

SYSMAC

NX-IO Configurator

CXONE-AL□□D-V4

OPERATION MANUAL

OMRON

NOTE

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Introduction

Thank you for purchasing the NX-IO Configurator.

This manual contains information that is necessary to use the NX-IO Configurator. Please read this manual and make sure you understand the functionality and performance of the NX-IO Configurator 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 product.

- NX-IO Configurator

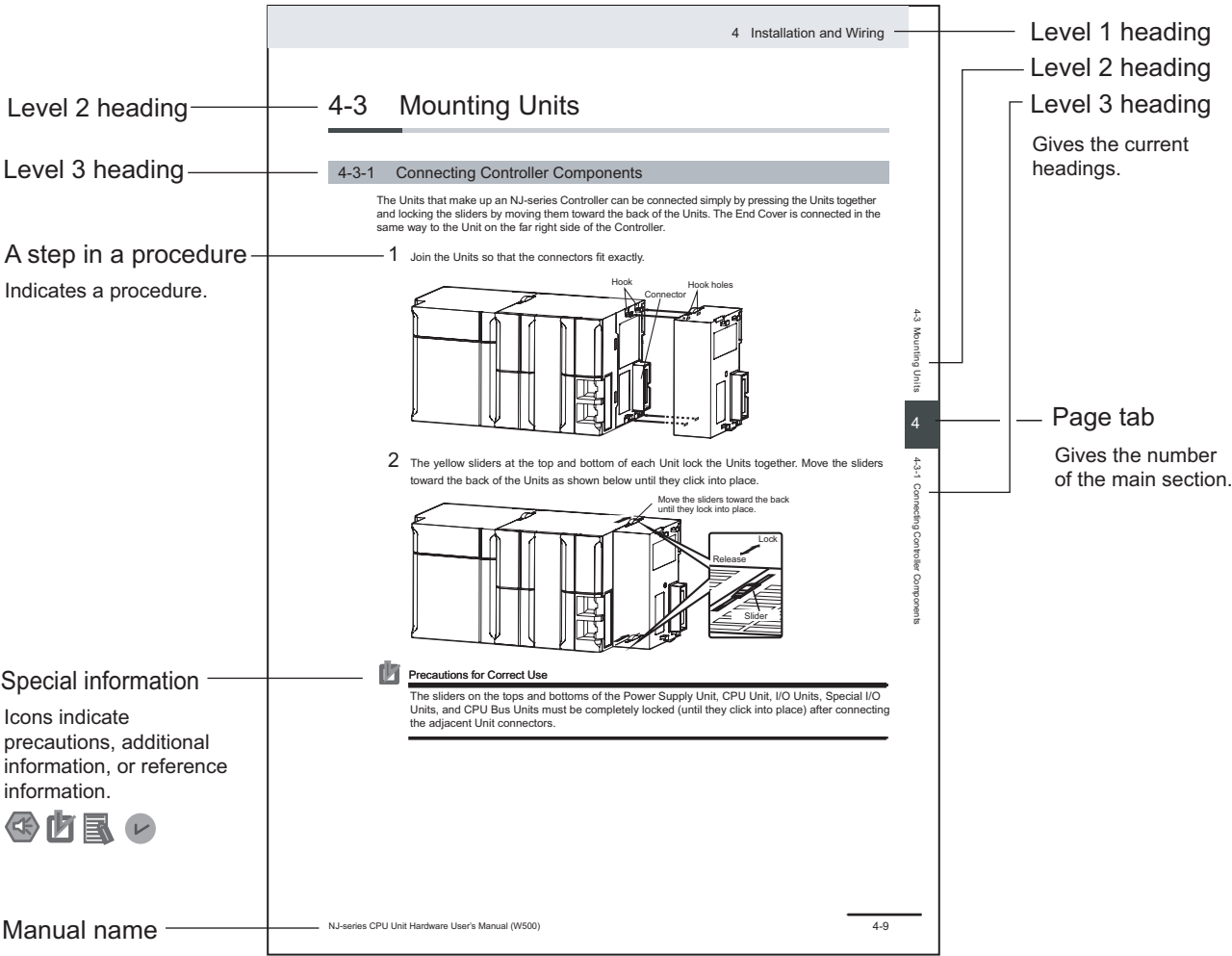
Part of the specifications and restrictions for the NX-IO Configurator are given in other manuals.

Refer to *Related Manuals* on page 17.

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.

**Version Information**

Information on differences in specifications and functionality for Controllers and Units with different unit versions and for different versions of Support Software is given.

Precaution on Terminology

For descriptions of the Communications Coupler Unit and NX Unit terms that are used in this manual, refer to information on terminology in the user's manual for the Communications Coupler Unit or NX Unit.

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CHANGE IN SPECIFICATION

The software specifications and accessories may be changed at any time based on improvements and other reasons.

ERRORS AND OMISSIONS

The information in this manual has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

Safety Precautions

Definition of Precautionary Information

The following notation is used in this manual to provide precautions required to ensure safe usage of the NX-IO Configurator. The safety precautions that are provided are extremely important to safety. Always read and heed the information provided in all safety precautions.

The following notation is used.

 WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. Additionally, there may be severe property damage.
 Caution	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or property damage.

Symbols

	The  symbol indicates operations that you must not do. The specific operation is shown in the  symbol and explained in text. This example indicates prohibiting disassembly.
	The  symbol indicates precautions (including warnings). The specific operation is shown in the  symbol and explained in text. This example indicates a precaution for electric shock.
	The  symbol indicates precautions (including warnings). The specific operation is shown in the  symbol and explained in text. This example indicates a general precaution.
	The  symbol indicates operations that you must do. The specific operation is shown in the  symbol and explained in text. This example shows a general precaution for something that you must do.

Warnings

 **WARNING**

Error Processing

If you change the event level of an error, the output status when the error occurs may also change. Confirm safety before you change an event level.



Cautions



Caution

Transferring Data

Confirm that the destination node is correct before you transfer Slave Terminal settings from the computer to a Communications Coupler Unit.



Confirm that the parameter settings are correct and will not adversely affect the controlled system before you transfer Slave Terminal settings from the computer to a Communications Coupler Unit.



Confirm that the settings will not adversely affect the controlled system after restart before you transfer Slave Terminal settings from the computer to a Communications Coupler Unit.



Precautions for Safe Use

Transferring Data

- Confirm that the settings are not changed by another tool on a different connection path before you transfer Slave Terminal settings from the computer to a Communications Coupler Unit.
- Always confirm safety at the destination node before you transfer Unit configuration information, parameters, settings, or other imported data. The devices or machines may operate unexpectedly, regardless of the operating mode of the Controller.

Regulations and Standards

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 version

Unit versions are used to manage the software in NX-series Units. The unit version is updated each time there is a change in software specifications.

Even when two Units have the same model number, they will have functional differences if they have different unit versions.

Checking the Unit Version of a Unit

You can check unit versions on the ID information indications or with the NX-IO Configurator.

Checking Unit Versions on ID Information Indications

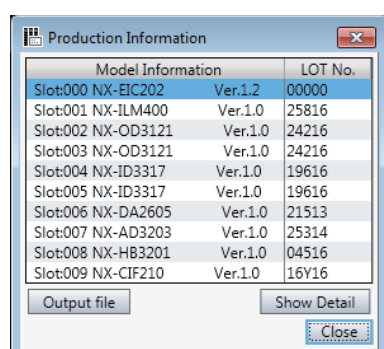
The unit version is given on the ID information indication on the side of each product or in the notched area.

Refer to the manuals for the specific Units for details on the ID information indication.

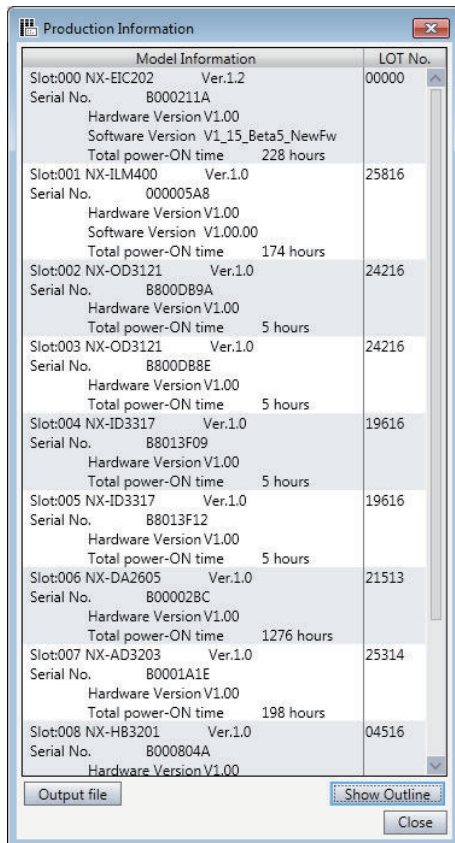
Checking Unit Versions with the NX-IO Configurator

You can use the **Production Information** dialog box while the NX-IO Configurator is online to check the unit version of a Unit.

- 1 Go online with the Communications Coupler Unit, right-click anywhere in the Slave Terminal tab page, and select **Display Production Information** from the pop-up menu.
The **Production Information** dialog box is displayed.



- 2 Click the **Show Detail** button.
The **Production Information** dialog box changes to the detail view.



The image shows a 'Production Information' dialog box with a table of unit details. The table has three columns: Slot, Model Information, and LOT No. The data is as follows:

Slot	Model Information	LOT No.
Slot:000	NX-EIC202 Ver.1.2 Serial No. B000211A Hardware Version V1.00 Software Version V1_15_Beta5_NewFw Total power-ON time 228 hours	00000
Slot:001	NX-ILM400 Ver.1.0 Serial No. 000005A8 Hardware Version V1.00 Software Version V1.00.00 Total power-ON time 174 hours	25816
Slot:002	NX-OD3121 Ver.1.0 Serial No. B800DB9A Hardware Version V1.00 Total power-ON time 5 hours	24216
Slot:003	NX-OD3121 Ver.1.0 Serial No. B800DB8E Hardware Version V1.00 Total power-ON time 5 hours	24216
Slot:004	NX-ID3317 Ver.1.0 Serial No. B8013F09 Hardware Version V1.00 Total power-ON time 5 hours	19616
Slot:005	NX-ID3317 Ver.1.0 Serial No. B8013F12 Hardware Version V1.00 Total power-ON time 5 hours	19616
Slot:006	NX-DA2605 Ver.1.0 Serial No. B00002BC Hardware Version V1.00 Total power-ON time 1276 hours	21513
Slot:007	NX-AD3203 Ver.1.0 Serial No. B0001A1E Hardware Version V1.00 Total power-ON time 198 hours	25314
Slot:008	NX-HB3201 Ver.1.0 Serial No. B000804A Hardware Version V1.00	04516

At the bottom of the dialog box, there are three buttons: 'Output file', 'Show Outline', and 'Close'.

To return to the outline view, click the **Show Outline** button.

Unit Versions and NX-IO Configurator Versions

The functions that are supported depend on the unit version of the Unit. The version of NX-IO Configurator that supports the functions that were added for an upgrade is required to use those functions. Refer to the relevant manuals for the specific Units for the functions that are supported by each unit version.

Related Manuals

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

Manual name	Cat. No.	Model numbers	Application	Description
NX-IO Configurator Operation Manual	W585	CXONE-AL□□D-V4	Learning about the operating procedures and functions of the NX-IO Configurator	Describes the operating procedures of the NX-IO Configurator.
NX-series EtherNet/IP™ Coupler Unit User's Manual	W536	NX-EIC□□□	Learning how to use an NX-series EtherNet/IP Coupler Unit and EtherNet/IP Slave Terminals	The following items are described: system overview and configuration method of EtherNet/IP slave terminal consisting of NX series EtherNet/IP Coupler Unit and NX units, hardware and setting method of EtherNet/IP Coupler Unit to set up, control and monitor the NX units , and functions.
CS-/CJ-series EtherNet/IP™ Units Operation Manual	W465	CS1W-EIP21 CJ1W-EIP21 CJ2H-CPU6□-EIP CJ2M-CPU3□	Learning how to use an EtherNet/IP Unit	Information on using an EtherNet/IP Unit that is connected to a CS/CJ-series CPU Unit is provided. Information is provided on the basic setup, tag data links, and FINS communications. Refer to the <i>Communications Commands Reference Manual</i> (Cat. No. W342) for details on FINS commands that can be sent to CS/CJ-series CPU Units when using the FINS communications service. Refer to the <i>Ethernet Units Operation Manual Construction of Applications</i> (Cat. No. W421) for details on constructing host applications that use FINS communications.
NX-series Data Reference Manual	W525	NX-□□□□□□	Referencing lists of the data that is required to configure systems with NX-series Units	Lists of the power consumptions, weights, and other NX Unit data that is required to configure systems with NX-series Units are provided.
NX-series Digital I/O Units User's Manual	W521	NX-ID□□□□ NX-IA□□□□ NX-OC□□□□ NX-OD□□□□	Learning how to use NX-series Digital I/O Units	The hardware, setup methods, and functions of the NX-series Digital I/O Units are described.

Manual name	Cat. No.	Model numbers	Application	Description
NX-series Analog I/O Units User's Manual for Analog Input Units and Analog Output Units	W522	NX-AD□□□□ NX-DA□□□□	Learning how to use NX-series Analog Input Units and Analog Output Units	The hardware, setup methods, and functions of the NX-series Analog Input Units and Analog Output Units are described.
NX-series Analog I/O Units User's Manual for Temperature Input Units and Heater Burnout Detection Units	W566	NX-TS□□□□ NX-HB□□□□	Learning how to use NX-series Temperature Input Units and Heater Burnout Detection Units	The hardware, setup methods, and functions of the NX-series Temperature Input Units and Heater Burnout Detection Units are described.
NX-series System Units User's Manual	W523	NX-PD1□□□ NX-PF0□□□ NX-PC0□□□ NX-TBX01	Learning how to use NX-series System Units	The hardware and functions of the NX-series System Units are described.
NX-series Position Interface Units User's Manual	W524	NX-EC0□□□ NX-ECS□□□ NX-PG0□□□	Learning how to use NX-series Position Interface Units	The hardware, setup methods, and functions of the NX-series Incremental Encoder Input Units, SSI Input Units, and Pulse Output Unit are described.
NX-series Communications Interface Units User's Manual	W540	NX-CIF□□□	Learning how to use NX-series Communications Interface Units	The hardware, setup methods, and functions of the NX-series Communications Interface Units are described.
NX-series Load Cell Input Unit User's Manual	W565	NX-RS□□□□	Learning how to use an NX-series Load Cell Input Unit	The hardware, setup methods, and functions of the NX-series Load Cell Input Unit are described.
IO-Link System User's Manual	W570	NX-ILM400 GX-ILM08C	Learning about an IO-Link system from its outline to details. Mainly software information, operating procedures of the related support software, and troubleshooting that are common to IO-Link masters are provided	The following items are described: an outline of an IO-Link system and information on its system configuration, communications specifications/mechanism, I/O data, parameters, functions, Support Software, and troubleshooting. Refer to the user's manuals for the following Master Units for details on the hardware and specifications of IO-Link Master Units and their object lists. • NX-series: W570 • GX-series: W488-E1-05 or later
NX-series IO-Link Master Unit User's Manual	W567	NX-ILM□□□	Learning how to use an NX-series IO-Link Master Unit	The names and functions of the parts, installation, wiring and a list of NX objects of the NX-series IO-Link Master Unit are described.

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	June 2017	Original production
02	October 2017	Added information on NX-IO Configurator versions.
03	March 2019	Revised Terms and Conditions Agreement.

Features and Specifications

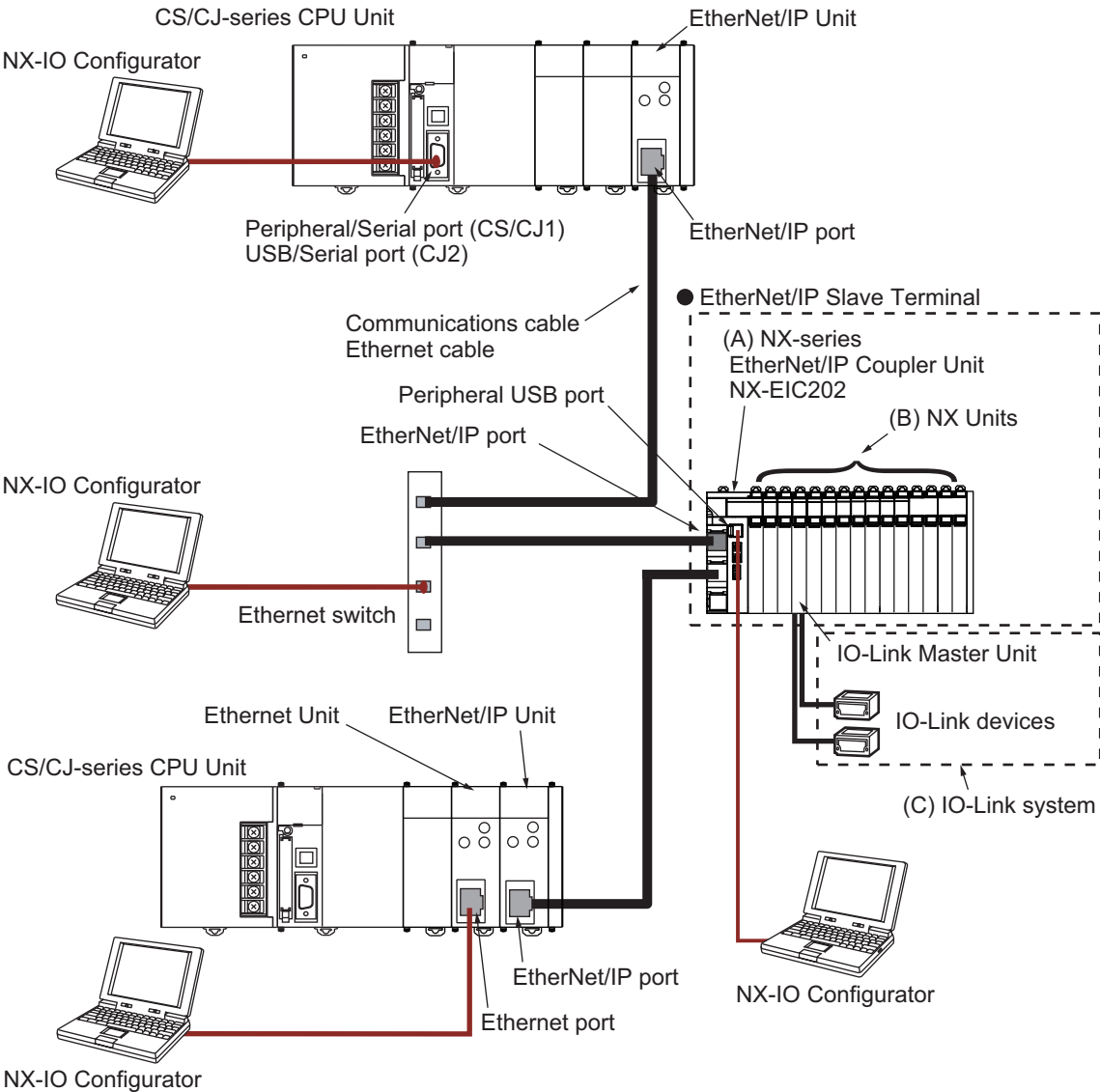
This section describes the features and specifications of the NX-IO Configurator, which is the Support Software that helps you set up Communications Coupler Units.

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1-1 Introduction

The NX-IO Configurator is the software that you can use to set up and maintain EtherNet/IP Coupler Unit and NX Units that are mounted on it.

An example of a system configuration that the NX-IO Configurator supports for an EtherNet/IP Slave Terminal is shown below.



	Item	Description
(A)	EtherNet/IP Coupler Unit	The EtherNet/IP Coupler Unit is an interface that performs I/O refreshing between a group of NX Units and the EtherNet/IP Unit over an EtherNet/IP network. Refer to the <i>NX-series EtherNet/IP Coupler Unit User's Manual (Cat. No. W536)</i> for details.
(B)	NX Units ^{*1}	The NX Units perform I/O processing with connected external devices. The NX Units perform I/O refreshing communications with the EtherNet/IP master through the EtherNet/IP Coupler Unit. Refer to the manuals for the specific NX Units for details.

	Item	Description
(C)	IO-Link system	IO-Link is a standard interface that is defined in the international standard IEC61131-9 to enable one-to-one connection with devices such as sensors and actuators. To set IO-Link devices, the Support Software "CX-ConfiguratorFDT" is used. Refer to the <i>IO-Link System User's Manual (Cat. No. W570)</i> for details.

- *1. The NX-IO Configurator does not support NX-series Safety Control Units. To use NX-series Safety Control Units, you need the Sysmac Studio.

1-2 Features

The features of the NX-IO Configurator are described below.

Various Connection Methods

The NX-IO Configurator can be connected to Communications Coupler Units through a direct USB connection or Ethernet connection independent of the Controller type used in the machine configuration. It supports a wide variety of connection methods such as connection through a Controller when used with OMRON Controllers.

1-3 Specifications

1-3-1 Product Model Numbers

The NX-IO Configurator is included in the CX-One (CXONE-AL□□D-V4).
Refer to the *CX-One Setup Manual (Cat. No. W463)* for details on the product model numbers of the CX-One.

1-3-2 Supported Languages

The NX-IO Configurator supports Japanese and English. To install the Japanese version, select Japanese during installation. Otherwise, the English version will be installed.

1-3-3 Applicable Models

The models that you can select when you create a project on the NX-IO Configurator are given in the following table.

Model	Unit version
NX-EIC202	1.0
	1.2



Precautions for Correct Use

There are restrictions on available connection methods depending on the unit version. Refer to *4-3-1 Connection Methods* on page 4 - 13 for details.

1-3-4 Applicable Computers

Refer to the *CX-One Setup Manual (Cat. No. W463)* for the operating environment for applicable computers.

1-4 Installation, Uninstallation, and Updates

Refer to the *CX-One Setup Manual (Cat. No. W463)* for installation, uninstallation, and updates.

Operating Procedure and Functions

This section describes the basic operating procedure to use the Support Software and provides an overview of its menus, basic operations, and functions.

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2-1 Basic Operating Procedure

The following describes the basic operating procedure to use the NX-IO Configurator.

- 1** Starting the NX-IO Configurator
Start the NX-IO Configurator.

Procedure	Description	Reference
Starting	Start the NX-IO Configurator.	3-1-1 Starting on page 3 - 2

- 2** Creating a Project
Create a project and add Communications Coupler Units.

Procedure	Description	Reference
Creating a project	Create a project.	3-2-1 Creating a Project File on page 3 - 3
Adding a Communications Coupler Unit	Add the Communications Coupler Unit to use.	3-2-6 Adding Additional Slave Terminals on page 3 - 5
Saving the project	Save the project.	3-2-3 Saving the Project File on page 3 - 4
Opening the project	Open the saved project.	3-2-5 Opening a Project File on page 3 - 5

- 3** Creating a Slave Terminal Configuration
Create a Slave Terminal configuration by adding NX Units to the Communications Coupler Unit and set up each Unit.

Procedure	Description	Reference
Adding NX Units	Create a Slave Terminal configuration by adding NX Units to the Communications Coupler Unit.	Registering NX Units Offline (Building the Slave Terminal Configuration) on page 4 - 3
Setting the Slave Terminal configuration information	Set the Slave Terminal configuration information for the Communications Coupler Unit and NX Units.	Communications Coupler Unit and NX Unit Settings on page 4 - 5
Setting the I/O allocations	Set the I/O allocations for the Communications Coupler Unit and NX Units.	I/O Allocation Settings on page 4 - 5
Configuring the NX Unit operation settings	Configure the operation settings for each NX Unit.	Unit Operation Settings on page 4 - 6

- 4** Transferring the Slave Terminal Configuration and Settings
Go online with the Communications Coupler Unit and transfer the Slave Terminal configuration and settings.

Procedure	Description	Reference
Connecting to the Slave Terminal	Configure the communications settings and go online with the Communications Coupler Unit.	4-3 Connecting to the Slave Terminal on page 4 - 13

Procedure	Description	Reference
Comparing and Transferring the Slave Terminal configuration	Compare the Slave Terminal configuration information on the computer with of the actual devices and transfer the configuration information to the Slave Terminal.	<i>4-4-1 Comparing and Transferring the Slave Terminal Configuration</i> on page 4 - 24
Comparing and Transferring the NX Unit settings	Compare the NX Unit settings on the computer with those on each NX Unit and transfer the settings to the NX Unit.	<i>4-4-3 Transferring Unit Operation Settings</i> on page 4 - 29

5 Exiting the NX-IO Configurator

Exit the NX-IO Configurator.

Procedure	Description	Reference
Exiting	Exit the NX-IO Configurator.	<i>3-1-2 Exiting</i> on page 3 - 2

6 Operating and Maintaining Units

If an error occurs, use the troubleshooting function to check the cause of the error. Also calibrate Units that have a calibration function.

Procedure	Description	Reference
Troubleshooting	If an error occurs, check the status of the current error and events to reset the error.	<i>5-1 Troubleshooting</i> on page 5 - 2
Calibrating NX Units	Configure NX Units that have a calibration function, such as Analog Input Units, Analog Output Units, and Load Cell Input Units.	<i>5-8 Type-specific Functions of NX Units</i> on page 5 - 24

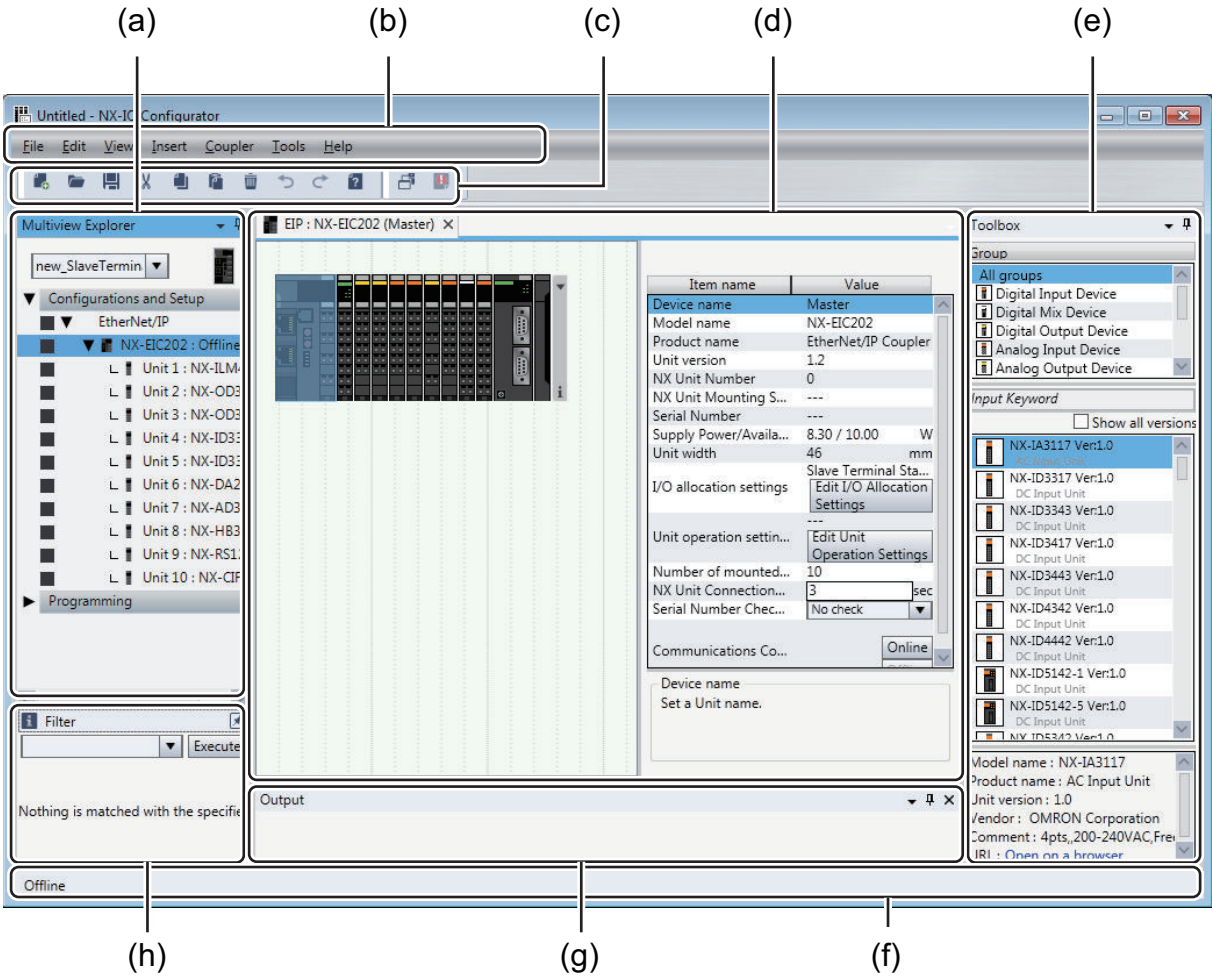
2-2 Parts of the Window

This section gives the names, functions, and basic arrangement of the parts of the NX-IO Configurator window.

