OMRON

Machine Automation Controller NJ-series

EtherNet/IP™ Connection Guide

IAI Corporation

X-SEL Controller
(XSEL-R/S/RX/SX/RXD/SXD)

Network Connection Guide

SYSMAC always in control

P574-E1-01

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Table of Contents

1. Related Manuals 1
2. Terms and Definitions 2
3. Precautions 3
4. Overview 4
5. Applicable Devices and Device Configuration 5
5.1. Applicable Devices 5
5.2. Device Configuration 6
6. EtherNet/IP Settings 8
6.1. EtherNet/IP Communications Parameters 9
6.2. Allocating the Tag Data Links 10
7. EtherNet/IP Connection Procedure 11
7.1. Work Flow 12
7.2. Setting Up the IAI X-SEL Controller 13
7.3. Setting Up the Controller 18
7.4. Setting Up the Network 25
7.5. Checking the EtherNet/IP Communications 30
8. Initialization Method 35
8.1. Initializing the Controller 35
8.2. Initializing the IAI X-SEL Controller 37
9. Appendix 1 Detailed Settings of the Tag Data Links 38
9.1. Global Variable Table 38
9.2. Relationship between Destination Device and Global Variables 39
9.3. Associating the Tag Data Links 40
10. Appendix 2 Setting the Tag Data Links Using the Software 41
10.1. Overview of Setting Tag Data Links 41
10.2. Work Flow of "Procedure for Setting Parameters from the Beginning" 42
10.3. Setting Up the Controller Using the Software 44
10.4. Setting Up the Network Using the Software 54
11. Revision History 69

1. Related Manuals

The table below lists the manuals related to this document.
To ensure system safety, make sure to always read and heed the information provided in all Safety Precautions, Precautions for Safe Use, and Precaution for Correct Use of manuals for each device which is used in the system.

Cat. No.	Model	Manual name
W500	NJ501-[][][][] NJ301-[][][][]	NJ-series CPU Unit Hardware User's Manual
W501	NJ501-[][][][] NJ301-[][][][]	NJ-series CPU Unit Software User's Manual
W506	NJ501-[][][][] NJ301-[][][][]	NJ-series CPU Unit Built-in EtherNet/IP™ Port User's Manual
W504	SYSMAC-SE2[][][]	Sysmac Studio Version 1 Operation Manual
ME0313	XSEL-R/S/RX/SX/RXD/SXD	XSEL Controller R/S/ RX/SX/RXD/SXD Type Operation Manual
ME0308	XSEL-R/S/RX/SX/RXD/SXD	EtherNet/IP Operation Manual XSEL-R/S/ RX/SX/RXD/SXD
ME0154	IA-101-X-MW IA-101-X-MW-J IA-101-XA-MW IA-101-X-USB IA-101-X-USBMW	PC Software for X-SEL Operation Manual

2. Terms and Definitions

Term	Explanation and Definition
Node	Controllers and devices are connected to the EtherNet/IP network via the EtherNet/IP ports. The EtherNet/IP recognizes each EtherNet/IP port connected to the network as one node. When a device with two EtherNet/IP ports is connected to the EtherNet/IP network, the EtherNet/IP recognizes this device as two nodes. The EtherNet/IP achieves the communications between controllers or the communications between controllers and devices by exchanging data between these nodes connected to the network.
Tag	A minimum unit of the data that is exchanged on the EtherNet/IP network is called a tag. The tag is defined as a network variable or as a physical address, and it is allocated to the memory area of each device.
Tag set	In the EtherNet/IP network, a data unit that consists of two or more tags can be exchanged. The data unit consisting of two or more tags for the data exchange is called a tag set. Up to eight tags can be configured per tag set for OMRON controllers.
Tag data link	In the EtherNet/IP, the tag and tag set can be exchanged cyclically between nodes without using the user program. This standard feature on the EtherNet/IP is called a tag data link.
Connection	A connection is used to exchange data as a unit within which data concurrency is maintained. The connection consists of tags or tag sets. Creating the concurrent tag data link between the specified nodes is called a "connection establishment ". When the connection is established, the tags or tag sets that configure the connection are exchanged between the specified nodes concurrently.
Originator and Target	To perform tag data links, one node requests the opening of a communications line called a "connection". The node that requests opening the connection is called a "originator", and the node that receives the request is called a "target"
Tag data link parameter	The tag data link parameter is the setting data to perform the tag data link. It includes the data to set tags, tag sets, and connections.
EDS file	A file that describes the number of I/O points for the EtherNet/IP device and the parameters that can be set via EtherNet/IP.

3. Precautions

(1) Understand the specifications of devices which are used in the system. Allow some margin for ratings and performance. Provide safety measures, such as installing safety circuit in order to ensure safety and minimize risks of abnormal occurrence.

(2) To ensure system safety, always read and heed the information provided in all Safety Precautions, Precautions for Safe Use, and Precaution for Correct Use of manuals for each device used in the system.

(3) The user is encouraged to confirm the standards and regulations that the system must conform to.

(4) It is prohibited to copy, to reproduce, and to distribute a part or the whole of this document without the permission of OMRON Corporation.

(5) The information contained in this document is current as of July 2013. It is subject to change without notice for improvement.

The following notation is used in this document.

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

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.

Symbols

The filled circle symbol indicates operations that you must do.
The specific operation is shown in the circle and explained in text.
This example shows a general precaution for something that you must do.

4. Overview

This document describes the procedure for connecting X-SEL Controller (XSEL-R/S/RX/SX/RXD/SXD) manufactured by IAI Corporation (hereinafter referred to as IAI) with NJ-series Machine Automation Controller (hereinafter referred to as the Controller) manufactured by OMRON Corporation (hereinafter referred to as OMRON) via EtherNet/IP, and describes the procedure for checking their connection.
It also contains the procedure for performing EtherNet/IP tag data link using the EtherNet/IP settings of the project file that is prepared beforehand (hereinafter referred to as the "procedure for using the configuration files").
Section 9 Appendix 1 and *Section 10 Appendix 2* describe the procedures for setting parameters with software without using files (hereinafter referred to as the "procedure for setting parameters from beginning".

To follow the "procedure for using configuration files", obtain the latest "Sysmac Studio project file" and "Network Configurator v3 network configuration file" (they are referred to as "configuration files") from OMRON in advance.

Name	File name	Version
Sysmac Studio project file (extension: smc)	IAI_X-SEL_EIP_EV100.smc	Ver.1.00
Network Configurator v3 network configuration (extension: nvf)	IAI_X-SEL_EIP_EV100.nvf	Ver.1.00

5. Applicable Devices and Device Configuration

5.1. Applicable Devices

The applicable devices are as follows.

Manufacturer	Name	Model
OMRON	NJ-series CPU Unit	NJ501-[][][][] NJ301-[][][][]
IAI	X-SEL Controller	XSEL-R-[]-EP-[] XSEL-S-[]-EP-[] XSEL-RX-[]-EP-[] XSEL-SX-[]-EP-[] XSEL-RXD-[]-EP-[] XSEL-SXD-[]-EP-[]
IAI	Actuator	-

Precautions for Correct Use

As applicable devices above, the devices with the models and versions listed in Section 5.2. are actually used in this document to describe the procedure for connecting devices and checking the connection.
You cannot use devices with versions lower than the versions listed in Section 5.2.
To use the above devices with versions not listed in Section 5.2 or versions higher than those listed in Section 5.2, check the differences in the specifications by referring to the manuals before operating the devices.

Additional Information

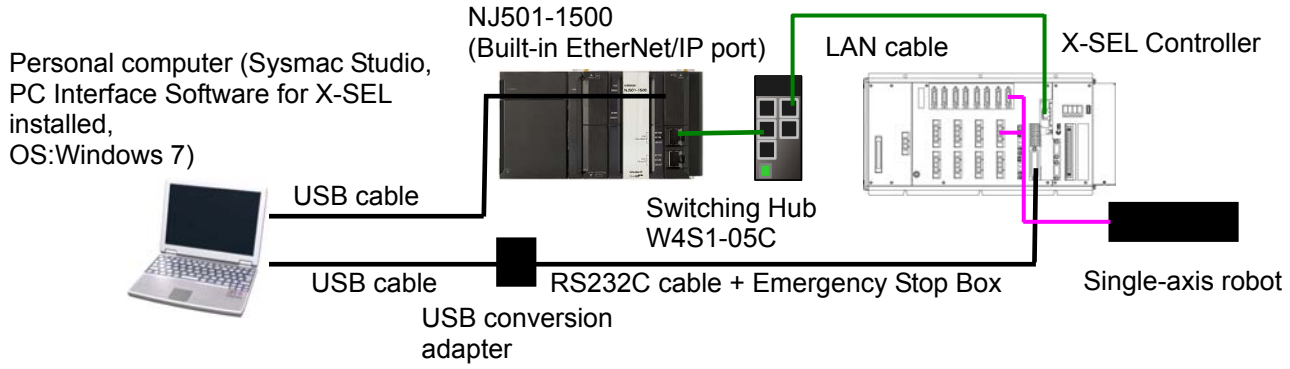
This document describes the procedure to establish the network connection. Except for the connection procedure, it does not provide information on operation, installation or wiring method. It also does not describe the functionality or operation of the devices. Refer to the manuals or contact the device manufacturer.
(IAI Corporation http://www.intelligentactuator.com/)
This URL is the latest address at the time of this document creation. Contact each device manufacturer for the latest information.

Additional Information

Contact the device manufacturer for actuators connectable to X-SEL Controllers.
(IAI Corporation http://www.intelligentactuator.com/)

5.2. Device Configuration

The hardware components to reproduce the connection procedure of this document are as follows.



Manufacturer	Name	Model	Version
OMRON	NJ-series CPU Unit (Built-in EtherNet/IP port)	NJ501-1500	Ver.1.05
OMRON	Power Supply Unit	NJ-PA3001	
OMRON	Switching Hub	W4S1-05C	Ver.1.00
OMRON	Sysmac Studio	SYSMAC-SE2[][][]	Ver.1.06
OMRON	Network-Configurator	(Included in Sysmac Studio.)	Ver.3.55
OMRON	Sysmac Studio project file	IAI_X-SEL_EIP_EV100.smc	Ver.1.00
OMRON	Network Configurator v3 network configuration file	IAI_X-SEL_EIP_EV100.nvf	Ver.1.00
-	Personal computer (OS: Windows7)	-	
-	USB cable (USB 2.0 type B connector)	-	
-	LAN cable (STP (shielded, twisted-pair) cable of Ethernet category 5 or higher)	-	
IAI	X-SEL Controller	XSEL-R-[]-EP-[]	Ver.1.04
IAI	Single-axis robot	ISB-SXM-I-60-4-500-T1-S-B	
IAI	EDS file	368-9523-EDS_ABCC_EIP_V_2_2.eds	Ver.2.2
IAI	PC Interface Software for X-SEL	IA-101-X-USBMW	V9.00.00.00E
IAI	RS232C cable + Emergency Stop Box	CB-ST-E1MW050-EB *1	
IAI	USB cable	- *1	
IAI	USB conversion adapter	- *1	

* 1: Included in PC Interface Software for X-SEL.

Precautions for Correct Use

Prepare the corresponding EDS file beforehand. The latest EDS file can be downloaded from IAI website http://www.intelligentactuator.com/field-network-configuration-files/
Contact IAI Corporation if the file is not available.

Precautions for Correct Use

When there is an icon file specific to the device, the icon file and the EDS file must be stored in the same folder.

Precautions for Correct Use

Prepare the latest "Sysmac Studio project file" and "Network Configurator v3 network configuration file" from OMRON in advance.
(To obtain the files, contact your OMRON representative.)

Precautions for Correct Use

Update the Sysmac Studio to the version specified in this section or higher version using the auto update function.
If a version not specified in this section is used, the procedures described in Section 7 and subsequent sections may not be applicable. In that case, use the equivalent procedures described in the Sysmac Studio Version 1 Operation Manual (Cat. No. W504) and Network Configurator Online Help.

Additional Information

The system configuration in this document uses USB for the connection to the Controller. For information on how to install a USB driver, refer to *A-1 Driver Installation for Direct USB Cable Connection of the Sysmac Studio Version 1 Operation Manual* (Cat. No. W504).

Additional Information

The system configuration in this document uses a USB conversion adapter for the connection between the personal computer and X-SEL Controller. For information on how to install a USB conversion adapter driver, refer to *1.3.2 How to Install the USB Conversion Adapter Driver Software of the PC Software for X-SEL Operation Manual* (Cat.No.ME0154).

6. EtherNet/IP Settings

This section describes the specifications such as communication parameters and tag data link that are defined in this document.
Hereinafter, the X-SEL Controller is referred to as the "destination device" in some descriptions.

6.1. EtherNet/IP Communications Parameters

The communications parameters required to connect the Controller and the destination device via EtherNet/IP are given below.

In this document, each 128 I/O points from the beginning of the Standard I/O port are allocated to the EtherNet/IP board (Network I/F Module 1) of the X-SEL Controller. The other I/O boards (e.g. I/O board or Network I/F Module 2) are not used in this setting.

	Controller Mode (node 1)	X-SEL Controller (node 2)
IP address	192.168.250.1	192.168.250.2
Subnet mask	255.255.255.0	255.255.255.0
Baud rate	-	0 (Autonegotiation)
I/O Port Allocation Type	-	0*1 (Fixed Allocation)
Standard I/O (I/O board, I/O slot 1 and 2)		
Input Port Start No. in Network I/F	-	-1 (Not valid)
Output Port Start No. in Network I/F	-	-1 (Not valid)
Error Monitor	-	0 (Do not monitor: I/O board is not used)
Network I/F Module 1		
No. of Remote Input Ports	-	128*2 (16 byte)
No. of Remote Output Ports	-	128*2 (16 byte)
Input Port Start No. in Network I/F.	-	0*3
Output Port Start No. in Network I/F.	-	300*4
Error Monitor	-	1 (Monitor: Network I/F Module 1 is used)
Network I/F Module 2		
No. of Remote Input Ports	-	0
No. of Remote Output Ports	-	0
Input Port Start No. in Network I/F.	-	-1
Output Port Start No. in Network I/F.	-	-1
Error Monitor	-	0 (Do not monitor: Network I/F Module 2 is not used)

* 1: In this document, I/O Port Allocation Type is set to the Fixed Allocation to enable the setting of "Input Port Start No. in Network I/F" and "Output Port Start No. in Network I/F" for "Network I/F Module 1".

* 2: The No. of Ports is set in 8-port units. The setting range is 0 to 256.

* 3: The Input Port Start No. is either 0+(multiple of 8) or 1000+ (multiple of 8). Invalid if -1 is set. The setting range is -1 to 299, and 1000 to 3999.

* 4: Output Port Start No. is either 300+(multiple of 8) or 4000+(multiple of 8). Invalid if -1 is set. The setting range is -1, 300 to 599, and 4000 to 6999.

6.2. Allocating the Tag Data Links

The data in the tag data links of the destination device are allocated to the global variables of the Controller. The relationship between the device data and the global variables is shown below. The following global variables are defined in the "Configuration file".

■Output area (Controller → SEL Controller)

Offset	Destination device data	Global variable	Data type
+0 to +7	Input port (Port No. 0 to 127)	EIP002_Data_OUT	WORD[8]

<Detailed allocation >

Assigned	Bit	Port No.	Function name
EIP002_Data_OUT[0]	0	000	Program start
	1 to 6	001 to 006	Universal input
	7 to 13	007 to 013	Program specification (indicate startup program number with in binary) 007(LSB) to 013(MSB)
	14 to 15	014 to 015	Universal input
EIP002_Data_OUT[1]	0 to 15	016 to 031	Universal input
:	:	:	:
EIP002_Data_OUT[7]	0 to 15	112 to 127	Universal input

■Input area (Controller ←X-SEL Controller)

Offset	Destination device data	Global variable	Data type
+0 to +7	Output port (port No.300 to 427)	EIP002_Data_IN	WORD[8]

<Detailed allocation >

Assigned	Bit	Port No.	Function name
EIP002_Data_IN[0]	0	300	Alarm output
	1	301	Ready output
	2	302	Emergency stop output
	3 to 15	303 to 315	Universal output
EIP002_Data_IN[1]	0 to 15	316 to 331	Universal output
:	:	:	:
EIP002_Data_IN[7]	0 to 15	412 to 427	Universal output

Additional Information

For the details of the I/O formats for X-SEL Controllers, refer to *3.7 Standard I/O Ports of XSEL Controller* and *3.8 I/O Port and Data Reading and Writing* of *the EtherNet/IP Operation Manual XSEL-R/S/ RX/SX/RXD/SXD* (Cat.No.ME0308).

Additional Information

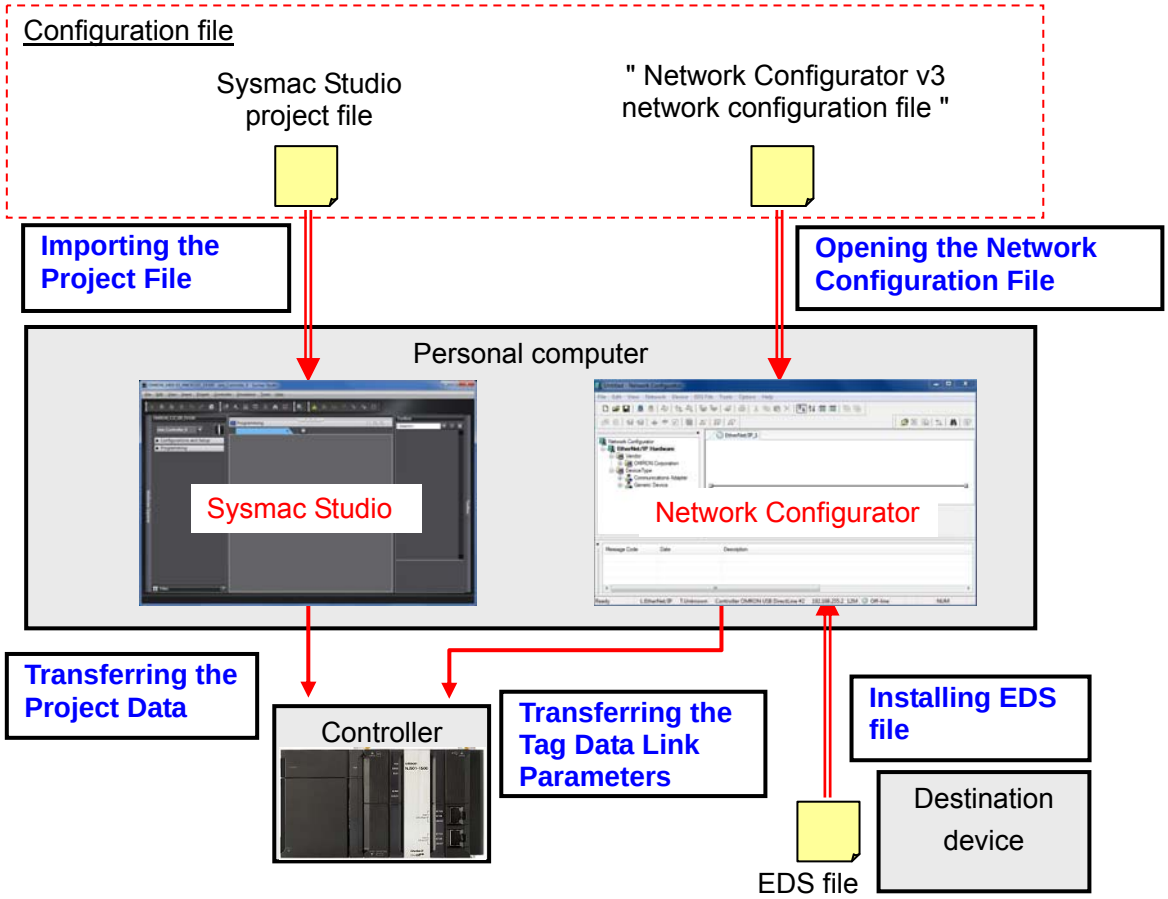
With the Sysmac Studio, two methods can be used to specify an array for a data type. After specifying, (1) is converted to (2) and the data type is always displayed as (2).
(1) WORD[3]/ (2) ARRAY[0..2] OF WORD
In this document, the data type is simplified by displaying WORD[3].
(The example above means a WORD data type with three array elements.)

7. EtherNet/IP Connection Procedure

This section describes the procedure for connecting the X-SEL Controller to the Controller via EtherNet/IP using the "procedures for using configuration files".
This document explains the procedures for setting up the Controller and the X-SEL Controller from the factory default setting. For the initialization, refer to *Section 8 Initialization Method*.

■Setting Overview

The following figure shows the relationship between the processes to operate the EtherNet/IP tag data link using the "procedure for using configuration files".



Precautions for Correct Use

Prepare the latest "Sysmac Studio project file" and "Network Configurator v3 network configuration file" from OMRON in advance.
(To obtain the files, contact your OMRON representative.)

7.1. Work Flow

Take the following steps to operate the tag data link for EtherNet/IP.

7.2. Setting Up the IAI X-SEL Controller	Set up the IAI X-SEL Controller.
↓	
7.2.1. Parameter Settings	Set the parameters for the X-SEL Controller.
↓	
7.3. Setting Up the Controller	Set up the Controller.
↓	
7.3.1. Starting the Sysmac Studio and Importing the Project File	Start the Sysmac Studio and import the Sysmac Studio project file.
↓	
7.3.2. Connecting Online and Transferring the Project Data	Connect online with the Sysmac Studio and transfer the project data to the Controller.
↓	
7.4. Setting Up the Network	Set the tag data links for the EtherNet/IP.
↓	
7.4.1. Starting the Network Configurator and Installing the EDS File	Start the Network Configurator and install the EDS file.
↓	
7.4.2. Opening the Network Configuration File and Connecting Online	Open the Network Configurator v3 network configuration file and connect online with the Controller.
↓	
7.4.3. Transferring the Tag Data Link Parameters	Transfer the tag data link parameters to the Controller.
↓	
7.5. Checking the EtherNet/IP Communications	Confirm that the EtherNet/IP tag data links are performed normally.
↓	
7.5.1 Checking the Connection Status	Check the connection status of EtherNet/IP.
↓	
7.5.2 Checking the Data that are Sent and Received	Confirm that the correct data are sent and received.

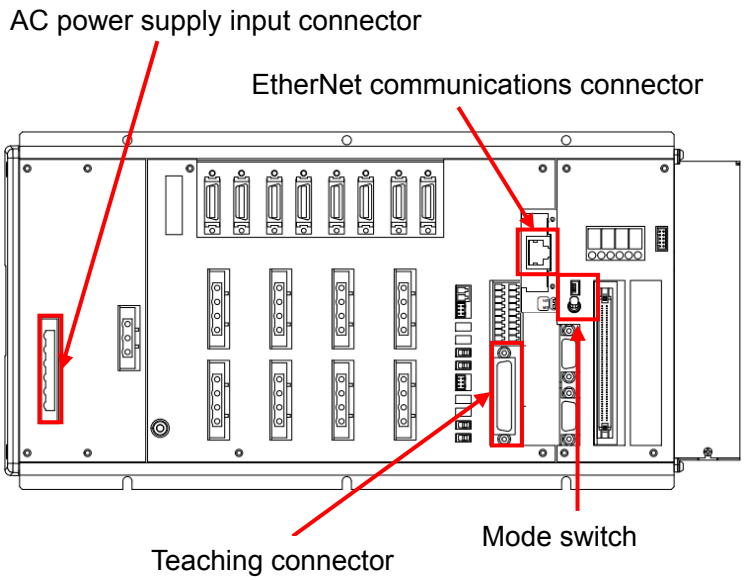
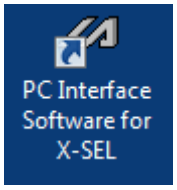
7.2. Setting Up the IAI X-SEL Controller

Set up IAI X-SEL Controller

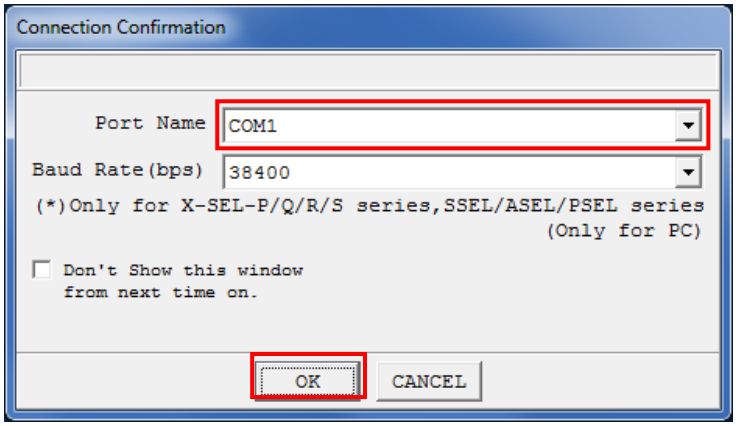
7.2.1. Parameter Settings

Set the parameters for the X-SEL Controller.

