OMRON

Machine Automation Controller NJ-series

EtherNet/IP™
Connection Guide

OMRON Corporation

Displacement Sensor
(ZW-7000 series)

Network

Connection

Guide

sysmac
always in control

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Table of Contents

1. Related Manuals

To ensure system safety, make sure to always read and follow the information provided in all Safety Precautions and Precautions for Safe Use in the manuals for each device which is used in the system.

Cat. No.	Model	Manual name
W500	NJ501-[][][][] NJ301-[][][][] NJ101-[][][][]	NJ-series CPU Unit Hardware User's Manual
W501	NJ501-[][][][] NJ301-[][][][] NJ101-[][][][]	NJ/NX-series CPU Unit Software User's Manual
W506	NJ501-[][][][] NJ301-[][][][] NJ101-[][][][]	NJ/NX-series CPU Unit Built-in EtherNet/IP^{TM} Port User's Manual
W504	SYSMAC-SE2[][][]	Sysmac Studio Version 1 Operation Manual
0969584-7	W4S1-05[] W4S1-03B	Switching Hub W4S1-series Users Manual
Z362	ZW-7000[]	Displacement Sensor ZW-7000 series Confocal Fiber Type Displacement Sensor User's Manual
Z363	ZW-7000[]	Displacement Sensor ZW-7000 series Confocal Fiber Type Displacement Sensor User's Manual for Communications Settings

2. Terms and Definitions

Term	Explanation and Definition
Node	A controller and a device are connected to an EtherNet/IP network via EtherNet/IP ports. 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, EtherNet/IP recognizes this device as two nodes. EtherNet/IP achieves the communications between controllers or the communications between a controller and a device 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 assigned 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 EtherNet/IP, the tag and tag set can be exchanged cyclically between nodes without using a user program. This standard feature on 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. There are two ways to specify the connection: one is to specify a tag set name (tag name), and the other is to specify an instance number of Assembly Object. In Sysmac Studio, the connection is set by specifying the instance number.
Connection type	There are two kinds of connection types for the tag data link connection. One is a multi-cast connection, and the other is a unicast (point-to-point) connection. The multi-cast connection sends an output tag set in one packet to more than one node. The unicast connection separately sends one output tag set to each node. Therefore, multi-cast connections can decrease the communications load if one output tag set is sent to more than one node.

Term	Explanation and Definition
Originator and Target	To operate tag data links, one node requests the opening of a communications line called a "connection". The node that requests to open the connection is called an "originator", and the node that receives the request is called a "target". Each communication data is called an "originator variable" and a "target variable". In Sysmac Studio, the instance number is specified in the target variable.
Tag data link parameter	A tag data link parameter is the setting data to operate tag data links. 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.
RPI	This is an abbreviation for Requested Packet Interval. RPI indicates the data I/O refresh cycle that is set for each connection between the originator and the target.

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 a safety circuit, in order to ensure safety and minimize the risk of abnormal occurrence.

(2) To ensure system safety, make sure to always read and follow the information provided in all Safety Precautions and Precautions for Safe Use in the manuals for each device which is 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 June 2016. It is subject to change for improvement without notice.

The following notations are used in this document.

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

⚠ Caution	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.

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.

Symbol

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

4. Overview

This document describes the procedures for connecting Displacement Sensor (hereinafter referred to as Sensor Controller) to NJ Series Machine Automation Controller (hereinafter referred to as Controller) via EtherNet/IP, both produced by OMRON Corporation (hereinafter referred to as OMRON), and for checking their connections.
Refer to *Section 6. EtherNet/IP Settings* and *Section 7. EtherNet/IP Connection Procedure* to understand setting methods and key points to operate EtherNet/IP tag data links.

Additional Information

Settings described in *7.3. Controller Setup* are made in advance in the Sysmac Studio project file (hereinafter referred to as project file) listed below. Refer to *Section 9. Appendix: Procedure Using the Project File* for information on how to use the project file.
Obtain the project file with a latest version from OMRON Corporation.

Name	File name	Version
Sysmac Studio project file (extension: csm2)	P653_NJ_EIP_OMRON_ZW-7000_EV100.csm2	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-[][][][] NJ101-[][][][]
OMRON	Confocal Fiber Type Displacement Sensor	
	Sensor Controller	ZW-7000[]
	Sensor Head	ZW-S70[][]

Precautions for Correct Use

In this document, the devices with models and versions listed in *5.2. Device Configuration* are used as examples of applicable devices to describe the procedures for connecting the devices and checking their connections.

You cannot use devices with versions lower than the versions listed in *5.2*.

To use the above devices with models not listed in *5.2.* or versions higher than those listed in *5.2.*, check the differences in the specifications by referring to the manuals before operating the devices.

Additional Information

This document describes the procedures for establishing the network connections.

It does not provide information on operation, installation, wiring method, device functionality, or device operation, which is not related to the connection procedures.

Refer to the manuals or contact your OMRON representative.

5.2. Device Configuration

The hardware components to reproduce the connection procedures in this document are as follows:
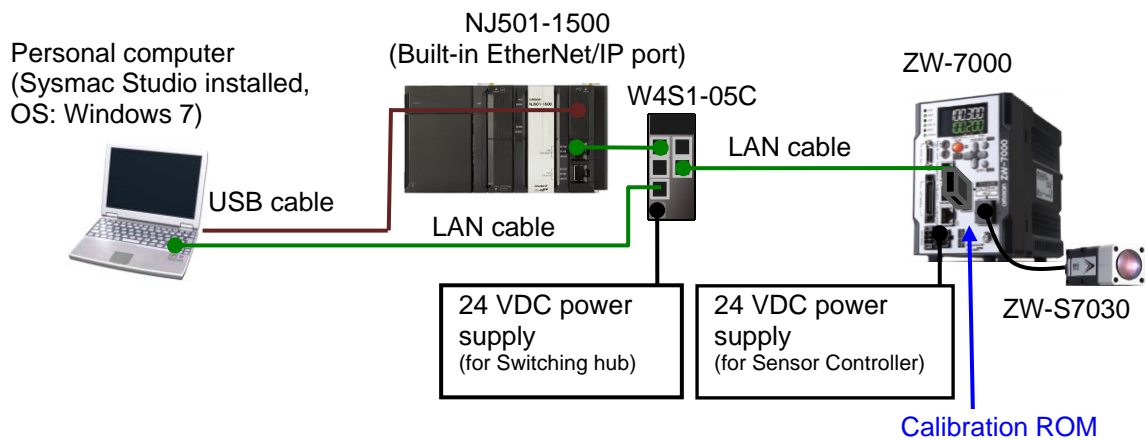
Manufacturer	Name	Model	Version
OMRON	NJ-series CPU Unit (Built-in EtherNet/IP port)	NJ501-1500	Ver.1.10
OMRON	Power Supply Unit	NJ-PA3001	
OMRON	Switching hub	W4S1-05C	Ver.1.0
-	24 VDC power supply (for Switching hub)	-	
OMRON	Sysmac Studio	SYSMAC-SE2[][][]	Ver.1.15
-	Personal computer (OS: Windows 7)	-	
-	USB cable (USB 2.0 type B connector)	-	
-	LAN cable (STP (shielded, twisted-pair) cable of Ethernet category 5 or higher)	-	
OMRON	Sensor Controller	ZW-7000	Ver.2.020
OMRON	Sensor Head	ZW-S7030	
OMRON	Calibration ROM	(Supplied with Sensor Head)	
OMRON	24 VDC power supply (for Sensor Controller) (24 VDC, 2.5A, 60W)	S8VS-06024	

✋ **Precautions for Correct Use**

Update Sysmac Studio to the version specified in this *Clause 5.2.* or to a higher version.
If you use a version higher than the one specified, the procedures and related screenshots described in *Section 7.* and subsequent sections may not be applicable. In that case, use the equivalent procedures described in this document by referring to the *Sysmac Studio Version 1 Operation Manual* (Cat. No. W504).

Additional Information

For specifications of 24 VDC power supply available for Switching hub, refer to the *Switching Hub W4S1-series Users Manual* (Cat. No. 0969584-7).

Additional Information

For specifications of 24 VDC power supply available for Sensor Controller, refer to the *Displacement Sensor ZW-7000 series Confocal Fiber Type Displacement Sensor User's Manual* (Cat. No. Z362).

Additional Information

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

6. EtherNet/IP Settings

This section describes the setting contents of parameters, global variables, tag sets, and tag data link table that are all defined in this document.

6.1. Parameters

The parameters that are set in this document are shown below.

6.1.1. Communication Settings of Personal Computer

The parameters for Sensor Controller are set using Ethernet communications with Personal Computer for settings.

The parameters required for connecting Personal computer for setting and Sensor Controller using Ethernet communications are shown below.

Item	Personal computer for setting	Sensor Controller
IP address	192.168.250.100	192.168.250.50 (Default)
Subnet mask	255.255.255.0	255.255.255.0

6.1.2. EtherNet/IP Communications Settings

The parameters required for connecting Controller to Sensor Controller via EtherNet/IP are shown below.

Item	Controller	Sensor Controller	Remarks
IP address	192.168.250.1	192.168.250.50 (Default)	Using Sysmac Studio.
Subnet mask	255.255.255.0	255.255.255.0	Using Sysmac Studio.
Fieldbus	-	EtherNet/IP	Using Sysmac Studio.

6.2. Data Types to Use for Tag Data Links

The following data types are used for tag data links to communicate with Sensor Controller.

■Defining a data type for signal access (Union)

Data type to access control signals and status signals

Data type name	Data type
U_EIPFlag	UNION
F	BOOL[32]
W	DWORD

■Defining a data type for command area access (Structure)

Data type to access the command area

Data type name	Data type	Sensor Controller data
S_EIPOutput	STRUCT	-
SensorHeadControlFlag1	U_EIPFlag	Sensor head control signal1 (32 bit)
SensorHeadControlFlag2	U_EIPFlag	Sensor head control signal2 (32 bit)
SensorHeadControlReserve	U_EIPFlag	Extended area (32 bit)
CommandCode	DWORD	Command code (32 bit)
CommandParam1	UINT	Command parameter 1 (16 bit)
CommandParam2	UINT	Command parameter 2 (16 bit)
CommandParam3	DINT	Command parameter 3 (32 bit)

■Defining a data type for response and output area access (Structure)

Data type to access the response and output areas

Data type name	Data type	Sensor Controller data
S_EIPInput	STRUCT	-
SensorHeadStatusFlag1	U_EIPFlag	Sensor head status signal1 (32 bit)
SensorHeadStatusFlag2	U_EIPFlag	Sensor head status signal2 (32 bit)
SensorHeadStatusReserve	U_EIPFlag	Extended area (32 bit)
CommandCodeEcho	DWORD	Command code Echo (32 bit)
ResponseCode	UDINT	Response code (32 bit)
ResponseData	DINT	Response data (32 bit)
OutputData	DINT[8]	Output Data0 to 7 (32 bit)

📑 **Additional Information**

For details on the union and structure types, refer to *Memory Assignments and Commands* in *4-1 EtherNet/IP Connection* of the *Displacement Sensor ZW-7000 series Confocal Fiber Type Displacement Sensor User's Manual for Communications Settings* (Cat. No. Z363).

📑 **Additional Information**

With 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)BOOL[16] / (2) ARRAY[0..15] OF BOOL

In this document, the data type is simplified by displaying BOOL[16].

(The example above means a BOOL data type with sixteen array elements.)

6.3. Global variables

The Controller treats the data in tag data links as global variables.

The content of global variable settings is shown below.

■Output area (Controller to Sensor Controller)

Variable	Data type	Data size
EIPOutput	S_EIPOutput	24 bytes

Sensor Controller data	Variable name	Base type
Sensor head control signal1 (Data type: U_EIPFlag)	EIPOutput.SensorHeadControlFlag1.F [1]	BOOL[32]
	EIPOutput.SensorHeadControlFlag1.W	DWORD
Sensor head control signal2 (Data type: U_EIPFlag)	EIPOutput.SensorHeadControlFlag2.F [2]	BOOL[32]
	EIPOutput.SensorHeadControlFlag2.W	DWORD
Extended area (Data type: U_EIPFlag)	EIPOutput.SensorHeadControlReserve.F	BOOL[32]
	EIPOutput.SensorHeadControlReserve.W	DWORD
Command code	EIPOutput.CommandCode	DWORD
Command parameter 1	EIPOutput.CommandParam1	UINT
Command parameter 2	EIPOutput.CommandParam2	UINT
Command parameter 3	EIPOutput.CommandParam3	DINT

[1]: Assignment of Sensor Head control signal1

Variable: EIPOutput.SensorHeadControlFlag1.F

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
															EXE

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
															ERCLR

EXE   : Control command execution
ERRCLR   : Error clear

[2]: Assignment of Sensor Head control signal2

Variable: EIPOutput.SensorHeadControlFlag2.F

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
													LIGHT OFF	RESET	TIMING

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
								ZERO CLR_T4	ZERO CLR_T3	ZERO CLR_T2	ZERO CLR_T1	ZERO_ T4	ZERO_ T3	ZERO_ T2	ZERO_ T1

TIMING   : Timing
RESET   : Reset
LIGHTOFF   : Light metering OFF
ZERO_Tn   : TASK n Zero reset execution (n: 1 to 4)
ZEROCLR_Tn   : TASK n Zero reset cancel (n: 1 to 4)

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■Input area (Sensor Controller to Controller)

Variable	Data type	Data size
EIPInput	S_EIPInput	56 bytes

Sensor Controller data	Variable name	Base type
Sensor Head status signal 1	EIPInput.SensorHeadStatusFlag1.F [1]	BOOL[32]
(Data type: U_EIPFlag)	EIPInput.SensorHeadStatusFlag1.W	DWORD
Sensor Head status signal 2	EIPInput.SensorHeadStatusFlag2.F [2]	BOOL[32]
(Data type: U_EIPFlag)	EIPInput.SensorHeadStatusFlag2.W	DWORD
Extended area	EIPInput.SensorHeadStatusReserve.F	BOOL[32]
(Data type: U_EIPFlag)	EIPInput.SensorHeadStatusReserve.W	DWORD
Command code Echo	EIPInput.CommandCodeEcho	DWORD
Response code	EIPInput.ResponseCode	UDINT
Response data	EIPInput.ResponseData	DINT
Output Data 0		
Output Data 1		
Output Data 2		
Output Data 3	EIPInput.OutputData	DINT[8]
Reserved		
Reserved		
Reserved		
Reserved		

[1]: Assignment of Sensor Head status signal1

Variable: EIPInput.SensorHeadStatusFlag1.F

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
BANK1_E	BANK1_D	BANK1_C	BANK1_B	BANK1_A							RUN		READY		FLG

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
															ERR

FLG : Control command completion
READY : Ready
RUN : Run screen
BANK1_A : Current bank number bit0
   |
BANK1_E : Current bank number bit4
ERR : Error

*2: Assignment of Sensor Head status signal2

Variable: EIPInput.SensorHeadStatusFlag2.F

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
				TASK STAT _T4	TASK STAT _T3	TASK STAT _T2	TASK STAT _T1		OR	GATE	ENABLE	STABIL ITY1	LIGHT	RESET STAT	HOLD STAT

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
LOW _T4	PASS _T4	HIGH _T4	LOW _T3	PASS _T3	HIGH _T3	LOW _T2	PASS _T2	HIGH _T2	LOW _T1	PASS _T1	HIGH _T1	ZERO STAT_ T4	ZERO STAT_ T3	ZERO STAT_ T2	ZERO STAT_ T1

HOSDSTAT	: Hold execution status
RESETSTAT	: Reset execution state
LIGHT	: Logical beam lighting state
STABILITY1	: Measurement position
ENABLE	: Measurement state
GATE	: Data output completed
OR	: Overall judgment result
TASKSTAT_Tn	: TASK n TASK status (n: 1 to 4)
ZEROSTAT_Tn	: TASK n Zero reset state (n: 1 to 4)
HIGH_Tn	: TASK n HIGH output (n: 1 to 4)
PASS_Tn	: TASK n PASS output (n: 1 to 4)
LOW_Tn	: TASK n LOW output (n: 1 to 4)

Additional Information

For details on command and response codes, refer to *Memory Assignments and Commands* in *4-1 EtherNet/IP Connection* of the *Displacement Sensor ZW-7000 series Confocal Fiber Type Displacement Sensor User's Manual for Communications Settings* (Cat. No. Z363).