You can change the display locations of the parts of the window. Refer to 2-2-6 *Changing the Display Location of Window Parts* on page 2 - 8 for detailed procedures.

2-2-1 Main Window

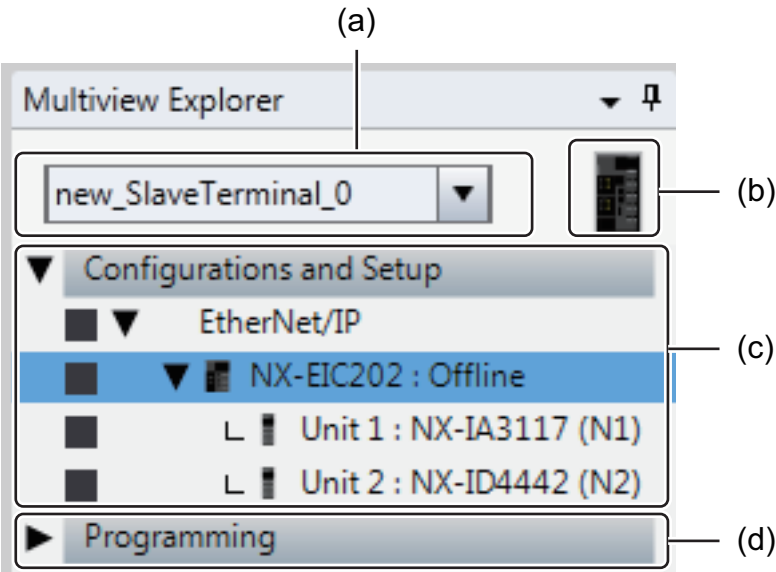
The main window is the window that is displayed when you open a project.



	Name
(a)	Multiview Explorer
(b)	Main menu
(c)	Toolbar
(d)	Edit pane
(e)	Toolbox
(f)	Status bar
(g)	Output tab page
(h)	Filter pane

2-2-2 Multiview Explorer

This pane is your access point for all NX-IO Configurator data. The Multiview Explorer shows the Slave Terminal configuration in a tree structure.

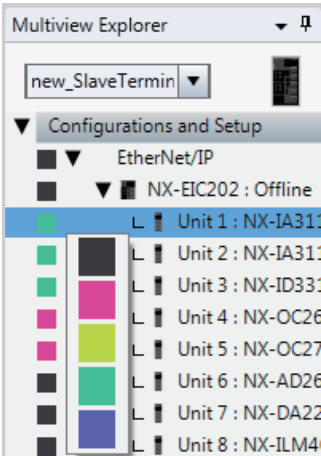


	Item	Description
(a)	Device List	The name of the Slave Terminal that is currently displayed in the main window is shown here. To change the Slave Terminal, select the Slave Terminal to display.
(b)	Device icon	The icon for Communications Coupler Units is displayed. If you right-click this icon, a pop-up menu appears.
(c)	Configurations and setup	The Slave Terminal configuration is displayed. It is a list of Communications Coupler Units and NX Units. A pop-up menu appears when you right-click a Unit, if it has setting items.
(d)	Programming	(Not used for the NX-IO Configurator)

Color Codes

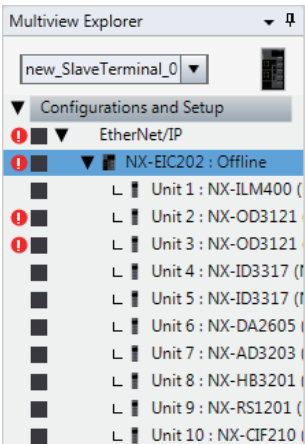
You can display marks in five colors to the left of the items in the Multiview Explorer. Define how you want to use these colors, e.g., to indicate data development status or developer assignments. You can also use them as search conditions in the Filter pane that is described later in this section.

To change the color, click the square mark to the left of any item and select the desired color from the color list.



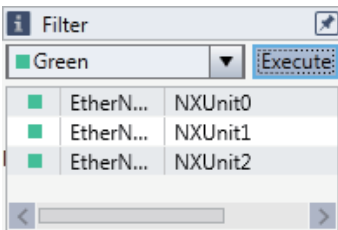
Error Icon

An error icon indicates that the item's settings include an error. You can check the content of the error in the tooltip for the icon.



Filter Pane

The Filter pane allows you to search for color codes and for items with an error icon. The results are displayed in a list.

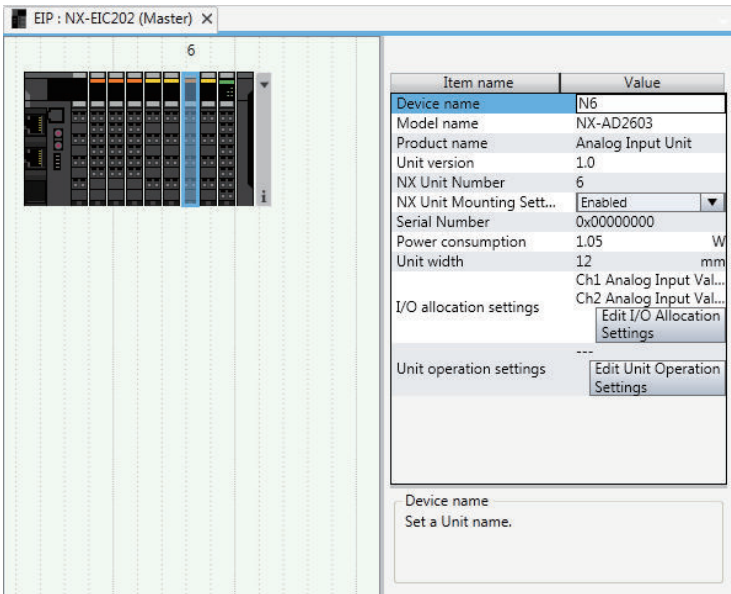


Click the Filter pane bar to display the Filter pane. The Filter pane is hidden automatically if the mouse cursor remains out of the pane for five seconds. The function to automatically hiding the Filter pane can be disabled by clicking the pin button. You can select error or any color from the list and then click the **Execute** button to display only items with the error icon or items with the selected color code. Then, double-click any item in the search result to display the item in the Edit pane.

2-2-3 Edit Pane

The Edit pane displays the Slave Terminal tab page or the tab page for Unit settings. Double-click an item, or right-click an item and select Edit from the pop-up menu, in the Multiview Explorer to display the tab page in the Edit pane.

You can change the displayed tab page by clicking the tab of the tab page for each item. You can also align the tab pages by dragging the tab of each tab page. Refer to 2-2-6 *Changing the Display Location of Window Parts* on page 2 - 8 for details.



Additional Information

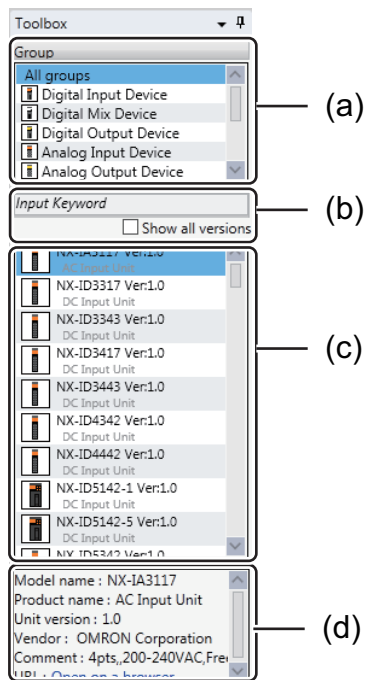
- You can use an option setting to change the number of tab pages in the Edit pane that can be displayed at a time. The default setting is 10, and the maximum display number is 20. Also, you can set so that an old tab page that has not been used is closed automatically when the maximum display number is exceeded. Refer to 5-9 *NX-IO Configurator Option Settings* on page 5 - 35 for details on the settings.
- You can use the pop-up menu for each tab to close all tab pages in the Edit pane or to close tab pages that are not selected in the Edit pane.

2-2-4 Toolbox

The Toolbox shows the objects that you can use to edit the data that is displayed in the Edit pane.

NX Units

The Slave Terminal tab page shows a list of NX Units that can be added.



	Item	Description
(a)	Device groups	This area shows the NX Unit groups that exist. Select any group here to display the NX Units that belong to it in the device list.
(b)	Filter to select the devices to display	Use this filter to restrict the NX Units that are displayed in the device list.
(c)	Device list	This list shows the NX Units that belong to the selected device group. You can register an NX Unit by dragging it from the device list and dropping it into the Slave Terminal tab page.
(d)	Device description	This area shows the description of the NX Unit that you selected in the device list.

2-2-5 Output Tab Page

The Output tab page shows the various processing results.



2-2-6 Changing the Display Location of Window Parts

You can change the positions of the parts of the main NX-IO Configurator window. You can also hide and display parts of the window.

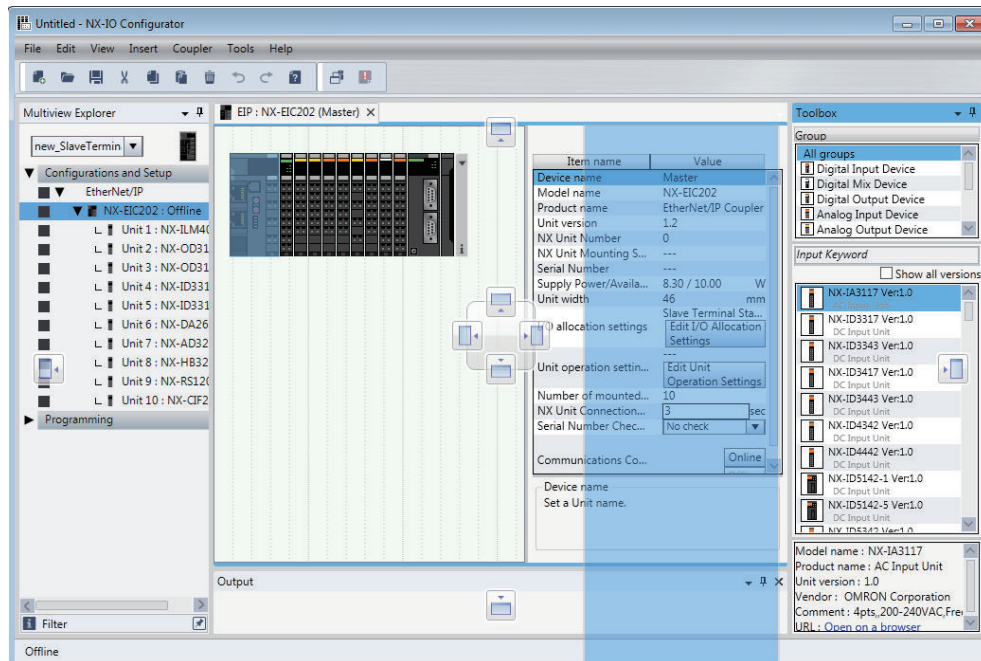
Docking and Undocking

You can undock the Edit pane, Watch tab pages, and other window parts from the main window and position them as desired. You can dock windows into tab groups.

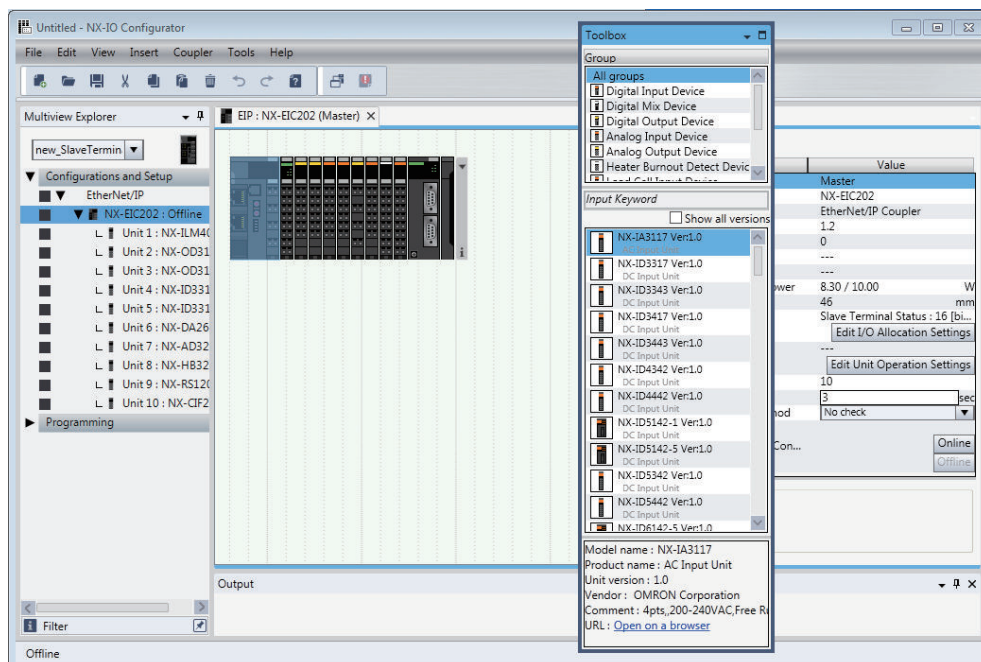
Undocking is when you separate a part of the main window. Docking is when you join a window as a part of the main window again. A window that was separated from the main window is called a floating window. A window that is docked with the main window is called a docked window.

● Undocking Parts of the Window

- 1 Click and drag the title bar of a pane or the tab of a tab page.
Docking guides are displayed.



- 2 Release the mouse button when the pane or tab page is at any location other than the docking guides.
The pane or tab page becomes a floating window.



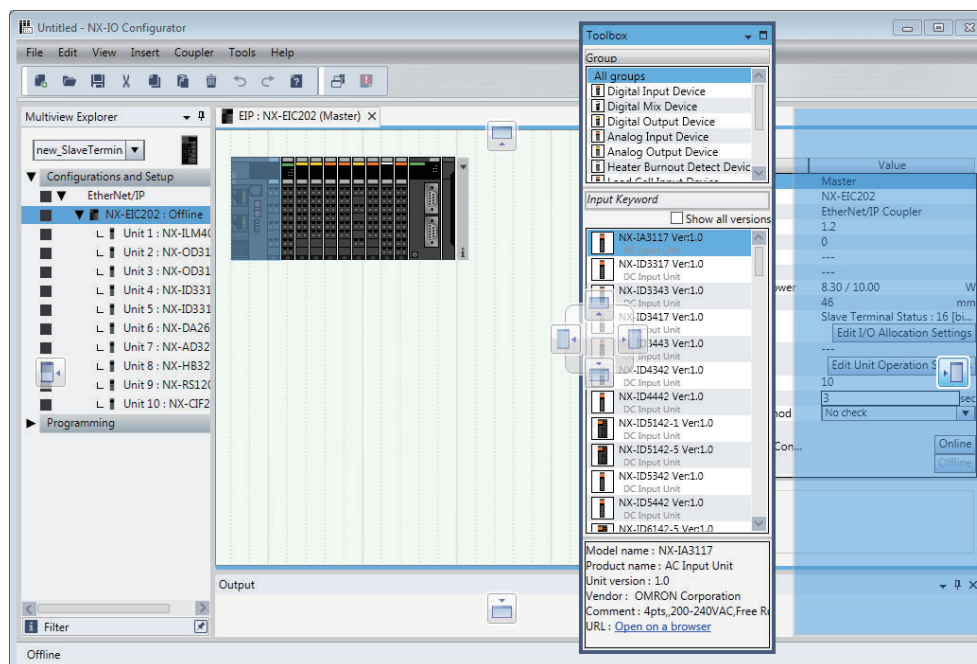
● Docking Windows

- 1 Click and drag the title bar of a pane or the tab of a tab page.
Docking guides are displayed in the locations where you can dock the window or tab page.

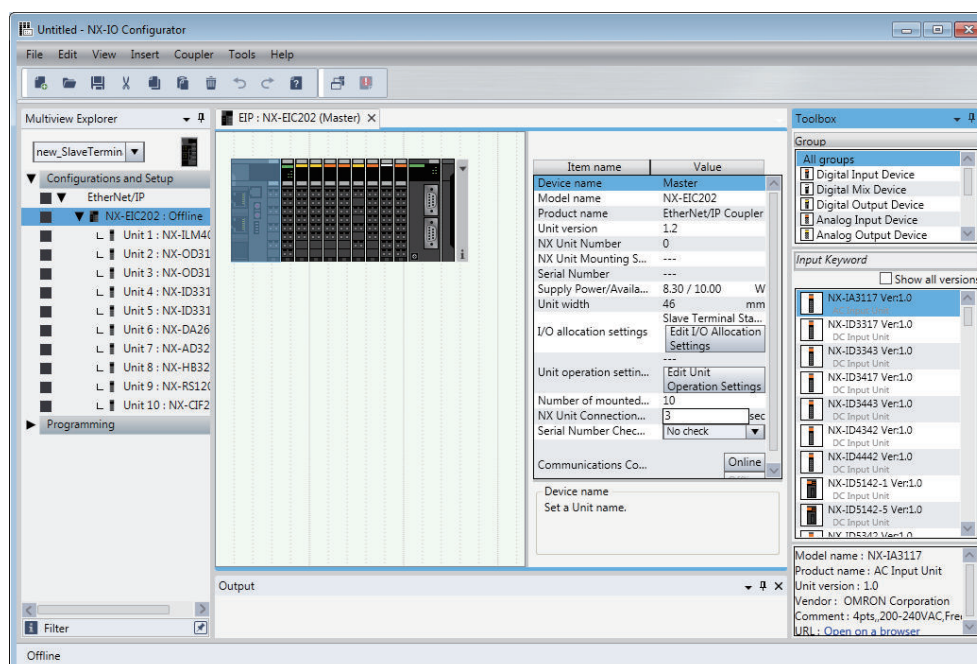
The docking guide icons that are displayed depend on the position of the mouse cursor. These icons are shown in the following table.

Icon	Description
	The window or tab page that you drag is aligned vertically or horizontally with the object where the icon is displayed.
	The window or tab page that you drag is placed in a tab group with the object where the icon is displayed.

When you align the mouse cursor with a docking guide icon, a blue shaded area is displayed in the window docking position.



- Align the mouse cursor with any of the docking guide icons and release the mouse button. The window is positioned at the docking position with the blue shaded area.



Windows are classified into the following two groups depending on where you can dock the windows.

Window group	Target object	Dockable locations
Edit windows	Tab pages in the Edit pane	Edit pane
Tool windows	Multiview Explorer	Any tool window or anywhere in the main window except for the Edit pane
	Toolbox	
	Output tab page	

Here, “tool windows” refers to the window group of panes and tab pages that are not displayed in the Edit panes.

You can place windows that are in the same group into tab groups.



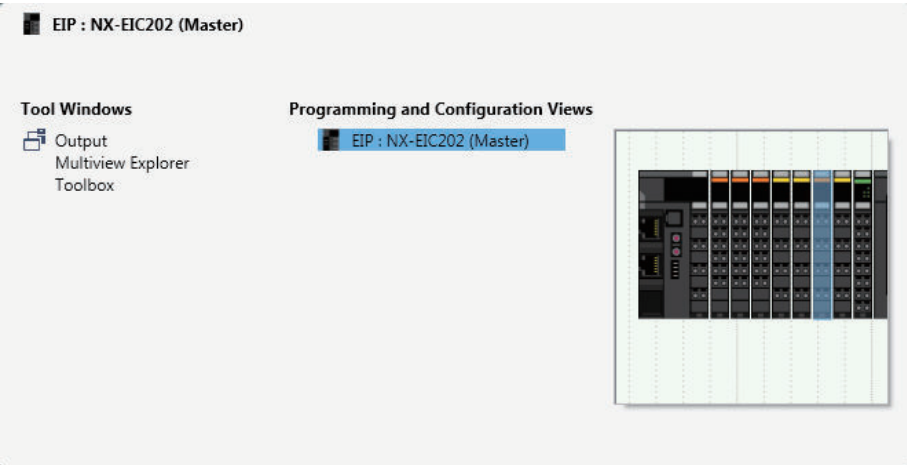
Additional Information

- When you drag a tool window, you can horizontally or vertically align it or overlap it in a tab group with not only the main window, but also with other floating tool windows.
- You can use the following methods to switch between a floating and docked window.
 - Double-click the title bar of the window/pane or the tab of the tab page.
 - Right-click the title bar or tab and select **Float/Dock** from the pop-up menu.

● Moving the Focus between Objects

You can use the Ctrl+Tab keys to move the focus between windows, panes, and tab pages.

- 1 Press the Ctrl+Tab keys when an Edit pane or the tool window is active.
The Change Display dialog box is displayed.



- 2 Hold down the Ctrl key and press the Tab key or an arrow key to select the desired object name.
When you release the key, the Change Display dialog box is hidden and the focus moves to the selected object.

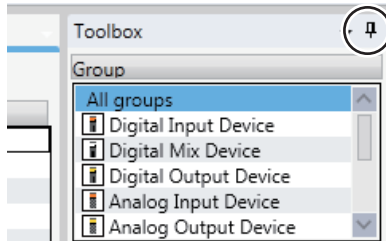
● Restoring the Default Window Layout

You can restore the window layout to the default layout.
Select **Reset Window Layout** from the **View** menu.

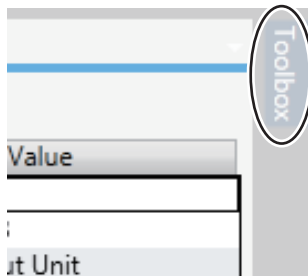
Displaying/Hiding Docked Windows

You can hide and display the tool windows in the main window.
The following procedure uses the Toolbox as an example.

- 1 Click the Pin button on the Toolbox.



The toolbox is hidden and a tab to switch show/hide is displayed on the closest adjacent edge of the main window.



If you move the cursor over the tab, the Toolbox is displayed. When you move the cursor off the tab, the Toolbox is hidden again.

- 2 To leave the Toolbox on display again, display the Toolbox and then click the horizontal Pin button.

2-3 Menu Command Structure

The menu commands that are displayed in the main window and pop-up menus commands that you see when you right-click various items are listed below.

2-3-1 Main Menu

The following table shows a list of menus that are displayed in the main window.

Main menu	Submenu	
File	Create New	---
	Open	
	Close	
	Save	
	Save As	
	Page Settings	
	Print	
	Exit	
Edit	Undo	---
	Redo	
	Cut	
	Copy	
	Paste	
	Delete	
	Select All	
View	Multiview Explorer	---
	Toolbox	
	Output Tab Page	
	Reset Window Layout	
	Properties	
Insert	Slave Terminal	EtherNet/IP Coupler
Coupler	Select Interface	---
Tools	Troubleshooting	---
	Option	
Help	Help Contents	---
	About NX-IO Configurator	

2-3-2 Pop-up Menu

Multiview Explorer

The following table shows a list of menus commands that you see in a pop-up menu when you right-click an item in the Multiview Explorer.

The displayed menu commands differ depending on the selected item.

O: Displayed

Menu command	Submenu	Selected item	
		Communications Coupler Unit	NX Unit
Edit	---	☐	☐
Unit Operation Settings		☐	
Communications Coupler Connection		---	---
	Online	☐	
	Offline	☐	
	Transfer to Coupler	☐	
	Transfer from Coupler	☐	
	Compare	☐	
Display I/O Allocation	---	☐	
Move Up	---		☐
Move Down			☐

Slave Terminal Tab Page

The following table shows a list of menu commands that are displayed in a pop-up menu when you right-click an item in the Slave Terminal tab page.

The displayed menu commands differ depending on the selected item.

O: Displayed

Menu	Submenu	Selected item		
		Communications Coupler Unit	NX Unit	Background
Cut	---	☐	☐	
Copy	---	☐	☐	
Paste	---	☐	☐	
Delete	---	☐	☐	
Undo	---	☐	☐	☐
Redo	---	☐	☐	☐
Change Model	---	☐	☐	
Edit Unit Operation Settings	---	☐	☐	
Paste Unit Operation Settings	---	☐	☐	
Import NX Unit Settings and Insert New Unit	---	☐	☐	
Export NX Unit Settings	---	☐	☐	
Import All NX Unit Settings	---	☐	☐	
Export All NX Unit Settings	---	☐	☐	
Show Model/Unit Name	---	☐	☐	☐
Clear All	---			☐
Get Serial Numbers of All NX Units	---	☐	☐	☐
Compare and Merge with Actual Unit Configuration	---	☐	☐	☐
Display Production Information	---	☐	☐	☐
Clear All Memory	---	☐	☐	

Menu	Submenu	Selected item		
		Communica- tions Coupler Unit	NX Unit	Back- ground
Restart	---	☐	☐	
User Calibration	---		☐ *1	
Calibration and Data Trace	---		☐ *2	
CIF Serial Line Monitor	---		☐ *3	
Communications Coupler Connection		---	---	---
	Online	☐	☐	
	Offline	☐	☐	
	Transfer to Coupler	☐	☐	
	Transfer from Coupler	☐	☐	
	Compare	☐	☐	

*1. Displayed only when an Analog Input Unit or Analog Output Unit is selected.

*2. Displayed only when a Load Cell Input Unit is selected.

*3. Displayed only when a Serial Interface Unit is selected.

2-4 Toolbar

This table below shows the icons that are included in the toolbar.