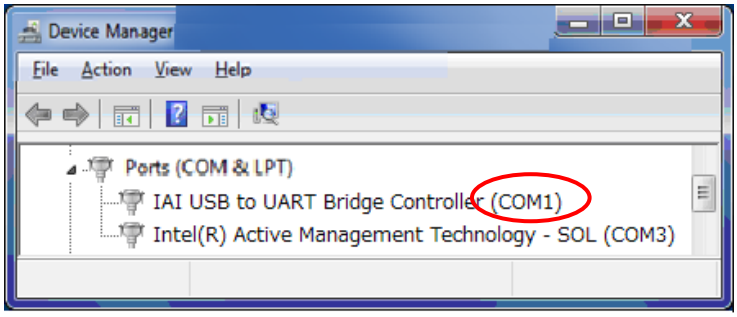
Parameters are set by "PC Interface Software for X-SEL". Install the corresponding software and USB Driver to the personal computer beforehand.

1	Connect the X-SEL Controller to the switching Hub with a LAN cable. * Connect the LAN cable to the EtherNet communications connector of the X-SEL Controller. Connect the X-SEL Controller to the USB cable + USB conversion adapter with a RS-232C cable. * Connect the RS-232C cable to the Teaching connector of the X-SEL Controller.	
2	Set the MODE switch on the front of the X-SEL Controller to the MANU side.	
3	Turn ON the power supply to the X-SEL Controller.	
4	Start the **PC Interface Software for X-SEL** from the personal computer.	

5 When the software starts, the Connection Confirmation Dialog Box is displayed.
Select the communications port No. that is connected to the communication port and click the **OK** Button.

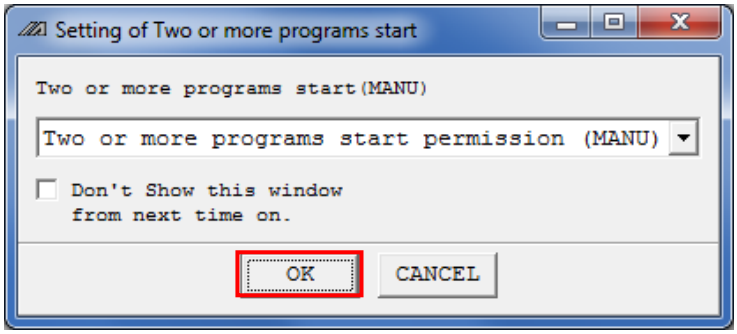


* If there are multiple serial ports on the personal computer, display the Windows Device Manager and select the same port as the communications port No. that the X-SEL Controller is connected (COM1 in this example) shown under the Ports (COM & LPT).

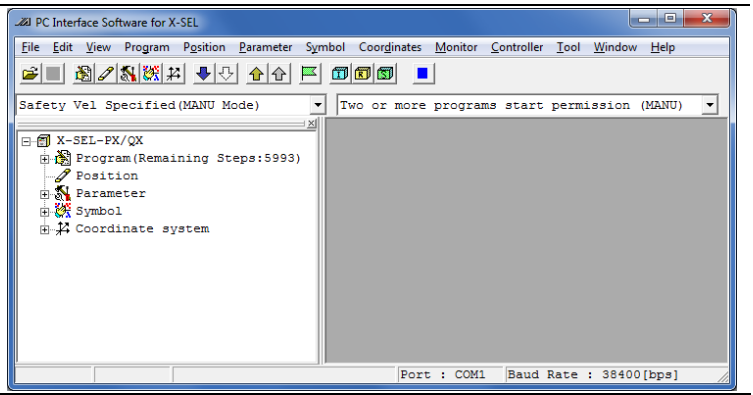


* To display the Device Manager, right-click the ***Computer*** and select ***Properties*** - ***Device Manager***.

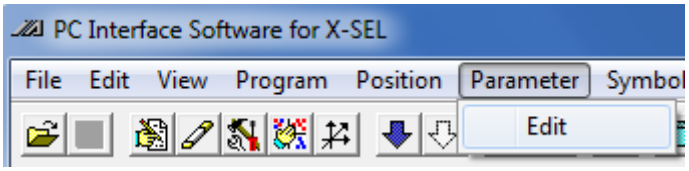
6 The Setting of Two or more programs start Dialog Box on the right is displayed. Click the **OK** Button.



7 The PC Interface Software for X-SEL starts.



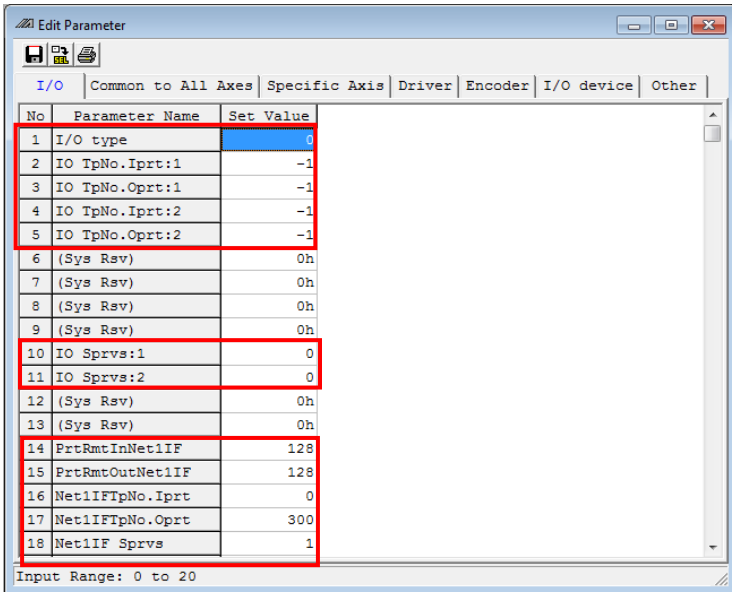
8 Select ***Edit*** from the Parameter Menu.



9 The Edit Parameter Dialog Box is displayed. Set the parameters of No.1 to No.5, No.10 and No.11, and No.14 to No.18 as shown below.

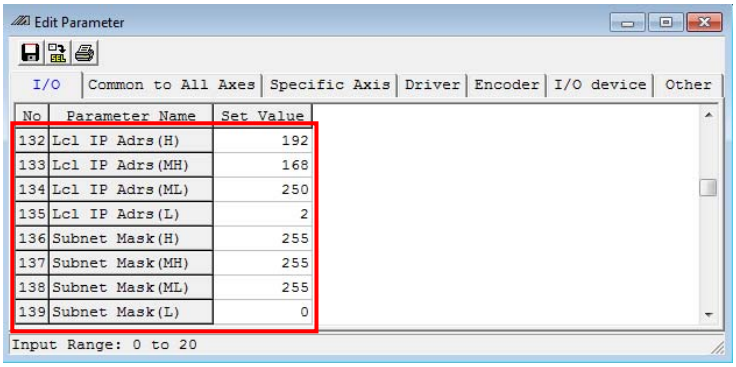
No1: 0
No2: -1
No3: -1
No4: -1
No5: -1
No10: 0
No11: 0
No14: 128
No15: 128
No16: 0
No17: 300
No18: 1

* No need to change other parameters shown on the right.



10 Set the parameters of No.132 to No.139 on the Edit Parameter Dialog Box as shown below.

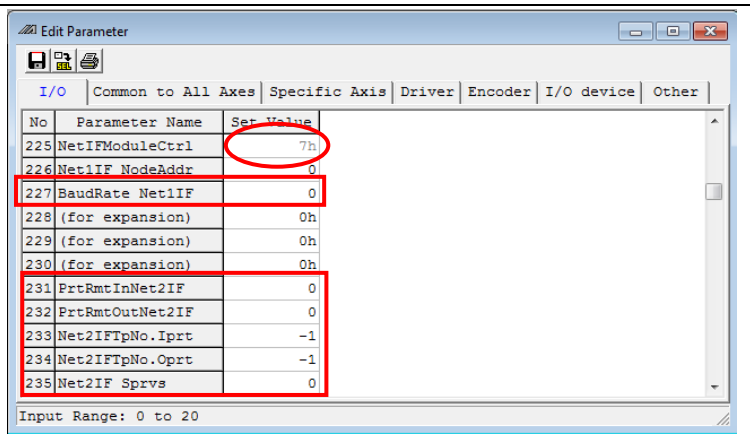
No132: 192
No133: 168
No134: 250
No135: 2
No136: 255
No137: 255
No138: 255
No139: 0



11 Set the parameters of No.227 to No.235 on the Edit Parameter Dialog Box as shown below.

No227: 0
No231: 0
No232: 0
No233: -1
No234: -1
No235: 0

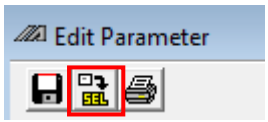
* No need to change other parameters shown on the right.
* If Network I/F Module 1 is EtherNet/IP, "7h" is displayed in the No.225 Column.

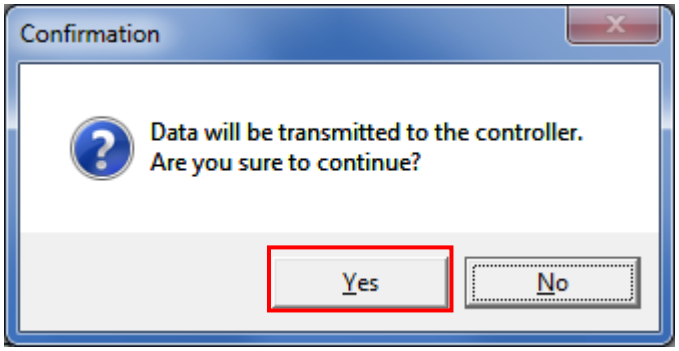


12 After setting the parameters, click the SEL icon to transfer it to the Controller.

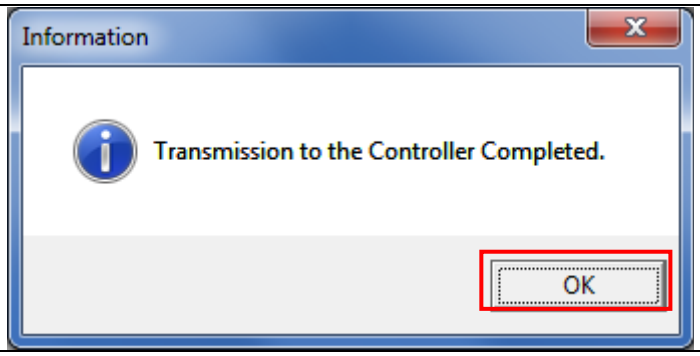
A Confirmation Dialog Box is displayed as shown on the right. Check the contents and click the **Yes** Button.

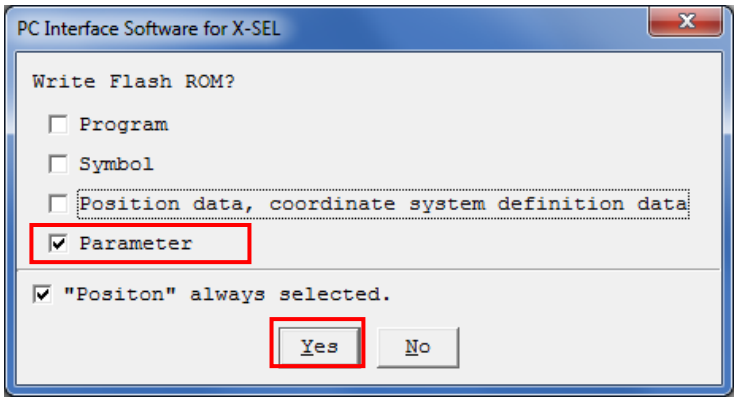
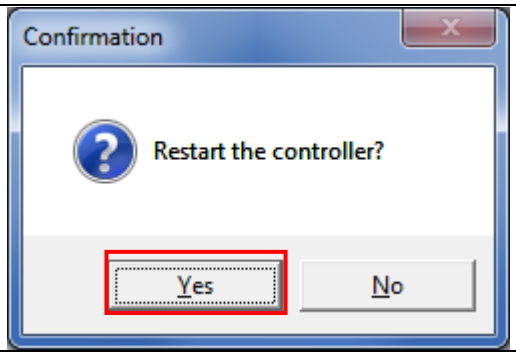
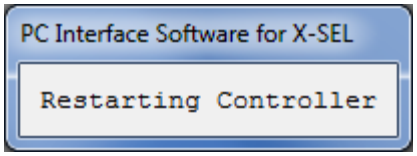
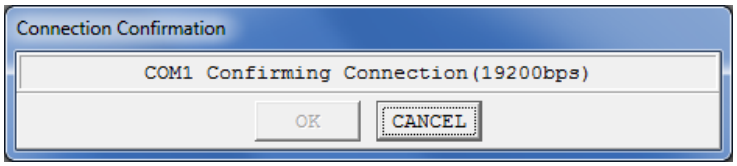
* If no change is made to the parameter setting value, the dialog boxes shown after this step is not displayed. Proceed to step 16.





13 The dialog box on the right is displayed. Check the contents and click the **OK** Button.



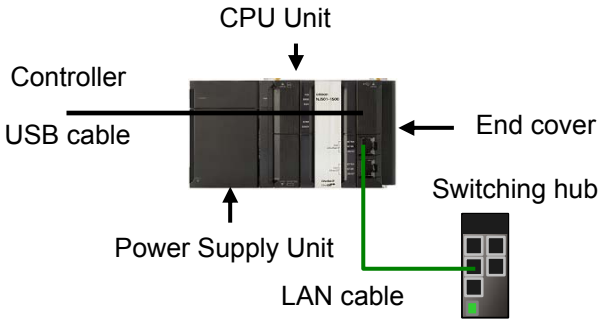
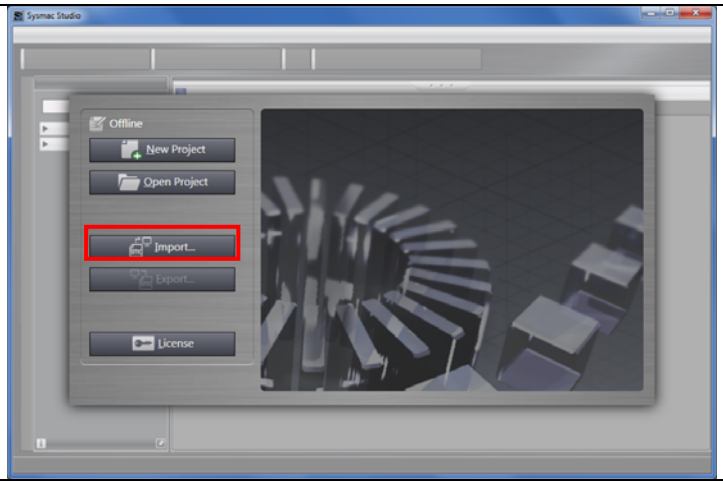
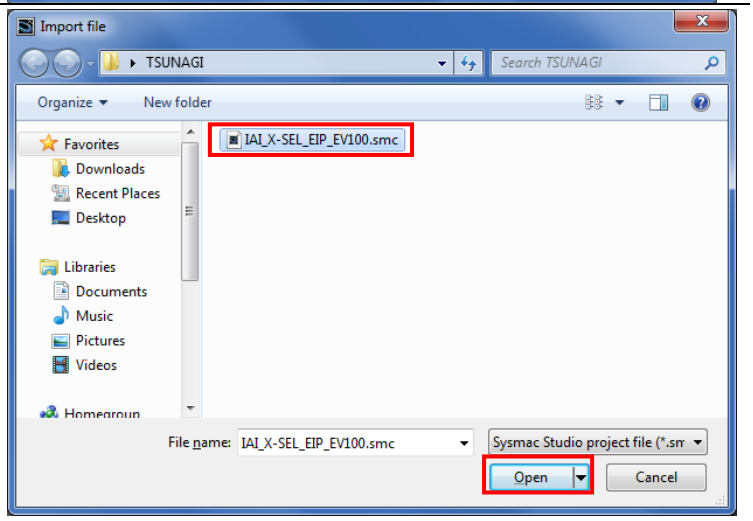
14	The dialog box on the right is displayed. Select the *Parameter* Check Box and click the **Yes** Button.	
15	A dialog box on the right is displayed. Check the contents and click the **Yes** Button.	
16	When the X-SEL Controller starts, the dialog box on the right is displayed.	
17	When the X-SEL Controller is reconnected to the personal computer, the dialog box on the right disappears. Confirm that the X-SEL Controller is successfully reconnected to the personal computer, and then exit the PC Interface Software for X-SEL.	

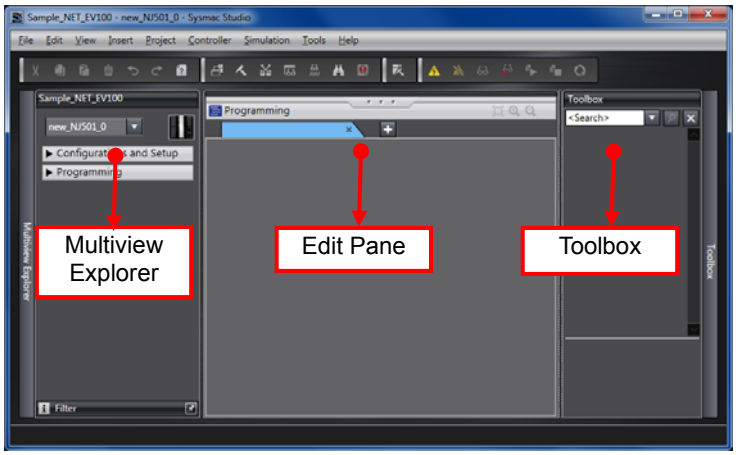
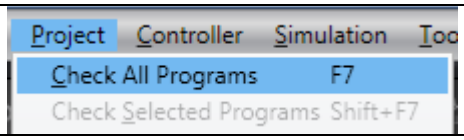
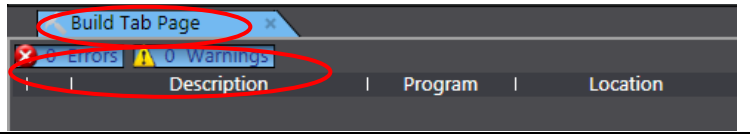
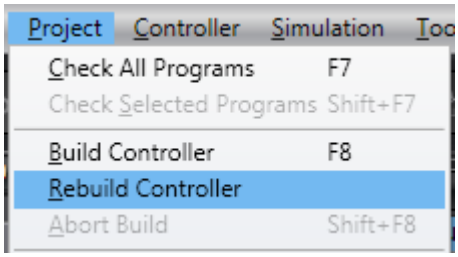
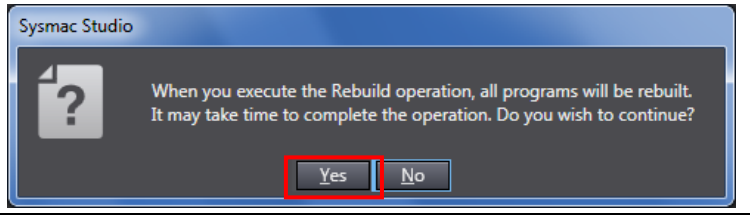
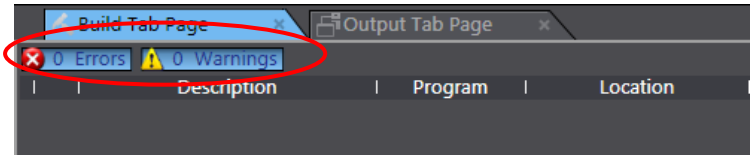
7.3. Setting Up the Controller

Set up the Controller.

7.3.1. Starting the Sysmac Studio and Importing the Project File

Start the Sysmac Studio and import the Sysmac Studio project file.
Install the Sysmac Studio and USB driver in the personal computer beforehand.

1	Connect the LAN cable to the built-in EtherNet/IP port (PORT1) of the Controller and the USB cable to the peripheral (USB) port. Then connect the Controller, personal computer, and switching hub by referring to 5.2. Device Configuration. Turn ON the power supply to the Controller.	
2	Start the **Sysmac Studio**. Click the **Import** Button. * If a confirmation dialog box for an access right is displayed at start, select to start.	
3	The Import File Dialog Box is displayed. Select *IAI_X-SEL_EIP_EV100.smc* (Sysmac Studio project file) and click the **Open** Button. * Obtain the Sysmac Studio project file from OMRON.	

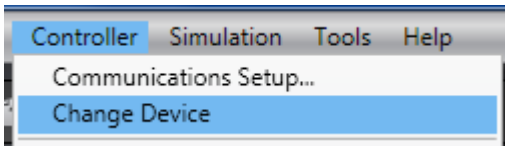
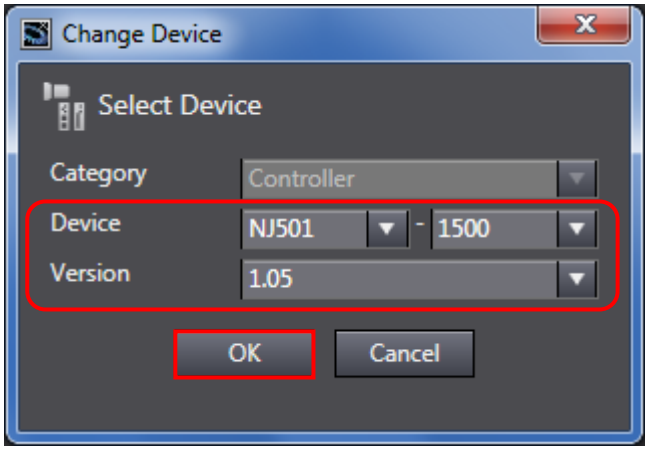
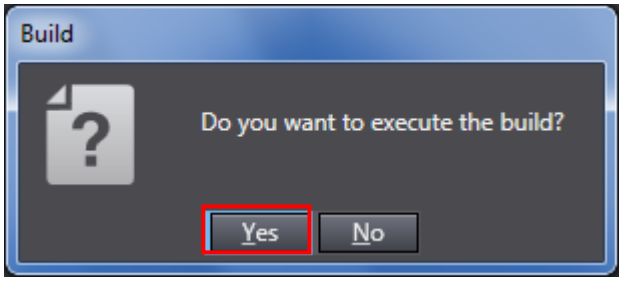
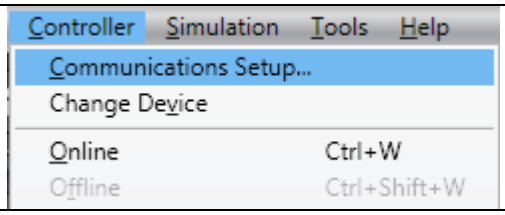
4	The IAI_X-SEL_EIP_EV100 is displayed. The left pane is called Multiview Explorer, the right pane is called Toolbox and the middle pane is called Edit Pane. * If an error message is displayed stating "Failed to Load Descendants", change the version of the Sysmac Studio to the version specified in 5.2. Device Configuration or higher version.	
5	Select ***Check All Programs*** from the Project Menu.	
6	The Build Tab Page is displayed in the Edit Pane. Confirm that "0 Errors" and "0 Warnings" are displayed.	
7	Select ***Rebuild Controller*** from the Project Menu.	
8	A confirmation dialog box is displayed. Confirm that there is no problem and click the **Yes** Button.	
9	Confirm that "0 Errors" and "0 Warnings" are displayed in the Build Tab Page.	

7.3.2. Connecting Online and Transferring the Project Data

Connect online with the Sysmac Studio and transfer the project data to the Controller.

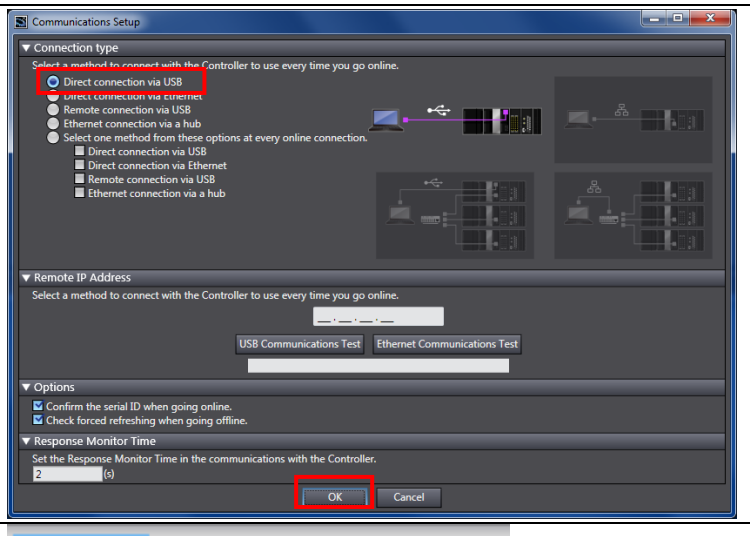
⚠ WARNING

Always confirm safety at the destination node before you transfer a user program, configuration data, setup data, device variables, or values in memory used for CJ-series Units from the Sysmac Studio.
The devices or machines may perform unexpected operation regardless of the operating mode of the CPU Unit.