6.4. Tag Sets

The content of tag set settings to operate tag data links is shown below.

The data in the tag sets are assigned with the following OUT No. and IN No.

■Output area (Controller to Sensor Controller)

Originator variable (tag set name)		Data size (byte)
EIP050_OUT		24
OUT No.	Global variable name (tag name)	Data size (byte)
1	EIPOutput	24

■Input area (Sensor Controller to Controller)

Originator variable (tag set name)		Data size (byte)
EIP050_IN		56
IN No.	Global variable name (tag name)	Data size (byte)
1	EIPInput	56

6.5. Tag Data Link Table

The content of tag data link table settings (connection settings) is shown below.

The values marked with red squares are taken from the values defined in the EDS file for Sensor Controller.

Connection Name	Connection I/O Type	RPI (ms)	Timeout Value
default_001	Consume Data From/Produce Data To	50.0	RPI x 4

Connection I/O Type	Input / Output	Target Variable (Sensor Controller set value: instance number)	Size (Byte)	Originator Variable (Tag set name)	Size (Byte)	Connection Type
Consume Data From/Produce Data To	Input	101	56	EIP050_IN	56	Multi-cast connection
	Output	100	24	EIP050_OUT	24	Point to Point connection

📝 **Precautions for Correct Use**

The RPI and the timeout value are left as default values in this document.

When you set connections, change them according to your usage environment.

7. EtherNet/IP Connection Procedure

This section describes the procedures for connecting Sensor Controller and Controller on the EtherNet/IP network. The explanations of procedures for setting up Controller and Sensor Controller given in this document are based on the factory default settings.
For the initialization, refer to *Section 8. Initialization Method*.

7.1. Work Flow

Take the following steps to operate tag data links by connecting Sensor Controller and Controller via EtherNet/IP.

7.2. Sensor Controller Setup	Set up Sensor Controller.
↓	
7.2.1. Hardware Settings	Connect cables and others to Sensor Controller.
↓	
7.2.2. Parameter Settings	Set the parameters for Sensor Controller.
↓	
7.3. Controller Setup	Set up Controller.
↓	
7.3.1. IP Address Settings	Set the IP address of Controller.
↓	
7.3.2. Target Device Registration	Register the target device.
↓	
7.3.3. Setting the Global Variables	Set the global variables to use for tag data links.
↓	
7.3.4. Tag Registration	Register the tags and the tag sets.
↓	
7.3.5. Setting the Connections	Set the target variables and the originator variables, and then set the connections.
↓	
7.3.6. Transferring the Project Data	Connect online and transfer the connection settings and the project data to Controller.
↓	
7.4. EtherNet/IP Communication Status Check	Confirm that the EtherNet/IP tag data links operate normally.
↓	
7.4.1. Checking the Connection Status	Check the connection status of the EtherNet/IP network.
↓	
7.4.2. Checking the Sent and Received Data	Check that the correct data are sent and received.

7.2. Sensor Controller Setup

Set up Sensor Controller.

7.2.1. Hardware Settings

Connect cables and others to Sensor Controller.

Precautions for Correct Use

Make sure that the power supply is OFF when you set up.

1	Make sure that Sensor Controller is powered OFF. *If it is ON, the settings described in the following steps and subsequent procedures may not be applicable.	
2	Check the position of connectors on Sensor Controller by referring to the figure on the right.	 Ethernet connector ROM connector Fiber adapter 24V input terminal block
3	Connect Calibration ROM to ROM connector.	
4	Connect Fiber connector on Sensor Head to Fiber adapter.	
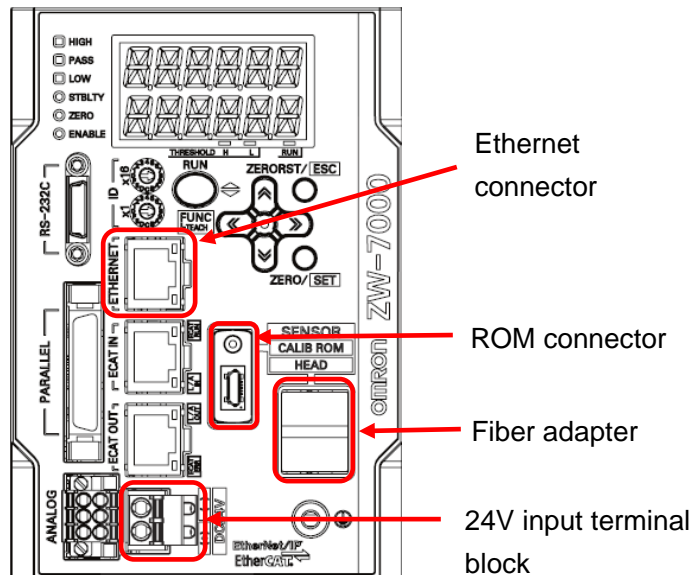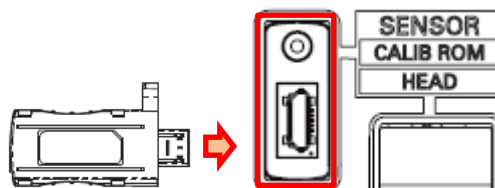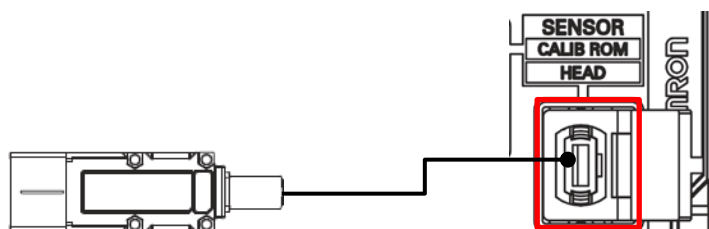
5	Connect Switching hub to Personal computer and to Ethernet connector on Sensor Controller with LAN cables. Connect 24 VDC power supply (for Switching hub) to Switching hub.	 LAN cable LAN cable 24VDC power supply
6	Connect 24 VDC power supply to 24 V input terminal block. *For details on specifications of 24 VDC power supply available for Sensor Controller, refer to the *Displacement Sensor ZW-7000 series Confocal Fiber Type Displacement Sensor User's Manual* (Cat. No. Z362).	 24VDC power supply
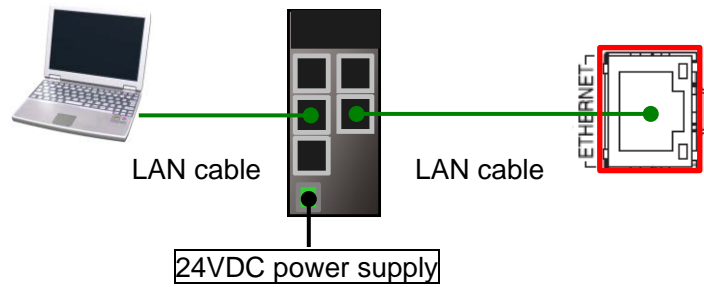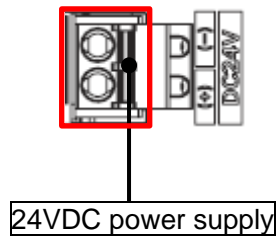
7.2.2. Parameter Settings

Set the parameters for Sensor Controller.

The parameters are set using Sysmac Studio.

Install Sysmac Studio on Personal computer beforehand.

Since Personal computer and Sensor Controller are connected with LAN cables, set the IP address of Personal computer to *192.168.250.100*.

Precautions for Correct Use

The Parameters for Sensor Controller are checked using Ethernet communications with Personal computer.

Note that there may be some changes required for the Personal computer settings depending on the state of Personal computer.

1	Turn ON Sensor Controller and Switching hub.

2 Set The IP address of Personal computer to *192.168.250.100*.

*The IP address can be changed in the following way.

(1)Start Personal computer and log in using an administrator account. From the Windows Start menu, select *Control Panel* - *Network and Internet* - *Network and Sharing Center*, and click **Change Adapter Settings**. Double-click **Local Area Connection**.
   *The procedure steps may be different depending on the environment settings of Personal computer.

(2)The Local Area Connection Status Dialog Box is displayed. Click **Properties**.

(3)The Local Area Connection Properties Dialog Box is displayed. Select *Internet Protocol Version 4 (TCP/IPv4)*, and click **Properties**.
   *The display differs depending on the configuration of Personal computer.

(4)The Internet Protocol Version 4 (TCP/IPv4) Properties Dialog Box is displayed. Select *Use the following IP address*, and set the IP address to *192.168.250.100* and the subnet mask to *255.255.255.0*. Click **OK**.

(5)Click **Close** or **OK** to close all the displayed dialog boxes.

Dialog box in (2)

Local Area Connection Status

General

Connection
IPv4 Connectivity: No network access
IPv6 Connectivity: No network access
Media State: Enabled
Duration: 02:07:17
Speed: 100.0 Mbps

Details...

Activity

Sent —— Received

Packets: 250 | 0

Properties | Disable | Diagnose

Close

Dialog box in (3)

Local Area Connection Properties

Networking | Sharing

Connect using:
Intel(R) 82579LM Gigabit Network Connection

Configure...

This connection uses the following items:
☑ Client for Microsoft Networks
☑ Pylon GigE Vision Streaming Filter
☑ QoS Packet Scheduler
☑ File and Printer Sharing for Microsoft Networks
☑ Internet Protocol Version 6 (TCP/IPv6)
☑ Internet Protocol Version 4 (TCP/IPv4)
☑ Link-Layer Topology Discovery Mapper I/O Driver
☑ Link-Layer Topology Discovery Responder

Install... | Uninstall | Properties

Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

OK | Cancel

Dialog box in (4)

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically
● Use the following IP address:
IP address: 192 . 168 . 250 . 100
Subnet mask: 255 . 255 . 255 . 0
Default gateway: . . .

○ Obtain DNS server address automatically
● Use the following DNS server addresses:
Preferred DNS server: . . .
Alternate DNS server: . . .

☐ Validate settings upon exit

Advanced...

OK | Cancel

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3	Start Sysmac Studio. *If the User Account Control Dialog Box is displayed at start, make a selection to start Sysmac Studio.	
4	Sysmac Studio starts. Click **New Project**.	
5	The Project Properties Dialog Box is displayed.	
6	Select *Measurement Sensor* from the pull-down list of Category in the Select Device Area.	
7	Check that the category and the device in the Select Device Area are set as shown below. 　　Category: Measurement 　　　　　　Sensor 　　Device: ZW Click **Create**.	
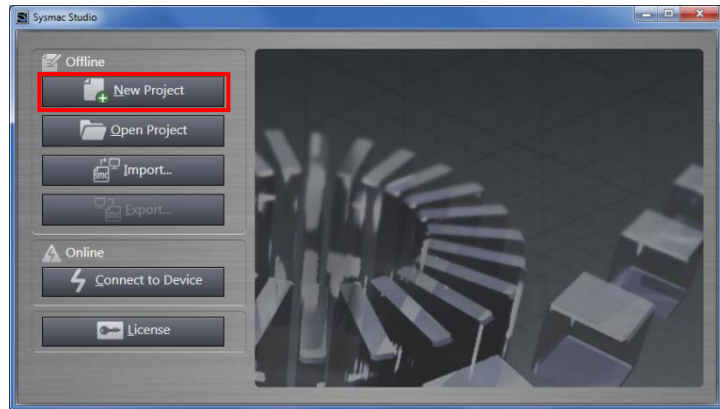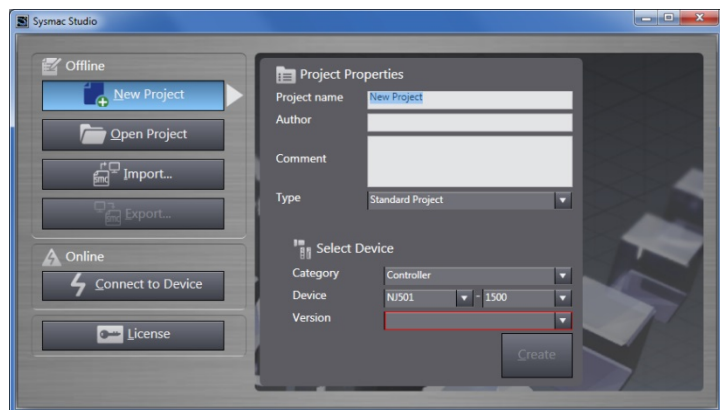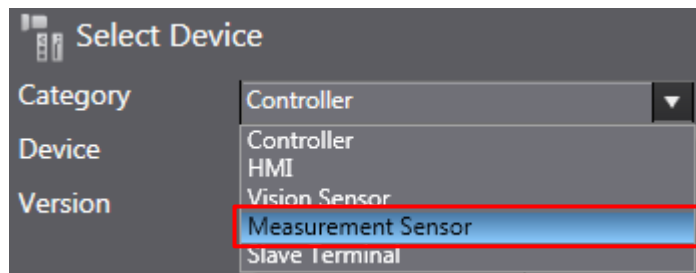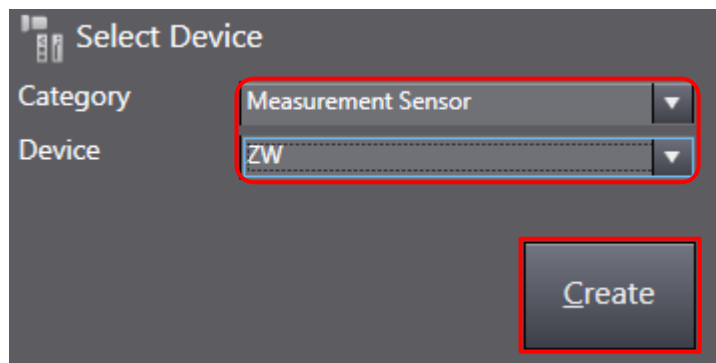
8	The Select Sensor Dialog Box is displayed. Select *Specify a sensor* and set the IP address to *192.168.250.50.* Click **Confirm**.	

