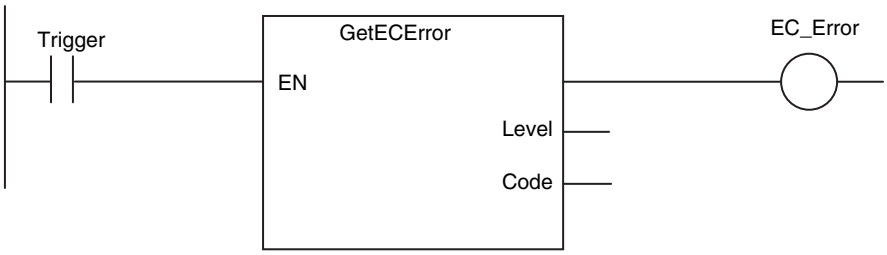
Determine the error status with the instruction to get error information that is provided for each function module. The following table lists the instruction that are used to get error information for each function module.

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.
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 EtherCAT Error Status	GetECError	Gets the status and the event code of the error with the highest level of the communications port errors and master errors detected by the EtherCAT Master 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.

Refer to the *NJ-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
EC_Error	BOOL	FALSE	EtherCAT Master Error Flag



Resetting Controller Errors with Instructions

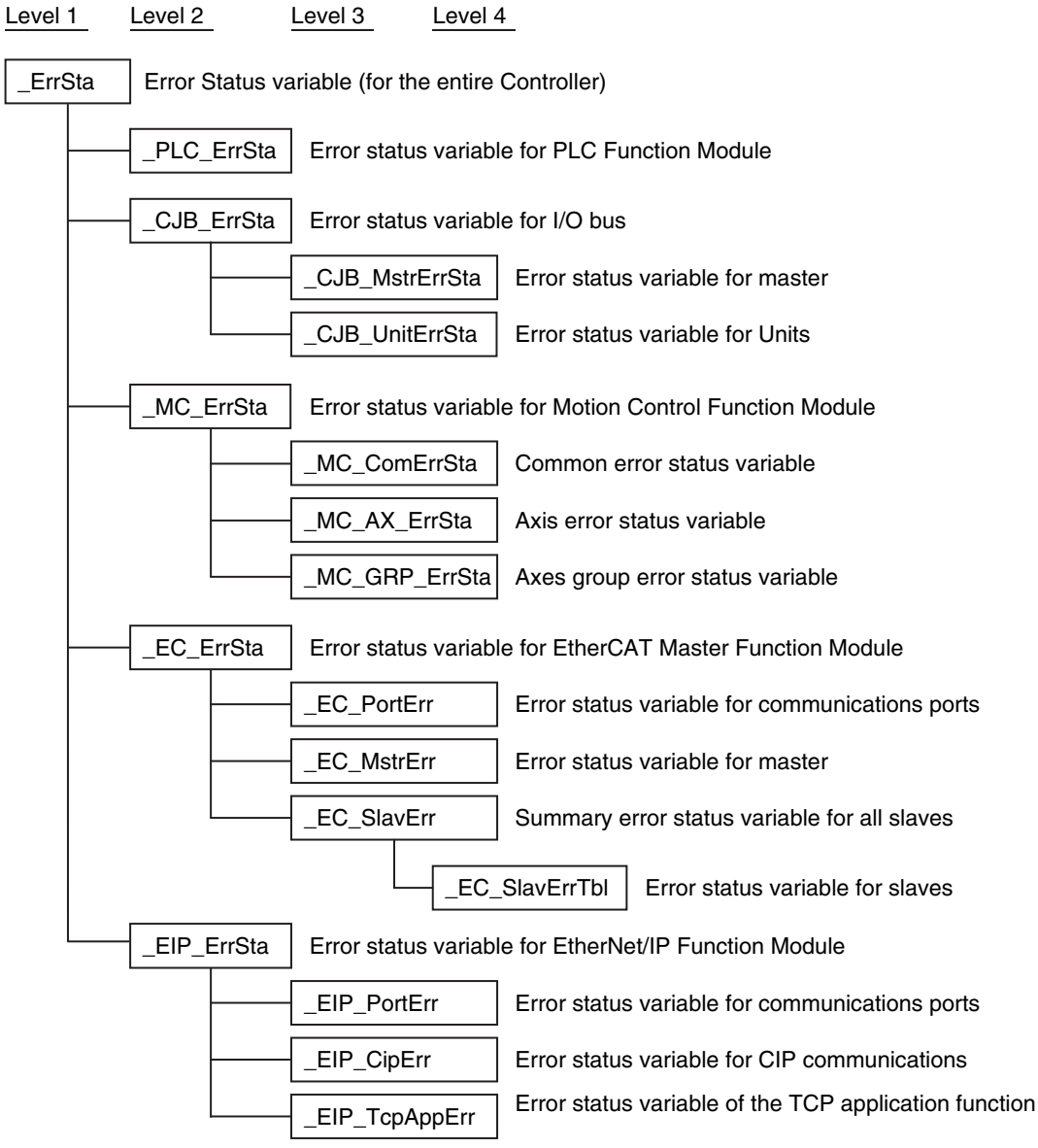
You can use the instructions that are provided to reset errors in the user program to reset errors that occur in the Controller. Before you attempt to reset a Controller error, isolate and remove the cause of the error. Reset the errors with the instruction provided to reset errors for each function 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.
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 Master Function Module.

Refer to the *NJ-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. The following diagram shows the structure of this variable. 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-series CPU Unit Software User's Manual* (Cat. No. W501) for information on system-defined variables.



2-4 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.

2-4-1 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 NJ-series CPU Unit from the Sysmac Studio.

Cause	Description	Correction
Incorrect settings or faulty communications 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 faulty.	Refer to *Troubleshooting Incorrect Settings and Faulty Communications Path* on page 2-15.
Fatal error in the CPU Unit	A fatal error occurred in the CPU Unit.	Refer to *2-1-1 Checking to See If the CPU Unit Is Operating*.
High system service load	The system service load on the CPU Unit is too high and time cannot be obtained to connect with the Sysmac Studio.	Start in Safe Mode. Refer to *Troubleshooting a High System Service Load* on page 2-19.

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. See if you can go online with a direct USB connection.

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

RUN indicator	Causes		
	Incorrect settings or faulty communications path	Fatal error in the CPU Unit	High system service load
No lit.	Cause	Cause	---
Flashing at 3-s intervals.	---	Cause (Incorrect Power Supply Unit connected.)	---
Lit.	Cause	---	Cause

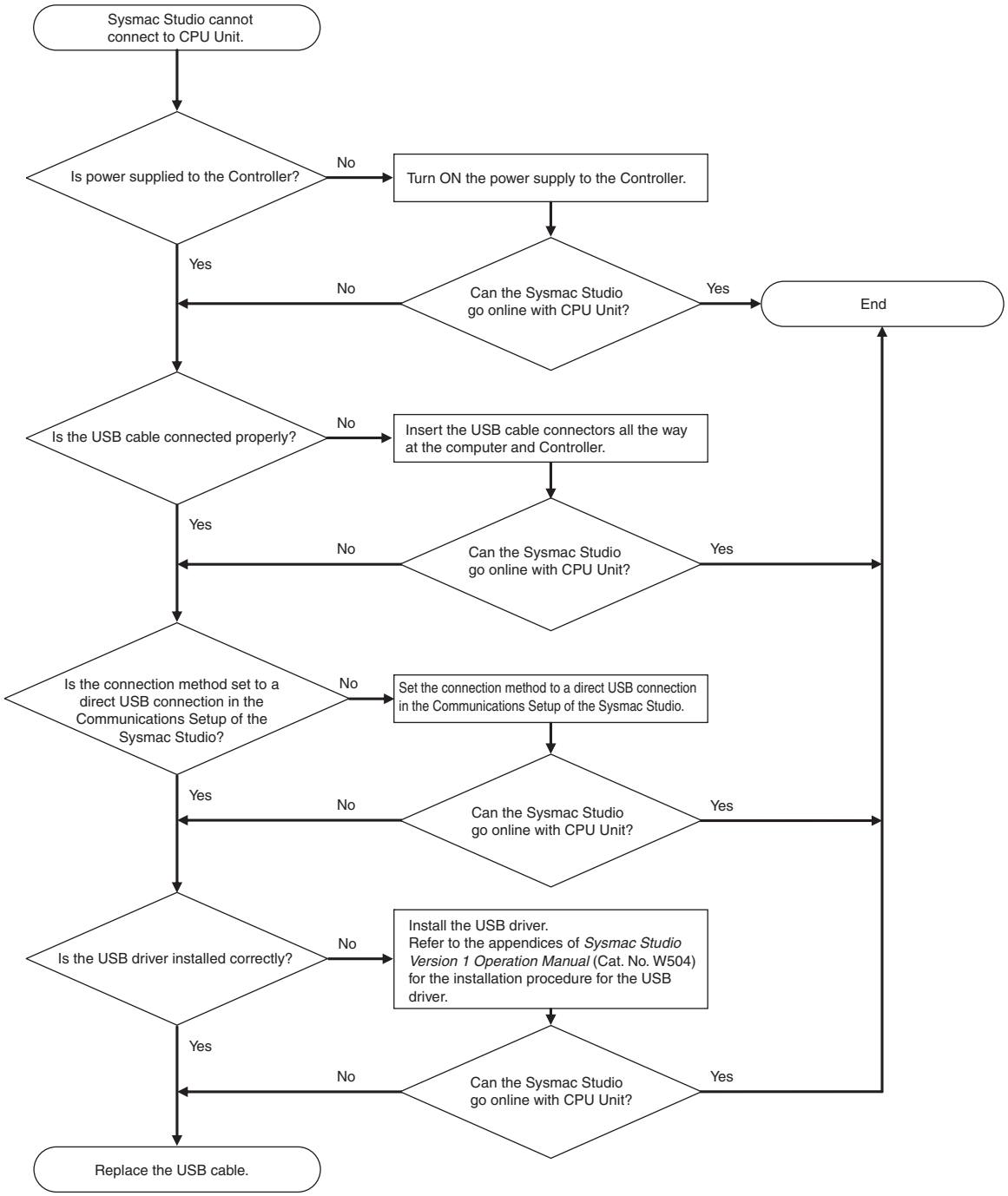
2-4-2 Troubleshooting for Each Cause

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

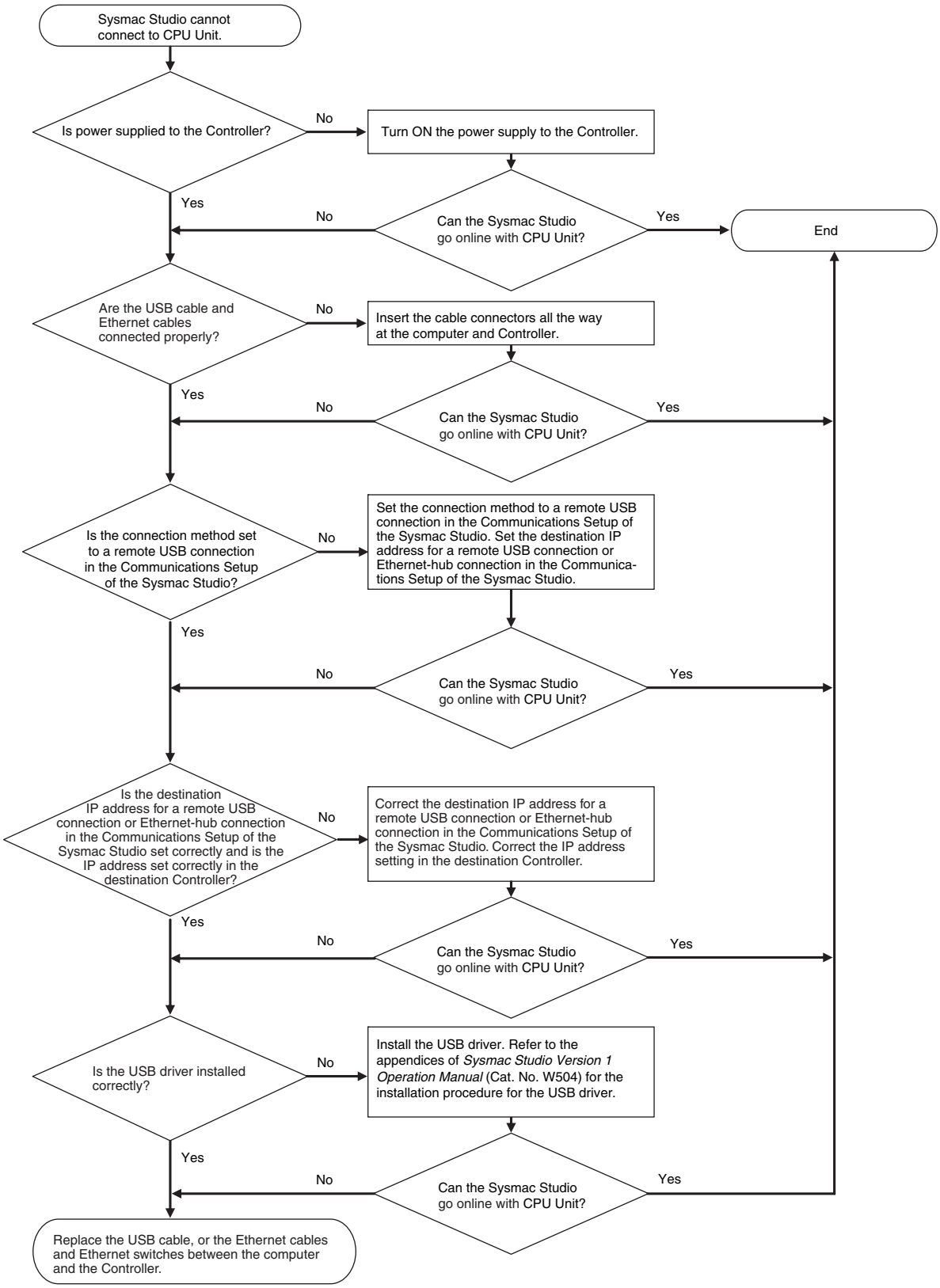
Troubleshooting Incorrect Settings and Faulty Communications Path

If the Sysmac Studio cannot go online with the CPU Unit, troubleshoot the problem with the following flowchart.

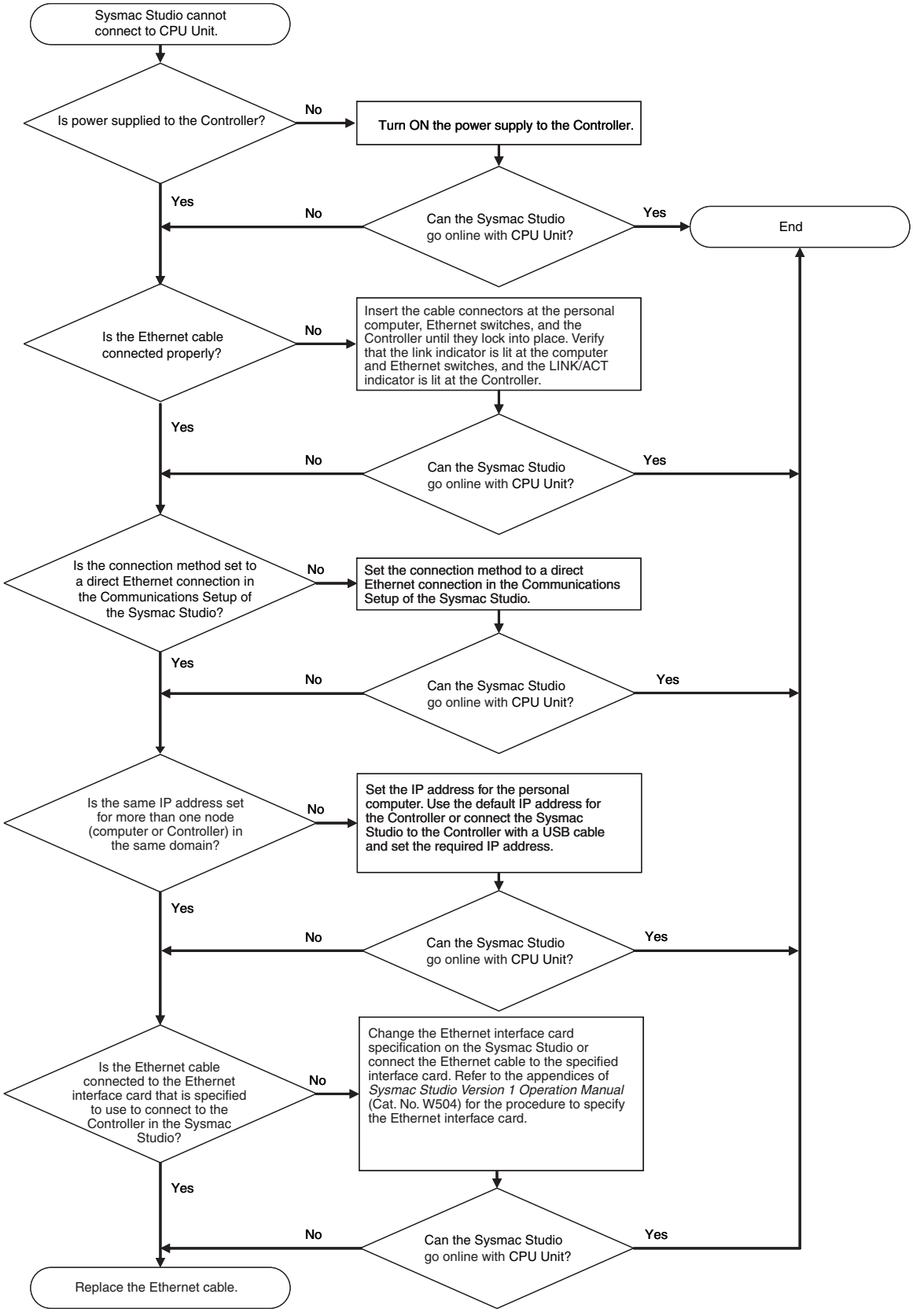
● Direct Connection to Peripheral USB Port



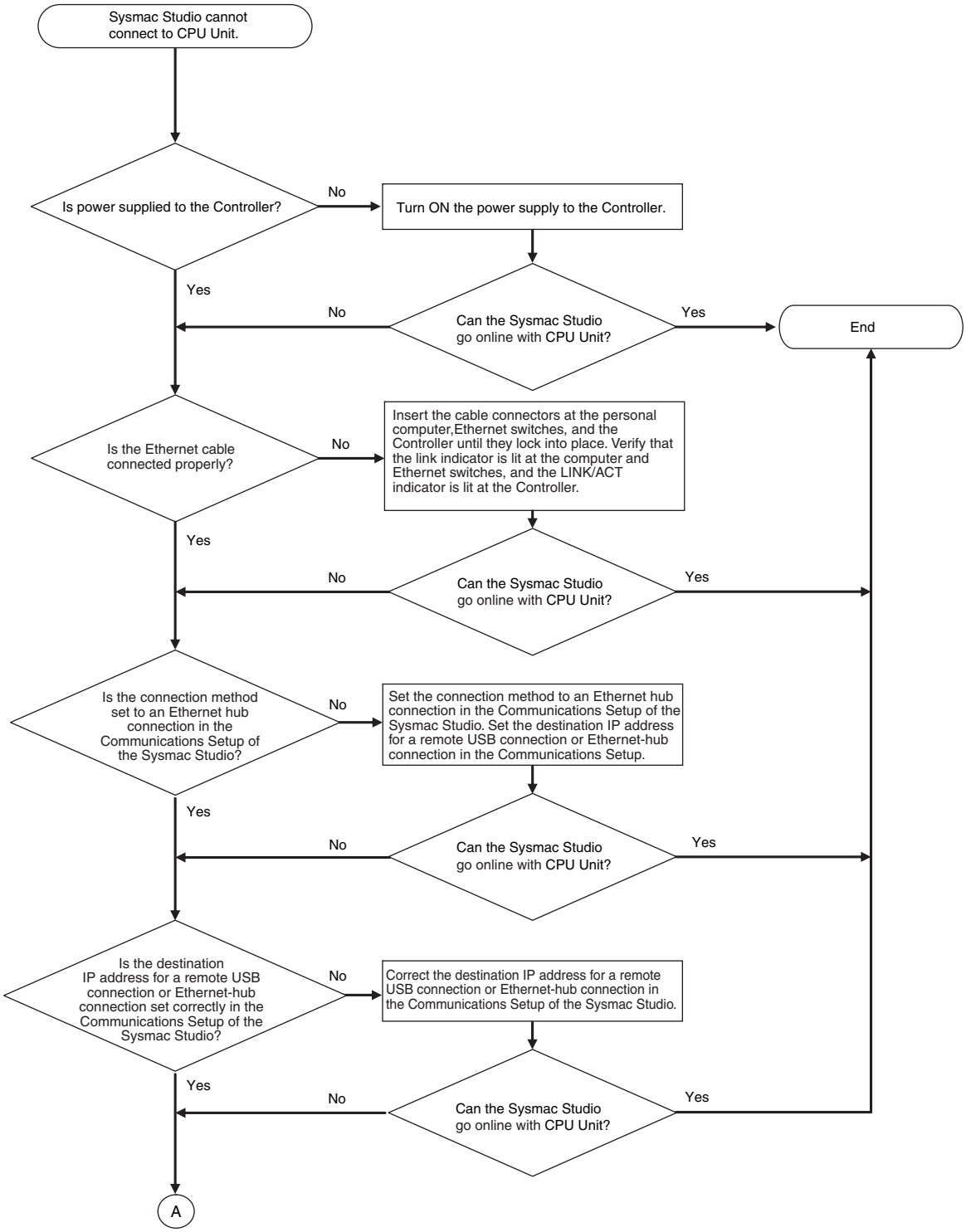
● Remote Connection to Peripheral USB Port

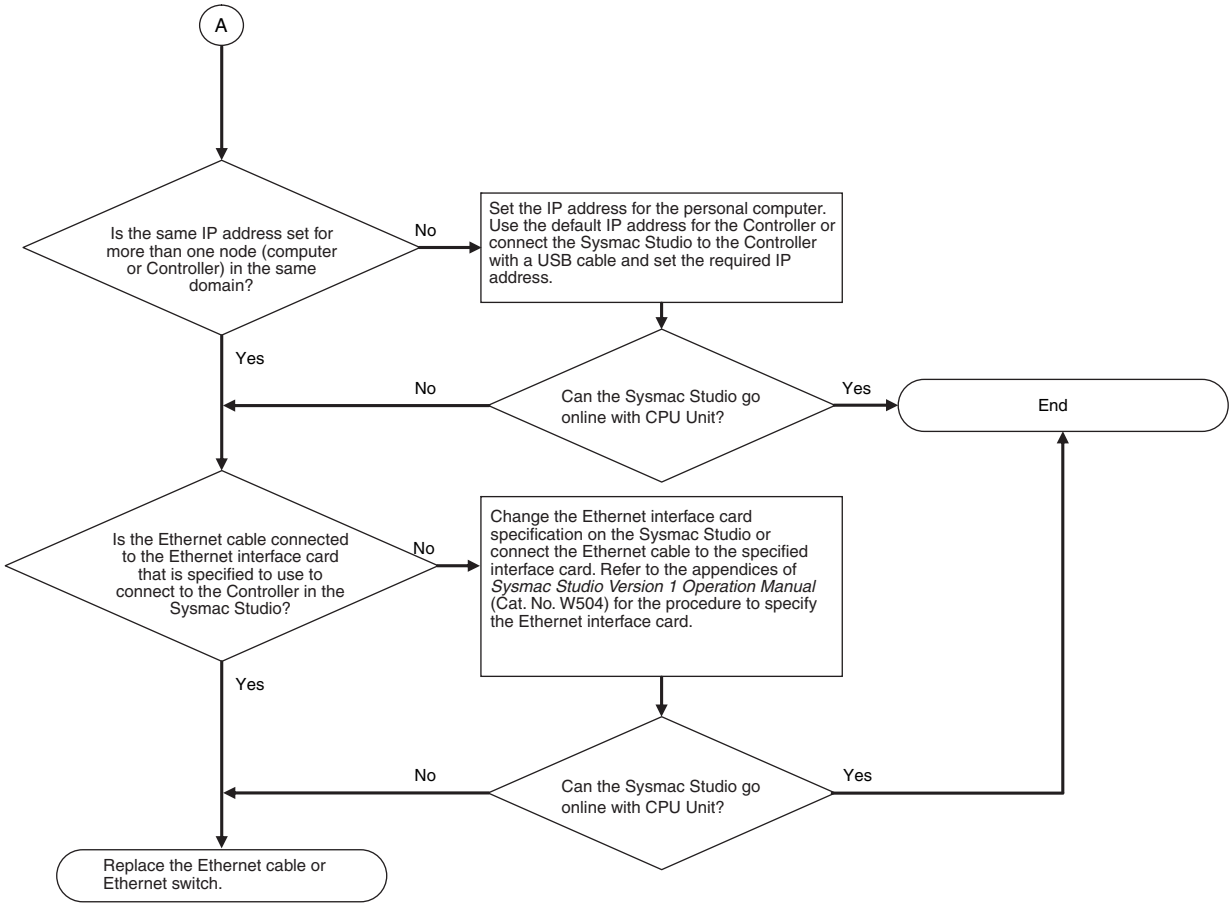


Direct Connection with EtherNet/IP Port



● Ethernet Hub Connection



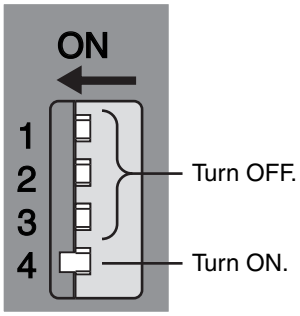


Troubleshooting a High System Service Load

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 *NJ-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.

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

3

Error Tables

This section lists all of the errors (events) that can occur on NJ-series Controllers.

3-1 Errors by Source 3-2
3-1-1 Interpreting Error Descriptions 3-2
3-1-2 Errors in the PLC Function Module 3-2
3-1-3 Errors in the Motion Control Function Module 3-50
3-1-4 Errors in the EtherNet/IP Function Module 3-80
3-1-5 Errors in the EtherCAT Master Function Module 3-84
3-1-6 Errors in the DB Connection Service Function 3-88
3-1-7 Errors in Slave Terminals 3-93
3-1-8 Errors in EtherCAT Slaves 3-114
3-1-9 Errors in CJ-series Units 3-135
3-2 Events in Order of Event Codes 3-155
3-2-1 Interpreting Error Descriptions 3-155
3-2-2 Error Table 3-156
3-3 Instruction Error Table 3-189

3-1 Errors by Source

This section provides tables of errors (events) by source. Within each source, errors are given by functional classifications. Events that are not errors are also given in the tables.

3-1-1 Interpreting Error Descriptions

The contents of the error tables are described below.

Item	Description
Event code	The event code of the error in the NJ-series Controller is given. The codes are given in eight hexadecimal digits.
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. S: Event levels that are defined by the system. U: Event levels that can be changed by the user. (See note.)
Reference	The name and catalog number of the manual that provides details on the event are given.

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

3-1-2 Errors in the PLC Function Module

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

- Self-diagnosis
- Unit configuration
- 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.

Errors for Self Diagnosis

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
00090000 hex	DIP Switch Setting Error	An error was detected in the DIP switch setting.	• There is an error in the DIP switch setting.	S					NJ-series CPU Unit Hardware User's Manual (Cat. No. W500)
000D0000 hex	Internal NJ-series Bus Check Error	A fatal error was detected on the internal bus.	• Conductive material has gotten inside. • Noise • The CPU Unit has failed.	S					Same as above.
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 exceeded the specified value.	• Non-volatile memory life expired.	S					Same as above.
10010000 hex	Non-volatile Memory Restored or Formatted	An error was detected 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 Controller was interrupted momentarily while the BUSY indicator was lit.	S					Same as above.
10020000 hex	Non-volatile Memory Data Corrupted	A file that must be in non-volatile memory is missing or corrupted.	• The Controller power supply was turned OFF while the BUSY indicator was lit. • The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit. • The CPU Unit has failed.	S					Same as above.
10080000 hex	Main Memory Check Error	An error was detected in the memory check of the main memory in the CPU Unit.	• Conductive material has gotten inside. • Noise • There is a software error. • The CPU Unit has failed.	S					Same as above.
100C0000 hex (Ver. 1.03)	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 interrupted or communications with the Sysmac Studio were disconnected during a download of the event level settings. • The event level settings are not correct because the power supply to the Controller was interrupted during a Clear All Memory operation. • Non-volatile memory failed.	S					Same as above.
00070000 hex	Real-Time Clock Stopped	The oscillation of the real-time clock stopped. The real-time clock is set to an illegal time.	• The battery voltage is low. • The battery connector has come loose. • The Battery is missing.			S	U		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
00080000 hex	Real-Time Clock Failed	The real-time clock in the CPU Unit failed.	• The CPU Unit clock has failed.			S			NJ-series CPU Unit Hardware User's Manual (Cat. No. W500)
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.			S	U		Same as above.
000C0000 hex	CPU Unit Overheat	The temperature inside the CPU Unit exceeded the specified value.	• The ambient operating temperature is too high.			S			Same as above.
10090000 hex	Battery-backup Memory Check Error	An error was detected 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.			S	U		Same as above.
000F0000 hex	SD Memory Card Invalid Type	The current SD Memory Card is not supported.	• An SD Memory Card that is not supported was inserted into the CPU Unit.				S		Same as above.
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.			U	S		Same as above.
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 Memory Card inserted in the CPU Unit is not FAT16 or FAT32.				S		Same as above.
10040000 hex	SD Memory Card Restored or Formatted	An error was detected during the file system 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 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.			U	S		Same as above.
10060000 hex	SD Memory Card Data Corrupted	A file that must be in the SD Memory Card is missing or corrupted.	• 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.			U	S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
10070000 hex	SD Memory Card Access Power OFF Error	The power supply to the Controller was interrupted during access to the SD Memory Card.	• 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.				S		NJ-series CPU Unit Hardware User's Manual (Cat. No. W500)
10310000 hex (Ver. 1.02)	Incorrect SD Memory Card Removal	SD Memory Card removal processing failed.	• The SD Memory Card was removed while the SD PWR indicator was lit.				S		Same as above.

Errors Related to Unit Configuration

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04010000 hex	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.	S					NJ-series CPU Unit Hardware User's Manual (Cat. No. W500)
24010000 hex	Unsupported Unit Detected	An unsupported CJ-series Unit or Power Supply Unit is mounted.	• An unsupported CJ-series Unit or Power Supply Unit was detected.	S					Same as above.
24020000 hex	Too Many I/O Points	The total number of I/O points in the connected CJ-series Units exceeds the maximum specified value of the CPU Unit.	• The total number of I/O points in the connected CJ-series Basic I/O Units exceeds 2,560.	S					Same as above.
24030000 hex	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.	S					Same as above.
24040000 hex	Incorrect Unit/Expansion Rack Connection	The number of Units or Expansion Racks exceeds the maximum 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.	S					Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
24050000 hex	Duplicate Unit Number	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 set for more than one Special I/O Unit or more than one CPU Bus Unit. • The same unit number is assigned to a Special I/O Unit that uses more than one unit number and another Special I/O Unit.	S					NJ-series CPU Unit Hardware User's Manual (Cat. No. W500)
34010000 hex	I/O Setting Check Error	There is an inconsistency between a Unit model in the Unit Configuration in the CPU Unit and the Unit model that is mounted in the Controller.	• 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.	S					Same as above.
64010000 hex	Impossible to Access Special Unit	An error occurred in data exchange between the CPU Unit and a Special Unit.	• The setting of the rotary switches or a DIP switch pin on a Special Unit is not correct. • An error occurred in the Special Unit. • The Unit connection is faulty. • Noise • A Unit has failed.			S			Same as above.
102D0000 hex (Ver. 1.03)	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 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. • The CPU Unit or CJ-series Unit has failed.				S		Same as above.
102E0000 hex (Ver. 1.03)	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.				S		Same as above.
30200000 hex (Ver. 1.02)	Unsupported Unit Setting	A setting in the Special Unit is not supported.	• A setting in the Special Unit is not supported by the CPU Unit.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
80010000 hex	Illegal Packet Discarded	An illegal packet was received during message communications. The illegal packet was discarded.	• Noise				S		NJ-series CPU Unit Hardware User's Manual (Cat. No. W500)

Errors Related to Tasks

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
60020000 hex	Task Execution Timeout	Task execution exceeded 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	S					NJ-series CPU Unit Software User's Manual (Cat. No. W501)
60030000 hex	I/O Refreshing Timeout Error	Consecutive I/O refresh failures occurred during the primary 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 Execution	S					Same as above.
60040000 hex	Insufficient System Service Time Error	The specified system service execution time could not be obtained.	• There was not sufficient time to execute the tasks and tag data link service. • The system service execution interval is too short or the system service execution time ratio is too long in the System Service Monitoring Settings.	S					Same as above.
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 processing is repeated is larger than expected. • Task Priority Error for Periodic Tasks and Event Tasks • Frequent Event Task Execution			S			Same as above.
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 processing is repeated is larger than expected. • Task Priority Error for Periodic Tasks and Event Tasks • Frequent Event Task Execution				S		Same as above.

Errors Related to Controller Operation

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
10200000 hex	User Program/Controller Configurations and Setup Transfer Error	The user program or Controller Configurations and Setup were not transferred correctly.	• 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 program or the Controller 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. • 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 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. • Non-volatile memory failed.	S					NJ-series CPU Unit Hardware User's Manual (Cat. No. W500) NJ-series CPU Unit Software User's Manual (Cat. No. W501)
10210000 hex	Illegal User Program Execution ID	The user program execution 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.	S					Same as above.
10240000 hex	Illegal User Program	The user program is not correct.	• There are more than 8 nesting levels for functions or function blocks.	S					Same as above.
10250000 hex	Illegal User Program/Controller Configurations 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.	S					Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
10270000 hex (Ver. 1.03)	Error in Starting Automatic 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. • Recovery was executed for 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.	S					NJ-series CPU Unit Hardware User's Manual (Cat. No. W500) NJ-series CPU Unit Software User's Manual (Cat. No. W501)
10280000 hex (Ver. 1.03)	Error in Executing Automatic Transfer	The automatic transfer 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 are corrupted. • The SD Memory Card is damaged.	S					Same as above.
40160000 hex	Safe Mode	The Controller started in Safe Mode.	• The power supply was turned ON to the Controller when Safe Mode was set on the DIP switch on the CPU Unit.	S					Same as above.
10230000 hex	Event Log Restoration Error	Restoring the event log failed.	• A low battery voltage prevented retention of memory during a power interruption.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
10260000 hex	Trace Setting Transfer Failure	The power supply was interrupted while transferring the trace settings.	• The power supply was interrupted while transferring the trace settings.				S		NJ-series CPU Unit Hardware User's Manual (Cat. No. W500) NJ-series CPU Unit Software User's Manual (Cat. No. W501)
10290000 hex (Ver. 1.03)	Backup Failed to Start	An error was detected 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. • The SD Memory Card is damaged.				S		Same as above.
102A0000 hex (Ver. 1.03)	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.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
102B0000 hex (Ver. 1.03)	Restore Operation Failed to Start	An error was detected 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. • Either the backup files 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 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 settings in the restore command file (RestoreCommand.ini) are not correct. • 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.				S		NJ-series CPU Unit Hardware User's Manual (Cat. No. W500) NJ-series CPU Unit Software User's Manual (Cat. No. W501)
102C0000 hex (Ver. 1.03)	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.				S		Same as above.
40170000 hex (Ver. 1.03)	Safe Mode	The Controller started in Safe Mode.	• The power supply was turned ON to the Controller when Safe Mode was set on the DIP switch on the CPU Unit.				S		Same as above.
80230000 hex (Ver. 1.05)	NX Message Communications Error	An error has occurred in message communications.	• The communications cable is broken. • The communications cable connector is disconnected. • The NX message communications load is high.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
90010000 hex	Clock Changed	The clock time was changed.	• The clock time was changed.					S	NJ-series CPU Unit Hardware User's Manual (Cat. No. W500) NJ-series CPU Unit Software User's Manual (Cat. No. W501)
90020000 hex	Time Zone Changed	The time zone was changed.	• The time zone was changed.					S	Same as above.
90080000 hex	Variable Changed to TRUE with Forced Refreshing	Changing a variable to TRUE with forced refreshing was specified.	• Changing a variable to TRUE with forced refreshing was specified by the user.					S	Same as above.
90090000 hex	Variable Changed to FALSE with Forced Refreshing	Changing a variable to FALSE with forced refreshing was specified.	• Changing a variable to FALSE with forced refreshing was specified by the user.					S	Same as above.
900A0000 hex	All Forced Refreshing Cleared	Clearing all forced refreshing values was specified.	• Clearing all forced refreshing values was specified by the user.					S	Same as above.
900B0000 hex	Memory All Cleared	All of memory was cleared.	• A user with Administrator rights cleared all of the memory.					S	Same as above.
900C0000 hex	Event Log Cleared	The event log was cleared.	• The event log was cleared by the user.					S	Same as above.
900F0000 hex (Ver. 1.03)	Automatic Transfer Completed	The automatic transfer was completed.	• The automatic transfer was completed.					S	Same as above.
90110000 hex	Power Turned ON	The power supply was turned ON.	• The power supply was turned ON.					S	Same as above.
90120000 hex	Power Interrupted	The power supply was interrupted.	• The power supply was interrupted.					S	Same as above.
90130000 hex	Operation Started	Operation was started.	• A command to start operation was received.					S	Same as above.
90140000 hex	Operation Stopped	Operation was stopped.	• A command to stop operation was received.					S	Same as above.
90150000 hex	Reset Executed	A reset was executed.	• A reset command was received.					S	Same as above.
90160000 hex	User Program Execution ID Write	The user program execution ID was set or changed in the CPU Unit.	• A user with Administrator rights changed the user program execution ID that is set in the CPU Unit.					S	Same as above.
90180000 hex	All Controller Errors Cleared	All current errors were cleared.	• The user cleared all current errors.					S	Same as above.
90190000 hex	Forced Refreshing Cleared	Clearing a forced refreshing value was specified.	• Clearing a forced refreshing value was specified by the user.					S	Same as above.
901A0000 hex (Ver. 1.03)	Backup Started	A backup operation was started.	• A backup operation was started.					S	Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
901B0000 hex (Ver. 1.03)	Backup Completed	The backup operation ended normally.	• The backup operation ended normally.					S	NJ-series CPU Unit Hardware User's Manual (Cat. No. W500) NJ-series CPU Unit Software User's Manual (Cat. No. W501)
901C0000 hex (Ver. 1.03)	Restore Operation Started	A restore operation started.	• A restore operation started.					S	Same as above.
901D0000 hex (Ver. 1.03)	Restore Operation Completed	The restore operation ended normally.	• The restore operation ended normally.					S	Same as above.