Icon	Description	Corresponding menu command
	Creating a new project	File - Create New
	Opening an existing project	File - Open
	Saving a project	File - Save
	Cutting	Edit – Cut
	Copying	Edit – Copy
	Pasting	Edit – Paste
	Deleting	Edit – Delete
	Undoing	Edit – Undo
	Redoing	Edit – Redo
	Displaying help contents	Help – Help Contents
	Displaying the Output tab page	View – Output Tab Page
	Displaying the Troubleshooting tab page	Tools – Troubleshooting

2-5 Basic Operations

The following table lists the basic operations that you can perform in the Multiview Explorer and Edit pane.

The menu title may differ depending on the item that you are editing. Note also that there are operations that are unique to or not supported by the NX-IO Configurator.

Operation	Toolbar	Main menu	Pop-up menu	Mouse operation	Shortcut keys
Inserting	---	Insert	---	---	Alt + I
Cutting		Edit – Cut	Cut	Drag	Ctrl + X
Copying		Edit – Copy	Copy	Press Ctrl and drag.	Ctrl + C
Pasting		Edit – Paste	Paste	Drop	Ctrl + V
Deleting		Edit – Delete	Delete	---	Delete
Selecting all	---	Edit – Select All	---	---	Ctrl + A
Changing a name	---	---	Rename	---	---
Selecting rows	---	---	---	Enclose items.	Shift + ↑, ↓, ←, →
Undoing		Edit – Undo	Undo	---	Ctrl + Z
Redoing		Edit – Redo	Redo	---	Ctrl + Y
Entering Edit Mode	---	---	---	Double-click	F2
Leaving Edit Mode	---	---	---	Click	Enter
Moving the cursor	---	---	---	---	↑, ↓, ←, →
Moving the cursor to the next/previous item	---	---	---	---	Tab or Shift + Tab
Moving the cursor to the beginning of the row	---	---	---	---	Home
Moving the cursor to the end of the row	---	---	---	---	End
Moving to the next page	---	---	---	---	PageDown
Moving to the previous page	---	---	---	---	PageUp

2-6 Functions

EtherNet/IP Slave Terminal Settings

Item	Description	Reference
EtherNet/IP Slave Terminal Configuration and Setup	You create the configuration of a Slave Terminal to connect to the EtherNet/IP network and set the NX Units that compose the Slave Terminal.	<i>4-1 Configuring and Setting Up a Slave Terminal</i> on page 4 - 2
Registering the NX Units	You configure the Slave Terminal by dragging the NX Units from the device list displayed in the Toolbox to the positions where to mount the Units.	<i>Registering NX Units to the Slave Terminal</i> on page 4 - 3
Setting the NX Units	You edit the I/O allocation settings, mounting settings and Unit operation settings of the NX Units.	<i>Communications Coupler Unit and NX Unit Settings</i> on page 4 - 5
Displaying the Width of a Slave Terminal Configuration	The width of the Slave Terminal configuration is displayed based on the Unit configuration information.	<i>Displaying the Width of a Slave Terminal</i> on page 4 - 4
Comparing and Merging Slave Terminal Configuration Information	You can compare the configuration information on the project with actual configuration online, select the Units with different information to correct, and merge the information.	<i>Registering NX Units Online (Building the Slave Terminal Configuration)</i> on page 4 - 10
Transferring the Slave Terminal Configuration Information	You transfer the Unit configuration information to the Slave Terminal.	<i>4-4-1 Comparing and Transferring the Slave Terminal Configuration</i> on page 4 - 24

3

Startup and Project Creation

3

This section describes how to start the Support Software, create and save projects, and perform other basic operations.

3-1	Starting and Exiting	3 - 2
3-1-1	Starting	3 - 2
3-1-2	Exiting	3 - 2
3-2	Operating Project Files	3 - 3
3-2-1	Creating a Project File	3 - 3
3-2-2	Editing Project Properties	3 - 4
3-2-3	Saving the Project File	3 - 4
3-2-4	Saving the Project File Under a Different Name	3 - 4
3-2-5	Opening a Project File	3 - 5
3-2-6	Adding Additional Slave Terminals	3 - 5
3-2-7	Changing Devices	3 - 6

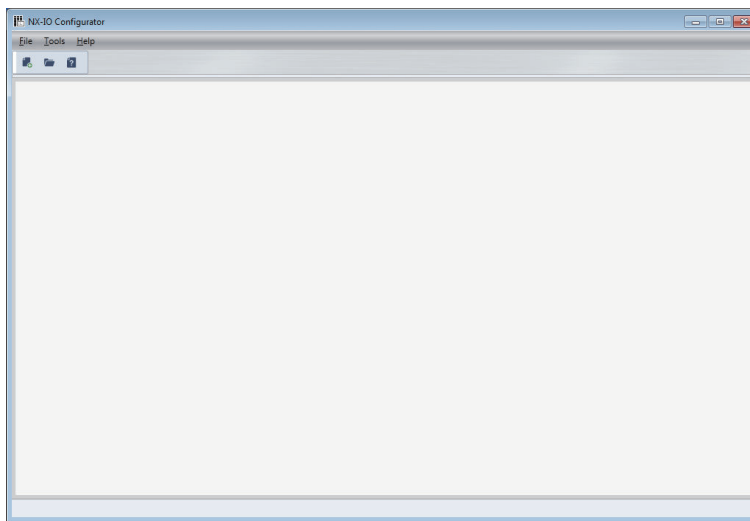
3-1 Starting and Exiting

Use the following procedures to start and exit the Support Software.

3-1-1 Starting

Use the following procedure to start the NX-IO Configurator.

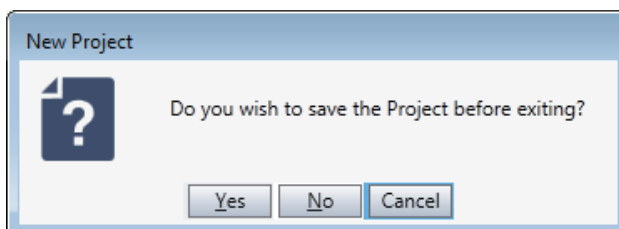
- 1 Select **All Programs – OMRON – CX-One – NX-IO Configurator – NX-IO Configurator** from the Windows Start menu.
The NX-IO Configurator starts and startup window is displayed.



3-1-2 Exiting

Use the following procedure to exit the NX-IO Configurator.

- 1 Select **Exit** from the **File** menu. Or click the × button in the main window.
If the current project is not saved, a dialog box is displayed to ask if you need to save the project.



- 2 Click the **Yes** button to save the project file.
You exit from the NX-IO Configurator.

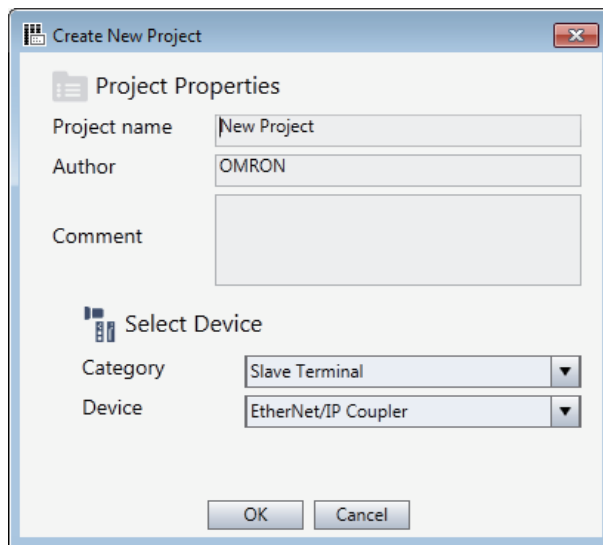
3-2 Operating Project Files

This section describes how to operate project files, such as creating and saving projects.

3-2-1 Creating a Project File

Use the following procedure to create a project file.

- 1 Select **Create New** from the **File** menu. Or click the **Create New** button on the toolbar. The **Create New Project** dialog box is displayed.

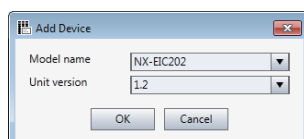


The following table shows the items that you set in the **Create New Project** dialog box.

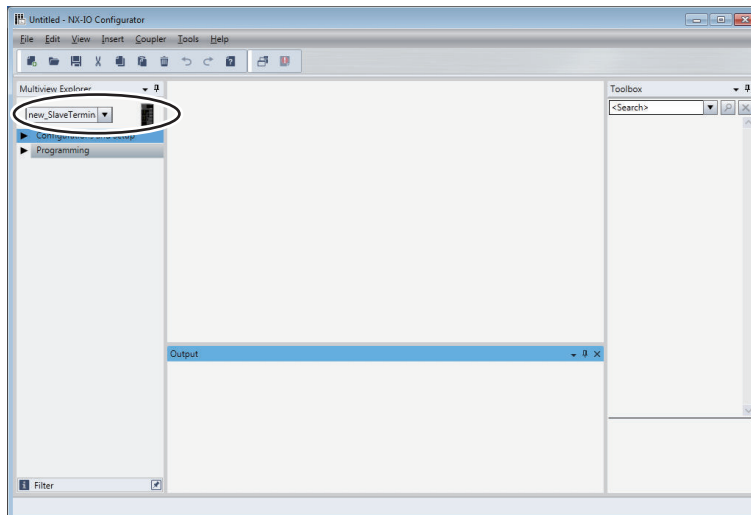
Item	Description
Project name	Enter the project name.
Author	Enter the author name. If this is the first time you are creating a project after installing the NX-IO Configurator, the user name that you entered when you logged onto Windows is displayed.*1
Comment	Enter a comment.
Category	Select the device category.
Device	Select the device to use.

*1. You can change the author name that is displayed when you create a project. Change it in the option settings. Refer to 5-9 *NX-IO Configurator Option Settings* on page 5 - 35 for details.

- 2 Set the required items in the **Create New Project** dialog box and then click the **OK** button. The **Add Device** dialog box is displayed.



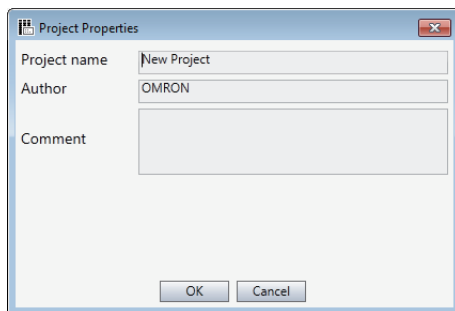
- 3 Select the model and unit version of the device and then click the **OK** button. The selected device is displayed in the main window.



3-2-2 Editing Project Properties

Use the following procedure to edit the properties of the project.

- 1 Select **Properties** from the **View** menu.
The **Project Properties** dialog box is displayed.



- 2 Enter each item and then click the **OK** button.
All changes are saved.

3-2-3 Saving the Project File

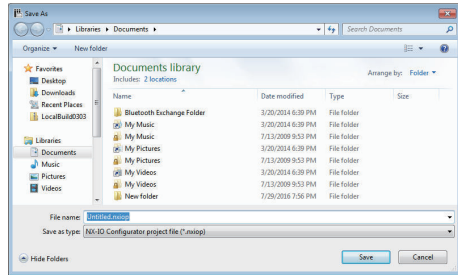
Use the following procedure to save the current project file.

- 1 Select **Save** from the **File** menu. Or click the **Save** button on the toolbar.
The current project file is saved.

3-2-4 Saving the Project File Under a Different Name

Use the following procedures to save the project file under a different name.

- 1 Select **Save As** from the **File** menu.
The **Save As** dialog box is displayed.

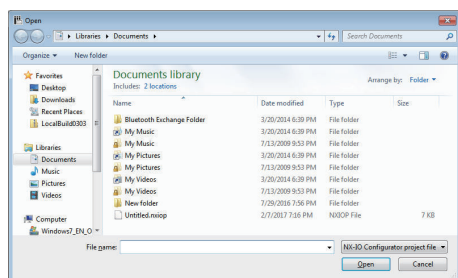


- 2 Select the storage location for the project file, enter a file name, and then click the **Save** button. The project file is saved.

3-2-5 Opening a Project File

Use the following procedure to open a project file.

- 1 Select **Open** from the **File** menu. Or click the **Open** button on the toolbar. The **Open** dialog box is displayed.



- 2 Select the file to open and then click the **Open** button. The project is opened.



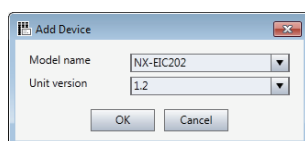
Additional Information

If you are editing a project, a confirmation dialog box is displayed to ask if you need to save the current project.

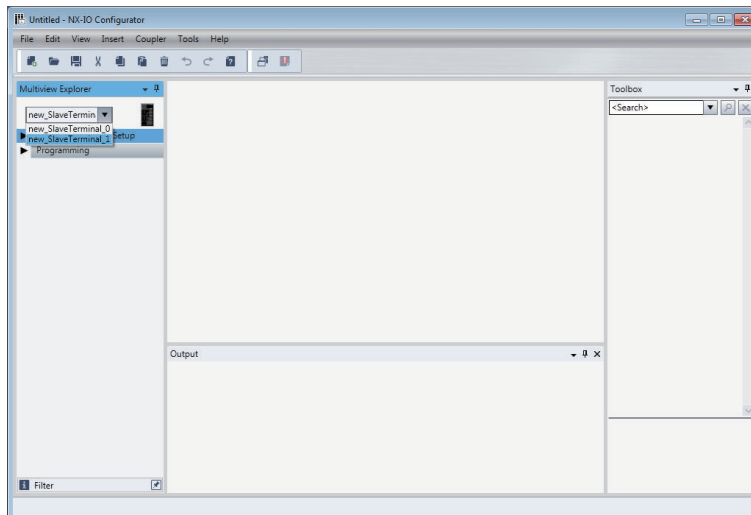
3-2-6 Adding Additional Slave Terminals

Use the following procedure to add a Slave Terminal to the project file.

- 1 Select **Insert – Slave Terminal – EtherNet/IP Coupler**. The **Add Device** dialog box is displayed.



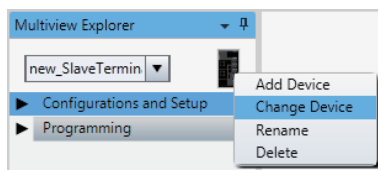
- 2 Select the model and unit version of the Slave Terminal and then click the **OK** button. The Slave Terminal is added.



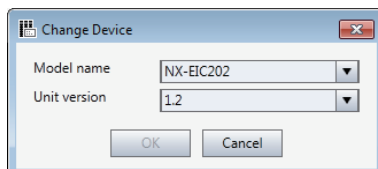
3-2-7 Changing Devices

The following describes how to change the model and version of the device that is displayed. You can select pop-up menu command only when the device model to change to is available.

- 1 Right-click the device icon in the Multiview Explorer and select **Change Device** from the pop-up menu.



The **Change Device** dialog box is displayed.



- 2 Select the model and unit version of the device and then click the **OK** button. The device is changed.

4

Slave Terminal Setup and Transfer

This section describes the procedures to configure and set up Slave Terminals and transfer the configuration and settings.

4

4-1	Configuring and Setting Up a Slave Terminal	4 - 2
4-1-1	Opening the Slave Terminal Tab Page	4 - 2
4-1-2	Creating a Slave Terminal Configuration	4 - 3
4-2	Displayng I/O Allocation Information	4 - 12
4-3	Connecting to the Slave Terminal.....	4 - 13
4-3-1	Connection Methods.....	4 - 13
4-3-2	Connection Method Selection	4 - 13
4-3-3	Connection Procedure	4 - 14
4-4	Transferring Slave Terminal Settings	4 - 24
4-4-1	Comparing and Transferring the Slave Terminal Configuration.....	4 - 24
4-4-2	Transferring Slave Terminal Settings	4 - 26
4-4-3	Transferring Unit Operation Settings	4 - 29

4-1 Configuring and Setting Up a Slave Terminal

This section describes how to configure and set up a Slave Terminal.

Configuring and setting up a Slave Terminal means to create a Slave Terminal configuration and setting up NX Units that comprise the Slave Terminal. A Slave Terminal refers to a configuration in which a Communications Coupler Unit is mounted with NX Units and the End Cover. With this Support Software, you can build a Slave Terminal configuration as if you were configuring the actual Slave Terminal.

You can create a Slave Terminal configuration in the Slave Terminal tab page that is displayed from a Communications Coupler Unit.



Precautions for Safe Use

- If any inappropriate parameters are set when you transfer the following settings, unexpected machine operation may result. Confirm that the machine will not be adversely affected before you transfer the data. Also, confirm that the Unit configuration, I/O allocations, and Unit operation settings are correctly set in the Slave Terminal before you start actual operation.
 - Communications Coupler Unit and NX Unit settings
 - Node address and Unit number settings for the Communications Coupler Unit and NX Units
 - PDO map settings for the Communications Coupler Unit and NX Units
- If inappropriate Unit configuration information is transferred to the Slave Terminal, unexpected machine operation may result. Even if appropriate Unit configuration information is set, confirm that the controlled system will not be adversely affected before you transfer the data.
- When importing the settings of the Communications Coupler Unit and NX Unit and transferring the settings, confirm that the Unit configuration, I/O allocations, and Unit operation settings are correctly set in the Slave Terminal before you start actual operation.



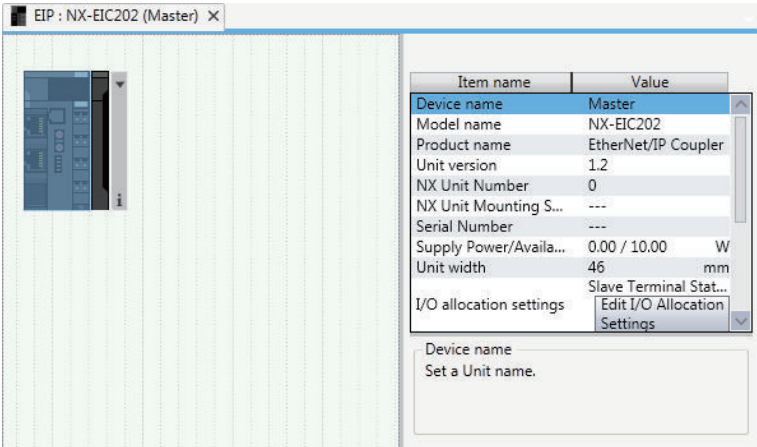
Additional Information

The NX-IO Configurator does not support NX-series Safety Control Units. To use NX-series Safety Control Units, you need the Sysmac Studio.

4-1-1 Opening the Slave Terminal Tab Page

Use the following procedure to open the Slave Terminal tab page.

- 1** Double-click the Communications Coupler Unit in the Multiview Explorer. Or right-click the Communications Coupler Unit and select **Edit** from the pop-up menu.
The Slave Terminal tab page is displayed in the Edit pane.



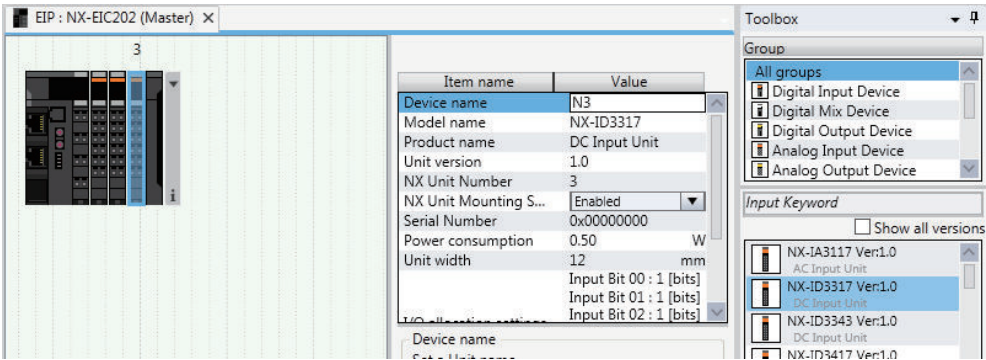
4-1-2 Creating a Slave Terminal Configuration

Use the following procedure to create a Slave Terminal configuration.

Registering NX Units Offline (Building the Slave Terminal Configuration)

● Registering NX Units to the Slave Terminal

- 1 Drag an NX Unit from the **Toolbox** to the Slave Terminal tab page.
The NX Unit is added.



● Deleting Registered NX Units

- 1 Right-click the Unit to delete and select **Delete** from the pop-up menu.
The Unit is deleted.

● Deleting All NX Units

- 1 Right-click any location where there are no Units and select **Clear All** from the pop-up menu.
All of the registered Units are deleted.

● Moving NX Units

- 1 Right-click the Unit to move and select **Cut** from the pop-up menu.
- 2 Right-click the Unit to the left of the position where you want to insert the Unit and select **Paste** from the pop-up menu.
The Unit is moved.



Additional Information

You can also move the Unit by dragging it to the location where you want to insert it.

● Copying and Pasting NX Units

- 1 Right-click the Unit to copy and select **Copy** from the pop-up menu.
- 2 Right-click the Unit to the left of the position where you want to insert the Unit and select **Paste** from the pop-up menu.
The copied Unit is inserted.



Additional Information

When you copy a Unit, all settings except for the device name and unit number are copied with it. The device name and unit number are automatically set to values that are not used by other Units.

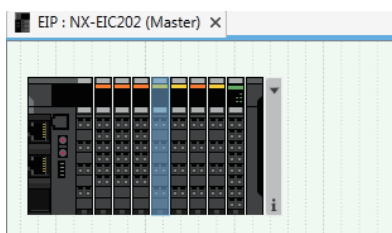
● Changing How NX Units Are Displayed

You can change how Units are displayed between the appearance diagram view and the model/Unit name view.

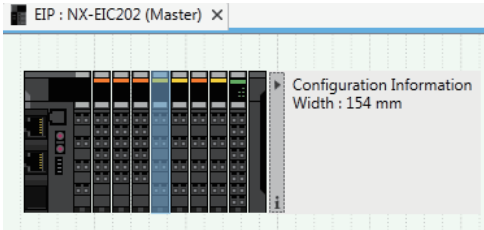
- 1 Right-click in the Slave Terminal tab page and select **Show Model/Unit Name** from the pop-up menu.
The model numbers and device names are displayed in boxes. To restore the previous view, select **Show Model/Unit Name** again to clear the selection.

● Displaying the Width of a Slave Terminal

- 1 Click the bar-with a downward-pointing triangle at the right end of the Slave Terminal.



The width of the Slave Terminal is displayed.



Communications Coupler Unit and NX Unit Settings

The following describes the Communications Coupler Unit and NX Unit settings that you can make in the Slave Terminal tab page. The settings apply to both the Communications Coupler Unit and the NX Units unless “NX Unit” is specified.



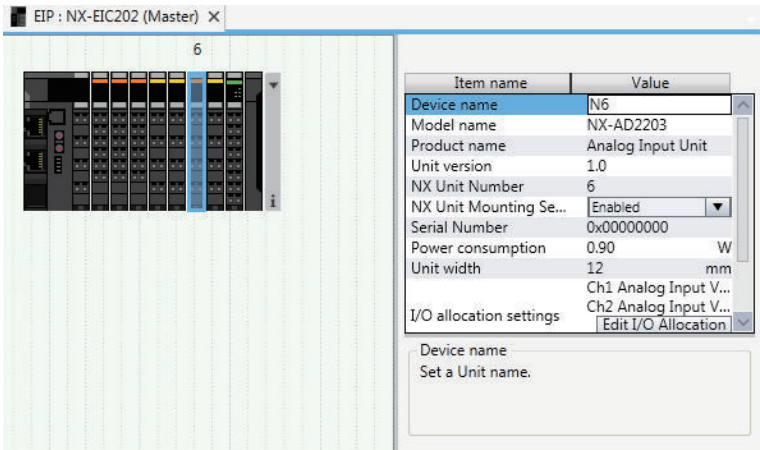
Precautions for Safe Use

If inappropriate parameters are set as a result of changing the event level of an NX Unit error, unexpected system operation may result. Confirm that the machine will not be adversely affected before you transfer the data.

● Displaying the Unit Settings Pane

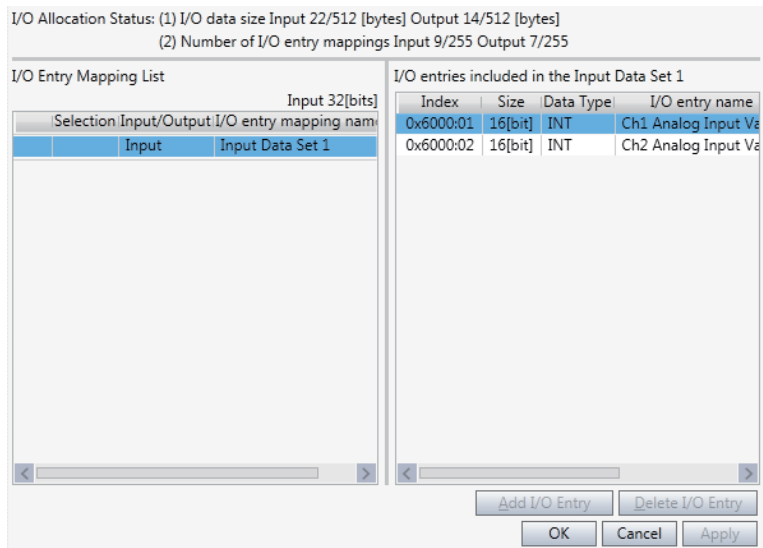
Set the Unit parameters in the Unit Settings pane.

- 1 Select the Unit in the Slave Terminal tab page.
The Unit Settings pane is displayed.



● I/O Allocation Settings

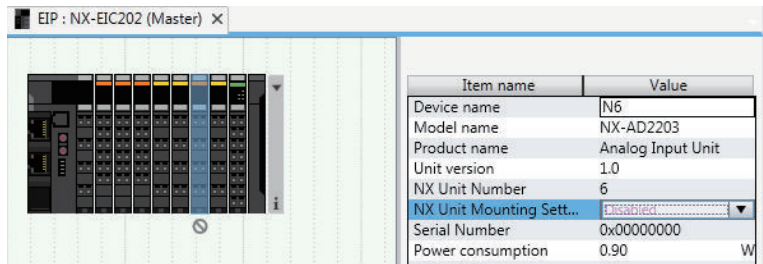
- 1 Click the **Edit I/O Allocation Settings** button in the Unit Settings pane.
The I/O allocations are displayed so that you can edit them.



● **NX Unit Mounting Setting**

If you set the **NX Unit mounting setting** to **Disabled** for an NX Unit that is scheduled to be added in the future, you can continue to perform Unit settings and debugging for other Units even if the disabled NX Unit does not actually exist in the Slave Terminal.

- 1** Select **Disabled** for the **NX Unit mounting setting** parameter in the Unit Settings pane. An icon is displayed to show that the Unit is disabled.



Change the setting to **Enabled** in the **Unit Settings** pane to enable the Unit again.