9	The information of Sensor Controller and Sensor Head is displayed. Check that the information displayed there indicates the connected devices. Click **OK**. *If Sensor Controller is not specified, the IP address and other settings may not be in the factory default state. Refer to the *Displacement Sensor ZW-7000 series Confocal Fiber Type Displacement Sensor User's Manual* (Cat. No. Z362) to check the values of IP address and others.	

10	The Sensor Controller project is displayed online. When an online connection is established, the Edit Pane is surrounded with a yellow frame. The following panes are displayed in this window. Left: Multiview Explorer Center: Edit Pane The following tabs are displayed in the Edit Pane. Center: Sensing Monitor Pane Right: Toolbox	
11	Double-click **1:ZW-7000(2.0):Online** under **Configurations and Setup** - **DeviceGroup** in the Multiview Explorer.	
12	The 1:ZW-7000(2.0):Online Tab Page is displayed. Click the **Online** Button.	
13	The Online is displayed. Click **Setup** in the *Operation mode* Field.	
14	The Operation mode Dialog Box is displayed. Confirm that there is no problem, and click **Yes**.	
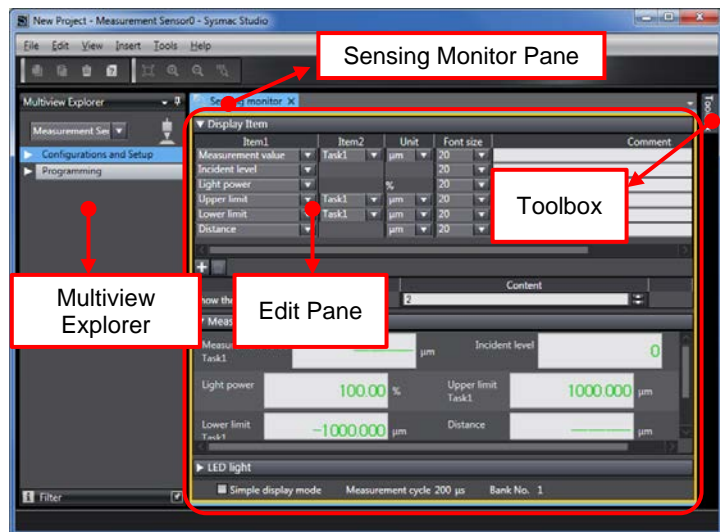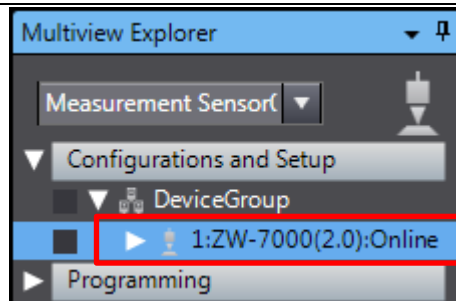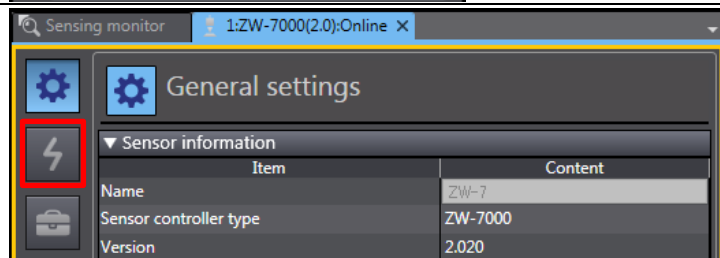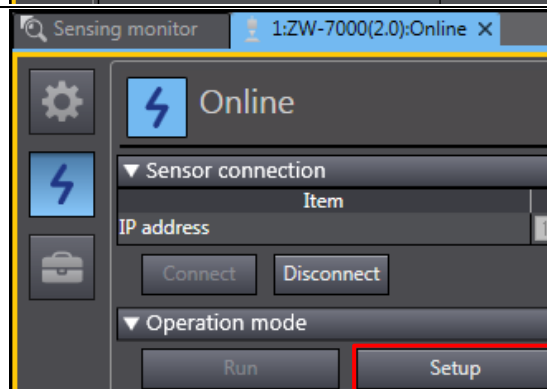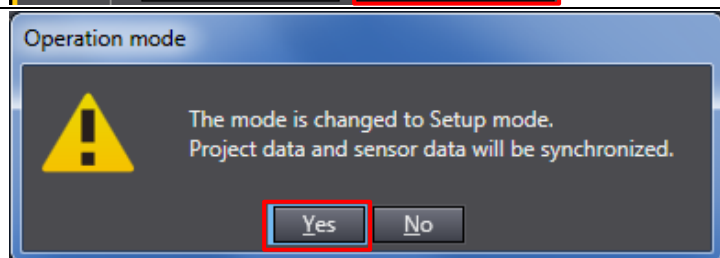
15 Double-click **System data** under **Configurations and Setup** - **DeviceGroup** - **1:ZW-7000(2.0) :Online** - **System** in the Multiview Explorer.
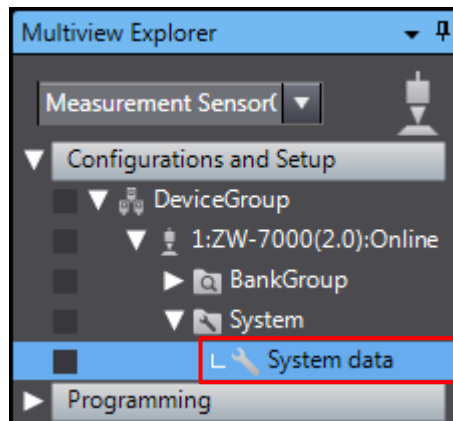
16 The System data Tab Page is displayed.
Click the **Ethernet communication settings** Button.
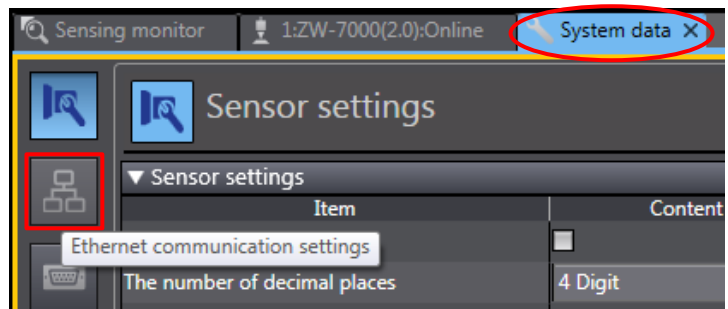
17 The Ethernet communication settings view is displayed.
Select *EtherNet/IP* from the pull-down list of Fieldbus.
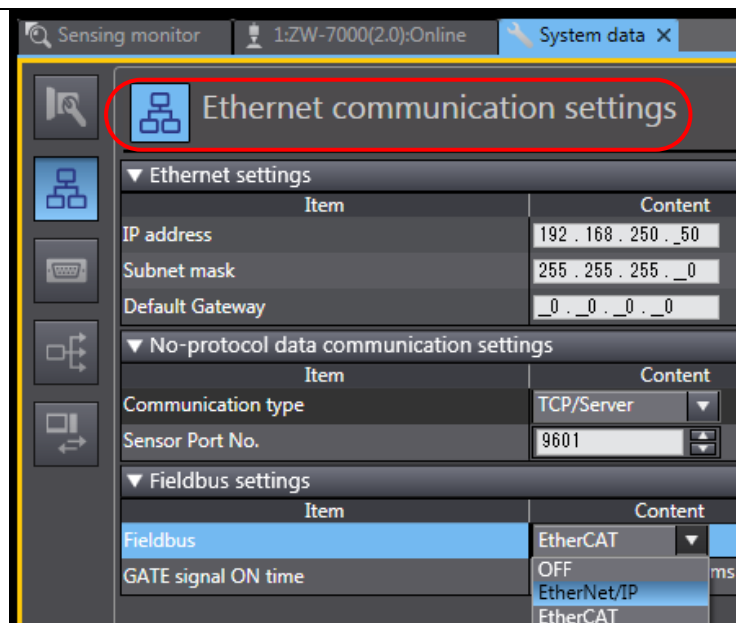
Check that the following fieldbus settings are made.
  Fieldbus: EtherNet/IP
  GATE signal ON time:
          1 ms (Default)
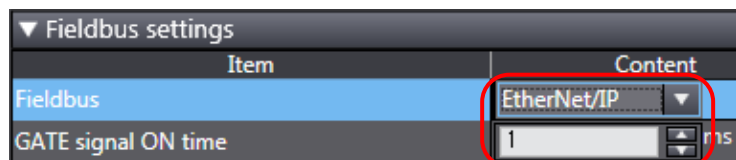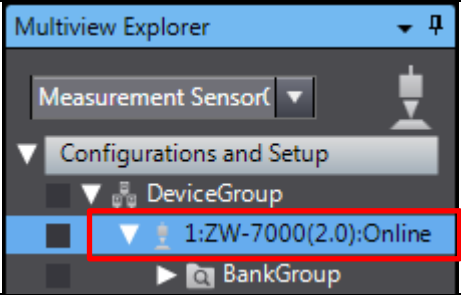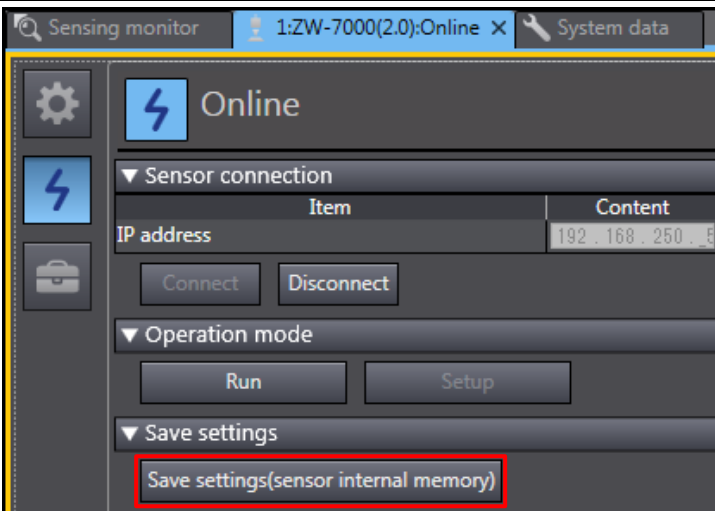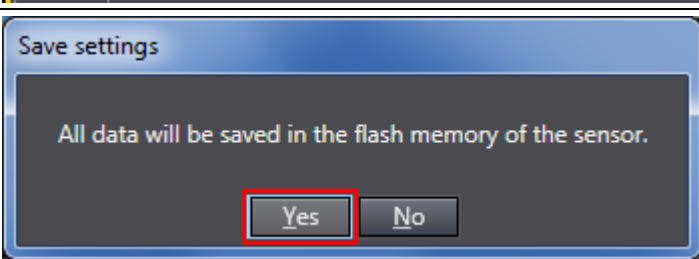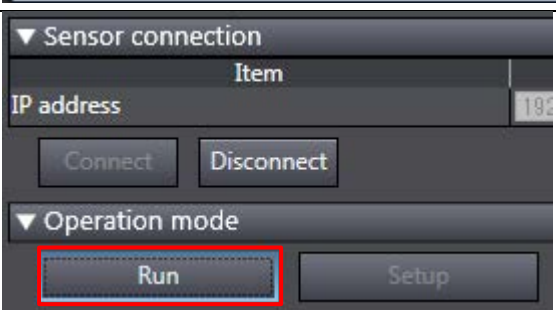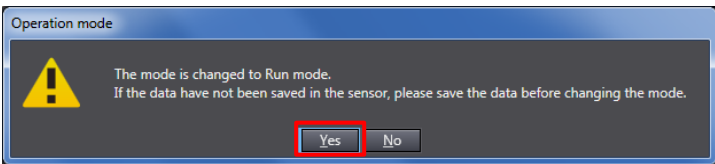
Precautions for Correct Use

If you use the hold function on Sensor Controller, set the value of GATE signal ON time greater than RPI.

18	Double-click **1:ZW-7000(2.0):Online** under **Configurations and Setup** - **DeviceGroup** in the Multiview Explorer.	
19	The Online view is displayed on the 1:ZW-7000(2.0):Online Tab Page. Click **Save settings (sensor internal memory)** in the *Save settings* Field.	
20	The Save settings Dialog Box is displayed. Check the contents and click **Yes**.	
21	Click **Run** in the *Operation mode* Field.	
	The Operation mode Dialog Box is displayed. Confirm that there is no problem, and click **Yes**.	