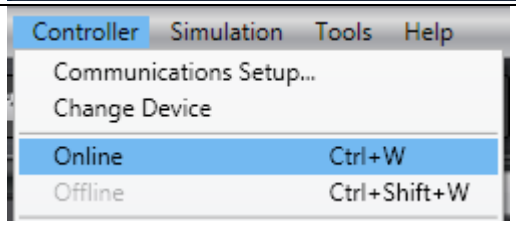
1	Select ***Change Device*** from the Controller Menu.	
2	The Change Device Dialog Box is displayed. Confirm that Device and Version to use are set as shown on the right. * If the settings are not correct, select the setting items from the pull-down list. Click the **OK** Button.	
3	If the settings were changed in step 2, the Build Dialog Box is displayed. Check the contents and click the **Yes** Button.	
4	Select ***Communications Setup*** from the Controller Menu.	

5 The Communications Setup Dialog Box is displayed. Select the *Direct connection via USB* Option for Connection Type.

Click the **OK** Button.



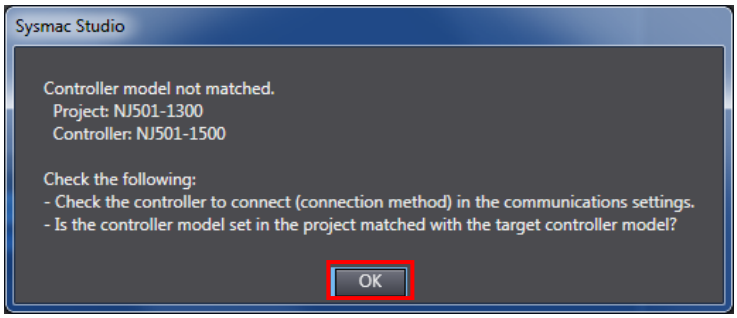
6 Select ***Online*** from the Controller Menu.

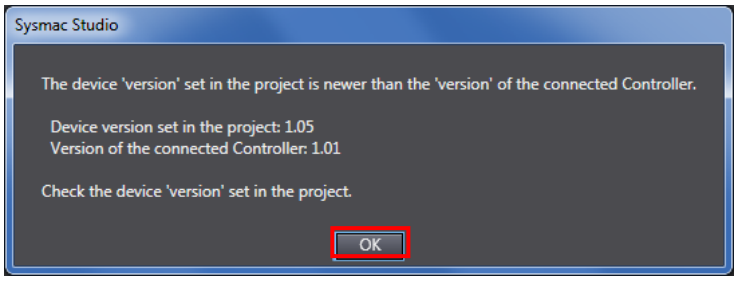


* If the dialog box on the right is displayed, the model or version of the Controller does not match that of the project file. Match the Controller model and version by changing the device settings of the project file, and then repeat the procedure from step 1 in this section. Close the dialog box by clicking the **OK** Button.

* The model and version displayed on the confirmation dialog box differ depending on the Controller used and the device setting of the project file.

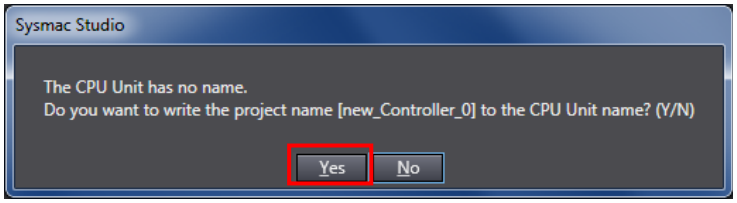
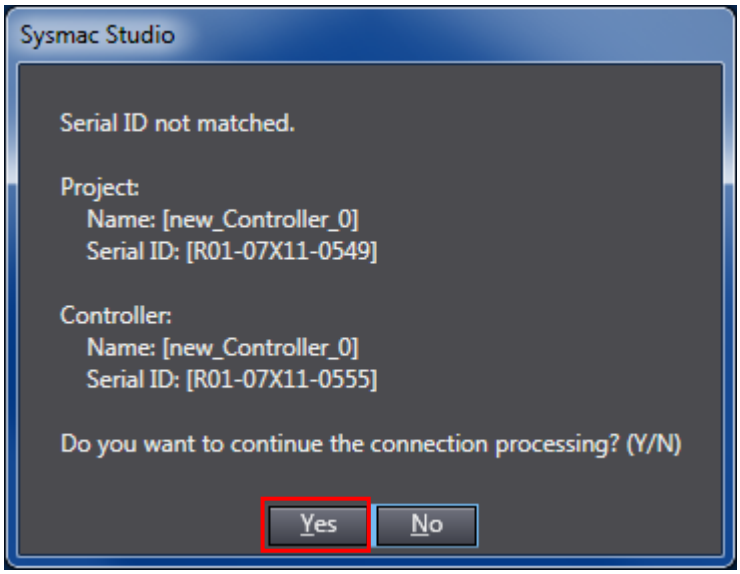
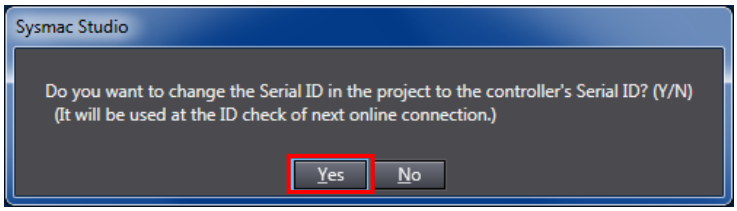
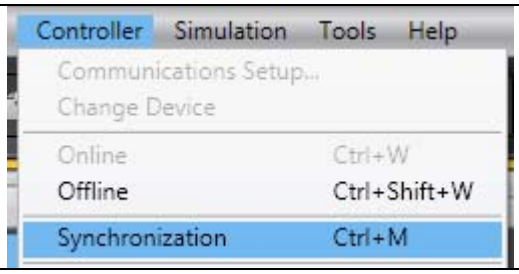
* Example of confirmation dialog box





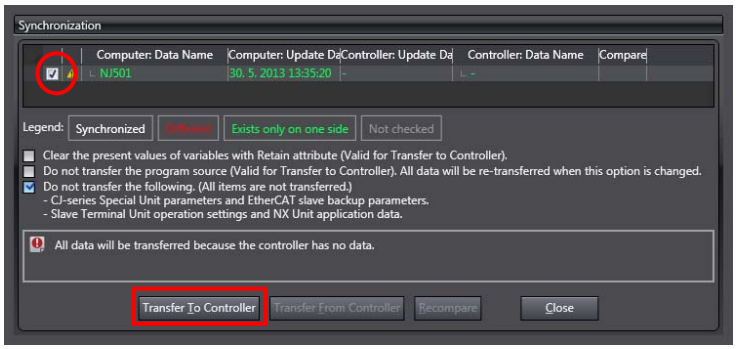
Additional Information

For details on online connections to a Controller, refer to *Section 5 Online Connections to a Controller of the Sysmac Studio Version 1 Operation Manual* (Cat. No. W504).

7	A confirmation dialog box is displayed as shown on the right. Confirm that there is no problem and click the **Yes** Button. * The displayed dialog box depends on the status of the Controller used. Click the **Yes** Button to proceed with the processing. * The displayed serial ID differs depending on the device.	  
8	When an online connection is established, a yellow bar is displayed on the top of the Edit Pane.	
9	Select ***Synchronization*** from the Controller Menu.	

10 The Synchronization Dialog Box is displayed.
Confirm that the data to transfer (NJ501 in the right dialog box) is selected. Then, click the **Transfer To Controller** Button.

* After executing the Transfer To Controller, the Sysmac Studio data is transferred to the Controller and the data are compared.

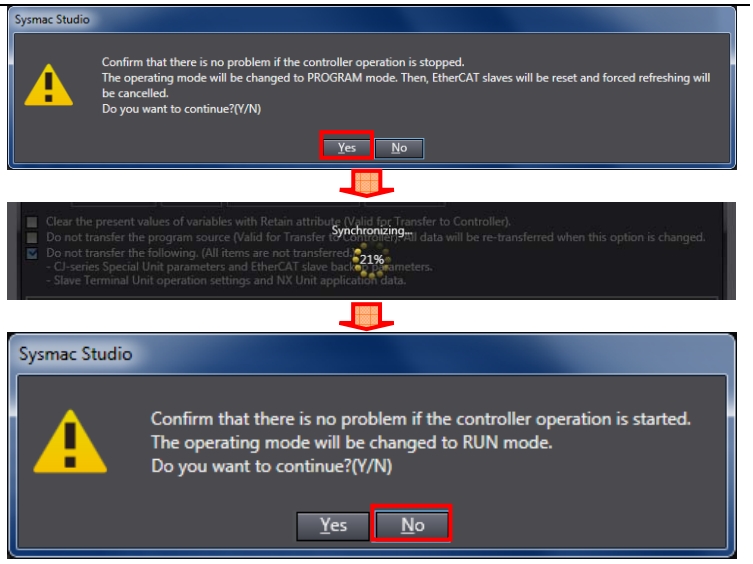


11 A confirmation dialog box is displayed. Confirm that there is no problem and click the **Yes** Button.

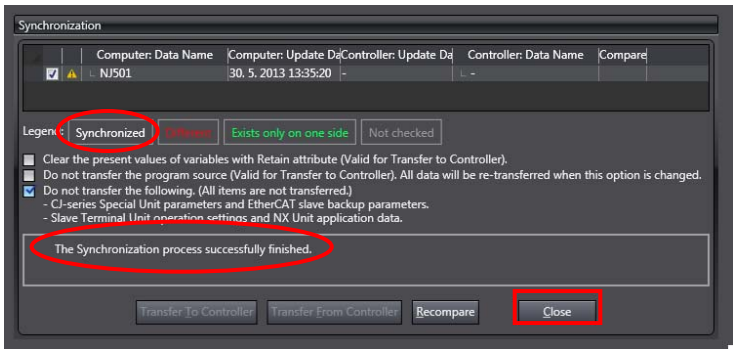
A screen stating "Synchronizing" is displayed.

A confirmation dialog box is displayed. Confirm that there is no problem and click the **No** Button.

* Be sure not to return it to "RUN mode".



12 Confirm that the synchronized data is displayed with the color specified by "Synchronized" and that a message is displayed stating "The synchronization process successfully finished" If there is no problem, click the **Close** Button.



* A message stating "The synchronization process successfully finished" is displayed if the Sysmac Studio project data and the data in the Controller match.

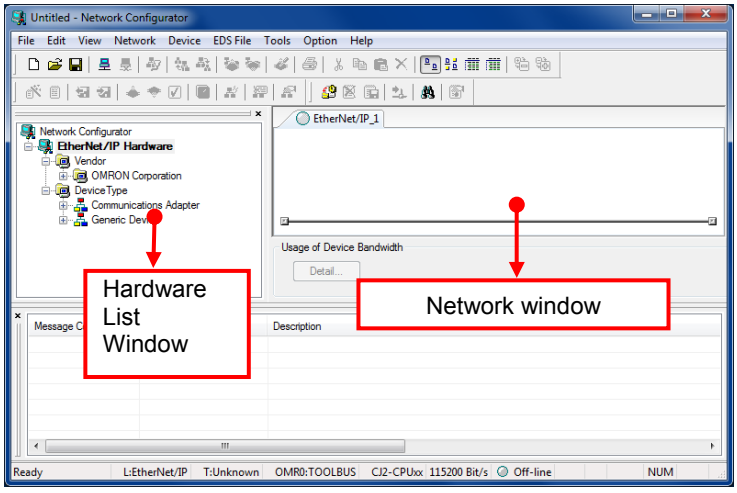
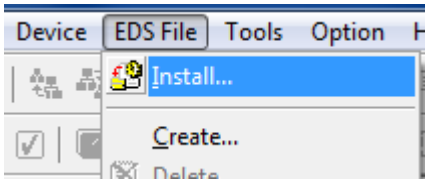
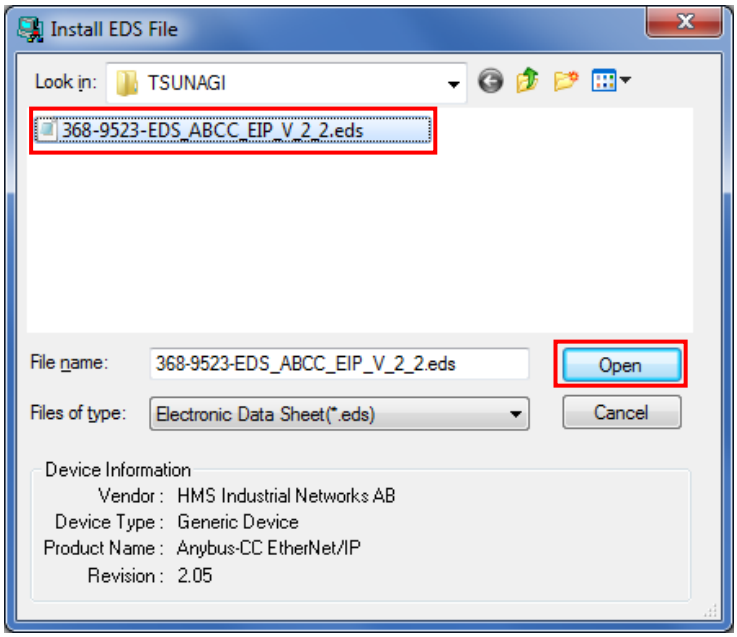
* If the synchronization fails, check the wiring and repeat from step 1.

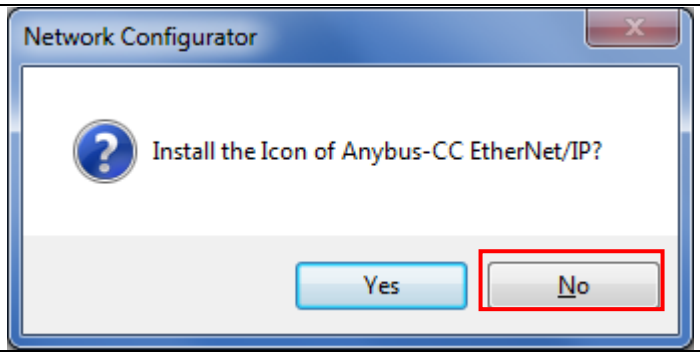
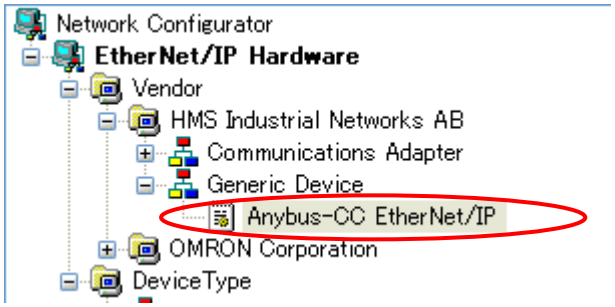
7.4. Setting Up the Network

Set the tag data links for the EtherNet/IP.

7.4.1. Starting the Network Configurator and Installing the EDS File

Start the Network Configurator and install the EDS file.

1	Start the **Network Configurator**.	
2	Select ***Install*** from the EDS File Menu.	
3	Select the *368-9523-EDS_ABCC_EIP_V_2_2.eds* as an EDS file to install and click the **Open** Button. * For how to obtain the EDS file, refer to *Precautions for Correct Use* in *5.2. Device Configuration.*	

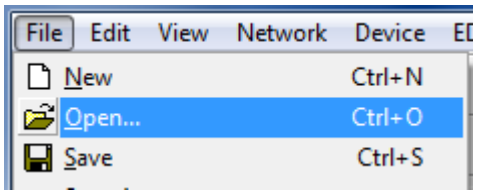
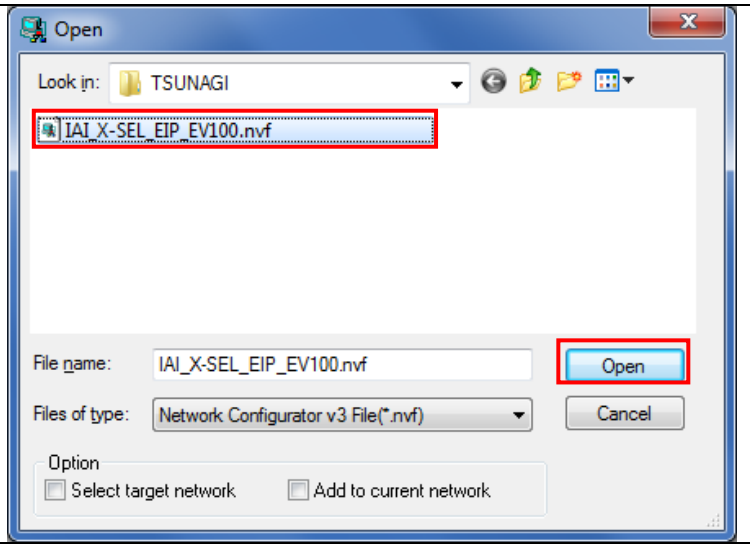
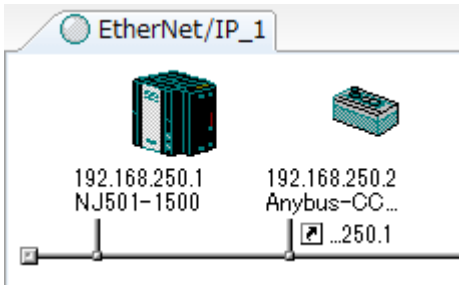
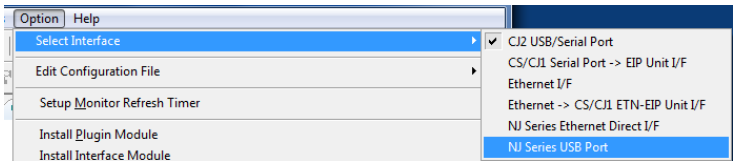
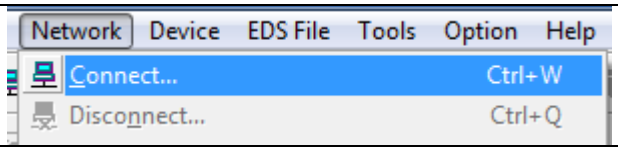
4	The dialog box on the right is displayed. Check the contents and click the **No** Button.	
5	When the EDS file is normally installed, the device is added as shown in the right figure. Confirm that the device was added to the EtherNet/IP Hardware List. * When the 368-9523-EDS_ABCC_EIP_V_2_2.eds is installed, Anybus-CC EtherNet/IP device is registered.	

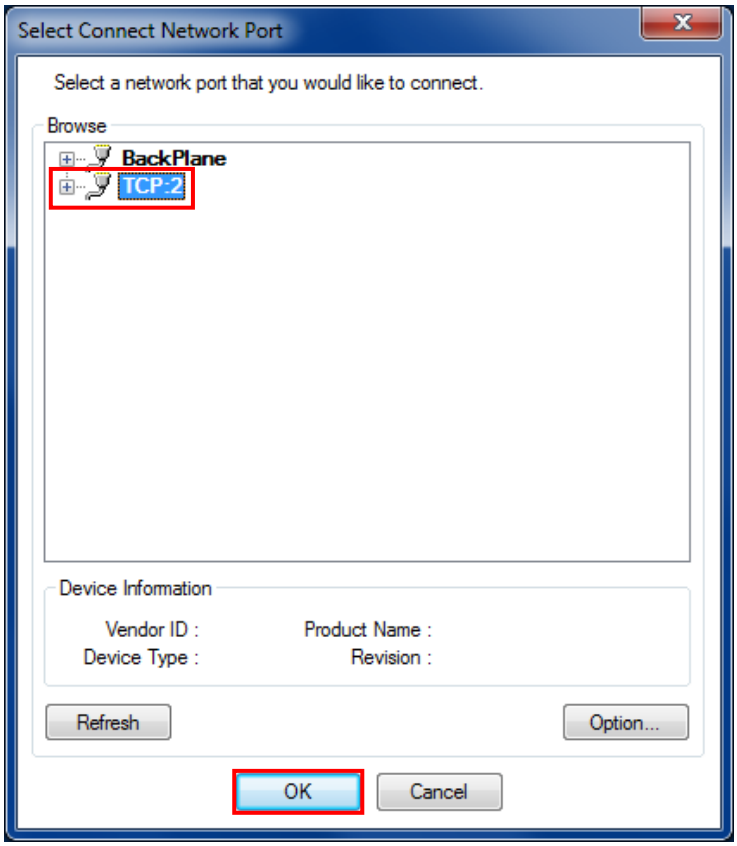
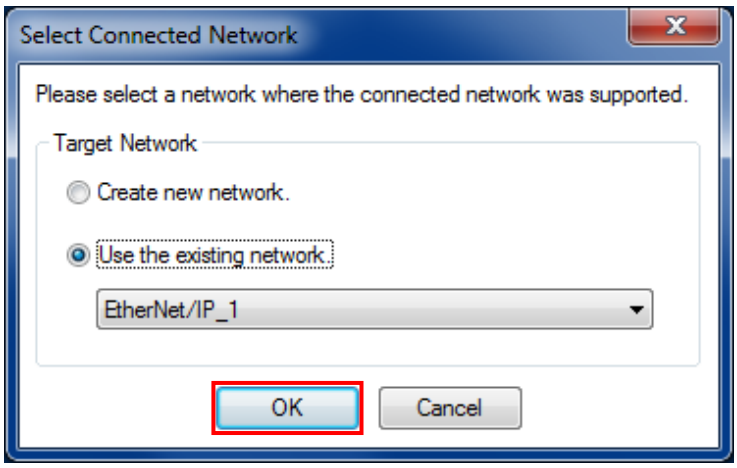
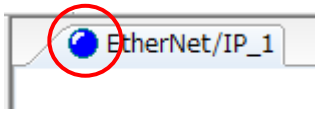
Precautions for Correct Use

Please confirm that the LAN cable is connected before performing the following procedure. When it is not connected, turn OFF the power supply to each device and then connect the LAN cable.

7.4.2. Opening the Network Configuration File and Connecting Online

Open the Network Configurator v3 network configuration file and connect online with the Controller.

1	Select ***Open*** from the File Menu.	
2	The Open Dialog Box is displayed. Select *IAI_X-SEL_EIP_EV100.nvf* (Network Configurator v3 network configuration file) and click the **Open** Button. * Obtain the Network Configurator v3 network configuration file from OMRON.	
3	The following devices are displayed in the Network Configuration Pane as shown in the right figure. IP address of node 1: 192.168.250.1 IP address of node 2: 192.168.250.2 * The X-SEL Controller icon changes to the Anybus-CC EtherNet/IP device.	
4	Select ***Select Interface*** - ***NJ Series USB Port*** from the Option Menu.	
5	Select ***Connect*** from the Network Menu.	

6	The Select Connect Network Port Dialog Box is displayed. Select *TCP:2*. Click the **OK** Button.	
7	The Select Connected Network Dialog Box is displayed. Check the contents and click the **OK** Button.	
8	When an online connection is established normally, the color of the icon on the right figure changes to blue.	

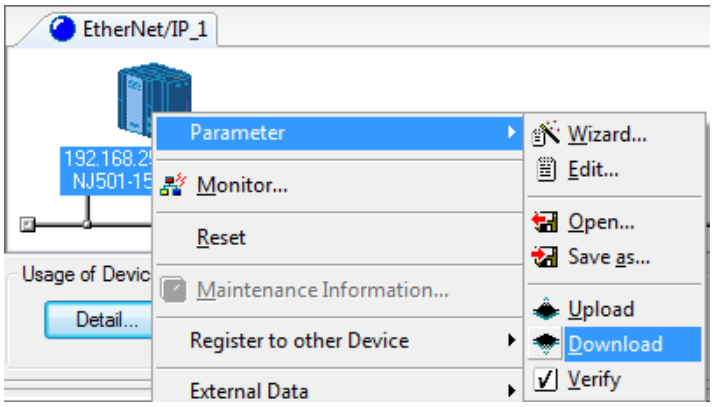
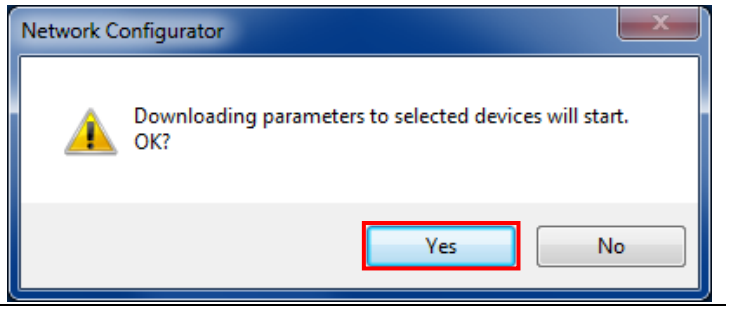
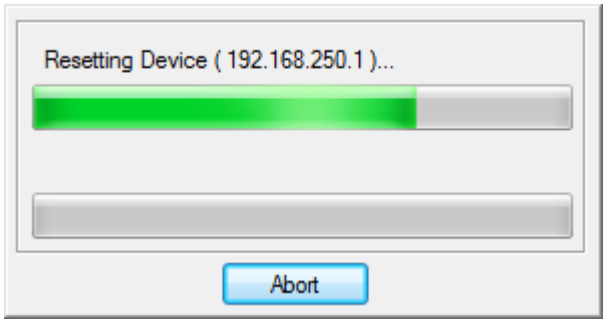
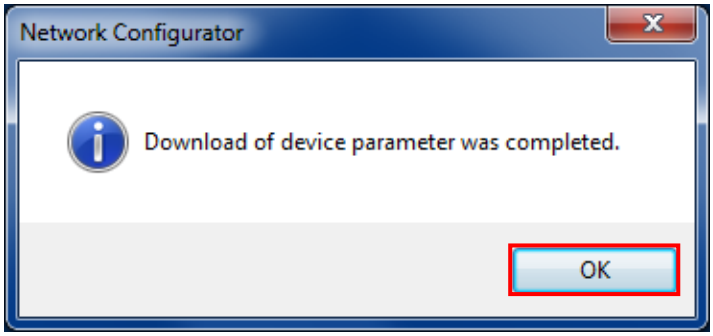
Additional Information

If an online connection cannot be made to the Controller, check the cable connection. Or, return to step 4, check the settings and repeat each step.