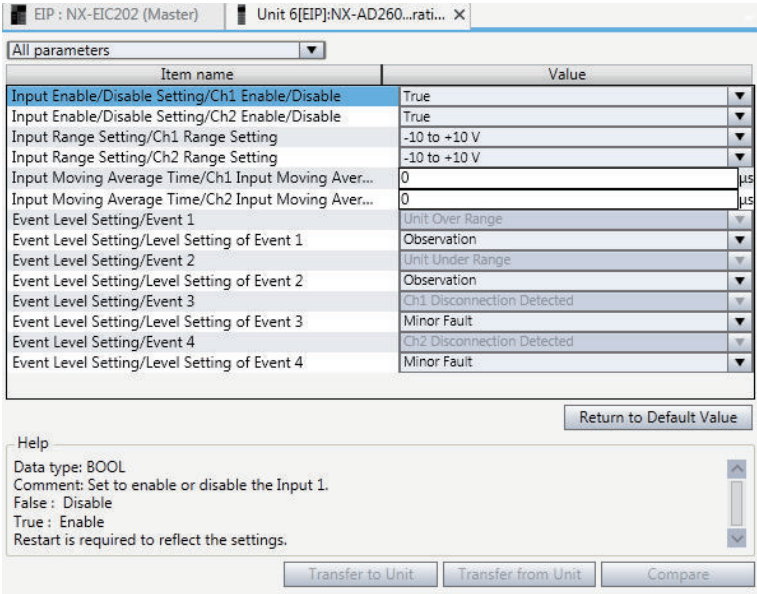
Additional Information

Regardless of whether the NX Unit mounting setting parameter is set to Enabled or Disabled, the I/O allocation settings for the NX Unit are applied to the I/O data for Communications Coupler Unit. Operation changes as follows if the parameter is set to **Disabled**.

- If the NX Unit is not mounted, a Unit Configuration Verification Error does not occur, an NX Unit number is assigned, and the input value is locked at 0.
- If the NX Unit is mounted, a Unit Configuration Verification Error will occur.

● **Unit Operation Settings**

- 1** Double-click a Unit. Or right-click the Unit and select **Edit Unit Operation Settings** from the pop-up menu. A Unit Operation Settings tab page is displayed.



Additional Information

The specific parameters depend on the Unit. Refer to the user's manual for the specific Unit for details.

● Exporting NX Unit Settings

Use the following procedure to save the NX Unit settings in a file with an NSF file name extension.

- 1** Right-click an NX Unit in the Slave Terminal tab page and select **Export NX Unit Settings** from the pop-up menu.
A Save File dialog box is displayed.
- 2** Enter the file name and then click the **OK** button.
The file is saved.

● Importing NX Unit Settings to Insert a New Unit

Use the following procedure to import the settings from an NX Unit settings file with an NSF file name extension and use the settings to add a new NX Unit to the Slave Terminal.

- 1** Right-click a Unit in the Slave Terminal tab page and select **Import NX Unit Settings and Insert New Unit** from the pop-up menu.
A Select File dialog box is displayed.
- 2** Select the file and then click the **OK** button.
An NX Unit is added to the Slave Terminal based on the settings in the file.



Precautions for Safe Use

Always confirm safety at the destination node before you transfer Unit configuration information, parameters, settings, or other imported data. The devices or machines may operate unexpectedly, regardless of the operating mode of the Controller.



Additional Information

The NX-IO Configurator does not support NX-series Safety Control Units. If the imported file contains NX-series Safety Control Unit settings, the NX-series Safety Control Unit will be indicated as an error.

● Exporting All NX Unit Settings

Use the following procedure to save all the NX Unit settings in a file with an NSPF file name extension.

- 1** Right-click a Communications Coupler Unit in the Slave Terminal tab page and select **Export All NX Unit Settings** from the pop-up menu.
A Save File dialog box is displayed.
- 2** Enter the file name and then click the **OK** button.
The file is saved.

● Importing All NX Unit Settings

Use the following procedure to import all the NX Unit settings from a file with an NSPF file name extension and add newly all the NX Units included in the file.

You can import all NX Unit settings only when there is no NX Unit registered in the Communications Coupler Unit.

- 1** Right-click a Communications Coupler Unit in the Slave Terminal tab page and select **Import All NX Unit Settings** from the pop-up menu.
A Select File dialog box is displayed. An error message is displayed if there is any registered NX Unit. In this case, delete all the registered NX Units and select **Import All NX Unit Settings** again.
- 2** Select the file and then click the **OK** button.
All the NX Units included in the file are added to the Slave Terminal.



Precautions for Safe Use

Always confirm safety at the destination node before you transfer Unit configuration information, parameters, settings, or other imported data. The devices or machines may operate unexpectedly, regardless of the operating mode of the Controller.



Additional Information

The NX-IO Configurator does not support NX-series Safety Control Units. If the imported file contains NX-series Safety Control Unit settings, the NX-series Safety Control Unit will be indicated as an error.

Changing the Model of an Communications Coupler Unit or NX Unit

Use the following procedures to change the model or unit version of a Communications Coupler Unit or NX Unit that is already registered.

● Changing the Model of a Communications Coupler Unit

- 1** Right-click the device icon for a Communications Coupler Unit in the Multiview Explorer and select **Change Device** from the pop-up menu.
The devices that you can change to and their unit versions are displayed in the **Change Device** dialog box.
- 2** Select the device to change to and then click the **OK** button.
The device is changed to the selected model and unit version.



Precautions for Safe Use

Check the data and parameter settings for proper execution before you use them for actual operation.



Precautions for Correct Use

- If the Communications Coupler Unit that you changed to does not support an NX Unit registered in the Slave Terminal, an unsupported Unit error occurs for the NX Unit. Confirm that the model of the Communications Coupler Unit after the change supports the NX Units on the Slave Terminal before you change the model.
- Any settings in the Communications Coupler Unit before the change that are not supported by the Communications Coupler Unit after the change will be lost when you change the model.
- If the performance of the Communications Coupler Unit is different after changing the model, the timing of I/O may change.

● Changing the Model of an NX Unit

- 1** Right-click the Unit for which to change the model in the Slave Terminal tab page and select **Change Model** from the pop-up menu.
The Units that you can change to are displayed in the Change Model dialog box.
- 2** Select the Unit to change to and then click the **OK** button.
The Unit is changed to the selected model and unit version.



Precautions for Safe Use

Check the data and parameter settings for proper execution before you use them for actual operation.



Precautions for Correct Use

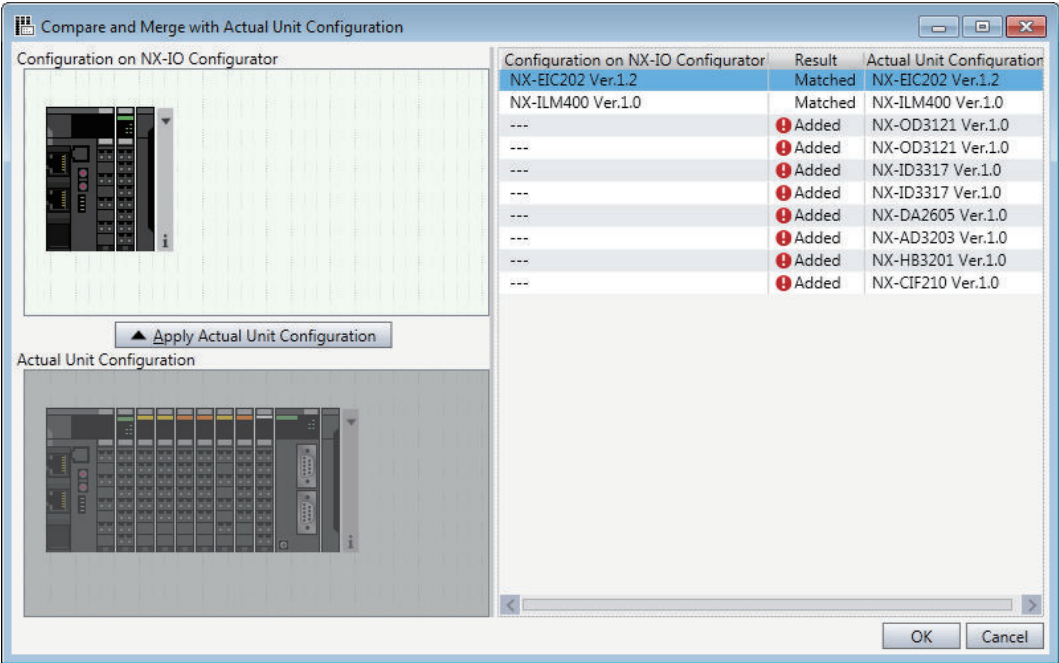
- Any settings in the NX Unit before the change that are not supported by the NX Unit after the change will be lost when you change the model.
- If the performance of the NX Unit is different after changing the model, the timing of I/O may change.

Registering NX Units Online (Building the Slave Terminal Configuration)

Use the following procedure to build the Slave Terminal configuration on the Support Software by acquiring information from the actual Slave Terminal configuration.

● **Acquiring Slave Terminal Configuration Information**

- 1
- Go online, right-click anywhere in the Slave Terminal tab page, and select **Compare and Merge with Actual Unit Configuration** from the pop-up menu.
The actual Unit configuration is read and compared with the Unit configuration on the Support Software. The results are displayed in the **Compare and Merge with Actual Unit Configuration** dialog box.



- 2
- Click the **Apply Actual Unit Configuration** button to apply the actual Unit configuration to the Unit configuration on the Support Software.
- 3
- Click the **OK** button.
The display returns to the Slave Terminal tab page.



Precautions for Safe Use

Check the data and parameter settings for proper execution before you use them for actual operation.



Precautions for Correct Use

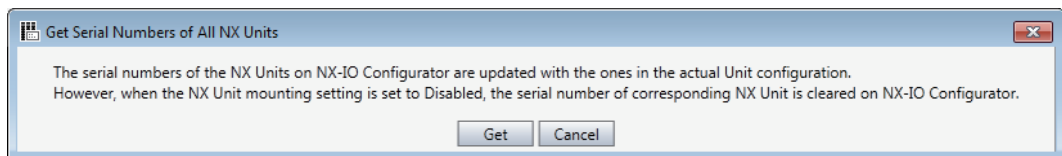
If you automatically create the Slave Terminal configuration on the Support Software by clicking the **Apply Actual Unit Configuration** button, any previously set Slave Terminal configuration, Communications Coupler Unit settings, and NX Unit settings are discarded. To merge the Slave Terminal configuration information without losing the current settings in the Support Software, do not use the **Apply Actual Unit Configuration** button, and use the compare and merge operation to create the configuration. Refer to *Displaying in the Compare and Merge with Actual Unit Configuration Dialog Box* on page 4 - 24 for information on the operation to compare and merge with the actual network configuration on the Support Software.

● Reading Serial Numbers

The serial numbers can be read from the Units in the actual Unit configuration and applied to the Slave Terminal configuration on the Support Software.

- 1 Go online, right-click anywhere in the Slave Terminal tab page, and select **Get Serial Numbers of All NX Units** from the pop-up menu.

The Get Serial Numbers of All NX Units dialog box is displayed.



- 2 Click the **Get** button.

The serial numbers are read from the actual Unit configuration and applied to the Units in the Slave Terminal configuration on the Support Software.



Additional Information

If the NX Unit mounting setting parameter is set to **Disabled**, the serial number of the NX Unit is cleared to 0 when reading the serial numbers is executed.

4-2 Displayng I/O Allocation Information

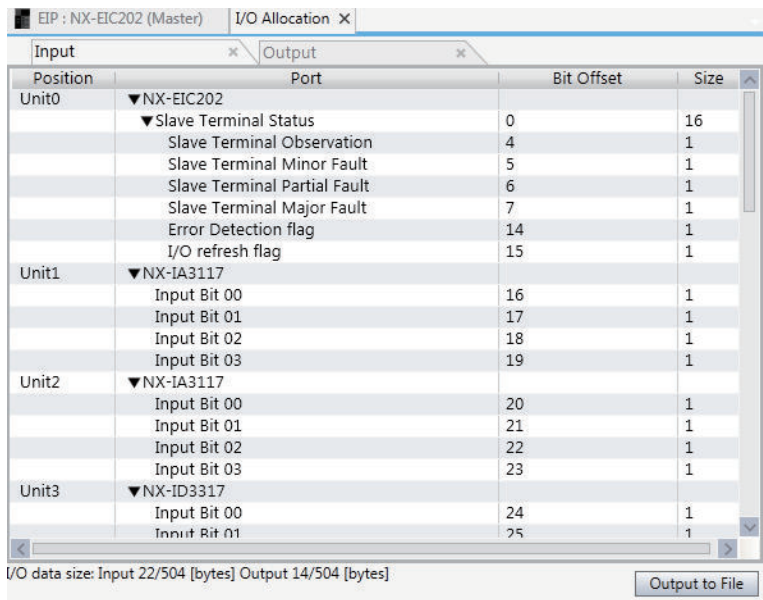
You can display information such as the bit offset and size of the data allocated for a specific configuration. Use this information when you assign network variables with a Controller.

Displaying I/O Allocations

Use the following procedure to display I/O allocations.

- 1
- In the Multiview Explorer, right-click the EtherNet/IP Coupler Unit and select **Display I/O Allocation** from the pop-up menu.

The **I/O Allocation** tab is displayed.

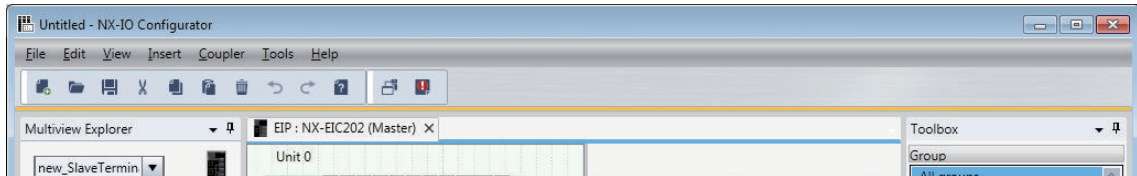


The **I/O Allocation** tab provides the following information.

Item	Description
Input tab	I/O allocation information related to inputs is displayed.
Output tab	I/O allocation information related to outputs is displayed.
Position	The Unit number corresponding to the location where the NX Unit is mounted. A Communications Coupler Unit is displayed as Unit0.
Port	I/O entries previously defined with the Edit I/O Allocation Settings button. Refer to <i>I/O Allocation Settings</i> on page 4 - 5 for details.
Bit Offset	The consecutive order of bits assigned based on the size of each port accounting for any necessary padding. Padding is done automatically to ensure whole bytes are used for data exchange.
Size	The specific data size of each I/O entry in the Port column. This determines the bit offset and the data input/output total size.
I/O data size	The total data size of all port entries in the Slave Terminal configuration is displayed for inputs and outputs.
Output to File button	Clicking this generates a zip file that includes an .xsl and an .xml file. Opening the .xml file in a browser displays a table overview of the I/O allocation.

4-3 Connecting to the Slave Terminal

Use the following information to enable communications between the Support Software and the Communications Coupler Unit. Online refers to a state in which a connection is established between them. When the Support Software goes online, the color of the bottom of the tool bar changes to yellow.



4-3-1 Connection Methods

Use the following information to set the method to establish an online connection between the Support Software and Communications Coupler Units. The following connection methods are available depending on the connection path.

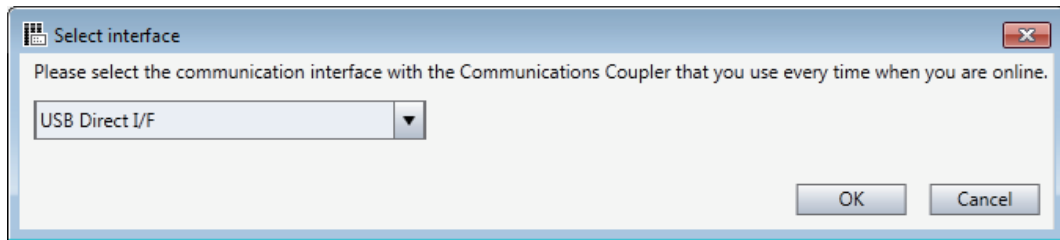
EtherNet/IP Coupler Unit port	Connection method	Description
USB port	USB Direct I/F	An online connection is established with the Communications Coupler Unit that is connected to the computer through a USB cable.
Ethernet/IP port*1	CJ2 USB/Serial Port	If the Communications Coupler Unit is connected to a CJ2 CPU Unit via Ethernet/IP, an online connection is established via the CJ2 CPU Unit that is connected to the computer through a USB cable or a serial cable.
	CS/CJ1 Serial Port -> EIP Unit I/F	If the Communications Coupler Unit is connected to an Ethernet/IP Unit that is mounted on a CS/CJ1 CPU Unit, an online connection is established via the CS/CJ1 CPU Unit that is connected to the computer through a peripheral cable or a serial cable.
	Ethernet I/F	If the Communications Coupler Unit is connected to an Ethernet/IP network, an online connection is established from the Ethernet port of the computer.
	Ethernet -> CS/CJ1 ETN-EIP Unit I/F	If the Communications Coupler Unit is connected to an Ethernet/IP network, an online connection is established via an Ethernet/IP Unit that is mounted on a CS/CJ1 CPU Unit, which is connected from the Ethernet adapter in the computer to the Ethernet Unit that is mounted on the CPU Unit.

*1. Available only for Ethernet/IP Coupler Units with unit version 1.2 or later.

4-3-2 Connection Method Selection

Use the following procedure to set the connection method to use every time when connecting to the Communications Coupler Unit.

- 1 Select **Select Interface** from the **Coupler** menu.
The **Select interface** dialog box is displayed.



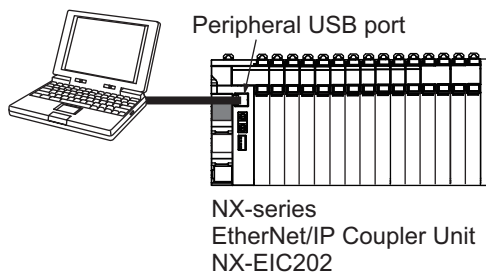
- 2 Select the connection method to use every time from the list and click the **OK** button.

4-3-3 Connection Procedure

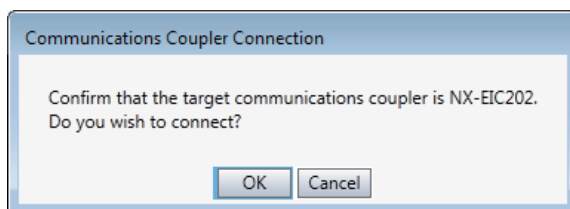
The connection procedure is described below. The connection procedure differs depending on the connection path.

USB Direct I/F

Connection example



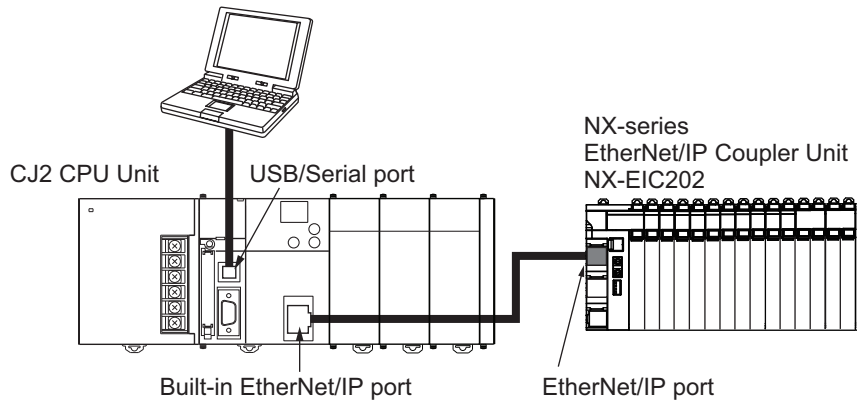
- 1 Right-click the Communications Coupler Unit in the Multiview Explorer or the Slave Terminal tab page, and select **Communications Coupler Connection – Online** from the pop-up menu. Or, in the Unit Settings pane in the Slave Terminal tab page, click the **Online** button for **Communications Coupler Connection**.
A connection confirmation dialog box is displayed.



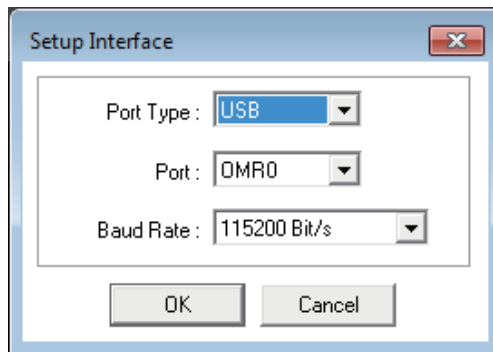
- 2 Check the Communications Coupler Unit to connect to, and click the **OK** button.
The Support Software goes online.

CJ2 USB/Serial Port

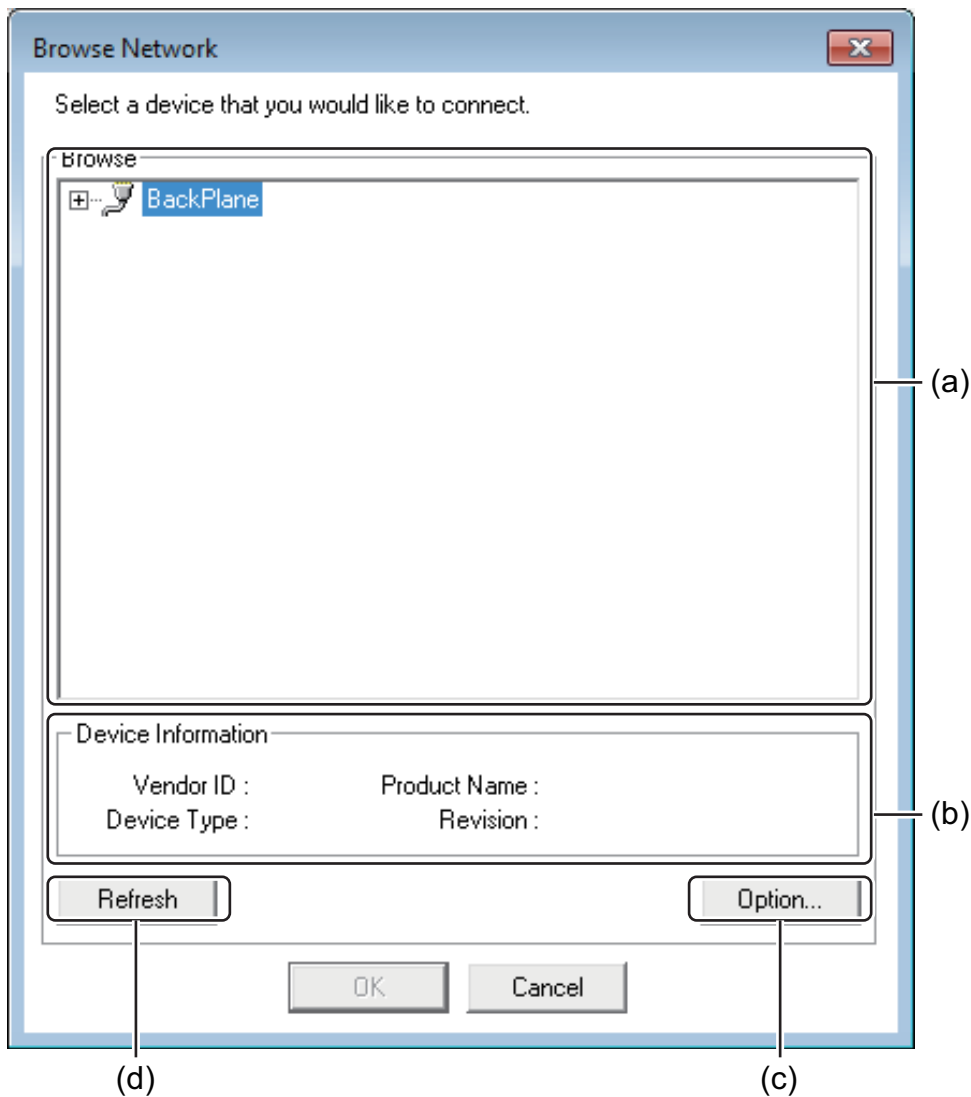
Connection example



- 1 Right-click the Communications Coupler Unit in the Multiview Explorer or the Slave Terminal tab page, and select **Communications Coupler Connection – Online** from the pop-up menu. Or, in the Unit Settings pane in the Slave Terminal tab page, click the **Online** button for **Communications Coupler Connection**.
The **Setup Interface** dialog box is displayed.

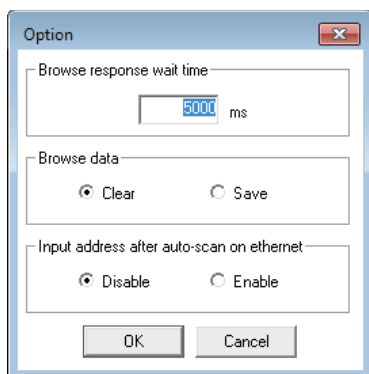


- 2 Set the **Port Type**, **Port**, and **Baud Rate** to suitable values and then click the **OK** button to connect to the CJ2 CPU Unit.
If the connection is successful, the **Browse Network** dialog box is displayed.



	Item	Description
(a)	Network list	Networks and devices that you can connect to are listed.
(b)	Device Information	Information on the selected device is displayed.
(c)	Option button	Set the behavior of the network list display function.
(d)	Refresh button	Click this to update the network list.

- 3** Click the **Option** button.
The **Option** dialog box is displayed.



Item	Description
Browse response wait time	Sets the time (in 0.001 s) to monitor the connection timeout when you click the Refresh button in the Browse Network dialog box.
Browse data	Specify whether to retain the network status data that you browse in the Browse Network dialog box for display in the next connection.
Input address after auto-scan on ethernet	Specify whether to enable IP address entry by the user after automatic network scanning.

- 4** Set the options as necessary and then click the **OK** button.
You return to the **Browse Network** dialog box.
- 5** In the **Browse Network** dialog box, select **BackPlane** and click the **Refresh** button.
The CJ2 CPU Unit and the Communication Units that are mounted on it are now listed.
- 6** Select the target Communications Coupler Unit under the CPU Unit or Communication Unit and then click the **OK** button.
The Support Software goes online.



Precautions for Correct Use

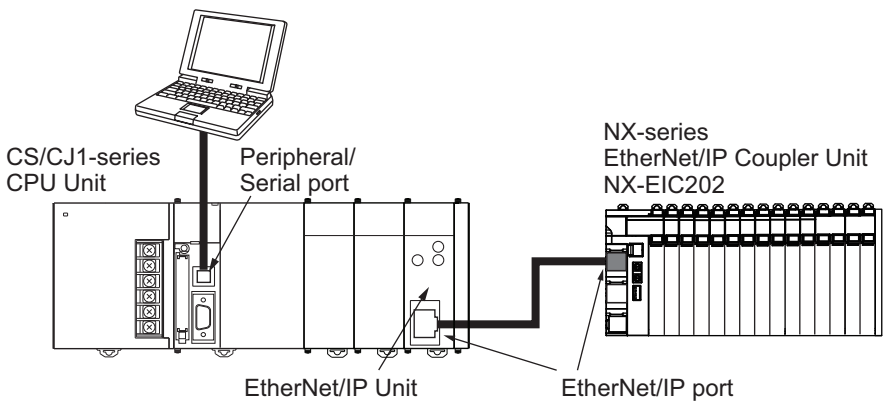
When the computer and the Communications Coupler Unit are connected in the following connection configuration, you cannot select the same communications port in the **Setup Interface** dialog box to go online with more than one Communications Coupler Unit at the same time. Doing so causes the later connection attempts to fail.