22	Check that the **Run** Button in the *Operation mode* Field becomes dim. Click **Disconnect** in the *Sensor connection* Field.	
	The Disconnect Dialog Box is displayed. Check the contents and click **Yes**.	
23	The connection goes offline, and the yellow frame surrounding the Edit Pane disappears.	
24	Select *Close* from the File Menu.	
	The New Project Dialog Box is displayed. Click **No** if you do not need to save the project.	
25	Turn OFF Sensor Controller and Switching hub.	
26	Remove the LAN cable from Ethernet connector.	
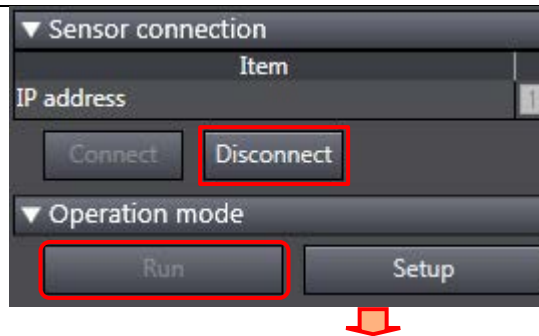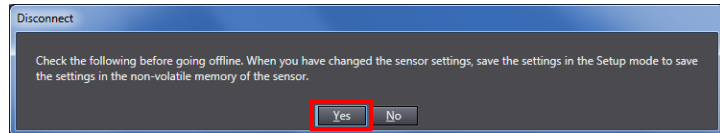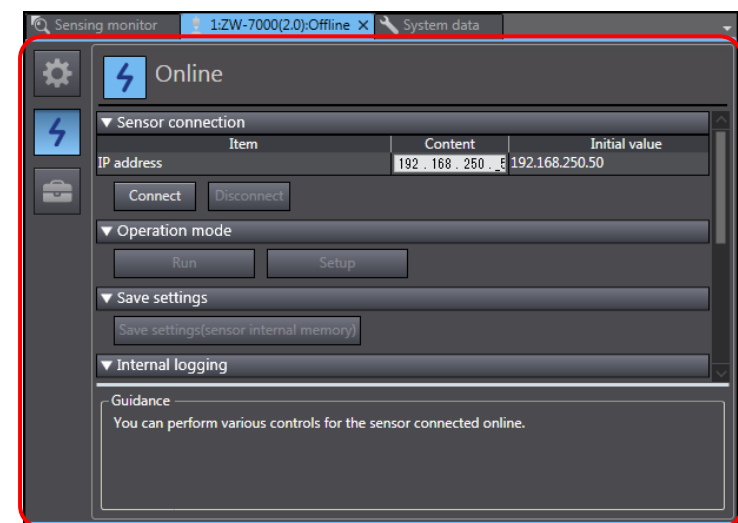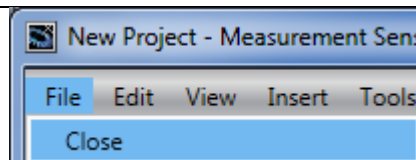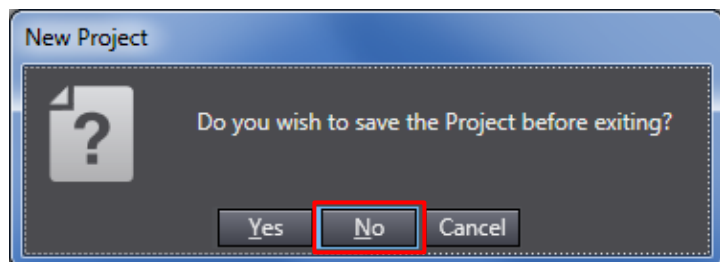
7.3. Controller Setup

Set up Controller.

7.3.1. IP Address Settings

Set the IP address of Controller.

1	Connect a LAN cable to the built-in EtherNet/IP port (PORT1) on Controller, and connect a USB cable to the peripheral (USB) port. As shown in *5.2. Device Configuration*, connect Personal computer and Switching hub to Controller.	
2	The Project Properties Dialog Box is displayed in Sysmac Studio. Select **Controller** from the pull-down list of Category in the Select Device Area. *In this document, New Project is used as the project name.	
3	Select the device to use from the pull-down list of Device. *NJ501-1500 is selected as an example of device in this document. Select an applicable version from the pull-down list of Version. *Although 1.10 is selected as an example in this document, select the version you actually use.	
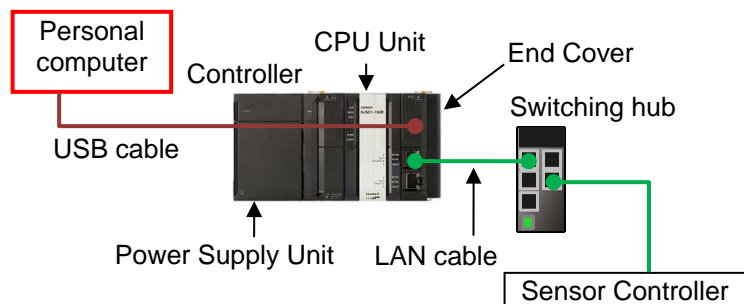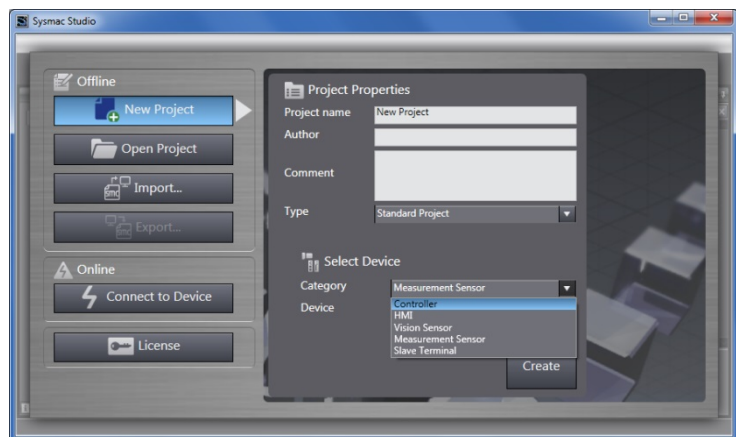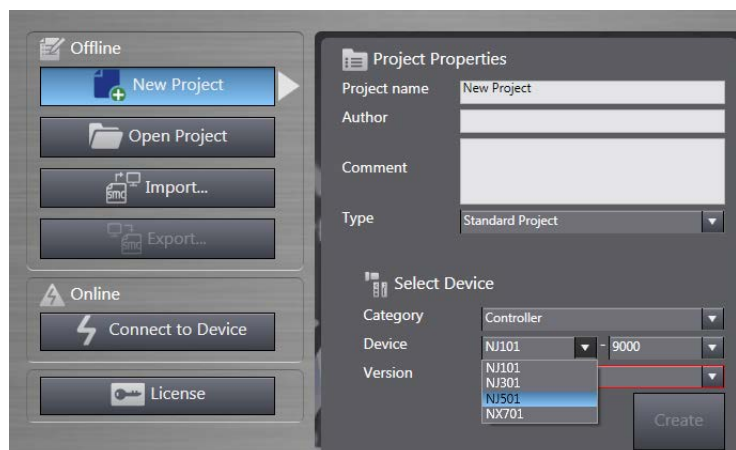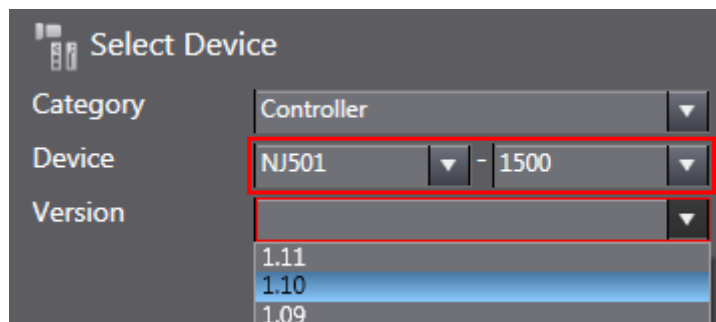
4	Click **Create**.	
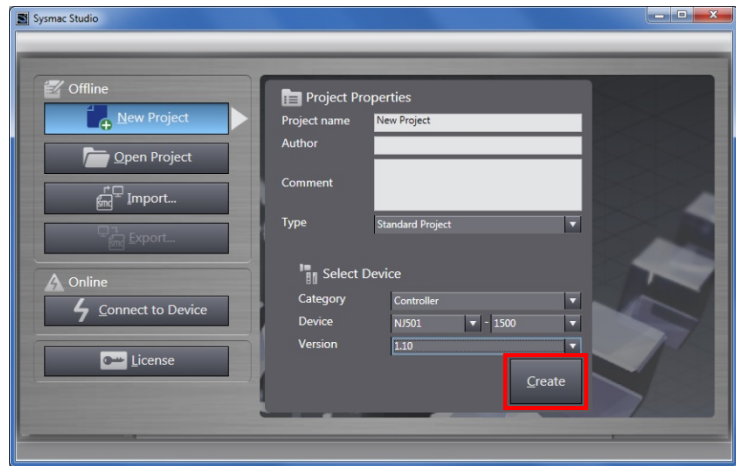
5	The New Project is displayed. The following panes are displayed in this window. Left: Multiview Explorer Top right: Toolbox Bottom right: Controller Status Pane Middle top: Edit Pane The following tabs are displayed in the bottom middle of this window. Output Tab Page Build Tab Page	
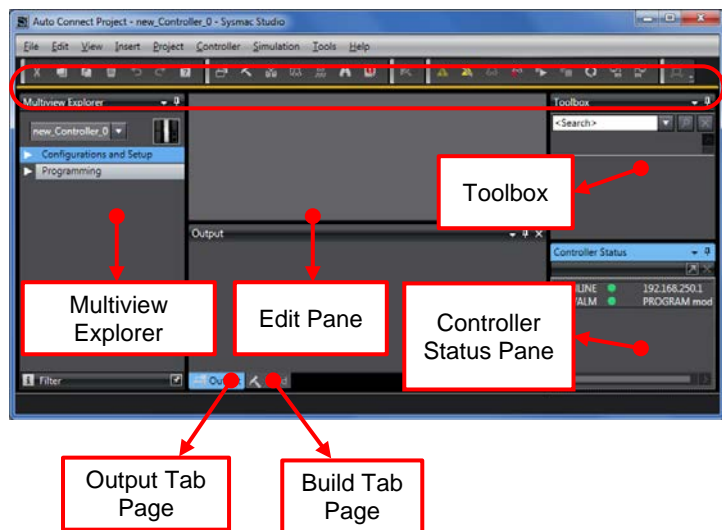
6	Double-click **Built-in EtherNet/IP Port Settings** under **Configurations and Setup** - **Controller Setup** in the Multiview Explorer.	
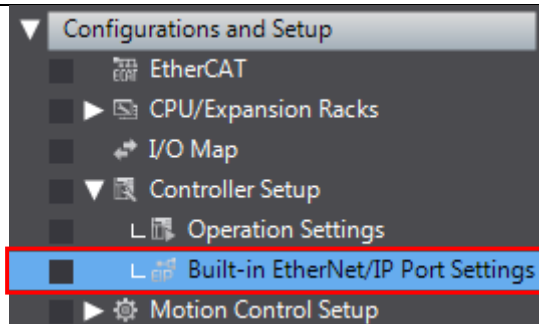
7	The Built-in EtherNet/IP Port Settings Tab Page is displayed in the Edit Pane.
	Check that the following settings are made in the *IP Address* Field.
	  IP address: 192.168.250.1
	  Subnet mask: 255.255.255.0	
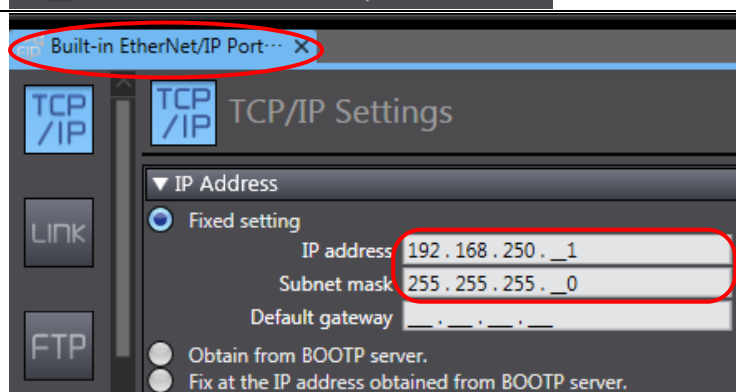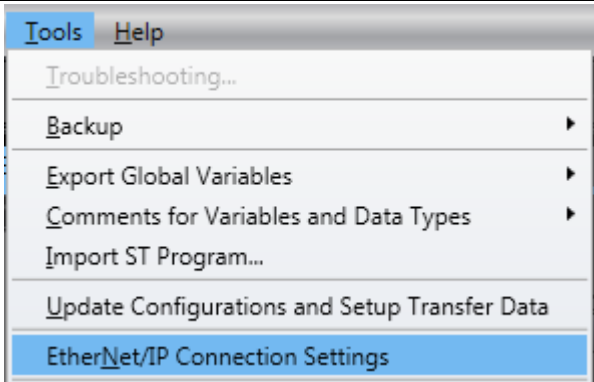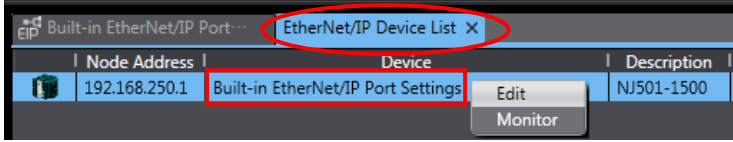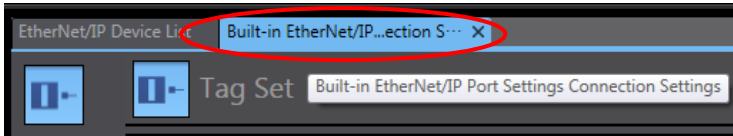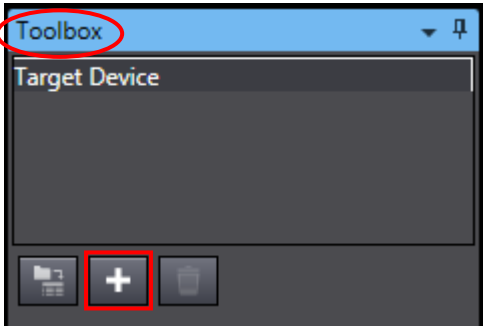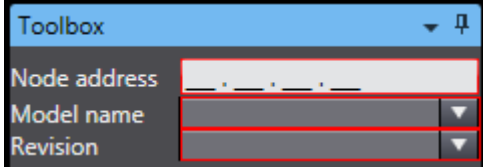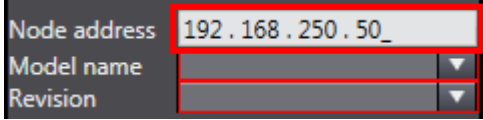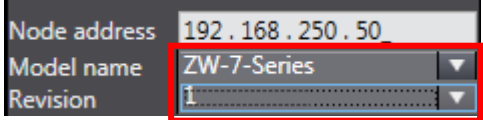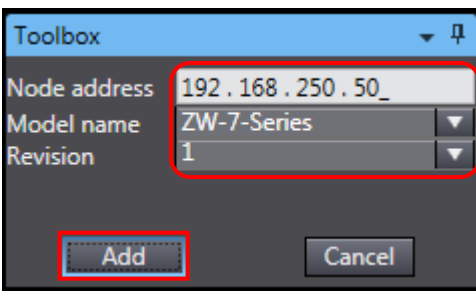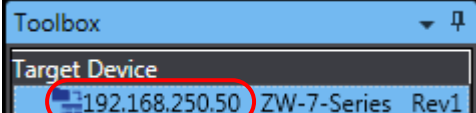
7.3.2. Target Device Registration

Register the target device.
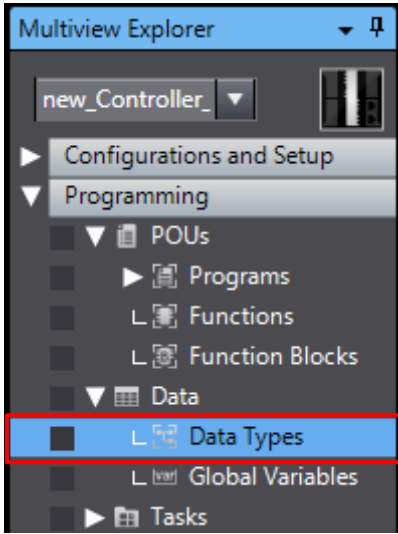
1	Select *EtherNet/IP Connection Settings* from the Tools Menu.	
2	The EtherNet/IP Device List Tab Page is displayed in the Edit Pane. Right-click and select *Edit* from the menu while Built-in EtherNet/IP Port Settings is selected.	
3	The Built-in EtherNet/IP Port Settings Connection Settings Tab Page is displayed in the Edit Pane.	
4	Click the **+** Button in the Toolbox.	