For details, refer to *7.2.8 Connecting the Network Configurator to the Network* in *Section 7 Tag Data Link Functions* of *the NJ-series CPU Unit Built-in EtherNet/IP Port User's Manual* (Cat. No. W506).

7.4.3. Transferring the Tag Data Link Parameters

Transfer the tag data link parameters to the Controller.

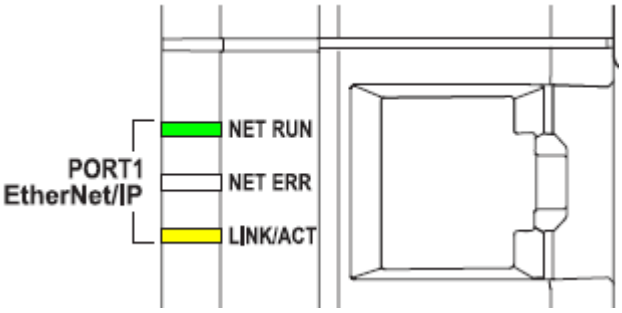
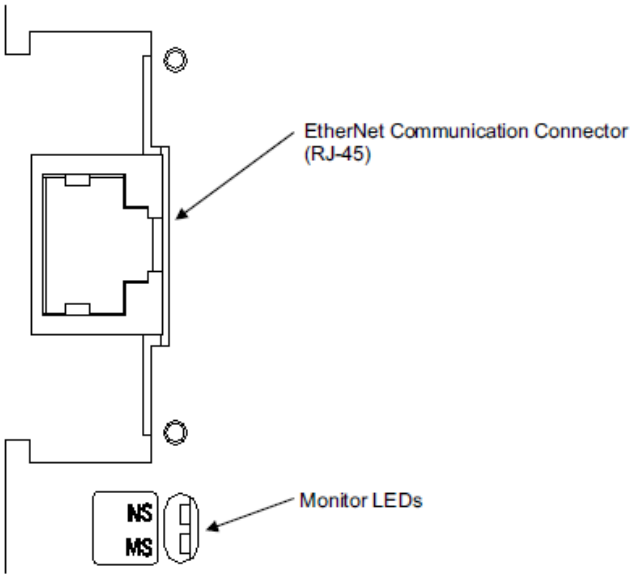
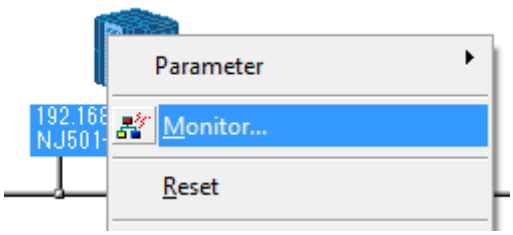
1	Right-click node 1 device on the Network Configuration Pane and select ***Parameter*** - ***Download***.	
	The dialog box on the right is displayed. Confirm that there is no problem and click the **Yes** Button.	
2	Tag data link parameters are downloaded from the Network Configurator to the Controller.	
3	The dialog box on the right is displayed. Check the contents and click the **OK** Button.	

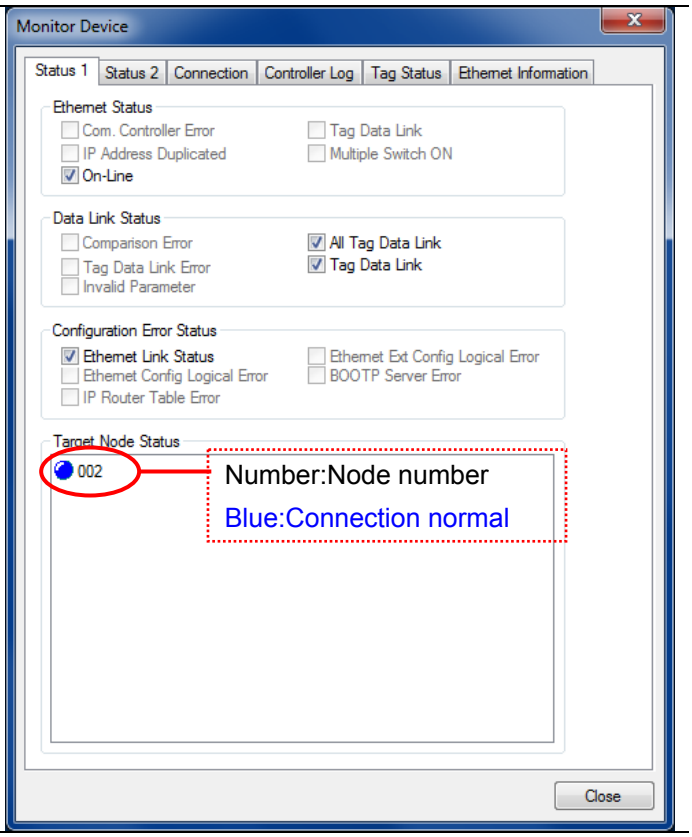
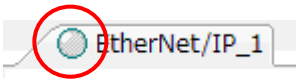
7.5. Checking the EtherNet/IP Communications

Confirm that the EtherNet/IP tag data links are operated normally.

7.5.1. Checking the Connection Status

Check the connection status of EtherNet/IP.

1	Confirm that the tag data links are normally in operation by checking the LED indicators on each device. ・LED indicators on the Controller (Built-in EtherNet/IP port) in normal status are as follows: [NET RUN]: Lit green [NET ERR]: Not lit [LINK/ACT]: Flashing yellow (Flashing while packets are being sent and received)	 (Controller)
	・LED indicators on the X-SEL Controller in normal status are as follows: [MS]: Lit green [NS]: Lit green	 (X-SEL Controller)
2	Confirm that the tag data links are normally in operation by checking the status information on the Device Monitor Window of the Network Configurator. Right-click the device icon of node 1 on the Network Configuration Pane and select ***Monitor***.	

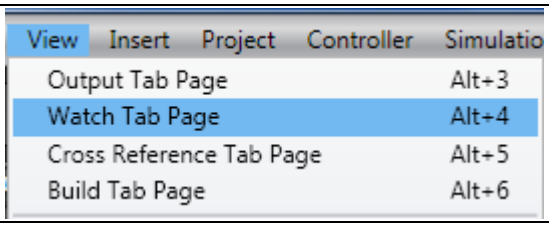
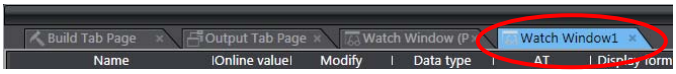
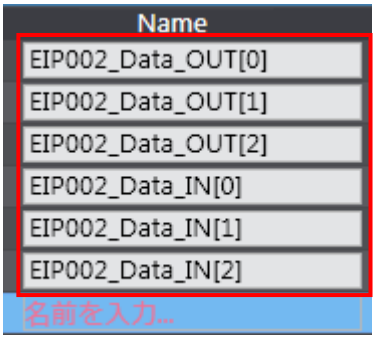
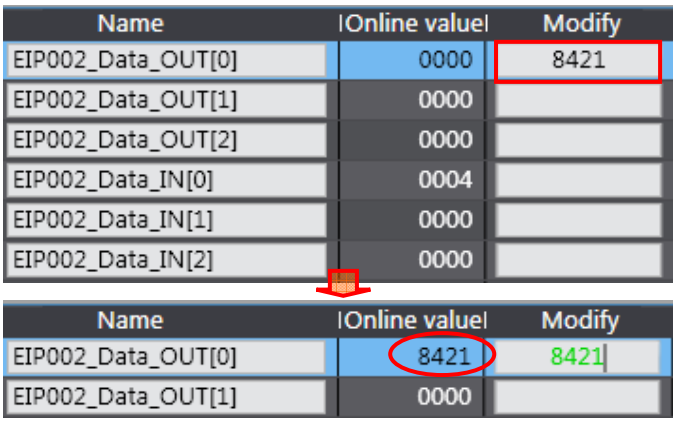
3	The dialog box on the right displays the Status 1 Tab Page of the Device Monitor Dialog Box. When the same items in the right dialog box are selected, the data links are normally in operation. Click the **Close** Button.	
4	Select ***Disconnect*** from the Network Menu to go offline. The color of the icon on the figure changes from blue. Select ***Exit*** from the File Menu to exit the Network Configurator.	

7.5.2. Checking the Data that are Sent and Received

Confirm that the correct data are sent and received.

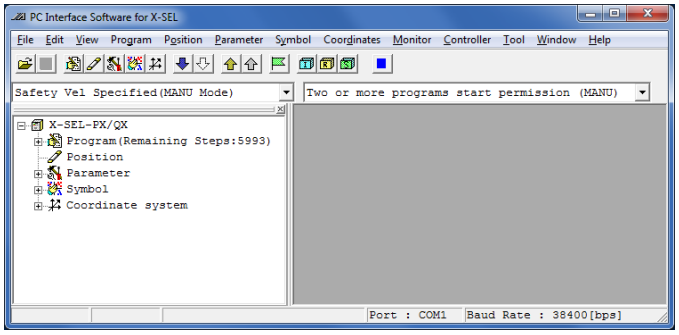
⚠ WARNING

Always confirm safety at the destination node before you transfer a user program, configuration data, setup data, device variables, or values in memory used for CJ-series Units from the Sysmac Studio.
The devices or machines may perform unexpected operation regardless of the operating mode of the CPU Unit.

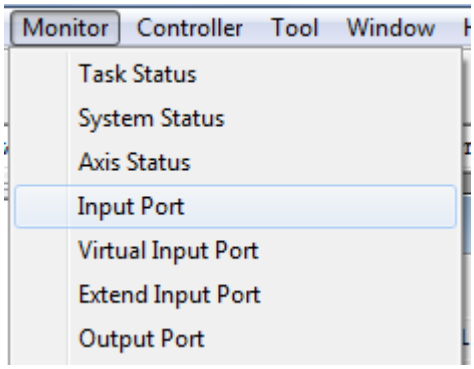
1	Select ***Watch Tab Page*** from the View Menu.	
2	The Watch1 Tab Page is displayed in the lower section of the Edit Pane.	
3	The following names are entered in the Watch1 Tab Page for monitoring. EIP002_Data_OUT[0] EIP002_Data_OUT[1] EIP002_Data_OUT[2] EIP002_Data_IN[0] EIP002_Data_IN[1] EIP002_Data_IN[2]	
4	Enter 8421 in the Modify Column of EIP002_Data_OUT[0]. The Online value of EIP002_Data_OUT[0] changes to 8421.	

5 Start the **PC Interface Software for X-SEL**.

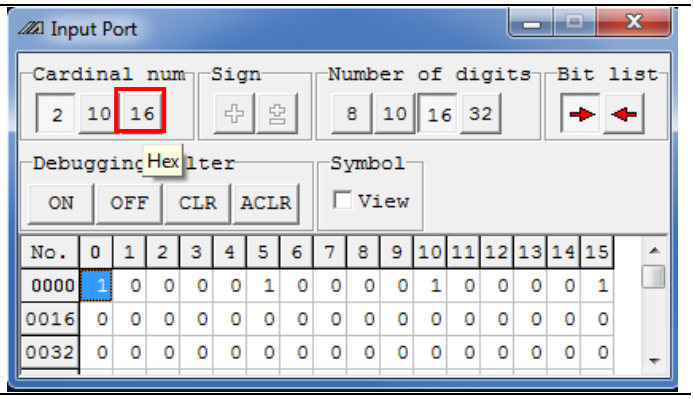
* For information on how to start a PC Interface Software for X-SEL, refer to step 3 of *7.2.1. Parameter Settings*.



6 Select ***Input Port*** from the Monitor Menu.

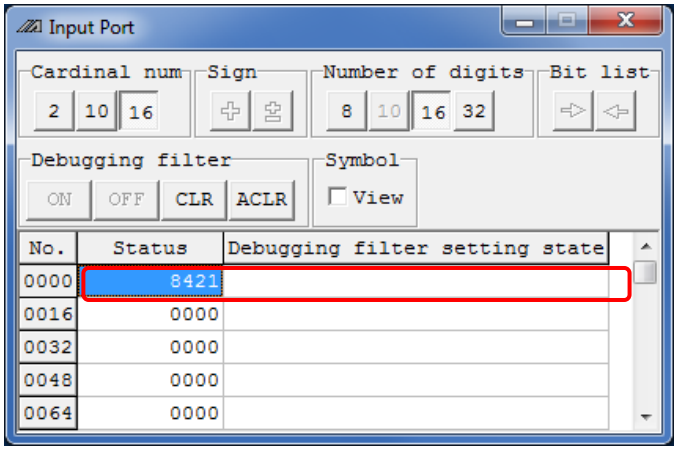


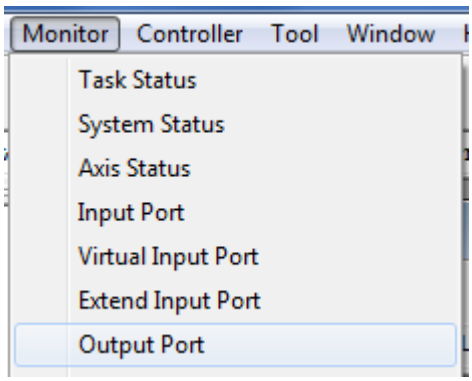
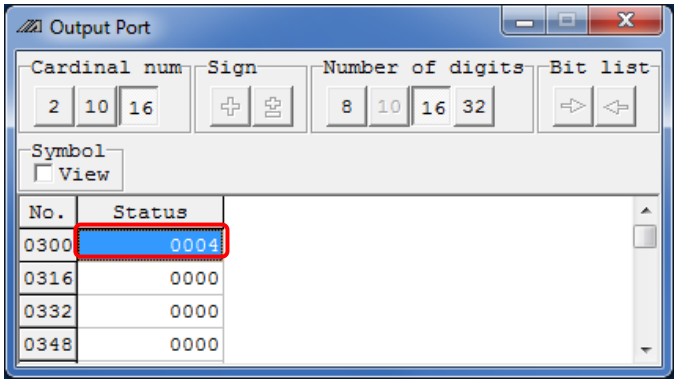
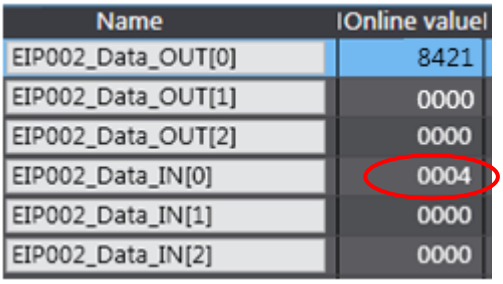
7 The Input Port Window is displayed, click the [*16*](Hex) on the Cardinal num Button.



8 The value is displayed in hexadecimal.
Confirm that the value of No.0000 is 8421.

Close the Input Port Window.



9	Select ***Output Port*** from the Monitor Menu.	
10	The Output Port Window is displayed. Confirm that the value of No.0300. * 0004 is displayed in the right figure. Close the Output Port Window.	
11	Confirm that the online value of EIP002_Data_IN[0] is the same value displayed in step 10.	

8. Initialization Method

This document explains the setting procedure from the factory default setting.
Some settings may not be applicable as described in this document unless you use the devices with the factory default setting.

8.1. Initializing the Controller

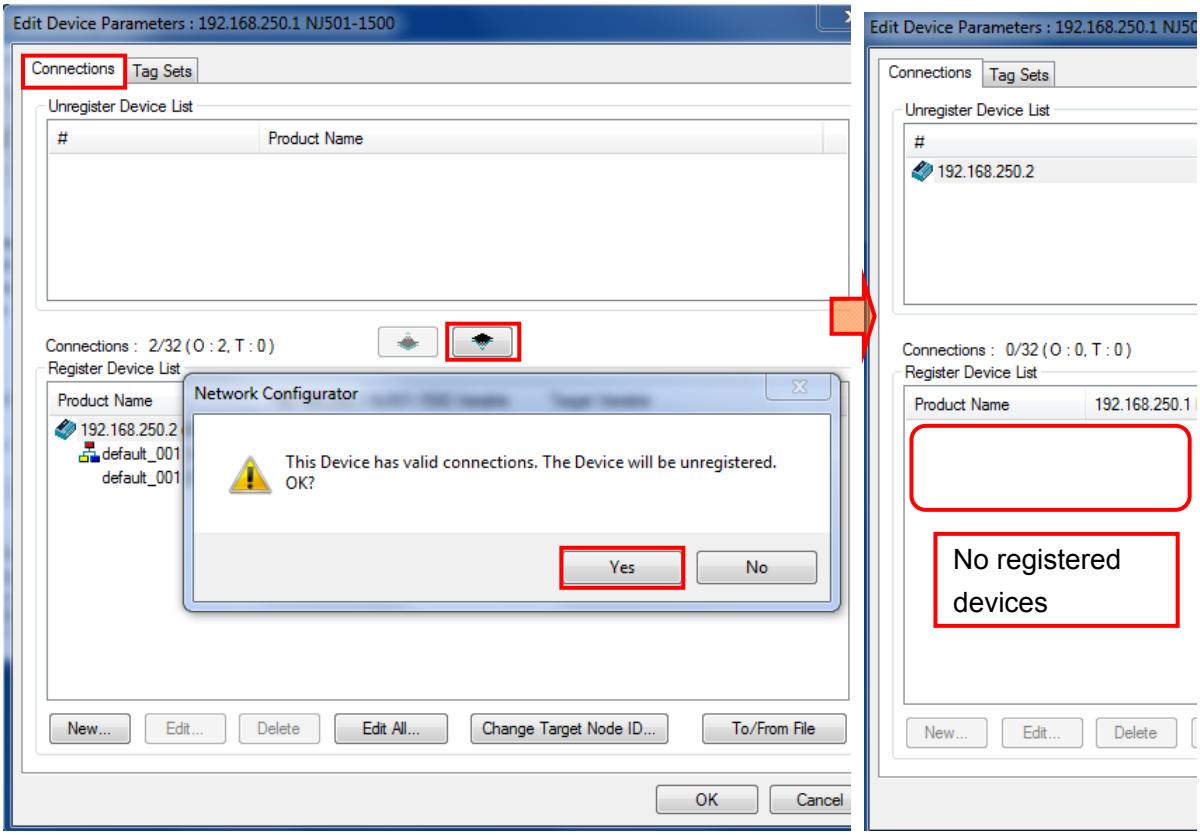
To initialize the settings of the Controller, the CPU Unit and EtherNet/IP port need to be initialized. Place in PROGRAM Mode before the initialization.

8.1.1. EtherNet/IP port

Delete the connection information and tag information that are set for the EtherNet/IP port. Follow the procedure below to set blank connection information and blank tag information and delete them using the Network Configurator.

(1) Deleting connection information

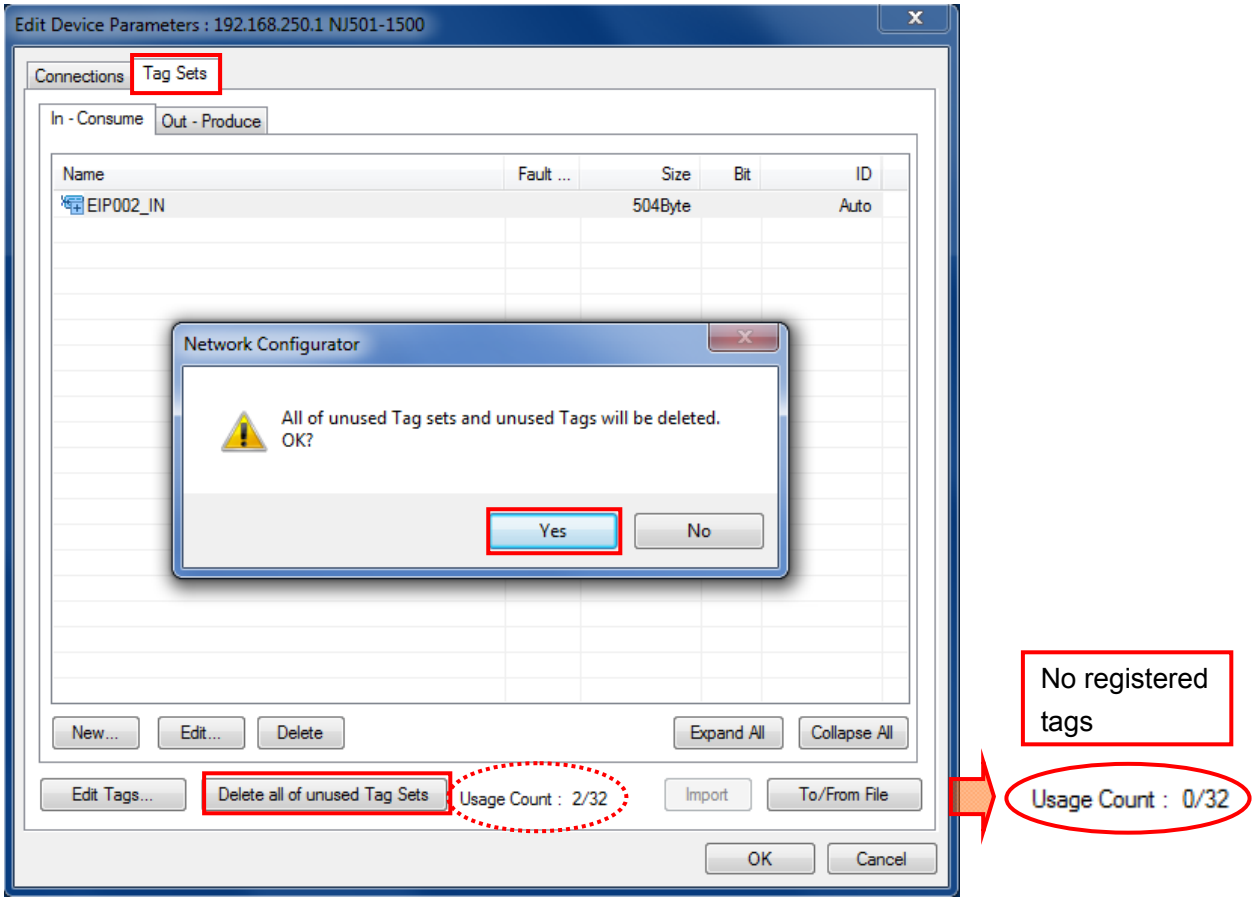
In the Connections Tab Page of the Edit Device Parameters Dialog Box, move all devices registered in the Register Device List to the Unregister Device List.
If a confirmation dialog box is displayed when you remove devices from the registration list, click the Yes Button.



(2) Deleting tag information

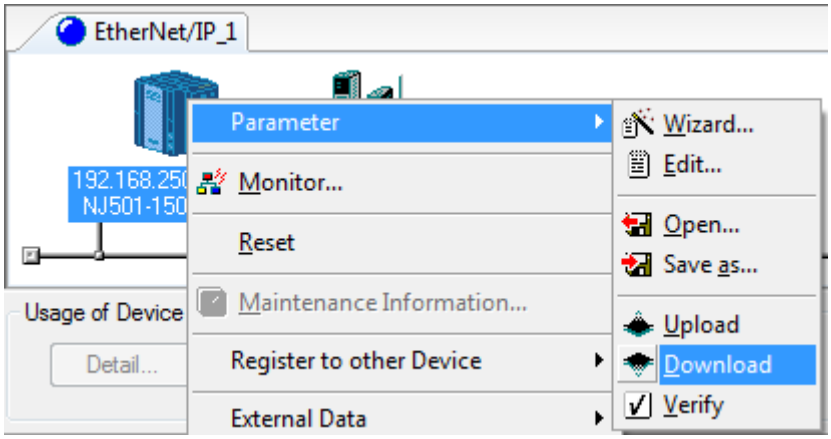
In the Tag Sets Tab Page of the Edit Parameters Dialog Box, click the **Delete all of unused Tag Sets** Button.