Connection configuration:

The computer is connected to the serial port on a CJ2 CPU Unit through a USB-Serial Conversion Cable (CS1W-CIF31) and an online connection is established via the tool bus protocol.

CS/CJ1 Serial Port -> EIP Unit I/F

Connection example



- 1** Right-click the Communications Coupler Unit in the Multiview Explorer or the Slave Terminal tab page, and select **Communications Coupler Connection – Online** from the pop-up menu. Or, in the Unit Settings pane in the Slave Terminal tab page, click the **Online** button for **Communications Coupler Connection**. The **Setup Interface** dialog box is displayed.

Setup Interface

Interface : Toolbus

Network Address : 0

Node Address : 0

Unit No. : 0

COM Port : COM3

Baud Rate : 115200 Bit/s

Data Length : 8Bits

Parity : No

Stop Bit : 1Bit

Warning: If a tool is online via the USB-serial conversion cable, disconnect the online before clicking OK.

OK Cancel

Item	Description
Interface	Select the serial communications mode for the serial communications port on the CS/CJ1-series CPU Unit. You can select Toolbus or Host Link .

Item	Description
Network Address	Enter the network address of the connected EtherNet/IP Unit. Specify the network address if data passes over the network at a point beyond the serial communications port of the CS/CJ1-series CPU Unit. Otherwise, enter 0.
Node Address	Enter the node address of the connected EtherNet/IP Unit. Specify the network address if data passes over the network at a point beyond the serial communications port of the CS/CJ1-series CPU Unit. Otherwise, enter 0.
Unit No.	Enter the Unit number of the connected EtherNet/IP Unit as a CPU Bus Unit.
COM Port	Select the COM port of the computer that you use for communications.
Baud Rate	Set the baud rate of the serial communications port on the CS/CJ1-series CPU Unit.
Data Length	Set the data length for the serial communications port on the CS/CJ1-series CPU Unit. The data length setting is valid when the host link interface is selected.
Parity	Set the parity for the serial communications port on the CS/CJ1-series CPU Unit. The parity setting is valid when the host link interface is selected.
Stop Bit	Set the stop bit for the serial communications port on the CS/CJ1-series CPU Unit. The stop bit setting is valid when the host link interface is selected.

- 2** Make the settings that are required to connect to the CS/CJ1 CPU Unit and then click the **OK** button.
If the connection is successful, the **Browse Network** dialog box is displayed.
- 3** Set the options as necessary and then click the **Refresh** button.
The CPU Unit and the Communication Units that are mounted on it are now listed.
- 4** Select the target Communications Coupler Unit under the Communication Unit and then click the **OK** button.
The Support Software goes online.



Precautions for Correct Use

When the computer and the Communications Coupler Unit are connected in the following connection configuration, do not select the same communications port in the **Setup Interface** dialog box to go online with more than one Communications Coupler Unit at the same time. Doing so causes not only the later connection attempts, but also all online operations that you will attempt after that on the Communications Coupler Unit that is already online to fail. Also, when other Support Software such as the Network Configurator uses the same communications port to go online with the Communications Coupler Unit, all online operations from the Support Software will fail.

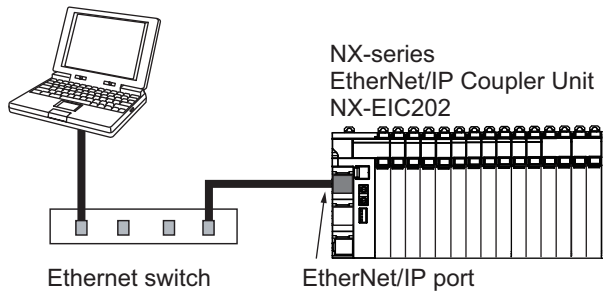
In such cases, once go offline and then go online with the Communications Coupler Unit again.

Connection configuration:

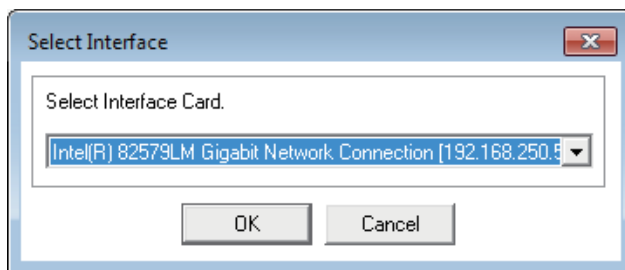
The computer is connected to the serial port on a CS/CJ1 CPU Unit through a USB-Serial Conversion Cable (CS1W-CIF31) and an online connection is established via the tool bus protocol.

Ethernet I/F

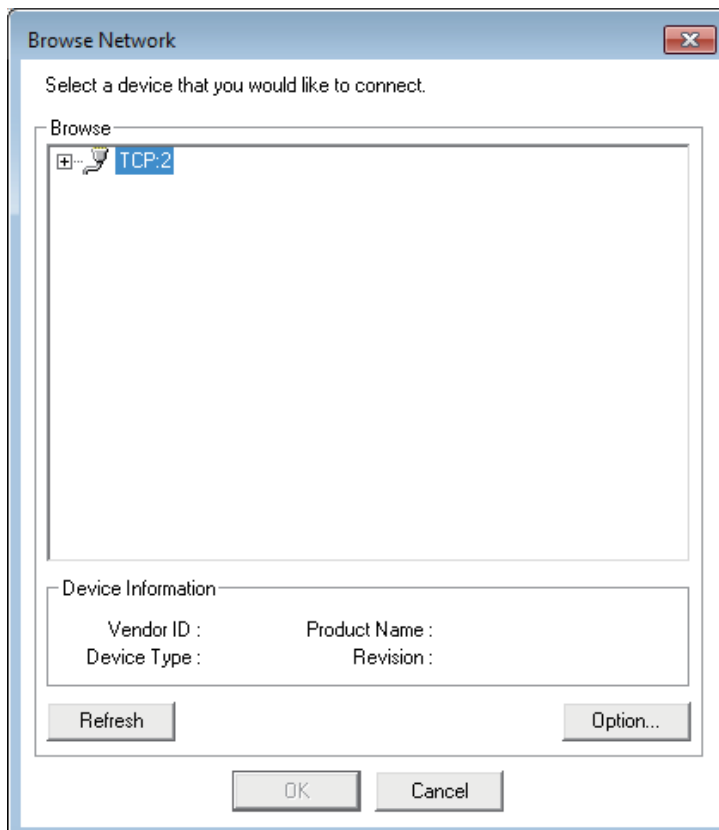
Connection example



- 1 Right-click the Communications Coupler Unit in the Multiview Explorer or the Slave Terminal tab page, and select **Communications Coupler Connection – Online** from the pop-up menu. Or, in the Unit Settings pane in the Slave Terminal tab page, click the **Online** button for **Communications Coupler Connection**.
The **Select Interface** dialog box is displayed if more than one Ethernet adapter is mounted in the computer.



- 2 Select the adapter to use and click the **OK** button.
If the connection is successful, the **Browse Network** dialog box is displayed.



- 3 Set the options as necessary, select **TCP:2**, and then click the **Refresh** button.
A list of the devices that are connected to the network is displayed.
- 4 Select the target Communications Coupler Unit and then click the **OK** button.
The Support Software goes online.

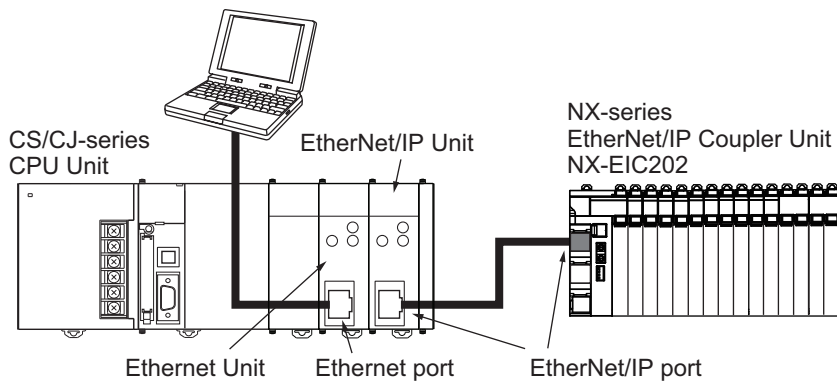


Additional Information

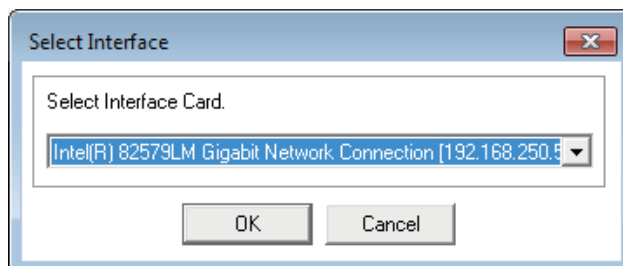
If it is the first time to connect, you may need to change the Windows firewall security settings. Refer to *A-2 Changing Windows Firewall Security Settings* on page A - 5 for details.

Ethernet -> CS/CJ1 ETN-EIP Unit I/F

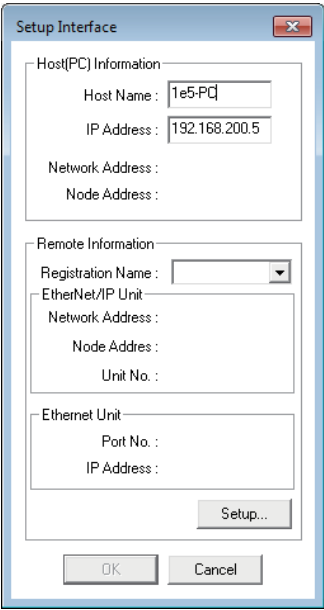
Connection example



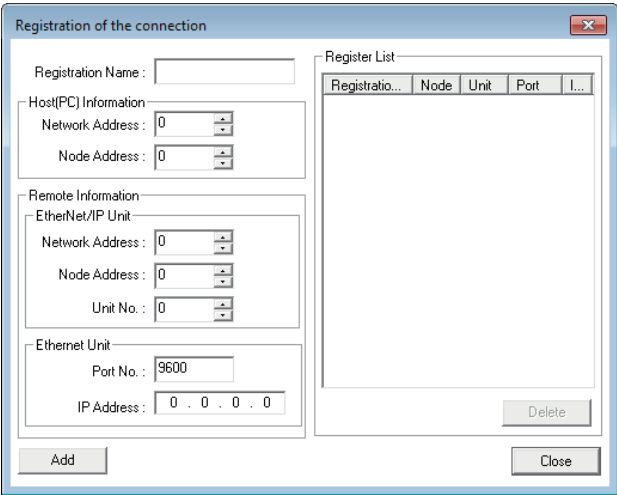
- 1 Right-click the Communications Coupler Unit in the Multiview Explorer or the Slave Terminal tab page, and select **Communications Coupler Connection – Online** from the pop-up menu. Or, in the Unit Settings pane in the Slave Terminal tab page, click the **Online** button for **Communications Coupler Connection**.
The **Select Interface** dialog box is displayed if more than one Ethernet adapter is mounted in the computer.



- 2 Select the adapter to use and click the **OK** button.
The **Setup Interface** dialog box is displayed.



- 3 Click the **Setup** button.
The **Registration of the connection** dialog box is displayed.



Item	Description
Registration Name	Enter any name.
Host (PC) Information	Enter information on the computer.
Network Address	Enter the same number as the network address of the EtherNet Unit that is mounted on the CPU Unit that serves as a relay node.
Node Address	Enter the last digit of the IP address of the computer. (Example: 1 if the IP address is 192.168.250.1)
Remote Information	
EtherNet/IP Unit	Enter information on the EtherNet/IP Unit that is mounted on the CPU Unit that serves as a relay node.
Network Address	Enter the network address that is set in the routing table.
Node Address	Enter the last digit of the IP address of the Unit. (Example: 3 if the IP address is 192.168.251.3)
Unit No.	Enter the unit number of the CPU Bus Unit (EtherNet/IP Unit).
Ethernet Unit	Enter information on the Ethernet Unit that is mounted on the CPU Unit that serves as a relay node.

Item		Description
	Port No.	Enter the Ethernet port number of the Unit.
	IP Address	Enter the IP address of the Unit.
Register List		This list shows the registered Units to connect to.
Add button		Click this to register the Unit settings that you have entered to the Register List as <i>Registration Name</i> .
Delete button		Click this to delete the Unit with the selected registration name from the Register List.

- 4** Enter the network information for the Unit to connect to, and then click the **Close** button.
You return to the **Setup Interface** dialog box.
- 5** Check the registered Unit settings and click the **OK** button.
If the connection is successful, the **Browse Network** dialog box is displayed.
- 6** Set the options as necessary, select **TCP:2**, and then click the **Refresh** button.
A list of the devices that are connected to the network is displayed.
- 7** Select the target Communications Coupler Unit and then click the **OK** button.
The Support Software goes online.



Precautions for Correct Use

When the computer and the Communications Coupler Unit are connected in the following connection configuration, you cannot select the same Ethernet adapter in the **Setup Interface** dialog box to go online with more than one Communications Coupler Unit at the same time. Doing so causes the later connection attempts to fail.

Connection configuration:

The computer is connected to the Ethernet port on an Ethernet Unit (or the EtherNet/IP port on an EtherNet/IP Unit) that is connected to a CS/CJ-series CPU Unit (or the built-in EtherNet/IP port on the CPU Unit) through an Ethernet cable and an online connection is established.



Additional Information

If it is the first time to connect, you may need to change the Windows firewall security settings. Refer to *A-2 Changing Windows Firewall Security Settings* on page A - 5 for details.

4-4 Transferring Slave Terminal Settings

The following describes how to transfer the Slave Terminal configuration and settings and the operation settings for each Unit that comprises the Slave Terminal.

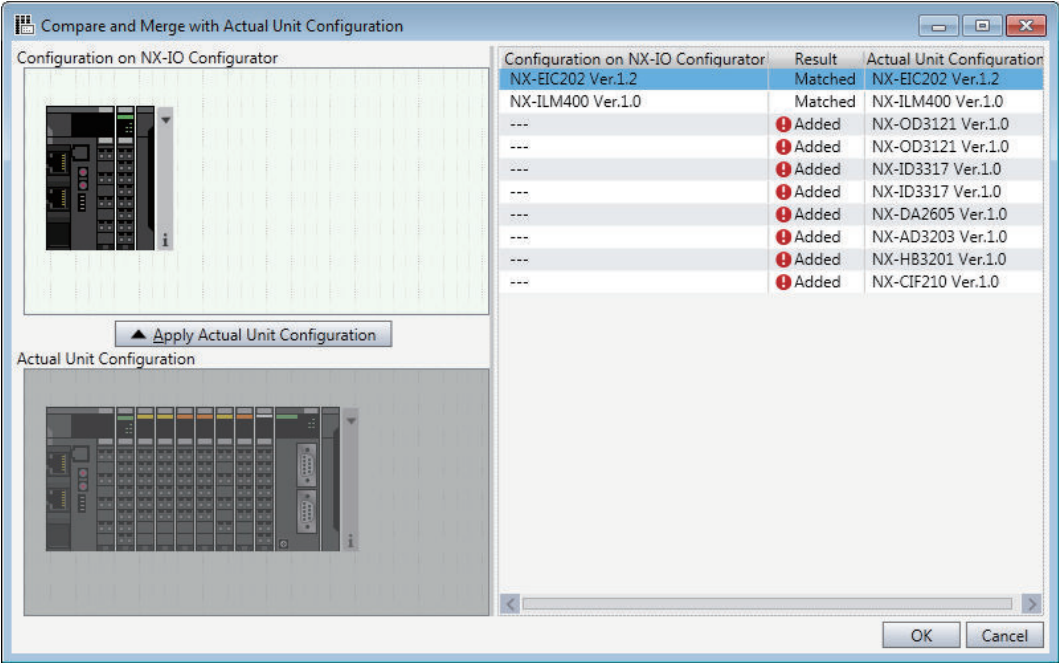
To transfer these settings, you need to go online with the Slave Terminal. Refer to *4-3 Connecting to the Slave Terminal* on page 4 - 13 for the procedure to connect to a Slave Terminal.

4-4-1 Comparing and Transferring the Slave Terminal Configuration

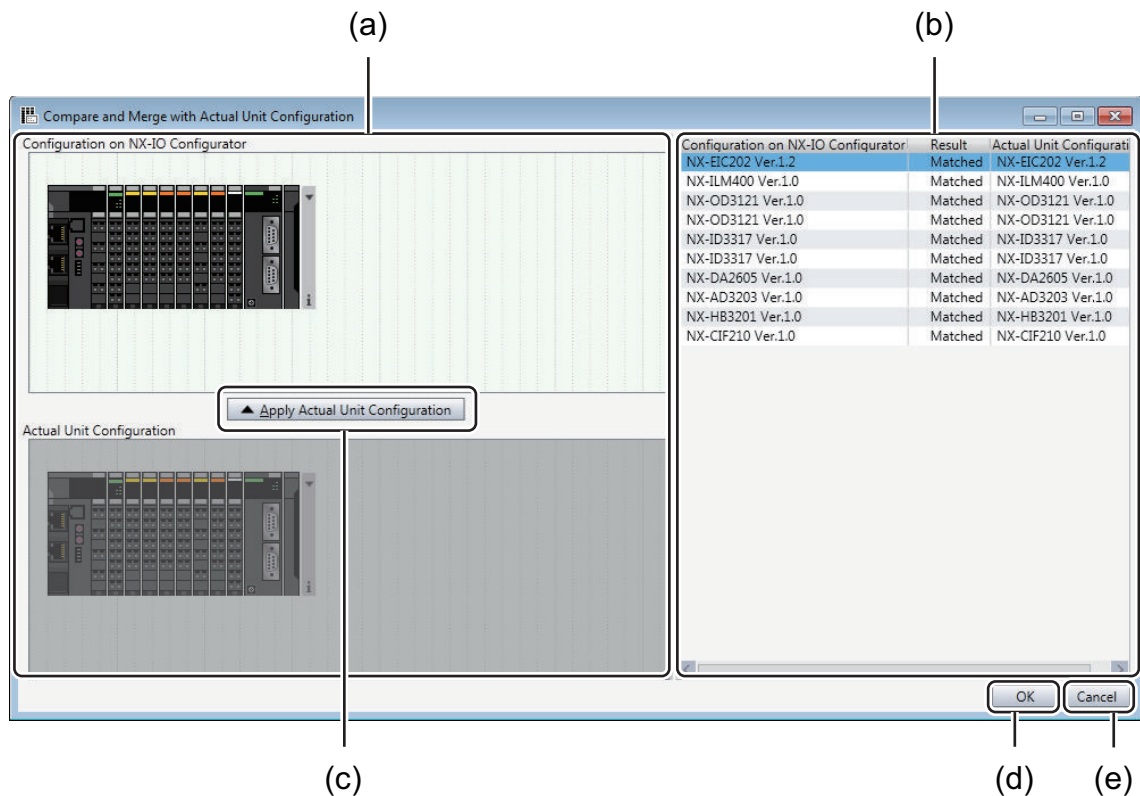
You can use the **Compare and Merge with Actual Unit Configuration** function to compare the Unit configuration on a Slave Terminal that was created offline with the actual Unit configuration. You can also use this function to match a configuration that was created offline with the actual configuration.

Displaying in the Compare and Merge with Actual Unit Configuration Dialog Box

- 1 Go online, right-click anywhere in the Slave Terminal tab page, and select **Compare and Merge with Actual Unit Configuration** from the pop-up menu.
- The **Compare and Merge with Actual Unit Configuration** dialog box is displayed, in which you can view the results of comparison between the Unit configuration on the Support Software and the actual Unit configuration.



Compare and Merge with Actual Unit Configuration Dialog Box



	Item	Description
(a)	Unit configurations	---
	Configuration on NX-IO Configurator	The Unit configuration on the NX-IO Configurator is displayed.
	Actual Unit Configuration	The actual Unit configuration is displayed.
(b)	Comparison results	The results of comparison between the configuration on the NX-IO Configurator and the actual Unit configuration are displayed.
	Configuration on NX-IO Configurator	The models and unit versions of Units on the NX-IO Configurator are displayed.
	Result	The comparison results are displayed.
	Actual Unit Configuration	The models and unit versions of actual Units are displayed.
(c)	Apply Actual Unit Configuration button	Click this to apply the actual Unit configuration to the Unit configuration on the NX-IO Configurator.
(d)	OK button	Click this to apply the changes and close the dialog box.
(e)	Cancel button	Click this to close the dialog box without applying the changes.

● Comparison Results

The model and unit version of each Unit are compared and the result is displayed in the **Result** column as shown in the following table.

Item	Description
Matched	All of the comparison items match for the Unit.
Removed	The Unit exists only in the Unit configuration on the NX-IO Configurator.
Added	The Unit exists only in the actual Unit configuration.
Disabled	The Unit exists only in the Unit configuration on the NX-IO Configurator and it is disabled.

Item	Description
Compatible	A replaceable Unit whose unit version in the actual Unit configuration is later than the unit version in the Unit configuration on the NX-IO Configurator.
Not compatible	A non-replaceable Unit whose unit version in the actual Unit configuration is earlier than the unit version in the Unit configuration on the NX-IO Configurator.

Transferring in the Compare and Merge with Actual Unit Configuration Dialog Box

You can insert Units in the actual Unit configuration into the configuration on the NX-IO Configurator. You can also apply the actual Unit configuration to the Unit configuration on the NX-IO Configurator.

- 1 In the **Compare and Merge with Actual Unit Configuration** dialog box, drag a Unit in the **Actual Unit Configuration** onto the **Configuration on NX-IO Configurator** where you want to insert it.
The Unit is inserted into the **Configuration on NX-IO Configurator**.
- 2 To apply the actual Unit configuration as a whole to the Unit configuration on the NX-IO Configurator, click the **Apply Actual Unit Configuration** button.
The **Configuration on NX-IO Configurator** now matches the **Actual Unit Configuration**.



Precautions for Correct Use

If the unit version of the Unit in the actual Unit configuration is not supported by the NX-IO Configurator when you click the **Apply Actual Unit Configuration** button, you can replace it with an earlier unit version that is supported by the NX-IO Configurator. However, the Unit may not operate properly depending on the unit version to replace. In such a case, you need to update the NX-IO Configurator to have the same unit version for the Unit in the NX-IO Configurator and the Unit in the actual Unit configuration.



Additional Information

If the Unit in the actual Unit configuration and the Unit in the configuration on the NX-IO Configurator have the same model number, but different unit versions, you can apply the unit version in the actual Unit configuration to the Unit configuration on the NX-IO Configurator. Right-click the target Unit row in the **Comparison results** and select **Apply Actual Unit Version** from the pop-up menu.

4-4-2 Transferring Slave Terminal Settings

The procedures to transfer the configuration information, Unit operation settings, Unit application data, and other Slave Terminal settings are given below.

Caution

Confirm that the destination node is correct before you transfer Slave Terminal settings from the computer to a Communications Coupler Unit.



**Caution**

Confirm that the parameter settings are correct and will not adversely affect the controlled system before you transfer Slave Terminal settings from the computer to a Communications Coupler Unit.



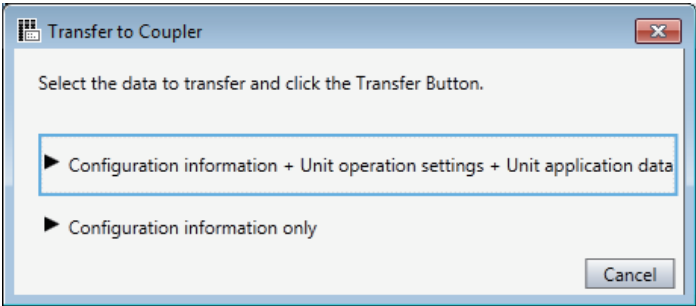
**Caution**

Confirm that the settings will not adversely affect the controlled system after restart before you transfer Slave Terminal settings from the computer to a Communications Coupler Unit.



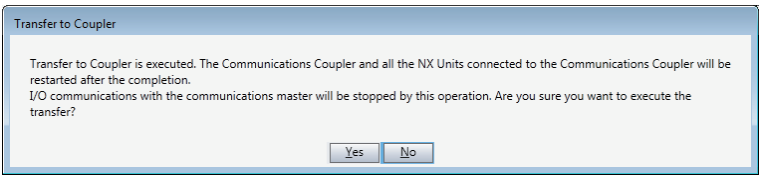
Transferring Settings from the Computer to the Communications Coupler Unit

- 1** Go online, right-click the Communications Coupler Unit in the Slave Terminal tab page, and select **Communications Coupler Connection – Transfer to Coupler** from the pop-up menu. Or right-click the Communications Coupler Unit in the Multiview Explorer and select **Communications Coupler Connection– Transfer to Coupler** from the pop-up menu. The **Transfer to Coupler** dialog box is displayed.



Item	Description
Configuration Information + Unit Operation Settings + Unit Application Data	The configuration information and the operation settings for each Unit that configures the Slave Terminal are transferred. For Units with Unit application data, the Unit application data is also transferred. Configuration Information includes Unit settings and I/O allocations.
Configuration information only	Only the Unit configuration information is transferred.

- 2** Click the data to transfer.
A transfer confirmation dialog box is displayed.



- 3** Click the **Yes** button.

The specified data is transferred.

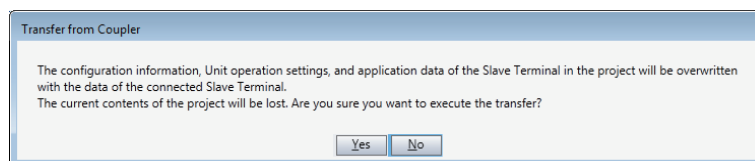


Precautions for Safe Use

Confirm that the settings are not changed by another tool on a different connection path before you transfer Slave Terminal settings from the computer to a Communications Coupler Unit.

Transferring Settings from the Communications Coupler Unit to the Computer

- 1 Go online, right-click the Communications Coupler Unit in the Slave Terminal tab page, and select **Communications Coupler Connection – Transfer from Coupler** from the pop-up menu. Or right-click the Communications Coupler Unit in the Multiview Explorer and select **Communications Coupler Connection– Transfer from Coupler** from the pop-up menu. A transfer confirmation dialog box is displayed.

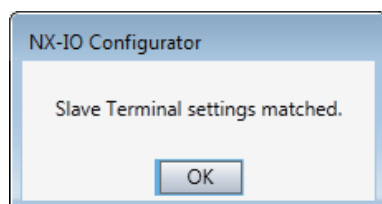


- 2 Click the **Yes** button.
The configuration information, Unit operation settings, and Unit application data are transferred.