Errors Related to FINS Communications

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
14010000 hex	CPU Bus Unit Setup Area Error	An error was detected in the memory check of the Setup Area for CPU Bus Units.	• The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the CPU Bus Unit Settings.			S			NJ-series CPU Unit Software User's Manual (Cat. No. W501)
34100000 hex	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 table settings are incorrect.			S			Same as above.
34130000 hex	FINS/TCP Connection Table Setting Error	The FINS/TCP connection table is incorrect.	• The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the FINS/TCP connection table.			S			Same as above.
34110000 hex	Unknown Destination Node	The send destination node is not known.	• The send destination node was not found when a FINS message was sent.				S		Same as above.
80100000 hex	Packet Discarded	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.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
80110000 hex	Packet Discarded	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.				S		NJ-series CPU Unit Software User's Manual (Cat. No. W501)

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
80120000 hex	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 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 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. • Routing is not possible because the FINS node address setting in the Built-in EtherNet/IP Port Settings is set to 0 or 255.				S		NJ-series CPU Unit Software User's Manual (Cat. No. W501)

Instructions

A version in parentheses in the *Event code* column is the unit version of the CPU Unit when the event code was added.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54010400 hex	Input Value Out of Range	An input parameter for an instruction exceeded the valid range for an input variable. Or, division by an integer of 0 occurred in division or remainder calculations.	• An input parameter for an instruction exceeded the valid range for an input variable. Or, division by an integer of 0 occurred in division or remainder calculations.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54010401 hex	Input Mismatch	The relationship for the instruction input parameters did not meet required conditions. Or, a numeric value during or after instruction execution did not meet conditions.	• 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.				S		Same as above.
54010402 hex	Floating-point Error	Non-numeric data was input for a floating-point number input parameter to an instruction.	• Non-numeric data was input for a floating-point number input parameter to an instruction.				S		Same as above.
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 instruction.				S		Same as above.

54010404 hex	Signed BCD Error	An illegal value was input for the most significant digit for a signed BCD input parameter to an instruction.	• 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.
							S		Same as above.

54010405 hex	Illegal Bit Position Specified	The bit position specified for an instruction was illegal.	• The bit position specified for an instruction exceeds the data range.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54010406 hex	Illegal Data Position Specified	A memory address or data size that was specified for the instruction is not suitable.	• 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.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54010407 hex	Data Range Exceeded	The results of instruction processing exceeded the data area range of the output parameter.	• The results of instruction processing, such as the number of array elements, exceeded the data area range of the output parameter.				S		Same as above.
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 Controller error was executed when there was no error in the Controller.				S		Same as above.
5401040B hex	No User Errors to Clear	An instruction to clear user-defined errors was executed when there was no user-defined error.	• An instruction to clear user-defined errors was executed when there was no user-defined error.				S		Same as above.
5401040C hex	Limit Exceeded for 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.	• An attempt was made to use the Create User-defined Error instruction to create more than the maximum number of user-defined errors.				S		Same as above.
5401040D hex	Illegal Unit Specified	The Unit specified for an instruction does not exist.	• A Unit that does not exist in the Unit configuration information was specified. • A Unit that is in the Unit configuration information was specified, but the Units does not actually exist in the Controller.				S		Same as above.
5401040F hex	Unit Restart Failed	Restarting a Special I/O Unit or CPU Bus Unit failed.	• The Special I/O Unit or CPU Bus Unit is processing data.				S		Same as above.
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 represent a number or it does not represent a positive number. • The input text string does not end in NULL.				S		Same as above.
54010411 hex	Illegal Program Specified	The program specified for an instruction does not exist.	• The program specified by the function does not exist (e.g., it was deleted).				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54010413 hex	Undefined CJ-series Memory Address	The required specification 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.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54010414 hex	Stack Underflow	There is no data in a stack.	• An attempt was made to read data from a stack that contains no data.				S		Same as above.
54010416 hex	Illegal Number of Array Elements or Dimensions	The valid range was exceeded for the number of array elements or dimensions in an array I/O parameter for an instruction.	• The valid range was exceeded for the number of array elements or dimensions in an array I/O parameter for an instruction.				S		Same as above.
54010417 hex	Specified Task Does Not Exist	The task specified for the instruction does not exist.	• The specified task does not exist.				S		Same as above.
54010418 hex	Unallowed Task Specification	An unallowed task was specified for an instruction.	• The local task, the primary periodic task, or a periodic task was specified.				S		Same as above.
54010419 hex	Incorrect Data Type	A data type that cannot be used for an instruction is specified for an input or in-out variable.	• A data type that cannot be used for an instruction is specified for an input or in-out variable.				S		Same as above.
5401041A hex	Multi-execution of Instructions	Multi-execution was specified for an instruction that does not support it.	• Execution of an instruction that does not support multi-execution of instructions was specified more than once.				S		Same as above.
5401041B hex (Ver. 1.02)	Data Capacity Exceeded	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.				S		Same as above.
5401041C hex (Ver. 1.04)	Different Data Sizes	The size of the data specified for instruction input or in-out data is different from the size of the target parameter.	• Data of a size that is different from the size of the target parameter was specified for the input or in-out data of an instruction.				S		Same as above.
5401041D hex (Ver. 1.05)	Exceeded Simultaneous Instruction Executed Resources	The maximum resources that you can use for the relevant instruction group at the same time was exceeded.	• More than the maximum number of relevant instructions were executed at the same time. The maximum number of instructions for the relevant instruction group is as follows: • DB connection instructions: 32				S		Same as above.
54010800 hex	FINS Error	An error occurred when a FINS command was sent or received.	• An error occurred when a FINS command was sent or received.				S		Same as above.
54010801 hex	FINS Port Already in Use	The FINS port is being used.	• The FINS port is being used.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54010C00 hex	Illegal Serial Communications Mode	The Serial Communications Unit is not in the serial communications mode required to execute an instruction.	• The serial communications port for the Serial Communications Unit is not set to the mode expected by the instruction.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54010C02 hex	Port Setup Already Busy	A Change Port Setup instruction was executed during execution of another Change Port Setup instruction.	• A Change Port Setup instruction was executed during execution of another Change Port Setup instruction.				S		Same as above.
54011400 hex	SD Memory Card Access Failure	SD Memory Card access failed when an instruction was executed.	• An SD Memory Card is either not inserted or is not inserted properly. • The SD Memory Card is broken. • The SD Memory Card slot is broken.				S		Same as above.
54011401 hex	SD Memory Card Write-protected	An attempt was made to write to a write-protected SD Memory Card when an instruction was executed.	• An attempt was made to write to a write-protected SD Memory Card.				S		Same as above.
54011402 hex	SD Memory Card Insufficient Capacity	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.				S		Same as above.
54011403 hex	File Does Not Exist	The file specified for an instruction does not exist.	• The specified file does not exist.				S		Same as above.
54011404 hex	Too Many Files/ Directories	The maximum number of files/directories was exceeded when creating a file/directory for an instruction.	• The number of files or directories exceeded the maximum number.				S		Same as above.
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 being accessed by another instruction.				S		Same as above.
54011406 hex	Open Mode Mismatch	A file operation for an instruction was inconsistent with the open mode of the file.	• The file open mode specified by the Open File instruction does not match the file operation attempted by a subsequent SD Memory Card instruction.				S		Same as above.
54011407 hex	Offset Out of Range	Access to the address is not possible for the offset specified for an instruction.	• An attempt was made to access beyond the size of the file.				S		Same as above.
54011408 hex	Directory Not Empty	A directory was not empty when the Delete Directory instruction was executed or when an attempt was made to change the directory name.	• A directory was not empty when the Delete Directory instruction was executed. • A directory contained another directory when an attempt was made to change the directory name.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54011409 hex	That File Name Already Exists	An instruction could not be executed because the file name specified for the instruction already exists.	• A file already exists with the same name as the name specified for the instruction to create.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
5401140A hex	Write Access Denied	An attempt was made to write to a write-protected file or directory when an instruction was executed.	• The file or directory specified for the instruction to write is write-protected.				S		Same as above.
5401140B hex	Too Many Files Open	The maximum number 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.				S		Same as above.
5401140C hex	Directory Does Not Exist	The directory specified for an instruction does not exist.	• The directory specified for an instruction does not exist.				S		Same as above.
5401140D hex	File or Directory Name Is Too Long	The file name or directory 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.				S		Same as above.
5401140E hex	SD Memory Card Access Failed	SD Memory Card access failed.	• The SD Memory Card is broken. • The SD Memory Card slot is broken.				S		Same as above.
5401140F hex (Ver. 1.08)	Backup Operation Already in Progress	Another backup operation is already in progress.	• Another backup operation is already in progress.				S		Same as above.
54011410 hex (Ver. 1.08)	Cannot Execute Backup	Execution of a backup operation was not possible because execution of another operation was in progress.	• Execution of the instruction was attempted during execution of online editing. • Execution of the instruction was attempted during execution of a Save Cam Table instruction. • Execution of the instruction was attempted while a CPU Unit name change operation was in progress.				S		Same as above.
54011411 hex (Ver. 1.08)	Unit/Slave Backup Failed	A Unit/slave backup operation failed.	• A Unit/slave backup operation failed.				S		Same as above.
54011800 hex	EtherCAT Communications Error	Accessing the EtherCAT network failed when an instruction was executed.	• The EtherCAT network is not in a usable status.				S		Same as above.
54011801 hex	EtherCAT Slave Does Not Respond	Accessing the target slave failed when an instruction was executed.	• The target slave does not exist. • The target slave is not in an operating condition.				S		Same as above.
54011802 hex	EtherCAT Timeout	A timeout occurred while trying to access an EtherCAT slave when an instruction was executed.	• Communications with the target slave timed out.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54011803 hex	Reception Buffer Overflow	The receive data from an EtherCAT slave overflowed the receive buffer when an instruction was executed.	• The receive data from the slave overflowed the receive buffer.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
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.				S		Same as above.
54011805 hex	Saving Packet Monitor File	An instruction for packet monitoring was executed while saving an EtherCAT packet monitor file.	• An instruction for packet monitoring was executed while saving an EtherCAT packet monitor file.				S		Same as above.
54011806 hex	Packet Monitoring Function Not Started	A Stop EtherCAT Packet Monitor instruction was executed when EtherCAT packet monitoring was stopped.	• A Stop EtherCAT Packet Monitor instruction was executed when EtherCAT packet monitoring was stopped.				S		Same as above.
54011807 hex	Packet Monitoring Function in Operation	A Start EtherCAT Packet Monitor instruction was executed when EtherCAT packet monitoring was already being executed.	• The Start EtherCAT Packet Monitor instruction was executed again while the EtherCAT packet monitoring function was already in operation.				S		Same as above.
54011808 hex	Communications Resource Overflow	More than 32 EtherCAT communications instructions were executed at the same time.	• More than 32 EtherCAT communications instructions were executed at the same time. The EtherCAT communications instructions are listed below. • EC_CoESDOWrite instruction • EC_CoESDORead instruction • EC_ConnectSlave instruction • EC_DisconnectSlave instruction • EC_StartMon instruction • EC_SaveMon instruction • EC_StopMon instruction • EC_CopyMon instruction				S		Same as above.
54011809 hex (Ver. 1.01)	Packet Monitoring Function Not Supported	Packets cannot be monitored.	• An instruction for packet monitoring was executed for a CPU Unit that does not support packet monitoring.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54011C00 hex	Explicit Message 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.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54011C01 hex	Incorrect Route Path	The format of the route path that is specified for a CIP communications instruction is not correct.	• The format of the route path that is specified for a CIP communications instruction is not correct.				S		Same as above.
54011C02 hex	CIP Handle Out of Range	The handle that is specified for the CIP communications instruction is not correct.	• The handle that is specified for the CIP communications instruction is not correct.				S		Same as above.
54011C03 hex	CIP Communications Resource Overflow	The maximum resources that you can use for CIP communications 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.				S		Same as above.
54011C04 hex	CIP Timeout	A CIP timeout occurred during execution of a CIP communications 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. • The Ethernet cable connector for EtherNet/IP is disconnected. • The Ethernet cable for EtherNet/IP is disconnected. • Noise				S		Same as above.
54011C05 hex (Ver. 1.06)	Class-3 Connection Not Established	Establishing a class-3 connection failed for a CIP communications 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).				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54011C06 hex (Ver. 1.06)	CIP Communications Data Size Exceeded	An attempt was made to send a class-3 explicit message with a data size that is larger than the sendable size with a CIP communications instruction.	• The data size that was specified for the input variable to the CIPRead, CIPWrite, or CIPSend instruction exceeded the data size that was specified with the CIPOpenWithData-Size instruction.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54012000 hex	Local IP Address Setting 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.				S		Same as above.
54012001 hex	TCP/UDP Port Already in Use	The UDP or TCP port was already in use when the instruction was executed.	• The UDP or TCP port is already in use.				S		Same as above.
54012002 hex	Address Resolution Failed	Address resolution failed for a remote node with the domain name that was specified in the instruction.	• The domain name specified for the instruction is not correct. • The hosts and DNS settings in the Controller are incorrect. • The DNS server settings are incorrect.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	

54012003 hex	Status Error	The status was not suitable for execution of the instruction.	• SktUDPRcv Instruction
			  • The socket is receiving data.
			  • The socket is not open.
			• SktUDPSend Instruction
			  • The socket is sending data.
			  • The socket is not open.
			• 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.
			• SktTCPRcv Instruction
			  • The specified socket is receiving data.
			  • The specified socket is not connected.
			• SktTCPSend Instruction
			  • The specified socket is sending data.
			  • The specified socket is not connected.
							S		NJ-series Instructions Reference Manual (Cat. No. W502)

54012004 hex	Local IP Address Not Set	The local IP address was not set when a socket service instruction was executed.	• There is a BOOTP server setting error. • The BOOTP server does not exist. • The local IP address is not set because operation just started.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
5401 2006 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 timeout time. • SktTCPRcv or SktUDPRcv instruction: Data was not received from the remote node during the user-set timeout time.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
5401 2007 hex	Socket Handle Out of Range	The handle that is specified for the socket service instruction is not correct.	• The handle that is specified for the socket service instruction is not correct.				S		Same as above.
5401 2008 hex	Socket Communications Resource Overflow	The maximum resources that you can use for socket service instructions at the same time was exceeded.	• More than 32 socket service instructions were executed at the same time. • More than 30 socket handles were used at the same time. (For CPU Units with unit version 1.02 or earlier, more than 16 socket handles were used at the same time.)				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54012400 hex (Ver. 1.02)	No Execution 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 built-in EtherNet/IP port or a CJ-series EtherNet/IP Unit was executed when restart processing was in progress for the built-in EtherNet/IP 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 built-in EtherNet/IP port or a CJ-series EtherNet/IP Unit was executed when changing settings was in progress for an instruction or CIP message for the built-in EtherNet/IP port. • 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 number that was specified for the instruction is not for a built-in EtherNet/IP port or a CJ-series EtherNet/IP Unit.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54012401 hex (Ver. 1.02)	Settings Update Failed	It was not possible to update the settings of the CJ-series EtherNet/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 settings of a CJ-series EtherNet/IP Unit.				S		Same as above.
54012402 hex (Ver. 1.02)	Too Many Simultaneous Instruction Executions	Too many instructions to change the communications 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.				S		Same as above.
54012403 hex (Ver. 1.08)	FTP Client Execution Limit Exceeded	Too many FTP client communications instructions were executed at the same time.	• Four or more FTP client communications instructions were executed at the same time.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54012404 hex (Ver. 1.08)	File Number Limit Exceeded	The number of files specified with a wildcard for an FTP client communications instruction exceeded 1,000.	• The number of files specified with a file name that contained a wildcard for an FTP client communications instruction exceeded 1,000.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54012405 hex (Ver. 1.08)	Directory Does Not Exist (FTP)	The directory specified for an FTP client communications instruction does not exist in the Controller or an incorrect path was specified.	• The directory specified for an FTP client communications instruction does not exist in the Controller or an incorrect path was specified.				S		Same as above.
54012406 hex (Ver. 1.08)	FTP Server Connection Error	The destination FTP server that was specified for an FTP client communications instruction does not exist on the network or the specified FTP server is not operating.	• The destination FTP server that was specified for an FTP client communications instruction does not exist on the network. • The destination FTP server that was specified for an FTP client communications instruction is not operating.				S		Same as above.
54012407 hex (Ver. 1.08)	Destination FTP Server Execution Failure	The destination FTP server for an FTP client communications instruction returned an error.	• The destination FTP server for the FTP client communications instruction failed to execute the requested processing.				S		Same as above.
54012408 hex (Ver. 1.08)	SD Memory Card Access Failed for FTP	SD Memory Card access from the FTP client 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.				S		Same as above.
54012409 hex (Ver. 1.08)	Specified File Does Not Exist	A file specified for an FTP client communications instruction does not exist.	• A file specified for an FTP client communications instruction does not exist.				S		Same as above.
5401240A hex (Ver. 1.08)	Specified File Is Write Protected	The data was not transferred because the FTP client communications instruction was set to not overwrite files with the same name.	• The data was not transferred because the FTP client communications instruction was set to not overwrite files with the same name and a file with the specified file name already existed at the destination.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
5401240B hex (Ver. 1.08)	Failed To Delete Specified File	A file was not deleted after it was transferred with an FTP client communications instruction.	• The FTP client communications instruction was set to delete files after they are transferred, but it was not possible to delete the specified file because it had a read-only attribute. • It was not possible to delete the file specified for the FTP client communications instruction because it was in use by another application.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
5401240C hex (Ver. 1.08)	Specified File Access Failed	An FTP transfer for an FTP client communications instruction failed because file access failed.	• The file specified for the FTP client communications instruction was in use by another application. • The file or directory specified for the FTP client communications instruction to write is write protected.				S		Same as above.
54012C00 hex (Ver. 1.05)	NX Message Error	An error response code was returned for an NX message.	• Depends on the nature of the error.				S		Same as above.
54012C01 hex (Ver. 1.05)	NX Message Resource Overflow	The maximum resources that you can use for NX message instructions at the same time was exceeded.	• More than 32 NX message instructions were executed at the same time.				S		Same as above.
54012C02 hex (Ver. 1.05)	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				S		Same as above.
54012C03 hex (Ver. 1.05)	Incorrect NX Message Length	The length of the NX message is not correct.	• The size that is specified for WriteDat or Path is too long.				S		Same as above.
54012C05 hex (Ver. 1.05)	NX Message EtherCAT Network Error	An error occurred in EtherCAT communications on the NX message path.	• An error occurred in EtherCAT communications on the NX message path.				S		Same as above.
54012C06 hex (Ver. 1.05)	External Restart 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 execution from the Sysmac Studio when the instruction was executed.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
5401 2C07 hex (Ver. 1.05)	Unapplicable Unit Specified for Instruction	A slave that cannot be specified for the instruction was connected at the slave node address of the specified Unit.	• A slave that cannot be specified for the instruction was connected to the slave node address of the specified Unit.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
5401 3461 hex	Process Data Object Setting Missing	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 OMRON GX-EC02□□ EtherCAT Encoder slave.				S		Same as above.
5401 5420 hex	Electronic Gear Ratio Numerator Setting Out of Range	The parameter specified for the *RatioNumerator* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401 5421 hex	Electronic Gear Ratio Denominator Setting Out of Range	The parameter specified for the *RatioDenominator* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401 5422 hex	Target Velocity Setting Out of Range	The parameter specified for the *Velocity* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401 5423 hex	Acceleration Setting Out of Range	The parameter specified for the *Acceleration* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401 5424 hex	Deceleration Setting Out of Range	The parameter specified for the *Deceleration* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401 5425 hex	Jerk Setting Out of Range	The parameter specified for the *Jerk* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401 5427 hex	Torque Ramp Setting Out of Range	The parameter specified for the *TorqueRamp* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401 5428 hex	Master Coefficient Scaling Out of Range	The parameter specified for the *MasterScaling* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015429 hex	Slave Coefficient Scaling Out of Range	The parameter specified for the *SlaveScaling* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
5401542A hex	Feeding Velocity Setting Out of Range	The parameter specified for the *FeedVelocity* input variable to a motion control instruction is out of range.	• The Feed Velocity (input variable *FeedVelocity*) is still at the default (0).				S		Same as above.
5401542B hex	Buffer Mode Selection Out of Range	The parameter specified for the *BufferMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401542C hex	Coordinate System Selection Out of Range	The parameter specified for the *CoordSystem* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401542D hex	Circular Interpolation Mode Selection Out of Range	The parameter specified for the *CircMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401542E hex	Direction Selection Out of Range	The parameter specified for the *Direction* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401542F hex	Path Selection Out of Range	The parameter specified for the *PathChoice* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015430 hex	Position Type Selection Out of Range	The parameter specified for the *ReferenceType* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015431 hex	Travel Mode Selection Out of Range	The parameter specified for the *MoveMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015432 hex	Transition Mode Selection Out of Range	The parameter specified for the *TransitionMode* 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 *BufferMode* and *_mcTMCornerSuperimposed* was specified for *TransitionMode.*				S		Same as above.
54015433 hex	Continue Method Selection Out of Range	The value of the reserved input variable *Continuous* to a motion control instruction changed.	• The value of the reserved input variable *Continuous* changed.				S		Same as above.
54015434 hex	Combine Mode Selection Out of Range	The parameter specified for the *CombineMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015435 hex	Synchronization Start Condition Selection Out of Range	The parameter specified for the *LinkOption* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015436 hex	Master and Slave Defined as Same Axis	The same axis is specified for the *Master* and *Slave* input variables to a motion control instruction.	• The parameter is the same for the *Master* and *Slave* input variables to the instruction.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015437 hex	Master and Auxiliary Defined as Same Axis	The same axis is specified for the *Master* and *Auxiliary* input variables to a motion control instruction.	• The parameter is the same for the *Master* and *Auxiliary* input variables to the instruction.				S		Same as above.
54015438 hex	Master/Slave Axis Numbers Not in Ascending Order	The axis numbers specified for the *Master* and *Slave* input variables to a motion control instruction are not in ascending order.	• The parameters for the *Master* and *Slave* input variables to the instruction were not in ascending order when *_mcLatestCommand* was specified for the *ReferenceType* input variable to the instruction.				S		Same as above.
54015439 hex	Incorrect Cam Table Specification	The parameter specified for the *CamTable* input variable to a motion control instruction is out of range.	• Something other than a cam data variable was specified for the *CamTable* input variable to the instruction.				S		Same as above.
5401543A hex	Synchronization Stopped	A synchronized control motion control instruction was executed, but conditions required for execution were not met.	• The MC_CamOut (End Cam Operation) instruction was executed even though the MC_CamIn (Start Cam Operation) instruction is not being executed. • The MC_GearOut (End Gear Operation) instruction was executed even though the MC_GearIn (Start Gear Operation) or the MC_GearInPos (Positioning Gear Operation) instruction is not being executed. • The MC_Phasing (Shift Master Axis Phase) instruction was executed even though the MC_CamIn (Start Cam Operation), MC_GearIn (Start Gear Operation), MC_GearInPos (Start Gear Operation), or MC_MoveLink (Synchronous Positioning) instruction is not being executed.				S		Same as above.
5401543B hex	Motion Control Instruction Re-execution Disabled	An attempt was made to re-execute a motion control instruction that cannot be re-executed.	• A motion control instruction that cannot be re-executed was re-executed.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
5401543C hex	Motion Control Instruction Multi-execution Disabled	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group).	• Multiple functions that cannot be executed simultaneously were executed for the same target (MC common or axis).				S		NJ-series Instructions Reference Manual (Cat. No. W502)
5401543D hex	Instruction Not Allowed for Encoder Axis Type	An operation instruction was executed for an encoder axis.	• An operation instruction was executed for an encoder axis.				S		Same as above.
5401543E hex	Instruction Cannot Be Executed during Multi-axes Coordinated Control	An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion.	• An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion.				S		Same as above.
5401543F hex	Multi-axes Coordinated Control Instruction Executed for Disabled Axes Group	A multi-axes coordinated control instruction was executed for an axes group that was in the Axes Group Disabled state.	• A multi-axes coordinated control instruction was executed for an axes group that was in the Axes Group Disabled state.				S		Same as above.
54015440 hex	Axes Group Cannot Be Enabled	Execution of the MC_GroupEnable (Enable Axes Group) instruction failed.	• When the MC_GroupEnable (Enable Axes Group) instruction was executed, there was a composition axis that was not stopped. • When the MC_GroupEnable (Enable Axes Group) instruction was executed, there was a composition axis for which the MC_TouchProbe (Enable External Latch) instruction was being executed.				S		Same as above.
54015441 hex	Impossible Axis Operation Specified when the Servo is OFF	An operation instruction 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_HomeWithParameter instruction for an axis for which EtherCAT process data communications are not established.				S		Same as above.
54015442 hex	Composition Axis Stopped Error	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.	• A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015443 hex	Motion Control Instruction Multi-execution Buffer Limit Exceeded	The number of motion control instructions that is buffered for Buffered or Blending Buffer Modes exceeded the buffer limit.	• 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.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015444 hex	Insufficient Travel Distance	The specified motion cannot be executed for the deceleration rate or acceleration rate that was specified for multi-execution or re-execution of a positioning instruction.	• Stopping at the target position was not possible for the specified acceleration/deceleration rate for multi-execution or re-execution of a positioning instruction when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.				S		Same as above.
54015445 hex	Insufficient Travel Distance to Achieve Blending Transit Velocity	There is not sufficient travel distance to accelerate or decelerate to the transit velocity.	• There was not sufficient travel distance to accelerate the current command to the transit velocity when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.				S		Same as above.
54015446 hex	Move Link Constant Velocity Insufficient 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) instruction.				S		Same as above.
54015447 hex	Positioning Gear Operation Insufficient Target Velocity	For the MC_GearInPos (Positioning Gear Operation) instruction, the target velocity 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.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015448 hex	Same Start Point and End Point for Circular Interpolation	The start point and end point were the same when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction. Or, the start point, end point, and border point were the same when the border point method was specified.	• 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.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015449 hex	Circular Interpolation Center Specification Position Out of Range	The position specified for the center point exceeded the allowed range when the center method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.	• The difference between the distance from the start point to the center point and the distance 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.				S		Same as above.
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 executed for an axis that was set to Rotary Mode.				S		Same as above.
5401544C hex	Parameter Selection Out of Range	The parameter specified for the *ParameterNumber* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401544D hex	Stop Method Selection Out of Range	The parameter specified for the *StopMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401544E hex	Latch ID Selection Out of Range for Trigger Input Condition	The parameter specified for the *TriggerInput::LatchID* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401544F hex	Setting Out of Range for Writing MC Setting	The parameter specified for the *SettingValue* 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.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015450 hex	Trigger Input Condition Mode Selection Out of Range	The parameter specified for the *TriggerInput:: Mode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015451 hex	Drive Trigger Signal Selection Out of Range for Trigger Input Condition	The parameter specified for the *TriggerInput::InputDrive* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015453 hex	Motion Control Instruction Re-execution Disabled (Axis Specification)	An attempt was made to change the parameter for the *Axis* 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.				S		Same as above.
54015454 hex	Motion Control Instruction Re-execution Disabled (Buffer Mode Selection)	An attempt was made to change the parameter for the *BufferMode* 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.				S		Same as above.
54015455 hex	Motion Control Instruction Re-execution Disabled (Direction Selection)	An attempt was made to change the parameter for the *Direction* 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.				S		Same as above.
54015456 hex	Motion Control Instruction Re-execution Disabled (Execution Mode)	An attempt was made to change the parameter for the *Periodic* 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.				S		Same as above.
54015457 hex	Motion Control Instruction Re-execution Disabled (Axes Group Specification)	An attempt was made to change the parameter for the *AxesGroup* 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.				S		Same as above.
54015458 hex	Motion Control Instruction Re-execution Disabled (Jerk Setting)	An attempt was made to change the parameter for the *Jerk* 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.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015459 hex	Motion Control Instruction Re-execution Disabled (Master Axis)	An attempt was made to change the parameter for the *Master* 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.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
5401545A hex	Motion Control Instruction Re-execution Disabled (MasterOffset)	An attempt was made to change the parameter for the *MasterOffset* 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.				S		Same as above.
5401545B hex	Motion Control Instruction Re-execution Disabled (MasterScaling)	An attempt was made to change the parameter for the *MasterScaling* 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.				S		Same as above.
5401545C hex	Motion Control Instruction Re-execution Disabled (MasterStartDistance)	An attempt was made to change the parameter for the *MasterStartDistance* 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.				S		Same as above.
5401545D hex	Motion Control Instruction Re-execution Disabled (Continuous)	An attempt was made to change the parameter for the *Continuous* 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.				S		Same as above.
5401545E hex	Motion Control Instruction Re-execution Disabled (MoveMode)	An attempt was made to change the parameter for the *MoveMode* 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.				S		Same as above.
5401545F hex	Illegal Auxiliary Axis Specification	The axis specified for the *Auxiliary* input variable to a motion control instruction does not exist.	• An axis does not exist for the variable specified for the *Auxiliary* input variable to the instruction.				S		Same as above.
54015460 hex	Illegal Axis Specification	The axis specified for the *Axis* input variable to a motion control instruction does not exist.	• An axis does not exist for the variable specified for the *Axis* input variable to the instruction.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015461 hex	Illegal Axes Group Specification	The axes group specified for the *AxesGroup* input variable to a motion control 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 specified as a used group.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015462 hex	Illegal Master Axis Specification	The axis specified for the *Master* input variable to a motion control instruction does not exist or is not a sync master axis.	• An axis does not exist for the variable specified for the *Master* input variable to the instruction. • The axis that was specified for the *Master* input variable to the *MC_Phasing* (Shift Master Axis Phase) instruction is not the master axis for syncing.				S		Same as above.
54015463 hex	Motion Control Instruction Re-execution Disabled (SlaveOffset)	An attempt was made to change the *SlaveOffset* 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.				S		Same as above.
54015464 hex	Motion Control Instruction Re-execution Disabled (SlaveScaling)	An attempt was made to change the *SlaveScaling* 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.				S		Same as above.
54015465 hex	Motion Control Instruction Re-execution Disabled (StartPosition)	An attempt was made to change the *StartPosition* 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.				S		Same as above.
54015466 hex	Instruction Execution Error with Undefined Home	High-speed homing or an interpolation instruction was executed 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.				S		Same as above.
54015467 hex	Motion Control Instruction Re-execution Disabled (Position Type)	An attempt was made to change the *ReferenceType* 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.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
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.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015469 hex	First Position Setting Out of Range	The parameter specified for the *FirstPosition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401546A hex	Last Position Setting Out of Range	The parameter specified for the *LastPosition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401546B hex	Illegal First/Last Position Size Relationship (Linear Mode)	The parameter specified for the *LastPosition* input variable to a motion control instruction is smaller than the parameter specified for the *FirstPosition* input variable.	• The value of the *LastPosition* input parameter is less than the value of the *FirstPosition* input variable for the instruction when the Count Mode is set to Linear Mode.				S		Same as above.
5401546C hex	Master Sync Start Position Setting Out of Range	The parameter specified for the *MasterSyncPosition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401546D hex	Slave Sync Start Position Setting Out of Range	The parameter specified for the *SlaveSyncPosition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
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.				S		Same as above.
5401546F hex	Jerk Override Factor Out of Range	The parameter specified for the *JerkFactor* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015470 hex	Acceleration/Deceleration Override Factor Out of Range	The parameter specified for the *AccFactor* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015471 hex	First Position Method Specification Out of Range	The parameter specified for the *StartMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015472 hex	Motion Control Instruction Re-execution Disabled (First Position Method)	An attempt was made to change the *StartMode* 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.				S		Same as above.
54015474 hex	Unused Axis Specification for Auxiliary Axis	The axis specified for the *Auxiliary* input variable to a motion control instruction is an unused axis.	• The axis specified for the *Auxiliary* input variable to the instruction is an unused axis.				S		Same as above.
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 instruction.	• The specified synchronized motion cannot be performed at the velocity, acceleration rate, or deceleration rate that is input to the instruction.				S		Same as above.
54015476 hex	Position Gear Master Axis Zero Velocity	The velocity of the master axis was zero when a motion control instruction was started.	• The velocity of the master axis was 0 when the instruction was started.				S		Same as above.
54015478 hex	Target Position Setting Out of Range	The parameter specified for the *Position* input variable to a motion control instruction 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.				S		Same as above.
54015479 hex	Travel Distance Out of Range	The parameter that was specified for the *Distance* input variable to a motion control instruction is out of range or the target position with the value of *Distance* 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.				S		Same as above.
5401547A hex	Cam Table Start Point Setting Out of Range	The parameter specified for the *StartPosition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
5401547B hex	Cam Master Axis Following First Position Setting Out of Range	The parameter specified for the *MasterStartDistance* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
5401547C hex	Circular Interpolation Radius Setting Error	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.	• For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, it was not possible to create a circular path for the specified radius when the radius method was specified for circular interpolation.				S		Same as above.
5401547D hex	Circular Interpolation Radius Overflow	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.	• For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, the radius of the circle exceeded 40-bit data when converted to pulses for the border point or center specification method.				S		Same as above.
5401547E hex	Circular Interpolation Setting Out of Range	The parameter specified for the *CircAxes* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable. • The axes that were specified in *CircAxes* are not included in the composition axes in the Axes Group Settings. • The same axis was specified for both axes of *CircAxes*.				S		Same as above.
5401547F hex	Auxiliary/Slave Axis Numbers Not in Ascending Order	The values of the parameters for the *Auxiliary* and *Slave* input variables to a motion control instruction are not in ascending order.	• The parameters for the *Auxiliary* and *Slave* input variables to the instruction are not in ascending order.				S		Same as above.
54015480 hex	Cam Table Property Ascending Data Error at Update	A phase that was not in ascending order was found during calculating the number of valid data. Or, after calculations, the number 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.				S		Same as above.
54015481 hex	MC_Write Target Out of Range	The parameter specified for the *Target* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015482 hex	Master Travel Distance Specification Out of Range	The parameter specified for the *MasterDistance* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015483 hex	Master Distance in Acceleration Specification Out of Range	The parameter specified for the *MasterDistanceACC* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015484 hex	Master Distance in Deceleration Specification Out of Range	The parameter specified for the *MasterDistanceDEC* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015487 hex	Execution Mode Selection Out of Range	The parameter specified for the *ExecutionMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015488 hex	Permitted Following Error Out of Range	The parameter specified for the *PermittedDeviation* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015489 hex	Border Point/Center Position/Radius Specification Out of Range	The parameter specified for the *AuxPoint* input variable to a motion control instruction is out of range.	• The value of *AutPoint* 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 *AuxPoint[0]* exceeded 40-bit data when converted to pulses.				S		Same as above.
5401548A hex	End Point Specification Out of Range	The parameter specified for the *EndPoint* input variable to a motion control instruction is out of range.	• The instruction input parameter exceeded the range of signed 40-bit data when it is converted to pulses.				S		Same as above.
5401548B hex	Slave Travel Distance Specification Out of Range	The parameter specified for the *SlaveDistance* input variable to a motion control instruction is out of range.	• The instruction input parameter exceeded the range of 40-bit data when it is converted to pulses.				S		Same as above.
5401548C hex	Phase Shift Amount Out of Range	The parameter specified for the *PhaseShift* input variable to a motion control instruction 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.				S		Same as above.
5401548D hex	Feeding Distance Out of Range	The parameter specified for the *FeedDistance* input variable to a motion control instruction 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.				S		Same as above.
5401548E hex	Auxiliary and Slave Defined as Same Axis	The same axis was specified for the *Auxiliary* and *Slave* input variables to a motion control instruction.	• The parameter is the same for the *Auxiliary* and *Slave* input variables to the instruction.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
5401548F hex	Relative Position Selection Out of Range	The parameter specified for the *Relative* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015490 hex	Cam Transition Specification Out of Range	The parameter specified for the *CamTransition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015491 hex	Synchronized Control End Mode Selection Out of Range	The parameter specified for the *OutMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015492 hex	Enable External Latch Instruction Execution Disabled	*_mcImmediateStop* was specified for the *StopMode* input variable when the MC_TouchProbe (Enable External Latch) instruction was executed in Drive Mode, but the Control Mode was not CSP Mode.	• *_mcImmediateStop* was specified for the *StopMode* input variable when the MC_TouchProbe (Enable External Latch) instruction was executed in Drive Mode, but the Control Mode was not CSP Mode or the Servo was OFF.				S		Same as above.
54015493 hex	Master Axis Offset Out of Range	The parameter specified for the *MasterOffset* input variable to a motion control instruction is out of range.	• The instruction input parameter exceeded the range of signed 40-bit data when it is converted to pulses.				S		Same as above.
54015494 hex	Slave Axis Offset Out of Range	The parameter specified for the *SlaveOffset* input variable to a motion control instruction is out of range.	• The instruction input parameter exceeded the range of signed 40-bit data when it is converted to pulses.				S		Same as above.
54015495 hex	Command Current Position Count Selection Out of Range	The parameter specified for the *CmdPosMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015496 hex	Master Axis Gear Ratio Numerator Out of Range	The parameter specified for the *RatioNumeratorMaster* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015497 hex	Master Axis Gear Ratio Denominator Out of Range	The parameter specified for the *RatioDenominatorMaster* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015498 hex	Auxiliary Axis Gear Ratio Numerator Out of Range	The parameter specified for the *RatioNumeratorAuxiliary* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015499 hex	Auxiliary Axis Gear Ratio Denominator Out of Range	The parameter specified for the *RatioDenominatorAuxiliary* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
5401549A hex	Master Axis Position Type Selection Out of Range	The parameter specified for the *ReferenceTypeMaster* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
5401549B hex	Auxiliary Axis Position Type Selection Out of Range	The parameter specified for the *ReferenceTypeAuxiliary* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401549C hex	Target Position Ring Counter Out of Range	Operation is not possible because the target position is out of range for the ring counter of the executed instruction.	• High-speed homing was executed when 0 was not included in the ring counter.				S		Same as above.
5401549D hex (Ver. 1.01)	Axes Group Composition Axis Setting Out of Range	The parameter specified for the *Axes* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
5401549E hex (Ver. 1.04)	Axis Use Setting Out of Range	The parameter specified for the *AxisUse* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015700 hex (Ver. 1.03)	Homing Parameter Setting Out of Range	The parameter specified for the *HomingParameter* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.				S		Same as above.
54015702 hex (Ver. 1.04)	Axis Use Change Error	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.	• 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.				S		Same as above.
54015703 hex (Ver. 1.06)	Cannot Change Axis Use	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 real axes to be exceeded.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015720 hex (Ver. 1.04)	Motion Control Parameter 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 unused axis to a used axis, but the motion control parameter settings of the axis are not correct. • 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.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015721 hex (Ver. 1.04)	Required Process Data 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)*.				S		Same as above.
54015722 hex (Ver. 1.06)	Actual Position Overflow/Underflow	An instruction was executed that is not supported during an actual position overflow/underflow.	• An instruction was executed that is not supported during an actual position overflow or underflow.				S		Same as above.
54015723 hex (Ver. 1.06)	Switch Structure Track Number Setting Out of Range	The value of *TrackNumber* that is specified in the *Switches* 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.				S		Same as above.
54015724 hex (Ver. 1.06)	Switch Structure First ON Position Setting Out of Range	The value of *FirstOnPosition* that is specified in the *Switches* 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.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015725 hex (Ver. 1.06)	Switch Structure Last ON Position Setting Out of Range	The value of *LastOnPosition* that is specified in the *Switches* 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.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015726 hex (Ver. 1.06)	Switch Structure Axis Direction Out of Range	The value of *AxisDirection* that is specified in the *Switches* 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.				S		Same as above.
54015727 hex (Ver. 1.06)	Switch Structure Cam Switch Mode Out of Range	The value of *CamSwitchMode* that is specified in the *Switches* 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.				S		Same as above.
54015728 hex (Ver. 1.06)	Switch Structure Duration Setting Out of Range	The value of *Duration* that is specified in the *Switches* 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.				S		Same as above.
54015729 hex (Ver. 1.06)	Track Option Structure ON Compensation 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.				S		Same as above.
5401572A hex (Ver. 1.06)	Track Option Structure OFF Compensation 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.				S		Same as above.
5401572B hex (Ver. 1.06)	Number of Array Elements in Switch Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the *Switches* 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.				S		Same as above.
5401572C hex (Ver. 1.06)	Number of Array Elements in Output Signal Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the *Outputs* 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.				S		Same as above.
5401572D hex (Ver. 1.06)	Number of Array Elements in Track Option Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the *TrackOptions* 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.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
5401 572E hex (Ver. 1.06)	Numbers of Elements in Output Signals and Track Option Arrays Not Matched	The arrays in the structure variables that are specified for the *Outputs* and *TrackOptions* 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 option structure variable that are specified for the in-out variables to the instruction do not have the same number of elements.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
5401 572F hex (Ver. 1.06)	Motion Control Instruction Multi-execution Disabled (Master Axis)	A *Master* in-out variable that cannot be changed during multi-execution of instructions was changed.	• A *Master* in-out variable that cannot be changed during multi-execution of instructions was changed.				S		Same as above.
5401 5730 hex (Ver. 1.06)	Motion Control Instruction Multi-execution Disabled (Position Type Selection)	A *ReferenceType* in-out variable that cannot be changed during multi-execution of instructions was changed.	• A *ReferenceType* in-out variable that cannot be changed during multi-execution of instructions was changed.				S		Same as above.
5401 5731 hex (Ver. 1.06)	Same Track Number Setting in Switch Structure Out of Range	The same track number was specified more than the allowable number of times for the *TrackNumber* in the *Switches* in-out variable to a motion control instruction.	• The same track number was specified more than the allowable number of times for the *TrackNumber* in the *Switches* in-out variable to a motion control instruction.				S		Same as above.
5401 573A hex (Ver. 1.08)	Cannot Write Axis Parameters	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.				S		Same as above.
5401 573B hex (Ver. 1.08)	Axis Parameter Setting Out of Range	The parameter specified for the *AxisParameter* input variable to a motion control instruction is outside of the valid range.	• The parameter specified for the *AxisParameter* input variable to the instruction is out of range for the input variable.				S		Same as above.
5401 573C hex (Ver. 1.08)	Cam Property Setting Out of Range	The parameter specified for the *CamProperty* 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.				S		Same as above.
5401 573D hex (Ver. 1.08)	Cam Node Setting Out of Range	The parameter specified for the *CamNodes* input variable to a motion control instruction is outside of the valid range.	• The parameter specified for the *CamNodes* input variable to the instruction is out of range for the input variable.				S		Same as above.
5401 573E hex (Ver. 1.08)	Incorrect Cam Node Type Specification	The parameter specified for the *CamNodes* input variable to a motion control instruction is not an _sMC_CAM_NODE array variable.	• The parameter specified for the *CamNodes* input variable to the instruction is not an _sMC_CAM_NODE array variable.				S		Same as above.
5401 573F hex (Ver. 1.08)	Insufficient Nodes in Cam Table	The array variable of the parameter specified for the *CamNodes* input variable to a motion control instruction has a *Phase* value of 0 for element number 0.	• The array variable of the parameter specified for the *CamNodes* input variable to the instruction has a *Phase* (master axis phase) value of 0 for element number 0.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54015740 hex (Ver. 1.08)	Cam Node Master Axis Phase Not in Ascending Order	The values of *Phase* in the array variable of the parameter specified for the *CamNodes* input variable to a motion control instruction are not in ascending order according to the element numbers.	• The values of *Phase* (master axis phase) in the array variable of the parameter specified for the *CamNodes* input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases to not be in ascending order.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54015741 hex (Ver. 1.08)	Too Many Data Points in Cam Table	The number of generated cam data points exceeded the number of elements in the array in the cam data variable that is specified for the *CamTable* input variable to a motion control instruction.	The number of cam data points in the generated cam table exceeded the number of elements in the array in the cam data variable that is specified for the *CamTable* input variable to the instruction.				S		Same as above.
54015742 hex (Ver. 1.08)	Cam Table Displacement Overflow	*Distance* in the generated cam table exceeded the range of REAL data.	• *Distance* in the generated cam table exceeded the range of REAL data.				S		Same as above.
54015743 hex (Ver. 1.08)	Aborted Cam Table Used	A cam data variable that was aborted during generation was specified for the *CamTable* input variable to an instruction.	• A cam data variable that was aborted during generation due to an error in the MC_GenerateCamTable (Generate Cam Table) instruction was specified for the *CamTable* input variable to the instruction.				S		Same as above.
54016440 hex	Target Position Positive Software Limit Exceeded	The specified position exceeds the positive software limit.	• The parameter specified for the *Position* 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 motion in the opposite direction of the software limit was executed. • The parameter that was specified for the *AuxPoint* input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the positive software limit.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54016441 hex	Target Position Negative Software Limit Exceeded	The specified position exceeds the negative software limit.	• The parameter specified for the *Position* 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 motion in the opposite direction of the software limit was executed. • The parameter that was specified for the *AuxPoint* input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the negative software limit.				S		NJ-series Instructions Reference Manual (Cat. No. W502)