If a confirmation dialog box is displayed when deleting, click the Yes Button.



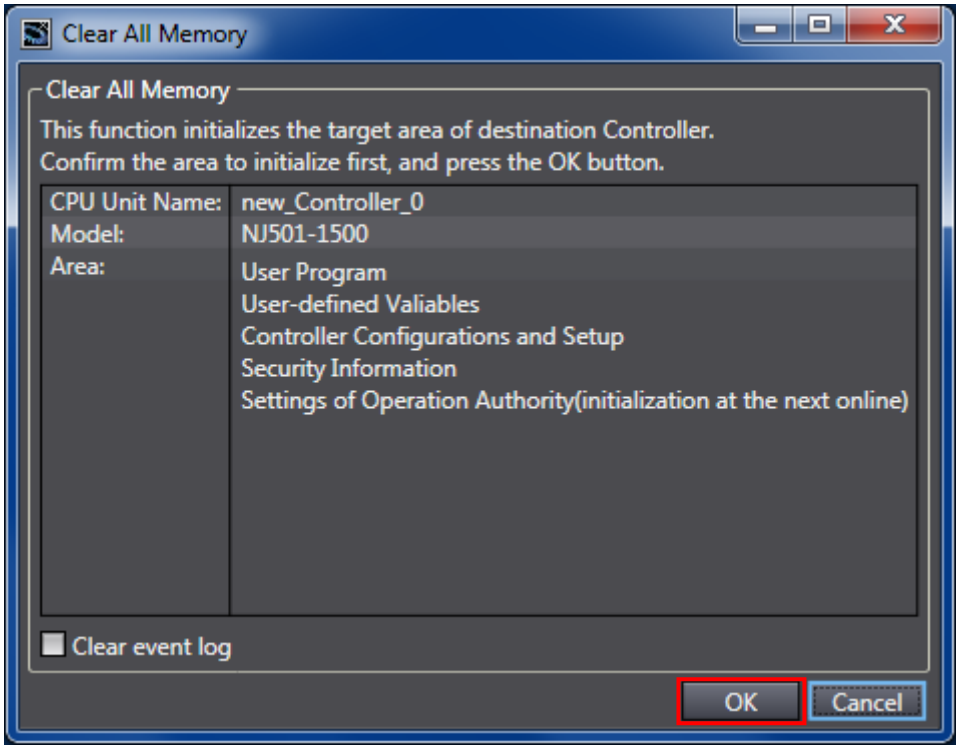
(3) Download

Right-click the Controller and select ***Parameter*** - ***Download*** from the menu that is displayed.



8.1.2. CPU Unit

To initialize the settings of the CPU Unit, select ***Clear All Memory*** from the Controller Menu of the Sysmac Studio. The Clear All Memory Dialog Box is displayed. Check the contents and click the **OK** Button.



8.2. Initializing the IAI X-SEL Controller

For the initialization of the IAI X-SEL Controllers, refer to *8.4 How to Initialize XSEL-R/S, RX/SX, RXD/SXD, SSEL/ASEL/PSEL Parameters (at the time of shipment)* of *the PC Software for X-SEL Operation Manual* (Cat.No.ME0154).

9. Appendix 1 Detailed Settings of the Tag Data Links

This section provides the detailed settings necessary to perform tag data links which are set in this document.

9.1. Global Variable Table

The Controller accesses the data in tag data links as global variables. The following are the settings of the global variables. Use the Sysmac Studio to register a global variable table.

Name	Data type	Network publish	Destination device allocation
EIP002_Data_OUT	WORD[8]	Output	Input port (port No.0 to 127)
EIP002_Data_IN	WORD[8]	Input	Output port (port No.300 to 427)

Additional Information

For the details of the I/O formats for X-SEL Controllers, refer to *3.7 Standard I/O Ports of XSEL Controller* and *3.8 I/O Port and Data Reading and Writing* of *the EtherNet/IP Operation Manual* (Cat.No.ME0308).

Additional Information

With the Sysmac Studio, two methods can be used to specify an array for a data type. After specifying, (1) is converted to (2) and the data type is always displayed as (2).

(1) WORD[3] / (2) ARRAY[0..2] OF WORD

In this document, the data type is simplified by displaying WORD[3].

(The example above means a WORD data type with three array elements.)

9.2. Relationship between Destination Device and Global Variables

Global variables need to be arranged in offset order of the destination device before setting the tag data link parameters.

The relationship between the memory allocation of the destination device and the global variables is shown below.

■Output area (Controller → X-SEL Controller)

Offset	Destination device data	Global variable	Data type
+0 to +7	Input port (port No.0 to 127)	EIP002_Data_OUT	WORD[8]

<Detailed allocation >

Assigned	Bit	Port No.	Function name
EIP002_Data_OUT[0]	0	000	Program start
	1 to 6	001 to 006	Universal input
	7 to 13	007 to 013	Program specification (indicate startup program number with in binary) 007(LSB) to 013(MSB)
	14 to 15	014 to 015	Universal input
EIP002_Data_OUT[1]	0 to 15	016 to 031	Universal input
:	:	:	:
EIP002_Data_OUT[7]	0 to 15	112 to 127	Universal input

■Input area (Controller ← X-SEL Controller)

Offset	Destination device data	Global variable	Data type
+0 to +7	Output port (port No.300 to 427)	EIP002_Data_IN	WORD[8]

<Detailed allocation >

Assigned	Bit	Port No.	Function name
EIP002_Data_IN[0]	0	300	Alarm output
	1	301	Ready output
	2	302	Emergency stop output
	3 to 15	303 to 315	Universal output
EIP002_Data_IN[1]	0 to 15	316 to 331	Universal output
:	:	:	:
EIP002_Data_IN[7]	0 to 15	412 to 427	Universal output

9.3. Associating the Tag Data Links

Tag data link parameters are required to perform tag data links with a destination device.
Follow the procedures below to associate the tag data links.

(1) Use the Sysmac Studio to define the global variables to publish on the network.
Store the created global variables in a CSV file to use in the Network Configurator.
(2) Read the CSV file (tag list) created in step 1 to the Network Configurator.
(3) Install the EDS file for the destination device in the Network Configurator.
(4) Make a single tag set that includes the tag lists.
(5) Link the tag set with the destination device information and create tag data link parameters.

The numbers shown in the tables below correspond to the steps above.

■Output area (Controller → SEL Controller)

Controller setting (Set with Sysmac Studio)		Tag data link parameter setting (Set with Network Configurator)				Destination device information (EDS file setting contents)	
(1)			Tag set: EIP002_OUT		16 byte (5)	← (3)	Output_150-[16 Byte]
Global variable			(4)	Tag list			
EIP002_Data_OUT	WORD [8]	→ (2)		EIP002_Data_OUT	(16 byte)		

■Input area (Controller ← X-SEL Controller)

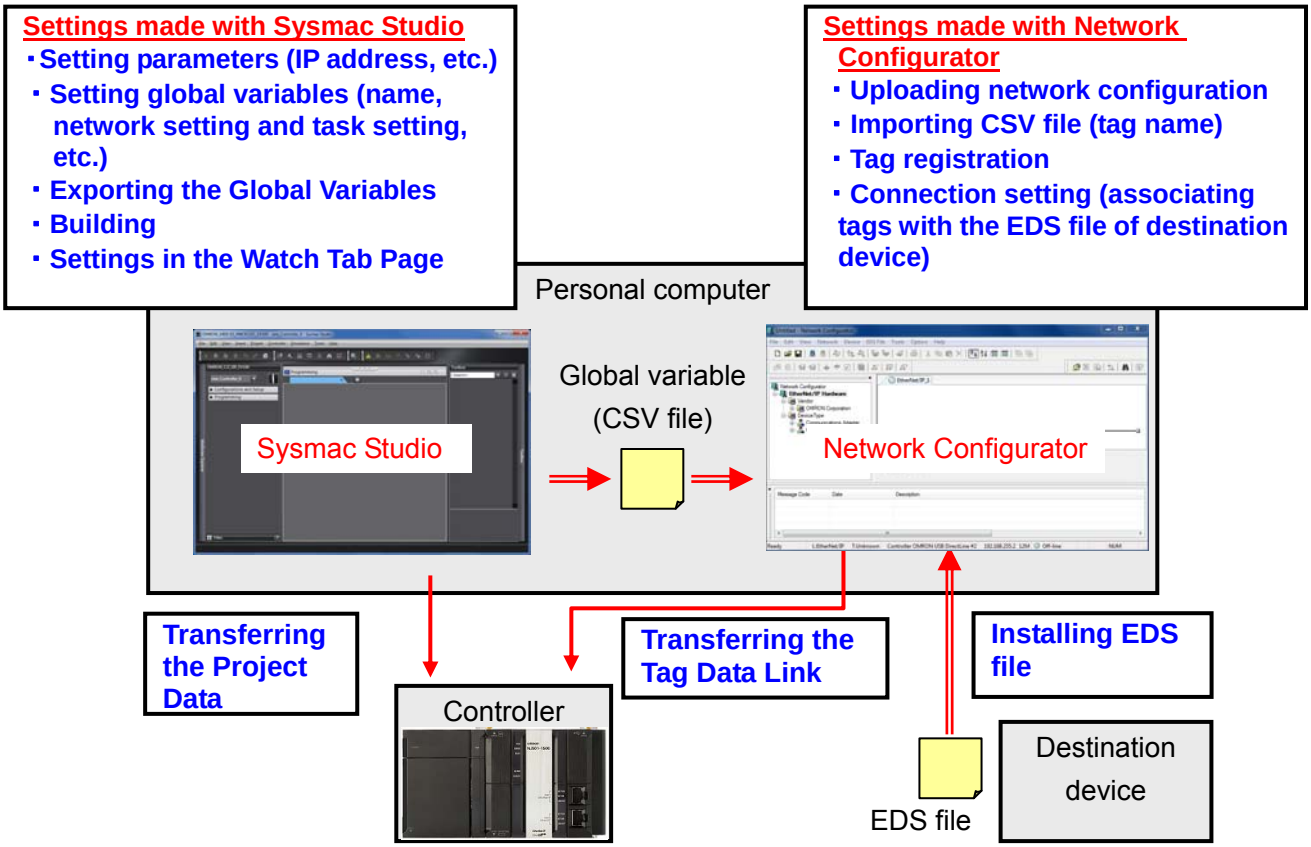
Controller setting (Set with Sysmac Studio)		Tag data link parameter setting (Set with Network Configurator)				Destination device information (EDS file setting contents)	
(1)			Tag set: EIP002_IN		16 byte (5)	← (3)	Input_100-[16 Byte]
Global variable			(4)	Tag list			
EIP002_Data_IN	WORD [8]	→ (2)		EIP002_Data_IN	(16 byte)		

10. Appendix 2 Setting the Tag Data Links Using the Software

This section describes the procedure for setting the Controller without the configuration files (Procedure for setting parameters from the beginning).
You can also refer to this section when you want to change the parameters of the configuration files.

10.1. Overview of Setting Tag Data Links

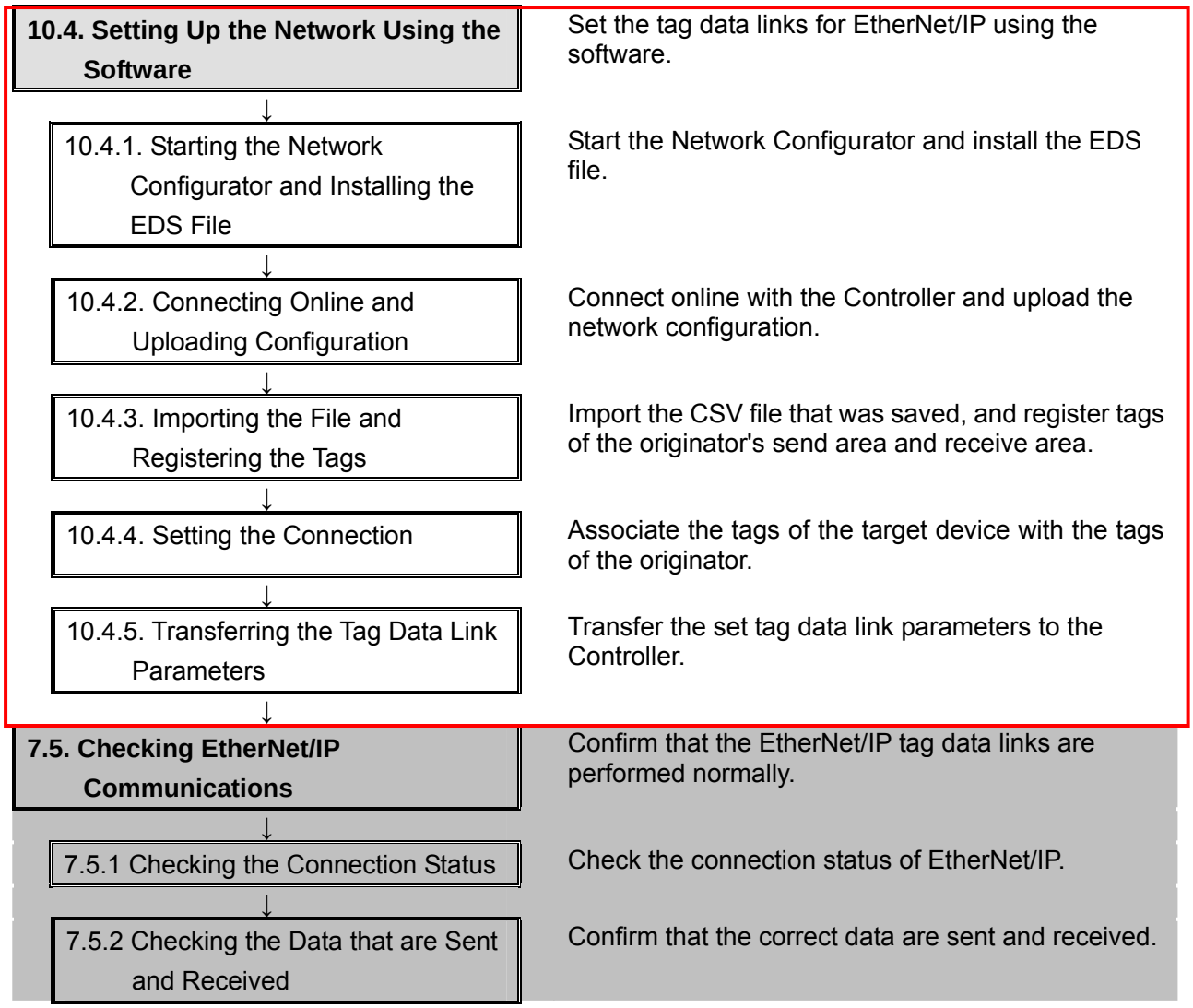
The following is the relationship between the processes to operate the tag data links using the "procedure for setting parameters from the beginning".



10.2. Work Flow of "Procedure for Setting Parameters from the Beginning"

Take the following steps to make the tag data link settings for EtherNet/IP using the "procedure for setting parameters from the beginning".
This section describes the detailed procedures for 10.3. Setting Up the Controller Using the Software and 10.4. Setting Up the Network Using the Software (in red frames below).
For 7.2. Setting Up the IAI X-SEL Controller and 7.5. Checking EtherNet/IP Communications, refer to the procedures in Section 7 as the same procedures for using the configuration files apply.

7.2. Setting Up the IAI X-SEL Controller	Set up the IAI X-SEL Controller.
↓	
7.2.1. Parameter Settings	Set the parameters for the X-SEL Controller.
↓	
10.3. Setting Up the Controller Using the Software	Set up the Controller using the software.
↓	
10.3.1. Starting the Sysmac Studio and Setting the Parameters for the Controller.	Start the Sysmac Studio and set the parameters for the Controller.
↓	
10.3.2. Setting the Global Variables	Set the global variables to use for the tag data links.
↓	
10.3.3. Exporting the Global Variables	Export the global variables in a CSV file to use as tags in the Network Configurator.
↓	
10.3.4. Connecting Online and Transferring the Project Data	Connect online with the Sysmac Studio and transfer the project data to the Controller.
↓	
10.3.5. Settings in the Watch Tab Page	To check data that is sent and received, make settings in the Watch Tab Page.
↓	


10.4. Setting Up the Network Using the Software
Set the tag data links for EtherNet/IP using the software.
10.4.1. Starting the Network Configurator and Installing the EDS File
Start the Network Configurator and install the EDS file.
10.4.2. Connecting Online and Uploading Configuration
Connect online with the Controller and upload the network configuration.
10.4.3. Importing the File and Registering the Tags
Import the CSV file that was saved, and register tags of the originator's send area and receive area.
10.4.4. Setting the Connection
Associate the tags of the target device with the tags of the originator.
10.4.5. Transferring the Tag Data Link Parameters
Transfer the set tag data link parameters to the Controller.
7.5. Checking EtherNet/IP Communications
Confirm that the EtherNet/IP tag data links are performed normally.
7.5.1 Checking the Connection Status
Check the connection status of EtherNet/IP.
7.5.2 Checking the Data that are Sent and Received
Confirm that the correct data are sent and received.

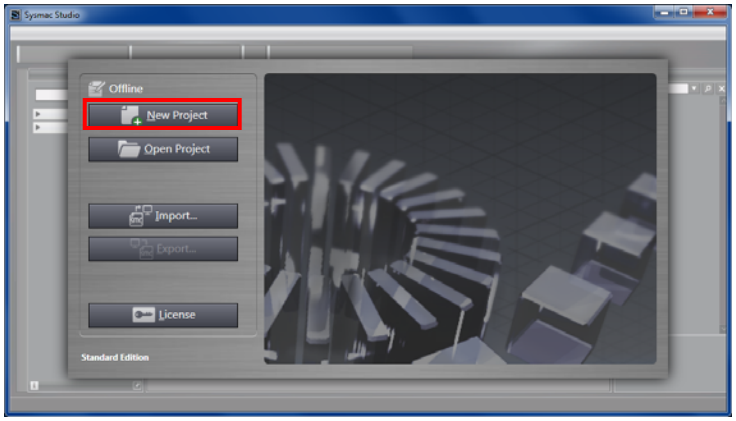
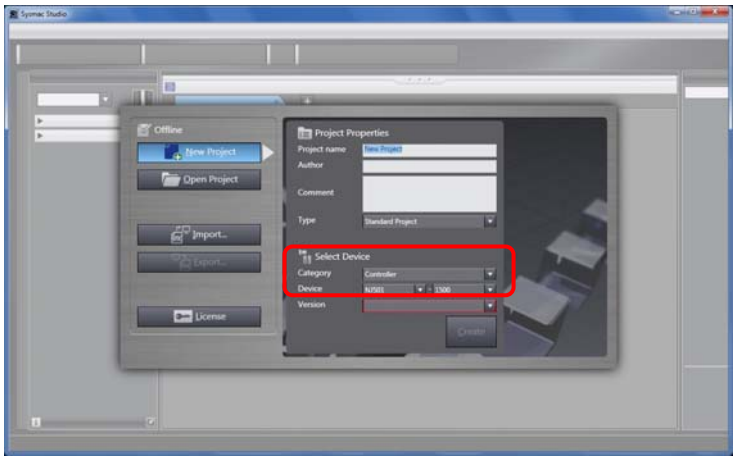
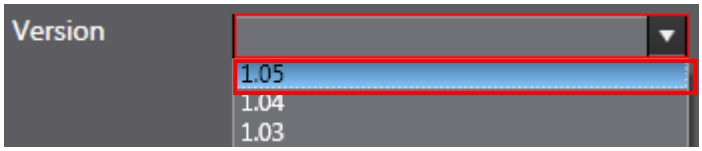
10.3. Setting Up the Controller Using the Software

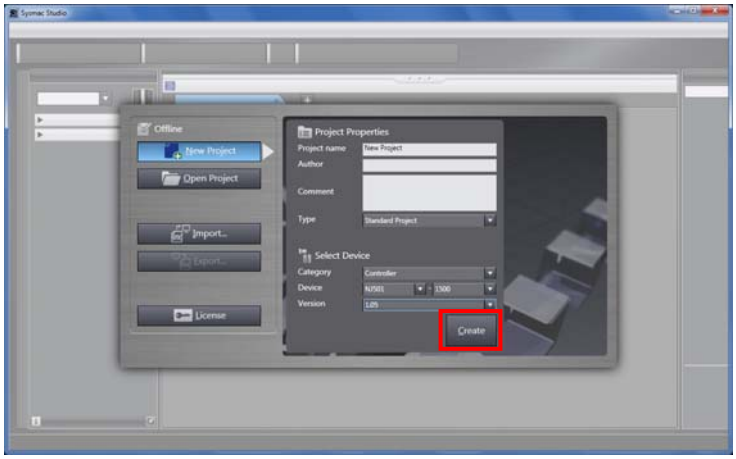
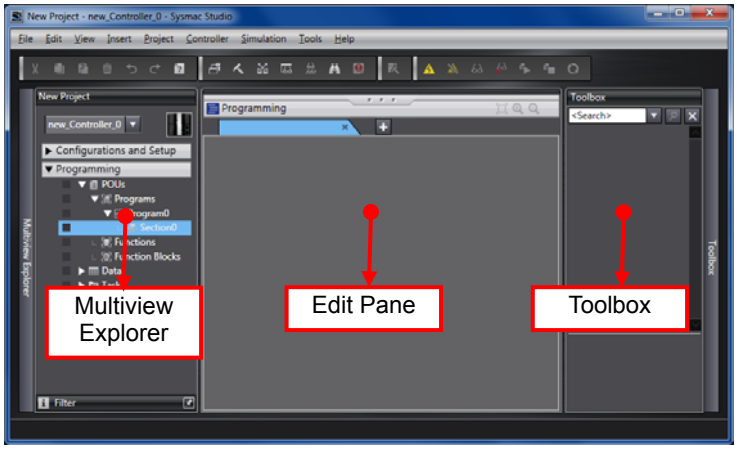
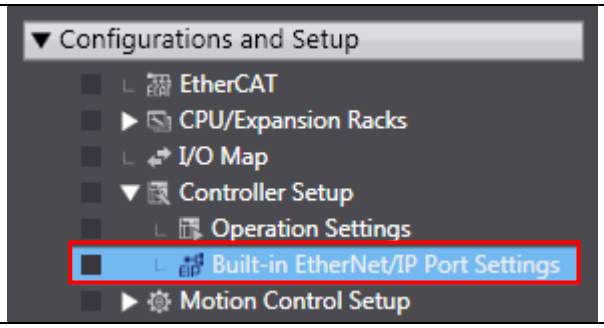
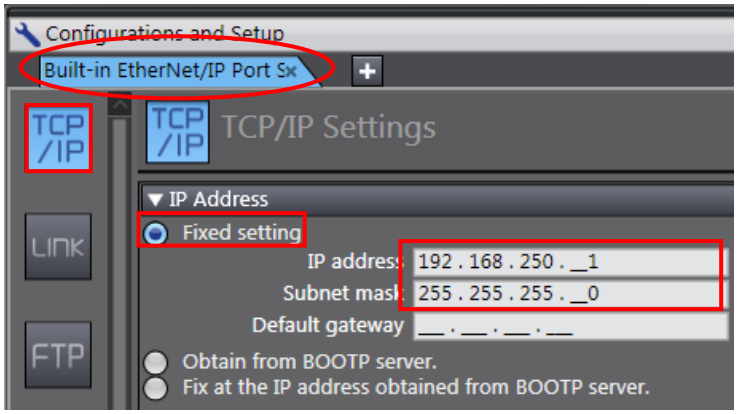
Set up the Controller using the software.

10.3.1. Starting the Sysmac Studio and Setting the Parameters for the Controller

Start the Sysmac Studio and set the parameters for the Controller.

Install the Sysmac Studio and USB driver in the personal computer beforehand.

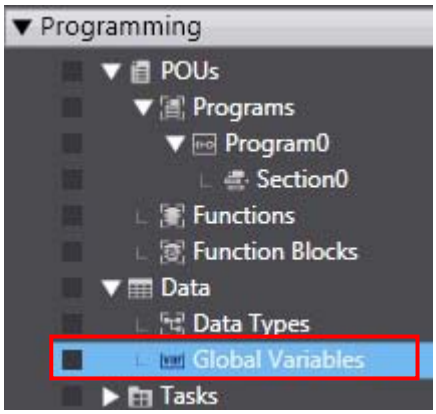
1	Connect the LAN cable and the USB cable to the Controller, and turn ON the power supply to the Controller. * For details, refer to step 1 of *7.3.1. Starting the Sysmac Studio and Importing the Project File*.	
2	Start the **Sysmac Studio**. Click the **New Project** Button. * If a confirmation dialog box for an access right is displayed at start, select to start.	
3	The Project Properties Dialog Box is displayed. * In this document, New Project is set as the project name. Confirm that Category and Device that you use are set in the Select Device Field. Select version *1.05* from the pull-down list of Version. * Although 1.05 is selected in this document, select the version you actually use.	 