5	Data fields of the target device registration are displayed.
	
	Enter *192.168.250.50* in the *Node address* Field.
	
	Select the following values from the pull-down lists of Model name and Revision.
	  Model name: *ZW-7-Series*
	  Revision: *1*	
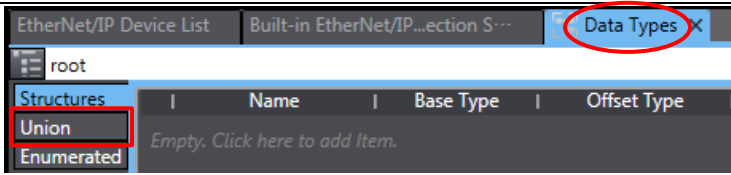
6	Check the settings and click **Add**.	Toolbox ▾ ⊉ Node address 192 . 168 . 250 . 50_ Model name ZW-7-Series ▼ Revision 1 ▼ Add Cancel
7	192.168.250.50 is registered in Target Device of the Toolbox.	Toolbox ▾ ⊉ Target Device 192.168.250.50 ZW-7-Series Rev1

7.3.3. Setting the Global Variables
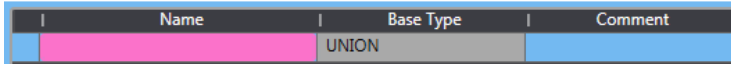
Set the global variables to use for tag data links.

1	Double-click **Data Types** under **Programming** - **Data** in the Multiview Explorer.	
2	Click the **Union** Side Tab. Click on a space in the *Name* Column to enter a new data type. Enter *U_EIPFlag* in the *Name* Column.	
3	After entering, right-click and select ***Create New Member*** from the menu.	
4	Enter the following data in the newly added row. ・Name: *F* 　Data type: *BOOL[32]* *After entering, the base type changes to ARRAY[0..31] OF BOOL as shown on the right.	
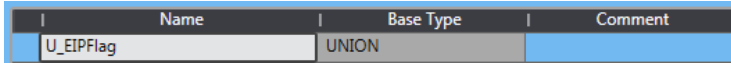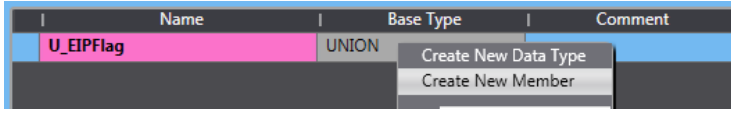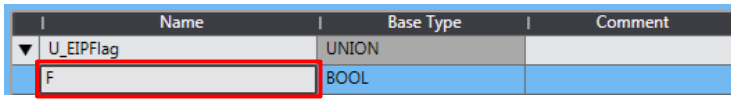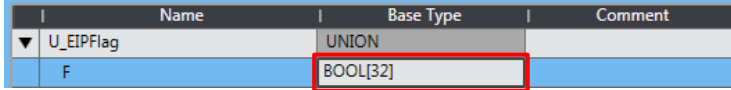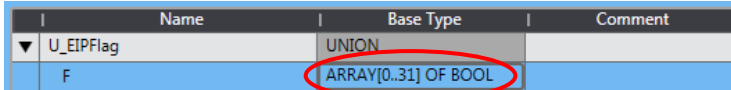
5	In the same way as steps 3 and 4, enter the following data in the newly added row. ・Name: *W* 　Data type: *DWORD*	
6	Click the **Structures** Side Tab. Click on a space in the *Name* Column to enter a new data type. Enter *S_EIPOutput* in the *Name* Column.	
7	After entering, right-click and select ***Create New Member*** from the menu.	
8	Enter *SensorHeadControlFlag1* in the *Name* Column. Enter *U_EIPFlag* in the *Base Type* Column.	
9	In the same way as steps 7 and 8, enter the following data in the newly added rows. ・Name: *SensorHeadControlFlag2* 　Base type: *U_EIPFlag* ・Name: *SensorHeadControlReserve* 　Base type: *U_EIPFlag* ・Name: *CommandCode* 　Base type: *DWORD* ・Name: *CommandParam1* 　Base type: *UINT* ・Name: *CommandParam2* 　Base type: *UINT* ・Name: *CommandParam3* 　Base type: *DINT* *Enter each member of the data type in order from the top of the list described in *6.2. Data Types to Use for Tag Data Links*.	

10	After entering, right-click and select **Create New Data Type** from the menu.	
	Enter *S_EIPInput* in the *Name* Column.	

| 11 | In the same way as steps 7 and 8, enter the following data in the newly added rows.
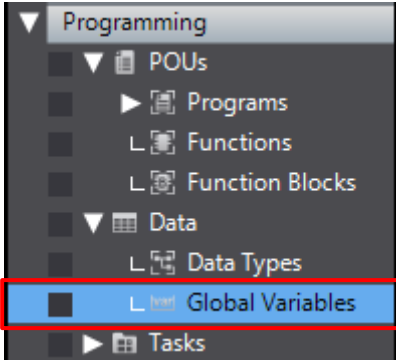
・Name: *SensorHeadStatusFlag1* Base type: *U_EIPFlag*
・Name: *SensorHeadStatusFlag2* Base type: *U_EIPFlag*
・Name: *SensorHeadStatusReserve* Base type: *U_EIPFlag*
・Name: *CommandCodeEcho* Base type: *DWORD*
・Name: *ResponseCode* Base type: *DINT*
・Name: *ResponseData* Base type: *DINT*
・Name: *OutputData* Base type: *DINT[8]*
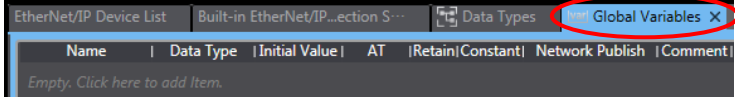
*After entering, the base type changes to ARRAY[0..7] OF DINT.
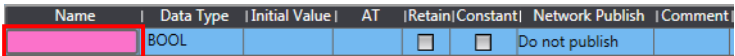
*Enter each member of the data type in order from the top of the list described in *6.2. Data Types to Use for Tag Data Links*. | |

32

12	Double-click **Global Variables** under **Programming** - **Data** in the Multiview Explorer.	
13	The Global Variables Tab Page is displayed in the Edit Pane. Click on a space in the *Name* Column to enter a new variable. Enter *EIPOutput* in the *Name* Column. Enter *S_EIPOutput* in the *Data Type* Column. Select **Output** from the pull-down list of Network Publish.	
14	After entering, right-click and select **Create New** from the menu.	
15	In the same way as step 13, enter the following data in the newly added row. ・Name: *EIPInput* 　Data type: *S_EIPInput* 　Network Publish: **Input**	
16	Double-click **Task Settings** under **Configurations and Setup** in the Multiview Explorer. The Task Settings Tab Page is displayed in the Edit Pane. Click **VAR**.	
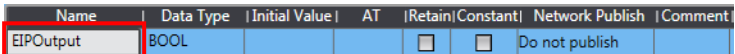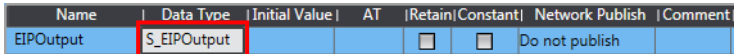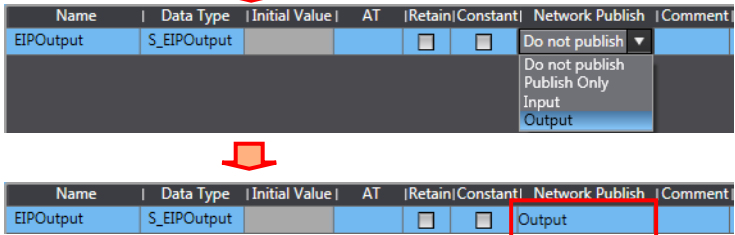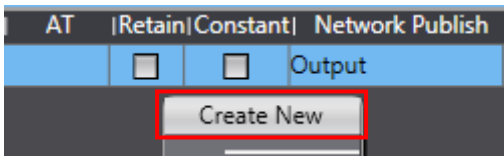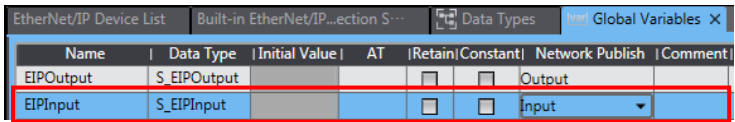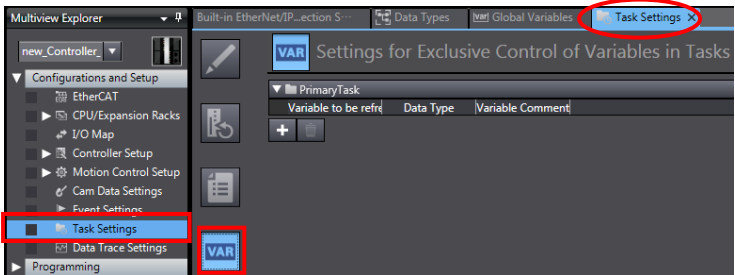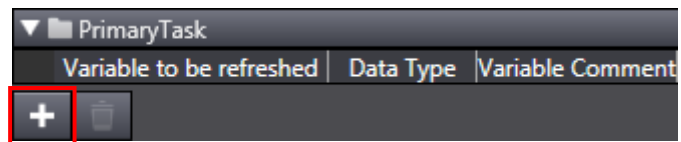
17	Click the **+** Button.	
	A row for new entry is added. Click the **Down Arrow** Button of the entry cell in the *Variable to be refreshed* Column (the left side of the figure).	
	The variables set in the previous steps are displayed. Select *EIPOutput*.	
	EIPOutput is added. *Since the data types are displayed automatically, you do not need to set them.	
18	In the same way as step 17, add all the variables set in the previous steps to the *Variable to be refreshed* Column (the left side of the figure). *Since the data types are displayed automatically, you do not need to set them.	
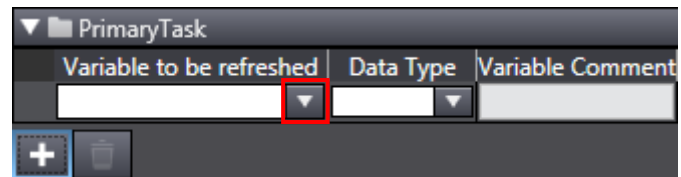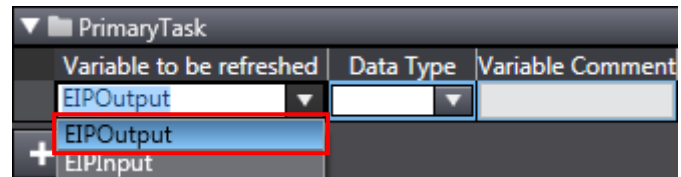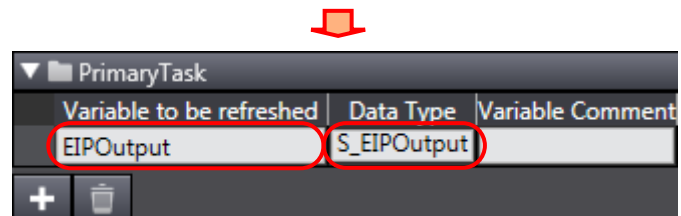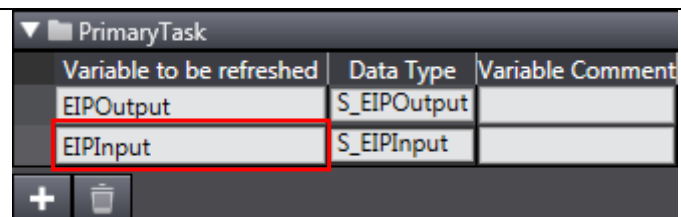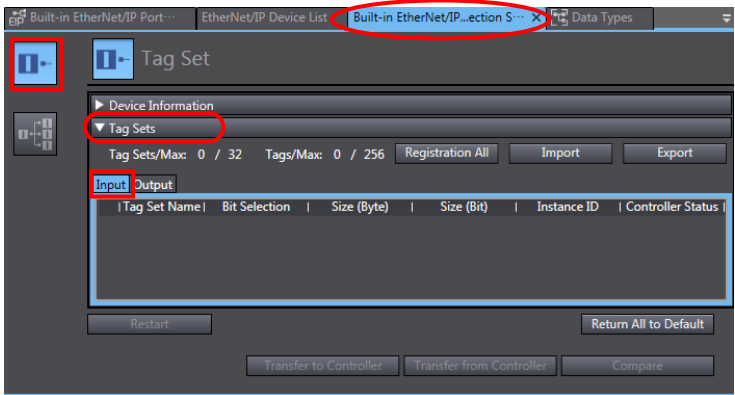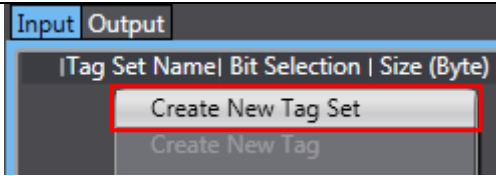
7.3.4. Tag Registration
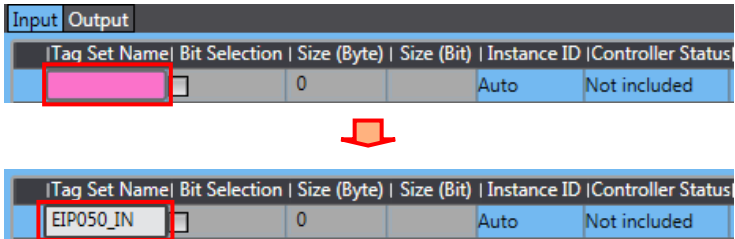
Register the tags and the tag sets.