54016442 hex	Command Position Overflow/Underflow	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.	• 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 torque control)
							S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54016443 hex	Positive Limit Input	An instruction was executed for a motion in the positive direction when the positive limit input was ON.	• 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 input was ON. An axes group motion control instruction was executed when the positive limit input was ON.				S		NJ-series Instructions Reference Manual (Cat. No. W502)
54016444 hex	Negative Limit Input	An instruction for a motion in the negative direction was executed when the negative limit input was ON.	• 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 motion control instruction was executed when the negative limit input was ON.				S		Same as above.
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 Servo Drive was OFF.				S		Same as above.

3-1-3 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.

General Motion Control

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
14600000 hex	Absolute Encoder Home Offset Read Error	The absolute encoder current position that is retained during power interruptions was lost.	• The life of the Battery in the CPU Unit has expired. • Backup memory failure		S				NJ-series CPU Unit Motion Control User's Manual (Cat. No. W507)
14610000 hex	Motion Control Parameter Setting Error	The MC 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 motion control parameter settings or clearing memory. • Non-volatile memory failure		S				Same as above.
14620000 hex	Cam Data Read Error	The cam data that was saved in non-volatile memory is missing.	• Power was interrupted during save processing for cam data • Non-volatile memory failure		S				Same as above.
34600000 hex	Required Process Data Object Not Set	The object that is required 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		S				Same as above.
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.		S				Same as above.
34640000 hex	Network Configuration Information Missing for Axis Slave	The network configuration information is not registered for the slave to which the axis is assigned.	• The EtherCAT network configuration information is not registered for the slave to which the axis is assigned.		S				Same as above.
44200000 hex	Motion Control Initialization Error	A fatal error occurred in the system and prevented initialization of the Motion Control Function Module.	• Hardware has failed.		S				Same as above.
74200000 hex	Motion Control Period Exceeded	Processing for the primary periodic task was not finished within two control periods.	• The processing load in the primary periodic task is too heavy.		S				Same as above.
14630000 hex	Cam Table Save Error	Saving a cam table to a file failed.	• Saving a cam table to a file failed.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
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 converted to pulses was not 1 pulse or greater during cam operation.			S			NJ-series CPU Unit Motion Control User's Manual (Cat. No. W507)
54850000 hex	Immediate Stop Instruction Executed	An Immediate Stop (MC_ImmediateStop) instruction was executed.	• An Immediate Stop instruction was executed.			S			Same as above.
54860000 hex	Axes Group Immediate Stop Instruction Executed	An Axes Group Immediate Stop (MC_GroupImmediateStop) instruction was executed.	• A Group Immediate Stop instruction was executed.			S			Same as above.
64450000 hex	Positive Software Limit Exceeded	The position exceeded the positive software limit while the axis is in motion.	• The position exceeded the positive software limit.			S			Same as above.
64460000 hex	Negative Software Limit Exceeded	The position exceeded the negative software limit while the axis is in motion.	• The position exceeded the negative software limit.			S			Same as above.
64470000 hex	In-position Check Time Exceeded	The in-position check was not completed within the monitoring time.	• Time is required to complete positioning.			S			Same as above.
64480000 hex	Following Error Limit Exceeded	The error between the command current position and actual current value exceeded the Following Error Over Limit Value.	• The positioning operation has poor following performance and the actual motion is slower than the command.			S			Same as above.
64490000 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.			S			Same as above.
644A0000 hex	Positive Limit Input Detected	The positive limit input 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.			S			Same as above.
644B0000 hex	Negative Limit Input Detected	The negative limit input turned ON.	• A negative limit input signal was detected. • The negative limit input signal is not connected correctly or the logic setting for the negative limit input is wrong.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
64560000 hex	Illegal Following Error	The difference between the command position and the actual current position exceeds the range of 30-bit data when converted to pulses.	• The command current position was restricted so that the axis velocity of the slave axis would not exceed the axis maximum velocity for the specified travel distance. • Performance of slave axis positioning operation is poor and the actual motion is slower than the command.			S			NJ-series CPU Unit Motion Control User's Manual (Cat. No. W507)
64570000 hex	Servo OFF Error	The Servo was turned OFF for an axis due to an axes group error.	• The Servo was turned OFF for an axis due to an axes group error.			S			Same as above.
64580000 hex	Absolute Encoder Current 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 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.			S			Same as above.
64590000 hex	Home Undefined during Coordinated Motion	Home of the logical axis became undefined 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.			S			Same as above.
74210000 hex	Servo Main Circuit Power OFF	The main circuit power 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.			S			Same as above.
74230000 hex	Interrupt Feeding Interrupt Signal Missing	An interrupt input was not received during execution of an MC_MoveFeed (Interrupt Feeding) instruction.	• 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.			S			Same as above.
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 Operation Selection at Positive Limit Input parameter 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 incorrect or the sensor is faulty.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
74250000 hex	Homing Direction Limit Input Detected	The limit signal in the homing direction was detected during a homing operation.	• The Operation Selection at Negative Limit Input or Operation Selection at Positive Limit Input parameter 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 incorrect or the sensor is faulty.			S			NJ-series CPU Unit Motion Control User's Manual (Cat. No. W507)
74260000 hex	Homing Limit Inputs Detected in Both Directions	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.			S			Same as above.
74270000 hex	Home Proximity/Homing Opposite Direction Limit Input Detected	The home proximity input and the limit signal in the direction opposite to the homing direction were detected 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.			S			Same as above.
74280000 hex	Home Proximity/Homing Direction Limit Input Detected	The home proximity input and the limit signal in the homing direction were detected 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.			S			Same as above.
74290000 hex	Home Input/Homing Opposite Direction Limit Input 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.			S			Same as above.
742A0000 hex	Home Input/Homing Direction Limit Input Detected	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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
742B0000 hex	Invalid Home Input Mask Distance	The setting of the home input mask distance is not suitable for the MC_Home or MC_HomeWithParameter instruction.	• The set value of the home input mask distance when the operating mode of the MC_Home instruction is set to *Proximity Reverse Turn/Home Input Mask Distance* is insufficient to decelerate from the homing velocity to the homing approach velocity.			S			NJ-series CPU Unit Motion Control User's Manual (Cat. No. W507)
742C0000 hex	No Home Input	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.			S			Same as above.
742D0000 hex	No Home Proximity Input	There was no home proximity signal input during the homing operation.	• There was no home proximity signal input during the homing operation when a home proximity input signal was specified.			S			Same as above.
742F0000 hex	Slave Error Detected	An error was detected for the EtherCAT slave or NX Unit that is allocated to an axis.	• An error was detected for the EtherCAT slave or NX Unit that is allocated to an axis.			S			Same as above.
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 motion.			S			Same as above.
74330000 hex	MC Common Error Occurrence	An MC common error occurred.	• Partial fault level MC common error occurred.			S			Same as above.
74340000 hex	Latch Position Overflow	An overflow occurred for the latched position for the MC_TouchProbe (Enable External Latch) instruction.	• An overflow occurred for the latched position for the MC_TouchProbe (Enable External Latch) instruction.			S			Same as above.
74350000 hex	Latch Position Underflow	An underflow occurred for the latched position for the MC_TouchProbe (Enable External Latch) instruction.	• An underflow occurred for the latched position for the MC_TouchProbe (Enable External Latch) instruction.			S			Same as above.
74360000 hex	Master Sync Direction Error	The master axis continued 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, resulting in an overflow.			S			Same as above.
74370000 hex	Slave Disconnection during Servo ON	An EtherCAT slave or NX Unit that is allocated to an axis was disconnected, replaced, or disabled while the Servo was ON.	• An EtherCAT slave or NX Unit that is allocated to an axis was disconnected, replaced, or disabled while the Servo was ON.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
74380000 hex	Feed Distance Overflow	The target position after the interrupt input was received for the MC_MoveFeed (Interrupt Feeding) instruction overflowed or underflowed.	• The target position after the interrupt input was received for the MC_MoveFeed (Interrupt Feeding) instruction exceeded the range of signed 40-bit data when converted to pulses.			S			NJ-series CPU Unit Motion Control User's Manual (Cat. No. W507)
74390000 hex	Error in Changing Servo Drive Control Mode	Changing the Control Mode was not completed 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 G5-series Servo Drive, the actual current velocity was not reduced to 10% or less of the maximum velocity within 10 seconds for three consecutive periods when the MC_TorqueControl 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.			S			Same as above.
743A0000 hex	Master Axis Position Read Error	The synchronized instruction was not executed because an error occurred in the position of the master axis of the synchronized instruction.	• EtherCAT process data communications are not established for the master axis of the synchronized instruction or the I/O data of the NX Unit cannot be used for control. • The slave of the master axis for the synchronized instruction was disconnected or disabled. • An Absolute Encoder Current Position Calculation Failed error (6458000 hex) was detected for the master axis of a synchronized instruction. • The master axis for the synchronized instruction is an unused axis.			S			Same as above.
743B0000 hex	Auxiliary Axis Position Read Error	The synchronized instruction was not executed because an error occurred in the position of the auxiliary axis of the synchronized instruction.	• EtherCAT process data communications are not established for the auxiliary axis of the synchronized instruction or the I/O data of the NX Unit cannot be used for control. • The slave of the auxiliary axis for the synchronized instruction was disconnected or disabled. • An Absolute Encoder Current Position Calculation Failed error (6458000 hex) was detected for the auxiliary axis of a synchronized instruction. • The auxiliary axis for the synchronized instruction is an unused axis.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
84400000 hex	EtherCAT Slave Communications Error	A communications error occurred for the EtherCAT slave or NX Unit that is allocated to an axis.	• A communications error occurred for the EtherCAT slave or NX Unit that is allocated to an axis.			S			NJ-series CPU Unit Motion Control User's Manual (Cat. No. W507)
571D0000 hex (Ver. 1.02)	Too Many Reset Motion Control Error Instructions	There are more than 100 instances of the ResetMCError (Reset Motion Control Error) instruction.	• There are more than 100 instances of the ResetMCError (Reset Motion Control Error) instruction declared in the user program. Instances inside function blocks are included.				S		Same as above.
644C0000 hex	Following Error Warning	The following error exceeded the Following Error Warning Value.	• Performance of positioning operation is poor and the actual motion is slower than the command.				S		Same as above.
644D0000 hex	Velocity Warning	The command velocity exceeded the velocity warning value.	• The command velocity exceeded the velocity warning value.			U	S		Same as above.
644E0000 hex	Acceleration Warning	The command acceleration exceeded the acceleration warning value.	• The command acceleration rate exceeded the acceleration warning value.			U	S		Same as above.
644F0000 hex	Deceleration Warning	The command deceleration exceeded the deceleration warning value.	• The command deceleration rate exceeded the deceleration warning value.			U	S		Same as above.
64500000 hex	Positive Torque Warning	The torque command value exceeded the positive torque warning value.	• The torque command value exceeded the positive torque warning value.			U	S		Same as above.
64510000 hex	Negative Torque Warning	The torque command value exceeded the negative torque warning value.	• The torque command value exceeded the negative torque warning value.			U	S		Same as above.
64520000 hex	Command Position Overflow	The number of pulses for the command position overflowed.	• In Linear Mode, the command position when converted to pulses exceeded the upper limit of signed 40-bit data.			U	S		Same as above.
64530000 hex	Command Position Underflow	The number of pulses for the command position exceeded the valid range. (It underflowed.)	• In Linear Mode, the command position when converted to pulses exceeded the lower limit of signed 40-bit data.			U	S		Same as above.
64540000 hex	Actual Position Overflow	The number of pulses for the actual position overflowed.	• The actual position when converted to pulses exceeded the upper limit of signed 40-bit data.			U	S		Same as above.
64550000 hex	Actual Position Underflow	The number of pulses for the actual position underflowed.	• The actual position when converted to pulses exceeded the lower limit of signed 40-bit data.			U	S		Same as above.
74320000 hex	Slave Observation Detected	A warning was detected for an EtherCAT slave or NX Unit.	• A warning was detected for the EtherCAT slave or NX Unit that is allocated to an axis.			U	S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
743C0000 hex	Cannot Execute Save Cam Table Instruction	You cannot save a cam table to a file when non-volatile memory is being accessed by another operation.	• An attempt was made to execute the MC_SaveCamTable instruction when another operation was accessing the non-volatile memory (e.g., transfer or data trace operation from the Sysmac Studio).				S		NJ-series CPU Unit Motion Control User's Manual (Cat. No. W507)
94200000 hex	Notice of Insufficient Travel Distance to Achieve Blending Transit Velocity	There is not sufficient travel distance to accelerate or decelerate to the transit velocity during blending operation.	• When the Acceleration/Deceleration Over parameter was set to *Use rapid acceleration/deceleration (Blending is changed to Buffered),* the results of profile creation caused the acceleration/deceleration rate to be exceeded when blending was specified, so buffered 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. • *Blending* was specified for an interpolation instruction, but based on the results of profile creation, this was changed to *Buffered* because the execution time of the instruction before the transition was less than four control periods.				U	S	Same as above.
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 Sysmac Studio.					S	Same as above.
94220000 hex	Slave Error Code Report	The error code was reported by the slave when a Slave Error Detected error occurred.	• The error code was reported by the slave when a Slave Error Detected error (742F0000 hex) occurred.					S	Same as above.

Motion Control Instructions

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
34610000 hex	Process Data Object Setting Missing	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 OMRON GX-EC02□□ EtherCAT Encoder slave.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
54200000 hex	Electronic Gear Ratio Numerator Setting Out of Range	The parameter specified for the *RatioNumerator* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54210000 hex	Electronic Gear Ratio Denominator Setting Out of Range	The parameter specified for the *RatioDenominator* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54220000 hex	Target Velocity Setting Out of Range	The parameter specified for the *Velocity* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54230000 hex	Acceleration Setting Out of Range	The parameter specified for the *Acceleration* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54240000 hex	Deceleration Setting Out of Range	The parameter specified for the *Deceleration* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54250000 hex	Jerk Setting Out of Range	The parameter specified for the *Jerk* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54270000 hex	Torque Ramp Setting Out of Range	The parameter specified for the *TorqueRamp* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54280000 hex	Master Coefficient Scaling Out of Range	The parameter specified for the *MasterScaling* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
54290000 hex	Slave Coefficient Scaling Out of Range	The parameter specified for the *SlaveScaling* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
542A0000 hex	Feeding Velocity Setting Out of Range	The parameter specified for the *FeedVelocity* input variable to a motion control instruction is out of range.	• The Feed Velocity (input variable *FeedVelocity*) is still at the default (0).			S			Same as above.
542B0000 hex	Buffer Mode Selection Out of Range	The parameter specified for the *BufferMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
542C0000 hex	Coordinate System Selection Out of Range	The parameter specified for the *CoordSystem* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
542D0000 hex	Circular Interpolation Mode Selection Out of Range	The parameter specified for the *CircMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
542E0000 hex	Direction Selection Out of Range	The parameter specified for the *Direction* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
542F0000 hex	Path Selection Out of Range	The parameter specified for the *PathChoice* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54300000 hex	Position Type Selection Out of Range	The parameter specified for the *ReferenceType* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54310000 hex	Travel Mode Selection Out of Range	The parameter specified for the *MoveMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54320000 hex	Transition Mode Selection Out of Range	The parameter specified for the *TransitionMode* 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 *BufferMode* and *_mcTMCornerSuperimposed* was specified for *TransitionMode.*			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
54330000 hex	Continue Method Selection Out of Range	The value of the reserved input variable *Continuous* to a motion control instruction changed.	• The value of the reserved input variable *Continuous* changed.			S			Same as above.
54340000 hex	Combine Mode Selection Out of Range	The parameter specified for the *CombineMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54350000 hex	Synchronization Start Condition Selection Out of Range	The parameter specified for the *LinkOption* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54360000 hex	Master and Slave Defined as Same Axis	The same axis is specified for the *Master* and *Slave* input variables to a motion control instruction.	• The parameter is the same for the *Master* and *Slave* input variables to the instruction.			S			Same as above.
54370000 hex	Master and Auxiliary Defined as Same Axis	The same axis is specified for the *Master* and *Auxiliary* input variables to a motion control instruction.	• The parameter is the same for the *Master* and *Auxiliary* input variables to the instruction.			S			Same as above.
54380000 hex	Master/Slave Axis Numbers Not in Ascending Order	The axis numbers specified for the *Master* and *Slave* input variables to a motion control instruction are not in ascending order.	• The parameters for the *Master* and *Slave* input variables to the instruction were not in ascending order when *_mcLatestCommand* was specified for the *ReferenceType* input variable to the instruction.			S			Same as above.
54390000 hex	Incorrect Cam Table Specification	The parameter specified for the *CamTable* input variable to a motion control instruction is out of range.	• Something other than a cam data variable was specified for the *CamTable* input variable to the instruction.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
543A0000 hex	Synchronization Stopped	A synchronized control motion control instruction was executed, but conditions required for execution were not met.	• The MC_CamOut (End Cam Operation) instruction was executed even though the MC_CamIn (Start Cam Operation) instruction is not being executed. • The MC_GearOut (End Gear Operation) instruction was executed even though the MC_GearIn (Start Gear Operation) or the MC_GearInPos (Positioning Gear Operation) instruction is not being executed. • The MC_Phasing (Shift Master Axis Phase) instruction was executed even though the MC_CamIn (Start Cam Operation), MC_GearIn (Start Gear Operation), MC_GearInPos (Start Gear Operation), or MC_MoveLink (Synchronous Positioning) instruction is not being executed.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
543B0000 hex	Motion Control Instruction Re-execution Disabled	An attempt was made to re-execute a motion control instruction that cannot be re-executed.	• A motion control instruction that cannot be re-executed was re-executed.			S			Same as above.
543C0000 hex	Motion Control Instruction Multi-execution Disabled	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group).	• Multiple functions that cannot be executed simultaneously were executed for the same target (MC common or axis).			S			Same as above.
543D0000 hex	Instruction Not Allowed for Encoder Axis Type	An operation instruction was executed for an encoder axis.	• An operation instruction was executed for an encoder axis.			S			Same as above.
543E0000 hex	Instruction Cannot Be Executed during Multi-axes Coordinated Control	An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion.	• An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion.			S			Same as above.
543F0000 hex	Multi-axes Coordinated Control Instruction Executed for Disabled Axes Group	A multi-axes coordinated control instruction was executed for an axes group that was in the Axes Group Disabled state.	• A multi-axes coordinated control instruction was executed for an axes group that was in the Axes Group Disabled state.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54400000 hex	Axes Group Cannot Be Enabled	Execution of the MC_GroupEnable (Enable Axes Group) instruction failed.	• When the MC_GroupEnable (Enable Axes Group) instruction was executed, there was a composition axis that was not stopped. • When the MC_GroupEnable (Enable Axes Group) instruction was executed, there was a composition axis for which the MC_TouchProbe (Enable External Latch) instruction was being executed.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
54410000 hex	Impossible Axis Operation Specified when the Servo is OFF	An operation instruction 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_HomeWithParameter instruction for an axis for which EtherCAT process data communications are not established.			S			Same as above.
54420000 hex	Composition Axis Stopped Error	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.	• A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.			S			Same as above.
54430000 hex	Motion Control Instruction Multi-execution Buffer Limit Exceeded	The number of motion control instructions that is buffered for Buffered or Blending Buffer Modes exceeded the buffer limit.	• 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.			S			Same as above.
54440000 hex	Insufficient Travel Distance	The specified motion cannot be executed for the deceleration rate or acceleration rate that was specified for multi-execution or re-execution of a positioning instruction.	• Stopping at the target position was not possible for the specified acceleration/deceleration rate for multi-execution or re-execution of a positioning instruction when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.			S			Same as above.
54450000 hex	Insufficient Travel Distance to Achieve Blending Transit Velocity	There is not sufficient travel distance to accelerate or decelerate to the transit velocity.	• There was not sufficient travel distance to accelerate the current command to the transit velocity when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.			S			Same as above.
54460000 hex	Move Link Constant Velocity Insufficient 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) instruction.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54470000 hex	Positioning Gear Operation Insufficient Target Velocity	For the MC_GearInPos (Positioning Gear Operation) instruction, the target velocity 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.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
54480000 hex	Same Start Point and End Point for Circular Interpolation	The start point and end point were the same when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction. Or, the start point, end point, and border point were the same when the border point method was specified.	• 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.			S			Same as above.
54490000 hex	Circular Interpolation Center Specification Position Out of Range	The position specified for the center point exceeded the allowed range when the center method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.	• The difference between the distance from the start point to the center point and the distance 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.			S			Same as above.
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 executed for an axis that was set to Rotary Mode.			S			Same as above.
544C0000 hex	Parameter Selection Out of Range	The parameter specified for the *ParameterNumber* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
544D0000 hex	Stop Method Selection Out of Range	The parameter specified for the *StopMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
544E0000 hex	Latch ID Selection Out of Range for Trigger Input Condition	The parameter specified for the *TriggerInput::LatchID* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
544F0000 hex	Setting Out of Range for Writing MC Setting	The parameter specified for the *SettingValue* 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.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
54500000 hex	Trigger Input Condition Mode Selection Out of Range	The parameter specified for the *TriggerInput:: Mode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54510000 hex	Drive Trigger Signal Selection Out of Range for Trigger Input Condition	The parameter specified for the *TriggerInput::InputDrive* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54530000 hex	Motion Control Instruction Re-execution Disabled (Axis Specification)	An attempt was made to change the parameter for the *Axis* 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.			S			Same as above.
54540000 hex	Motion Control Instruction Re-execution Disabled (Buffer Mode Selection)	An attempt was made to change the parameter for the *BufferMode* 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.			S			Same as above.
54550000 hex	Motion Control Instruction Re-execution Disabled (Direction Selection)	An attempt was made to change the parameter for the *Direction* 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.			S			Same as above.
54560000 hex	Motion Control Instruction Re-execution Disabled (Execution Mode)	An attempt was made to change the parameter for the *Periodic* 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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54570000 hex	Motion Control Instruction Re-execution Disabled (Axes Group Specification)	An attempt was made to change the parameter for the *AxesGroup* 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.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
54580000 hex	Motion Control Instruction Re-execution Disabled (Jerk Setting)	An attempt was made to change the parameter for the *Jerk* 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.			S			Same as above.
54590000 hex	Motion Control Instruction Re-execution Disabled (Master Axis)	An attempt was made to change the parameter for the *Master* 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.			S			Same as above.
545A0000 hex	Motion Control Instruction Re-execution Disabled (MasterOffset)	An attempt was made to change the parameter for the *MasterOffset* 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.			S			Same as above.
545B0000 hex	Motion Control Instruction Re-execution Disabled (MasterScaling)	An attempt was made to change the parameter for the *MasterScaling* 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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
545C 0000 hex	Motion Control Instruction Re-execution Disabled (MasterStart-Distance)	An attempt was made to change the parameter for the *MasterStartDistance* 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.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
545D 0000 hex	Motion Control Instruction Re-execution Disabled (Continuous)	An attempt was made to change the parameter for the *Continuous* 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.			S			Same as above.
545E 0000 hex	Motion Control Instruction Re-execution Disabled (MoveMode)	An attempt was made to change the parameter for the *MoveMode* 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.			S			Same as above.
545F 0000 hex	Illegal Auxiliary Axis Specification	The axis specified for the *Auxiliary* input variable to a motion control instruction does not exist.	• An axis does not exist for the variable specified for the *Auxiliary* input variable to the instruction.			S			Same as above.
5460 0000 hex	Illegal Axis Specification	The axis specified for the *Axis* input variable to a motion control instruction does not exist.	• An axis does not exist for the variable specified for the *Axis* input variable to the instruction.			S			Same as above.
5461 0000 hex	Illegal Axes Group Specification	The axes group specified for the *AxesGroup* input variable to a motion control 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 specified as a used group.			S			Same as above.
5462 0000 hex	Illegal Master Axis Specification	The axis specified for the *Master* input variable to a motion control instruction does not exist or is not a sync master axis.	• An axis does not exist for the variable specified for the *Master* input variable to the instruction. • The axis that was specified for the *Master* input variable to the *MC_Phasing* (Shift Master Axis Phase) instruction is not the master axis for syncing.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54630000 hex	Motion Control Instruction Re-execution Disabled (SlaveOffset)	An attempt was made to change the *SlaveOffset* 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.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
54640000 hex	Motion Control Instruction Re-execution Disabled (SlaveScaling)	An attempt was made to change the *SlaveScaling* 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.			S			Same as above.
54650000 hex	Motion Control Instruction Re-execution Disabled (StartPosition)	An attempt was made to change the *StartPosition* 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.			S			Same as above.
54660000 hex	Instruction Execution Error with Undefined Home	High-speed homing or an interpolation instruction was executed 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.			S			Same as above.
54670000 hex	Motion Control Instruction Re-execution Disabled (Position Type)	An attempt was made to change the *ReferenceType* 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.			S			Same as above.
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.			S			Same as above.
54690000 hex	First Position Setting Out of Range	The parameter specified for the *FirstPosition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
546A0000 hex	Last Position Setting Out of Range	The parameter specified for the *LastPosition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
546B0000 hex	Illegal First/Last Position Size Relationship (Linear Mode)	The parameter specified for the *LastPosition* input variable to a motion control instruction is smaller than the parameter specified for the *FirstPosition* input variable.	• The value of the *LastPosition* input parameter is less than the value of the *FirstPosition* input variable for the instruction when the Count Mode is set to Linear Mode.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
546C0000 hex	Master Sync Start Position Setting Out of Range	The parameter specified for the *MasterSyncPosition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
546D0000 hex	Slave Sync Start Position Setting Out of Range	The parameter specified for the *SlaveSyncPosition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
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) instruction.			S			Same as above.
546F0000 hex	Jerk Override Factor Out of Range	The parameter specified for the *JerkFactor* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54700000 hex	Acceleration/Deceleration Override Factor Out of Range	The parameter specified for the *AccFactor* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54710000 hex	First Position Method Specification Out of Range	The parameter specified for the *StartMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54720000 hex	Motion Control Instruction Re-execution Disabled (First Position Method)	An attempt was made to change the *StartMode* 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.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
54740000 hex	Unused Axis Specification for Auxiliary Axis	The axis specified for the *Auxiliary* input variable to a motion control instruction is an unused axis.	• The axis specified for the *Auxiliary* input variable to the instruction is an unused axis.			S			Same as above.
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 instruction.	• The specified synchronized motion cannot be performed at the velocity, acceleration rate, or deceleration rate that is input to the instruction.			S			Same as above.
54760000 hex	Position Gear Master Axis Zero Velocity	The velocity of the master axis was zero when a motion control instruction was started.	• The velocity of the master axis was 0 when the instruction was started.			S			Same as above.
54780000 hex	Target Position Setting Out of Range	The parameter specified for the *Position* input variable to a motion control instruction 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.			S			Same as above.
54790000 hex	Travel Distance Out of Range	The parameter that was specified for the *Distance* input variable to a motion control instruction is out of range or the target position with the value of *Distance* 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.			S			Same as above.
547A0000 hex	Cam Table Start Point Setting Out of Range	The parameter specified for the *StartPosition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
547B0000 hex	Cam Master Axis Following First Position Setting Out of Range	The parameter specified for the *MasterStartDistance* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
547C 0000 hex	Circular Interpolation Radius Setting Error	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.	• For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, it was not possible to create a circular path for the specified radius when the radius method was specified for circular interpolation.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
547D 0000 hex	Circular Interpolation Radius Overflow	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.	• For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, the radius of the circle exceeded 40-bit data when converted to pulses for the border point or center specification method.			S			Same as above.
547E 0000 hex	Circular Interpolation Setting Out of Range	The parameter specified for the *CircAxes* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable. • The axes that were specified in *CircAxes* are not included in the composition axes in the Axes Group Settings. • The same axis was specified for both axes of *CircAxes*.			S			Same as above.
547F 0000 hex	Auxiliary/Slave Axis Numbers Not in Ascending Order	The values of the parameters for the *Auxiliary* and *Slave* input variables to a motion control instruction are not in ascending order.	• The parameters for the *Auxiliary* and *Slave* input variables to the instruction are not in ascending order.			S			Same as above.
5480 0000 hex	Cam Table Property Ascending Data Error at Update	A phase that was not in ascending order was found during calculating the number of valid data. Or, after calculations, the number 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.			S			Same as above.
5481 0000 hex	MC_Write Target Out of Range	The parameter specified for the *Target* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
5482 0000 hex	Master Travel Distance Specification Out of Range	The parameter specified for the *MasterDistance* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54830000 hex	Master Distance in Acceleration Specification Out of Range	The parameter specified for the *MasterDistanceACC* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
54840000 hex	Master Distance in Deceleration Specification Out of Range	The parameter specified for the *MasterDistanceDEC* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54870000 hex	Execution Mode Selection Out of Range	The parameter specified for the *ExecutionMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54880000 hex	Permitted Following Error Out of Range	The parameter specified for the *PermittedDeviation* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54890000 hex	Border Point/Center Position/Radius Specification Out of Range	The parameter specified for the *AuxPoint* input variable to a motion control instruction is out of range.	• The value of *AutPoint* 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 *AuxPoint[0]* exceeded 40-bit data when converted to pulses.			S			Same as above.
548A0000 hex	End Point Specification Out of Range	The parameter specified for the *EndPoint* input variable to a motion control instruction is out of range.	• The instruction input parameter exceeded the range of signed 40-bit data when it is converted to pulses.			S			Same as above.
548B0000 hex	Slave Travel Distance Specification Out of Range	The parameter specified for the *SlaveDistance* input variable to a motion control instruction is out of range.	• The instruction input parameter exceeded the range of 40-bit data when it is converted to pulses.			S			Same as above.
548C0000 hex	Phase Shift Amount Out of Range	The parameter specified for the *PhaseShift* input variable to a motion control instruction 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.			S			Same as above.
548D0000 hex	Feeding Distance Out of Range	The parameter specified for the *FeedDistance* input variable to a motion control instruction 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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
548E0000 hex	Auxiliary and Slave Defined as Same Axis	The same axis was specified for the *Auxiliary* and *Slave* input variables to a motion control instruction.	• The parameter is the same for the *Auxiliary* and *Slave* input variables to the instruction.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
548F0000 hex	Relative Position Selection Out of Range	The parameter specified for the *Relative* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54900000 hex	Cam Transition Specification Out of Range	The parameter specified for the *CamTransition* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54910000 hex	Synchronized Control End Mode Selection Out of Range	The parameter specified for the *OutMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54920000 hex	Enable External Latch Instruction Execution Disabled	*_mcImmediateStop* was specified for the *StopMode* input variable when the MC_TouchProbe (Enable External Latch) instruction was executed in Drive Mode, but the Control Mode was not CSP Mode.	• *_mcImmediateStop* was specified for the *StopMode* input variable when the MC_TouchProbe (Enable External Latch) instruction was executed in Drive Mode, but the Control Mode was not CSP Mode or the Servo was OFF.			S			Same as above.
54930000 hex	Master Axis Offset Out of Range	The parameter specified for the *MasterOffset* input variable to a motion control instruction is out of range.	• The instruction input parameter exceeded the range of signed 40-bit data when it is converted to pulses.			S			Same as above.
54940000 hex	Slave Axis Offset Out of Range	The parameter specified for the *SlaveOffset* input variable to a motion control instruction is out of range.	• The instruction input parameter exceeded the range of signed 40-bit data when it is converted to pulses.			S			Same as above.
54950000 hex	Command Current Position Count Selection Out of Range	The parameter specified for the *CmdPosMode* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54960000 hex	Master Axis Gear Ratio Numerator Out of Range	The parameter specified for the *RatioNumerator-Master* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54970000 hex	Master Axis Gear Ratio Denominator Out of Range	The parameter specified for the *RatioDenominatorMaster* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
54980000 hex	Auxiliary Axis Gear Ratio Numerator Out of Range	The parameter specified for the *RatioNumeratorAuxiliary* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
54990000 hex	Auxiliary Axis Gear Ratio Denominator Out of Range	The parameter specified for the *RatioDenominatorAuxiliary* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
549A0000 hex	Master Axis Position Type Selection Out of Range	The parameter specified for the *ReferenceTypeMaster* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
549B0000 hex	Auxiliary Axis Position Type Selection Out of Range	The parameter specified for the *ReferenceTypeAuxiliary* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
549C0000 hex	Target Position Ring Counter Out of Range	Operation is not possible because the target position is out of range for the ring counter of the executed instruction.	• High-speed homing was executed when 0 was not included in the ring counter.			S			Same as above.
549D0000 hex (Ver. 1.01)	Axes Group Composition Axis Setting Out of Range	The parameter specified for the *Axes* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
549E0000 hex (Ver. 1.04)	Axis Use Setting Out of Range	The parameter specified for the *AxisUse* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.
57000000 hex (Ver. 1.03)	Homing Parameter Setting Out of Range	The parameter specified for the *HomingParameter* input variable to a motion control instruction is out of range.	• Instruction input parameter exceeded the valid range of the input variable.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
57020000 hex (Ver. 1.04)	Axis Use Change Error	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.	• 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.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
57030000 hex (Ver. 1.06)	Cannot Change Axis Use	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 real axes to be exceeded.			S			Same as above.
57200000 hex (Ver. 1.04)	Motion Control Parameter 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 unused axis to a used axis, but the motion control parameter settings of the axis are not correct. • 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.			S			Same as above.
57210000 hex (Ver. 1.04)	Required Process Data 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).*			S			Same as above.
572F0000 hex (Ver. 1.06)	Motion Control Instruction Multi-execution Disabled (Master Axis)	A *Master* in-out variable that cannot be changed during multi-execution of instructions was changed.	• A *Master* in-out variable that cannot be changed during multi-execution of instructions was changed.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
5730 0000 hex (Ver. 1.06)	Motion Control Instruction Multi-execution Disabled (Position Type Selection)	A *ReferenceType* in-out variable that cannot be changed during multi-execution of instructions was changed.	• A *ReferenceType* in-out variable that cannot be changed during multi-execution of instructions was changed.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
573A 0000 hex (Ver. 1.08)	Cannot Write Axis Parameters	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.			S			Same as above.
573B 0000 hex (Ver. 1.08)	Axis Parameter Setting Out of Range	The parameter specified for the *AxisParameter* input variable to a motion control instruction is outside of the valid range.	• The parameter specified for the *AxisParameter* input variable to the instruction is out of range for the input variable.			S			Same as above.
573C 0000 hex (Ver. 1.08)	Cam Property Setting Out of Range	The parameter specified for the *CamProperty* 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.			S			Same as above.
573D 0000 hex (Ver. 1.08)	Cam Node Setting Out of Range	The parameter specified for the *CamNodes* input variable to a motion control instruction is outside of the valid range.	• The parameter specified for the *CamNodes* input variable to the instruction is out of range for the input variable.			S			Same as above.
573E 0000 hex (Ver. 1.08)	Incorrect Cam Node Type Specification	The parameter specified for the *CamNodes* input variable to a motion control instruction is not an _sMC_CAM_NODE array variable.	• The parameter specified for the *CamNodes* input variable to the instruction is not an _sMC_CAM_NODE array variable.			S			Same as above.
573F 0000 hex (Ver. 1.08)	Insufficient Nodes in Cam Table	The array variable of the parameter specified for the *CamNodes* input variable to a motion control instruction has a *Phase* value of 0 for element number 0.	• The array variable of the parameter specified for the *CamNodes* input variable to the instruction has a *Phase* (master axis phase) value of 0 for element number 0.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
57400000 hex (Ver. 1.08)	Cam Node Master Axis Phase Not in Ascending Order	The values of *Phase* in the array variable of the parameter specified for the *CamNodes* input variable to a motion control instruction are not in ascending order according to the element numbers.	• The values of *Phase* (master axis phase) in the array variable of the parameter specified for the *CamNodes* input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases to not be in ascending order.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
57410000 hex (Ver. 1.08)	Too Many Data Points in Cam Table	The number of generated cam data points exceeded the number of elements in the array in the cam data variable that is specified for the *CamTable* input variable to a motion control instruction.	• The number of cam data points in the generated cam table exceeded the number of elements in the array in the cam data variable that is specified for the *CamTable* input variable to the instruction.			S			Same as above.
57420000 hex (Ver. 1.08)	Cam Table Displacement Overflow	*Distance* in the generated cam table exceeded the range of REAL data.	• *Distance* in the generated cam table exceeded the range of REAL data.			S			Same as above.
57430000 hex (Ver. 1.08)	Aborted Cam Table Used	A cam data variable that was aborted during generation was specified for the *CamTable* input variable to an instruction.	• A cam data variable that was aborted during generation due to an error in the MC_GenerateCamTable (Generate Cam Table) instruction was specified for the *CamTable* input variable to the instruction.			S			Same as above.
64400000 hex	Target Position Positive Software Limit Exceeded	The specified position exceeds the positive software limit.	• The parameter specified for the *Position* 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 motion in the opposite direction of the software limit was executed. • The parameter that was specified for the *AuxPoint* input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the positive software limit.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
64410000 hex	Target Position Negative Software Limit Exceeded	The specified position exceeds the negative software limit.	• The parameter specified for the *Position* 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 motion in the opposite direction of the software limit was executed. • The parameter that was specified for the *AuxPoint* input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the negative software limit.			S			NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
64420000 hex	Command Position Overflow/Underflow	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.	• 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 torque control)			S			Same as above.
64430000 hex	Positive Limit Input	An instruction was executed for a motion in the positive direction when the positive limit input was ON.	• 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 input was ON. An axes group motion control instruction was executed when the positive limit input was ON.			S			Same as above.
64440000 hex	Negative Limit Input	An instruction for a motion in the negative direction was executed when the negative limit input was ON.	• 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 motion control instruction was executed when the negative limit input was ON.			S			Same as above.
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 Servo Drive was OFF.			S			Same as above.
57220000 hex (Ver. 1.06)	Actual Position Overflow/Underflow	An instruction was executed that is not supported during an actual position overflow/underflow.	• An instruction was executed that is not supported during an actual position overflow or underflow.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
57230000 hex (Ver. 1.06)	Switch Structure Track Number Setting Out of Range	The value of *TrackNumber* that is specified in the *Switches* 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.				S		NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
57240000 hex (Ver. 1.06)	Switch Structure First ON Position Setting Out of Range	The value of *FirstOnPosition* that is specified in the *Switches* 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.				S		Same as above.
57250000 hex (Ver. 1.06)	Switch Structure Last ON Position Setting Out of Range	The value of *LastOnPosition* that is specified in the *Switches* 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.				S		Same as above.
57260000 hex (Ver. 1.06)	Switch Structure Axis Direction Out of Range	The value of *AxisDirection* that is specified in the *Switches* 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.				S		Same as above.
57270000 hex (Ver. 1.06)	Switch Structure Cam Switch Mode Out of Range	The value of *CamSwitchMode* that is specified in the *Switches* 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.				S		Same as above.
57280000 hex (Ver. 1.06)	Switch Structure Duration Setting Out of Range	The value of *Duration* that is specified in the *Switches* 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.				S		Same as above.
57290000 hex (Ver. 1.06)	Track Option Structure ON Compensation 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.				S		Same as above.
572A0000 hex (Ver. 1.06)	Track Option Structure OFF Compensation 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.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
572B0000 hex (Ver. 1.06)	Number of Array Elements in Switch Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the *Switches* 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.				S		NJ-series Motion Control Instructions Reference Manual (Cat. No. W508)
572C0000 hex (Ver. 1.06)	Number of Array Elements in Output Signal Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the *Outputs* 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.				S		Same as above.
572D0000 hex (Ver. 1.06)	Number of Array Elements in Track Option Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the *TrackOptions* 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.				S		Same as above.
572E0000 hex (Ver. 1.06)	Numbers of Elements in Output Signals and Track Option Arrays Not Matched	The arrays in the structure variables that are specified for the *Outputs* and *TrackOptions* 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 option structure variable that are specified for the in-out variables to the instruction do not have the same number of elements.				S		Same as above.
57310000 hex (Ver. 1.06)	Same Track Number Setting in Switch Structure Out of Range	The same track number was specified more than the allowable number of times for the *TrackNumber* in the *Switches* in-out variable to a motion control instruction.	• The same track number was specified more than the allowable number of times for the *TrackNumber* in the *Switches* in-out variable to a motion control instruction.				S		Same as above.