4	Click the **Create** Button.	
5	The New Project is displayed. The left pane is called Multiview Explorer, the right pane is called Toolbox and the middle pane is called Edit Pane.	
6	Double-click *Built-in EtherNet/IP Port Settings* under *Configurations and Setup - Controller Setup* in the Multiview Explorer.	
7	The Built-in EtherNet/IP Port Settings Tab Page is displayed in the Edit Pane. Click the **TCP/IP** Setting Button, select the *Fixed Setting* Check Box in the IP Address Field, and make the following settings. IP address: 192.168.250.1 Subnet mask: 255.255.255.0	

10.3.2. Setting the Global Variables

Set the global variables to use for the tag data links.

1 Double-click *Global Variables* under *Programming - Data* in the Multiview Explorer.

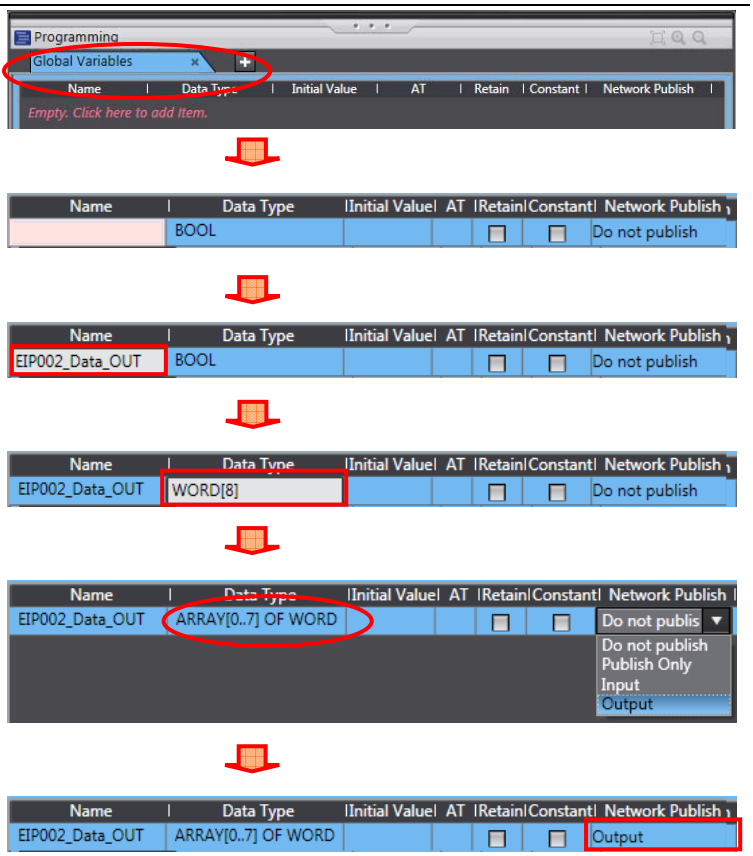


2 The Global Variables Tab Page is displayed in the Edit Pane. Click a column under the Name Column to enter a new variable.

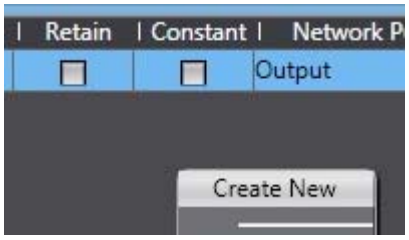
Enter EIP002_Data_OUT in the Name Column.

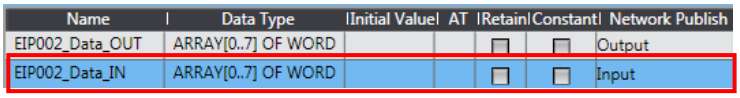
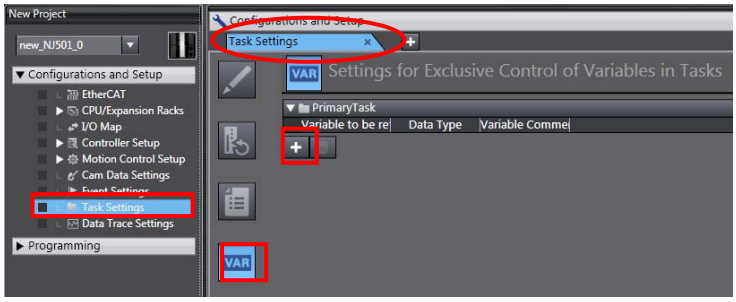
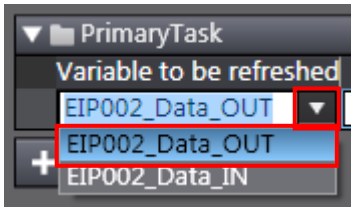
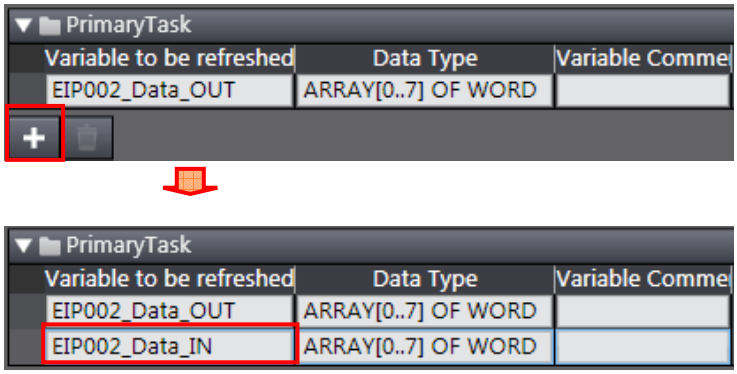
Enter WORD[8] in the Data Type Column.
* After entering, it changes to ARRAY[0..7] OF WORD as shown in the right figure.

Select *Output* from the Network Publish Menu.



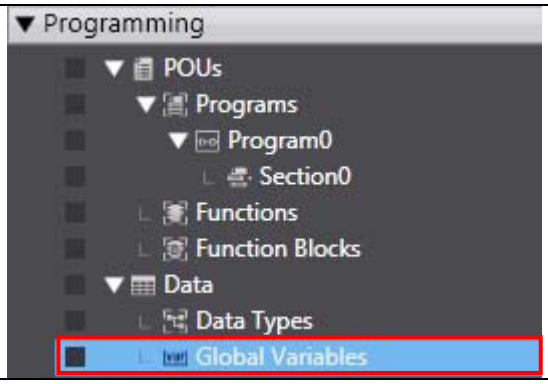
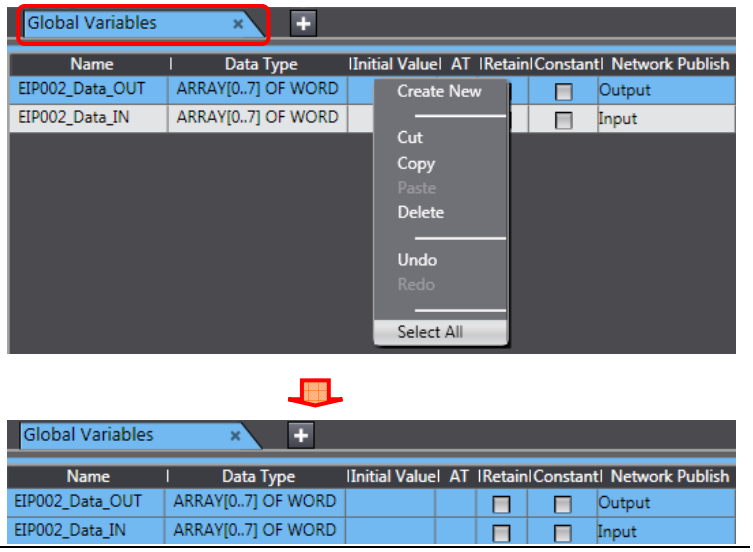
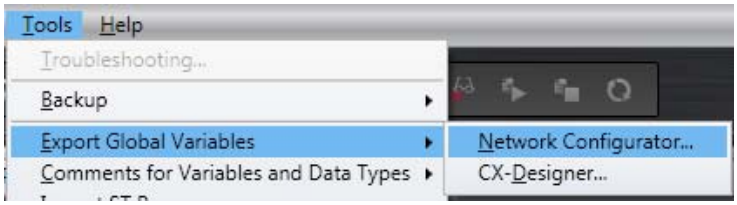
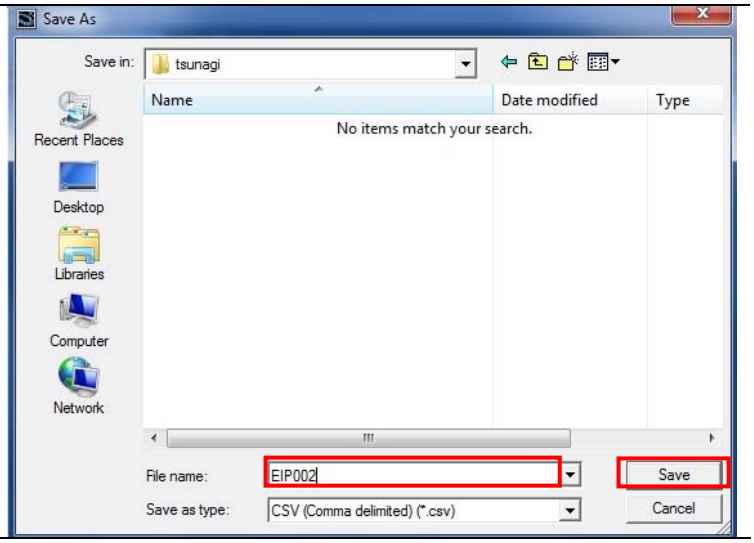
3 After entering, right-click and select ***Create New*** from the menu.



4	Enter the following data in the new columns in the same way as steps 2 and 3. ・Name: EIP002_Data_IN Data Type: WORD[8] Network Publish: Input	
5	Double-click *Task Settings* under *Configurations and Setup* in the Multiview Explorer. The Task Settings Tab Page is displayed in the Edit Pane. Click the **Settings for Exclusive Control Variables in Tasks** Button. Click the **+** Button.	
6	Click the **Down Arrow** Button of the Variable to be refreshed. The variables set in step 2 to 5 are displayed. Select *EIP002_Data_OUT*.	
7	Click the **+** Button and select a variable to be refreshed. * The data types are displayed automatically, and you do not have to set them. Add the variable set in step 4 as shown in the right figure.	

10.3.3. Exporting the Global Variables

Export the global variables in a CSV file to use as tags in the Network Configurator.

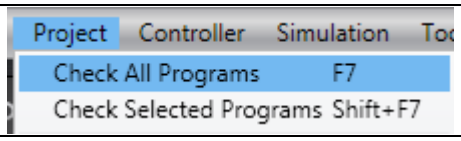
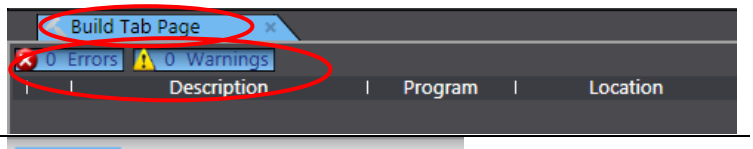
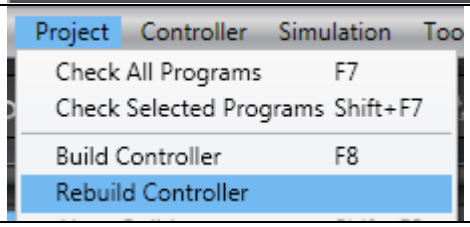
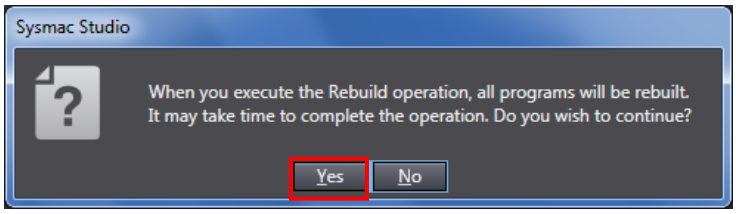
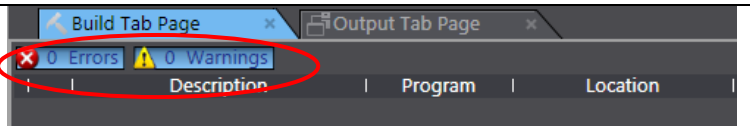
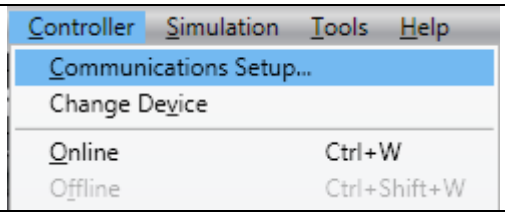
1	Double-click *Global Variables* under *Programming* - *Data* in the Multiview Explorer.	
2	The Global Variables Tab Page is displayed in the Edit Pane. Right-click on the pane and Select ***Select All***. All the selected variables are highlighted.	
3	Select ***Export Global Variables*** - ***Network Configurator*** from the Tools Menu.	
4	The Save As Dialog Box is displayed. Enter EIP002 in the File name Field. Click the **Save** Button.	

10.3.4. Connecting Online and Transferring the Project Data

Connect online with the Sysmac Studio and transfer the project data to the Controller.

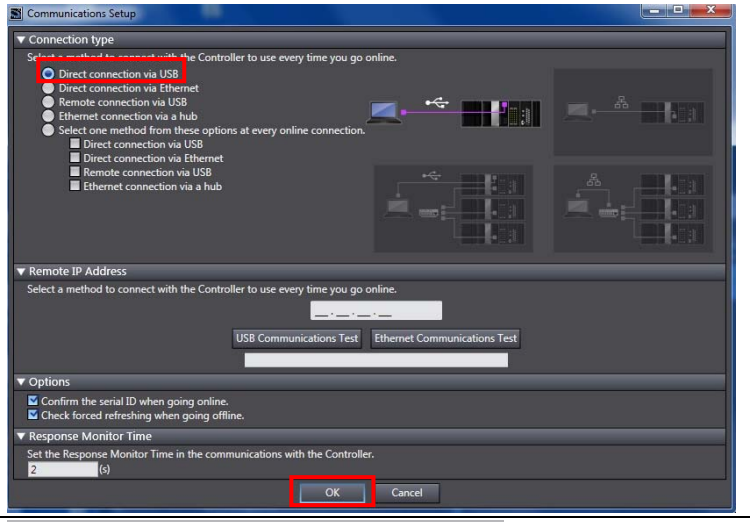
⚠ WARNING

Always confirm safety at the destination node before you transfer a user program, configuration data, setup data, device variables, or values in memory used for CJ-series Units from the Sysmac Studio.
The devices or machines may perform unexpected operation regardless of the operating mode of the CPU Unit.

1	Select ***Check All Programs*** from the Project Menu.	
2	The Build Tab Page is displayed in the Edit Pane. Confirm that "0 Errors" and "0 Warnings" are displayed.	
3	Select ***Rebuild Controller*** from the Project Menu.	
4	A confirmation dialog box is displayed. Check the contents and click the **Yes** Button.	
5	Confirm that "0 Errors" and "0 Warnings" are displayed in the Build Tab Page.	
6	Select ***Communications Setup*** from the Controller Menu.	

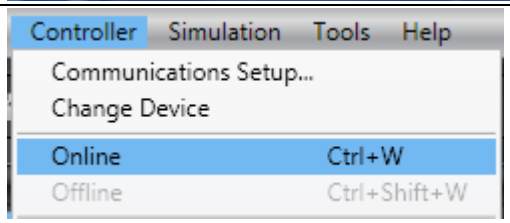
7 The Communications Setup Dialog Box is displayed. Select the *Direct connection via USB* Option for Connection Type.

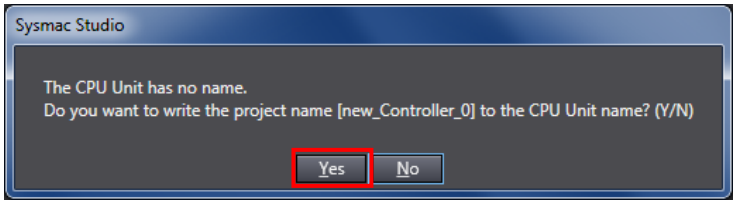
Click the **OK** Button.



8 Select ***Online*** from the Controller Menu.
A confirmation dialog box is displayed. Click the **Yes** Button.

* The displayed dialog box depends on the status of the Controller used. Check the contents and click the **Yes** Button to proceed with the processing.



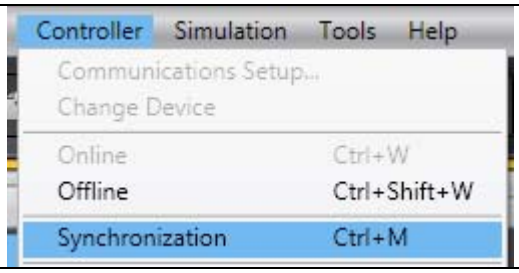


9 When an online connection is established, a yellow bar is displayed on the top of the Edit Pane.

Additional Information

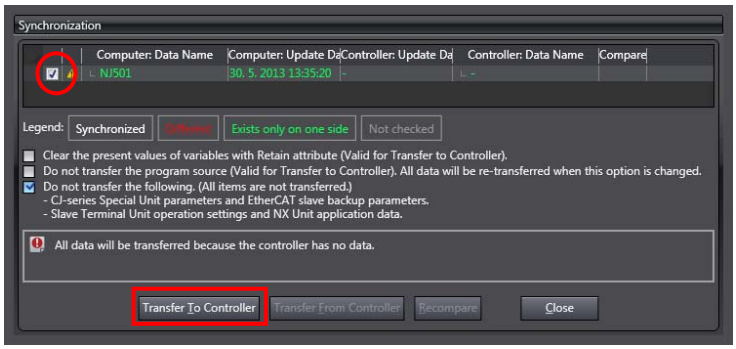
For details on online connections to a Controller, refer to *Section 5 Online Connections to a Controller of the Sysmac Studio Version 1 Operation Manual* (Cat. No. W504).

10 Select ***Synchronization*** from the Controller Menu.



11 The Synchronization Dialog Box is displayed.
Confirm that the data to transfer (NJ501 in the right dialog box) is selected. Then, click the **Transfer To Controller** Button.

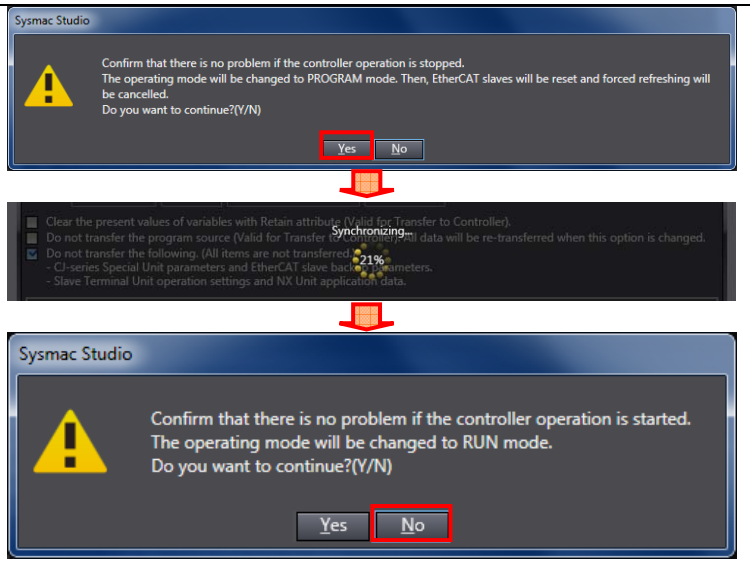
* After executing the Transfer To Controller, the Sysmac Studio data is transferred to the Controller and the data are compared.



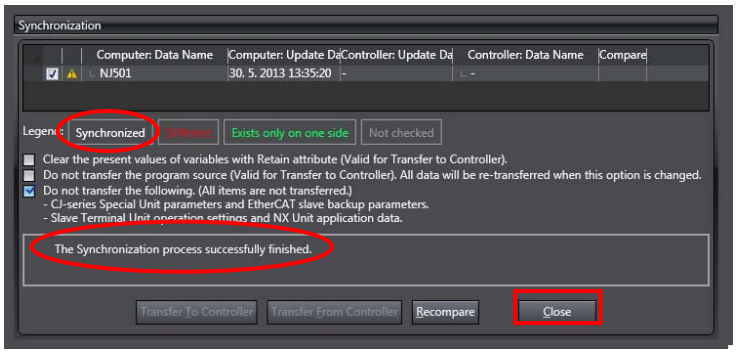
12 A confirmation dialog box is displayed. Confirm that there is no problem and click the **Yes** Button.

A screen stating "Synchronizing" is displayed.

A confirmation dialog box is displayed. Confirm that there is no problem and click the **No** Button.
* Be sure not to return it to "RUN mode".



13 Confirm that the synchronized data is displayed with the color specified by "Synchronized" and that a message is displayed stating "The synchronization process successfully finished" If there is no problem, click the **Close** Button.

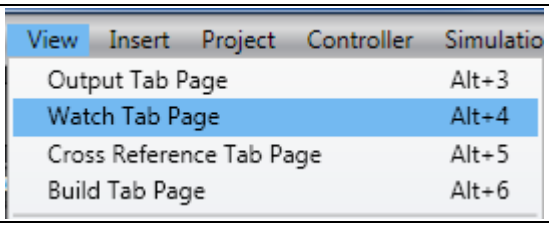
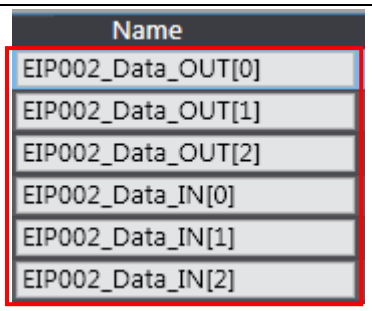


* A message stating "The synchronization process successfully finished" is displayed if the Sysmac Studio project data and the data in the Controller match.

* If the synchronization fails, check the wiring and repeat from step 1.

10.3.5. Settings in the Watch Tab Page

To check data that is sent and received, make settings in the Watch Tab Page.

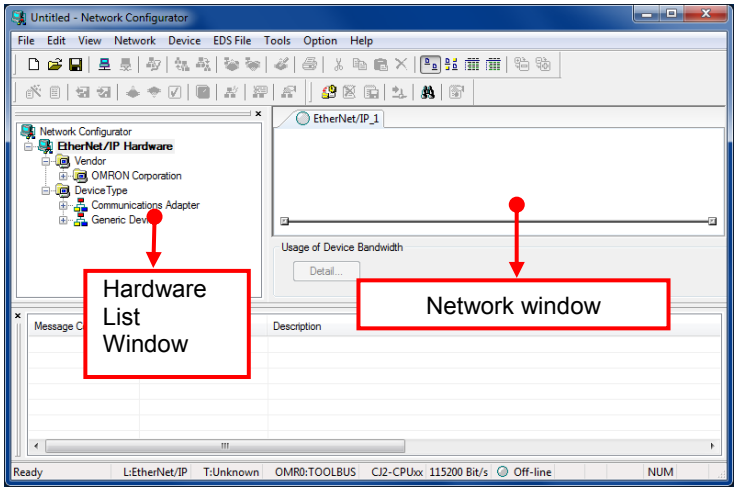
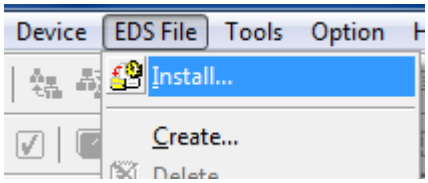
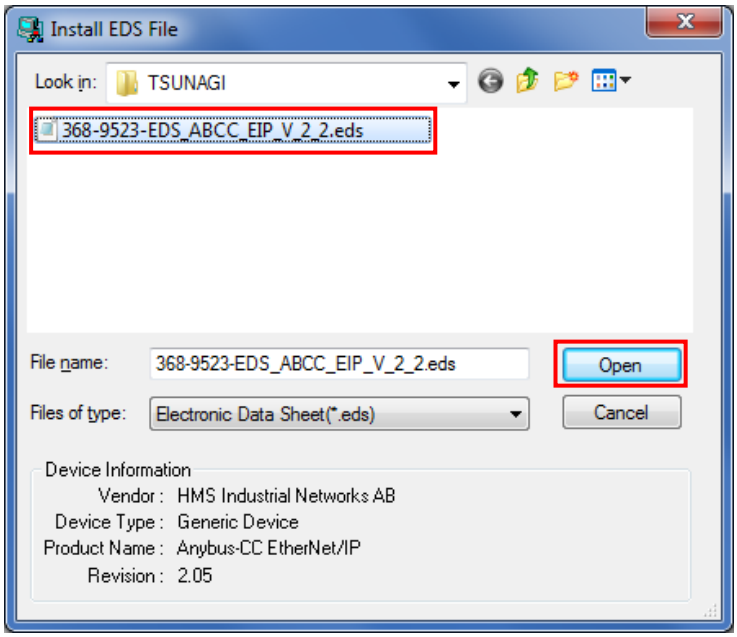
1	Select ***Watch Tab Page*** from the View Menu.	
2	The Watch1 Tab Page is displayed in the lower section of the Edit Pane.	
3	Enter the following names in the Watch1 Tab Page for monitoring. To enter a new name, click a column stating Input Name. EIP002_Data_OUT[0] EIP002_Data_OUT[1] EIP002_Data_OUT[2] EIP002_Data_IN[0] EIP002_Data_IN[1] EIP002_Data_IN[2] * You will use the settings in 7.5.2. Checking the Data That are Sent and Received.	