1	Click the **Tag Set** Button on the Built-in EtherNet/IP Port Settings Connection Settings Tab Page. Select the **Input** Tab in Tag Sets.	
2	Right-click any open space on the Input Tab Page and select *Create New Tag Set* from the menu.	
3	A new tag name can be entered. Select the newly added entry cell. Enter *EIP050_IN*.	
4	Right-click and select *Create New Tag* from the menu while EIP050_IN is selected. A new tag name can be entered under EIP050_IN. Select the newly added entry cell. Set the global variable of IN No.1 as a tag, which is listed in *6.4. Tag Sets*. *When the first character of the set variable name is typed, an appropriate name beginning with the character appears as shown on the right.	
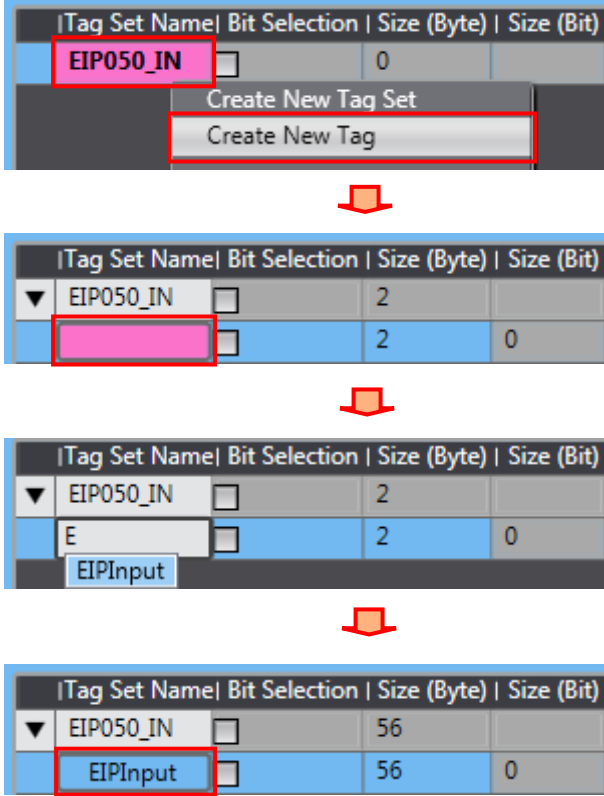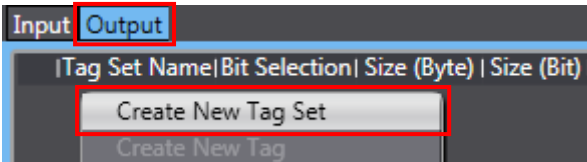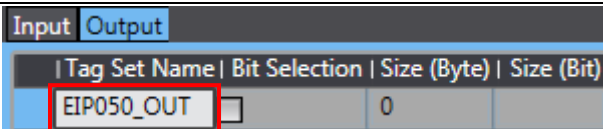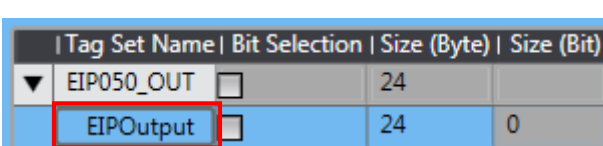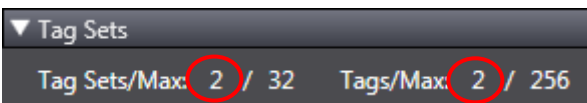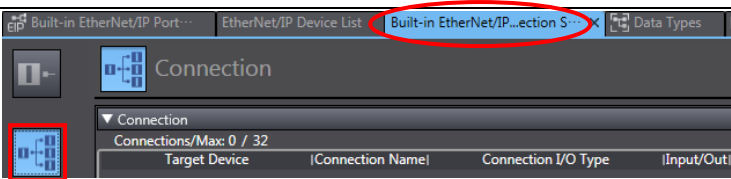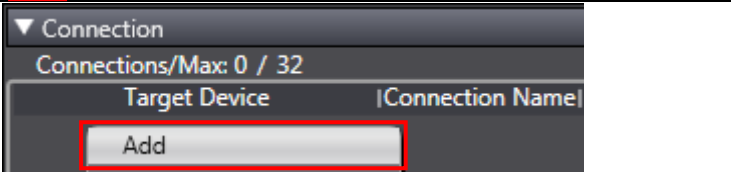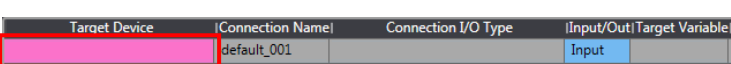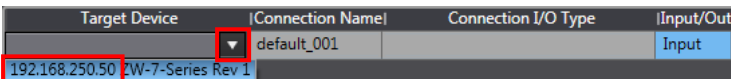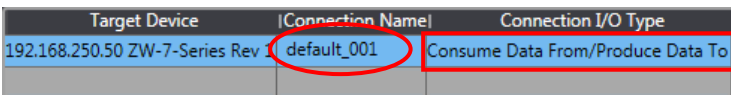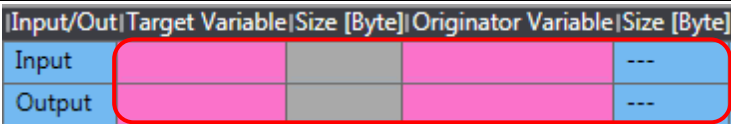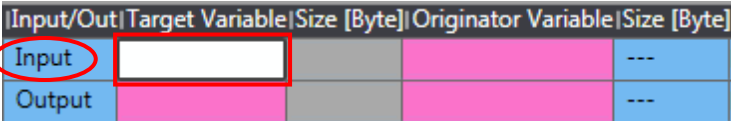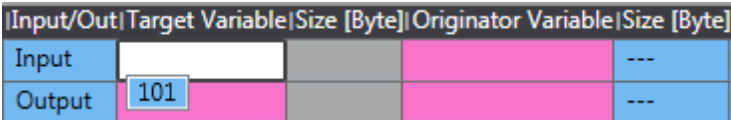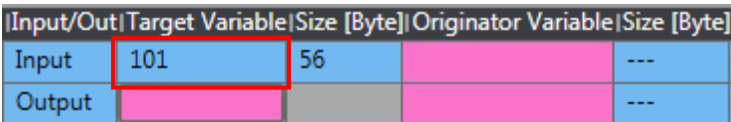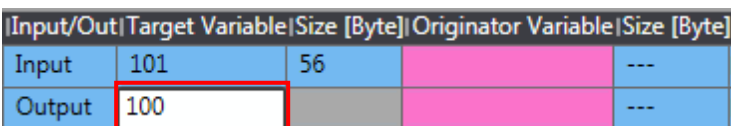
5	Select **Output** Tab. Right-click any open space on the Output Tab Page and select *Create New Tag Set* from the menu.	
6	A new name can be entered in the *Tag Set Name* Column. In the same way as step 3, enter *EIP050_OUT*.	
7	In the same way as step 4, set the global variable of OUT No. 1 as a tag, which is listed in *6.4. Tag Sets*.	
8	Check that Tag Sets shows 2 and that the number of Tags shows the same as the number of the global variables you set.	

7.3.5. Setting the Connections

Set the target variables (that receive the open request) and the originator variables (that request for opening), and then set the connections (tag data link table).

1	Click the **Connection** Button on the Built-in EtherNet/IP Port Settings Connection Settings Tab Page.	
2	Right-click any open space in Connection and select *Add* from the menu.	
3	A new connection can be entered. Select the newly added entry cell. Select *192.168.250.50* from the pull-down list of Target Device.	
4	The default_001 connection is created. Check that Consume Data From/Produce Data To is selected in the *Connection I/O Type* Column.	
5	The target variable and the originator variable can be set.	
6	Click the entry cell for Input in the *Target Variable* Column. When you press **Ctrl** + **Space** on the keyboard, an appropriate instance number appears. *The instance number also appears even when the first character of the instance number "1" is entered. Select the instance number. Likewise, set the target variable for Output.	

7	Click the entry cell for Input in the *Originator Variable* Column. The pull-down list is displayed. Select the tag set name to use. Likewise, set the originator variable for Output.	

Input/Out	Target Variable	Size [Byte]	Originator Variable	Size [Byte]
Input	101	56	▼	---
Output	100	24	EIP050_IN	---

Input/Out	Target Variable	Size [Byte]	Originator Variable	Size [Byte]
Input	101	56	EIP050_IN	56
Output	100	24	EIP050_OUT	24

8	Set the connection type, RPI [ms], and timeout value as required. *In this document, the default values are used for these settings.

Originator Variable	Size [Byte]	Connection Type	RPI [ms]	Timeout Value
EIP050_IN	56	Multi-cast connection	50.0	RPI x 4
EIP050_OUT	24	Point to Point connection		

9	Check that Connections shows 2.

▼ Connection
Connections/Max: 2 / 32
Target Device | Connection Name |
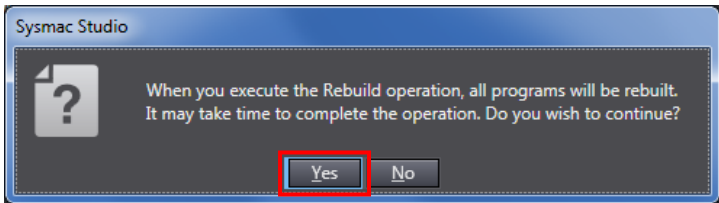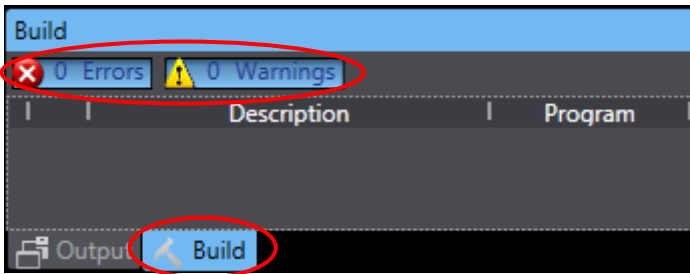
7.3.6. Transferring the Project Data
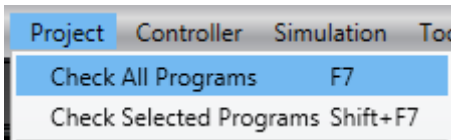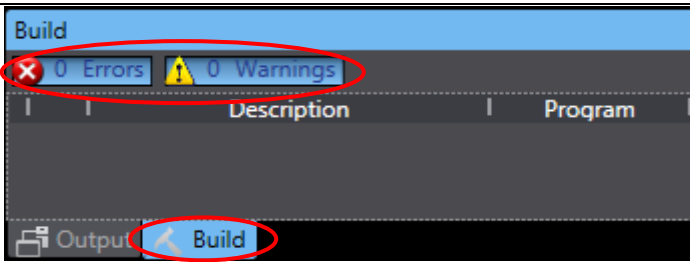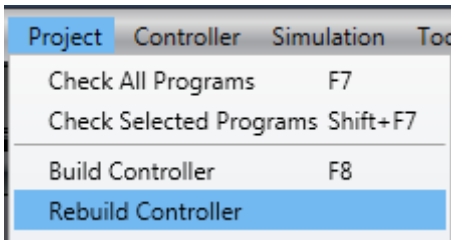
Connect online and transfer the connection settings and the project data to Controller.
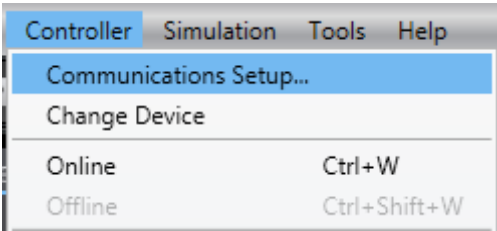
> ⚠ **WARNING**
>
> When you transfer a user program, configuration data, setup data, device variables, or values in memory used for CJ-series Units from Sysmac Studio, the devices or machines may perform unexpected operation regardless of the operating mode of CPU Unit.
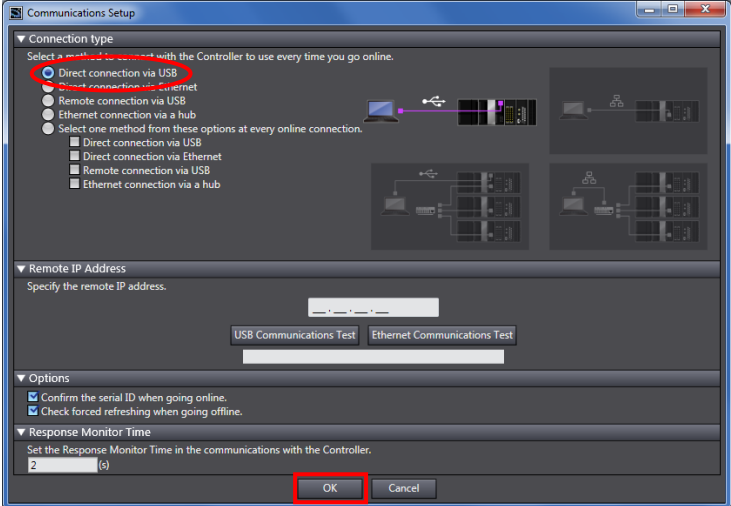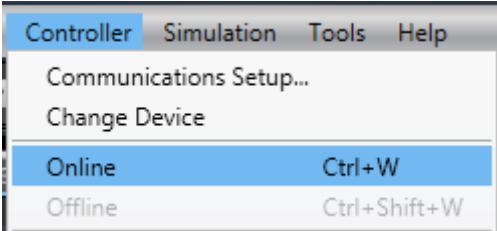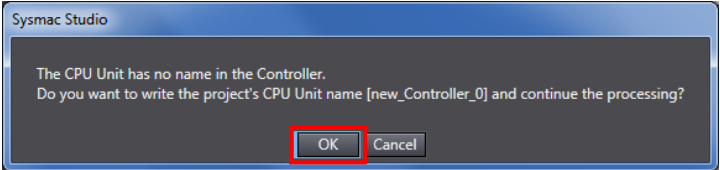> Always confirm safety at the destination node before you transfer the project data.