3-1-4 Errors in the EtherNet/IP Function Module

Built-in EtherNet/IP Port on CPU Unit

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04200000 hex	Communications Controller Failure	A hardware error was detected in the communications controller of the built-in EtherNet/IP port.	• Communications Controller hardware error		S				NJ-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506)
14200000 hex	MAC Address Error	The MAC address in non-volatile memory was not read correctly.	• Non-volatile memory failure		S				Same as above.
14220000 hex	EtherNet/IP Processing Error	A fatal error was detected in the EtherNet/IP Function Module.	• Hardware has failed.		S				Same as above.
34210000 hex	Basic Ethernet Setting Error	An error was detected in the Ethernet settings.	• Setting error • Power was interrupted when a download was in progress for the Ethernet basic settings. • Memory error		S				Same as above.
34220000 hex	TCP/IP Basic Setting Error (Local Port IP Address)	An error was detected in the IP address settings.	• Setting error • Power was interrupted when a download was in progress for the TCP/IP basic settings. • Memory error • The IP address acquired from BOOTP server is illegal.		S				Same as above.
84010000 hex	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.		S				Same as above.
84020000 hex	BOOTP Server Connection Error	Connection with the BOOTP server failed.	• Server setting error • Server is down. • An error occurred in the communications path.		S				Same as above.
14210000 hex	Identity Error	The CIP identity information in non-volatile memory was not read correctly.	• Non-volatile memory failure			S			Same as above.
34200000 hex	Tag Data Link Setting Error	An error was detected in the communications settings for tag data links.	• Power was interrupted when a download was in progress for the data link settings. • Memory error			S			Same as above.
34230000 hex	TCP/IP Advanced Setting Error (IP Router Table)	An error was detected in the hosts in the IP router table.	• Setting error • Power was interrupted when a download was in progress for the TCP/IP advanced settings. • Memory error • There is a mistake in the IP router table settings or hosts settings.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
34240000 hex	FTP Server Setting Error	An error was detected in the FTP server settings.	• Setting error • Power was interrupted when a download was in progress for the FTP server settings. • Memory error			S			NJ-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506)
34250000 hex	NTP Client Setting Error	An error was detected in the NTP client settings.	• Setting error • Power was interrupted when a download was in progress for the NTP client settings. • Memory error			S			Same as above.
34260000 hex	SNMP Setting Error	An error was detected 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			S			Same as above.
34270000 hex	Tag Name Resolution Error	Resolution of a tag used in a tag data link failed.	• The size of the network-published 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-published 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.			S			Same as above.
50010000 hex (Ver. 1.02)	Controller Insufficient Memory Warning	The amount of data for the EtherCAT slave configuration, network-published information, or other data exceeds the value 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 value that is specified for the CPU Unit.			S			Same as above.
84030000 hex	DNS Server Connection Error	Connection with the DNS server failed.	• Parameter error • Server is down. • An error occurred in the communications path.			S			Same as above.
84040000 hex	NTP Server Connection Error	Connection with the NTP server failed.	• Parameter error • Server is down. • An error occurred in the communications path.			S			Same as above.
84070000 hex	Tag Data Link Connection Failed	Establishing a tag data link connection failed.	• The tag data link connection information is not the same for the originator and target. • Insufficient connections			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
84080000 hex	Tag Data Link Timeout	A timeout occurred in a tag data link.	• 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 broken. • Noise			S			NJ-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506)
84090000 hex (Ver. 1.04)	Tag Data Link Connection Timeout	A timeout occurred while trying to establish a tag data link connection.	• 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. • An error occurred in the communications path.			S	U		Same as above.
54E00000 hex	Access Detected Outside 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.				S		Same as above.
84050000 hex	Packet Discarded Due to Full Reception Buffer	A packet was discarded.	• A network convergence occurred.				S		Same as above.

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.
			• Baud rate mismatch.
			• Noise
			• One of the following operations was performed.
			  • The Identify object was reset.
			  • Settings were downloaded from the Network Configurator and EtherNet/IP was restarted.
			  • Settings for EtherNet/IP were downloaded from the Sysmac Studio or the Memory All Clear operation was performed.
						U	S		Same as above.

94010000 hex	Tag Data Link Download Started	Changing the tag data link settings started.	• Changing the tag data link settings started.					S	Same as above.
94020000 hex	Tag Data Link Download Finished	Changing the tag data link settings finished.	• Changing the tag data link settings finished.					S	Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
94030000 hex	Tag Data Link Stopped	Tag data links were stopped by Network Configurator or manipulation of a system-defined variable. Or, the data link table was downloaded from the Network Configurator again.	• Tag data links were stopped by Network Configurator or manipulation of a system-defined variable.					S	NJ-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506)
94040000 hex	Tag Data Link Started	Tag data links were started by Network Configurator or manipulation of a system-defined variable. Or, the data link table was downloaded from the Network Configurator again.	• Tag data links were started by Network Configurator or manipulation of a system-defined variable.					S	Same as above.
94050000 hex	Link Detected	Establishment of an Ethernet link was detected.	• Establishment of an Ethernet link was detected.					S	Same as above.
94060000 hex	Restarting Ethernet Port	The built-in EtherNet/IP port was restarted.	• The built-in EtherNet/IP port was restarted.					S	Same as above.
94070000 hex	Tag Data Link All Run	Tag data link connections to all nodes have been established.	• Tag data link connections to all target nodes have been established.					S	Same as above.
94080000 hex	IP Address Fixed	The correct IP address has been determined and Ethernet communications can start.	• The correct IP address has been determined and Ethernet communications can start.					S	Same as above.
94090000 hex	BOOTP Client Started	The BOOTP client started requesting an IP address.	• The BOOTP client started requesting an IP address.					S	Same as above.
940A0000 hex	FTP Server Started	The FTP agent started normally.	• The FTP agent started normally.					S	Same as above.
940B0000 hex	NTP Client Started	The NTP client started normally and a request for the NTP server to obtain the time started.	• The NTP client started normally and a request for the NTP server to obtain the time started.					S	Same as above.
940C0000 hex	SNMP Started	The SNMP agent started normally.	• The SNMP agent started normally.					S	Same as above.

3-1-5 Errors in the EtherCAT Master Function Module

Built-in EtherCAT Master in CPU Unit

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04400000 hex	Communications Controller Failure	An error was detected in the hardware test at startup.	• The CPU Unit has failed.		S				NJ-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505)
14400000 hex	MAC Address Error	The MAC address is incorrect.	• The CPU Unit has failed.		S				Same as above.
44010000 hex	EtherCAT Fault	A fatal error was detected in the EtherCAT Master Function Module.	• Software is corrupted.		S				Same as above.
84200000 hex	Link OFF Error	A Link OFF state occurred.	• The Ethernet cable is broken between the master and slaves. • The Ethernet cable connector is disconnected. • The Ethernet cable is not connected.		S				Same as above.
24200000 hex	Slave Node Address Duplicated	The same slave address is used for two nodes.	• The same node address is set for more than one slave.			S			Same as above.
34400000 hex	Network Configuration Information Error	There is an error in the network configuration information.	• The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the network configuration information.			S			Same as above.
50010000 hex (Ver. 1.02)	Controller Insufficient Memory Warning	The amount of data for the EtherCAT slave configuration, network-published information, or other data exceeds the value 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 value that is specified for the CPU Unit.			S			Same as above.
84210000 hex	Network Configuration Error	The EtherCAT network 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, 192 nodes, for the EtherCAT master.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
84220000 hex	Network Configuration Verification 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 connected.	• A slave that is in the network configuration information is not connected. • There is a node address mismatch. • A different slave from the one that is specified in the network configuration information is connected. • A slave that is not in the network 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 performed from the Sysmac Studio. • The Ethernet physical layer is broken between two slaves.			S			NJ-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505)
84230000 hex	Slave Initialization 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.			S			Same as above.
84280000 hex	Slave Application Error	An error occurred in the slave application.	• An error was detected in the slave's application layer status register.			S			Same as above.
84290000 hex	Process Data Transmission 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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
842B 0000 hex	Process Data Reception Timeout	Process data reception timed out.	• 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. • The Ethernet cable is too long. • The CPU Unit task period is too short. • Noise			S			NJ-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505)
842C 0000 hex	Process Data Communications Error	An error occurred in process data communications.	• A slave left the network even though the disconnection operation was not performed. • 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. • The slave failed.			S			Same as above.
102F 0000 hex (Ver. 1.03)	EtherCAT Slave Backup 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 OMRON Communications Coupler Unit or NX Unit failed.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	

10300000 hex (Ver. 1.03)	EtherCAT Slave Restore Operation 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).
			• 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 write the backup parameters to the MX2/RX Series Inverter.
			• 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 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).
			  • 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).
							S		NJ-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505)

64200000 hex	Emergency Message Detected	An emergency message was detected.	• An emergency message was received from a slave.				S		Same as above.
842D0000 hex	EtherCAT Message Error	An error occurred in a message communications with the slave.	• Refer to the attached information to check the error.				S		Same as above.
94400000 hex	Slave Disconnected	A slave was disconnected for a disconnection command.	• An operation to disconnect the slave was executed from the Sysmac Studio. • The EC_DisconnectSlave instruction was executed.					S	Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
94410000 hex	Slave Connected	A slave was reconnected for a reconnection command.	• An operation to reconnect the slave was executed from the Sysmac Studio. • The EC_ConnectSlave instruction was executed.					S	NJ-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505)
94430000 hex	Errors Reset	A command was received to reset errors.	• An error reset operation was performed from the Sysmac Studio. • The ResetECError instruction was executed.					S	Same as above.
94440000 hex (Ver. 1.04)	Slave Disabled	The EtherCAT Slave was disabled.	• The EC_ChangeEnableSetting instruction was executed.					S	Same as above.
94450000 hex (Ver. 1.04)	Slave Enabled	The EtherCAT Slave was enabled.	• The EC_ChangeEnableSetting instruction was executed.					S	Same as above.

3-1-6 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.

You can use the DB connection service and DB connection instructions with an NJ501-1□20 CPU Unit.

The errors are divided into the following functional groups.

- DB connection service
- DB connection instructions

Errors Related to DB Connection Service

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
14D00000 hex (Ver. 1.05)	Spool Memory Corrupted	The Spool memory is corrupted.	• The user application made an invalid writing to the Spool memory.			S			NJ-series Database Connection CPU Units User's Manual (Cat. No. W527)
14D20000 hex (Ver. 1.05)	Execution Log Save Failed	Failed to save the Execution 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.			S	U		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
14D30000 hex (Ver. 1.05)	SQL Execution Failure Log Save Failed	Failed to save the SQL Execution Failure 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.			S	U		NJ-series Database Connection CPU Units User's Manual (Cat. No. W527)
35300000 hex (Ver. 1.05)	DB Connection Setting Error	The DB Connection settings are not correct.	• 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.			S			Same as above.
85100000 hex (Ver. 1.05)	DB Connection Disconnected Error	The DB Connection was disconnected due to an error.	• The power supply to the server is OFF. • The DB is stopped in the server. • The Ethernet cable connector is disconnected. • The Ethernet cable is broken. • Noise			S			Same as above.
95300000 hex (Ver. 1.05)	DB Connection Service Started	The DB Connection Service was started.	• The DB Connection Service was successfully started.					S	Same as above.
95310000 hex (Ver. 1.05)	DB Connection Service Stopped	The DB Connection Service was stopped.	• The DB Connection Service was stopped.					S	Same as above.
95320000 hex (Ver. 1.05)	DB Connection Service Shutdown	The DB Connection Service was shut down.	• The DB Connection Service was shut down for turning OFF the power supply safely.					S	Same as above.

Errors Related to DB Connection Instructions

Errors are given as event codes that use the error code as the lower four digits. 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.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54013000 hex (Ver. 1.05)	DB Connection 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 relevant instruction.				S		NJ-series Database Connection CPU Units User's Manual (Cat. No. W527)
54013001 hex (Ver. 1.05)	DB Connection 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 relevant instruction while running in Operation Mode. • Run mode change to Operation Mode was executed by the relevant instruction while running in Test Mode. • Start of the DB Connection Service was commanded while the DB Connection Service was being stopped. • Shutdown of the DB Connection Service was commanded while the DB Connection Service was being stopped.				S		Same as above.
54013002 hex (Ver. 1.05)	DB Connection 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 Connection Service was shut down. • The relevant instruction was executed while the shutdown processing of the DB Connection Service was in progress.				S		Same as above.
54013003 hex (Ver. 1.05)	Invalid DB Connection Name	The specified DB Connection Name is not set in any DB Connection settings.	• The DB Connection Name specified in the *DBConnectionName* input variable of the relevant instruction is wrong. • The DB Connection Name set in the DB Connection settings is wrong.				S		Same as above.
54013004 hex (Ver. 1.05)	DB Connection Rejected	The DB rejected the connection.	• The user name or password set in the DB Connection settings is wrong.				S		Same as above.
54013005 hex (Ver. 1.05)	DB Connection 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. • The Ethernet cable connector is disconnected. • The Ethernet cable is broken.				S		Same as above.
54013006 hex (Ver. 1.05)	DB Connection Already Established	A same-name DB Connection is already established.	• The relevant instruction was executed when a same-name DB Connection was already established.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
5401 3007 hex (Ver. 1.05)	Too Many DB Connections	The number of DB Connections that can be established at the same time is exceeded.	• The relevant instruction was executed when the maximum number of DB Connections that can be established at the same time were already established.				S		NJ-series Database Connection CPU Units User's Manual (Cat. No. W527)
5401 3008 hex (Ver. 1.05)	Invalid DB Connection	The specified DB Connection is not correct, or the DB Connection is already closed.	• The DB Connection specified in the *DBConnection* input variable of the relevant instruction is wrong. • The DB Connection specified in the *DBConnection* input variable of the relevant instruction is closed.				S		Same as above.
5401 3009 hex (Ver. 1.05)	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 for INSERT or UPDATE.				S		Same as above.
5401 300A hex (Ver. 1.05)	Unregistered DB Map Variable	The specified DB Map Variable has not been registered.	• The DB Map Variable has not been created by a DB_CreateMapping instruction. • A variable that is not registered as a DB Map Variable was specified in *MapVar*. • The DB Connection specified in the relevant instruction is different from the one specified at the execution of DB_CreateMapping instruction.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
5401 300B hex (Ver. 1.05)	SQL Execution 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 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_Delete instruction) • The extraction condition has a syntax error. (DB_Select instruction, DB_Update instruction, DB_Delete 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.				S		NJ-series Database Connection CPU Units User's Manual (Cat. No. W527)
5401 300C hex (Ver. 1.05)	Spool Capacity Exceeded	The SQL statement could not be stored in the Spool memory because its maximum capacity was exceeded.	• 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*).				S		Same as above.
5401 300E hex (Ver. 1.05)	Invalid Extraction Condition	The entered extraction condition is invalid.	• A text string that consists of a NULL (16#00) character only was specified in the *Where* input variable.				S		Same as above.
5401 3010 hex (Ver. 1.05)	Log Code Out of Range	The value of the entered log code is outside the valid range.	• A value outside the valid range from 0 to 9999 was specified.				S		Same as above.
5401 3011 hex (Ver. 1.05)	DB Connection Disconnected Error Status	The instruction could not be executed because the DB Connection had been disconnected due to an error.	• The power supply to the server is OFF. • The DB is stopped in the server. • The Ethernet cable connector is disconnected. • The Ethernet cable is broken. • Noise				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
54013012 hex (Ver. 1.05)	DB Connection Instruction Execution Timeout	The instruction was not completed within the time specified for 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.				S		NJ-series Database Connection CPU Units User's Manual (Cat. No. W527)
54013013 hex (Ver. 1.05)	DB Connection Service Error Stop	The instruction could not be executed because the DB Connection Service was stopped due to an error.	• The DB Connection settings are corrupted.				S		Same as above.
54013014 hex (Ver. 1.05)	Data Already Spooled	One or more SQL statements are already 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.				S		Same as above.
54013015 hex (Ver. 1.05)	DB Connection Service Initializing	The instruction could not be executed because the initialization processing of the DB Connection Service is in progress.	• The relevant instruction was executed during the initialization processing of the DB Connection Service.				S		Same as above.
54013016 hex (Ver. 1.05)	DB in Process	The instruction could not be executed because the DB is under processing in the server.	• Though a DB Connection Instruction Execution Timeout occurred for the previous instruction, the relevant instruction was executed before completion of the DB's processing in the server.				S		Same as above.
54013017 hex (Ver. 1.05)	Operation Log Disabled	The log could not be recorded because the specified Operation Log is disabled.	• Though Execution Log was specified in the *LogType* input variable, the Execution Log is disabled. • Though Debug Log was specified in the *LogType* input variable, recording to the Debug Log is stopped.				S		Same as above.

3-1-7 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 Safety Control Units

NX-series EtherCAT Coupler Units

The section provides a table of the errors (events) that can occur in the following Unit.

NX-ECC201

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
00210000 hex	Bus Controller Error	An internal bus error occurred.	• A Unit failed or an I/O communications error occurred between the EtherCAT Coupler Unit and the NX Unit.			S			NX-series EtherCAT Coupler Unit User's Manual (W519)
00220000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	• Non-volatile memory failure			S			Same as above.
05010000 hex	ESC Error	An error occurred in the EtherCAT slave communications controller.	• An error occurred in the EtherCAT slave communications controller.			S			Same as above.
05020000 hex	ESC Initialization Error	Initialization of the EtherCAT slave communications controller failed.	• An initialization error occurred in the EtherCAT slave communications controller.			S			Same as above.
05030000 hex	Slave Unit Verification Error	An error occurred in Slave Unit verification.	• An error occurred in Slave Unit information.			S			Same as above.
10420000 hex	Non-volatile Memory Control Parameter Error	An error occurred in the control parameters.	• The power supply to an NX Unit was turned OFF or Sysmac Studio communications were disconnected while writing the control parameters.			S			Same as above.
10430000 hex	Memory Corruption Detected	Memory corruption was detected.	• Memory corruption was detected.			S			Same as above.
24A00000 hex	Unit Configuration Error, Too Many Units	The number of connected NX Units exceeds the maximum value for the EtherCAT Coupler Unit.	• More than the maximum number of NX Units is connected to the EtherCAT Coupler Unit.			S			Same as above.
24A10000 hex	Unit Configuration Error, Unsupported Configuration	An unsupported NX Unit is mounted. Or, the total byte size of all I/O data for the connected NX Units exceeds the predetermined maximum value for the EtherCAT Coupler Unit.	• An unsupported NX Unit was detected. • The total byte size of all I/O data for the connected NX Units exceeds 1,024 bytes for input data or 1,024 bytes for output data.			S			Same as above.
35000000 hex	Unit Configuration Information Error	An error occurred in the Unit configuration information in the EtherCAT Coupler Unit.	• The power supply to the EtherCAT Coupler Unit was turned OFF or Sysmac Studio communications were disconnected while downloading the Unit configuration information.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
3501 0000 hex	Unit Configuration Verification Error	There is an inconsistency between the Unit configuration information in the EtherCAT Coupler Unit and the Units that are actually connected. Or, the Unit configuration was changed during operation while the Unit configuration information was not set in the EtherCAT 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 Unit that is disabled in the Unit configuration information is mounted. • An NX Unit became disconnected during operation. • An NX Unit was connected during operation. • The serial number of a Unit that is registered in the Unit configuration information 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 an Additional NX Unit Power Supply Unit is not turned ON.			S			NX-series EtherCAT Coupler Unit User's Manual (W519)
3502 0000 hex	NX Unit Minor Fault	A minor fault was detected in an NX Unit.	• A minor fault level error occurred in a Unit where an error was detected. This event is recorded in the event log in the Communications Coupler Unit.			S			Same as above.
3504 0000 hex	Mailbox Setting Error	An incorrect mailbox setting was detected for the Sync Manager. (AL-Status Code: 0016 hex)	• An incorrect mailbox setting was detected for the Sync Manager.			S			Same as above.
3505 0000 hex	RxPDO Setting Error	An error was detected in the RxPDO settings. (AL-Status Code: 001D hex)	• An error was detected in the RxPDO settings.			S			Same as above.
3506 0000 hex	TxPDO Setting Error	An error was detected in the TxPDO settings. (AL-Status Code: 001E hex)	• An error was detected in the TxPDO settings.			S			Same as above.
3507 0000 hex	PDO WDT Setting Error	An incorrect PDO WDT setting was detected. (AL-Status Code: 001F hex)	• An incorrect PDO WDT setting was detected.			S			Same as above.
3508 0000 hex	SM Event Mode Setting 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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
35090000 hex	TxPDO Mapping Error	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 allowable range.			S			NX-series EtherCAT Coupler Unit User's Manual (W519)
350A0000 hex	RxPDO Mapping Error	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 allowable range.			S			Same as above.
350B0000 hex	Illegal State Transition Request Received	An incorrect state transition request was received. (AL-Status Code: 0011 hex)	• An incorrect state transition request was received.			S			Same as above.
350C0000 hex	Error State Transition Received	An unclear state transition request was received. (AL-Status Code: 0012 hex)	• An unclear state transition request was received.			S			Same as above.
350D0000 hex	Synchronization Cycle Setting Error	When DC Mode was confirmed, the cycle time was set to a value that made operation impossible. (AL-Status Code: 0035 hex)	• When DC Mode was confirmed, the cycle time was set to a value that made operation impossible.			S			Same as above.
84C00000 hex	NX Unit Communications Timeout	An error occurred in I/O data communications with the NX Units.	• An NX Unit is not mounted properly. • An NX Unit has failed.			S			Same as above.
84C10000 hex	NX Unit Initialization Error	Initializing an NX Unit failed.	• An error occurred in processing the EtherCAT 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*.			S			Same as above.
85000000 hex	Process Data WDT Error	Process data communications were stopped for more than the specified period of time.	• The EtherCAT communications cable is disconnected or broken. • There is an error in the host controller.			S			Same as above.
85010000 hex	Synchronization Interruption Error	A synchronization interruption error occurred.	• 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.			S			Same as above.
85020000 hex	Synchronization Error	A synchronization error 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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
85030000 hex	Communications Synchronization Error	The number of consecutive errors in receiving the synchronization data exceeded the value that is specified in the Communications Error Settings.	• Power to the host controller was interrupted during process data communications. • The EtherCAT communications cable is disconnected or broken.			S			NX-series EtherCAT Coupler Unit User's Manual (W519)
84C50000 hex	NX Unit Startup Error	Starting an NX Unit failed.	• A startup error occurred in an NX Unit.			S			Same as above.
35030000 hex	NX Unit Observation	An observation was detected in an NX Unit.	• An observation level error occurred in a Unit where an error was detected. This event is recorded in the event log in the Communications Coupler Unit.				S		Same as above.
350E0000 hex	NX Bus Cycle Delay Detected	Exceeding the NX bus cycle was detected.	• The NX bus cycle was exceeded.				S		Same as above.
80220000 hex	NX Message Communications Error	An error was detected in message communications and the message frame was discarded.	• 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 cut off as the result of executing a synchronization or restoration operation on the Sysmac Studio or as the result of disconnecting an EtherCAT slave.				S		Same as above.
90400000 hex	Event Log Cleared	The event log was cleared.	• The event log was cleared by the user.					S	Same as above.
90420000 hex	Restart Executed	A restart was executed.	• A restart command was received.					S	Same as above.
90430000 hex	Memory All Cleared	The Unit settings were cleared.	• The non-volatile memory in the EtherCAT Coupler Unit was cleared.					S	Same as above.
94600000 hex	I/O Check Execution Started	I/O checking was started.	• I/O checking was started.					S	Same as above.

NX-series Digital I/O Units

The section provides a table of the errors (events) that can occur in the following Units.

NX-ID□□□□

NX-OC□□□□

NX-OD□□□□

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	• Non-volatile memory failure			S			NX-series Digital I/O Units User's Manual (W521)

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	• There is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the control parameters for the NX Unit are saved. • The power supply to the NX Unit was turned OFF or Sysmac Studio communications were disconnected while writing the control parameters.			S			NX-series Digital I/O Units User's Manual (W521)
80200000 hex	NX Unit I/O Communications Error	An I/O communications error occurred between the Communications Coupler Unit 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 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 the NX Unit.			S			Same as above.
80210000 hex	NX Unit Output Synchronization Error	An output synchronization error occurred in the NX Unit.	• The NX Unit is not mounted properly. • The Slave Terminal Configuration Information when the EtherCAT Coupler Unit synchronization settings were downloaded did not agree with the actual configuration of the Slave Terminal. • There is an NX Unit that cannot be synchronized to the specified output synchronization timing. (This will not cause an error when the synchronization setting is made from the Sysmac Studio.)			S			Same as above.
80240000 hex	NX Unit Clock Not Synchronized Error	An error occurred in the clock information between the EtherCAT Coupler Unit and the NX Unit.	• There is a hardware error in the NX Unit. • There is a hardware error in the EtherCAT Coupler Unit.			S			Same as above.
70010000 hex (Ver. 1.06)	Previous Time Specified	A previous time was specified for output refreshing with a specified time stamp.	• A mistake in the user program caused the specification of a previous time. • A Communications Synchronization Error caused a delay in the I/O data reaching the NX Unit.				S		Same as above.
90400000 hex	Event Log Cleared	The event log was cleared.	• The event log was cleared by the user.					S	Same as above.

NX-series Analog I/O Units

The section provides a table of the errors (events) that can occur in the following Units.

NX-AD□□□□

NX-DA□□□□

NX-TS□□□□

● Analog Input Units and Analog Output Units

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	• Non-volatile memory failure			S			NX-series Analog I/O Units User's Manual (W522)
10400000 hex	Analog Unit Calibration Parameter Error	An error occurred for the calibration data in the Analog Unit.	• The power supply to the Analog Unit was turned OFF or Sysmac Studio communications were disconnected while writing the calibration values to the Analog Unit.			S			Same as above.
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	• There is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the control parameters for the NX Unit are saved. • The power supply to the NX Unit was turned OFF or Sysmac Studio communications were disconnected while writing the control parameters.			S			Same as above.
14C00000 hex	Unit Calibration Value Parity Error	An error occurred in the user calibration data in the NX Unit.	• An error was detected in the calibration data.			S			Same as above.
65030000 hex	Unit I/O Disconnection Detected for Channel 1	A disconnected input was detected for channel 1.	• Input wiring is broken. • Input wiring is disconnected.			S	U		Same as above.
65040000 hex	Unit I/O Disconnection Detected for Channel 2	A disconnected input was detected for channel 2.	• Input wiring is broken. • Input wiring is disconnected.			S	U		Same as above.
65050000 hex	Unit I/O Disconnection Detected for Channel 3	A disconnected input was detected for channel 3.	• Input wiring is broken. • Input wiring is disconnected.			S	U		Same as above.
65060000 hex	Unit I/O Disconnection Detected for Channel 4	A disconnected input was detected for channel 4.	• Input wiring is broken. • Input wiring is disconnected.			S	U		Same as above.
65070000 hex	Unit I/O Disconnection Detected for Channel 5	A disconnected input was detected for channel 5.	• Input wiring is broken. • Input wiring is disconnected.			S	U		Same as above.
65080000 hex	Unit I/O Disconnection Detected for Channel 6	A disconnected input was detected for channel 6.	• Input wiring is broken. • Input wiring is disconnected.			S	U		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
65090000 hex	Unit I/O Disconnection Detected for Channel 7	A disconnected input was detected for channel 7.	• Input wiring is broken. • Input wiring is disconnected.			S	U		NX-series Analog I/O Units User's Manual (W522)
650A0000 hex	Unit I/O Disconnection Detected for Channel 8	A disconnected input was detected for channel 8.	• Input wiring is broken. • Input wiring is disconnected.			S	U		Same as above.
80200000 hex	NX Unit I/O Communications Error	An I/O communications error occurred between the Communications Coupler Unit 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 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 the NX Unit.			S			Same as above.
80210000 hex	NX Unit Output Synchronization Error	An output synchronization error occurred in the NX Unit.	• The NX Unit is not mounted properly. • The Slave Terminal Configuration Information when the EtherCAT Coupler Unit synchronization settings were downloaded did not agree with the actual configuration of the Slave Terminal. • There is an NX Unit that cannot be synchronized to the specified output synchronization timing. (This will not cause an error when the synchronization setting is made from the Sysmac Studio.)			S			Same as above.
80240000 hex	NX Unit Clock Not Synchronized Error	An error occurred in the clock information between the EtherCAT Coupler Unit and the NX Unit.	• There is a hardware error in the NX Unit. • There is a hardware error in the EtherCAT Coupler Unit.			S			Same as above.
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 exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			U	S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
64F1 0000 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 exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			U	S		NX-series Analog I/O Units User's Manual (W522)
64F2 0000 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 exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			U	S		Same as above.
64F3 0000 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 exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			U	S		Same as above.
64F4 0000 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 exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			U	S		Same as above.
64F5 0000 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 exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			U	S		Same as above.
64F6 0000 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 exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			U	S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
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 exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			U	S		NX-series Analog I/O Units User's Manual (W522)
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 below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			U	S		Same as above.
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 below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			U	S		Same as above.
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 below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			U	S		Same as above.
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 below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			U	S		Same as above.
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 below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			U	S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
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 below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			U	S		NX-series Analog I/O Units User's Manual (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 below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			U	S		Same as above.
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 below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			U	S		Same as above.
90400000 hex	Event Log Cleared	The event log was cleared.	• The event log was cleared by the user.					S	Same as above.

● Temperature Input Units

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	• Non-volatile memory failure.			S			NX-series Analog I/O Units User's Manual (W522)
05100000 hex	A/D Converter Error	An error occurred in the A/D converter	• Noise • A/D converter failure			S			Same as above.
05110000 hex	Cold Junction Sensor Error	The temperature cannot be converted because the cold junction sensor is disconnected.	• There is a faulty connection to the cold junction sensor. • The cold junction sensor failed.			S	U		Same as above.
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	• There is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the control parameters for the NX Unit are saved. • The power supply to the NX Unit was turned OFF or Sysmac Studio communications were disconnected while writing the control parameters.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
65100000 hex	Sensor Disconnected Error	A disconnected temperature sensor was detected.	• The temperature sensor is damaged or the wires are broken. • An unused channel is not disabled.			S	U		NX-series Analog I/O Units User's Manual (W522)
80200000 hex	NX Unit I/O Communications Error	An I/O communications error occurred between the Communications Coupler Unit 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 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 the NX Unit.			S			Same as above.
80240000 hex	NX Unit Clock Not Synchronized Error	An error occurred in the clock information between the EtherCAT Coupler Unit and the NX Unit.	• There is a hardware error in the NX Unit. • There is a hardware error in the EtherCAT Coupler Unit.			S			Same as above.
65110000 hex	Process Value Over Range	The process temperature exceeded the upper limit of temperature 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.			U	S		Same as above.
65120000 hex	Process Value Under Range	The process temperature went below the lower limit of temperature 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.			U	S		Same as above.
80220000 hex	NX Message Communications Error	An error was detected in message communications and the message frame was discarded.	• 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 cut off as the result of executing a synchronization or restoration operation on the Sysmac Studio or as the result of disconnecting an EtherCAT slave.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
90400000 hex	Event Log Cleared	The event log was cleared.	• The event log was cleared by the user.					S	NX-series Analog I/O Units User's Manual (W522)

NX-series System Units

The section provides a table of the errors (events) that can occur in the following Units.

NX-PD1□□□

NX-PF0□□□

NX-PC0□□□

NX-TBX01

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	• Non-volatile memory failure			S			NX-series System Units User's Manual (W523)
90400000 hex	Event Log Cleared	The event log was cleared.	• The event log was cleared by the user.					S	Same as above.