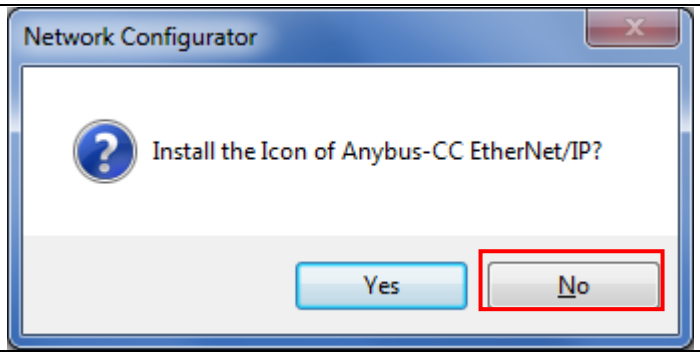
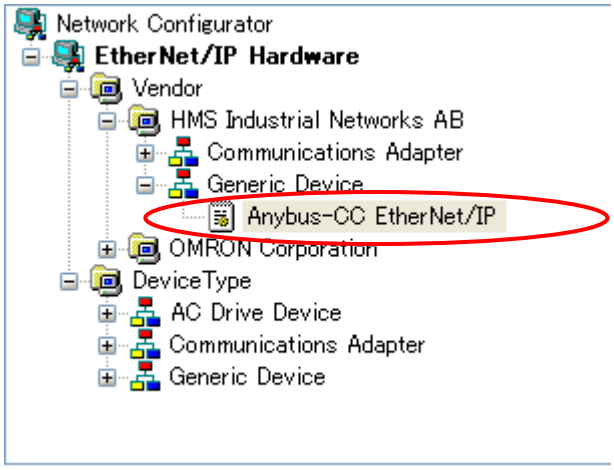
10.4. Setting Up the Network Using the Software

Set the tag data links for EtherNet/IP using the software.

10.4.1. Starting the Network Configurator and Installing the EDS File

Start the Network Configurator and install the EDS file.

1	Start the **Network Configurator**.	
2	Select ***Install*** from the EDS File Menu.	
3	Select the *368-9523-EDS_ABCC_EIP_V_2_2.eds* as an EDS file to install and click the **Open** Button. * For how to obtain the EDS file, refer to Precautions for Correct Use in *5.2. Device Configuration.*	

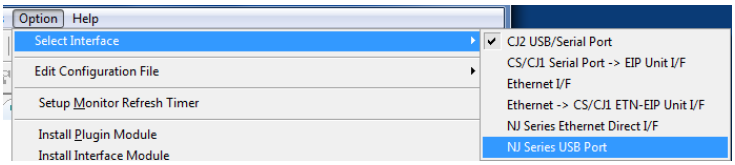
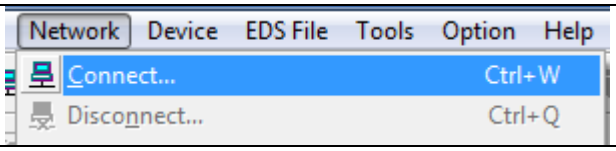
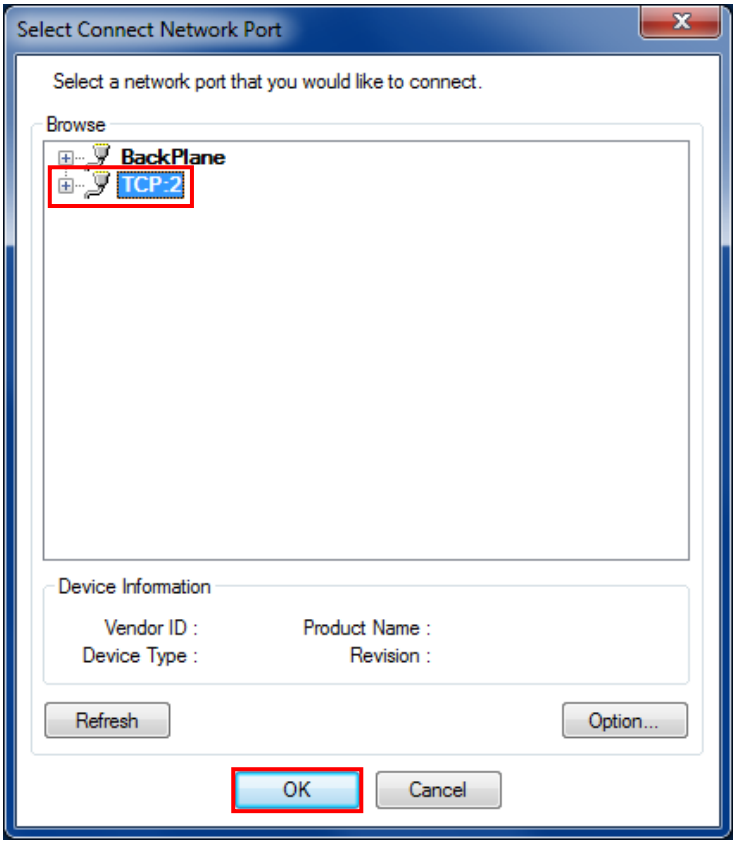
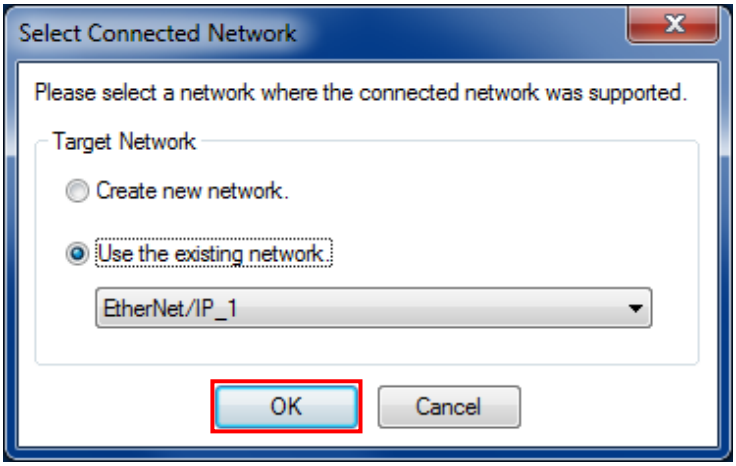
4	The dialog box on the right is displayed. Check the contents and click the **No** Button.	
5	When the EDS file is normally installed, the device is added as shown in the right figure. Confirm that the device was added to the EtherNet/IP Hardware List. * When installing the 368-9523-EDS_ABCC_EIP_V_2_2.eds file, the Anybus-CC EtherNet/IP device is registered.	

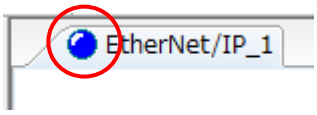
Precautions for Correct Use

Please confirm that the LAN cable is connected before performing the following procedure. When it is not connected, turn OFF the power supply to each device and then connect the LAN cable.

10.4.2. Connecting Online and Uploading Configuration

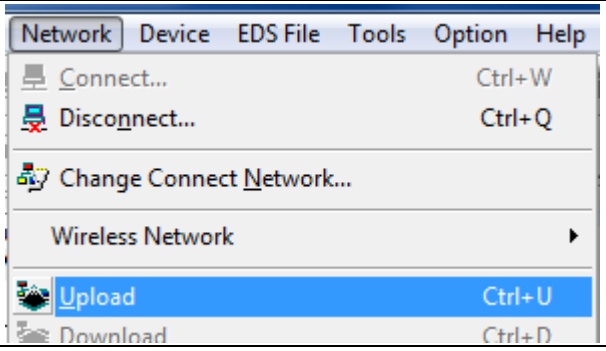
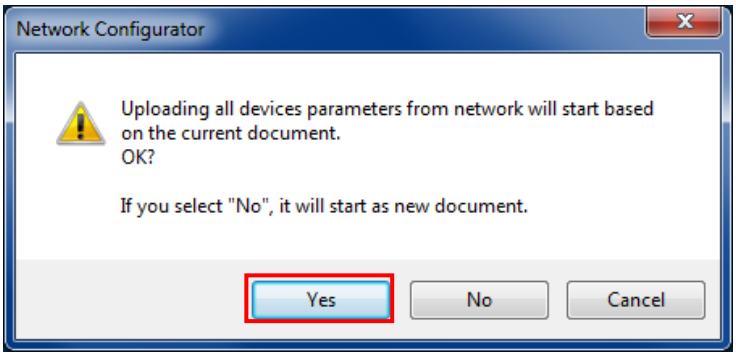
Connect online with the Controller and upload the network configuration.

1	Select ***Select Interface*** - ***NJ Series USB Port*** from the Option Menu.	
2	Select ***Connect*** from the Network Menu.	
3	The Select Connect Network Port Dialog Box is displayed. Select *TCP:2* . Click the **OK** Button.	
4	The Select Connected Network Dialog Box is displayed. Check the contents and click the **OK** Button.	

5	When an online connection is established normally, the color of the icon on the right figure changes to blue.	

Additional Information

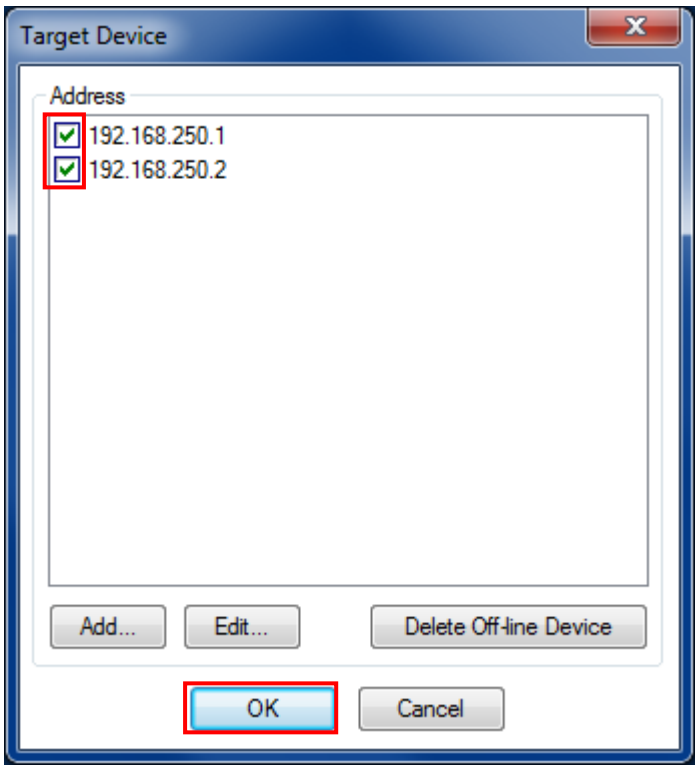
If an online connection cannot be made to the Controller, check the cable connection. Or, return to step 1, check the settings and repeat each step.
For details, refer to *7-2-8 Connecting the Network Configurator to the Network* in *Section 7 Tag Data Link Functions of the NJ-series CPU Unit Built-in EtherNet/IP™ Port User's Manual* (Cat. No. W506).

6	Select ***Upload*** from the Network Menu to upload the device information on the network.	
7	The dialog box on the right is displayed. Confirm that there is no problem and click the **Yes** Button.	

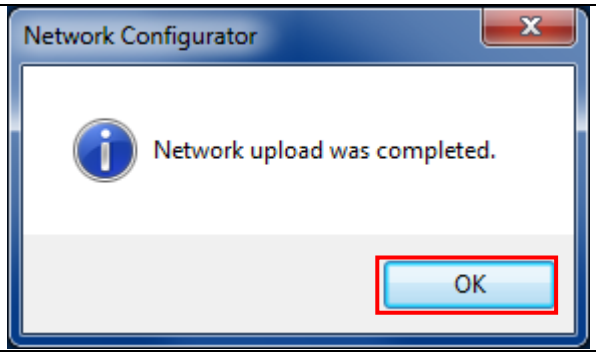
8 The Target Device Dialog Box is displayed.
Select the*192.168.250.1* Checkbox and the *192.168.250.2* Checkbox, and click the **OK** Button.

* If 192.168.250.1 or 192.168.250.2 is not displayed on the dialog box, click the Add Button to add the address.

* The displayed addresses depend on the status of the Network Configurator.

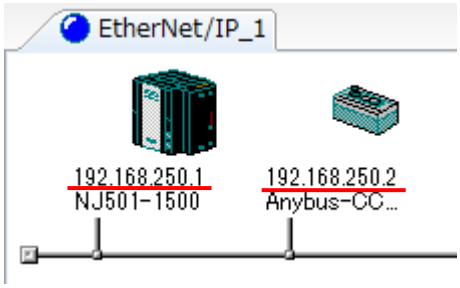


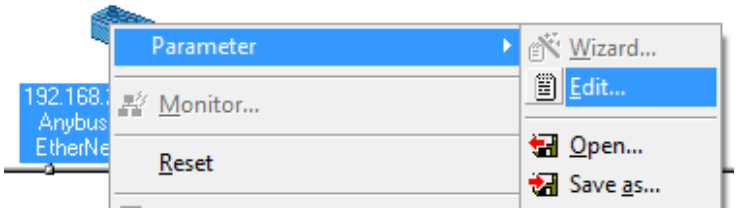
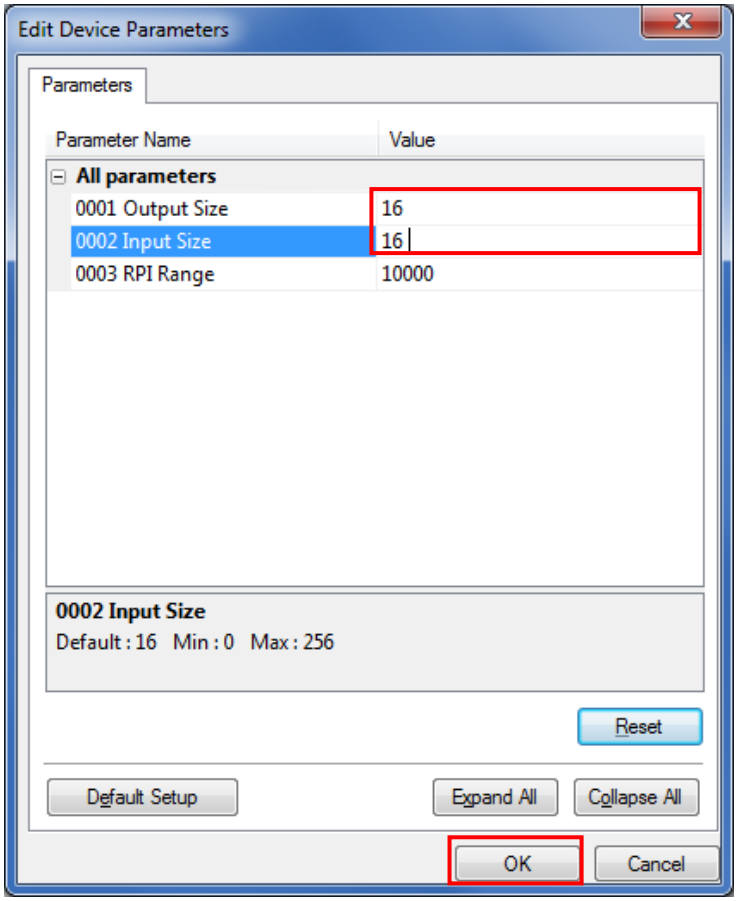
9 The device parameters are uploaded. When uploading is completed, the dialog box on the right is displayed.
Check the contents and click the **OK** Button.



10 After uploading is completed, confirm that the Network Configuration Pane shows the updated IP addresses of the devices.
IP address of node 1:
192.168.250.1
IP address of node 2:
192.168.250.2

* The X-SEL Controller icon changes to the Anybus-CC EtherNet/IP device.

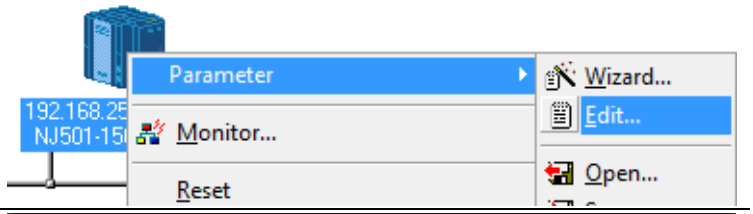
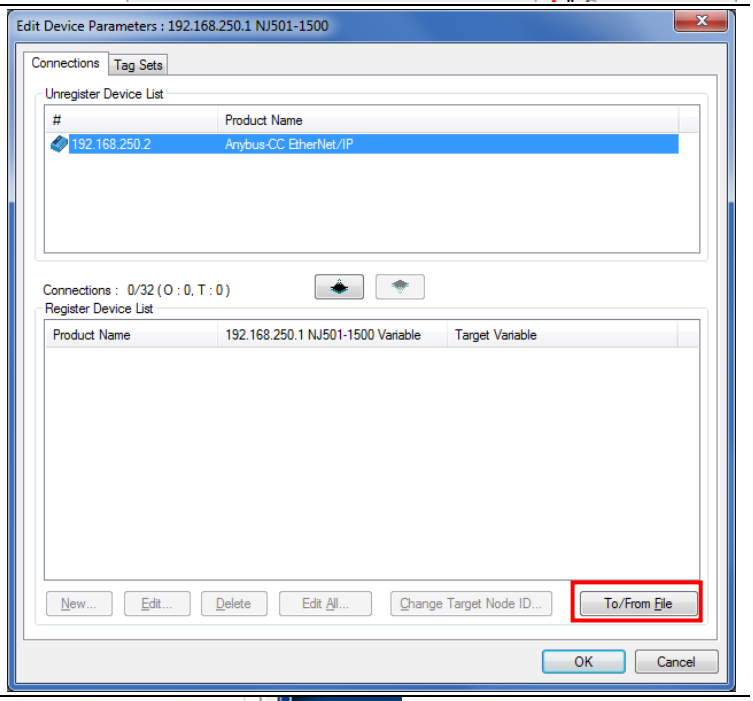
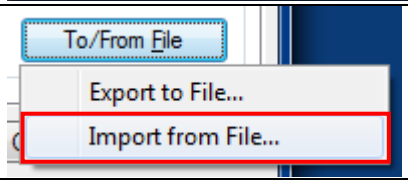
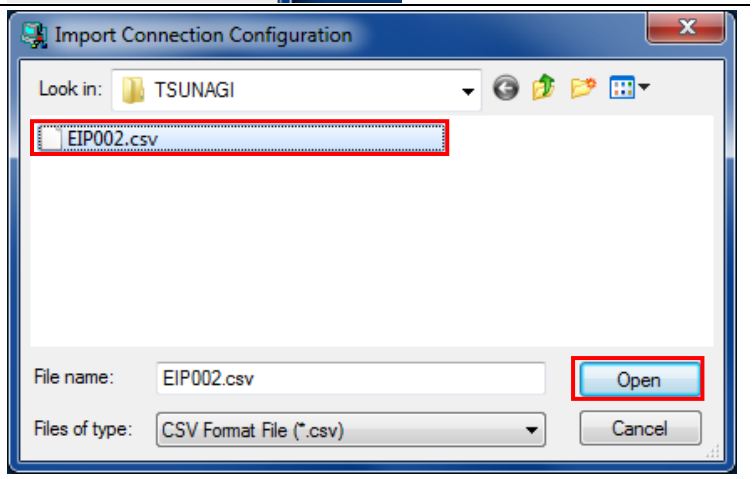


11	Right-click the node 2 device and select ***Parameter*** - ***Edit***.	
12	The Edit Device Parameters Dialog Box is displayed. Enter the following values and click the **OK** Button. ・Output Size: 16 ・Input Size: 16	

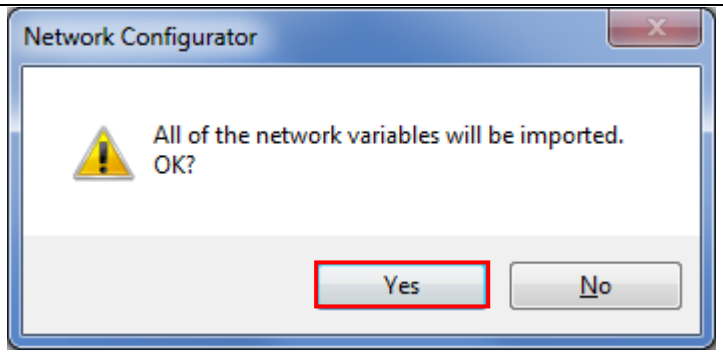
10.4.3. Importing the File and Registering the Tags

Import the CSV file that was saved, and register tags of the originator's send area and receive area.

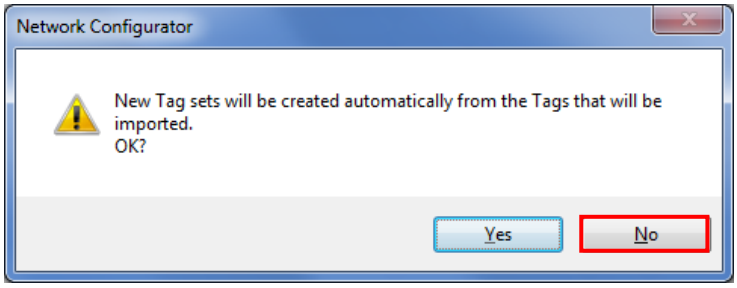
This section explains the receive settings and then send settings of the target node.

1	On the Network Configuration Pane of the Network Configurator, right-click the node 1 device and select ***Parameter*** - ***Edit***.	
2	The Edit Device Parameters Dialog Box is displayed. Click the **To/From File** Button.	
3	Select ***Import from File***.	
4	The Import Connection Configuration Dialog Box is displayed. Select *EIP002.csv* and click the **Open** Button. * In the Look in Field, specify the folder in which the file was saved in Section 10.3.3 Exporting the Global Variables.	

5 The right dialog boxes may not be displayed depending on the status of the Controller and software used. In such a case, proceed to the next step.

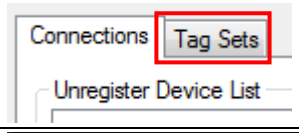


The right dialog box is displayed. Confirm that there is no problem and click the **Yes** Button.

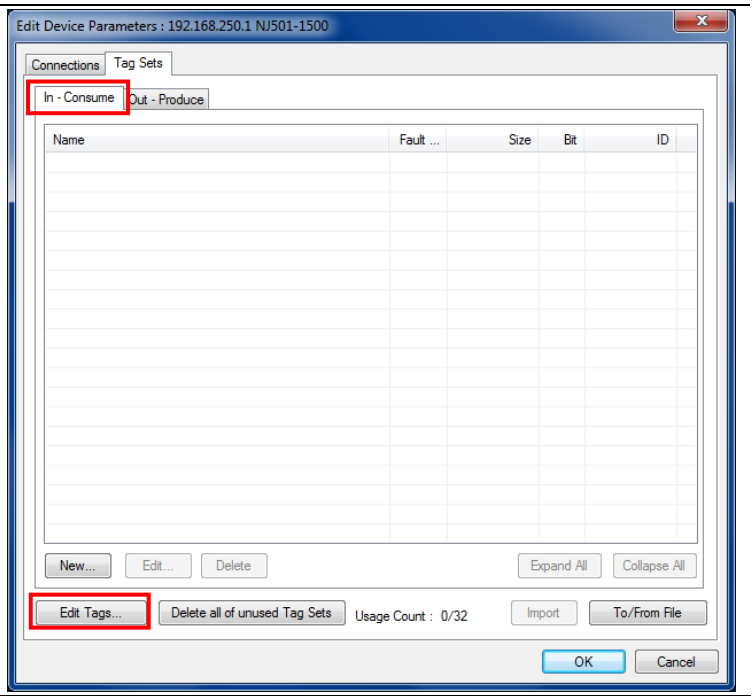


The right dialog box is displayed. Confirm that there is no problem and click the **No** Button. Make sure that tag sets are not created automatically.