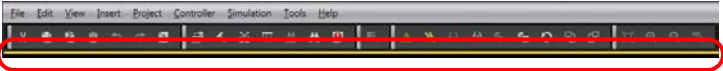|	
1	Turn ON Controller, Switching hub, and Sensor Controller.
2	Select ***Check All Programs*** from the Project Menu.
3	The Build Tab Page is displayed. Check that "0 Errors" and "0 Warnings" are displayed.
4	Select ***Rebuild Controller*** from the Project Menu.
5	A confirmation dialog box is displayed. Check the contents and click **Yes**.
6	Check that "0 Errors" and "0 Warnings" are displayed on the Build Tab Page.

|		
7	Select *Communications Setup* from the Controller Menu.	Controller Simulation Tools Help Communications Setup... Change Device Online Ctrl+W Offline Ctrl+Shift+W
8	The Communications Setup Dialog Box is displayed. Check that the *Direct connection via USB* Option is selected in Connection type. Click **OK**.	
9	Select *Online* from the Controller Menu. A confirmation dialog box is displayed. Check the contents and click OK. *The displayed dialog depends on the status of Controller. Check the contents and click on an appropriate button to proceed with the processing.	Controller Simulation Tools Help Communications Setup... Change Device Online Ctrl+W Offline Ctrl+Shift+W Sysmac Studio The CPU Unit has no name in the Controller. Do you want to write the project's CPU Unit name [new_Controller_0] and continue the processing? OK Cancel
10	When an online connection is established, a yellow bar is displayed under the toolbar.	

📖 **Additional Information**

For details on the online connections to Controller, refer to *Section 6. Online Connections to a Controller* of the *Sysmac Studio Version 1 Operation Manual* (Cat. No. W504).

40

**11** Select *Synchronize* from the Controller Menu.
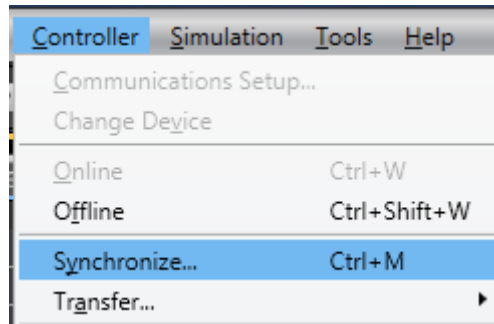
12 The Synchronization Dialog Box is displayed.
Check that the data to transfer (NJ501 in the right dialog box) is selected.
Uncheck *Do not transfer the EtherNet/IP connection settings (i.e., tag data link settings)*.
Click **Transfer To Controller**.

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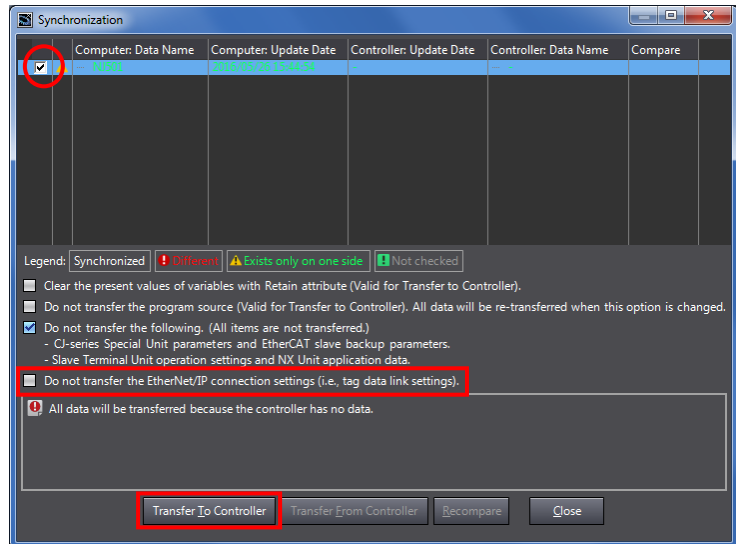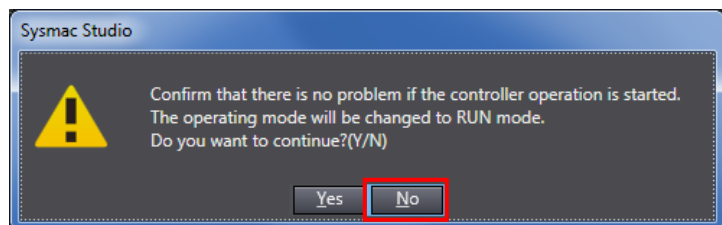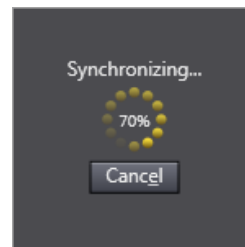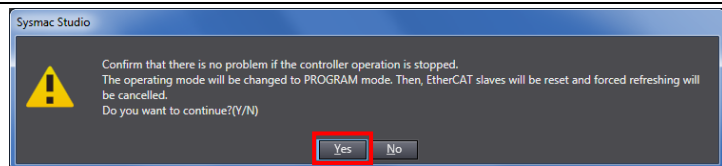

13 A confirmation dialog box is displayed.
Confirm that there is no problem, and click **Yes**.

A screen stating "Synchronizing" is displayed.

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

*Do not return to RUN mode.

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

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

*If the synchronization fails, check the wiring and repeat from step 1.
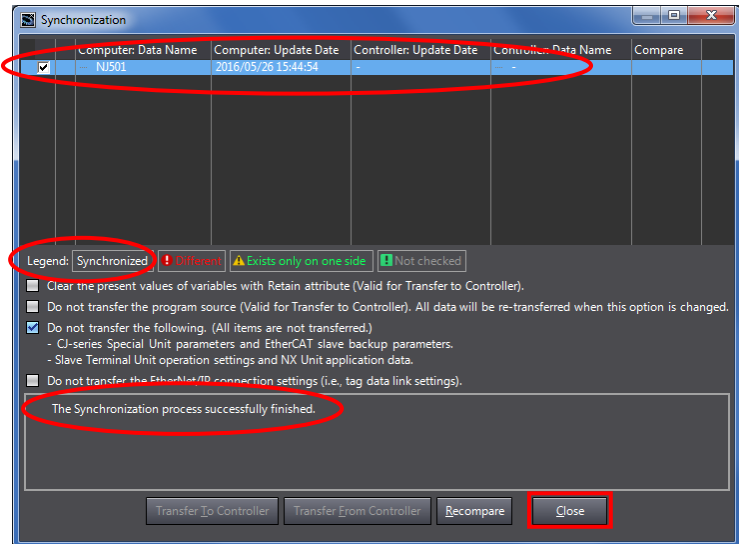
15 Check that ERR/ALM indicator in the Controller Status Pane changes to green color and that PROGRAM mode is displayed.
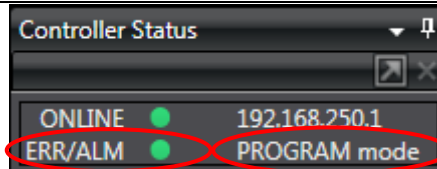
📝 **Precautions for Correct Use**

If you change the connection settings (tag data link table) after performing the synchronization, the changed connection settings (tag data link table) are not transferred even when performing the synchronization again.

When you transfer the changed connection settings, click **Transfer to Controller** on the Built-in EtherNet/IP Port Settings Connection Settings Tab Page.
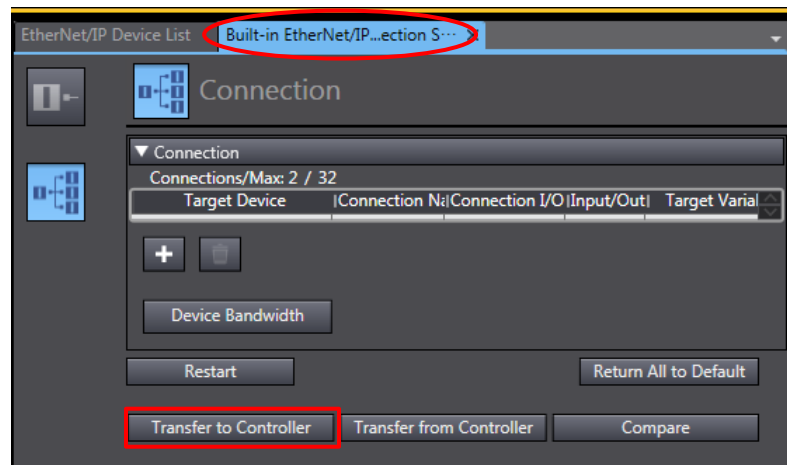
7.4. EtherNet/IP Communication Status Check

Confirm that the EtherNet/IP tag data links operate normally.

7.4.1. Checking the Connection Status

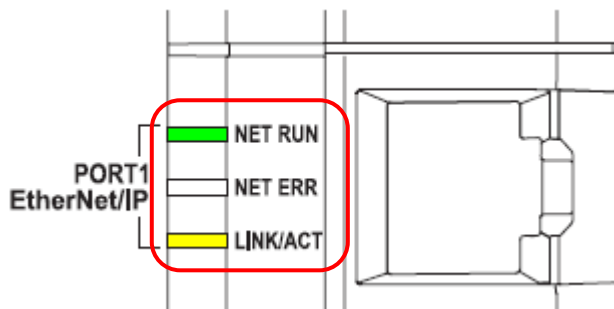Check the connection status of the EtherNet/IP network.

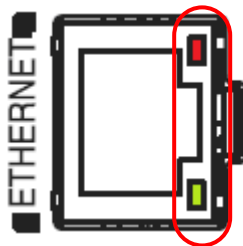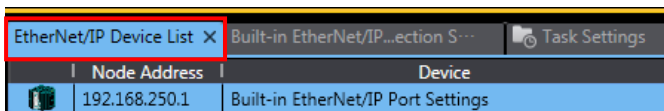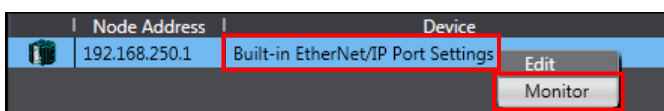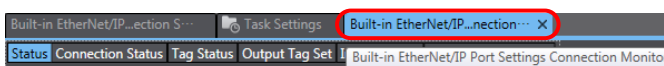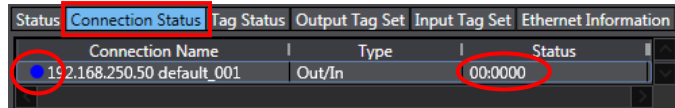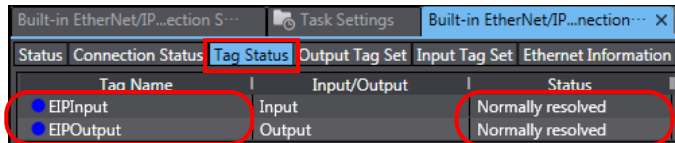| 1	Check with LED indicators on Controller that the tag data links operate normally. The LED indicators in normal status are as follows: 　NET RUN: Green lit 　NET ERR: Not lit 　LINK/ACT: Yellow flashing 　(Flashing while packets are being 　　sent and received.)	
2	Check the LED indicators on Sensor Controller. The LED indicators in normal status are as follows: 　Red LED: Lighting 　Green LED: Lighting	
3	Select the **EtherNet/IP Device List** Tab.	
4	Right-click and select *Monitor* from the menu while Built-in EtherNet/IP Port Settings is selected.	
5	The Built-in EtherNet/IP Port Settings Connection Monitor Tab Page is displayed.	
6	Select the **Status** Tab. When the same check boxes are selected as shown on the right, the tag data links are normally in operation.	
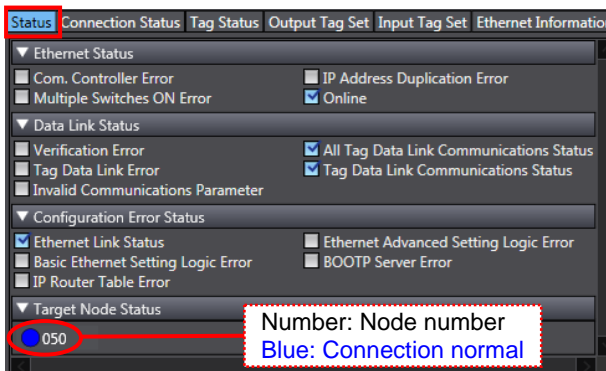
7	Select the **Connection Status** Tab. Check that a blue circle is displayed next to the applicable connection listed in the *Connection Name* Column. Check that the Status is 00:0000.
8	Select the **Tag Status** Tab. Check that all the tags in the *Tag Name* Column are displayed and that blue circles are displayed next to them. Check that the status of all tags is normally resolved.

7.4.2. Checking the Sent and Received Data

Check that the correct data are sent and received.

In this document, the system data acquisition command and the number of digits displayed past decimal point for command parameters are set to global variables in the output area where Controller is output to Sensor Controller, and response data (the number of digits displayed past decimal point) from Sensor Controller are checked, which are stored in global variables in the input area.
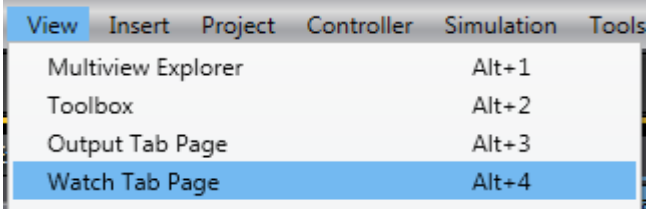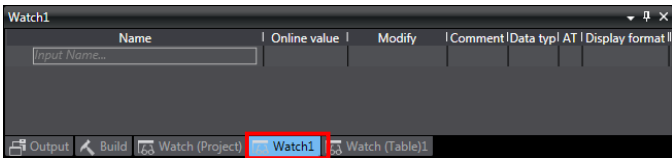

⚠ **Caution**

If you change the variable values on a Watch Tab Page when Sysmac Studio is online with CPU Unit, the devices connected to the output unit may operate regardless of the operating mode of CPU Unit.