NX-series Position Interface Units

The section provides a table of the errors (events) that can occur in the following Units.

NX-EC0□□□

NX-ECS□□□

NX-PG0□□□

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	• Non-volatile memory failure			S			NX-series Position Interface Units User's Manual (W524)
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	• There is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the control parameters for the NX Unit are saved. • The power supply to the NX Unit was turned OFF or Sysmac Studio communications were disconnected while writing the control parameters.			S			Same as above.
35100000 hex	External Input Setting Error	A setting for an external input is not correct.	• The same function (other than a general-purpose input) is assigned to more than one of the external inputs (I0 to I2).			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
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 exceeds 32. • The sum of the values set for the Multi-turn Data Length, Single-turn Data Length, and the Status Data Length parameters exceeds 32. • The sum of the value set for the start bit position and the data length of the SSI data exceeds the value set for the Valid 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.			S			NX-series Position Interface Units User's Manual (W524)
743D0000 hex	Incorrect Synchronization Command	Updating the target position data in the synchronization refresh failed consecutively for more than the specified number of times.	• The task period of the primary periodic task in the NJ-series CPU Unit or the synchronization settings in the EtherCAT Coupler Unit is not correct. • The motion control period in the Motion Control Function Module executed the task period of the primary periodic task. • Noise			S	U		Same as above.
743E0000 hex	Illegal Following Error	The difference between the command position and actual position exceeds the range expressed by 29 bits.	• A command that exceeded the maximum velocity (500 kpps) 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.			S			Same as above.
743F0000 hex	Illegal State Transition	The EtherCAT master or EtherCAT Coupler Unit executed a command to change the communications status when the Pulse Output Unit is in the Operation Enabled status.	• A communications command to change the current communications status was received from the communications master while the Unit is in the Operation Enabled status.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
80200000 hex	NX Unit I/O Communications Error	A communications error occurred between the Communications Coupler Unit 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 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 the NX Unit.			S			NX-series Position Interface Units User's Manual (W524)
80210000 hex	NX Unit Output Synchronization Error	An output synchronization error occurred in the NX Unit.	• The NX Unit is not mounted properly. • The Slave Terminal Configuration Information when the EtherCAT Coupler Unit synchronization settings were downloaded did not agree with the actual configuration of the Slave Terminal. • There is an NX Unit that cannot be synchronized to the specified output synchronization timing. (This will not cause an error when the synchronization setting is made from the Sysmac Studio.)			S			Same as above.
80240000 hex	NX Unit Clock Not Synchronized Error	An error occurred in the clock information between the EtherCAT Coupler Unit and the NX Unit.	• There is a hardware error in the NX Unit. • There is a hardware error in the EtherCAT Coupler Unit.			S			Same as above.
80220000 hex	NX Message Communications Error	An error was detected in message communications and the message frame was discarded.	• 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 cut off as the result of executing a synchronization or restoration operation on the Sysmac Studio or as the result of disconnecting an EtherCAT slave.				S		Same as above.
84D00000 hex	SSI Communications Error	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			U	S		Same as above.
90400000 hex	Event Log Cleared	The event log was cleared.	• The event log was cleared by the user.					S	Same as above.

NX-series Safety Control Units

The following table lists the events that can occur for NX-series Safety Control Units with the following model numbers.

NX-SL□□□□

NX-SI□□□□

NX-SO□□□□

● Safety CPU Units

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
05200000 hex	System Error	A hardware error was detected during self-diagnosis of the hardware.	• Hardware has failed. • A memory error occurred due to a transient cause, such as a software error or excessive noise.			S			NX-series Safety Control Unit User's Manual (Z930)
10500000 hex	NX Bus Communications Settings Read Error	There is an error in the NX bus communications settings that are 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.			S			Same as above.
10510000 hex	Safety Application 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.			S			Same as above.
10520000 hex	NX Bus Communications Settings and Safety Application 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.			S			Same as above.
10530000 hex	Non-volatile Memory Access Error	Reading/writing non-volatile memory failed.	Non-volatile memory failed.			S			Same as above.
35200000 hex	Safety Process Data Communications Not Established Error	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 safety slave for safety process data communications is disabled.			S			Same as above.
55000000 hex	Division by Zero	Division by zero was detected.	The divisor is zero.			S			Same as above.
55010000 hex	Cast Error	A casting error was detected.	A value was input that exceeded the range of the receiving variable.			S			Same as above.
55020000 hex	MUX Error	An MUX instruction error was detected.	The value of the selection input (K) to the MUX instruction is not correct.			S			Same as above.
74A00000 hex	SF_Antivalent Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
74A10000 hex	SF_EDM Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			NX-series Safety Control Unit User's Manual (Z930)
74A20000 hex	SF_EmergencyStop Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74A30000 hex	SF_EnableSwitch Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74A40000 hex	SF_Equivalent Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74A50000 hex	SF_ESPE Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74A60000 hex	SF_GuardLocking Error	An error was detected in execution of a safety function block..	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74A70000 hex	SF_GuardMonitoring Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74A80000 hex	SF_ModeSelector Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74A90000 hex	SF_MutingPar Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74AA0000 hex	SF_MutingPar_2Sensor Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
74AB0000 hex	SF_MutingSeq Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			NX-series Safety Control Unit User's Manual (Z930)
74AC0000 hex	SF_OutControl Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74AD0000 hex	SF_SafetyRequest Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74AE0000 hex	SF_TestableSafetySensor Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74AF0000 hex	SF_TwoHandControlTypeII Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
74B00000 hex	SF_TwoHandControlTypeIII Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the *NX-series Safety Control Unit Instructions Reference Manual* (Cat. No. Z931)			S			Same as above.
80200000 hex	NX Unit I/O Communications Error	An I/O communications error occurred between the Communications Coupler Unit and the NX Unit.	• The NX Unit is not mounted properly. • There is a hardware error in the NX Unit.			S			Same as above.
80300000 hex	Safety Process Data Communications 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. Or, the PDO communications safety task period of the EtherCAT master is too short. • There is excessive noise. • The Safety CPU Unit entered a status where it could not continue safety process data communications. • An error or status change occurred in the EtherCAT Coupler Unit to which the Unit is connected, preventing correct process data communications.			S			Same as above.
84F00000 hex	NX Bus I/O Communications Stopped	An error occurred in I/O communications between the Communications Coupler Unit and an NX Unit.	There is a hardware error in the Communications Coupler Unit or an NX Unit.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
80220000 hex	NX Message Communications Error	An error was detected in message communications for an NX Unit and the message frame was discarded.	The message communications load is high.			S			NX-series Safety Control Unit User's Manual (Z930)
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					S	Same as above.
90430000 hex	Memory All Cleared	The Unit settings were cleared.	The Clear All Memory operation was performed.					S	Same as above.
951E0000 hex	Sysmac Studio Communications Connection Timeout	A communications timeout occurred between the Sysmac Studio and the Safety CPU Unit.	• The communications cable was disconnected.					S	Same as above.
951F0000 hex	Clear All Memory Rejected	Clearing all of memory failed.	• The Clear All Memory operation was performed for the entire Slave Terminal.					S	Same as above.

● Safety I/O Units

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
05200000 hex	System Error	A hardware error was detected during self-diagnosis of the hardware.	• Hardware has failed. • A memory error occurred due to a transient cause, such as a software error or excessive noise.			S			NX-series Safety Control Unit User's Manual (Z930)
05210000 hex	Internal Circuit Error at Safety Input	A fault was detected in the internal circuit for the safety input terminal.	• The internal circuit for the safety input terminal is faulty. • A memory error or signal error occurred due to a transient cause, such as a software error or excessive noise.			S			Same as above.
05220000 hex	Internal Circuit Error at Test Output	A fault was detected in the internal circuit for the test output terminal.	• The internal circuit for the test output terminal is faulty. • A memory error or signal error occurred due to a transient cause, such as a software error or excessive noise.			S			Same as above.
05230000 hex	Internal Circuit Error at Safety Output	A fault was detected in the internal circuit for the safety output terminal.	• The internal circuit for the safety output terminal is faulty. • A memory error or signal error occurred due to a transient cause, such as a software error or excessive noise.			S			Same as above.
35210000 hex	Safety Process Data Communications Not Established - Incorrect Unit Parameter Error	Safety process data communications was not established with the Safety CPU Unit.	• The model or safety I/O terminal settings are not correct.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
35230000 hex	Safety Process Data Communications Not Established, Incorrect FSoE Slave Address Error	Safety process data communications was not established with the Safety CPU Unit because of an incorrect FSoE slave address.	• The setting of the FSoE slave address in the safety process data communications settings is different from the setting in the Unit.			S			NX-series Safety Control Unit User's Manual (Z930)
35240000 hex	Safety Process Data Communications Not Established, Incorrect Frame Error	Safety process data communications was 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.			S			Same as above.
65200000 hex	I/O Power Supply Voltage Error	An incorrect I/O power supply voltage was detected.	• The input power or output power is not supplied correctly.			S			Same as above.
65210000 hex	Output Power Interrupt Circuit Error	An error was detected by the output power interruption test.	• The wiring is not correct or there is a fault in the hardware.			S			Same as above.
65220000 hex	External Test Signal Failure at Safety Input	An error was detected in test pulse evaluation of the safety input terminals.	• The positive power supply wire is in contact with the input signal line. • The input signal lines are shorted. • The external device is faulty.			S			Same as above.
65230000 hex	Discrepancy Error at Safety Input	An error was detected 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.			S			Same as above.
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.			S			Same as above.
65250000 hex	Stuck-at-high Detected at Test Output	It was detected that the test output terminal 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 software error or excessive noise.			S			Same as above.
65270000 hex	Short Circuit Detected at Safety Output	A ground fault was detected on the safety output terminal.	• There is a ground fault on the output signal line.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
65280000 hex	Stuck-at-high Detected at Safety Output	It was detected that the safety output terminal 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 software error or excessive noise.			S			NX-series Safety Control Unit User's Manual (Z930)
80200000 hex	NX Unit I/O Communications Error	An I/O communications error occurred between the Communications Coupler Unit and the NX Unit.	• The NX Unit is not mounted properly. • There is a hardware error in the NX Unit.			S			Same as above.
80300000 hex	Safety Process Data Communications Timeout	A communications timeout occurred in safety process data communications with a safety slave.	• A setting is not correct. The setting of the safety task period of the Safety CPU Unit is too short. Or, the setting of the PDO communications safety task period of the EtherCAT master is too short. • There is excessive noise. • The safety slave entered a status where it could not continue safety process data communications. • An error or status change occurred in the EtherCAT Coupler Unit to which the Unit is connected, preventing correct process data communications.			S			Same as above.
84F10000 hex	NX Bus I/O Communications Stopped	An error occurred in I/O communications between the Communications Coupler Unit and an NX Unit.	There is a hardware error in the Communications Coupler Unit or an NX Unit.			S			Same as above.
80220000 hex	NX Message Communications Error	An error was detected in message communications for an NX Unit and the message frame was discarded.	• The message communications load is high. • The communications cable is disconnected or broken.				S		Same as above.
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					S	Same as above.
90430000 hex	Memory All Cleared	The Unit settings were cleared.	The Clear All Memory operation was performed.					S	Same as above.

3-1-8 Errors in EtherCAT Slaves

This section provides tables of the events for which OMRON EtherCAT slaves provide notification to the NJ-series CPU Unit.

- Block I/O (GX-series EtherCAT Slave Units)
- 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

Block I/O (GX-series EtherCAT Slave Units)

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
14A0 0000 hex	Non-volatile Memory Checksum Error	An error occurred in the control parameters.	• Noise			S			GX-series EtherCAT Slave Units User's Manual (Cat. No. W488)
2461 0000 hex	Switch Setting Error	The setting switch is set out of range.	• The analog range that is set on the switch is outside the setting range.			S			Same as above.
64CC 0000 hex	I/O Disconnection Detected	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.			S			Same as above.
04A1 0000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	• Non-volatile memory failure				S		Same as above.

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)

Event codes are given for both G5-series Cylinder-type (rotary) Servomotors and Linear Motor Type. The following abbreviations are used for the manual names.

Manual name abbreviation	Manual name
Cylinder-type Motor Manual	G5-series AC Servomotors/Servo Drives with Built-in EtherCAT Communications User's Manual
Linear Motor Manual	G5-series Linear Motors/Drives with Built-in EtherCAT Communications Linear Motor Type User's Manual

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04A80000 hex	Control Power Supply Undervoltage	The voltage between the positive and negative terminals in the control power supply converter dropped below the specified value.	• Power supply undervoltage. Or, the power supply voltage dropped because there was inrush current when the main power supply was turned ON. • A momentary power interruption occurred. • The Servo Drive failed.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
04A90000 hex	Overvoltage	The power supply voltage exceeded the allowable input voltage 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.			S			Same as above.
04AA0000 hex	Main Circuit Power Supply Undervoltage (Undervoltage between positive and negative terminals)	If the Undervoltage Error Selection (3508 hex) is set to 1, a momentary power interruption occurred between L1 and L3 for longer than the value specified for the Momentary Hold Time. The voltage between the positive and negative 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.			S			Same as above.
04AB0000 hex	Main Circuit Power Supply Undervoltage (AC Cutoff Detected)	If the Undervoltage Error Selection (3508 hex) is set to 1, a momentary power interruption occurred between L1 and L3 for longer than the value specified for the Momentary Hold Time. The voltage between the positive and negative 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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04AC0000 hex	Overcurrent	The current flowing through the converter exceeded the specified 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.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
04AD0000 hex	IPM Error	The current flowing through the converter exceeded the specified 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.			S			Same as above.
04AE0000 hex	Regeneration Tr Error	The Servo Drive regeneration drive Tr is faulty.	• The Servo Drive regeneration drive Tr is faulty.			S			Same as above.
04AF0000 hex	Encoder Phase-Z Error	A missing serial incremental encoder phase-Z pulse was detected.	• The encoder is faulty.			S			Cylinder-type Motor Manual (Cat. No. I576)
04B00000 hex	Encoder CTS Signal Error	A missing serial incremental encoder CTS signal logic error was detected.	• The encoder is faulty.			S			Same as above.
04B10000 hex	Node Address Setting Error	The node address that was read from the rotary switches was not between 00 and 99.	• The Servo Drive failed.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
04B20000 hex	Other Errors	The Servo Drive malfunctioned, or an error occurred in the Servo Drive.	• The control circuit malfunctioned temporarily due to excess noise. • The Servo Drive's self-diagnosis function detected an error in the Servo Drive.			S			Linear Motor Manual (Cat. No. I577)
08080000 hex	Encoder Communications Disconnection Error	A disconnection was detected because communications between the encoder and the Servo Drive were stopped more frequently than the specified value.	• The encoder is not wired correctly.			S			Cylinder-type Motor Manual (Cat. No. I576)

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
08090000 hex	Encoder Communications Error	There is a communications error for the encoder.	• The power supply voltage of the encoder is low. • Noise			S			Cylinder-type Motor Manual (Cat. No. I576)
080A0000 hex	Encoder Communications Data Error	There is an error in the communications data of the encoder.	• The power supply voltage of the encoder is low. • Noise			S			Same as above.
080B0000 hex	Safety Input Error	At least one of the input photocouplers for safety inputs 1 and 2 turned OFF.	• The cable is disconnected or broken.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
080C0000 hex	External Encoder Connection Error	A disconnection was detected because communications between the external encoder and the Servo Drive were stopped more frequently than the specified value.	• The wiring is incorrect.			S			Same as above.
080D0000 hex	External Encoder Communications Data Error	There was a communications error in data from the external encoder.	• There is insufficient external encoder power supply voltage. • Noise			S			Same as above.
080E0000 hex	External Encoder Status Error 0	Bit 00 of the external encoder error code (ALMC) was set to 1.	• Bit 00 of the external scale error code (ALMC) was set to 1.			S			Same as above.
080F0000 hex	External Encoder 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.			S			Same as above.
08100000 hex	External Encoder 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.			S			Same as above.
08110000 hex	External Encoder 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.			S			Same as above.
08120000 hex	External Encoder 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.			S			Same as above.
08130000 hex	External Encoder 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.			S			Same as above.
08140000 hex	Phase-A Connection Error	An error such as broken wiring was detected in the external encoder phase-A connection.	• An error such as broken wiring was detected in the external encoder phase-A connection.			S			Same as above.
08150000 hex	Phase-B Connection Error	An error such as broken wiring was detected in the external encoder phase-B connection.	• An error such as broken wiring was detected in the external encoder phase-B connection.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
08160000 hex	Phase-Z Connection Error	An error such as broken wiring was detected in the external encoder phase-Z connection.	• An error such as broken wiring was detected in the external encoder phase-Z connection.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
08170000 hex	Encoder Data Restoration Error	Initialization of internal position data was not processed correctly in Semi-closed Control Mode and Absolute Value Mode.	• There is insufficient power supply voltage for the encoder. • Noise is entering on the encoder line.			S			Cylinder-type Motor Manual (Cat. No. I576)
08180000 hex	External Encoder Data Restoration Error	Initialization of internal position data was not processed correctly in Fully-closed Control Mode and Absolute Value Mode.	• There is insufficient power supply voltage for the external encoder. • Noise is entering on the external encoder line.			S			Same as above.
14A80000 hex	Object Error	The object area data in non-volatile memory is corrupted.	• Noise • Non-volatile memory failure			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
14A90000 hex	Object Error	The object area data in non-volatile memory is corrupted.	• Noise • Non-volatile memory failure			S			Same as above.
14AA0000 hex	Object Error	The object area data in non-volatile memory is corrupted.	• Noise • Non-volatile memory failure			S			Same as above.
14AB0000 hex	Object Corrupted	The checksum data in non-volatile memory is corrupted.	• Non-volatile memory failure			S			Same as above.
14AC0000 hex	Object Corrupted	The checksum data in non-volatile memory is corrupted.	• Non-volatile memory failure			S			Same as above.
14AD0000 hex	Object Corrupted	The checksum data in non-volatile memory is corrupted.	• Non-volatile memory failure			S			Same as above.
18200000 hex	Absolute Encoder Overspeed Error	The Servomotor rotation 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 connector is wrong. • An external force is rotating the motor when the Servo is OFF.			S			Cylinder-type Motor Manual (Cat. No. I576)
18210000 hex	Encoder Initialization Error	An encoder initialization error was detected.	• Servomotor failed.			S			Same as above.
18220000 hex	Absolute Encoder One-rotation Counter Error	The encoder detected a one-rotation counter error.	• Servomotor failed.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
18230000 hex	Absolute Encoder Multi-rotation Counter Error	The encoder detected a multi-rotation counter error.	• Servomotor failed.			S			Cylinder-type Motor Manual (Cat. No. I576)
24680000 hex	Motor Non-conformity	The Servo Drive and Servomotor combination is not correct.	• The Servo Drive and Servomotor combination is not correct.			S			Same as above.
24690000 hex	Motor Non-conformity	The Servo Drive and Servomotor combination is not correct.	• The Servo Drive and Servomotor combination is not correct.			S			Same as above.
246A0000 hex	Motor Non-conformity	The Servo Drive and Servomotor combination is not correct.	• The Servo Drive and Servomotor combination is not correct.			S			Same as above.
246B0000 hex	Motor Non-conformity	The Servo Drive and Servomotor combination is not correct.	• The Servo Drive and Servomotor combination is not correct.			S			Same as above.
246C0000 hex	Motor Non-conformity	The Servo Drive and Servomotor combination is not correct.	• The Servo Drive and Servomotor combination is not correct.			S			Same as above.
28010000 hex	Motor Setting Error	Settings associated with the motor and external encoder are missing.	• Settings associated with the motor and external encoder are missing.			S			Linear Motor Manual (Cat. No. I577)
28020000 hex	Motor Combination Error 1	The value set for the motor current exceeds the maximum motor capacity allowed for the Servo Drive.	• The Motor Rated Rms Current/Motor Peak Absolute Current exceeds the maximum motor capacity allowed for the Servo Drive.			S			Same as above.
28030000 hex	Motor Combination Error 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%.			S			Same as above.
34E10000 hex	Servo Drive Overheat	The temperature of the Servo Drive radiator or power elements exceeded the specified value.	• The ambient temperature of the Servo Drive exceeded the specified value. • Overload			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
34E20000 hex	Overload	When the feedback value for torque/force command exceeds the overload level specified in the Overload Detection Level Setting (3512 hex), overload protection is performed according to the overload characteristics.	• Operation was continued for a long time while overloaded. • There is incorrect wiring of the motor line or a broken cable.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
34E30000 hex	Regeneration Overload	The regenerative energy 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 to absorb the regenerative energy within the specified deceleration time. • This Regeneration Resistor cannot be used for continuous regenerative braking. (The operating limit of the external resistor is limited to a 10% duty.)			S			Same as above.
34E40000 hex	Error Counter 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.			S			Same as above.
34E50000 hex	Excessive Velocity Error	The difference between the internal position command velocity and the actual velocity (i.e., the velocity error) exceeded the Excessive Velocity Error Setting (3602 hex).	• Motor operation does not follow the command. • The setting of the Excessive Velocity Error Setting (3602 hex) is too small.			S			Same as above.
34E60000 hex	Overspeed	The Servomotor rotation 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.			S			Same as above.
383F0000 hex	Excessive Hybrid Following Error	During fully-closed control, the difference between the load position from the external encoder and the Servomotor position from the encoder was larger than the number of pulses set as the Hybrid Following Error Counter Overflow Level (3328 hex).	• Connections are not correct. • The settings are not correct.			S			Cylinder-type Motor Manual (Cat. No. I576)

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
38400000 hex	Overspeed 2	The Servomotor rotation speed/motor speed exceeded the value set on Overspeed Detection Level Setting at Immediate Stop (3615 hex).	• The velocity command value is too large. • There is overshooting. • The wiring is incorrect.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
38410000 hex	Command Error	The position command variation after the electronic gear exceeded the specified value.	• The change in position command is too large. • The backlash compensation amount is too large.			S			Same as above.
38420000 hex	Command Generation Error	During position command processing, an error such as a calculation range error occurred.	• During position command processing, an error such as a calculation range error occurred.			S			Same as above.
38430000 hex	Error Counter Overflow 1	The absolute encoder position/absolute scale position in pulses divided by the electronic gear ratio exceeded $\pm 2^{31}$ (2,147,483,648).	• The absolute encoder position/absolute scale position in pulses divided by the electronic gear ratio exceeded $\pm 2^{31}$ (2,147,483,648).			S			Same as above.
38440000 hex	Error Counter Overflow 2	The position following error in pulses exceeded $\pm 2^{29}$ (536,870,912). Or, the position following error in command 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.			S			Same as above.
38450000 hex	Interface Input Duplicate Allocation Error 1	There is a duplicate setting in the input signal (IN1, IN2, IN3, and IN4) function allocations.	• There is a duplicate setting in the input signal (IN1, IN2, IN3, and IN4) function allocations.			S			Same as above.
38460000 hex	Interface Input Duplicate Allocation Error 2	There is a duplicate setting in the input signal (IN5, IN6, IN7, and IN8) function allocations.	• There is a duplicate setting in the input signal (IN5, IN6, IN7, and IN8) function allocations.			S			Same as above.
38470000 hex	Interface Input Function Number Error 1	There is an undefined number specification in the input signal (IN1, IN2, IN3, and IN4) function allocations. Or, a logic setting error was detected.	• 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).			S			Same as above.
38480000 hex	Interface Input Function Number Error 2	There is an undefined number specification in the input signal (IN5, IN6, IN7, and IN8) function allocations. Or, a logic setting error was detected.	• 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).			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
38490000 hex	Interface Output Function Number Error 1	There is an undefined number specification in the output signal (OUTM1) function allocation.	• There is an undefined number specification in the output signal (OUTM1) function allocation.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
384A0000 hex	Interface Output Function Number Error 2	There is an undefined number specification in the output signal (OUTM2) function allocation.	• There is an undefined number specification in the output signal (OUTM2) function allocation.			S			Same as above.
384B0000 hex	External Latch Input Allocation Error	There is an error in the latch input function 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.			S			Same as above.
384C0000 hex	Overrun Limit Error	The Servomotor exceeded the allowable operating range set in the Overrun Limit Setting (3514 hex) with respect to the position command input range.	• The gain or inertial ratio/mass ratio is not suitable. • The set value of the Overrun Limit Setting (3514 hex) is too small.			S			Same as above.
384D0000 hex	Absolute Encoder System Down Error	The voltage of the built-in capacitor dropped below the specified value because the power supply to the encoder or the battery power supply was down.	• The voltage of the built-in capacitor dropped below the specified value because the power supply to the encoder or the battery power supply was down.			S			Cylinder-type Motor Manual (Cat. No. I576)
384E0000 hex	Absolute Encoder Counter Overflow Error	The multi-rotation counter of the encoder 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.			S			Same as above.
384F0000 hex	Object Setting Error 1	The electronic gear ratio exceeded the allowable range.	• The electronic gear ratio exceeded the allowable range.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
38500000 hex	Object Setting Error 2	External encoder ratio exceeded the allowable range.	• External encoder ratio exceeded the allowable range.			S			Same as above.
38510000 hex	External Encoder Connection Error	The set value of the External Feedback Pulse Type Selection (3323 hex) differs from the external encoder type that is connected for serial communications.	• The set value of the External Feedback Pulse Type Selection (3323 hex) differs from the external encoder type that is connected for serial communications.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
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 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 RxPDO. • More than 11 objects were mapped for TxPDO. • CSP Switching Reference Position (4020 hex) was mapped for TxPDO when the communications period was set to 500 μs or when the electronic gear object ratio was not set to 1:1.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
38530000 hex	Magnetic Pole Position Estimation Error 1	Magnetic pole position estimation was not completed successfully.	• 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.			S			Linear Motor Manual (Cat. No. I577)
38540000 hex	Magnetic Pole Position Estimation Error 2	Magnetic pole position estimation was not completed successfully because the motor did not stop within the Magnetic Pole Position Estimation 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.			S			Same as above.
38550000 hex	Magnetic Pole Position Estimation Error 3	Magnetic pole position restoration was not completed successfully.	• The Magnetic Pole Detection Method (3920 hex) object was set to 3 (Magnetic pole position restoration method), although magnetic pole position estimation had never been executed. • The Magnetic Pole Detection Method (3920 hex) was set to 3 (Magnetic pole position restoration method) when a non-absolute type external encoder was used.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
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 preparations were performed.	• The Current Loop Proportional Gain or the Current Loop Integral Gain was too large before auto-setting was performed.			S			Linear Motor Manual (Cat. No. I577)
64E00000 hex	Drive Prohibition Input Error 1	When the Drive Prohibition Input Selection (3504 hex) was set to 0, both the Forward/Positive Drive Prohibition Input (POT) and Reverse/Negative Drive Prohibition Input (NOT) turned ON. Or, when the Drive Prohibition Input Selection (3504 hex) was set to 2, either the Forward/Positive Drive Prohibition Input (POT) or Reverse/Negative Drive Prohibition Input (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 Prohibition Input (NOT).			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
64E10000 hex	Drive Prohibition Input Error 2	An operation command (such as a trial run of FFT) was received from the CX-Drive when the Drive Prohibition Input Selection (3504 hex) was set to 0, EtherCAT 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 command.	• 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 Prohibition Input (NOT).			S			Same as above.
64E20000 hex	Immediate Stop Input Error	An Immediate Stop (STOP) signal was input.	• An Immediate Stop (STOP) signal was input. • Incorrect wiring of the immediate stop input (STOP).			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
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 Init 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) was changed at an interval of less than 2 ms. • Homing was started when 6098 hex (Homing Method) was set to a value other than 8, 12, 19, 20, 33, 34,or 35. • Data setting warnings (B0 hex) occurred continuously for the number of data setting warnings that is set in 3781 hex (Data Setting Warning Detection Count).			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
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-operational state) was established 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.			S			Same as above.
78020000 hex	Absolute Encoder Status Error	The rotation of the encoder was higher than the specified value 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.			S			Cylinder-type Motor Manual (Cat. No. I576)
84B10000 hex	EtherCAT State Change Error	A communications state change command was received for which the current communications state could not be changed.	• A communications state change command was received for which the current communications state could not be changed.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
84B20000 hex	EtherCAT Illegal State Change Error	An undefined communications state change command was received.	• An undefined communications state change command was received.			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
84B30000 hex	Communications Synchronization Error	The number of consecutive errors in receiving 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			S			Same as above.
84B40000 hex	Synchronization Error	A synchronization error occurred.	• Noise • Control PCB error			S			Same as above.
84B50000 hex	Sync Manager WDT Error	PDO communications were stopped for more than the specified period of time.	• The EtherCAT communications cable is disconnected or broken. • There is an error in the host controller.			S			Same as above.
84B60000 hex	ESC Initialization Error	An error occurred in ESC initialization.	• Control PCB error			S			Same as above.
84B70000 hex	Slave Unit Verification Error	An error occurred in Slave Unit verification.	• Control PCB error			S			Same as above.
84B80000 hex	Communications 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 received.			S			Same as above.
84B90000 hex	Synchronization Interruption Error	A synchronization interruption error occurred.	• Control PCB error			S			Same as above.
98010000 hex	Absolute Value Cleared	The multi-rotation counter for the absolute encoder was cleared during USB communications by the CX-Drive.	• The multi-rotation counter for the absolute encoder was cleared during USB communications by the CX-Drive.			S			Cylinder-type Motor Manual (Cat. No. I576)
98020000 hex	Position Data Initialized	A Config operation was performed or the multi-rotation counter was cleared for the absolute encoder during EtherCAT communications.	• 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.)			S			Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
08010000 hex	Battery Warning	The battery voltage is 3.2 V or less.	• The battery voltage is 3.2 V or lower.				S		Cylinder-type Motor Manual (Cat. No. I576)
08020000 hex	Fan Warning	The fan stop state continued for 1 second.	• There is foreign matter in the fan. • The Servo Drive failed.				S		Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
08030000 hex	Encoder Communications Warning	Encoder communications errors occurred in series more frequently than the specified value.	• There is insufficient power supply voltage for the encoder. • Noise is entering on the encoder line.				S		Cylinder-type Motor Manual (Cat. No. I576)
08040000 hex	Encoder/Serial Conversion Unit Overheating Warning	The encoder temperature 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.				S		Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)
08050000 hex	Life Expectancy Warning	The remaining life of the capacitor or the fan is shorter than the specified value.	• The life expectancy of the capacitor or the fan is shorter than the specified value.				S		Same as above.
08060000 hex	External Encoder Error Warning	The external encoder detected a warning.	• There is insufficient power supply voltage for the external encoder. • Noise is entering on the external encoder connector cable. • The external encoder failed.				S		Same as above.
08070000 hex	External Encoder Communications Warning	The external encoder had more communications errors than the specified value.	• There is insufficient power supply voltage for the external encoder. • Noise is entering on the external encoder connector cable.				S		Same as above.
34E00000 hex	Data Setting Warning	An object setting is out of range.	• An object setting is out of range.				S		Same as above.
383C0000 hex	Overload Warning	The load ratio is 85% or more of the protection level.	• Overload • There is incorrect wiring of the motor line or a broken cable.				S		Same as above.
383D0000 hex	Excessive Regeneration 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.				S		Same as above.
383E0000 hex	Vibration Detection Warning	Vibration was detected.	• The gain or inertial ratio/mass ratio setting is not suitable.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	

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.
							S		Cylinder-type Motor Manual (Cat. No. I576) and Linear Motor Manual (Cat. No. I577)

84B00000 hex	EtherCAT Communications Warning	An EtherCAT communications error occurred one or more times.	• The EtherCAT communications cable is disconnected or broken. • Noise				S		Same as above.

MX2/RX-series Inverters with EtherCAT Communications Units

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	• Non-volatile memory failure			S			MX2/RX Series Inverter EtherCAT Communication Unit User's Manual (Cat. No. I574)

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04BA0000 hex	Connection Error between Inverter and Communications Unit	An error occurred in the connection between 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.			S			MX2/RX Series Inverter EtherCAT Communication Unit User's Manual (Cat. No. I574)
04BB0000 hex	Inverter Warning	An Inverter warning was detected.	• An Inverter warning was detected.			S			Same as above.
04BC0000 hex	Inverter Trip	An Inverter trip was detected.	• An Inverter trip was detected.			S			Same as above.
34F00000 hex	PDO Setting Error	There is an illegal setting value in the PDO mapping.	• The PDO mapping or SyncManager settings are incorrect.			S			Same as above.

FH-series Vision Systems

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
08210000 hex	Fan/Power Supply Error	An error occurred in the fan or power supply.	• A foreign object is interfering with fan operation. • A suitable power supply voltage is not being used, resulting in an overvoltage or undervoltage.			S			FH/FZ5 Vision System FH/FZ5 Series User's Manual for Communications Settings (Z342)
08220000 hex	Camera Overcurrent Detected	An overcurrent flowed to the Camera.	• There is a short circuit inside the Camera cable or in a circuit inside the Controller.			S			Same as above.
08230000 hex	Parallel I/O Overcurrent Detected	An overcurrent occurred in the parallel I/O interface.	• A parallel I/O interface line is short-circuited.			S			Same as above.
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 memory.						Same as above.
38590000 hex	Camera Connection Error	The Camera connection 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 Controller according to the Camera Selection settings in the Camera Image Input and Camera Switching processing items.			S			Same as above.
385A0000 hex	Change in Connected Camera	The Camera that is connected is different from when data was last saved.	• The Camera connection information in the scene data does not agree with the connection information for the Camera connected to the Controller.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
48020000 hex	System Error	An error occurred in the system.	• A serious error occurred in the system in the Controller.			S			FH/FZ5 Vision System FH/FZ5 Series User's Manual for Communications Settings (Z342)
58210000 hex	Output Control Timeout for Parallel I/O, PLC Link, or EtherNet/IP	A timeout occurred in data output handshaking 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 GATE signal is not wired correctly.			S			Same as above.
58220000 hex	Output Control Timeout for EtherCAT	A timeout occurred in data output handshaking 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.			S			Same as above.
78190000 hex	Image Logging Disk Write Error	Writing data to the image 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.			S			Same as above.
781A0000 hex	Setting Data Transfer Error	An error occurred while transferring the scene data.	• Scene data was edited when there was little available space on the RAM disk and the operation mode was Single- line High-speed Mode. • The data transfer button was clicked when there was little available space on the RAM disk and the operation mode was Non-stop Adjustment Mode.			S			Same as above.
781B0000 hex	Output Buffer Error (EtherCAT)	The data output buffer for measurement data is full.	• Data measurements are being performed on a period that is shorter than the time that is required for data output handshake controls in the program.			S			Same as above.
88080000 hex	PLC Link Communications Error	A PLC Link cannot be established.	• There is a mistake in the PLC or Vision Sensor communications settings. • The Ethernet or RS-232C cable is damaged.			S			Same as above.

EtherCAT FQ-M-series Specialized Vision Sensors for Positioning

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
78080000 hex	TRIG Input Error	A TRIG signal was input 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 contact input.			S			FQ-M-series Specialized Vision Sensor for Positioning User's Manual (Cat. No. Z314)
780A0000 hex	Scene Data Error	The scene data to switch to is corrupted.	• The power supply was interrupted when the scene data to switch to was saved.			S			Same as above.
780B0000 hex	Model Error	A model was re-registered with an image with low contrast.	• A model was re-registered with an image with low contrast.			S			Same as above.
780C0000 hex	Logging Error	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.			S			Same as above.
780D0000 hex	Output Timeout	A timeout occurred in data output handshaking 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.			S			Same as above.
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.			S			Same as above.

E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04C40000 hex	Sensor Communications Error	An error occurred in a Sensor connection.	• The Sensor is disconnected.			S			EtherCAT Digital-type Sensor Communications Unit Operation Manual (Cat. No. E413)
04C50000 hex	Sensor Communications Has Not Been Established	Communications has not been established with the Sensor.	• A Sensor is not connected.			S			Same as above.
14A00000 hex	Non-volatile Memory Checksum Error	An error occurred in the control parameters.	• Noise			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
24780000 hex	Number of Sensors Verify Error	The number of Sensors that is connected does not agree with the settings.	• The set value does not match the number of Sensors that are actually connected.			S			EtherCAT Digital-type Sensor Communications Unit Operation Manual (Cat. No. E413)
24790000 hex	Number of Sensors Over Limit	Too many Sensors are connected.	• More than the maximum number of Sensors are connected.			S			Same as above.
34F80000 hex	Dummy Sensors Setting Error	Too many Dummy Units are set.	• There are too many Dummy Units set, so some Sensors are not assigned logical unit numbers.			S			Same as above.
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	• Non-volatile memory failure				S		Same as above.

E3NW-ECT EtherCAT Digital Sensor Communications Unit

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04C40000 hex	Sensor Communications Error	An error occurred in a Sensor connection.	• The Sensor is disconnected.			S			EtherCAT Digital Sensor Communications Unit Operation Manual (Cat. No. E429)
04C50000 hex	Sensor Communications Has Not Been Established	Communications has not been established with the Sensor.	• A sensor is not connected.			S			Same as above.
14A00000 hex	Non-volatile Memory Checksum Error	An error occurred in the control parameters.	• Noise			S			Same as above.
247A0000 hex	Number of Distributed Sensor Unit Verify Error	The number of Distributed Sensor Unit that is checked at power up is decreased.	• The Distributed Sensor Unit is disconnected			S			Same as above.
247B0000 hex	Number of Sensors Over Limit	Too many Sensors are connected.	• More than the maximum number of Sensors are connected.			S			Same as above.
247C0000 hex	Number of Sensors Verify Error	The number of Sensors that is connected does not agree with the settings.	• The set value does not match the number of Sensors that are actually connected			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
247D 0000 hex	Number of Sensors Over at Distributed Sensor Unit	Too many Sensors are connected at Distributed Sensor Unit.	• More than the maximum number of Sensors are connected at Distributed Sensor Unit.			S			EtherCAT Digital Sensor Communications Unit Operation Manual (Cat. No. E429)
34F8 0000 hex	Dummy Sensors Setting Error	Too many Dummy Units are set.	• There are too many Dummy Units set, so some Sensors are not assigned logical unit numbers.			S			Same as above.
04A1 0000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	• Non-volatile memory failure				S		Same as above.