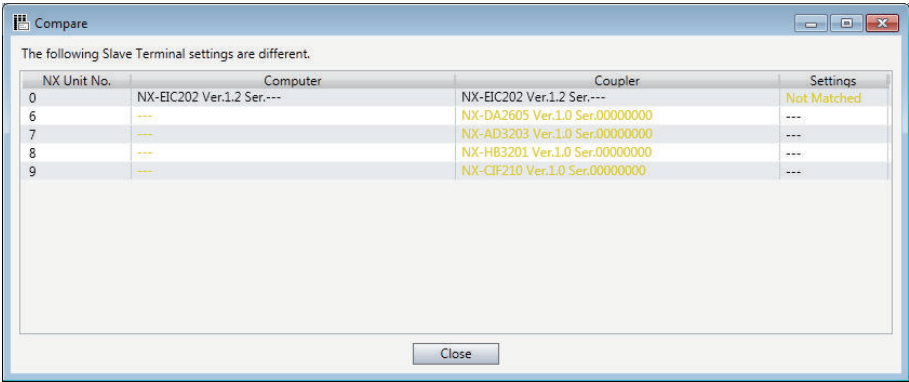
Comparing Slave Terminal Settings

Use the following procedure to compare the Slave Terminal settings on the NX-IO Configurator with those of the Communications Coupler Unit.

- 1 Go online, right-click the Communications Coupler Unit in the Slave Terminal tab page, and select **Communications Coupler Connection – Compare** from the pop-up menu. Or right-click the Communications Coupler Unit in the Multiview Explorer and select **Communications Coupler Connection – Compare** from the pop-up menu. The results of the comparison are displayed. When the Slave Terminal settings match:



When the Slave Terminal settings do not match:



4-4-3 Transferring Unit Operation Settings

Use the following procedure to compare the Unit settings on the NX-IO Configurator with the actual Unit settings for each Unit that configure the Slave Terminal and transfer them as necessary.

- 1** Go online, right-click a Unit in the Slave Terminal tab page, and select **Edit Unit Operation Settings** from the pop-up menu. Or, in the Unit Settings pane, click the **Edit Unit Operation Settings** button.
The Unit Operation Settings tab page is displayed for the selected Unit.
- 2** Click the **Compare** button.
The actual Unit settings are displayed in the **Comparison Result** column.
- 3** To apply the actual Unit settings to the settings on the NX-IO Configurator, click the **Transfer to Unit** button. To change the settings on the NX-IO Configurator to the actual Unit settings, click the **Transfer from Unit** button.

The settings are transferred and the comparison results show that they are the same.

For details on the parameters and settings for each Unit, refer to the user's manual for the specific Unit.

Functions Used as Required

This section describes the troubleshooting, printing, displaying Unit production information and other functions that you may use as required.

5-1	Troubleshooting	5 - 2
5-1-1	Displaying the Troubleshooting Dialog Box	5 - 2
5-1-2	Current Errors	5 - 2
5-1-3	Event Logs	5 - 5
5-1-4	Changing Event Levels	5 - 8
5-2	Printing	5 - 10
5-2-1	Items That You Can Print	5 - 10
5-2-2	Print Setup	5 - 10
5-2-3	Printing Procedure	5 - 12
5-3	Clearing All Memory	5 - 14
5-3-1	Target of Clear All Memory Operation	5 - 14
5-3-2	Scope of Data to Clear and State of Memory After It Is Cleared	5 - 14
5-3-3	Procedure for Clearing All Memory	5 - 15
5-4	Displaying Unit Production Information	5 - 18
5-4-1	Display Method	5 - 18
5-4-2	Displayed Items	5 - 19
5-5	Monitoring the Total Power-ON Time	5 - 20
5-6	Restarting Units	5 - 21
5-6-1	Units to Restart	5 - 21
5-6-2	Procedure for Restarting	5 - 21
5-7	Fail-soft Operation for Slave Terminals	5 - 23
5-8	Type-specific Functions of NX Units	5 - 24
5-8-1	Analog Input Units/Analog Output Units	5 - 24
5-8-2	Load Cell Input Units	5 - 27
5-8-3	Communications Interface Units	5 - 32
5-9	NX-IO Configurator Option Settings	5 - 35
5-9-1	Option Settings	5 - 35
5-9-2	Displaying Option Settings	5 - 35

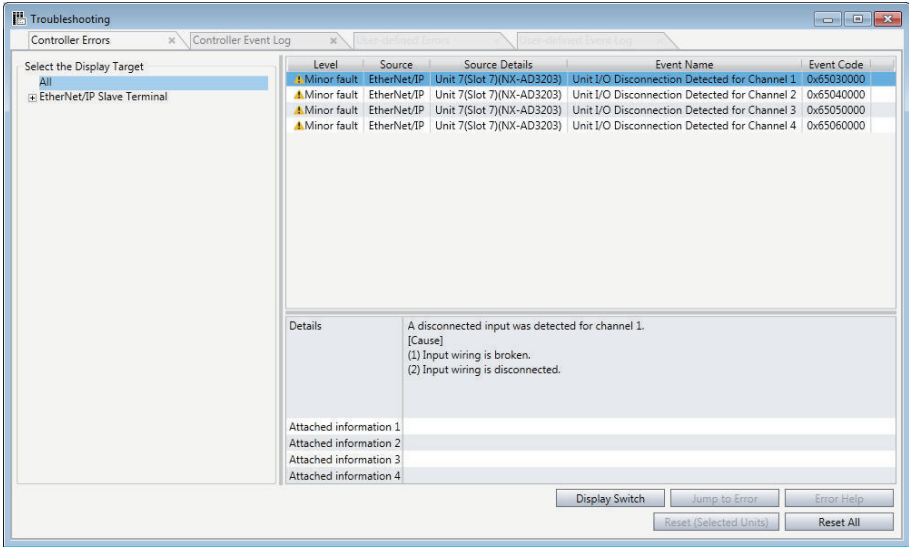
5-1 Troubleshooting

Troubleshooting consists of the functions to check, correct, and clear the errors that occurred in the Slave Terminal and then confirm the recovery after clearing them. The following provides information on these functions and the associated procedures.

5-1-1 Displaying the Troubleshooting Dialog Box

The current errors in the online Slave Terminal and the contents of the event logs are read and displayed in the **Troubleshooting** dialog box.

- 1 Go online with the Slave terminal and select **Troubleshooting** from the **Tools** menu. The **Troubleshooting** dialog box is displayed.

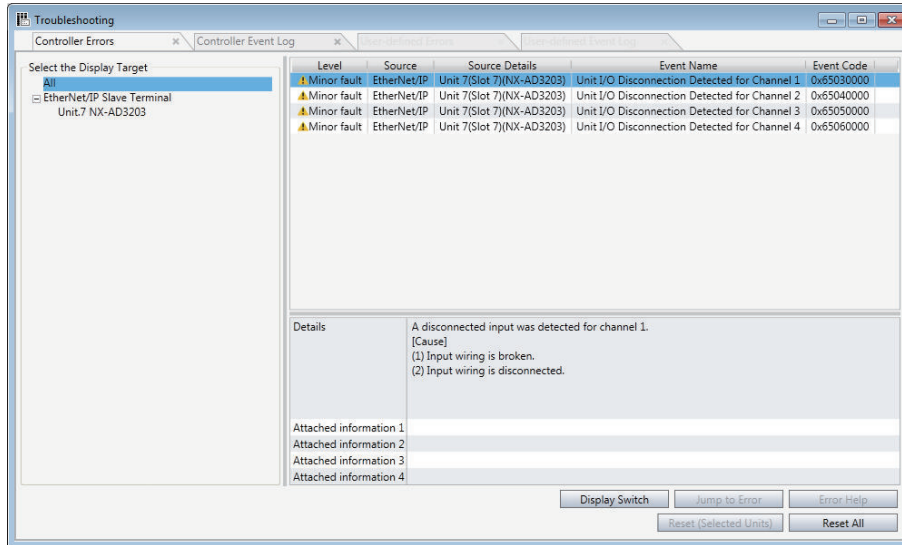


Tab	Displayed information
Controller Errors	This tab page displays details and troubleshooting information on errors that occurred in the Slave Terminal.
Controller Event Log	This tab page displays errors and events recorded in the event logs in the Communications Coupler Unit and NX Units.

- 2 Click the tabs to change the display.

5-1-2 Current Errors

Errors that occurred in the Slave Terminal are described below.



Items Displayed for Current Errors

The following items are displayed in the **Controller Errors** tab page.

Item	Description	Remarks
Select the Display Target	Select the items to display for errors.	
Level	Displays the level of the error.	
Source	Displays the location of the error.	Refer to <i>Items Displayed as Sources</i> on page 5 - 4 that is given below.
Source Details		
Event Name	Displays the name of the error.	
Event Code	Displays the event code of the error.	
Details	Describes the error and gives the cause of the error.	Refer to the user's manual for the Communications Coupler Unit for details on events that occur in Slave Terminals.
Attached information 1 to 4	Displays supplementary information about the error.	
Action and correction	Gives the action and correction that are required to recover from the error. Select an action and correction to enable the Jump to Error button if there is a setting that you can correct.	
Display Switch button	Switches the display between the details and attached information 1 to 4, and the corrections.	
Jump to Error button	Displays the settings that you can correct.	
Error Help button	Displays the causes of and details on the current errors.	This button is enabled only when help information is available for the error.
Reset All button	Clears all current errors. Any errors for which the causes remain will be displayed again.	
Reset (Selected Units) button	Resets any errors in the NX Unit selected in the Select the Display Target area. You cannot select this when the selected Unit is not an NX Unit.	

Items Displayed as Sources

Displayed source	Displayed detailed event source	Displayed information
EtherNet/IP	EtherNet/IP Coupler Unit	An error occurred in a Communications Coupler Unit.
	NX Unit No.	An error occurred in an NX Unit on a Slave Terminal.

Procedure

The procedure to check the status of the current errors and resolve them is described below.

- 1 Check the details and cause of an error that occurred in **Details** and **Attached Information** areas.
- 2 Check the method to correct the error in the **Action and correction** area.
- 3 Select the correction to make. If there is more than one correction, select one correction to actually perform.
If you can jump to the Correction View, the **Jump to Error** button is enabled.
Click the **Jump to Error** button to jump to the display where you can correct the settings.
- 4 Go offline with the Communications Coupler Unit and then make the correction according to the correction method that you checked.

Changing the Display Order

You can click the **Level**, **Source**, or **Event Code** column heading to sort the errors by that item. The errors are displayed in order of event levels by default.

- 1 In the **Controller Errors** tab page of the **Troubleshooting** dialog box, click the **Event Code** column heading.

Level	Source	Source Details	Event Name	Event Code
Minor fault	EtherNet/IP	Unit 7(Slot 7)(NX-AD3203)	Unit I/O Disconnection Detected for Channel 1	0x65030000
Minor fault	EtherNet/IP	Unit 7(Slot 7)(NX-AD3203)	Unit I/O Disconnection Detected for Channel 2	0x65040000
Minor fault	EtherNet/IP	Unit 7(Slot 7)(NX-AD3203)	Unit I/O Disconnection Detected for Channel 3	0x65050000
Minor fault	EtherNet/IP	Unit 7(Slot 7)(NX-AD3203)	Unit I/O Disconnection Detected for Channel 4	0x65060000

The errors are sorted in order of event codes.

Level	Source	Source Details	Event Name	Event Code
Minor fault	EtherNet/IP	Unit 7(Slot 7)(NX-AD3203)	Unit I/O Disconnection Detected for Channel 4	0x65060000
Minor fault	EtherNet/IP	Unit 7(Slot 7)(NX-AD3203)	Unit I/O Disconnection Detected for Channel 3	0x65050000
Minor fault	EtherNet/IP	Unit 7(Slot 7)(NX-AD3203)	Unit I/O Disconnection Detected for Channel 2	0x65040000
Minor fault	EtherNet/IP	Unit 7(Slot 7)(NX-AD3203)	Unit I/O Disconnection Detected for Channel 1	0x65030000

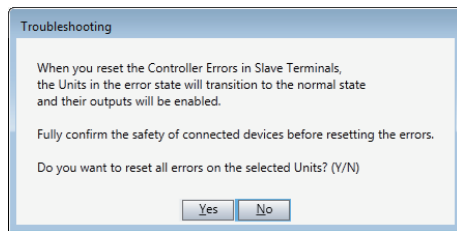
Resetting Errors

The procedure to reset the current errors is described below.

● Resetting Individual Units

The procedure to individually reset errors in each Unit is described below.

- 1 In the **Select the Display Target** of the **Controller Errors** tab page, select the Unit for which to reset the errors and click the **Reset (Selected Units)** button.
A confirmation dialog box is displayed.



- 2 Click the **Yes** button.
Current errors in the selected Unit are reset. Any errors for which the causes remain are displayed again.



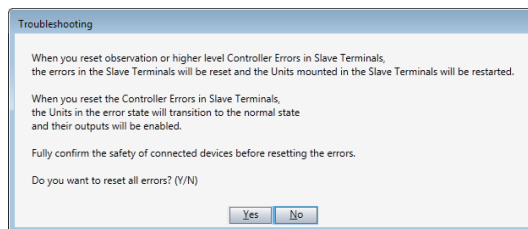
Additional Information

If you select the Slave Terminal or Communications Coupler Unit, errors are reset for the entire Slave Terminal.

● Resetting All Units

Use the following procedure to reset errors in all of the Units in a Slave Terminal.

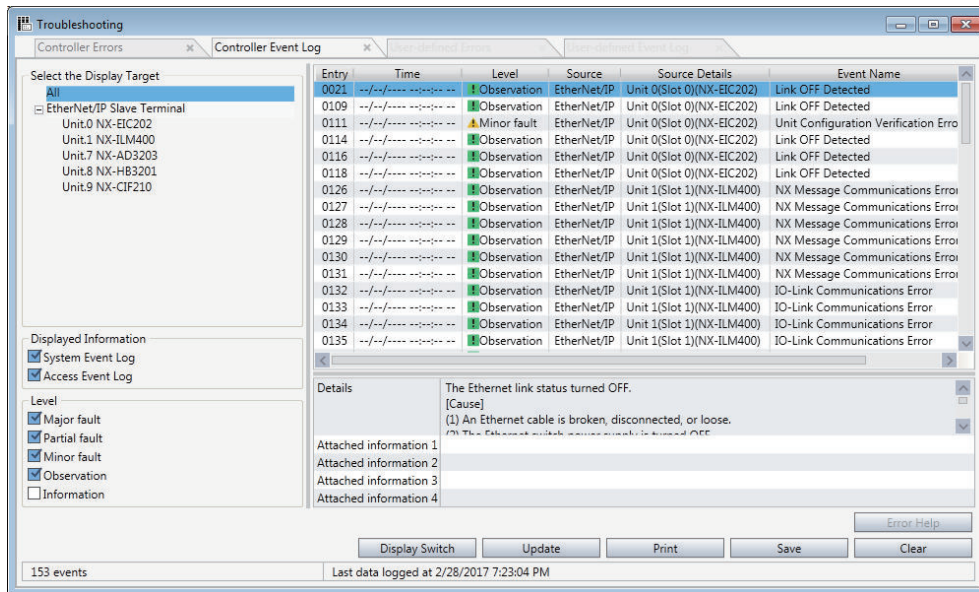
- 1 In the **Controller Errors** tab page, click the **Reset All** button.
An execution confirmation dialog box is displayed.



- 2 Click the **Yes** button.
Errors in all of the Units in a Slave Terminal are reset. Any errors for which the causes remain are displayed again.

5-1-3 Event Logs

The event log information stored in the Slave Terminal is displayed.



Items Displayed in the Event Log Tab Page

The following items are displayed in the **Controller Event Log** tab page.

Item	Description	Remarks
Select the Display Target	Selects the items to display in the log.	
Displayed Information	Changes the displayed information between the system event log and the access event log.	
Level	Changes the displayed information according to the event levels.	
Entry	Displays the order of occurrence of events in each Unit.	Each event is given a number in the order of occurrence of events when it is read from the Unit. If there are two or more Units, the second Unit and later will be given a number that follows the entry number of the previous Unit. For events without occurrence time information, you can check the order of their occurrence in each Unit.
Time	Displays the time and date that the event occurred.	This is time and date information that is stored in the Communications Coupler Unit and NX Units. The date for events without occurrence time information is displayed as "----/--/-- --:--:--."
Level	Displays the event level.	
Source	Displays the location of the event.	Refer to <i>Items Displayed as Sources</i> on page 5 - 7 that is given below.
Source Details		

Item	Description	Remarks
Event Name	Displays the event name.	Refer to the user's manual for the Communications Coupler Unit for details on events that occur in Slave Terminals.
Event Code	Displays the event code.	
Details	Displays the contents and cause of the event log that was read.	
Attached information 1 to 4	Displays supplementary information about the event log that was read.	
Action and correction	Gives the action and correction that are required to recover from the error.	
Display Switch button	Switches the display between the details and attached information 1 to 4, and the corrections.	
Update button	Reads and displays the log again.	The display is not automatically updated. The display is updated at the following times. • When you open the Troubleshooting dialog box • When you click the Update button.
Print button	Prints the displayed log information.	Log information that is not displayed due to the Displayed Information selections is not printed.
Save button	Saves the event log information in CSV format.	All of the event log information is saved regardless of the display settings.
Clear button	Deletes the display log.	---
Error Help button	Displays the causes of and details on errors.	This button is enabled only when help information is available for the error.

Items Displayed as Sources

Refer to *Items Displayed as Sources* on page 5 - 4 for items displayed as sources.

Changing the Display Order

You can click the **Time**, **Level**, **Source**, **Entry**, or **Event Code** heading to sort the errors by that item. The events are displayed in order of dates by default.

Saving Event Logs

Use the following procedure to save an event log.

- 1 Click the Save button in the **Controller Event Log** tab page.
The Save File dialog box is displayed.
- 2 Enter a file name and then click the **Save** button.
The event log information is saved in CSV format.

Clearing Event Logs

Use the following procedure to clear an event log.

- 1 In the **Controller Event Log** tab page, select the Unit for which you want to clear the event log in **Select the Display Target** area and click the **Clear** button.
A confirmation dialog box is displayed.
- 2 Click the **Yes** button.
The event log for the selected Unit is cleared.

5-1-4 Changing Event Levels

Some NX Units allows you to change the levels of events that are displayed in the event log.



WARNING



If you change the event level of an error, the output status when the error occurs may also change. Confirm safety before you change an event level.

Procedure for Changing Event Levels

The procedure to change event levels in NX Units is described below.

- 1 In the Slave Terminal tab page, select the Unit for which to change the event level and click the **Unit Operation Settings** button.
The Edit Unit Operation Settings tab page is displayed.
- 2 From the events for which **Level setting** is displayed, select the event for which you want to change the level, and then select a level from the list in the **Value** field.

EIP : NX-EIC202 (Master)
Unit 6[EIP]:NX-AD260...rati... X

All parameters
▼

Item name	Value
Input Enable/Disable Setting/Ch1 Enable/Disable	True
Input Enable/Disable Setting/Ch2 Enable/Disable	True
Input Range Setting/Ch1 Range Setting	-10 to +10 V
Input Range Setting/Ch2 Range Setting	-10 to +10 V
Input Moving Average Time/Ch1 Input Moving Aver...	0
Input Moving Average Time/Ch2 Input Moving Aver...	0
Event Level Setting/Event 1	Unit Over Range
Event Level Setting/Level Setting of Event 1	Observation
Event Level Setting/Event 2	Minor Fault
Event Level Setting/Level Setting of Event 2	Observation
Event Level Setting/Event 3	Ch1 Disconnection Detected
Event Level Setting/Level Setting of Event 3	Minor Fault
Event Level Setting/Event 4	Ch2 Disconnection Detected
Event Level Setting/Level Setting of Event 4	Minor Fault

Return to Default Value

Help

Data type: ---

Comment: Set the level of the event Over Range.

Restart is required to reflect the settings.

Transfer to Unit
Transfer from Unit
Compare

- 3 Go online with the Communications Coupler Unit and then click the **Transfer to Unit** button. The event level is changed.

5-2 Printing

The following provides information necessary to use printing functions.

5-2-1 Items That You Can Print

You can print the following Slave Terminal information for each Communications Coupler Unit that is registered to the project.

- Slave Terminal configuration
- Communications Coupler Unit settings
- NX Unit settings

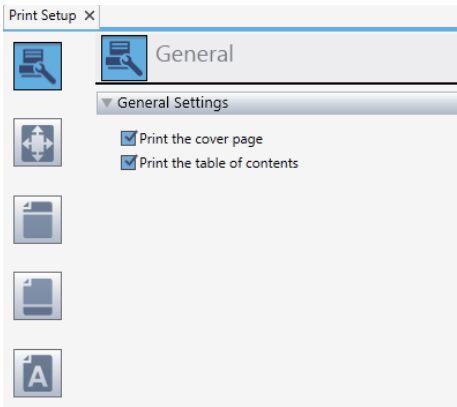
5-2-2 Print Setup

You can specify settings such as whether to print a cover page and table of contents, as well as the margins and font when printing.

Print Setup Procedure

The print setup procedure is described below.

- 1** Select **Page Settings** from the **File** menu.
The Print Setup tab page is displayed.



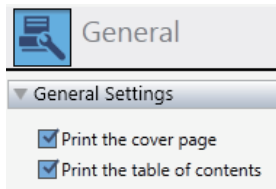
Icon	Item	Description
	General	Set whether to print a cover page and table of contents.
	Margin	Click this to set the page margins and header/footer margins.
	Header	Click this to set the header contents.
	Footer	Click this to set the footer contents.
	Font	Click this to set the font to use for printing.

- 2** Specify each setting.

Print Setup Items

The following describes print setup items.

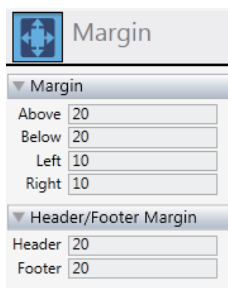
● General



The General Settings dialog box has a title bar with a printer icon and the word "General". Below the title bar is a section labeled "General Settings" with two checked checkboxes: "Print the cover page" and "Print the table of contents".

Item	Description
Print the cover page	Set whether to print a cover page. The following items are printed on the cover page. - Project name - Project properties
Print the table of contents	Set whether to print a table of contents. The headings and page numbers of the items to print are printed in the table of contents.

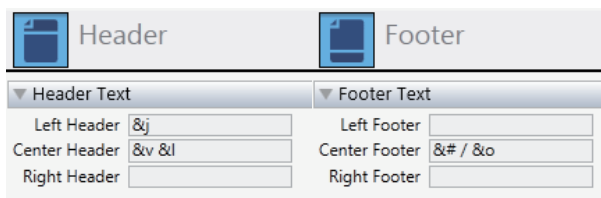
● Margin



The Margin dialog box has a title bar with a margin icon and the word "Margin". Below the title bar is a section labeled "Margin" with four input fields: "Above" (20), "Below" (20), "Left" (10), and "Right" (10). Below this is a section labeled "Header/Footer Margin" with two input fields: "Header" (20) and "Footer" (20).

Item	Description
Margin	Set the top, bottom, left, and right margins of the printed pages.
Header/Footer Margin	Set the margin from the top of the page to the header and the margin from the bottom of the page to the footer.

● Header/Footer



The Header and Footer dialog boxes are shown side-by-side. The Header dialog box has a title bar with a header icon and the word "Header". Below the title bar is a section labeled "Header Text" with three input fields: "Left Header" (&j), "Center Header" (&v &l), and "Right Header". The Footer dialog box has a title bar with a footer icon and the word "Footer". Below the title bar is a section labeled "Footer Text" with three input fields: "Left Footer", "Center Footer" (&# / &o), and "Right Footer".

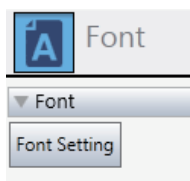
Set the text to print in the header and footer. For each, you can specify the text to print at the left side, center, and right side of the page.

You can use the following field codes in the header and footer.

Item	Field code	Description	Default
Date	&d	The printing date is printed.	Not provided
Time	&t	The printing time is printed.	Not provided

Item	Field code	Description	Default
Page number	&#	The page numbers are printed.	Center of the footer
Total pages	&o	The total number of printed pages is printed.	Center of the footer
Printed item	&l	The item name for the printed item is printed.	Center of the header
Project name	&j	The project name is printed.	Left side of the header
Communications Coupler Unit name	&v	The name of the Communications Coupler Unit is printed.	Center of the header
Communications Coupler Unit model name	&y	The model and unit version of the Communications Coupler Unit are printed.	Not provided

● Font

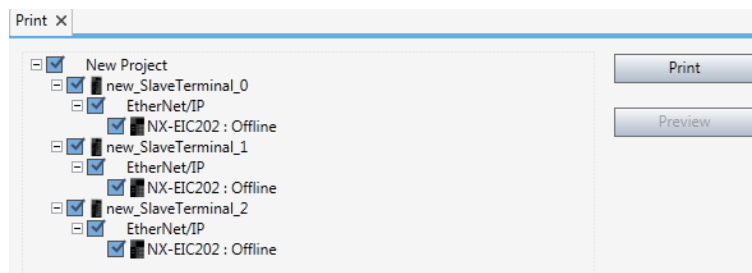


Click the **Font Setting** button and set the font to use when printing in the Font Setting dialog box that is displayed. You can set the font type, style, effects, and size.

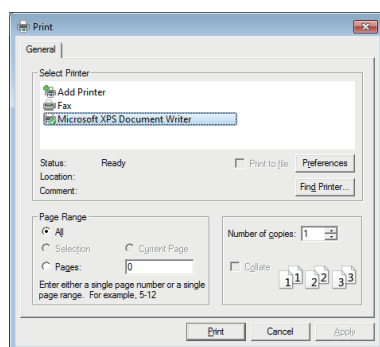
5-2-3 Printing Procedure

The printing procedure is described below.

- 1 Select **Print** from the **File** menu.
The **Print** tab page is displayed.



- 2 Select the check boxes for the items to print and then click the **Print** button.
The **Print** dialog box is displayed.



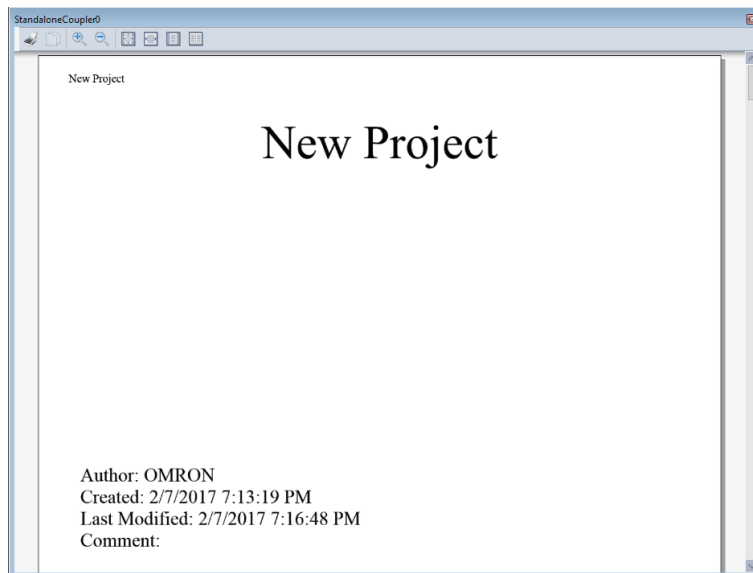
- 3 Select the printer to use and then click the **Print** button.
The selected items are printed.