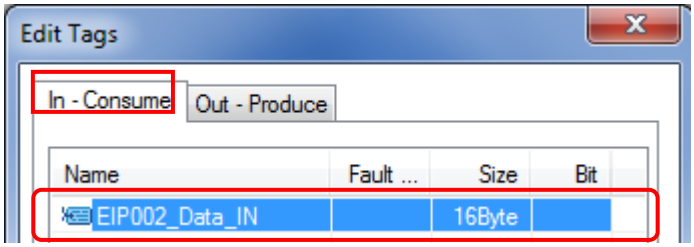
6 The Edit Tags Dialog Box is displayed again.
Click the *Tag Sets* Tab.



7 The data on the Tag Sets Tab is displayed. Select the *In-Consume* Tab and click the **Edit Tags**.
Here, register an area (node 2 → node 1) where node 1 consumes data.

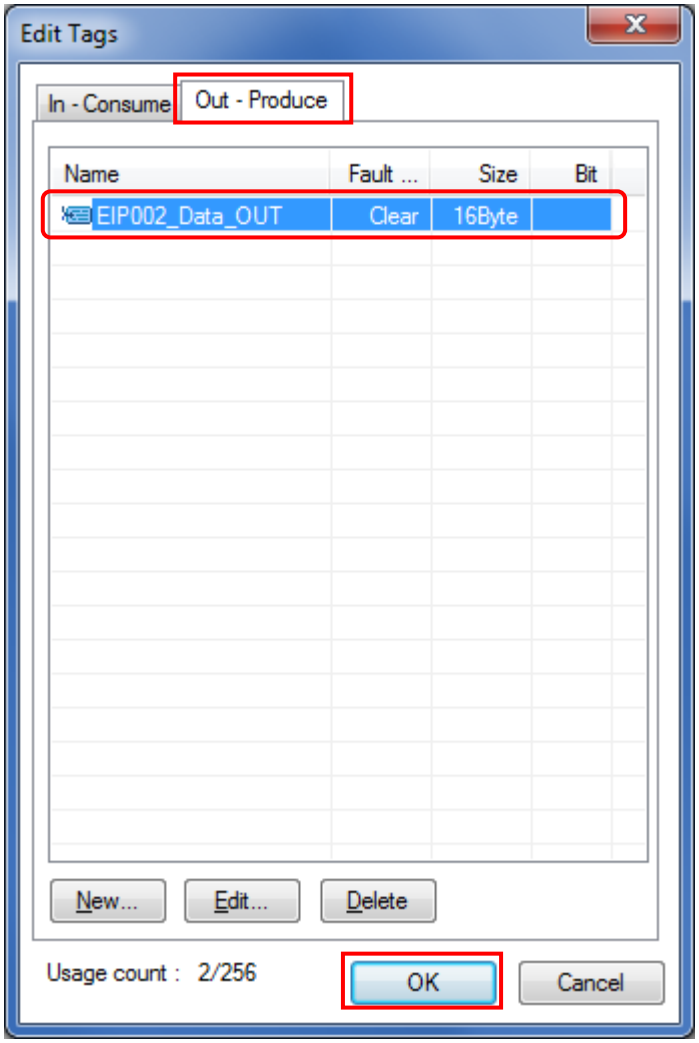


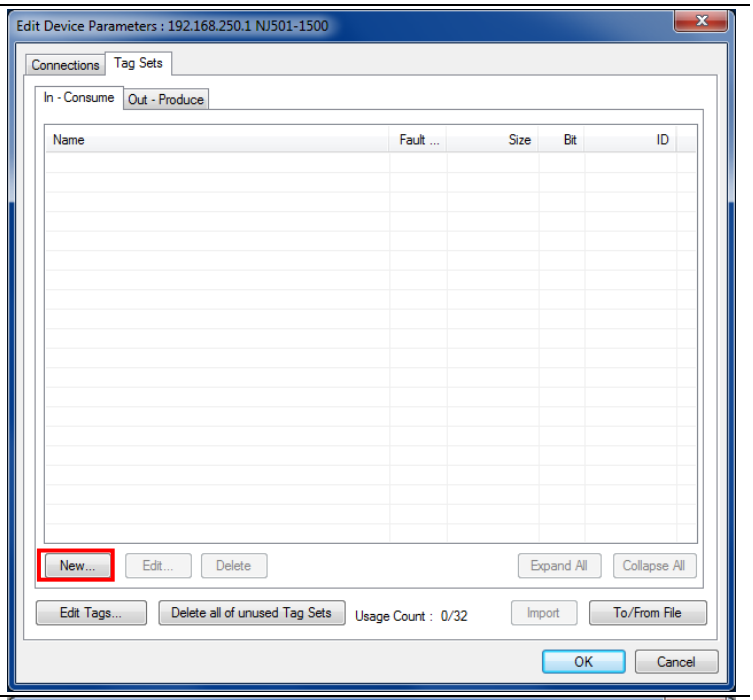
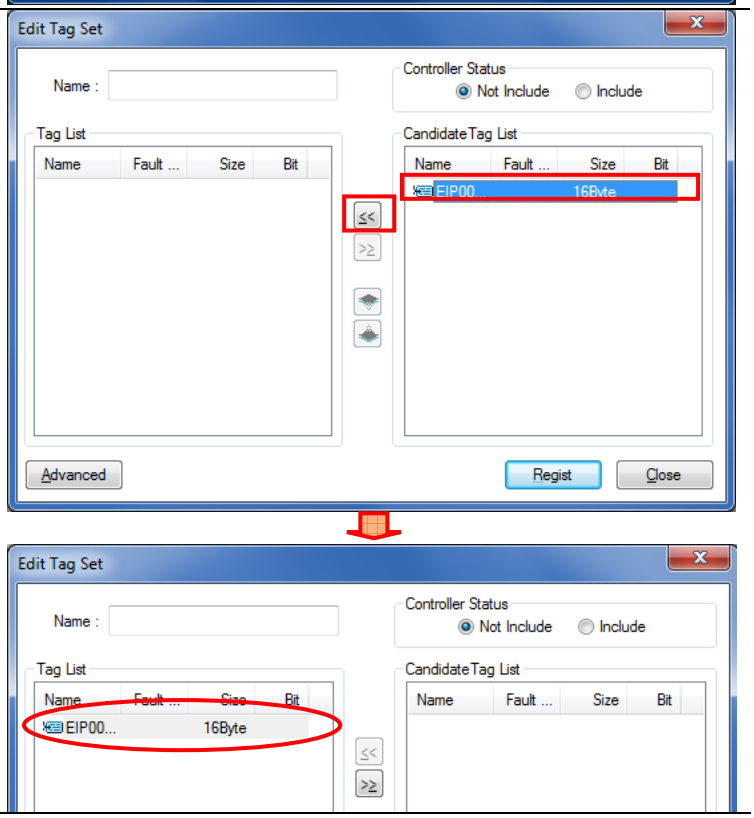
8 The Edit Tags Dialog Box is displayed.
Select the *In - Consume* Tab.
The tab page shows the variable name that was set in 10.3.2 Setting the Global Variables and that is listed in 9.2. Relationship between Destination Device and Global Variables.

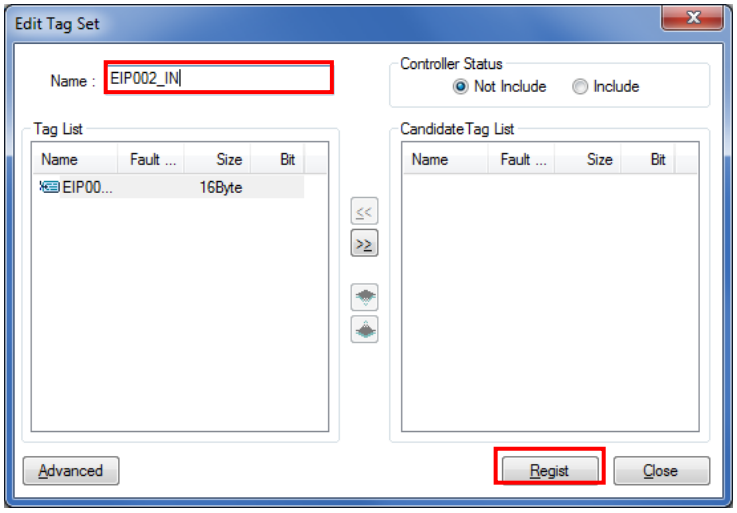
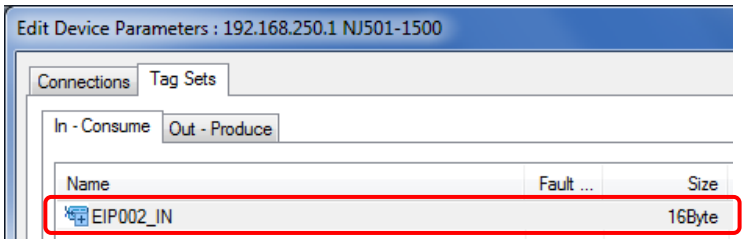
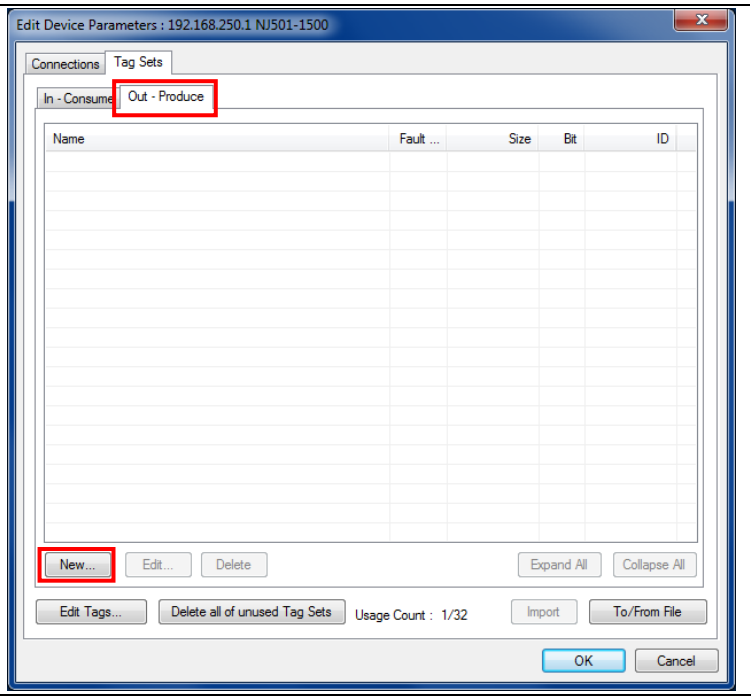


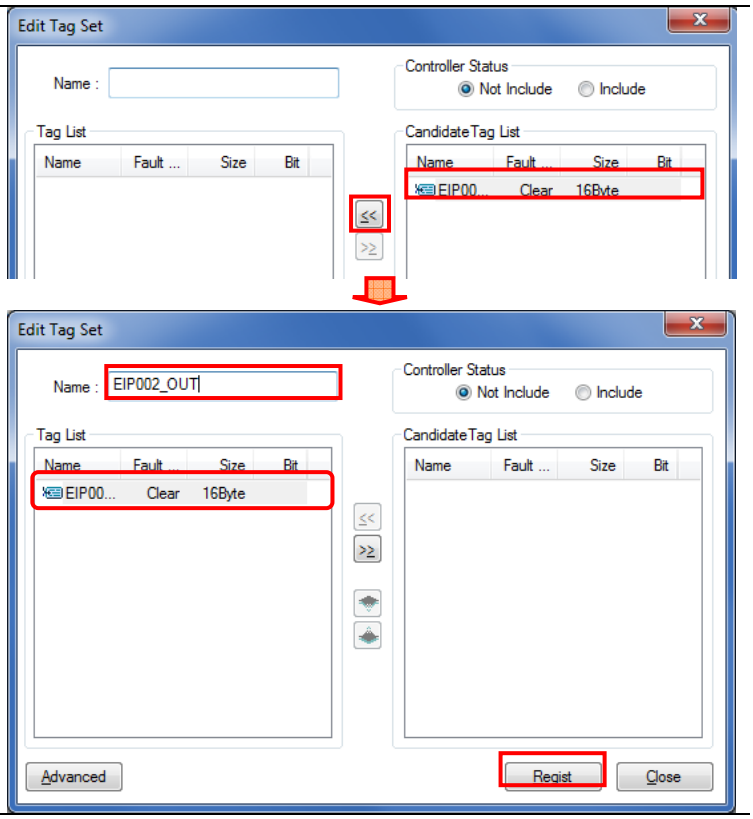
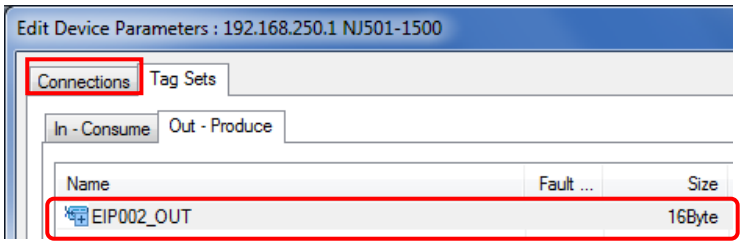
9 Select the *Out-Produce* Tab.
In the same way as the previous step, the tab page shows the variable name that was set in 10.3.2 Setting the Global Variables and that is listed in Section 9.2. Relationship between Destination Device and Global Variables.

Click the **OK** Button.



10	The Edit Device Parameters Dialog Box is displayed again. Click the **New** Button.	
11	The Edit Tag Set Dialog Box is displayed. Select *EIP002_Data_IN* from the Candidate Tag List and click the **<<** Button.	

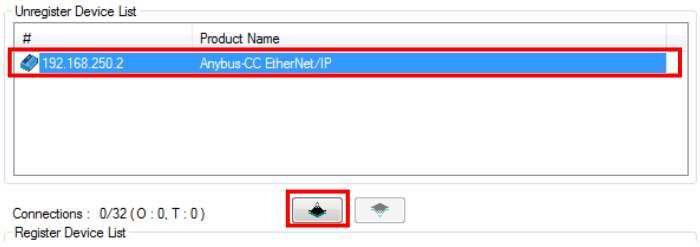
12	Enter EIP002_IN in the Name Field. Click the **Regist** Button.	
13	The Edit Tag Set Dialog Box is displayed. Click the **Close** Button.	
14	The Edit Tags Dialog Box is displayed again. EIP002_IN and 16 Byte are displayed.	
15	Select the *Out-Produce* Tab. Click the **New** Button.	

16	The Edit Tag Set Dialog Box is displayed. Move the variable from the Candidate Tag List to the Tag List in the same way as steps 11. Enter EIP002_OUT in the Name Field. Click the **Regist** Button.	
17	The Edit Tag Set Dialog Box is displayed. Click the **Close** Button.	
18	The Edit Device Parameters Dialog Box is displayed again. EIP002_OUT and 16 Byte are displayed. Select the *Connections* Tab Page.	

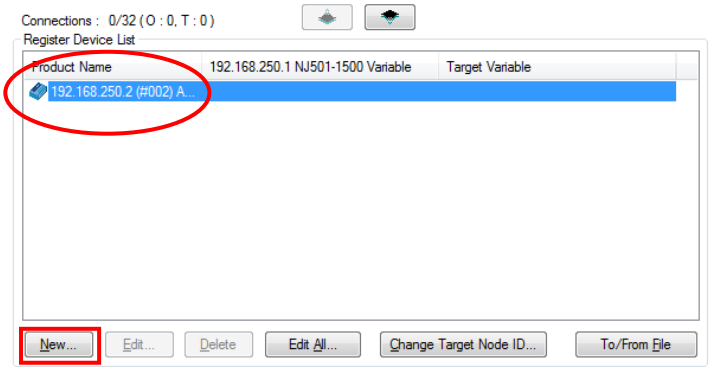
10.4.4. Setting the Connection

Associate the tags of the target device (that receives the open request) with the tags of the originator (that requests opening).

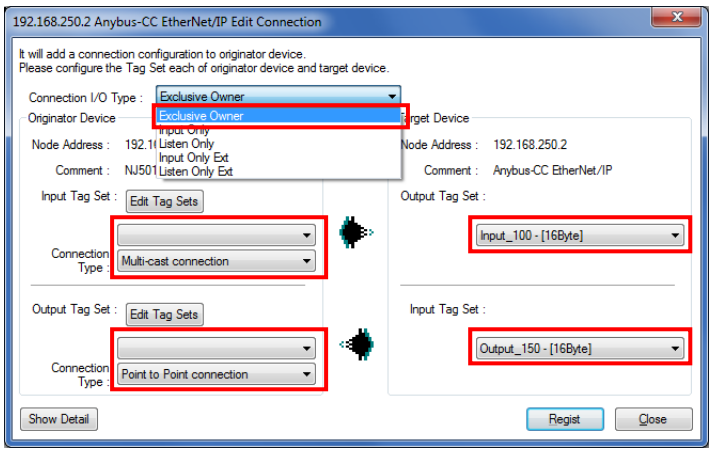
1 Select *192.168.250.2* in the Unregister Device List Field. Click the **Down Arrow** Button that is shown in the dialog box.



2 192.168.250.2 is registered in the Register Device List. Select *192.168.250.2* and click the **New** Button.



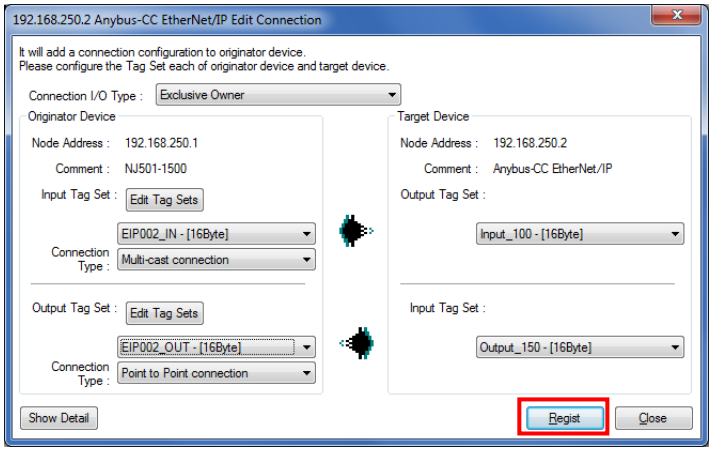
3 The Edit Connection Dialog Box is displayed. Select *Exclusive Owner* from the Connection I/O Type pull-down list.
Set the values listed in the table below for Originator Device and Target Device.



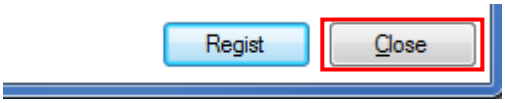
■Settings of connection

Connection allocation		Setting value
Connection I/O type		Exclusive Owner
Originator device	Input Tag Set	EIP002_IN-[16 Byte]
	Connection Type	Multi-cast connection
	Output Tag Set	EIP002_OUT-[16 Byte]
	Connection Type	Point to Point connection
Target Device	Output Tag Set	Input_100-[16 Byte]
	Input Tag Set	Output_150-[16 Byte]

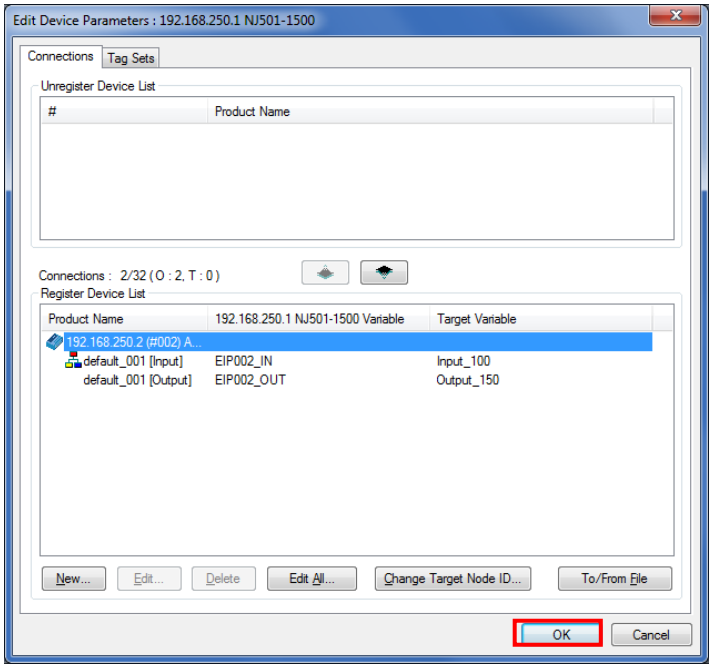
4 Confirm that the settings are correct and click the **Regist** Button.



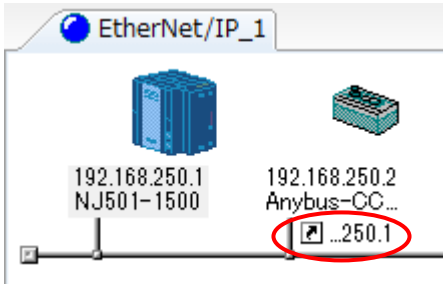
5 The Edit Connection Dialog Box is displayed again. Click the **Close** Button.



6 The Edit Device Parameters Dialog Box is displayed again. Click the **OK** Button.



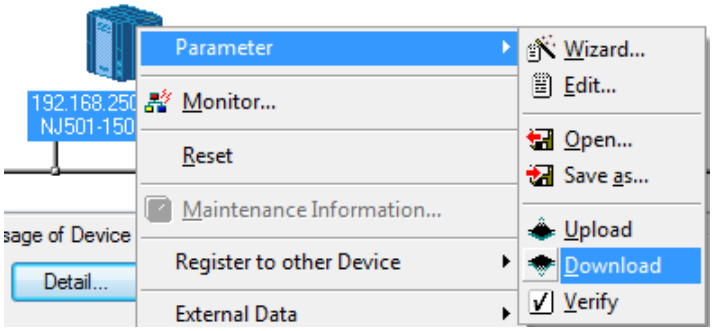
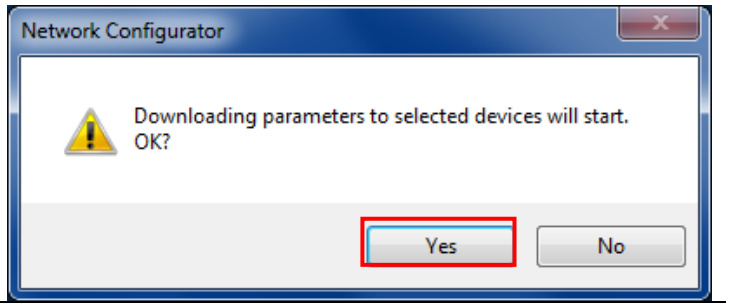
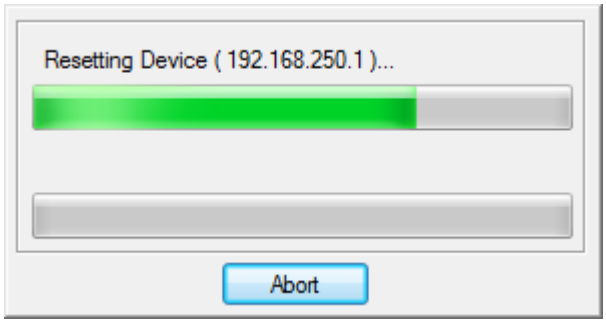
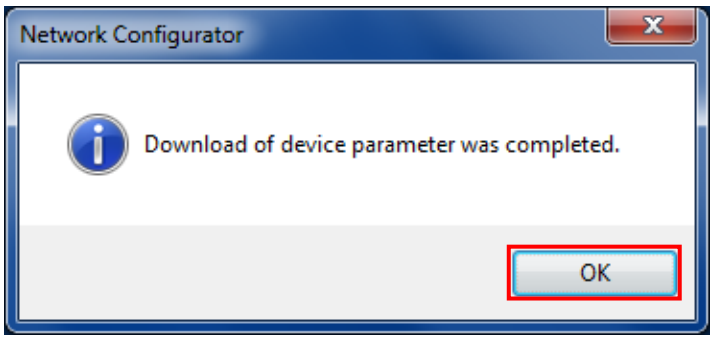
7 When the connection is completely allocated, the registration destination node address is displayed under the device icon of the destination device on the Network Configuration Pane.



* The X-SEL Controller Icon changes to the Anybus-CC EtherNet/IP device.

10.4.5. Transferring the Tag Data Link Parameters

Transfer the set tag data link parameters to the Controller.

1	Right-click node 1 device on the Network Configuration Pane and select ***Parameter*** - ***Download***. The dialog box on the right is displayed. Confirm that there is no problem and click the **Yes** Button.	 
2	Tag data link parameters are downloaded from the Network Configurator to the Controller.	
3	The dialog box on the right is displayed. Check the contents and click the **OK** Button.	

11. Revision History

Revision code	Date of revision	Revision reason and revision page
01	Jul. 24, 2013	First edition

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Cat. No. P574-E1-01

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