ZW-CE1□T Confocal Fiber Type Displacement Sensor

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04D0 0000 hex	Hardware error	Some abnormality occurred on the displacement sensor hardware.	• Hardware damage			S			ZW-CE1□T Confocal Fiber Type Displacement Sensor User's Manual (Cat. No. Z332)
14B0 0000 hex	Linearity correction data error	The linearity correction data of the displacement sensor is damaged.	• Calibration ROM damage			S			Same as above.
14B1 0000 hex	Linearity correction data read error	Reading of the displacement sensor linearity correction data was not executed correctly.	• Calibration ROM not inserted • Calibration ROM damage			S			Same as above.
14B2 0000 hex	System setting error	The system settings saved to the displacement sensor are corrupt.	• The displacement sensor power was turned OFF during saving/loading of system settings.			S			Same as above.
14B3 0000 hex	Bank data error	The bank data saved to the displacement sensor is corrupt.	• The displacement sensor power was turned OFF during saving/loading of bank data.			S			Same as above.
2481 0000 hex	Ethernet communication parameter error	An invalid IP address is set for the displacement sensor.	• Invalid IP address setting			S			Same as above.
7490 0000 hex	Multiple control signal input error	Multiple control signals turned ON in the same cycle.	• Multiple control signals turned ON in the same cycle.			S			Same as above.
7491 0000 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.			S			Same as above.
7492 0000 hex	SYNC input error	SYNC input processing was not executed correctly.	• SYNC input turned ON in the FUN mode.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
74930000 hex	TIMING input error	TIMING input processing was not executed 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 before the "delay time + sampling time" elapsed.			S			ZW-CE1□T Confocal Fiber Type Displacement Sensor User's Manual (Cat. No. Z332)
74940000 hex	RESET input error	RESET input processing was not executed correctly.	• RESETx input turned ON in the FUN mode.			S			Same as above.
74950000 hex	ZERO input error	ZERO input processing 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.			S			Same as above.
74960000 hex	ZEROCLR input error	ZEROCLR input processing was not executed correctly.	• ZEROCLRx input turned ON in the FUN mode.			S			Same as above.

3-1-9 Errors in CJ-series Units

The section provides tables of the events that can occur in the 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

CJ-series Analog I/O Units

The section provides tables of the 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

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04600000 hex	A/D Conversion Error	An error occurred in A/D conversion.	• There is a source of noise nearby. • A/D converter failed.			S	U		CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit (Cat. No. W490)
04620000 hex	Non-volatile Memory Error	An error occurred in non-volatile memory.	• There is a source of noise nearby. • Non-volatile memory failed.			S			Same as above.
34800000 hex	Mean Value Processing Setting Error	There is a mistake in the setting of the number of samplings for mean value processing.	• There is a mistake in the setting of the number of samplings for mean value processing.			S			Same as above.
34830000 hex	Scaling Data Setting Error	There is a mistake in the scaling data settings.	• The upper or lower limit data for scaling is outside the setting range. Or, the maximum value and minimum value are not 0 and they are the same.			S			Same as above.
34840000 hex	Input Signal Range Setting Error or Error in Number of Inputs Setting	There is a mistake in the input signal range setting or in the number of inputs setting.	• The settings of the input signal range or the setting of the number of analog inputs that are used is incorrect.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
34850000 hex	Mean Value Processing Setting Error	There is a mistake in the setting of the number of samplings for mean value processing.	• There is a mistake in the setting of the number of samplings for mean value processing.			S			CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit (Cat. No. W490)
34860000 hex	Error in Setting of Conversion Mode	There is a mistake is the Conversion Mode setting.	• The specification of the Cyclic Conversion Mode or Direct Conversion Mode is not correct.			S			Same as above.
34870000 hex	Output Hold Setting Error	There is a mistake in the output hold setting.	• The setting for output status when conversion stops is incorrect.			S			Same as above.
34890000 hex	Conversion Time/Resolution or Operation Mode Setting Error	There is a mistake in the conversion time/resolution or operation mode setting.	• There is a mistake in the conversion time/resolution or operation mode setting.			S			Same as above.
348A0000 hex	Output Signal 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 output signal range setting or in the number of outputs setting.			S			Same as above.
38010000 hex	Scaling Data Setting Error/Ratio Conversion Use Setting Error	There is an error in the scaling data setting or ratio conversion use setting.	• The upper or lower limit data for scaling is outside the setting range. Or, the maximum value and minimum value are not 0 and they are the same. • The I/O number for ratio conversion is set to *Not used* in the I/O specifications.			S			Same as above.
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 conversion A constant for ratio conversion.			S			Same as above.
64780000 hex	Input Disconnection Detected	The input is disconnected.	• Input wiring is broken. • Input wiring disconnection			S	U		Same as above.
64790000 hex	Output Set Value Error	The output setting is out of range.	• An output set value setting is out of range.			S	U		Same as above.
34810000 hex	Input Value Exceeded Adjustment Range in Adjustment Mode	In Adjustment Mode, the input value exceeded 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.			U	S		Same as above.
34820000 hex	Input Number Specification Error in Adjustment Mode	The input number specified in Adjustment Mode is not enabled 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.			U	S		Same as above.
34880000 hex	Output Number Specification Error in Adjustment Mode	The output number specified in Adjustment Mode is not enabled 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.			U	S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
348C 0000 hex	I/O Number Specification Error in Adjustment Mode	The I/O numbers specified in Adjustment 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.			U	S		CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit (Cat. No. W490)

CJ-series Process I/O Units

The section provides tables of the events that can occur in the following Units.

CJ1W-PDC15

CJ1W-AD04U

CJ1W-PH41U

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
0460 0000 hex	A/D Conversion Error	An error occurred in A/D conversion.	• There is a source of noise nearby. • A/D converter failed.			S	U		CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit (Cat. No. W498)
0461 0000 hex	Cold Junction Sensor Error	An error occurred in the cold junction sensor.	• Faulty connection to the cold junction sensor for the CJ1W-PH41U. • The cold junction sensor failed.			S	U		Same as above.
0462 0000 hex	Non-volatile Memory Error	An error occurred in non-volatile memory.	• There is a source of noise nearby. • Non-volatile memory failed.			S			Same as above.
348D 0000 hex	Data Range Error	A set value is out of range.	• A set value is out of range.			S			Same as above.
647A 0000 hex	Input Error	An input error occurred.	• The analog input signal is out of range. • Input wiring is broken. • Input wiring disconnection or loose terminal			S	U		Same as above.
647D 0000 hex	Zero/Span Adjustment Period End	The zero/span adjustment period expired.	• The zero/span adjustment period expired.			U	S		Same as above.
647E 0000 hex	Zero/Span Adjustment Period Notice	The zero/span adjustment period is close to expiring.	• The notification period for the expiration of zero/span adjustment occurred.			U	S		Same as above.

CJ-series Temperature Control Units

The section provides tables of the events that can occur in the following Units.

CJ1W-TC003

CJ1W-TC004

CJ1W-TC103

CJ1W-TC104

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04680000 hex	Cold Junction Sensor Error	An error occurred in the cold junction sensor.	• Faulty connection to the cold junction sensor. • The cold junction sensor failed.			U	S		CJ-series Temperature Control Units Operation Manual for NJ-series CPU Unit (Cat. No. W491)
34940000 hex	Setting Error	There is an illegal setting.	• The set value is incorrect.			U	S		Same as above.
64840000 hex	Sensor Error	An error occurred in the sensor input.	• Error in input from the Sensor.			U	S		Same as above.
64850000 hex	CT Overflow	An overflow occurred in the CT input.	• The heater current exceeded 55.0 A.			U	S		Same as above.
64860000 hex	Heater Burnout Alarm	A heater burnout occurred.	• The power supply to the heater is not ON. • The heater is burned out or deteriorated.			U	S		Same as above.

CJ-series ID Sensor Units

The section provides tables of the events that can occur in the following Units.

CJ1W-V680C11

CJ1W-V680C12

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
046C0000 hex	Unit Status, Antenna Power Supply Error	An error occurred in the power supply to the Antenna.	• An error occurred in the power supply (24 V) to the Antenna.			S			CJ-series ID Sensor Units Operation Manual for NJ-series CPU Unit (Cat. No. Z317)
046D0000 hex	Unit Status, Memory Error	An error occurred when reading non-volatile memory.	• There is a source of noise nearby. • Non-volatile memory failure			S			Same as above.
046E0000 hex	Results Information, Antenna Error	An error occurred in the Antenna.	• The Antenna is not connected. • Antenna failure • The ID Sensor Unit failed.			S			Same as above.
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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
24400000 hex	Unit Status, Antenna Error	An error occurred in the Antenna.	• The setting of the Connected Antenna Setting (device variable **_Ch#_AntConn*) does not agree with the Antenna that is connected. • The V680-H01 or V680-H01-V2 was connected to the CJ1W-V680C12.			S			CJ-series ID Sensor Units Operation Manual for NJ-series CPU Unit (Cat. No. Z317)
34980000 hex	Results Information, Data Storage 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.			S			Same as above.
54A00000 hex	Results Information, ID Tag Address Error	The address of the ID Tag is wrong.	• The address of an ID Tag specified in a command is incorrect.			S			Same as above.
54A10000 hex	Results Information, Write Protection Error	An attempt was made to write to a write-protected 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.			S			Same as above.
54A20000 hex	Results Information, 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 number). *_Ch#_CmdSet *_Ch#_ProcAdr *_Ch#_ProcByte *_Ch#_CmdOption "#" in the variable name is the Antenna (Head) number.			S			Same as above.
648C0000 hex	Unit Status, Command Error End	A processing error occurred.	• A processing error occurred.			S			Same as above.
648D0000 hex	Results Information, 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 Antenna and ID Tag is outside the specified range. • Noise			S			Same as above.
648E0000 hex	Results Information, ID Tag Communications Error	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 Antenna and ID Tag is outside the specified range. • Noise			S			Same as above.
648F0000 hex	Results Information, 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.			S			Same as above.
64900000 hex	Results Information, ID System Error 1	ID system error 1 occurred.	• System error 1 occurred.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
6491 0000 hex	Results Information, ID System Error 2	ID system error 2 occurred.	• System error 2 occurred.			S			CJ-series ID Sensor Units Operation Manual for NJ-series CPU Unit (Cat. No. Z317)
6492 0000 hex	Results Information, ID System Error 3	ID system error 3 occurred.	• System error 3 occurred.			S			Same as above.
6493 0000 hex	Results Information, 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.			S			Same as above.
6494 0000 hex	Results Information, Error Correction	A Write with Error Correction command performed a 1-bit error correction.	• There is ambient noise where the ID Tag is used. • ID Tag error.			S			Same as above.

CJ-series High-speed Counter Units

The section provides tables of the events that can occur in the following Units.

CJ1W-CT021

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
6801 0000 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.			S			CJ-series High-speed Counter Units Operation Manual for NJ-series CPU Unit (Cat. No. W492)

CJ-series Serial Communications Units

The section provides tables of the events that can occur in the following Units.

CJ1W-SCU22

CJ1W-SCU32

CJ1W-SCU42

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
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			S			CJ-series Serial Communications Units Operation Manual for NJ-series CPU Unit (Cat. No. W494)
14800000 hex	Protocol Data 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.			S			Same as above.
34A40000 hex	System Setup Error	There is an error in the system settings for the Serial Communications Unit.	• There is an error in the system settings for the Serial Communications Unit.			S			Same as above.
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.				S		Same as above.
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.				S		Same as above.
54A80000 hex	Command Error	A command error occurred.	• 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.				S		Same as above.
54A90000 hex	Sequence Abort Completed	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.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	

54AA0000 hex	Protocol Macro Error	An error occurred in the protocol macro.	• Sequence No. Error: An unregistered number was specified for *SeqNo* (communications sequence number) of the ExecPMCR instruction (no indicators light).
			• Data read/write area exceeded error: The specified area range was exceeded when data was written 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 specified 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 Communications Unit.
			  • Thirty one or more items were set for the write attribute 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.
							S		CJ-series Serial Communications Units Operation Manual for NJ-series CPU Unit (Cat. No. W494)

64A00000 hex	Tfs (Send Finished Monitoring Time) Exceeded	The time required to complete a send operation exceeded the Send Finished Monitoring Time.	• Noise • The monitor time is shorter than the actual completion time.				S		Same as above.
64A10000 hex	Tfr (Receive Finished Monitoring Time) Exceeded	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.				S		Same as above.
64A20000 hex	Tr (Receive Wait Monitoring Time) Exceeded	The receive waiting time exceeded the Receive Wait Monitoring Time.	• Noise • The monitoring time is shorter than the actual completion time.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
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.				S		CJ-series Serial Communications Units Operation Manual for NJ-series CPU Unit (Cat. No. W494)
64A40000 hex	Timeout Error	A timeout error occurred.	• 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 loopback test jig failed. • 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.				S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
64A50000 hex	Comparison Error	A comparison error occurred.	• Loopback test jig failure. • Noise • The communications circuits in the Serial Communications Unit are faulty.				S		CJ-series Serial Communications Units Operation Manual for NJ-series CPU Unit (Cat. No. W494)
64A60000 hex	Reception Overflow	More than the specified amount of receive data was received in No-protocol Mode.	• One or more bytes of data was received after the completion the reception.				S		Same as above.
64A70000 hex	Command Format Error	An illegal function code or address was specified in a received Modbus-RTU command.	• An illegal function code, address, or data was specified in a received Modbus-RTU command.				S		Same as above.

84680000 hex	Transmission 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
							S		Same as above.

84690000 hex	Overrun Error	An overrun occurred.	• In Serial Gateway Mode or Protocol Macro Mode:
			  • The reception circuits in the Serial Communications Unit are faulty.
			  • A transmission error occurred due to noise or other factors.
			• No-protocol Mode:
			  • The reception buffer received more than 259 bytes of data before the SerialRcv/SerialRcvNoClear instruction was executed.
			• During Loopback Test
			  • Loopback test jig failure.
			  • Noise
			  • The communications circuits in the Serial Communications Unit are faulty.
							S		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	

846A 0000 hex	Framing Error	A frame error occurred.	• In Serial Gateway Mode or Protocol Macro Mode:
			  • The reception circuits in the Serial Communications Unit are faulty.
			  • A transmission error occurred due to noise or other factors.
			• During Loopback Test
			  • Loopback test jig failure.
			  • Noise
			  • The communications circuits in the Serial Communications Unit are faulty.
							S		CJ-series Serial Communications Units Operation Manual for NJ-series CPU Unit (Cat. No. W494)

846B 0000 hex	Parity Error	A parity error occurred.	• In Serial Gateway Mode or Protocol Macro Mode:
			  • The reception circuits in the Serial Communications Unit are faulty.
			  • A transmission error occurred due to noise or other factors.
			• During Loopback Test
			  • Loopback test jig failure.
			  • Noise
			  • The communications circuits in the Serial Communications Unit are faulty.
							S		Same as above.

846C 0000 hex	Overrun Error, Framing Error, or Parity Error (Transmission Error)	An overrun error, framing error, or parity 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.				S		Same as above.
846D 0000 hex	Transmission Error (CRC Error)	A CRC error occurred.	• Noise • CRC calculation method does not match the device.				S		Same as above.

CJ-series DeviceNet Units

The section provides tables of the events that can occur in the following Units.

CJ1W-DRM21

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
04880000 hex	Unit Memory Error	An error occurred when writing to internal memory where the error history is saved.	• There is a source of noise nearby. • Non-volatile memory failure			S	U		CJ-series DeviceNet Units Operation Manual for NJ-series CPU Unit (Cat. No. W497)
04890000 hex	Network Power Error	Network power is not being supplied.	• Communications power is not being supplied normally from the network.			S			Same as above.
148D0000 hex	Invalid Scan List Data	There is an error in the contents of the slave scan list or master scan list stored in non-volatile memory.	• The power was interrupted during writing the scan list to the non-volatile memory.			S			Same as above.
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			S			Same as above.
24480000 hex	Node Address Duplicated Error	An error was discovered during the node address duplication check when starting the DeviceNet Unit.	• The node address of the DeviceNet Unit is also set for another node.			S			Same as above.
34BC0000 hex	Routing Table 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 incorrect. • Reading the routing tables timed out.			S	U		Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
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 settings, then setting the connection path that is set in the scan list failed. • 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 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. • The device does not support the I/O service specified in the scan list.			S			CJ-series DeviceNet Units Operation Manual for NJ-series CPU Unit (Cat. No. W497)
34BE0000 hex	Structure Error	The scan list is disabled and an error occurred that prevented making I/O allocations.	• 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.			S			Same as above.
34BF0000 hex	Master I/O Refresh Error	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.			S			Same as above.
34C00000 hex	Master User-set Allocations User Setting Failed	An error occurred in the following operation for user allocation 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.			S			Same as above.
34C10000 hex	Communications Cycle Time Setting Failed	An error occurred in one of the following operations when setting the communications cycle time.	• There is an error in the set information. • CPU Unit is not in PROGRAM mode.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
34C2 0000 hex	Slave I/O Refresh Error	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.			S			CJ-series DeviceNet Units Operation Manual for NJ-series CPU Unit (Cat. No. W497)
34C3 0000 hex	Slave User Allocation Area Setting Failed	An error occurred in the following operation for user allocation 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.			S			Same as above.
64AC 0000 hex	Send Timeout Error	A send timeout occurred.	• 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.			S			Same as above.
7460 0000 hex	Master Function Enable/Disable Failed	An operating error occurred when enabling or disabling the master 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.			S			Same as above.
7461 0000 hex	Master Fixed Allocation Area Setting Failed	An error occurred in one of the following operations for fixed allocation of the master.	• 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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	

74620000 hex	Scan List Register/Clear Failed	An operating error occurred when registering or clearing the scan list by performing one of the following 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 software switch operation for the slave function was executed when 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.
						S			CJ-series DeviceNet Units Operation Manual for NJ-series CPU Unit (Cat. No. W497)

74630000 hex	Slave Function 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.			S			Same as above.
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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
84740000 hex	Bus Off Detected	A Bus Off error occurred (i.e., communications stopped because there were too many communications errors).	• The master and slave 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			S			CJ-series DeviceNet Units Operation Manual for NJ-series CPU Unit (Cat. No. W497)
84750000 hex	Remote I/O Communications Error	A timeout occurred in remote I/O communications.	• 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			S	U		Same as above.
84760000 hex	Remote I/O Communications Error (during Slave Operation)	An error occurred in remote I/O communications.	• 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			S			Same as above.
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 variable **_Sw2SlavCOSSendCmd*), 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.			S			Same as above.
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 data was written as a file to an SD Memory Card.	• The available capacity on the SD Memory Card was insufficient 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 damaged. • The CPU Unit has failed.			U	S		Same as above.
148C0000 hex	Invalid Message Timer List Error	The data in the message monitoring timer list is not correct.	• The power supply was interrupted while writing the message-monitoring timer list to the non-volatile memory.			U	S		Same as above.

CJ-series EtherNet/IP Unit

The following table lists the events that can occur for an EtherNet/IP Unit with the following model number.

CJ1W-EIP21

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
047A0000 hex	Unit Memory Error (Device 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			S			CJ-series EtherNet/IP Units Operation Manual for NJ-series CPU Unit (Cat. No. W495)
047B0000 hex	Non-volatile Memory Error	An error occurred in non-volatile memory.	• There is a source of noise nearby. • Non-volatile memory failure			S			Same as above.
047C0000 hex	Communications Controller Error	An error occurred in the communications controller.	• Noise • Communications Controller hardware error			S			Same as above.
14840000 hex	Invalid Communications 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 occurred during a download. • Non-volatile memory failure			S			Same as above.
14850000 hex	Tag Database Error	A tag database error occurred in the CPU Unit when using variables for tag data links, status layout, etc.	• The power was interrupted during a download. • A communications error occurred during a download.			S			Same as above.
34A80000 hex	Verification Error	The information registered for a target node in the tag data link parameters is different from the actual node information.	• The specified target does not exist. • Variable names do not match. • The connection size is incorrect. • Insufficient connection resources			S			Same as above.
34A90000 hex	Tag Data Link Error	There were two or more errors in a connection as an originator. The following are excluded. • Connections as a target • Connection timeouts 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			S			Same as above.
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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
34AB0000 hex	Basic Ethernet Setting Error	There is an illegal TCP/IP setting.	• The power was interrupted during a download. • A communications error occurred during a download.			S			CJ-series EtherNet/IP Units Operation Manual for NJ-series CPU Unit (Cat. No. W495)
34AC0000 hex	IP Address Table Error	The IP address table information is incorrect.	• The power was interrupted during a download. • A communications error occurred during a download.			S			Same as above.
34AD0000 hex	IP Router Table Error	The IP router table information is incorrect.	• The power was interrupted during a download. • A communications error occurred during a download.			S			Same as above.
34AE0000 hex	Routing Table Error	The routing table information is incorrect.	• The power was interrupted during a download. • A communications error occurred during a download.			S			Same as above.
34AF0000 hex	Ethernet Advanced Setting Error	There is an illegal FINS setting.	• The power was interrupted during a download. • A communications error occurred during a download.			S			Same as above.
34B00000 hex	Address Mismatch	The host ID of the local IP address is inconsistent with the FINS node address. Or, the last segment of the local IP address 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 inconsistent with the FINS node address or the last segment of the local IP address is inconsistent with the setting on the node address switch.			S			Same as above.
381C0000 hex	Status Area Layout Setting 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.			S			Same as above.
54AE0000 hex	Multiple Switches ON Error	More than one software 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 before processing was completed for a previous software switch.			S	U		Same as above.
84E00000 hex	IP Address Duplication Error	The same IP address is used more than once.	• The IP address of the EtherNet/IP port is also used as the IP address of another node.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
84E1 0000 hex	BOOTP Server Error	Connection with the BOOTP server failed.	• Server setting error (The acquired IP address is illegal.) • Server is down. • An error occurred in the communications path.			S			CJ-series EtherNet/IP Units Operation Manual for NJ-series CPU Unit (Cat. No. W495)
54AF 0000 hex	Access Detected Outside 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.				S		Same as above.
84E2 0000 hex	Link OFF Error	The Ethernet link status 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			U	S		Same as above.

CJ-series CompoNet Master Unit

The section provides a table of the events that can occur in the following Unit.

CJ1W-CRM21

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
349C 0000 hex	Registration Table Verification 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 inconsistent.			S			CJ-series CompoNet Master Units Operation Manual for NJ-series CPU Unit (Cat. No. W493)
349D 0000 hex	Slave Unit Duplicated Address Error	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 another Slave Unit with the same node address but a different I/O capacity joined the network.			S			Same as above.
349E 0000 hex	Repeater Unit Node Duplicated Address Error	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.			S			Same as above.

Event code	Event name	Meaning	Assumed cause	Level					Reference
				Maj	Prt	Min	Obs	Info	
84600000 hex	Communications Error	A Slave Unit was disconnected 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.			S	U		CJ-series CompoNet Master Units Operation Manual for NJ-series CPU Unit (Cat. No. W493)
84610000 hex	Repeater Unit Communications Error	An error occurred in Repeater Unit communications.	• 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.			S	U		Same as above.
64980000 hex	Representative Warning	A warning has occurred in at least one Slave Unit.	• A warning has occurred in at least one Slave Unit.				S		Same as above.
64990000 hex	Representative Alarm	An alarm has occurred in at least one Slave Unit.	• An alarm has occurred in at least one Slave Unit.				S		Same as above.

3-2 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.

3-2-1 Interpreting Error Descriptions

The contents of the error table is described below.

Item	Description
Event code	The event code of the error in the NJ-series Controller is given. The codes are given in eight hexadecimal digits.
Event name	The name of the event is given
Functional classification	A functional classification of the source is given.
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.

The manual names are given below for the catalog numbers.

Cat. No.	Manual name
W500	NJ-series CPU Unit Hardware User's Manual
W501	NJ-series CPU Unit Software User's Manual
W502	NJ-series Instructions Reference Manual
W521	NX-series Digital I/O Units User's Manual
W522	NX-series Analog I/O Units User's Manual
W523	NX-series System Units User's Manual
W527	NJ-series Database Connection CPU Units User's Manual (NJ501-1□20)
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
W505	NJ-series CPU Unit Built-in EtherCAT Port User's Manual
W506	NJ-series CPU Unit Built-in EtherNet/IP Port User's Manual
W519	NX-series EtherCAT Coupler Unit User's Manual
I574	MX2/RX Series Inverter EtherCAT Communication Unit User's Manual
W507	NJ-series CPU Unit Motion Control User's Manual
W508	NJ-series Motion Control Instructions Reference Manual
I576	AC Servomotors/Servo Drives G5 Series with Built-in EtherCAT Communications User's Manual
I577	G5-series Linear Motors/Drives with Built-in EtherCAT Communications Linear Motor Type User's Manual
W524	NX-series Position Interface Units User's Manual

Cat. No.	Manual name
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

Events that are marked with an asterisk in the *Event code* column were added for version upgrades. Refer to *3-1 Errors by Source* for the versions for which events can occur. Event codes for instructions are supported by CPU Units with unit version 1.02 or later.

3-2-2 Error Table

Event code	Event name	Functional classification	Reference
00070000 hex	Real-Time Clock Stopped	Errors for Self Diagnosis	W500
00080000 hex	Real-Time Clock Failed	Errors for Self Diagnosis	W500
00090000 hex	DIP Switch Setting Error	Errors for Self Diagnosis	W500
000B0000 hex	Low Battery Voltage	Errors for Self Diagnosis	W500
000C0000 hex	CPU Unit Overheat	Errors for Self Diagnosis	W500
000D0000 hex	Internal NJ-series Bus Check Error	Errors for Self Diagnosis	W500
000E0000 hex	Non-volatile Memory Life Exceeded	Errors for Self Diagnosis	W500
000F0000 hex	SD Memory Card Invalid Type	Errors for Self Diagnosis	W500
00100000 hex	SD Memory Card Life Exceeded	Errors for Self Diagnosis	W500
00200000 hex*	Non-volatile Memory Hardware Error	NX-series Digital I/O Units, NX-series Analog I/O Units, NX-series System Units, and NX-series Position Interface Units	W521, W522, W523, and W524
00210000 hex*	Bus Controller Error	NX-series EtherCAT Coupler Unit	W519
00220000 hex*	Non-volatile Memory Hardware Error	NX-series EtherCAT Coupler Unit	W519
04010000 hex	I/O Bus Check Error	Errors Related to Unit Configuration	W500
04200000 hex	Communications Controller Failure	Built-in EtherNet/IP Port on CPU Unit	W506
04400000 hex	Communications Controller Failure	Built-in EtherCAT Master in CPU Unit	W500
04600000 hex	A/D Conversion Error	CJ-series Analog I/O Units and CJ-series Process I/O Units	W490, W498
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 CJ-series Process I/O Units	W490, W498
04680000 hex	Cold Junction Sensor Error	CJ-series Temperature Control Units	W491
046C0000 hex	Unit Status, Antenna Power Supply Error	CJ-series ID Sensor Units	Z317
046D0000 hex	Unit Status, Memory Error	CJ-series ID Sensor Units	Z317
046E0000 hex	Results Information, Antenna Error	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 Communications Units	W494
04750000 hex	DTR Check Error	CJ-series Serial Communications Units	W494

Event code	Event name	Functional classification	Reference
04760000 hex	CTS Check Error	CJ-series Serial Communications Units	W494
047A0000 hex	Unit Memory Error (Device Error)	CJ-series EtherNet/IP Units	W495
047B0000 hex	Non-volatile Memory Error	CJ-series EtherNet/IP Units	W495
047C0000 hex	Communications Controller Error	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
04A10000 hex	Non-volatile Memory Hardware Error	Block I/O (GX-series EtherCAT Slave Units), MX2/RX-series Inverters with EtherCAT Communications Units, EtherCAT M3X Photoelectric Fiber Amplifiers, E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors, and EtherCAT Digital Sensor Communications Units Operation Manual	W488, I574, E413, and E429
04A80000 hex	Control Power Supply Undervoltage	Servo G5 and G5 Linear	I576, I577
04A90000 hex	Overvoltage	Servo G5 and G5 Linear	I576, I577
04AA0000 hex	Main Circuit Power Supply Undervoltage (Undervoltage between positive and negative terminals)	Servo G5 and G5 Linear	I576, I577
04AB0000 hex	Main Circuit Power Supply Undervoltage (AC Cutoff Detected)	Servo G5 and G5 Linear	I576, I577
04AC0000 hex	Overcurrent	Servo G5 and G5 Linear	I576, I577
04AD0000 hex	IPM Error	Servo G5 and G5 Linear	I576, I577
04AE0000 hex	Regeneration Tr Error	Servo G5 and G5 Linear	I576, I577
04AF0000 hex	Encoder Phase-Z Error	Servo G5	I576
04B00000 hex	Encoder CTS Signal Error	Servo G5	I576
04B10000 hex	Node Address Setting Error	Servo G5 and G5 Linear	I576, I577
04B20000 hex	Other Errors	G5 Linear	I577
04BA0000 hex	Connection Error between Inverter and Communications Unit	MX2/RX-series Inverters with EtherCAT Communications Units	I574
04BB0000 hex	Inverter Warning	MX2/RX-series Inverters with EtherCAT Communications Units	I574
04BC0000 hex	Inverter Trip	MX2/RX-series Inverters with EtherCAT Communications Units	I574
04C40000 hex	Sensor Communications Error	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors and EtherCAT Digital Sensor Communications Units Operation Manual	E413 and E429
04C50000 hex	Sensor Communications Has Not Been Established	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors and EtherCAT Digital Sensor Communications Units Operation Manual	E413 and E429
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	W522

Event code	Event name	Functional classification	Reference
05110000 hex*	Cold Junction Sensor Error	NX-series Analog I/O Units	W522
05200000 hex*	System Error	NX-series Safety Control Unit	Z930
05210000 hex*	Internal Circuit Error at Safety Input	NX-series Safety Control Unit	Z930
05220000 hex*	Internal Circuit Error at Test Output	NX-series Safety Control Unit	Z930
05230000 hex*	Internal Circuit Error at Safety Output	NX-series Safety Control Unit	Z930
08010000 hex	Battery Warning	Servo G5	I576
08020000 hex	Fan Warning	Servo G5 and G5 Linear	I576, I577
08030000 hex	Encoder Communications Warning	Servo G5	I576
08040000 hex	Encoder/Serial Conversion Unit Overheating Warning	Servo G5 and G5 Linear	I576, I577
08050000 hex	Life Expectancy Warning	Servo G5 and G5 Linear	I576, I577
08060000 hex	External Encoder Error Warning	Servo G5 and G5 Linear	I576, I577
08070000 hex	External Encoder Communications Warning	Servo G5 and G5 Linear	I576, I577
08080000 hex	Encoder Communications Disconnection Error	Servo G5	I576
08090000 hex	Encoder Communications Error	Servo G5	I576
080A0000 hex	Encoder Communications Data Error	Servo G5	I576
080B0000 hex	Safety Input Error	Servo G5 and G5 Linear	I576, I577
080C0000 hex	External Encoder Connection Error	Servo G5 and G5 Linear	I576, I577
080D0000 hex	External Encoder Communications Data Error	Servo G5 and G5 Linear	I576, I577
080E0000 hex	External Encoder Status Error 0	Servo G5 and G5 Linear	I576, I577
080F0000 hex	External Encoder Status Error 1	Servo G5 and G5 Linear	I576, I577
08100000 hex	External Encoder Status Error 2	Servo G5 and G5 Linear	I576, I577
08110000 hex	External Encoder Status Error 3	Servo G5 and G5 Linear	I576, I577
08120000 hex	External Encoder Status Error 4	Servo G5 and G5 Linear	I576, I577
08130000 hex	External Encoder Status Error 5	Servo G5 and G5 Linear	I576, I577
08140000 hex	Phase-A Connection Error	Servo G5 and G5 Linear	I576, I577
08150000 hex	Phase-B Connection Error	Servo G5 and G5 Linear	I576, I577
08160000 hex	Phase-Z Connection Error	Servo G5 and G5 Linear	I576, I577
08170000 hex	Encoder Data Restoration Error	Servo G5	I576
08180000 hex	External Encoder Data Restoration Error	Servo G5	I576
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 Detected	FH/FZ5 Series Vision System	Z342
10010000 hex	Non-volatile Memory Restored or Formatted	Errors for Self Diagnosis	W500
10020000 hex	Non-volatile Memory Data Corrupted	Errors for Self Diagnosis	W500
10030000 hex	SD Memory Card Invalid Format	Errors for Self Diagnosis	W500
10040000 hex	SD Memory Card Restored or Formatted	Errors for Self Diagnosis	W500
10060000 hex	SD Memory Card Data Corrupted	Errors for Self Diagnosis	W500
10070000 hex	SD Memory Card Access Power OFF Error	Errors for Self Diagnosis	W500
10080000 hex	Main Memory Check Error	Errors for Self Diagnosis	W500
10090000 hex	Battery-backup Memory Check Error	Errors for Self Diagnosis	W500

Event code	Event name	Functional classification	Reference
100C0000 hex*	Event Level Setting Error	Errors for Self Diagnosis	W500
10200000 hex	User Program/Controller Configurations and Setup Transfer Error	Errors Related to Controller Operation	W500, W501
10210000 hex	Illegal User Program Execution ID	Errors Related to Controller Operation	W500, W501
10230000 hex	Event Log Restoration Error	Errors Related to Controller Operation	W500, W501
10240000 hex	Illegal User Program	Errors Related to Controller Operation	W500, W501
10250000 hex	Illegal User Program/Controller Configurations and Setup	Errors Related to Controller Operation	W500, W501
10260000 hex	Trace Setting Transfer Failure	Errors Related to Controller Operation	W500, W501
10270000 hex*	Error in Starting Automatic Transfer	Errors Related to Controller Operation	W500, W501
10280000 hex*	Error in Executing Automatic Transfer	Errors Related to Controller Operation	W500, W501
10290000 hex*	Backup Failed to Start	Errors Related to Controller Operation	W500, W501
102A0000 hex*	Backup Failed	Errors Related to Controller Operation	W500, W501
102B0000 hex*	Restore Operation Failed to Start	Errors Related to Controller Operation	W500, W501
102C0000 hex*	Restore Operation Failed	Errors Related to Controller Operation	W500, W501
102D0000 hex*	CJ-series Unit Backup Failed	Errors Related to Unit Configuration	W500
102E0000 hex*	CJ-series Unit Restore Operation Failed	Errors Related to Unit Configuration	W500
102F0000 hex*	EtherCAT Slave Backup Failed	Built-in EtherCAT Master in CPU Unit	W505
10300000 hex*	EtherCAT Slave Restore Operation Failed	Built-in EtherCAT Master in CPU Unit	W505
10310000 hex*	Incorrect SD Memory Card Removal	Errors for Self Diagnosis	W500
10400000 hex*	Analog Unit Calibration Parameter Error	NX-series Analog I/O Units	W522
10410000 hex*	Control Parameter Error in Master	NX-series Digital I/O Units, NX-series Analog I/O Units, and NX-series Position Interface Units	W521, W522, and W524
10420000 hex*	Non-volatile Memory Control Parameter Error	NX-series EtherCAT Coupler Unit	W519
10430000 hex*	Memory Corruption Detected	NX-series EtherCAT Coupler Unit	W519
10500000 hex*	NX Bus Communications Settings 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 Settings and Safety Application Data Mismatch	NX-series Safety Control Unit	Z930
10530000 hex*	Non-volatile Memory Access Error	NX-series Safety Control Unit	Z930
14010000 hex	CPU Bus Unit Setup Area Error	Errors Related to FINS Communications	W501
14200000 hex	MAC Address Error	Built-in EtherNet/IP Port on CPU Unit	W506
14210000 hex	Identity Error	Built-in EtherNet/IP Port on CPU Unit	W506
14220000 hex	EtherNet/IP Processing Error	Built-in EtherNet/IP Port on CPU Unit	W506

Event code	Event name	Functional classification	Reference
14400000 hex	MAC Address Error	Built-in EtherCAT Master in CPU Unit	W505
14600000 hex	Absolute Encoder Home Offset Read Error	General Motion Control	W507
14610000 hex	Motion Control Parameter Setting Error	General Motion Control	W507
14620000 hex	Cam Data Read Error	General Motion Control	W507
14630000 hex	Cam Table Save Error	General Motion Control	W507
14800000 hex	Protocol Data Error	CJ-series Serial Communications Units	W494
14840000 hex	Invalid Communications Parameter	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 Error	EtherCAT Block I/O, E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors, and EtherCAT Digital Sensor Communications Units Operation Manual	W488, E413, and E429
14A80000 hex	Object Error	Servo G5 and G5 Linear	I576, I577
14A90000 hex	Object Error	Servo G5 and G5 Linear	I576, I577
14AA0000 hex	Object Error	Servo G5 and G5 Linear	I576, I577
14AB0000 hex	Object Corrupted	Servo G5 and G5 Linear	I576, I577
14AC0000 hex	Object Corrupted	Servo G5 and G5 Linear	I576, I577
14AD0000 hex	Object Corrupted	Servo G5 and G5 Linear	I576, I577
14B00000 hex*	Linearity Correction Data Error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
14B10000 hex*	Linearity Correction Data Read Error	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 Error	NX-series Analog I/O Units	W522
14D00000 hex*	Spool Memory Corrupted	DB Connection Service	W527
14D20000 hex*	Execution Log Save Filed	DB Connection Service	W527
14D30000 hex*	SQL Execution Failure Log Save Failed	DB Connection Service	W527
18200000 hex	Absolute Encoder Overspeed Error	Servo G5	I576
18210000 hex	Encoder Initialization Error	Servo G5	I576
18220000 hex	Absolute Encoder One-rotation Counter Error	Servo G5	I576
18230000 hex	Absolute Encoder Multi-rotation Counter Error	Servo G5	I576
182D0000 hex*	Setting Data Load Error	FH/FZ5 Series Vision System	Z342

Event code	Event name	Functional classification	Reference
24010000 hex	Unsupported Unit Detected	Errors Related to Unit Configuration	W500
24020000 hex	Too Many I/O Points	Errors Related to Unit Configuration	W500
24030000 hex	End Cover Missing	Errors Related to Unit Configuration	W500
24040000 hex	Incorrect Unit/Expansion Rack Connection	Errors Related to Unit Configuration	W500
24050000 hex	Duplicate Unit Number	Errors Related to Unit Configuration	W500
24200000 hex	Slave Node Address Duplicated	Built-in EtherCAT Master in CPU Unit	W505
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	Block I/O (GX-series EtherCAT Slave Units)	W488
24680000 hex	Motor Non-conformity	Servo G5	I576
24690000 hex	Motor Non-conformity	Servo G5	I576
246A0000 hex	Motor Non-conformity	Servo G5	I576
246B0000 hex	Motor Non-conformity	Servo G5	I576
246C0000 hex	Motor Non-conformity	Servo G5	I576
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
247A0000 hex*	Number of Distributed Sensor Unit Verify Error	EtherCAT Digital Sensor Communications Units Operation Manual	E429
247B0000 hex*	Number of Sensors Over Limit	EtherCAT Digital Sensor Communications Units Operation Manual	E429
247C0000 hex*	Number of Sensors Verify Error	EtherCAT Digital Sensor Communications Units Operation Manual	E429
247D0000 hex*	Number of Sensors Over at Distributed Sensor Unit	EtherCAT Digital Sensor Communications Units Operation Manual	E429
24810000 hex*	Ethernet Communications Parameter 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
28010000 hex	Motor Setting Error	G5 Linear	I577
28020000 hex	Motor Combination Error 1	G5 Linear	I577
28030000 hex	Motor Combination Error 2	G5 Linear	I577
30200000 hex*	Unsupported Unit Setting	Errors Related to Unit Configuration	W500
34010000 hex	I/O Setting Check Error	Errors Related to Unit Configuration	W500
34100000 hex	IP Address Table Setting Error	Errors Related to FINS Communications	W501
34110000 hex	Unknown Destination Node	Errors Related to FINS Communications	W501
34130000 hex	FINS/TCP Connection Table Setting Error	Errors Related to FINS Communications	W501
34200000 hex	Tag Data Link Setting Error	Built-in EtherNet/IP Port on CPU Unit	W506