Print Preview

You can preview the pages that you want to print.

- 1 In the Print tab page, select the check boxes for items to print and then click the **Preview** button.

A print preview is displayed for the selected items.



5-3 Clearing All Memory

The following provides information on clearing all memory for the Slave Terminal.

The Clear All Memory function initializes various setting information in the Slave Terminal to the default settings, such as the Unit configuration information and the I/O allocation information.

5-3-1 Target of Clear All Memory Operation

You can select the scope of data in the Clear All Memory operation from the following.

- Entire Slave Terminal (Communications Coupler Unit and all of the NX Units that are mounted on it)
- Communications Coupler Unit
- NX Unit

5-3-2 Scope of Data to Clear and State of Memory After It Is Cleared

The following table shows the scope of data to be cleared by Clear All Memory operation and the state of memory after it is cleared.

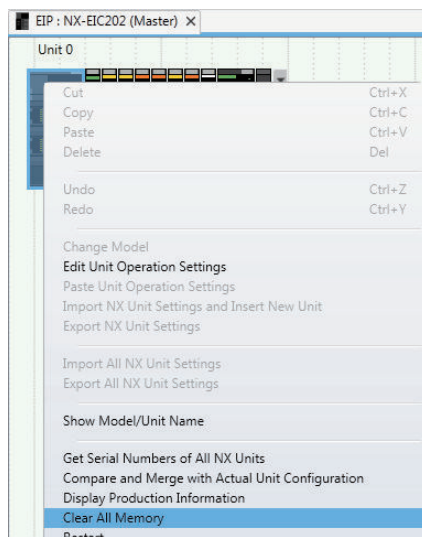
Data	State of targets after Clear All Memory operation		
	Entire Slave Terminal	Communications Coupler Unit	NX Units
Unit configuration information	This data is set to the default settings. If you turn ON the Unit power supply immediately after the Clear All Memory operation is completed, the Slave Terminal starts based on the actual Unit configuration information.	Not cleared.	Not cleared.
I/O allocation information	This data is set to the default settings.	Not cleared.	Not cleared.
Unit operation settings	This data is set to the default settings.	This data is set to the default settings. EtherNet/IP settings stay in memory, only TCP/IP settings and SNTP settings are cleared.	This data is set to the default settings.
Unit application data	The state differs depending on the NX Unit that has Unit application data. Refer to the manual for the target NX Unit for the operating specifications of Clear All Memory operation.	---	The state differs depending on the NX Unit that has Unit application data. Refer to the manual for the target NX Unit for the operating specifications of Clear All Memory operation.
Event logs	Event logs are cleared if you select the Clear event log option when you execute Clear All Memory operation.	Event logs are cleared if you select the Clear event log option when you execute Clear All Memory operation.	Event logs are cleared if you select the Clear event log option when you execute Clear All Memory operation.

5-3-3 Procedure for Clearing All Memory

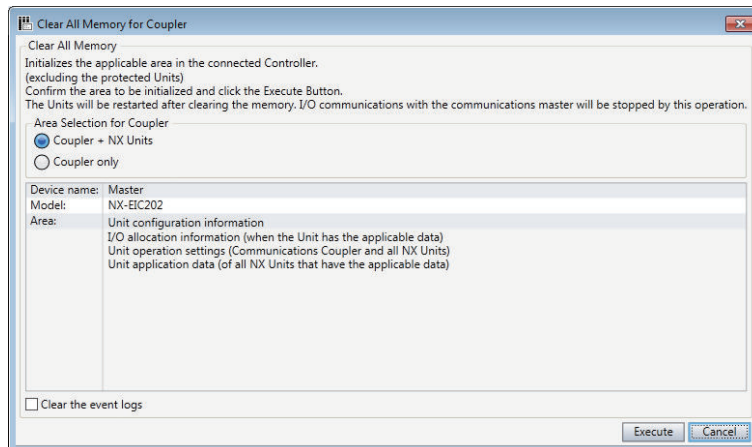
The procedure for clearing all memory is described below. This procedure differs depending on the target of the Clear All Memory operation.

Slave Terminals and Communications Coupler Units

- 1 Go online with the Communications Coupler Unit, right-click the Communications Coupler Unit in the Slave Terminal tab page, and select **Clear All Memory** from the pop-up menu.

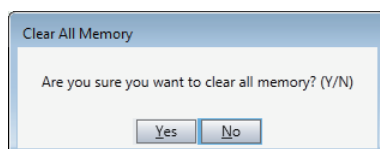


The Clear All Memory dialog box is displayed.



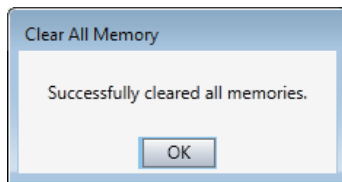
- 2 Select the target of the Clear All Memory operation and then click the **Execute** button. To clear the memory of the entire Slave Terminal, select **Coupler + NX Units**. To clear only the Communications Coupler Unit, select **Coupler only**. You can also select the **Clear the event logs** check box to clear the event logs.

An execution confirmation dialog box is displayed.

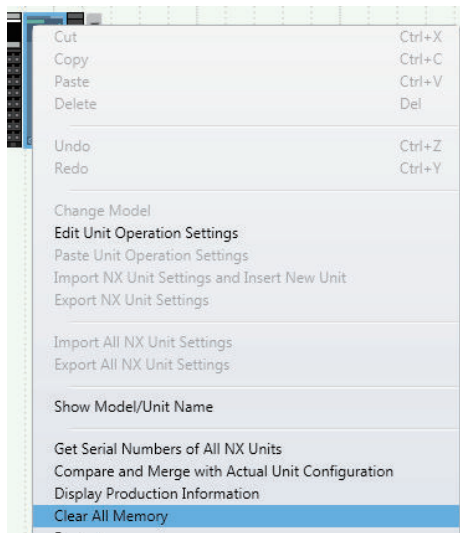


3 Click the **Yes** button.

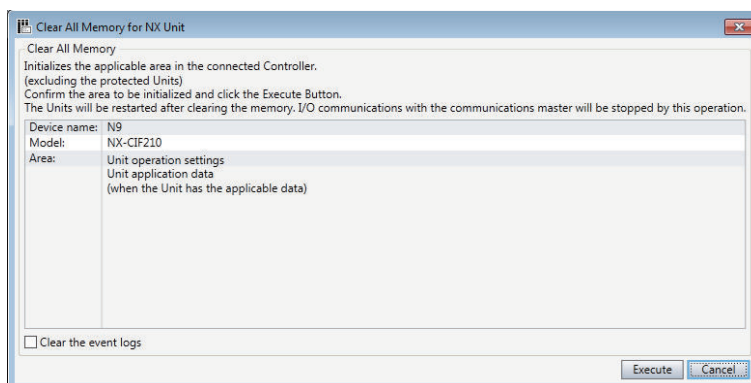
After the memory is cleared, automatic restarting of Units occurs and the Memory All Cleared dialog box is displayed.



NX Units

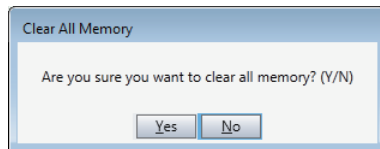
1 Go online with the Communications Coupler Unit, right-click an NX Unit in the Slave Terminal tab page, and select **Clear All Memory** from the pop-up menu.

The Clear All Memory dialog box is displayed.

**2** Click the **Execute** button.

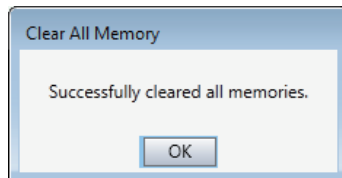
You can also select the **Clear the event logs** check box to clear the event logs.

An execution confirmation dialog box is displayed.



3 Click the **Yes** button.

After the memory is cleared, automatic restarting of Units occurs and the Memory All Cleared dialog box is displayed.



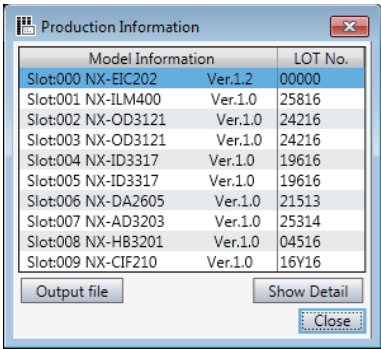
5-4 Displaying Unit Production Information

You can display the production information on the Communications Coupler Unit and NX Units that are online in the Production Information dialog box. Production information refers to the model, version, lot number, and other information.

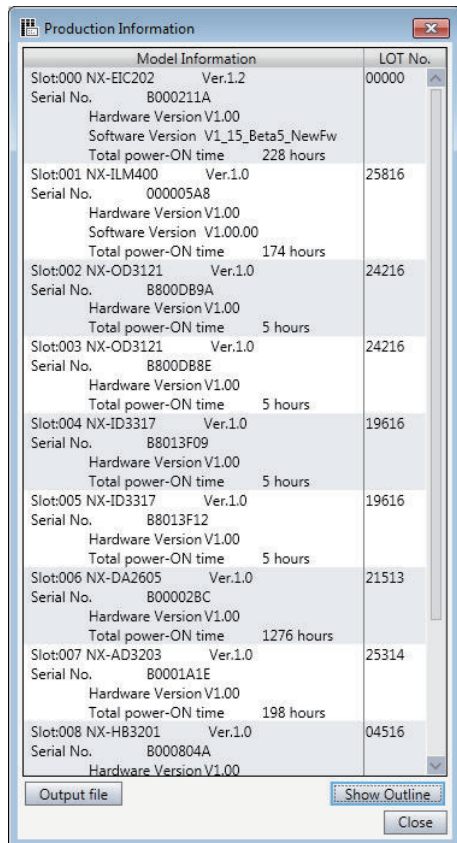
The following describes the display method and the displayed items for each Unit.

5-4-1 Display Method

- 1 Go online with the Communications Coupler Unit, right-click anywhere in the Slave Terminal tab page, and select **Display Production Information** from the pop-up menu.
The **Production Information** dialog box is displayed.



- 2 Click the **Show Detail** button.
The **Production Information** dialog box changes to the detail view.



To return to the outline view, click the **Show Outline** button.

- 3** To save the displayed production information into a file, click the **Output file** button.
The **Save File** dialog box is displayed.
- 4** Enter a file name and then click the **Save** button.
The information is saved as a CSV (comma delimited) file with the .csv extension.

5-4-2 Displayed Items

The following items are displayed in the Production Information dialog box.

○: Displayed

Item	Outline view	Detail view
Model number and Unit version	○	○
Lot number	○	○
Serial number		○
Hardware version		○
Software version		○
Total power-ON time		○

Refer to the manual for the specific Unit for details on the displayed items.

5-5 Monitoring the Total Power-ON Time

You can check the total power-ON time of the Communications Coupler Unit and NX Units in the detail view of the **Production Information** dialog box.

Refer to *5-4-1 Display Method* on page 5 - 18 for the method of displaying the **Production Information** dialog box.

Refer to the manual for the Communications Coupler Unit for details on monitoring the total power-ON time.

5-6 Restarting Units

Use the following information to restart Units that comprise the Slave Terminal.

The restart function is used to apply changes to the settings of a Slave Terminal without cycling the Unit power supply.

5-6-1 Units to Restart

You can restart either of the following:

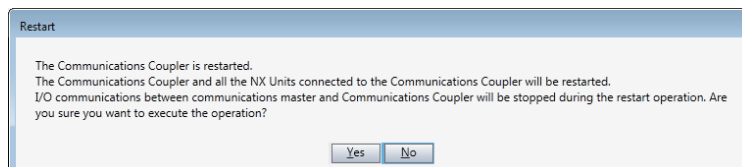
- Entire Slave Terminal (Communications Coupler Unit and all of the NX Units that are mounted on it)
- NX Unit

5-6-2 Procedure for Restarting

The restarting procedure is described below. The procedure differs depending on what you want to restart.

Slave Terminal

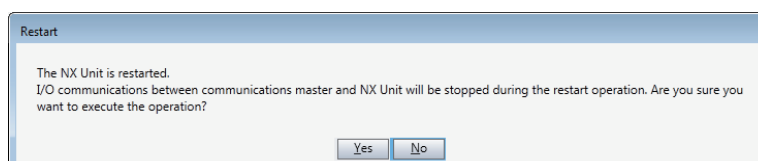
- 1 Go online with the Communications Coupler Unit, right-click the Communications Coupler Unit in the Slave Terminal tab page, and select **Restart** from the pop-up menu.
The **Restart** dialog box is displayed.



- 2 Confirm that no problem will occur even if you restart the NX Units, and then click the **Yes** button.
The Communications Coupler Unit and all of the NX Units that are mounted on it restart.

NX Units

- 1 Go online with the Communications Coupler Unit, right-click an NX Unit in the Slave Terminal tab page, and select **Restart** from the pop-up menu.
The **Restart** dialog box is displayed.



- 2 Click the **Yes** button.

The NX Unit is restarted.

5-7 Fail-soft Operation for Slave Terminals

The following describes how to set fail-soft operation for Slave Terminals.

Fail-soft operation allows the Communications Coupler Unit to start or continue I/O refreshing only with the NX Units that can operate normally when an error occurs for the Slave Terminal.

For details on fail-soft operation, refer to the user's manual for the Communications Coupler Unit.

- 1** Go online with the Communications Coupler Unit, select the Communications Coupler Unit in the Slave Terminal tab page, and click the **Edit Unit Operation Settings** button from the Unit Settings pane.
The Edit Unit Operation Settings tab page is displayed for the Communications Coupler Unit.
- 2** Change the **Fail-soft Operation Setting** to **Fail-soft operation** and then click the **Transfer to Unit** button.
The settings are applied to the Communications Coupler Unit.

5-8 Type-specific Functions of NX Units

This following describes the functions specific to each type of NX Unit.

5-8-1 Analog Input Units/Analog Output Units

The procedures to use Analog Input Units and Analog Output Units are described below.

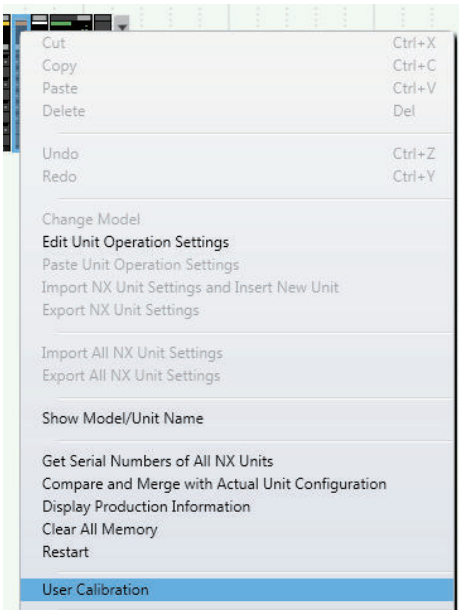
User Calibration

The user calibration procedures for correcting the converted values of Analog Input Units and Analog Output Units are described below.

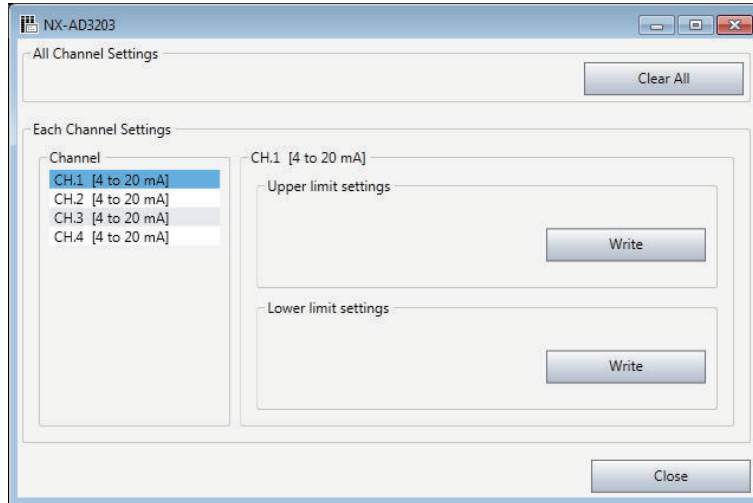
- **Analog Input Units**

Before you proceed, you need to go online with the Communications Coupler Unit.

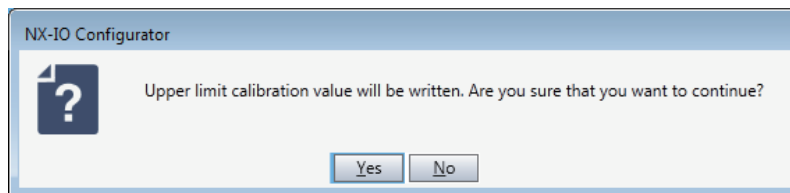
- 1 Right-click an Analog Input Unit in the Slave Terminal tab page and select **User Calibration** from the pop-up menu.



The User Calibration dialog box is displayed.



- 2 Select the channel to calibrate, enter the voltage or current corresponding to upper limit (100%) to the target terminal of the Unit, and then click the **Write** button under **Upper limit settings**. An execution confirmation dialog box is displayed.

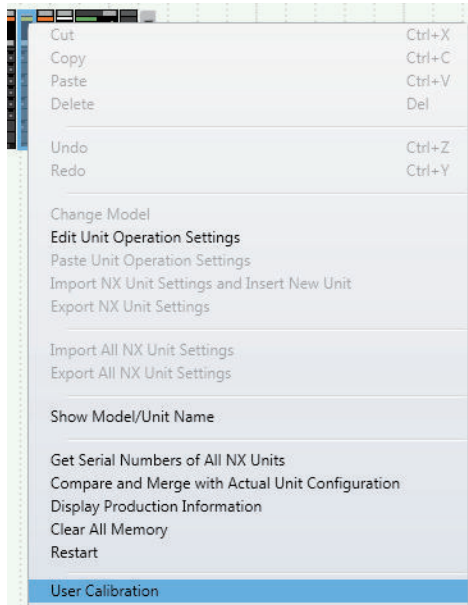


- 3 Click the **Yes** button.
When writing the calibration values is completed, a write completed dialog box is displayed.
- 4 Click the **OK** button to close the dialog box. Then, enter the voltage or current corresponding to lower limit (0%) to the target terminal of the Unit and click the **Write** button under **Lower limit settings**.
An execution confirmation dialog box is displayed.
- 5 Click the **Yes** button.
When writing the calibration values is completed, a write completed dialog box is displayed.

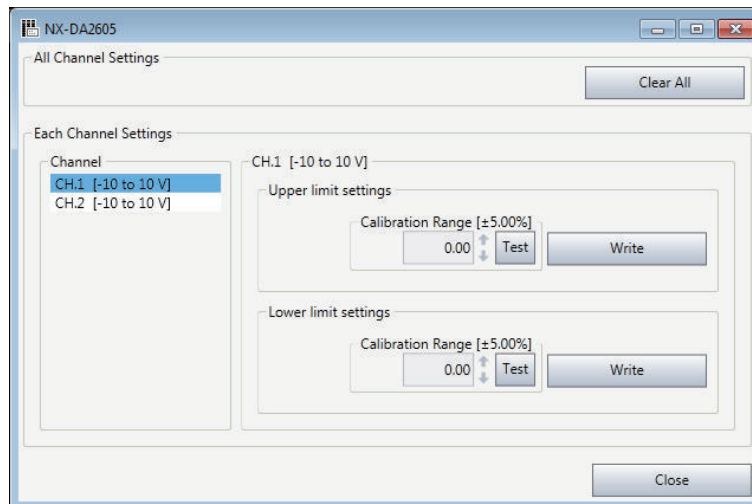
● Analog Output Units

Before you proceed, you need to go online with the Communications Coupler Unit.

- 1 Right-click an Analog Output Unit in the Slave Terminal tab page and select **User Calibration** from the pop-up menu.

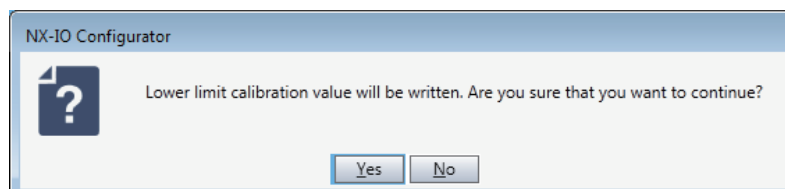


The User Calibration dialog box is displayed.



- 2 Set the minimum value (0%) of the Output Unit as the output set value for the channel you want to calibrate.
- 3 Select the channel to calibrate, change the value of **Calibration Range** under **Lower limit settings** to calibrate the value of an analog signal that is output from the terminal.
- 4 Click the **Test** button and check the value of the output analog signal. Adjust the value in **Calibration Range** to correctly output the value of 0% analog signal from the terminal.
- 5 After you complete the adjustment in **Calibration Range**, click the **Write** button under **Lower limit settings**.

An execution confirmation dialog box is displayed.



- 6** Click the **Yes** button.
When writing the calibration values is completed, a write completed dialog box is displayed.
- 7** Click the **OK** button. The dialog box is closed.
- 8** Set the maximum value (100%) of the Output Unit as the output set value for the channel you want to calibrate.
- 9** Select the channel to calibrate, change the value of **Calibration Range** under **Upper limit settings** to calibrate the value of an analog signal that is output from the terminal.
- 10** Click the **Test** button and check the value of the output analog signal. Adjust the value in **Calibration Range** to correctly output the value of 100% analog signal from the terminal.
- 11** After you complete the adjustment in **Calibration Range**, click the **Write** button under **Upper limit settings**.
An execution confirmation dialog box is displayed.
- 12** Click the **Yes** button.
When writing the calibration values is completed, a write completed dialog box is displayed.

5-8-2 Load Cell Input Units

The procedures to use the functions of Load Cell Input Units are described below.

Load Cell Input Units have the following functions.

- Calibration
- Data tracing

Refer to the *NX-series Load Cell Input Unit User's Manual (Cat. No. W565)* for an overview of functions and the overall procedure.

Calibration

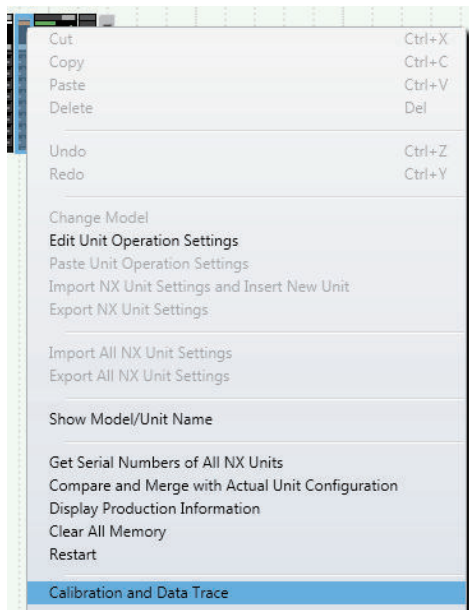
The procedures for actual load calibration and equivalent input calibration operations are described below.

● Performing a Zero Calibration

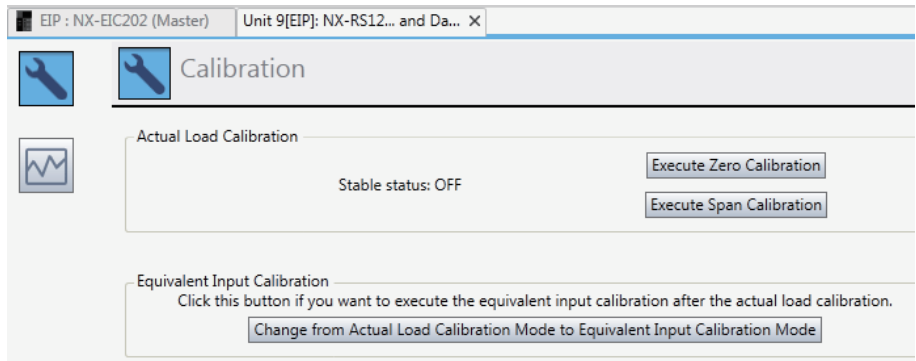
The zero calibration procedure is described below.

Before you proceed, you need to go online with the Communications Coupler Unit.

- 1** Right-click the Load Cell Input Unit on the Slave Terminal tab page and select **Calibration and Data Trace** from the pop-up menu.

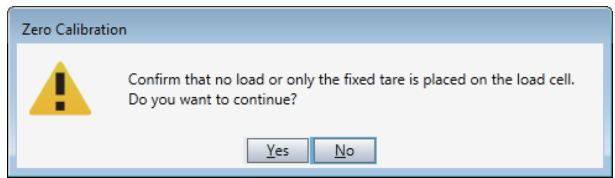


A **Calibration** tab page is displayed.



- 2** Check that **Stable status** in **Actual Load Calibration** is ON if the stability of the gross weight value is being checked using the stable detection.
A check of **Stable status** is not required if the stability of the gross weight value is not being checked.
The gross weight value is not stable if **Stable status** is OFF. Refer to the *NX-series Load Cell Input Unit User's Manual (Cat. No. W565)* for assumed causes of instability in a gross weight value and the correction for the causes.

- 3** Click the **Execute Zero Calibration** button in **Actual Load Calibration**.
An execution confirmation dialog box is displayed.



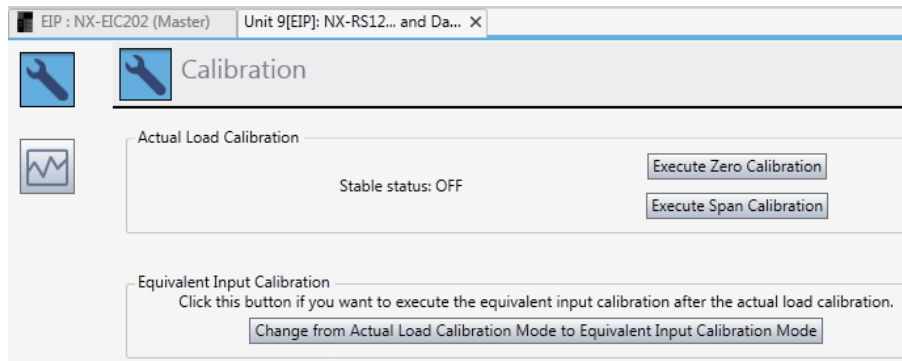
- 4** Click the **Yes** button.
A zero calibration is performed.

● Performing a Span Calibration

The span calibration procedure is described below.

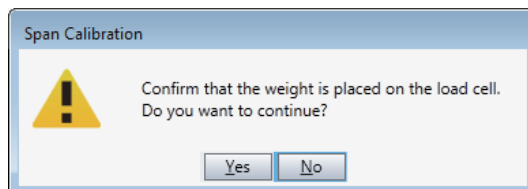
Before you proceed, you need to go online with the Communications Coupler Unit.

- 1 Right-click the Load Cell Input Unit on the Slave Terminal tab page and select **Calibration and Data Trace** from the pop-up menu.
A **Calibration** tab page is displayed.