Event code	Event name	Functional classification	Reference
3421 0000 hex	Basic Ethernet Setting Error	Built-in EtherNet/IP Port on CPU Unit	W506
3422 0000 hex	TCP/IP Basic Setting Error (Local Port IP Address)	Built-in EtherNet/IP Port on CPU Unit	W506
3423 0000 hex	TCP/IP Advanced Setting Error (IP Router Table)	Built-in EtherNet/IP Port on CPU Unit	W506
3424 0000 hex	FTP Server Setting Error	Built-in EtherNet/IP Port on CPU Unit	W506
3425 0000 hex	NTP Client Setting Error	Built-in EtherNet/IP Port on CPU Unit	W506
3426 0000 hex	SNMP Setting Error	Built-in EtherNet/IP Port on CPU Unit	W506
3427 0000 hex	Tag Name Resolution Error	Built-in EtherNet/IP Port on CPU Unit	W506
3440 0000 hex	Network Configuration Information Error	Built-in EtherCAT Master in CPU Unit	W505
3460 0000 hex	Required Process Data Object Not Set	General Motion Control	W507
3461 0000 hex	Process Data Object Setting Missing	Motion Control Instructions	W508
3463 0000 hex	Axis Slave Disabled	General Motion Control	W507
3464 0000 hex	Network Configuration Information Missing for Axis Slave	General Motion Control	W507
3480 0000 hex	Mean Value Processing Setting Error	CJ-series Analog I/O Units	W490
3481 0000 hex	Input Value Exceeded Adjustment Range in Adjustment Mode	CJ-series Analog I/O Units	W490
3482 0000 hex	Input Number Specification Error in Adjustment Mode	CJ-series Analog I/O Units	W490
3483 0000 hex	Scaling Data Setting Error	CJ-series Analog I/O Units	W490
3484 0000 hex	Input Signal Range Setting Error or Error in Number of Inputs Setting	CJ-series Analog I/O Units	W490
3485 0000 hex	Mean Value Processing Setting Error	CJ-series Analog I/O Units	W490
3486 0000 hex	Error in Setting of Conversion Mode	CJ-series Analog I/O Units	W490
3487 0000 hex	Output Hold Setting Error	CJ-series Analog I/O Units	W490
3488 0000 hex	Output Number Specification Error in Adjustment Mode	CJ-series Analog I/O Units	W490
3489 0000 hex	Conversion Time/Resolution Setting Error or Operation Mode Setting Error	CJ-series Analog I/O Units	W490
348A 0000 hex	Output Signal Range Setting Error or Error In Number of Outputs Used Setting	CJ-series Analog I/O Units	W490
348C 0000 hex	I/O Number Specification Error in Adjustment Mode	CJ-series Analog I/O Units	W490
348D 0000 hex	Data Range Error	CJ-series Process I/O Units	W498
3494 0000 hex	Setting Error	CJ-series Temperature Control Units	W491
3498 0000 hex	Results Information, Data Storage Area Specification Error	CJ-series ID Sensor Units	Z317
349C 0000 hex	Registration Table Verification Error	CJ-series CompoNet Master Unit	W493
349D 0000 hex	Slave Unit Duplicated Address Error	CJ-series CompoNet Master Unit	W493
349E 0000 hex	Repeater Unit Node Duplicated Address Error	CJ-series CompoNet Master Unit	W493
34A4 0000 hex	System Setup Error	CJ-series Serial Communications Units	W494
34A8 0000 hex	Verification Error	CJ-series EtherNet/IP Units	W495
34A9 0000 hex	Tag Data Link Error	CJ-series EtherNet/IP Units	W495
34AA 0000 hex	Tag Refresh Error	CJ-series EtherNet/IP Units	W495

Event code	Event name	Functional classification	Reference
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
34C30000 hex	Slave User Allocation Area Setting Failed	CJ-series DeviceNet Units	W497
34E00000 hex	Data Setting Warning	Servo G5 and G5 Linear	I576, I577
34E10000 hex	Servo Drive Overheat	Servo G5 and G5 Linear	I576, I577
34E20000 hex	Overload	Servo G5 and G5 Linear	I576, I577
34E30000 hex	Regeneration Overload	Servo G5 and G5 Linear	I576, I577
34E40000 hex	Error Counter Overflow	Servo G5 and G5 Linear	I576, I577
34E50000 hex	Excessive Velocity Error	Servo G5 and G5 Linear	I576, I577
34E60000 hex	Overspeed	Servo G5 and G5 Linear	I576, I577
34F00000 hex	PDO Setting Error	MX2/RX-series Inverters with EtherCAT Communications Units	I574
34F80000 hex	Dummy Sensors Setting Error	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors and EtherCAT Digital Sensor Communications Units Operation Manual	E413 and E429
35000000 hex*	Unit Configuration Information Error	NX-series EtherCAT Coupler Unit	W519
35010000hex*	Unit Configuration Verification Error	NX-series EtherCAT Coupler Unit	W519
35020000hex*	NX Unit Minor Fault	NX-series EtherCAT Coupler Unit	W519
35030000hex*	NX Unit Observation	NX-series EtherCAT Coupler Unit	W519
35040000hex*	Mailbox Setting Error	NX-series EtherCAT Coupler Unit	W519
35050000hex*	RxPDO Setting Error	NX-series EtherCAT Coupler Unit	W519
35060000hex*	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

Event code	Event name	Functional classification	Reference
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
350D0000 hex*	Synchronization Cycle Setting Error	NX-series EtherCAT Coupler Unit	W519
350E0000 hex*	NX Bus Cycle Delay Detected	NX-series EtherCAT Coupler Unit	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 Communications Not Established Error	NX-series Safety Control Unit	Z930
35210000 hex*	Safety Process Data Communications Not Established - Incorrect Unit Parameter Error	NX-series Safety Control Unit	Z930
35230000 hex*	Safety Process Data Communications Not Established, Incorrect FSoE Slave Address Error	NX-series Safety Control Unit	Z930
35240000 hex*	Safety Process Data Communications Not Established, Incorrect Frame Error	NX-series Safety Control Unit	Z930
35300000hex*	DB Connection Setting Error	DB Connection Service	W527
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	I576, I577
383D0000 hex	Excessive Regeneration Warning	Servo G5 and G5 Linear	I576, I577
383E0000 hex	Vibration Detection Warning	Servo G5 and G5 Linear	I576, I577
383F0000 hex	Excessive Hybrid Following Error	Servo G5	I576
38400000 hex	Overspeed 2	Servo G5 and G5 Linear	I576, I577
38410000 hex	Command Error	Servo G5 and G5 Linear	I576, I577
38420000 hex	Command Generation Error	Servo G5 and G5 Linear	I576, I577
38430000 hex	Error Counter Overflow 1	Servo G5 and G5 Linear	I576, I577
38440000 hex	Error Counter Overflow 2	Servo G5 and G5 Linear	I576, I577
38450000 hex	Interface Input Duplicate Allocation Error 1	Servo G5 and G5 Linear	I576, I577
38460000 hex	Interface Input Duplicate Allocation Error 2	Servo G5 and G5 Linear	I576, I577
38470000 hex	Interface Input Function Number Error 1	Servo G5 and G5 Linear	I576, I577
38480000 hex	Interface Input Function Number Error 2	Servo G5 and G5 Linear	I576, I577
38490000 hex	Interface Output Function Number Error 1	Servo G5 and G5 Linear	I576, I577

Event code	Event name	Functional classification	Reference
384A0000 hex	Interface Output Function Number Error 2	Servo G5 and G5 Linear	I576, I577
384B0000 hex	External Latch Input Allocation Error	Servo G5 and G5 Linear	I576, I577
384C0000 hex	Overrun Limit Error	Servo G5 and G5 Linear	I576, I577
384D0000 hex	Absolute Encoder System Down Error	Servo G5	I576
384E0000 hex	Absolute Encoder Counter Overflow Error	Servo G5	I576
384F0000 hex	Object Setting Error 1	Servo G5 and G5 Linear	I576, I577
38500000 hex	Object Setting Error 2	Servo G5 and G5 Linear	I576, I577
38510000 hex	External Encoder Connection Error	Servo G5 and G5 Linear	I576, I577
38520000 hex	Function Setting Error	Servo G5 and G5 Linear	I576, I577
38530000 hex	Magnetic Pole Position Estimation Error 1	Servo G5	I576
38540000 hex	Magnetic Pole Position Estimation Error 2	Servo G5	I576
38550000 hex	Magnetic Pole Position Estimation Error 3	Servo G5	I576
38560000 hex	Motor Auto-setting Error	Servo G5	I576
38590000 hex*	Camera Connection Error	FH/FZ5 Series Vision System	Z342
385A0000 hex*	Change in Connected Camera	FH/FZ5 Series Vision System	Z342
40160000 hex	Safe Mode	Errors Related to Controller Operation	W500, W501
40170000 hex*	Safe Mode	Errors Related to Controller Operation	W500, W501
44010000Hex	EtherCAT Fault	Built-in EtherCAT Master in CPU Unit	W505
44200000 hex	Motion Control Initialization Error	General Motion Control	W507
48020000 hex*	System Error	FH/FZ5 Series Vision System	Z342
50010000 hex*	Controller Insufficient Memory Warning	Built-in EtherCAT Master in CPU Unit and Built-in EtherNet/IP Port on CPU Unit	W500, W501
54010400 hex	Input Value Out of Range	Instructions	W502
54010401 hex	Input Mismatch	Instructions	W502
54010402 hex	Floating-point Decimal Error	Instructions	W502
54010403 hex	BCD Error	Instructions	W502
54010404 hex	Signed BCD Error	Instructions	W502
54010405 hex	Illegal Bit Position Specified	Instructions	W502
54010406 hex	Illegal Data Position Specified	Instructions	W502
54010407 hex	Data Range Exceeded	Instructions	W502
54010409 hex	No Errors to Clear	Instructions	W502
5401040B hex	No User Errors to Clear	Instructions	W502
5401040C hex	Limit Exceeded for User-defined Error	Instructions	W502
5401040D hex	Illegal Unit Specified	Instructions	W502
5401040F hex	Unit Restart Failed	Instructions	W502
54010410 hex	Text String Format Error	Instructions	W502
54010411 hex	Illegal Program Specified	Instructions	W502

Event code	Event name	Functional classification	Reference
5401 0413 hex	Undefined CJ-series Memory Address	Instructions	W502
5401 0414 hex	Stack Underflow	Instructions	W502
5401 0416 hex	Illegal Number of Array Elements or Dimensions	Instructions	W502
5401 0417 hex	Specified Task Does Not Exist	Instructions	W502
5401 0418 hex	Unallowed Task Specification	Instructions	W502
5401 0419 hex	Incorrect Data Type	Instructions	W502
5401 041A hex	Multi-execution of Instructions	Instructions	W502
5401 041B hex*	Data Capacity Exceeded	Instructions	W502
5401041C hex*	Different Data Sizes	Instructions	W502
5401 041D hex*	Exceeded Simultaneous Instruction Executed Resources	Instructions	W502
5401 0800 hex	FINS Error	Instructions	W502
5401 0801 hex	FINS Port Already in Use	Instructions	W502
5401 0C00 hex	Illegal Serial Communications Mode	Instructions	W502
5401 0C02 hex	Port Setup Already Busy	Instructions	W502
5401 1400 hex	SD Memory Card Access Failure	Instructions	W502
5401 1401 hex	SD Memory Card Write-protected	Instructions	W502
5401 1402 hex	SD Memory Card Insufficient Capacity	Instructions	W502
5401 1403 hex	File Does Not Exist	Instructions	W502
5401 1404 hex	Too Many Files/ Directories	Instructions	W502
5401 1405 hex	File Already in Use	Instructions	W502
5401 1406 hex	Open Mode Mismatch	Instructions	W502
5401 1407 hex	Offset Out of Range	Instructions	W502
5401 1408 hex	Directory Not Empty	Instructions	W502
5401 1409 hex	That File Name Already Exists	Instructions	W502
5401 140A hex	Write Access Denied	Instructions	W502
5401 140B hex	Too Many Files Open	Instructions	W502
5401 140C hex	Directory Does Not Exist	Instructions	W502
5401 140D hex	File or Directory Name Is Too Long	Instructions	W502
5401 140E hex	SD Memory Card Access Failed	Instructions	W502
5401 140F hex*	Backup Operation Already in Progress	Instructions	W502
5401 1410 hex*	Cannot Execute Backup	Instructions	W502
5401 1411 hex*	Unit/Slave Backup Failed	Instructions	W502
5401 1800 hex	EtherCAT Communications Error	Instructions	W502
5401 1801 hex	EtherCAT Slave Does Not Respond	Instructions	W502
5401 1802 hex	EtherCAT Timeout	Instructions	W502
5401 1803 hex	Reception Buffer Overflow	Instructions	W502
5401 1804 hex	SDO Abort Error	Instructions	W502
5401 1805 hex	Saving Packet Monitor File	Instructions	W502
5401 1806 hex	Packet Monitoring Function Not Started	Instructions	W502
5401 1807 hex	Packet Monitoring Function in Operation	Instructions	W502
5401 1808 hex	Communications Resource Overflow	Instructions	W502

Event code	Event name	Functional classification	Reference
5401 1809 hex*	Packet Monitoring Function Not Supported	Instructions	W502
5401 1C00 hex	Explicit Message Error	Instructions	W502
5401 1C01 hex	Incorrect Route Path	Instructions	W502
5401 1C02 hex	CIP Handle Out of Range	Instructions	W502
5401 1C03 hex	CIP Communications Resource Overflow	Instructions	W502
5401 1C04 hex	CIP Timeout	Instructions	W502
5401 1C05 hex*	Class-3 Connection Not Established	Instructions	W502
5401 1C06 hex*	CIP Communications Data Size Exceeded	Instructions	W502
5401 2000 hex	Local IP Address Setting Error	Instructions	W502
5401 2001 hex	TCP/UDP Port Already in Use	Instructions	W502
5401 2002 hex	Address Resolution Failed	Instructions	W502
5401 2003 hex	Status Error	Instructions	W502
5401 2004 hex	Local IP Address Not Set	Instructions	W502
5401 2006 hex	Socket Timeout	Instructions	W502
5401 2007 hex	Socket Handle Out of Range	Instructions	W502
5401 2008 hex	Socket Communications Resource Overflow	Instructions	W502
5401 2400 hex*	No Execution Right	Instructions	W502
5401 2401 hex*	Settings Update Failed	Instructions	W502
5401 2402 hex*	Too Many Simultaneous Instruction Executions	Instructions	W502
5401 2403 hex*	FTP Client Execution Limit Exceeded	Instructions	W502
5401 2404 hex*	File Number Limit Exceeded	Instructions	W502
5401 2405 hex*	Directory Does Not Exist (FTP)	Instructions	W502
5401 2406 hex*	FTP Server Connection Error	Instructions	W502
5401 2407 hex*	Destination FTP Server Execution Failure	Instructions	W502
5401 2408 hex*	SD Memory Card Access Failed for FTP	Instructions	W502
5401 2409 hex*	Specified File Does Not Exist	Instructions	W502
5401 240A hex*	Specified File is Write Protected	Instructions	W502
5401 240B hex*	Failed To Delete Specified File	Instructions	W502
5401 240C hex*	Specified File Access Failed	Instructions	W502
5401 2C00 hex*	NX Message Error	Instructions	W502
5401 2C01 hex*	NX Message Resource Overflow	Instructions	W502
5401 2C02 hex*	NX Message Timeout	Instructions	W502
5401 2C03 hex*	Incorrect NX Message Length	Instructions	W502
5401 2C05 hex*	NX Message EtherCAT Network Error	Instructions	W502
5401 2C06 hex*	External Restart Already Executed for Specified NX Units	Instructions	W502
5401 2C07 hex*	Unapplicable Unit Specified for Instruction	Instructions	W502
5401 3000 hex*	DB Connection Service Not Started	DB Connection Instructions	W527
5401 3001 hex*	DB Connection Service Run Mode Change Failed	DB Connection Instructions	W527

Event code	Event name	Functional classification	Reference
5401 3002 hex*	DB Connection Service Shutdown or Shutting Down	DB Connection Instructions	W527
5401 3003 hex*	Invalid DB Connection Name	DB Connection Instructions	W527
5401 3004 hex*	DB Connection Rejected	DB Connection Instructions	W527
5401 3005 hex*	DB Connection Failed	DB Connection Instructions	W527
5401 3006 hex*	DB Connection Already Established	DB Connection Instructions	W527
5401 3007 hex*	Too Many DB Connections	DB Connection Instructions	W527
5401 3008 hex*	Invalid DB Connection	DB Connection Instructions	W527
5401 3009 hex*	Invalid DB Map Variable	DB Connection Instructions	W527
5401 300A hex*	Unregistered DB Map Variable	DB Connection Instructions	W527
5401 300B hex*	SQL Execution Error	DB Connection Instructions	W527
5401 300C hex*	Spool Capacity Exceeded	DB Connection Instructions	W527
5401 300E hex*	Invalid Extraction Condition	DB Connection Instructions	W527
5401 3010 hex*	Log Code Out of Range	DB Connection Instructions	W527
5401 3011 hex*	DB Connection Disconnected Error Status	DB Connection Instructions	W527
5401 3012 hex*	DB Connection Instruction Execution Timeout	DB Connection Instructions	W527
5401 3013 hex*	DB Connection Service Error Stop	DB Connection Instructions	W527
5401 3014 hex*	Data Already Spooled	DB Connection Instructions	W527
5401 3015 hex*	DB Connection Service Initializing	DB Connection Instructions	W527
5401 3016 hex*	DB in Process	DB Connection Instructions	W527
5401 3017 hex*	Operation Log Disabled	DB Connection Instructions	W527
5401 3461 hex	Process Data Object Setting Missing	Instructions	W502
5401 5420 hex	Electronic Gear Ratio Numerator Setting Out of Range	Instructions	W502
5401 5421 hex	Electronic Gear Ratio Denominator Setting Out of Range	Instructions	W502
5401 5422 hex	Target Velocity Setting Out of Range	Instructions	W502
5401 5423 hex	Acceleration Setting Out of Range	Instructions	W502
5401 5424 hex	Deceleration Setting Out of Range	Instructions	W502
5401 5425 hex	Jerk Setting Out of Range	Instructions	W502
5401 5427 hex	Torque Ramp Setting Out of Range	Instructions	W502
5401 5428 hex	Master Coefficient Scaling Out of Range	Instructions	W502
5401 5429 hex	Slave Coefficient Scaling Out of Range	Instructions	W502
5401 542A hex	Feeding Velocity Setting Out of Range	Instructions	W502
5401 542B hex	Buffer Mode Selection Out of Range	Instructions	W502
5401 542C hex	Coordinate System Selection Out of Range	Instructions	W502
5401 542D hex	Circular Interpolation Mode Selection Out of Range	Instructions	W502
5401 542E hex	Direction Selection Out of Range	Instructions	W502
5401 542F hex	Path Selection Out of Range	Instructions	W502
5401 5430 hex	Position Type Selection Out of Range	Instructions	W502
5401 5431 hex	Travel Mode Selection Out of Range	Instructions	W502

Event code	Event name	Functional classification	Reference
54015432 hex	Transition Mode Selection Out of Range	Instructions	W502
54015433 hex	Continue Method Selection Out of Range	Instructions	W502
54015434 hex	Combine Mode Selection Out of Range	Instructions	W502
54015435 hex	Synchronization Start Condition Selection Out of Range	Instructions	W502
54015436 hex	Master and Slave Defined as Same Axis	Instructions	W502
54015437 hex	Master and Auxiliary Defined as Same Axis	Instructions	W502
54015438 hex	Master/Slave Axis Numbers Not in Ascending Order	Instructions	W502
54015439 hex	Incorrect Cam Table Specification	Instructions	W502
5401543A hex	Synchronization Stopped	Instructions	W502
5401543B hex	Motion Control Instruction Re-execution Disabled	Instructions	W502
5401543C hex	Motion Control Instruction Multi-execution Disabled	Instructions	W502
5401543D hex	Instruction Not Allowed for Encoder Axis Type	Instructions	W502
5401543E hex	Instruction Cannot Be Executed during Multi-axes Coordinated Control	Instructions	W502
5401543F hex	Multi-axes Coordinated Control Instruction Executed for Disabled Axes Group	Instructions	W502
54015440 hex	Axes Group Cannot Be Enabled	Instructions	W502
54015441 hex	Impossible Axis Operation Specified when the Servo is OFF	Instructions	W502
54015442 hex	Composition Axis Stopped Error	Instructions	W502
54015443 hex	Motion Control Instruction Multi-execution Buffer Limit Exceeded	Instructions	W502
54015444 hex	Insufficient Travel Distance	Instructions	W502
54015445 hex	Insufficient Travel Distance to Achieve Blending Transit Velocity	Instructions	W502
54015446 hex	Move Link Constant Velocity Insufficient Travel Distance	Instructions	W502
54015447 hex	Positioning Gear Operation Insufficient Target Velocity	Instructions	W502
54015448 hex	Same Start Point and End Point for Circular Interpolation	Instructions	W502
54015449 hex	Circular Interpolation Center Specification Position Out of Range	Instructions	W502
5401544A hex	Instruction Execution Error Caused by Count Mode Setting	Instructions	W502
5401544C hex	Parameter Selection Out of Range	Instructions	W502
5401544D hex	Stop Method Selection Out of Range	Instructions	W502
5401544E hex	Latch ID Selection Out of Range for Trigger Input Condition	Instructions	W502
5401544F hex	Setting Out of Range for Writing MC Setting	Instructions	W502

Event code	Event name	Functional classification	Reference
5401 5450 hex	Trigger Input Condition Mode Selection Out of Range	Instructions	W502
5401 5451 hex	Drive Trigger Signal Selection Out of Range for Trigger Input Condition	Instructions	W502
5401 5453 hex	Motion Control Instruction Re-execution Disabled (Axis Specification)	Instructions	W502
5401 5454 hex	Motion Control Instruction Re-execution Disabled (Buffer Mode Selection)	Instructions	W502
5401 5455 hex	Motion Control Instruction Re-execution Disabled (Direction Selection)	Instructions	W502
5401 5456 hex	Motion Control Instruction Re-execution Disabled (Execution Mode)	Instructions	W502
5401 5457 hex	Motion Control Instruction Re-execution Disabled (Axes Group Specification)	Instructions	W502
5401 5458 hex	Motion Control Instruction Re-execution Disabled (Jerk Setting)	Instructions	W502
5401 5459 hex	Motion Control Instruction Re-execution Disabled (Master Axis)	Instructions	W502
5401 545A hex	Motion Control Instruction Re-execution Disabled (MasterOffset)	Instructions	W502
5401 545B hex	Motion Control Instruction Re-execution Disabled (MasterScaling)	Instructions	W502
5401 545C hex	Motion Control Instruction Re-execution Disabled (MasterStartDistance)	Instructions	W502
5401 545D hex	Motion Control Instruction Re-execution Disabled (Continuous)	Instructions	W502
5401 545E hex	Motion Control Instruction Re-execution Disabled (MoveMode)	Instructions	W502
5401 545F hex	Illegal Auxiliary Axis Specification	Instructions	W502
5401 5460 hex	Illegal Axis Specification	Instructions	W502
5401 5461 hex	Illegal Axes Group Specification	Instructions	W502
5401 5462 hex	Illegal Master Axis Specification	Instructions	W502
5401 5463 hex	Motion Control Instruction Re-execution Disabled (SlaveOffset)	Instructions	W502
5401 5464 hex	Motion Control Instruction Re-execution Disabled (SlaveScaling)	Instructions	W502
5401 5465 hex	Motion Control Instruction Re-execution Disabled (StartPosition)	Instructions	W502
5401 5466 hex	Instruction Execution Error with Undefined Home	Instructions	W502
5401 5467 hex	Motion Control Instruction Re-execution Disabled Position Type)	Instructions	W502
5401 5468 hex	Unused Axis Specification for Master Axis	Instructions	W502
5401 5469 hex	First Position Setting Out of Range	Instructions	W502
5401 546A hex	Last Position Setting Out of Range	Instructions	W502
5401 546B hex	Illegal First/Last Position Size Relationship (Linear Mode)	Instructions	W502
5401 546C hex	Master Sync Start Position Setting Out of Range	Instructions	W502
5401 546D hex	Slave Sync Start Position Setting Out of Range	Instructions	W502

Event code	Event name	Functional classification	Reference
5401 546E hex	Duplicate Latch ID for Trigger Input Condition	Instructions	W502
5401 546F hex	Jerk Override Factor Out of Range	Instructions	W502
5401 5470 hex	Acceleration/Deceleration Override Factor Out of Range	Instructions	W502
5401 5471 hex	First Position Method Specification Out of Range	Instructions	W502
5401 5472 hex	Motion Control Instruction Re-execution Disabled (First Position Method)	Instructions	W502
5401 5474 hex	Unused Axis Specification for Auxiliary Axis	Instructions	W502
5401 5475 hex	Position Gear Value Error	Instructions	W502
5401 5476 hex	Position Gear Master Axis Zero Velocity	Instructions	W502
5401 5478 hex	Target Position Setting Out of Range	Instructions	W502
5401 5479 hex	Travel Distance Out of Range	Instructions	W502
5401 547A hex	Cam Table Start Point Setting Out of Range	Instructions	W502
5401 547B hex	Cam Master Axis Following First Position Setting Out of Range	Instructions	W502
5401 547C hex	Circular Interpolation Radius Setting Error	Instructions	W502
5401 547D hex	Circular Interpolation Radius Overflow	Instructions	W502
5401 547E hex	Circular Interpolation Setting Out of Range	Instructions	W502
5401 547F hex	Auxiliary/Slave Axis Numbers Not in Ascending Order	Instructions	W502
5401 5480 hex	Cam Table Property Ascending Data Error at Update	Instructions	W502
5401 5481 hex	MC_Write Target Out of Range	Instructions	W502
5401 5482 hex	Master Travel Distance Specification Out of Range	Instructions	W502
5401 5483 hex	Master Distance in Acceleration Specification Out of Range	Instructions	W502
5401 5484 hex	Master Distance in Deceleration Specification Out of Range	Instructions	W502
5401 5487 hex	Execution Mode Selection Out of Range	Instructions	W502
5401 5488 hex	Permitted Following Error Out of Range	Instructions	W502
5401 5489 hex	Border Point/Center Position/Radius Specification Out of Range	Instructions	W502
5401 548A hex	End Point Specification Out of Range	Instructions	W502
5401 548B hex	Slave Travel Distance Specification Out of Range	Instructions	W502
5401 548C hex	Phase Shift Amount Out of Range	Instructions	W502
5401 548D hex	Feeding Distance Out of Range	Instructions	W502
5401 548E hex	Auxiliary and Slave Defined as Same Axis	Instructions	W502
5401 548F hex	Relative Position Selection Out of Range	Instructions	W502

Event code	Event name	Functional classification	Reference
5401 5490 hex	Cam Transition Specification Out of Range	Instructions	W502
5401 5491 hex	Synchronized Control End Mode Selection Out of Range	Instructions	W502
5401 5492 hex	Enable External Latch Instruction Execution Disabled	Instructions	W502
5401 5493 hex	Master Axis Offset Out of Range	Instructions	W502
5401 5494 hex	Slave Axis Offset Out of Range	Instructions	W502
5401 5495 hex	Command Current Position Count Selection Out of Range	Instructions	W502
5401 5496 hex	Master Axis Gear Ratio Numerator Out of Range	Instructions	W502
5401 5497 hex	Master Axis Gear Ratio Denominator Out of Range	Instructions	W502
5401 5498 hex	Auxiliary Axis Gear Ratio Numerator Out of Range	Instructions	W502
5401 5499 hex	Auxiliary Axis Gear Ratio Denominator Out of Range	Instructions	W502
5401 549A hex	Master Axis Position Type Selection Out of Range	Instructions	W502
5401 549B hex	Auxiliary Axis Position Type Selection Out of Range	Instructions	W502
5401 549C hex	Target Position Ring Counter Out of Range	Instructions	W502
5401 549D hex*	Axes Group Composition Axis Setting Out of Range	Instructions	W502
5401 549E hex*	Axis Use Setting Out of Range	Instructions	W502
5401 5700 hex*	Homing Parameter Setting Out of Range	Instructions	W502
5401 5702 hex*	Axis Use Change Error	Instructions	W502
54015703 hex*	Cannot Change Axis Use	Instructions	W502
5401 5720 hex*	Motion Control Parameter Setting Error When Changing Axis Use	Instructions	W502
5401 5721 hex*	Required Process Data Object Not Set When Changing Axis Use	Instructions	W502
5401 5722 hex*	Actual Position Overflow/Underflow	Instructions	W502
5401 5723 hex*	Switch Structure Track Number Setting Out of Range	Instructions	W502
5401 5724 hex*	Switch Structure First ON Position Setting Out of Range	Instructions	W502
5401 5725 hex*	Switch Structure Last ON Position Setting Out of Range	Instructions	W502
5401 5726 hex*	Switch Structure Axis Direction Out of Range	Instructions	W502
5401 5727 hex*	Switch Structure Cam Switch Mode Out of Range	Instructions	W502
5401 5728 hex*	Switch Structure Duration Setting Out of Range	Instructions	W502
5401 5729 hex*	Track Option Structure ON Compensation Setting Out of Range	Instructions	W502
5401 572A hex*	Track Option Structure OFF Compensation Setting Out of Range	Instructions	W502

Event code	Event name	Functional classification	Reference
5401 572B hex*	Number of Array Elements in Switch Structure Variable Out of Range	Instructions	W502
5401 572C hex*	Number of Array Elements in Output Signal Structure Variable Out of Range	Instructions	W502
5401 572D hex*	Number of Array Elements in Track Option Structure Variable Out of Range	Instructions	W502
5401 572E hex*	Numbers of Elements in Output Signals and Track Option Arrays Not Matched	Instructions	W502
5401 572F hex*	Motion Control Instruction Multi-execution Disabled (Master Axis)	Instructions	W502
5401 5730 hex*	Motion Control Instruction Multi-execution Disabled (Position Type Selection)	Instructions	W502
5401 5731 hex*	Same Track Number Setting in Switch Structure Out of Range	Instructions	W502
5401 573A hex*	Cannot Write Axis Parameters	Instructions	W502
5401 573B hex*	Axis Parameter Setting Out of Range	Instructions	W502
5401 573C hex*	Cam Property Setting Out of Range	Instructions	W502
5401 573D hex*	Cam Node Setting Out of Range	Instructions	W502
5401 573E hex*	Incorrect Cam Node Type Specification	Instructions	W502
5401 573F hex*	Insufficient Nodes in Cam Table	Instructions	W502
5401 5740 hex*	Cam Node Master Axis Phase Not in Ascending Order	Instructions	W502
5401 5741 hex*	Too Many Data Points in Cam Table	Instructions	W502
5401 5742 hex*	Cam Table Displacement Overflow	Instructions	W502
5401 5743 hex*	Aborted Cam Table Used	Instructions	W502
5401 6440 hex	Target Position Positive Software Limit Exceeded	Instructions	W502
5401 6441 hex	Target Position Negative Software Limit Exceeded	Instructions	W502
5401 6442 hex	Command Position Overflow/Underflow	Instructions	W502
5401 6443 hex	Positive Limit Input	Instructions	W502
5401 6444 hex	Negative Limit Input	Instructions	W502
5401 7422 hex	Servo Main Circuits OFF	Instructions	W502
5420 0000 hex	Electronic Gear Ratio Numerator Setting Out of Range	Motion Control Instructions	W508
5421 0000 hex	Electronic Gear Ratio Denominator Setting Out of Range	Motion Control Instructions	W508
5422 0000 hex	Target Velocity Setting Out of Range	Motion Control Instructions	W508
5423 0000 hex	Acceleration Setting Out of Range	Motion Control Instructions	W508
5424 0000 hex	Deceleration Setting Out of Range	Motion Control Instructions	W508
5425 0000 hex	Jerk Setting Out of Range	Motion Control Instructions	W508
5427 0000 hex	Torque Ramp Setting Out of Range	Motion Control Instructions	W508
5428 0000 hex	Master Coefficient Scaling Out of Range	Motion Control Instructions	W508

Event code	Event name	Functional classification	Reference
54290000 hex	Slave Coefficient Scaling Out of Range	Motion Control Instructions	W508
542A0000 hex	Feeding Velocity Setting Out of Range	Motion Control Instructions	W508
542B0000 hex	Buffer Mode Selection Out of Range	Motion Control Instructions	W508
542C0000 hex	Coordinate System Selection Out of Range	Motion Control Instructions	W508
542D0000 hex	Circular Interpolation Mode Selection Out of Range	Motion Control Instructions	W508
542E0000 hex	Direction Selection Out of Range	Motion Control Instructions	W508
542F0000 hex	Path Selection Out of Range	Motion Control Instructions	W508
54300000 hex	Position Type Selection Out of Range	Motion Control Instructions	W508
54310000 hex	Travel Mode Selection Out of Range	Motion Control Instructions	W508
54320000 hex	Transition Mode Selection Out of Range	Motion Control Instructions	W508
54330000 hex	Continue Method Selection Out of Range	Motion Control Instructions	W508
54340000 hex	Combine Mode Selection Out of Range	Motion Control Instructions	W508
54350000 hex	Synchronization Start Condition Selection Out of Range	Motion Control Instructions	W508
54360000 hex	Master and Slave Defined as Same Axis	Motion Control Instructions	W508
54370000 hex	Master and Auxiliary Defined as Same Axis	Motion Control Instructions	W508
54380000 hex	Master/Slave Axis Numbers Not in Ascending Order	Motion Control Instructions	W508
54390000 hex	Incorrect Cam Table Specification	Motion Control Instructions	W508
543A0000 hex	Synchronization Stopped	Motion Control Instructions	W508
543B0000 hex	Motion Control Instruction Re-execution Disabled	Motion Control Instructions	W508
543C0000 hex	Motion Control Instruction Multi-execution Disabled	Motion Control Instructions	W508
543D0000 hex	Instruction Not Allowed for Encoder Axis Type	Motion Control Instructions	W508
543E0000 hex	Instruction Cannot Be Executed during Multi-axes Coordinated Control	Motion Control Instructions	W508
543F0000 hex	Multi-axes Coordinated Control Instruction Executed for Disabled Axes Group	Motion Control Instructions	W508
54400000 hex	Axes Group Cannot Be Enabled	Motion Control Instructions	W508
54410000 hex	Impossible Axis Operation Specified when the Servo is OFF	Motion Control Instructions	W508
54420000 hex	Composition Axis Stopped Error	Motion Control Instructions	W508
54430000 hex	Motion Control Instruction Multi-execution Buffer Limit Exceeded	Motion Control Instructions	W508
54440000 hex	Insufficient Travel Distance	Motion Control Instructions	W508
54450000 hex	Insufficient Travel Distance to Achieve Blending Transit Velocity	Motion Control Instructions	W508
54460000 hex	Move Link Constant Velocity Insufficient Travel Distance	Motion Control Instructions	W508

Event code	Event name	Functional classification	Reference
54470000 hex	Positioning Gear Operation Insufficient Target Velocity	Motion Control Instructions	W508
54480000 hex	Same Start Point and End Point for Circular Interpolation	Motion Control Instructions	W508
54490000 hex	Circular Interpolation Center Specification Position Out of Range	Motion Control Instructions	W508
544A0000 hex	Circular Interpolation Cannot Be Executed with Rotary (Infinite) Axis	Motion Control Instructions	W508
544C0000 hex	Parameter Selection Out of Range	Motion Control Instructions	W508
544D0000 hex	Stop Method Selection Out of Range	Motion Control Instructions	W508
544E0000 hex	Latch ID Selection Out of Range for Trigger Input Condition	Motion Control Instructions	W508
544F0000 hex	Setting Out of Range for Writing MC Setting	Motion Control Instructions	W508
54500000 hex	Trigger Input Condition Mode Selection Out of Range	Motion Control Instructions	W508
54510000 hex	Drive Trigger Signal Selection Out of Range for Trigger Input Condition	Motion Control Instructions	W508
54530000 hex	Motion Control Instruction Re-execution Disabled (Axis Specification)	Motion Control Instructions	W508
54540000 hex	Motion Control Instruction Re-execution Disabled (Buffer Mode Selection)	Motion Control Instructions	W508
54550000 hex	Motion Control Instruction Re-execution Disabled (Direction Selection)	Motion Control Instructions	W508
54560000 hex	Motion Control Instruction Re-execution Disabled (Execution Mode)	Motion Control Instructions	W508
54570000 hex	Motion Control Instruction Re-execution Disabled (Axes Group Specification)	Motion Control Instructions	W508
54580000 hex	Motion Control Instruction Re-execution Disabled (Jerk Setting)	Motion Control Instructions	W508
54590000 hex	Motion Control Instruction Re-execution Disabled (Master Axis)	Motion Control Instructions	W508
545A0000 hex	Motion Control Instruction Re-execution Disabled (MasterOffset)	Motion Control Instructions	W508
545B0000 hex	Motion Control Instruction Re-execution Disabled (MasterScaling)	Motion Control Instructions	W508
545C0000 hex	Motion Control Instruction Re-execution Disabled (MasterStartDistance)	Motion Control Instructions	W508
545D0000 hex	Motion Control Instruction Re-execution Disabled (Continuous)	Motion Control Instructions	W508
545E0000 hex	Motion Control Instruction Re-execution Disabled (MoveMode)	Motion Control Instructions	W508
545F0000 hex	Illegal Auxiliary Axis Specification	Motion Control Instructions	W508
54600000 hex	Illegal Axis Specification	Motion Control Instructions	W508
54610000 hex	Illegal Axes Group Specification	Motion Control Instructions	W508
54620000 hex	Illegal Master Axis Specification	Motion Control Instructions	W508
54630000 hex	Motion Control Instruction Re-execution Disabled (SlaveOffset)	Motion Control Instructions	W508
54640000 hex	Motion Control Instruction Re-execution Disabled (SlaveScaling)	Motion Control Instructions	W508