- 2 Check **Stable status** in **Actual Load Calibration** is ON if the stability of the gross weight value is being checked using the stable detection.
A check of **Stable status** is not required if the stability of the gross weight value is not being checked.
The gross weight value is not stable if **Stable status** is OFF. Refer to the *NX-series Load Cell Input Unit User's Manual (Cat. No. W565)* for assumed causes of instability in a gross weight value and the correction for the causes.

- 3 Click the **Execute Span Calibration** button in **Actual Load Calibration**.
An execution confirmation dialog box is displayed.

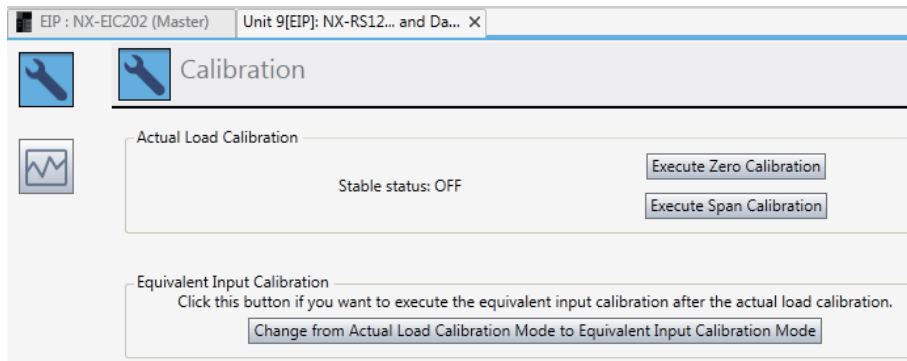


- 4 Click the **Yes** button.
A span calibration is performed.

● Changing the Calibration Mode

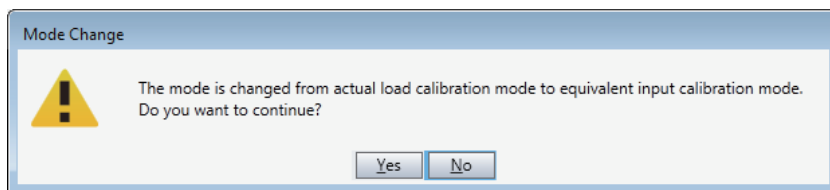
The procedure to change from the Actual Load Calibration mode to the Equivalent Input Calibration mode is described below.

- 1 Right-click the Load Cell Input Unit on the Slave Terminal tab page and select **Calibration and Data Trace** from the pop-up menu.
A **Calibration** tab page is displayed.



- 2 Click the **Change from Actual Load Calibration Mode to Equivalent Input Calibration Mode** button in **Equivalent Input Calibration**.

An execution confirmation dialog box is displayed.



- 3 Click the **Yes** button.

The Unit changes from the actual load calibration mode to the equivalent input calibration mode.

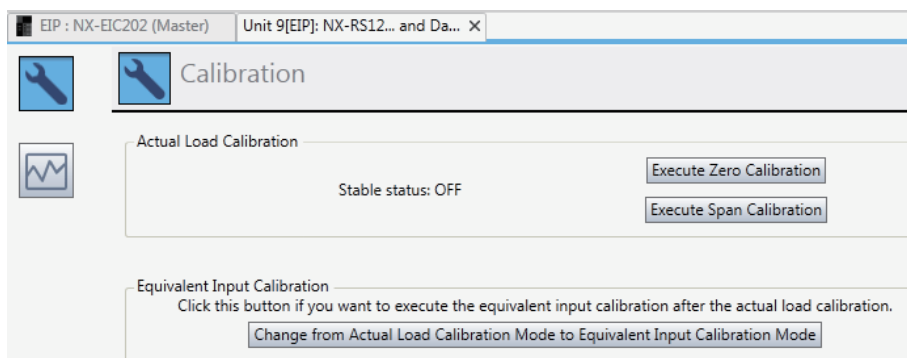
Data tracing

The data tracing procedure is described below.

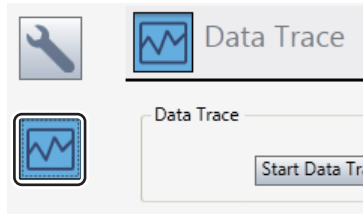
Before you proceed, you need to go online with the Communications Coupler Unit.

- 1 Right-click the Load Cell Input Unit on the Slave Terminal tab page and select **Calibration and Data Trace** from the pop-up menu.

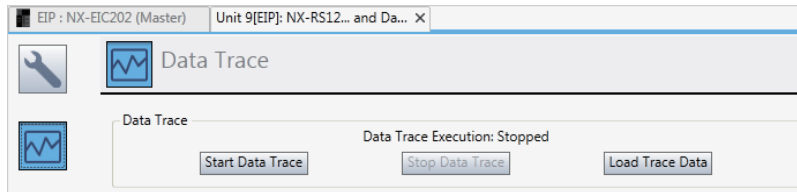
A **Calibration** tab page is displayed.



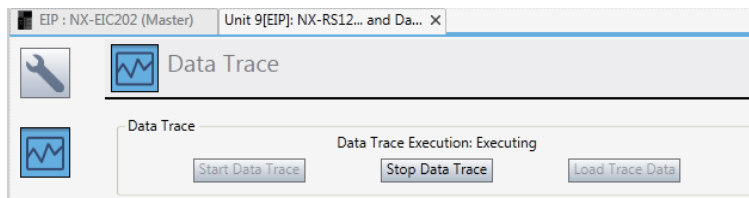
- 2 Click the **Data Trace** button.



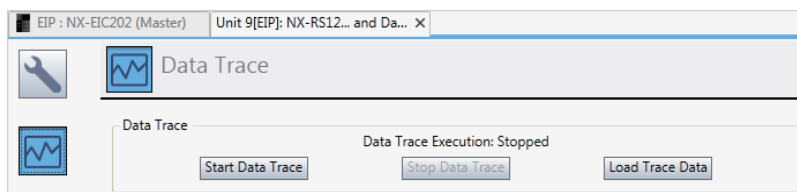
The **Data Trace** tab page is displayed.



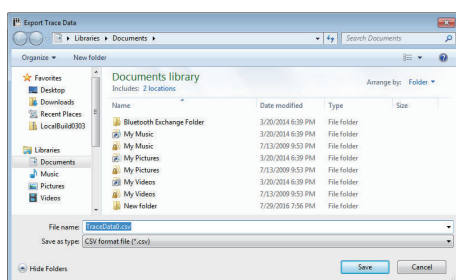
- 3 Click the **Start Data Trace** button in **Data Trace**.
Data tracing starts, Data Trace Execution in Data Trace switches from Stopped to Executing, and the **Stop Data Trace** button is enabled.



- 4 Click the **Stop Data Trace** button at a desired time.
Data tracing stops and Data Trace Execution in Data Trace switches from Executing to Stopped. When the amount of tracing data that is recorded in the buffer reaches 80,000, data tracing is automatically stopped and Data Trace Execution in Data Trace switches from Executing to Stopped.



- 5 Click the **Load Trace Data** button in **Data Trace**.
The **Export Trace Data** dialog box is displayed.



- 6 Enter a file name, specify a save location, and then click the **Save** button.
The tracing result is saved in CSV format.



Additional Information

Refer to the *NX-series Load Cell Input Unit User's Manual (Cat. No. W565)* for understanding the format of the saved CSV file.

5-8-3 Communications Interface Units

The following provides information that is necessary to use functions specific to Communications Interface Units (hereafter called CIF Units).

Serial Line Monitor

The procedures to use the serial line monitor are described below.

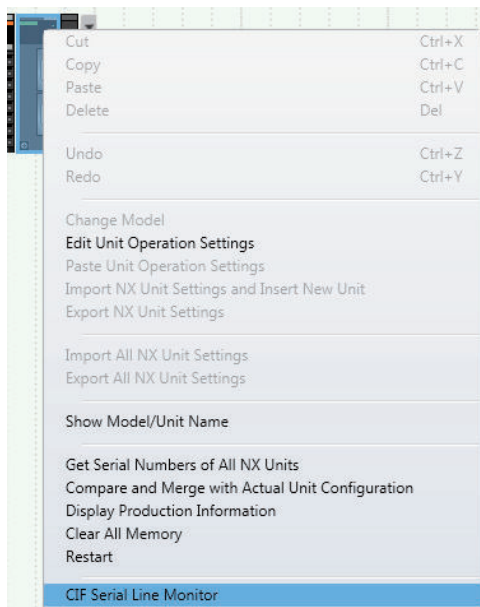
Refer to the *NX-series Communications Interface Units User's Manual (Cat. No. W540)* for the functions and mechanism of the serial line monitor.

● Displaying the CIF Serial Line Monitor Tab Page

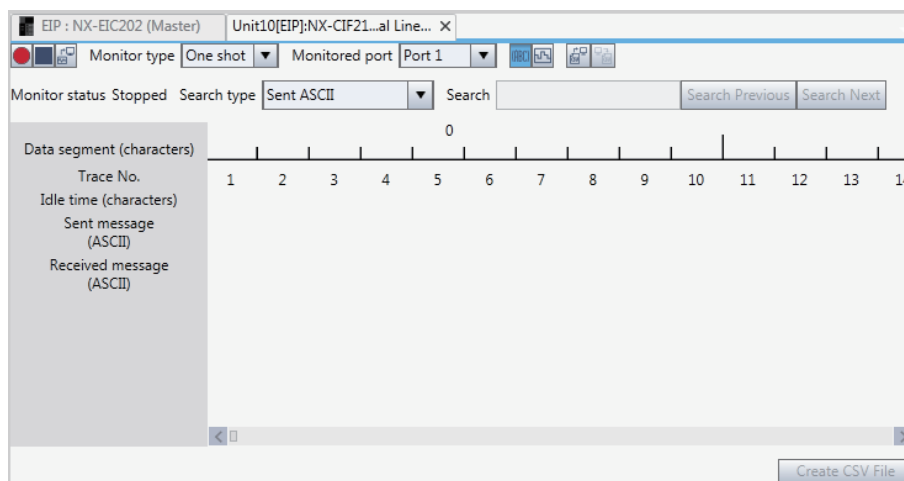
The CIF Serial Line Monitor tab page is where the monitor data that is accumulated during serial line monitoring is displayed. Use the following procedure to display the CIF Serial Line Monitor tab page.

Before you proceed, you need to go online with the Communications Coupler Unit.

- 1 Right-click the target Unit in the Slave Terminal tab page and select **CIF Serial Line Monitor** from the pop-up menu.



The CIF Serial Line Monitor tab page is displayed.



The items that are provided in the CIF Serial Line Monitor tab page are described in the following table.

Refer to the *NX-series Communications Interface Units User's Manual (Cat. No. W540)* for details on other items.

	Item	Description
(a)	Start monitoring	Starts monitoring.
(b)	Stop monitoring	Stop monitoring.
(c)	Read the monitor data	Reads the monitor data from the buffer and display it.*1
(d)	Monitor type	Sets the monitor type.
(e)	Search type	Sets the search type.
(f)	Monitored port	Sets the number of the port to monitor. This button is enabled for the NX-CIF210.
(g)	Display the characters	Shows and hides the characters for the sent and received messages.
(h)	Display the details	Shows and hides the control signals and communications errors.
(i)	Import	Imports monitor data that was saved on the computer and displays it.
(j)	Export	Exports the monitor data that is displayed in the tab page to the computer.
(k)	Search string	Enter a search string.
(l)	Search Previous	Displays the previous search result.
(m)	Search Next	Displays the next search result.
(n)	Monitor status	Displays the monitoring status of the specified port on the CIF Unit. Offline: Offline Executing: Monitoring is in progress. Stopped: Monitoring is stopped.
(o)	Create CSV File	Exports the monitor data that is displayed in the tab page to a CSV file on the computer.

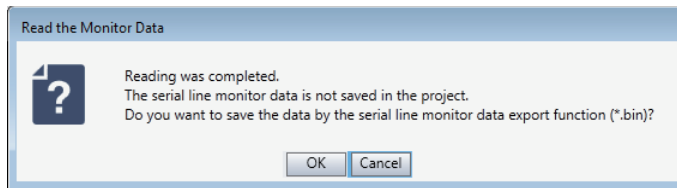
*1. If you click the **Read the monitor data** button when there is no monitor data in the buffer, no monitor data is displayed and an error message is also not displayed.

● Serial Line Monitoring Procedure

The procedure for serial line monitoring is described below.

- 1** Make the following settings in the CIF Serial Line Monitor tab page.
 - Monitor type
 - Monitored port

- 2** Click the **Start monitoring** button.
Monitoring starts.
- 3** Click the **Stop monitoring** button at any time.
Monitoring stops.
If the monitor type is set to **One shot**, monitoring will automatically stop when the buffer becomes full even if you do not click the **Stop monitoring** button.
- 4** Click the **Read the monitor data** button.
The monitor data is displayed. Also, the following dialog box is displayed.



- 5** Click the **OK** button to export the monitor data. Click the **Cancel** button if you do not want to export the monitor data and only display the monitor data.

5-9 NX-IO Configurator Option Settings

The option settings for the NX-IO Configurator are described below.

5-9-1 Option Settings

The option settings are listed in the following table.

Category	Item	Set value	Description
Project Settings	Default Author Name	Enable Default Author Name	You can set the default value of the author name that is displayed as a property of the project or POU. You can set up to 127 characters. In the default setting, the user name that you entered when you logged onto Windows is displayed.
Window	Edit Pane	Maximum number of tab pages in the Edit pane	You can set the number of tab pages in the Edit pane and floating edit windows that can be displayed at a time.
		When the maximum number of tab pages in the Edit pane is exceeded, close the tab page that has not become active for the longest time	If the maximum number of tab pages in the Edit pane and floating edit windows is exceeded when you open a new tab page, the tab page that has not been used for the longest time is closed automatically.

5-9-2 Displaying Option Settings

The procedure to display option settings is given below.

- 1** Select **Option** from the **Tools** menu.
The **Option** dialog box is displayed.
- 2** Change any settings and click the **OK** button.
The changes are applied.
A message is displayed if restarting the NX-IO Configurator is necessary. If a message is displayed, restart the NX-IO Configurator to apply the changes.



Appendices

The appendices provide supplemental information of this manual, including how to install the USB driver and error messages.

A-1	Driver Installation for Direct USB Cable Connection.....	A - 2
A-1-1	Installing the USB Driver.....	A - 2
A-1-2	Installing a Specified USB Driver.....	A - 2
A-1-3	Confirmation after Installation	A - 4
A-2	Changing Windows Firewall Security Settings	A - 5
A-3	Error Messages for Operation	A - 7
A-4	Online Help	A - 8
A-5	Keyboard Mapping	A - 9
A-6	Version Information	A - 10
A-6-1	NX-IO Configurator Versions and Unit Versions	A - 10
A-6-2	How to know the NX-IO Configurator Version	A - 10

A-1 Driver Installation for Direct USB Cable Connection

The following describes the procedures when you connect the computer to the USB port on the Communications Coupler Unit the first time, assuming that you are using Windows 7.

These procedures assume that the CX-One is already installed on the computer.

A-1-1 Installing the USB Driver

- 1 Turn ON the power supply to the Communications Coupler Unit and connect the USB port on the Unit to the computer with a USB cable.
The USB driver is installed automatically after you connect the cable.



Additional Information

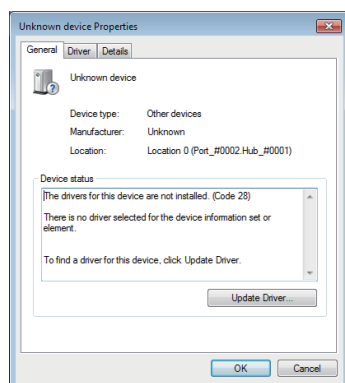
You may need to restart Windows after you install the USB driver. Restart Windows as instructed on the display.

A-1-2 Installing a Specified USB Driver

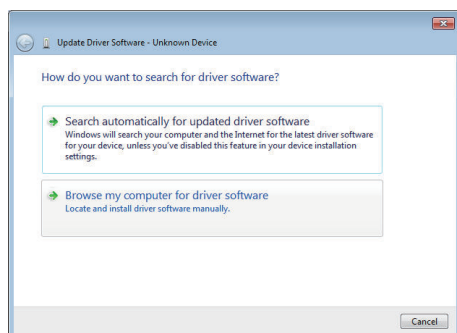
If you cannot install the USB driver automatically, use the following procedure to specify the driver to install.

- 1 Start the **Device Manager** from the Control panel and, in **Other devices**, double-click **Unknown device**.

The **Unknown device Properties** dialog box is displayed.

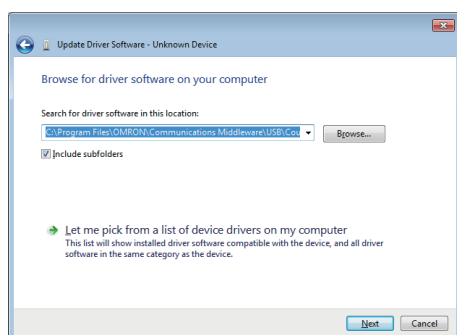


- 2 Click the **Update Driver** button.
The **Update Driver Software** dialog box is displayed.



3 Click **Browse my computer for driver software**.

A dialog box is displayed to specify the location to browse for driver software.



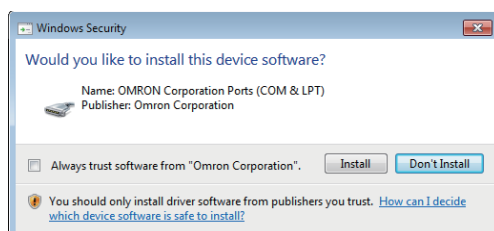
4 Click the **Browse** button and select the USB driver.

You can find the USB driver in the following location:

- Windows 7 32-bit edition, Windows 8 32-bit edition, Windows 8.1 32-bit edition, or Windows 10 32-bit edition
C:\Program Files\OMRON\Communications Middleware\USB\Coupler\7\32bit
- Windows 7 64-bit edition, Windows 8 64-bit edition, Windows 8.1 64-bit edition, or Windows 10 64-bit edition
C:\Program Files(x86)\OMRON\Communications Middleware\USB\Coupler7\64bit

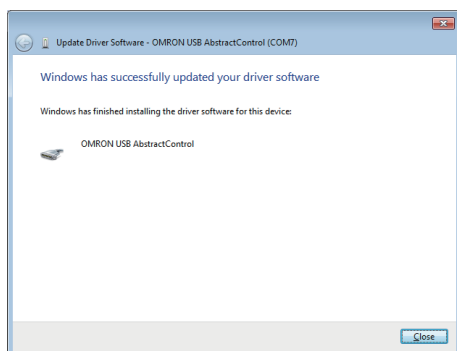
5 Click the **Next** button.

The **Windows Security** dialog box is displayed.



6 Click the **Install** button.

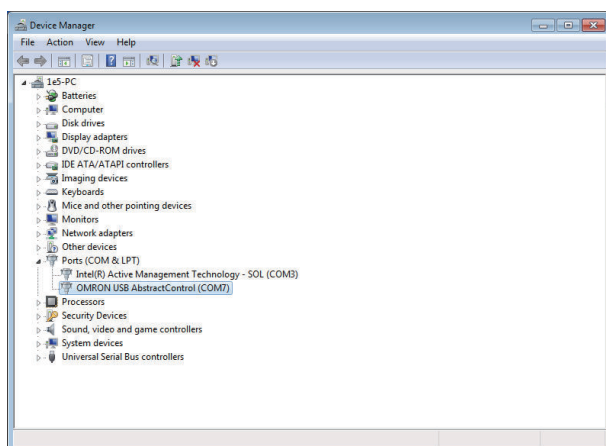
When installation of the USB driver is completed, the following dialog box is displayed.



A-1-3 Confirmation after Installation

Use the following procedure after installation to confirm that the USB driver is installed.

- 1** Connect the computer to the Controller with a USB cable.
- 2** Start the Device Manager on the computer.
- 3** Click the Modems icon in the Device Manager and make sure that OMRON USB AbstractControl is displayed.



A-2 Changing Windows Firewall Security Settings

When the connection method is "Ethernet I/F" or "Ethernet -> CS/CJ1 ETN-EIP Unit I/F", the NX-IO Configurator may not be able to go online depending on Windows firewall settings. In such cases, allow access to the network in a Windows firewall security dialog box that is displayed when the NX-IO Configurator connects to it for the first time, or change the Windows firewall settings to allow communications through the Ethernet port.



Precautions for Correct Use

The main function of the firewall is to prevent unwanted access from external sources (e.g., the Internet). The changes that are made with the following procedures are to allow the NX-IO Configurator to connect via EtherNet/IP. If your computer is on an inhouse network, make sure that security will not be jeopardized before you change the settings.

Changing Settings in a Windows Firewall Security Dialog Box

When the NX-IO Configurator goes online for the first time, a dialog box may be displayed to notify that some of its functions are blocked by the Windows firewall.

In such cases, select the type of the network to allow the NX-IO Configurator to communicate with and click the button to allow access to it. Then, the NX-IO Configurator goes online with the network without displaying the dialog box.

Changing Windows Firewall Settings

Here, the procedure to change the Windows firewall settings on Windows 7 is described as an example. The displayed items may differ depending on your OS.

The **User Account Control** dialog box may be displayed during this procedure. If it appears, click the **Continue** button and continue with the procedure.

- 1** Open the **Control Panel** from the Windows Start menu, select **Small icons** in **View by**, and click **Administrative Tools**.
The **Administrative Tools** dialog box is displayed.
- 2** In the **Administrative Tools** dialog box, double-click **Windows Firewall with Advanced Security**.
The **Windows Firewall with Advanced Security** dialog box is displayed.
- 3** Select **Inbound Rules** under **Windows Firewall with Advanced Security on Local Computer** on the left side of the **Windows Firewall with Advanced Security** dialog box.
The **Inbound Rules** pane and the **Actions** pane are displayed.
- 4** In the **Actions** pane, select **New Rule** under **Inbound Rules**.
The **New Inbound Rule Wizard** dialog box is displayed.

- 5** Make the following settings for each step in the **New Inbound Rule Wizard** dialog box, and click the **Next** button to move between steps.

Item	Operation
Rule Type	Select Custom .
Program	Select All Programs .
Protocol and Ports	Select ICMPv4 as the protocol type .
Scope	Select Any IP address for everything.
Action	Select Allow the connection .
Profile	Select Domain, Private, and Public .
Name	Enter any name.

- 6** Enter a name and click the **Finish** button.
The rule that you defined is registered in the **Inbound Rules** pane of the **Windows Firewall with Advanced Security on Local Computer** dialog box.
- 7** Close the **Windows Firewall with Advanced Security** dialog box.
- 8** In the NX-IO Configurator, establish an online connection with an EtherNet/IP Coupler Unit from the Ethernet port.
The **Windows Security Alert** dialog box is displayed.
- 9** In the **Windows Security Alert** dialog box, click the **Unblock** button.
An EtherNet/IP connection is allowed for the NX-IO Configurator, and you are now able to connect via EtherNet/IP.

A-3 Error Messages for Operation

The following table lists the error messages that are displayed in the Output tab page when you perform operations on the NX-IO Configurator. For error messages that are not listed, follow the correction instruction in each message.

Error message	Cause	Correction
Failed to open the interface.	There is an error in communication interface selection and setting.	Select and set a correct interface.
	Power to the Communications Coupler Unit or a relay device is OFF.	Check that the power supply to the Communications Coupler Unit or devices such as an Ethernet hub is ON.
	A communications cable is disconnected.	Check that cables in the communications path are not disconnected.
	You attempted to use the same interface setting (the same communications port or Ethernet adapter) as that of the Communications Coupler Unit that is already online.	When connecting through "CJ2 USB/Serial Port", "CS/CJ1 Serial Port -> EIP Unit I/F", or "Ethernet -> CS/CJ1 ETN-EIP Unit I/F", check that any conditions that prevent you from going online with more than one Communications Coupler Unit at the same time are not met. Refer to <i>4-3-3 Connection Procedure</i> on page 4 - 14 for details.
Failed to connect to the Coupler.	You attempted to connect to the EtherNet/IP Coupler Unit through an EtherNet/IP port, although its unit version is 1.0.	Connect through a USB port if you use an EtherNet/IP Coupler Unit with unit version 1.0.
	You selected a device other than the Communications Coupler Unit in the Browse Network dialog box.	Select the Communications Coupler Unit.
This unit is not supported by NX-IO Configurator.	The NX unit is not supported by the NX-IO Configurator.	Remove the Unit from the Slave Terminal configuration.
An error occurred in project file loading.	The process could not access the file because it is used by another process.	Terminate the process that is using the file and try again.
	The caller process does not have the necessary access permission.	Solve the problem related to access to the file and try again.
	Access to the file was denied.	Solve the problem related to access to the file and try again.
An error occurred when saving the project.	The process could not access the file because it is used by another process.	Terminate the process that is using the file and try again.
	The caller process does not have the necessary access permission.	Solve the problem related to access to the file and try again.
	Access to the file was denied.	Solve the problem related to access to the file and try again.

A-4 Online Help

You can access online help from the NX-IO Configurator as follows.
Select **Help Contents** from the **Help** menu.

A-5 Keyboard Mapping

The following tables list the shortcut keys that you can use in the main window of the NX-IO Configurator. Refer to *2-5 Basic Operations* on page 2 - 17 for shortcut keys for basic operations.

Operation	Shortcut keys	Menu command
Creating a project	Ctrl + N	File – Create New
Opening the project	Ctrl + O	File – Open
Saving the project	Ctrl + S	File – Save
Printing	Ctrl + P	File – Print
Displaying the Multiview Explorer	Alt + 1	View – Multiview Explorer
Displaying the Toolbox	Alt + 2	View – Toolbox
Displaying the Output tab page	Alt + 3	View – Output Tab Page
Displaying help information	F1	Help – Help Contents

A-6 Version Information

A-6-1 NX-IO Configurator Versions and Unit Versions

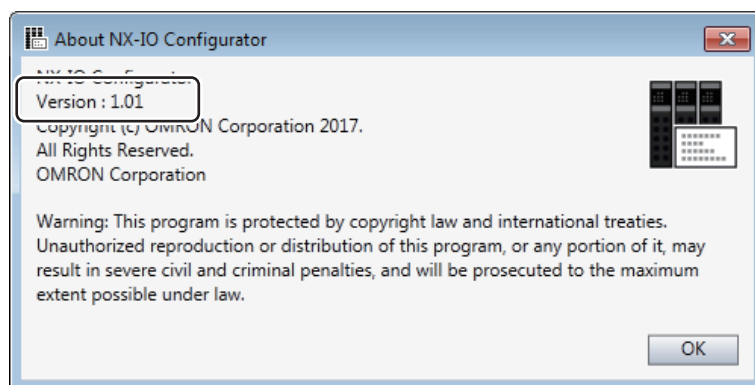
The range of functions supported by the NX-IO Configurator when it is used with a Communications Coupler Unit and NX Units depends on the combination with the unit version of the Communications Coupler Unit.

Refer to the user's manual of the Communications Coupler Unit and NX Units for details on version combinations.

A-6-2 How to know the NX-IO Configurator Version

This section describes the operating procedure to check the version of NX-IO Configurator.

- 1 From the main menu, select **Help - About NX-IO Configurator**.
The **About NX-IO Configurator** dialog box is displayed and you can find version information on it.





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