Event code	Event name	Functional classification	Reference
54650000 hex	Motion Control Instruction Re-execution Disabled (StartPosition)	Motion Control Instructions	W508
54660000 hex	Instruction Execution Error with Undefined Home	Motion Control Instructions	W508
54670000 hex	Motion Control Instruction Re-execution Disabled (Position Type)	Motion Control Instructions	W508
54680000 hex	Unused Axis Specification for Master Axis	Motion Control Instructions	W508
54690000 hex	First Position Setting Out of Range	Motion Control Instructions	W508
546A0000 hex	Last Position Setting Out of Range	Motion Control Instructions	W508
546B0000 hex	Illegal First/Last Position Size Relationship (Linear Mode)	Motion Control Instructions	W508
546C0000 hex	Master Sync Start Position Setting Out of Range	Motion Control Instructions	W508
546D0000 hex	Slave Sync Start Position Setting Out of Range	Motion Control Instructions	W508
546E0000 hex	Duplicate Latch ID for Trigger Input Condition	Motion Control Instructions	W508
546F0000 hex	Jerk Override Factor Out of Range	Motion Control Instructions	W508
54700000 hex	Acceleration/Deceleration Override Factor Out of Range	Motion Control Instructions	W508
54710000 hex	First Position Method Specification Out of Range	Motion Control Instructions	W508
54720000 hex	Motion Control Instruction Re-execution Disabled (First Position Method)	Motion Control Instructions	W508
54740000 hex	Unused Axis Specification for Auxiliary Axis	Motion Control Instructions	W508
54750000 hex	Position Gear Value Error	Motion Control Instructions	W508
54760000 hex	Position Gear Master Axis Zero Velocity	Motion Control Instructions	W508
54770000 hex	Cam Table Data Error during Cam Motion	General Motion Control	W507
54780000 hex	Target Position Setting Out of Range	Motion Control Instructions	W508
54790000 hex	Travel Distance Out of Range	Motion Control Instructions	W508
547A0000 hex	Cam Table Start Point Setting Out of Range	Motion Control Instructions	W508
547B0000 hex	Cam Master Axis Following First Position Setting Out of Range	Motion Control Instructions	W508
547C0000 hex	Circular Interpolation Radius Setting Error	Motion Control Instructions	W508
547D0000 hex	Circular Interpolation Radius Overflow	Motion Control Instructions	W508
547E0000 hex	Circular Interpolation Setting Out of Range	Motion Control Instructions	W508
547F0000 hex	Auxiliary/Slave Axis Numbers Not in Ascending Order	Motion Control Instructions	W508
54800000 hex	Cam Table Property Ascending Data Error at Update	Motion Control Instructions	W508
54810000 hex	MC_Write Target Out of Range	Motion Control Instructions	W508
54820000 hex	Master Travel Distance Specification Out of Range	Motion Control Instructions	W508

Event code	Event name	Functional classification	Reference
54830000 hex	Master Distance in Acceleration Specification Out of Range	Motion Control Instructions	W508
54840000 hex	Master Distance in Deceleration Specification Out of Range	Motion Control Instructions	W508
54850000 hex	Immediate Stop Instruction Executed	General Motion Control	W507
54860000 hex	Axes Group Immediate Stop Instruction Executed	General Motion Control	W507
54870000 hex	Execution Mode Selection Out of Range	Motion Control Instructions	W508
54880000 hex	Permitted Following Error Out of Range	Motion Control Instructions	W508
54890000 hex	Border Point/Center Position/Radius Specification Out of Range	Motion Control Instructions	W508
548A0000 hex	End Point Specification Out of Range	Motion Control Instructions	W508
548B0000 hex	Slave Travel Distance Specification Out of Range	Motion Control Instructions	W508
548C0000 hex	Phase Shift Amount Out of Range	Motion Control Instructions	W508
548D0000 hex	Feeding Distance Out of Range	Motion Control Instructions	W508
548E0000 hex	Auxiliary and Slave Defined as Same Axis	Motion Control Instructions	W508
548F0000 hex	Relative Position Selection Out of Range	Motion Control Instructions	W508
54900000 hex	Cam Transition Specification Out of Range	Motion Control Instructions	W508
54910000 hex	Synchronized Control End Mode Selection Out of Range	Motion Control Instructions	W508
54920000 hex	Enable External Latch Instruction Execution Disabled	Motion Control Instructions	W508
54930000 hex	Master Axis Offset Out of Range	Motion Control Instructions	W508
54940000 hex	Slave Axis Offset Out of Range	Motion Control Instructions	W508
54950000 hex	Command Current Position Count Selection Out of Range	Motion Control Instructions	W508
54960000 hex	Master Axis Gear Ratio Numerator Out of Range	Motion Control Instructions	W508
54970000 hex	Master Axis Gear Ratio Denominator Out of Range	Motion Control Instructions	W508
54980000 hex	Auxiliary Axis Gear Ratio Numerator Out of Range	Motion Control Instructions	W508
54990000 hex	Auxiliary Axis Gear Ratio Denominator Out of Range	Motion Control Instructions	W508
549A0000 hex	Master Axis Position Type Selection Out of Range	Motion Control Instructions	W508
549B0000 hex	Auxiliary Axis Position Type Selection Out of Range	Motion Control Instructions	W508
549C0000 hex	Target Position Ring Counter Out of Range	Motion Control Instructions	W508
549D000 hex*	Axes Group Composition Axis Setting Out of Range	Motion Control Instructions	W508
549E0000 hex*	Axis Use Setting Out of Range	Motion Control Instructions	W508
54A00000 hex	Results Information, ID Tag Address Error	CJ-series ID Sensor Units	Z317

Event code	Event name	Functional classification	Reference
54A10000 hex	Results Information, Write Protection 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 Communications Units	W494
54A90000 hex	Sequence Abort Completed	CJ-series Serial Communications Units	W494
54AA0000 hex	Protocol Macro Error	CJ-series Serial Communications 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	Built-in EtherNet/IP Port on CPU Unit	W506
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
57000000 hex*	Homing Parameter Setting Out of Range	Motion Control Instructions	W508
57020000 hex*	Axis Use Change Error	Motion Control Instructions	W508
57030000 hex*	Cannot Change Axis Use	Motion Control Instructions	W508
571D0000 hex*	Too Many Reset Motion Control Instructions Error	General Motion Control	W507
57200000 hex*	Motion Control Parameter Setting Error When Changing Axis Use	Motion Control Instructions	W508
57210000 hex*	Required Process Data Object Not Set When Changing Axis Use	Motion Control Instructions	W508
57220000 hex*	Actual Position Overflow/Underflow	Motion Control Instructions	W508
57230000 hex*	Switch Structure Track Number Setting Out of Range	Motion Control Instructions	W508
57240000 hex*	Switch Structure First ON Position Setting Out of Range	Motion Control Instructions	W508
57250000 hex*	Switch Structure Last ON Position Setting Out of Range	Motion Control Instructions	W508
57260000 hex*	Switch Structure Axis Direction Out of Range	Motion Control Instructions	W508
57270000 hex*	Switch Structure Cam Switch Mode Out of Range	Motion Control Instructions	W508
57280000 hex*	Switch Structure Duration Setting Out of Range	Motion Control Instructions	W508
57290000 hex*	Track Option Structure ON Compensation Setting Out of Range	Motion Control Instructions	W508
572A0000 hex*	Track Option Structure OFF Compensation Setting Out of Range	Motion Control Instructions	W508
572B0000 hex*	Number of Array Elements in Switch Structure Variable Out of Range	Motion Control Instructions	W508
572C0000 hex*	Number of Array Elements in Output Signal Structure Variable Out of Range	Motion Control Instructions	W508
572D0000 hex*	Number of Array Elements in Track Option Structure Variable Out of Range	Motion Control Instructions	W508

Event code	Event name	Functional classification	Reference
572E 0000 hex*	Numbers of Elements in Output Signals and Track Option Arrays Not Matched	Motion Control Instructions	W508
572F 0000 hex*	Motion Control Instruction Multi-execution Disabled (Master Axis)	Motion Control Instructions	W508
5730 0000 hex*	Motion Control Instruction Multi-execution Disabled (Position Type Selection)	Motion Control Instructions	W508
5731 0000 hex*	Same Track Number Setting in Switch Structure Out of Range	Motion Control Instructions	W508
573A 0000 hex*	Cannot Write Axis Parameters	Motion Control Instructions	W508
573B 0000 hex*	Axis Parameter Setting Out of Range	Motion Control Instructions	W508
573C 0000 hex*	Cam Property Setting Out of Range	Motion Control Instructions	W508
573D 0000 hex*	Cam Node Setting Out of Range	Motion Control Instructions	W508
573E 0000 hex*	Incorrect Cam Node Type Specification	Motion Control Instructions	W508
573F 0000 hex*	Insufficient Nodes in Cam Table	Motion Control Instructions	W508
5740 0000 hex*	Cam Node Master Axis Phase Not in Ascending Order	Motion Control Instructions	W508
5741 0000 hex*	Too Many Data Points in Cam Table	Motion Control Instructions	W508
5742 0000 hex*	Cam Table Displacement Overflow	Motion Control Instructions	W508
5743 0000 hex*	Aborted Cam Table Used	Motion Control Instructions	W508
5821 0000 hex*	Output Control Timeout for Parallel I/O, PLC Link, or EtherNet/IP	FH/FZ5 Series Vision System	Z342
5822 0000 hex*	Output Control Timeout for EtherCAT	FH/FZ5 Series Vision System	Z342
6001 0000 hex	Task Period Exceeded	Errors Related to Tasks	W501
6002 0000 hex	Task Execution Timeout	Errors Related to Tasks	W501
6003 0000 hex	I/O Refreshing Timeout Error	Errors Related to Tasks	W501
6004 0000 hex	Insufficient System Service Time Error	Errors Related to Tasks	W501
6005 0000 hex	Task Period Exceeded	Errors Related to Tasks	W501
6401 0000 hex	Impossible to Access Special Unit	Errors Related to Unit Configuration	W500
6420 0000 hex	Emergency Message Detected	Built-in EtherCAT Master in CPU Unit	W505
6440 0000 hex	Target Position Positive Software Limit Exceeded	Motion Control Instructions	W508
6441 0000 hex	Target Position Negative Software Limit Exceeded	Motion Control Instructions	W508
6442 0000 hex	Command Position Overflow/Underflow	Motion Control Instructions	W508
6443 0000 hex	Positive Limit Input	Motion Control Instructions	W508
6444 0000 hex	Negative Limit Input	Motion Control Instructions	W508
6445 0000 hex	Positive Software Limit Exceeded	General Motion Control	W507
6446 0000 hex	Negative Software Limit Exceeded	General Motion Control	W507
6447 0000 hex	In-position Check Time Exceeded	General Motion Control	W507
6448 0000 hex	Following Error Limit Exceeded	General Motion Control	W507
6449 0000 hex	Immediate Stop Input	General Motion Control	W507
644A 0000 hex	Positive Limit Input Detected	General Motion Control	W507
644B 0000 hex	Negative Limit Input Detected	General Motion Control	W507
644C 0000 hex	Following Error Warning	General Motion Control	W507
644D 0000 hex	Velocity Warning	General Motion Control	W507

Event code	Event name	Functional classification	Reference
644E0000 hex	Acceleration Warning	General Motion Control	W507
644F0000 hex	Deceleration Warning	General Motion Control	W507
64500000 hex	Positive Torque Warning	General Motion Control	W507
64510000 hex	Negative Torque Warning	General Motion Control	W507
64520000 hex	Command Position Overflow	General Motion Control	W507
64530000 hex	Command Position Underflow	General Motion Control	W507
64540000 hex	Actual Position Overflow	General Motion Control	W507
64550000 hex	Actual Position Underflow	General Motion Control	W507
64560000 hex	Illegal Following Error	General Motion Control	W507
64570000 hex	Servo OFF Error	General Motion Control	W507
64580000 hex	Absolute Encoder Current Position Calculation Failed	General Motion Control	W507
64590000 hex	Home Undefined during Coordinated Motion	General Motion Control	W507
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 Status	CJ-series ID Sensor Units	Z317
64940000 hex	Results Information, Error Correction	CJ-series ID Sensor Units	Z317
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 Communications Units	W494
64A10000 hex	Tfr (Receive Finished Monitoring Time) Exceeded	CJ-series Serial Communications Units	W494
64A20000 hex	Tr (Receive Wait Monitoring Time) Exceeded	CJ-series Serial Communications Units	W494
64A30000 hex	FCS Check Error	CJ-series Serial Communications Units	W494
64A40000 hex	Timeout Error	CJ-series Serial Communications Units	W494
64A50000 hex	Comparison Error	CJ-series Serial Communications Units	W494

Event code	Event name	Functional classification	Reference
64A60000 hex	Reception Overflow	CJ-series Serial Communications Units	W494
64A70000 hex	Command Format Error	CJ-series Serial Communications Units	W494
64AC0000 hex	Send Timeout Error	CJ-series DeviceNet Units	W497
64CC0000 hex	I/O Disconnection Detected	Block I/O (GX-series EtherCAT Slave Units)	W488
64E00000 hex	Drive Prohibition Input Error 1	Servo G5 and G5 Linear	I576, I577
64E10000 hex	Drive Prohibition Input Error 2	Servo G5 and G5 Linear	I576, I577
64E20000 hex	Immediate Stop Input Error	Servo G5 and G5 Linear	I576, I577
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
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

Event code	Event name	Functional classification	Reference
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	W522
65110000 hex	Process Value Over Range	NX-series Analog I/O Units	W522
65120000 hex	Process Value Under Range	NX-series Analog I/O Units	W522
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 Input	NX-series Safety Control Unit	Z930
65240000 hex*	Overload Detected at Test Output	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
68010000 hex	Unit Error	CJ-series High-speed Counter Units	W492
70010000 hex*	Previous Time Specified	NX-series Digital I/O Units	W521
74200000 hex	Motion Control Period Exceeded	General Motion Control	W507
74210000 hex	Servo Main Circuit Power OFF	General Motion Control	W507
74220000 hex	Servo Main Circuits OFF	Motion Control Instructions	W508
74230000 hex	Interrupt Feeding Interrupt Signal Missing	General Motion Control	W507
74240000 hex	Homing Opposite Direction Limit Input Detected	General Motion Control	W507
74250000 hex	Homing Direction Limit Input Detected	General Motion Control	W507
74260000 hex	Homing Limit Inputs Detected in Both Directions	General Motion Control	W507
74270000 hex	Home Proximity/Homing Opposite Direction Limit Input Detected	General Motion Control	W507
74280000 hex	Home Proximity/Homing Direction Limit Input Detected	General Motion Control	W507
74290000 hex	Home Input/Homing Opposite Direction Limit Input Detected	General Motion Control	W507
742A0000 hex	Home Input/Homing Direction Limit Input Detected	General Motion Control	W507
742B0000 hex	Invalid Home Input Mask Distance	General Motion Control	W507
742C0000 hex	No Home Input	General Motion Control	W507
742D0000 hex	No Home Proximity Input	General Motion Control	W507
742F0000 hex	Slave Error Detected	General Motion Control	W507
74300000 hex	Axes Group Composition Axis Error	General Motion Control	W507
74320000 hex	Slave Observation Detected	General Motion Control	W507
74330000 hex	MC Common Error Occurrence	General Motion Control	W507
74340000 hex	Latch Position Overflow	General Motion Control	W507
74350000 hex	Latch Position Underflow	General Motion Control	W507

Event code	Event name	Functional classification	Reference
74360000 hex	Master Sync Direction Error	General Motion Control	W507
74370000 hex	Slave Disconnection during Servo ON	General Motion Control	W507
74380000 hex	Feed Distance Overflow	General Motion Control	W507
74390000 hex	Error in Changing Servo Drive Control Mode	General Motion Control	W507
743A0000 hex	Master Axis Position Read Error	General Motion Control	W507
743B0000 hex	Auxiliary Axis Position Read Error	General Motion Control	W507
743C0000 hex	Cannot Execute Save Cam Table Instruction	General Motion Control	W507
743D0000 hex*	Incorrect Synchronization Command	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 Setting Failed	CJ-series DeviceNet Units	W497
74800000 hex	Command Warning	Servo G5 and G5 Linear	I576, I577
74810000 hex	Command Error	Servo G5 and G5 Linear	I576, I577
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
74920000 hex*	SYNC Input Error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
74930000 hex*	TIMING Input Error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
74940000 hex*	RESET Input Error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
74950000 hex*	ZERO Input Error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
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

Event code	Event name	Functional classification	Reference
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 Error	NX-series Safety Control Unit	Z930
78010000 hex	Operation Command Competition	Servo G5 and G5 Linear	I576, I577
78020000 hex	Absolute Encoder Status Error	Servo G5	I576
78080000 hex	TRIG Input Error	EtherCAT FQ-M-series Specialized Vision Sensors for Positioning	Z314
780A0000 hex	Scene Data Error	EtherCAT FQ-M-series Specialized Vision Sensors for Positioning	Z314
780B0000 hex	Model Error	EtherCAT FQ-M-series Specialized Vision Sensors for Positioning	Z314
780C0000 hex	Logging Error	EtherCAT FQ-M-series Specialized Vision Sensors for Positioning	Z314
780D0000 hex	Output Timeout	EtherCAT FQ-M-series Specialized Vision Sensors for Positioning	Z314
780E0000 hex	Output Size Error	EtherCAT FQ-M-series Specialized Vision Sensors for Positioning	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
80010000 hex	Illegal Packet Discarded	Errors Related to Unit Configuration	W500
80100000 hex	Packet Discarded	Errors Related to FINS Communications	W501
80110000 hex	Packet Discarded	Errors Related to FINS Communications	W501
80120000 hex	Packet Discarded	Errors Related to FINS Communications	W501
80200000 hex*	NX Unit I/O Communications Error	NX-series Digital I/O Units, NX-series Analog I/O Units, NX-series Position Interface Units, and NX-series Safety Control Unit	W521, W522, W524, and Z930
80210000 hex*	NX Unit Output Synchronization Error	NX-series Digital I/O Units, NX-series Analog I/O Units, and NX-series Position Interface Units	W521, W522, and W524
80220000 hex*	NX Message Communications Error	NX-series EtherCAT Coupler Unit, NX-series Analog I/O Units, NX-series Position Interface Units, and NX-series Safety Control Unit	W519, W522, W524, and Z930

Event code	Event name	Functional classification	Reference
80230000 hex*	NX Message Communications Error	Errors Related to Controller Operation	W500, W501
80240000 hex*	NX Unit Clock Not Synchronized Error	NX-series Digital I/O Units, NX-series Analog I/O Units, and NX-series Position Interface Units	W521, W522, and W524
80300000 hex*	Safety Process Data Communications Timeout	NX-series Safety Control Unit	Z930
84010000 hex	IP Address Duplication Error	Built-in EtherNet/IP Port on CPU Unit	W506
84020000 hex	BOOTP Server Connection Error	Built-in EtherNet/IP Port on CPU Unit	W506
84030000 hex	DNS Server Connection Error	Built-in EtherNet/IP Port on CPU Unit	W506
84040000 hex	NTP Server Connection Error	Built-in EtherNet/IP Port on CPU Unit	W506
84050000 hex	Packet Discarded Due to Full Reception Buffer	Built-in EtherNet/IP Port on CPU Unit	W506
84060000 hex	Link OFF Detected	Built-in EtherNet/IP Port on CPU Unit	W506
84070000 hex	Tag Data Link Connection Failed	Built-in EtherNet/IP Port on CPU Unit	W506
84080000 hex	Tag Data Link Timeout	Built-in EtherNet/IP Port on CPU Unit	W506
84090000 hex*	Tag Data Link Connection Timeout	Built-in EtherNet/IP Port on CPU Unit	W506
84200000 hex	Link OFF Error	Built-in EtherCAT Master in CPU Unit	W505
84210000 hex	Network Configuration Error	Built-in EtherCAT Master in CPU Unit	W505
84220000 hex	Network Configuration Verification Error	Built-in EtherCAT Master in CPU Unit	W505
84230000 hex	Slave Initialization Error	Built-in EtherCAT Master in CPU Unit	W505
84280000 hex	Slave Application Error	Built-in EtherCAT Master in CPU Unit	W505
84290000 hex	Process Data Transmission Error	Built-in EtherCAT Master in CPU Unit	W505
842B0000 hex	Process Data Reception Timeout	Built-in EtherCAT Master in CPU Unit	W505
842C0000 hex	Process Data Communications Error	Built-in EtherCAT Master in CPU Unit	W505
842D0000 hex	EtherCAT Message Error	Built-in EtherCAT Master in CPU Unit	W505
84400000 hex	EtherCAT Slave Communications Error	General Motion Control	W507
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 Communications Units	W494
84690000 hex	Overrun Error	CJ-series Serial Communications Units	W494
846A0000 hex	Framing Error	CJ-series Serial Communications Units	W494
846B0000 hex	Parity Error	CJ-series Serial Communications Units	W494
846C0000 hex	Overrun Error, Framing Error, or Parity Error (Transmission Error)	CJ-series Serial Communications Units	W494
846D0000 hex	Transmission Error (CRC Error)	CJ-series Serial Communications Units	W494
84740000 hex	Bus Off Detected	CJ-series DeviceNet Units	W497
84750000 hex	Remote I/O Communications Error	CJ-series DeviceNet Units	W497
84760000 hex	Remote I/O Communications Error (during Slave Operation)	CJ-series DeviceNet Units	W497
84770000 hex	Slave COS Send Failed	CJ-series DeviceNet Units	W497
84B00000 hex	EtherCAT Communications Warning	Servo G5 and G5 Linear	I576, I577

Event code	Event name	Functional classification	Reference
84B10000 hex	EtherCAT State Change Error	Servo G5 and G5 Linear	I576, I577
84B20000 hex	EtherCAT Illegal State Change Error	Servo G5 and G5 Linear	I576, I577
84B30000 hex	Communications Synchronization Error	Servo G5 and G5 Linear	I576, I577
84B40000 hex	Synchronization Error	Servo G5 and G5 Linear	I576, I577
84B50000 hex	Sync Manager WDT Error	Servo G5 and G5 Linear	I576, I577
84B60000 hex	ESC Initialization Error	Servo G5 and G5 Linear	I576, I577
84B70000 hex	Slave Unit Verification Error	Servo G5 and G5 Linear	I576, I577
84B80000 hex	Communications Setting Error	Servo G5 and G5 Linear	I576, I577
84B90000 hex	Synchronization Interruption Error	Servo G5 and G5 Linear	I576, I577
84C00000 hex*	NX Unit Communications Timeout	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
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 Error	NX-series EtherCAT Coupler Unit	W519
85020000 hex*	Synchronization Error	NX-series EtherCAT Coupler Unit	W519
85030000 hex*	Communications Synchronization Error	NX-series EtherCAT Coupler Unit	W519
85100000 hex*	DB Connection Disconnected Error	DB Connection Service	W527
88080000 hex*	PLC Link Communications Error	FH/FZ5 Series Vision System	Z342
90010000 hex	Clock Changed	Errors Related to Controller Operation	W500, W501
90020000 hex	Time Zone Changed	Errors Related to Controller Operation	W500, W501
90080000 hex	Variable Changed to TRUE with Forced Refreshing	Errors Related to Controller Operation	W500, W501
90090000 hex	Variable Changed to FALSE with Forced Refreshing	Errors Related to Controller Operation	W500, W501
900A0000 hex	All Forced Refreshing Cleared	Errors Related to Controller Operation	W500, W501
900B0000 hex	Memory All Cleared	Errors Related to Controller Operation	W500, W501
900C0000 hex	Event Log Cleared	Errors Related to Controller Operation	W500, W501

Event code	Event name	Functional classification	Reference
900F0000 hex*	Automatic Transfer Completed	Errors Related to Controller Operation	W500, W501
90110000 hex	Power Turned ON	Errors Related to Controller Operation	W500, W501
90120000 hex	Power Interrupted	Errors Related to Controller Operation	W500, W501
90130000 hex	Operation Started	Errors Related to Controller Operation	W500, W501
90140000 hex	Operation Stopped	Errors Related to Controller Operation	W500, W501
90150000 hex	Reset Executed	Errors Related to Controller Operation	W500, W501
90160000 hex	User Program Execution ID Write	Errors Related to Controller Operation	W500, W501
90180000 hex	All Controller Errors Cleared	Errors Related to Controller Operation	W500, W501
90190000 hex	Forced Refreshing Cleared	Errors Related to Controller Operation	W500, W501
901A0000 hex*	Backup Started	Errors Related to Controller Operation	W500, W501
901B0000 hex*	Backup Completed	Errors Related to Controller Operation	W500, W501
901C0000 hex*	Restore Operation Started	Errors Related to Controller Operation	W500, W501
901D0000 hex*	Restore Operation Completed	Errors Related to Controller Operation	W500, W501
90400000 hex*	Event Log Cleared	NX-series EtherCAT Coupler Unit, NX-series Digital I/O Units, NX-series Analog I/O Units, NX-series System Units, NX-series Position Interface Units, and NX-series Safety Control Unit	W519, W521, W522, W523, W524, and Z930
90420000 hex*	Restart Executed	NX-series EtherCAT Coupler Unit	W519
90430000 hex*	Memory All Cleared	NX-series EtherCAT Coupler Unit and NX-series Safety Control Unit	W519, Z930
94010000 hex	Tag Data Link Download Started	Built-in EtherNet/IP Port on CPU Unit	W506
94020000 hex	Tag Data Link Download Finished	Built-in EtherNet/IP Port on CPU Unit	W506
94030000 hex	Tag Data Link Stopped	Built-in EtherNet/IP Port on CPU Unit	W506
94040000 hex	Tag Data Link Started	Built-in EtherNet/IP Port on CPU Unit	W506
94050000 hex	Link Detected	Built-in EtherNet/IP Port on CPU Unit	W506
94060000 hex	Restarting Ethernet Port	Built-in EtherNet/IP Port on CPU Unit	W506
94070000 hex	Tag Data Link All Run	Built-in EtherNet/IP Port on CPU Unit	W506
94080000 hex	IP Address Fixed	Built-in EtherNet/IP Port on CPU Unit	W506
94090000 hex	BOOTP Client Started	Built-in EtherNet/IP Port on CPU Unit	W506
940A0000 hex	FTP Server Started	Built-in EtherNet/IP Port on CPU Unit	W506
940B0000 hex	NTP Client Started	Built-in EtherNet/IP Port on CPU Unit	W506
940C0000 hex	SNMP Started	Built-in EtherNet/IP Port on CPU Unit	W506
94200000 hex	Notice of Insufficient Travel Distance to Achieve Blending Transit Velocity	General Motion Control	W507
94210000 hex	Error Clear from MC Test Run Tab Page	General Motion Control	W507
94220000 hex	Slave Error Code Report	General Motion Control	W507

Event code	Event name	Functional classification	Reference
94400000 hex	Slave Disconnected	Built-in EtherCAT Master in CPU Unit	W505
94410000 hex	Slave Connected	Built-in EtherCAT Master in CPU Unit	W505
94430000 hex	Errors Reset	Built-in EtherCAT Master in CPU Unit	W505
94440000 hex*	Slave Disabled	Built-in EtherCAT Master in CPU Unit	W505
94450000 hex*	Slave Enabled	Built-in EtherCAT Master in CPU Unit	W505
94600000 hex*	I/O Check Execution Started	NX-series EtherCAT Coupler Unit	W519
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 Shutdown	DB Connection Service	W527
98010000 hex	Absolute Value Cleared	Servo G5	I576
98020000 hex	Position Data Initialized	Servo G5 and G5 Linear	I576, I577

3-3 Instruction Error Table

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 *3-1-3 Errors in the Motion Control Function Module*. Events that occur for other instructions are given in *3-1-2 Errors in the PLC Function Module*. Refer to *1-3-1 Types of Non-fatal Errors* for the relationship between event codes and error codes.

I

Index

Index

A

assumed causes 3-3, 3-5, 3-50, 3-80, 3-84, 3-88, 3-90, 3-94, 3-97, 3-99, 3-103, 3-105, 3-108, 3-111, 3-114, 3-115, 3-128, 3-129, 3-131, 3-135, 3-137, 3-138, 3-140, 3-141, 3-146

B

Block I/O 3-114
built-in EtherCAT master 3-84
built-in EtherNet/IP port 3-80

C

CJ1W-AD041-V1/AD081-V1 3-135
CJ1W-AD042 3-135
CJ1W-AD04U 3-137
CJ1W-CT021 3-140
CJ1W-DA021/DA041 3-135
CJ1W-DA042V 3-135
CJ1W-DA08V/DA08C 3-135
CJ1W-DRM21 3-146
CJ1W-MAD42 3-135
CJ1W-PDC15 3-137
CJ1W-PH41U 3-137
CJ1W-SCU2 3-141
CJ1W-SCU32 3-141
CJ1W-SCU42 3-141
CJ1W-TC003 3-138
CJ1W-TC004 3-138
CJ1W-TC103 3-138
CJ1W-TC104 3-138
CJ1W-V680C11 3-138
CJ1W-V680C12 3-138
CJ-series Analog I/O Units 3-135
CJ-series DeviceNet Units 3-146
CJ-series High-speed Counter Units 3-140
CJ-series ID Sensor Units 3-138
CJ-series Process I/O Units 3-137
CJ-series Serial Communications Units 3-141
CJ-series Temperature Control Units 3-138
CJ-series Units 3-135
Controller errors 1-6
Controller events 1-5
  sources 1-6
Controller information 1-6
Controller operation 3-8
CPU Unit operating status 1-3
CPU Unit Reset 1-4, 2-4
CPU Unit Watchdog Timer Error 1-4, 2-4

D

DB connection instructions 3-90
DB connections service 3-88

E

Error Status variable 1-14, 2-13
errors
  checking with system-defined variables 2-13
  identifying and resetting 2-5, 2-9, 2-11
  resetting 2-12
EtherCAT Master Function Module 3-84
EtherCAT slaves 3-114
EtherNet/IP Function Module 3-80
event codes 1-10, 3-3, 3-5, 3-50, 3-80, 3-84, 3-88, 3-90, 3-94, 3-97, 3-99, 3-103, 3-105, 3-108, 3-111, 3-114, 3-115, 3-128, 3-129, 3-131, 3-135, 3-137, 3-138, 3-140, 3-141, 3-146, 3-156
  event codes in sequential order 3-155
event log 1-5
event names 3-3, 3-5, 3-50, 3-80, 3-84, 3-88, 3-90, 3-94, 3-97, 3-99, 3-103, 3-105, 3-108, 3-111, 3-114, 3-115, 3-128, 3-129, 3-131, 3-135, 3-137, 3-138, 3-140, 3-141, 3-146, 3-156
events 1-2, 1-5, 3-50
  levels 1-6

F

fatal errors 1-2, 1-4
  checking for fatal errors 1-4
  troubleshooting 2-4
FINS communications 3-13

G

GX-series EtherCAT Slave Units 3-114

I

Incorrect Power Supply Unit Connected 1-4, 2-4
indicators 1-3, 1-12
information level 1-7
instructions
  GetCJBError 1-14, 2-11
  GetECError 1-14, 2-11
  GetEIPError 1-14, 2-11
  GetMCError 1-14, 2-11
  GetPLCError 1-14, 2-11
  getting error information 2-11
  reading function module error status 1-14
  ResetCJBError 2-12
  ResetECError 2-12

ResetMCError 2-12
ResetPLCError 2-12

M

major fault level 1-6
minor fault level 1-6
motion control
general 3-50
instructions 3-58
Motion Control Function Module 3-50
MX2/RX-series Inverters 3-128

N

non-fatal errors 1-3, 1-5, 1-12
resetting 1-14
troubleshooting 2-5
NX-AD□□□□ 3-99
NX-DA□□□□ 3-99
NX-EC0□□□ 3-105
NX-ECC201 3-94
NX-ECS□□□ 3-105
NX-ID□□□□ 3-97
NX-OC□□□□ 3-97
NX-OD□□□□ 3-97
NX-PC0□□□ 3-105
NX-PD1□□□ 3-105
NX-PF0□□□ 3-105
NX-PG0□□□ 3-105
NX-series Analog I/O Units 3-99
NX-series Digital I/O Units 3-97
NX-series EtherCAT Coupler Units 3-94
NX-series Position Interface Units 3-105
NX-series System Units 3-105
NX-TBX01 3-105
NX-TS□□□□ 3-99

O

observation level 1-7
online
troubleshooting problems going online 2-14

P

partial fault level 1-6
Power Supply Error 1-4, 2-4

R

resetting errors 2-12
resetting non-fatal errors 1-14

S

Safe Mode 2-19
self diagnosis 3-3
source details 1-6
starting
Safe Mode 2-19
system-defined variables 1-14
checking for errors 2-13

T

tasks 3-7
Troubleshooter 1-13, 2-9
troubleshooting 1-13, 2-5
fatal errors 2-4
non-fatal errors 2-5

U

Unit configuration 3-5
user-defined events 1-5

I

OMRON

Terms and Conditions of Sale

1. Offer; Acceptance. These terms and conditions (these "Terms") are deemed part of all quotes, agreements, purchase orders, acknowledgments, price lists, catalogs, manuals, brochures and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronics LLC and its subsidiary companies ("Omron"). Omron objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
2. Prices; Payment Terms. All prices stated are current, subject to change without notice by Omron. Omron reserves the right to increase or decrease prices on any unshipped portions of outstanding orders. Payments for Products are due net 30 days unless otherwise stated in the invoice.
3. Discounts. Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Omron's payment terms and (ii) Buyer has no past due amounts.
4. Interest. Omron, at its option, may charge Buyer 1-1/2% interest per month or the maximum legal rate, whichever is less, on any balance not paid within the stated terms.
5. Orders. Omron will accept no order less than $200 net billing.
6. Governmental Approvals. Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
7. Taxes. All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Omron or required to be collected directly or indirectly by Omron for the manufacture, production, sale, delivery, importation, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Omron.
8. Financial. If the financial position of Buyer at any time becomes unsatisfactory to Omron, Omron reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Omron may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts.
9. Cancellation; Etc. Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Omron against all related costs or expenses.
10. Force Majeure. Omron shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
11. Shipping; Delivery. Unless otherwise expressly agreed in writing by Omron:
    a. Shipments shall be by a carrier selected by Omron; Omron will not drop ship except in "break down" situations.
    b. Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
    c. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Omron), at which point title and risk of loss shall pass from Omron to Buyer; provided that Omron shall retain a security interest in the Products until the full purchase price is paid;
    d. Delivery and shipping dates are estimates only; and
    e. Omron will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
12. Claims. Any claim by Buyer against Omron for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Omron within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products from Omron in the condition claimed.
13. Warranties. (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied. (b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty. See http://www.omron247.com or contact your Omron representative for published information.
14. Limitation on Liability; Etc. OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY. Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.
15. Indemnities. Buyer shall indemnify and hold harmless Omron Companies and their employees from and against all liabilities, losses, claims, costs and expenses (including attorney's fees and expenses) related to any claim, investigation, litigation or proceeding (whether or not Omron is a party) which arises or is alleged to arise from Buyer's acts or omissions under these Terms or in any way with respect to the Products. Without limiting the foregoing, Buyer (at its own expense) shall indemnify and hold harmless Omron and defend or settle any action brought against such Companies to the extent based on a claim that any Product made to Buyer specifications infringed intellectual property rights of another party.
16. Property; Confidentiality. Any intellectual property in the Products is the exclusive property of Omron Companies and Buyer shall not attempt to duplicate it in any way without the written permission of Omron. Notwithstanding any charges to Buyer for engineering or tooling, all engineering and tooling shall remain the exclusive property of Omron. All information and materials supplied by Omron to Buyer relating to the Products are confidential and proprietary, and Buyer shall limit distribution thereof to its trusted employees and strictly prevent disclosure to any third party.
17. Export Controls. Buyer shall comply with all applicable laws, regulations and licenses regarding (i) export of products or information; (iii) sale of products to "forbidden" or other proscribed persons; and (ii) disclosure to non-citizens of regulated technology or information.
18. Miscellaneous. (a) Waiver. No failure or delay by Omron in exercising any right and no course of dealing between Buyer and Omron shall operate as a waiver of rights by Omron. (b) Assignment. Buyer may not assign its rights hereunder without Omron's written consent. (c) Law. These Terms are governed by the law of the jurisdiction of the home office of the Omron company from which Buyer is purchasing the Products (without regard to conflict of law principles). (d) Amendment. These Terms constitute the entire agreement between Buyer and Omron relating to the Products, and no provision may be changed or waived unless in writing signed by the parties. (e) Severability. If any provision hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision. (f) Setoff. Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice. (g) Definitions. As used herein, "including" means "including without limitation"; and "Omron Companies" (or similar words) mean Omron Corporation and any direct or indirect subsidiary or affiliate thereof.

Certain Precautions on Specifications and Use

1. Suitability of Use. Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases but the following is a non-exhaustive list of applications for which particular attention must be given:
   (i) Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.
   (ii) Use in consumer products or any use in significant quantities.
   (iii) Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
   (iv) Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this Product.
   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'S PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
2. Programmable Products. Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.
3. Performance Data. Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.
4. 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.
5. Errors and Omissions. Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

OMRON
AUTOMATION & SAFETY

OMRON AUTOMATION AND SAFETY • THE AMERICAS HEADQUARTERS • Chicago, IL USA • 847.843.7900 • 800.556.6766 • www.omron247.com

OMRON CANADA, INC. • HEAD OFFICE
Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • www.omron247.com

OMRON ELECTRONICS DE MEXICO • HEAD OFFICE
México DF • 52.55.59.01.43.00 • 01-800-226-6766 • mela@omron.com

OMRON ELECTRONICS DE MEXICO • SALES OFFICE
Apodaca, N.L. • 52.81.11.56.99.20 • 01-800-226-6766 • mela@omron.com

OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE
São Paulo, SP, Brasil • 55.11.2101.6300 • www.omron.com.br

OMRON ARGENTINA • SALES OFFICE
Cono Sur • 54.11.4783.5300

OMRON CHILE • SALES OFFICE
Santiago • 56.9.9917.3920

OTHER OMRON LATIN AMERICA SALES
54.11.4783.5300

OMRON EUROPE B.V. • Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. • +31 (0) 23 568 13 00 • www.industrial.omron.eu

Authorized Distributor:

Automation Control Systems
• Machine Automation Controllers (MAC) • Programmable Controllers (PLC)
• Operator interfaces (HMI) • Distributed I/O • Software

Drives & Motion Controls
• Servo & AC Drives • Motion Controllers & Encoders

Temperature & Process Controllers
• Single and Multi-loop Controllers

Sensors & Vision
• Proximity Sensors • Photoelectric Sensors • Fiber-Optic Sensors
• Amplified Photomicrosensors • Measurement Sensors
• Ultrasonic Sensors • Vision Sensors

Industrial Components
• RFID/Code Readers • Relays • Pushbuttons & Indicators
• Limit and Basic Switches • Timers • Counters • Metering Devices
• Power Supplies

Safety
• Laser Scanners • Safety Mats • Edges and Bumpers • Programmable Safety Controllers • Light Curtains • Safety Relays • Safety Interlock Switches

U3.1ŧC/+.7 /0-/1 Note: Specifications are subject to change. © 2014 Omron Electronics LLC Printed in U.S.A.

Printed on recycled paper.