Always ensure safety before you change the variable values on a Watch Tab Page when Sysmac Studio is online with CPU Unit
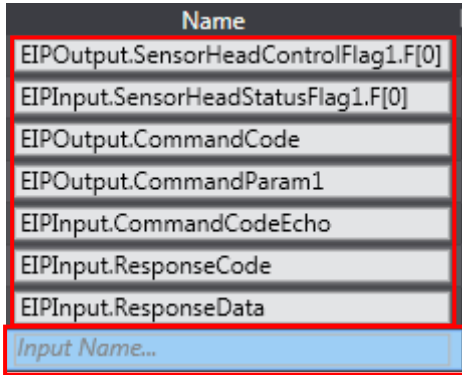
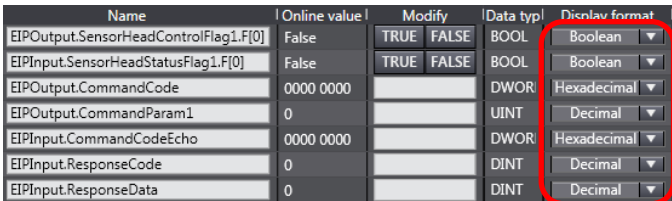|		
1	Select *Watch Tab Page* from the View Menu.	
2	Select the **Watch1** Tab.	
3	Enter the following variable names for monitoring. To enter a new name, click *Input Name*. *EIPOutput.SensorHeadControlFlag1.F[0]* *EIPInput.SensorHeadStatusFlag1.F[0]* *EIPOutput.CommandCode* *EIPOutput.CommandParam1* *EIPInput.CommandCodeEcho* *EIPInput.ResponseCode* *EIPInput.ResponseData*	
4	Check that the display formats of the variables you set in step 3 are as follows: *EIPOutput.SensorHeadControlFlag1.F[0]*: Boolean *EIPInput.SensorHeadStatusFlag1.F[0]*: Boolean *EIPOutput.CommandCode*: Hexadecimal *EIPOutput.CommandParam1*: Decimal *EIPInput.CommandCodeEcho*: Hexadecimal *EIPInput.ResponseCode*: Decimal *EIPInput.ResponseData*: Decimal	

5 Enter *0040 4000* for *EIPOutput.CommandCode* in the *Modify* Column.

Name	Online value	Modify
EIPOutput.SensorHeadControlFlag1.F[0]	False	TRUE FALSE
EIPInput.SensorHeadStatusFlag1.F[0]	False	TRUE FALSE
EIPOutput.CommandCode	0000 0000	0040 4000
EIPOutput.CommandParam1	0	

0040 4000 is displayed for *EIPOutput.CommandCode* in the *Online value* Column.

*The command code 0040 4000 (system data acquisition) is set.

Name	Online value	Modify
EIPOutput.SensorHeadControlFlag1.F[0]	False	TRUE FALSE
EIPInput.SensorHeadStatusFlag1.F[0]	False	TRUE FALSE
EIPOutput.CommandCode	0040 4000	0040 4000
EIPOutput.CommandParam1	0	

6 In the same way as step 5, set *900* for *EIPOutput.Command Param1* in the *Online value* Column.

*The system data number 900 (Number of digits displayed past decimal point) is set.

Name	Online value	Modify
EIPOutput.SensorHeadControlFlag1.F[0]	False	TRUE FALSE
EIPInput.SensorHeadStatusFlag1.F[0]	False	TRUE FALSE
EIPOutput.CommandCode	0040 4000	0040 4000
EIPOutput.CommandParam1	900	900

7 Check that the online value of *EIPInput.SensorHeadStatusFlag1.F[0]* is False. Click **TRUE** for *EIPOutput.SensorHeadControlFlag1.F[0]* in the *Modify* Column.

Name	Online value	Modify
EIPOutput.SensorHeadControlFlag1.F[0]	False	TRUE FALSE
EIPInput.SensorHeadStatusFlag1.F[0]	False	TRUE FALSE
EIPOutput.CommandCode	0040 4000	0040 4000
EIPOutput.CommandParam1	900	900

True is displayed for *EIPOutput.SensorHeadControlFlag1.F[0]* in the *Online value* Column, and the command is executed. When the command execution is complete, True is displayed for *EIPInput.SensorHeadStatusFlag1.F[0]* in the *Online value* Column.

Name	Online value	Modify
EIPOutput.SensorHeadControlFlag1.F[0]	True	TRUE FALSE
EIPInput.SensorHeadStatusFlag1.F[0]	True	TRUE FALSE
EIPOutput.CommandCode	0040 4000	0040 4000
EIPOutput.CommandParam1	900	900

8 When the process ends normally, the online values of the response variables are shown below.
    EIPInput.CommandCodeEcho: 0040 4000 (Execution command code)
    EIPInput.ResponseCode: 0 (Command execution result (0: OK, -1(FFFFFFFF): NG) is reflected.)
    EIPInput.ResponseData: 1 (The number of digits displayed past decimal point is 1. (Default))

Name	Online value	Modify
EIPOutput.SensorHeadControlFlag1.F[0]	True	TRUE FALSE
EIPInput.SensorHeadStatusFlag1.F[0]	True	TRUE FALSE
EIPOutput.CommandCode	0040 4000	0040 4000
EIPOutput.CommandParam1	900	900
EIPInput.CommandCodeEcho	0040 4000	
EIPInput.ResponseCode	0	
EIPInput.ResponseData	1	

Additional Information

For details on commands, refer to *4-1 EtherNet/IP Connection* of the *Displacement Sensor ZW-7000 series Confocal Fiber Type Displacement Sensor User's Manual for Communications Settings* (Cat. No. Z363).

Additional Information

For details on system data, refer to *8-2 System data list* of the *Displacement Sensor ZW-7000 series Confocal Fiber Type Displacement Sensor User's Manual for Communications Settings* (Cat. No. Z363).

8. Initialization method

The setting procedures in this document are based on the factory default settings.
Some settings may not be applicable unless you use the devices with the factory default settings.

8.1. Initializing Controller

To initialize the Controller settings, it is necessary to initialize CPU Unit.
Change the operating mode of Controller to PROGRAM mode and select **Clear All Memory** from the Controller Menu in Sysmac Studio. The Clear All Memory Dialog Box is displayed. Check the contents and click **OK**.
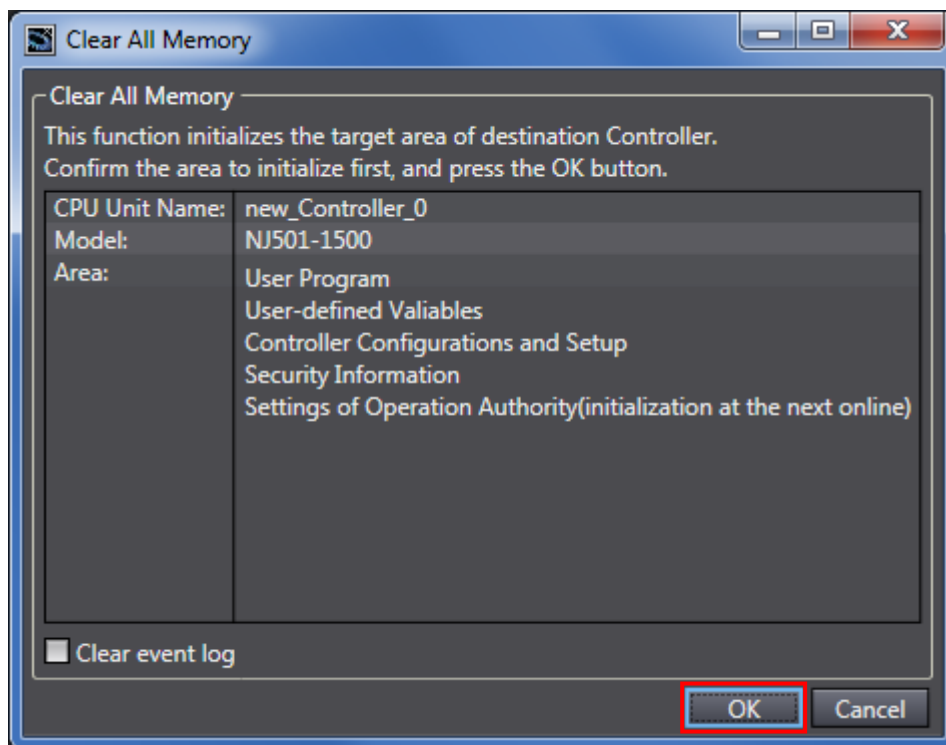
8.2. Initializing Sensor Controller

For information on how to initialize Sensor Controller, refer to *Initializing Settings* in *4-6 Setting Measurement Mode* of the *Sensor* in *4.Settings for Function* of *the Displacement Sensor ZW-7000 series Confocal Fiber Type Displacement Sensor User's Manual* (Cat. No. Z362).

9. Appendix: Procedure Using the Project File

This section describes the procedure in which you use the following project file.

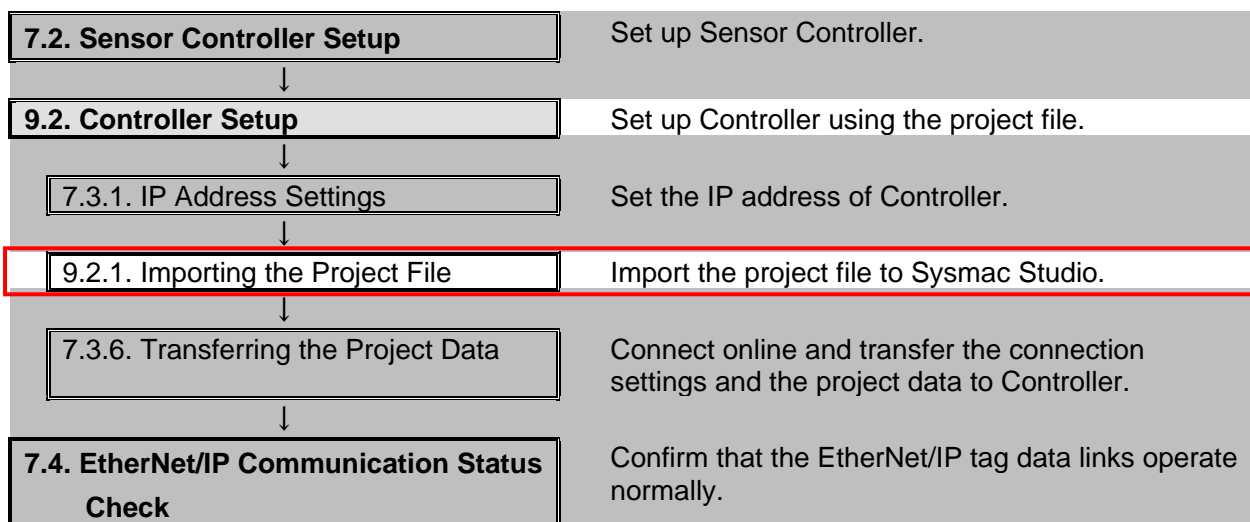The project file includes the setting contents described in *7.3. Controller Setup.*

Obtain the project file with a latest version from OMRON Corporation.

Name	File name	Version
Sysmac Studio project file (extension: csm2)	P653_NJ_EIP_OMRON_ZW-7000_EV 100.csm2	Ver.1.00

9.1. Work Flow

Take the following steps to make the EtherNet/IP tag data link settings using the project file.

Refer back to each of the following procedures for details except for *9.2.1. Importing the Project File* marked with a red square.
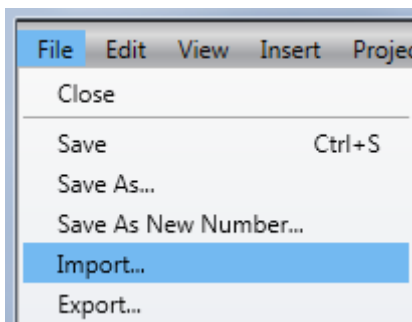
7.2. Sensor Controller Setup	Set up Sensor Controller.
↓	
9.2. Controller Setup	Set up Controller using the project file.
↓	
7.3.1. IP Address Settings	Set the IP address of Controller.
↓	
9.2.1. Importing the Project File	Import the project file to Sysmac Studio.
↓	
7.3.6. Transferring the Project Data	Connect online and transfer the connection settings and the project data to Controller.
↓	
7.4. EtherNet/IP Communication Status Check	Confirm that the EtherNet/IP tag data links operate normally.

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9.2. Controller Setup

Set up Controller using the project file.

9.2.1. Importing the Project File

Import the project file to Sysmac Studio.

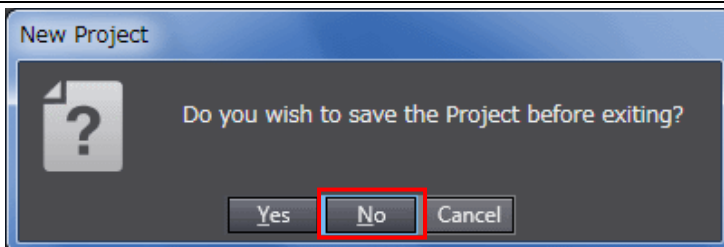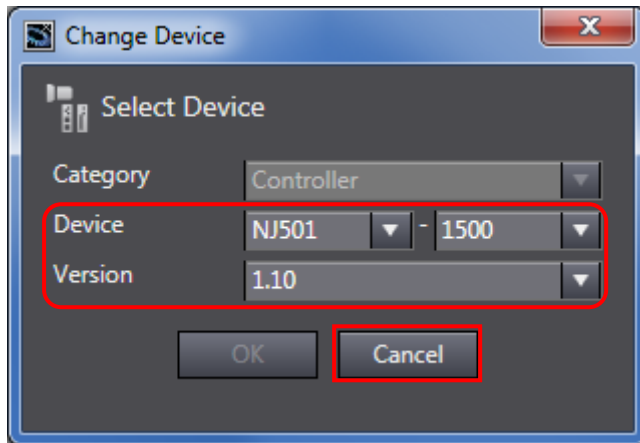|		
1	Select *Import* from the File Menu.	
2	The Import file Dialog Box is displayed, Select *P653_NJ_EIP_OMRON_ZW-7000_EV100.csm2* (project file) and click **Open**. *Obtain the project file from OMRON.	
3	The dialog box on the right is displayed. Check the contents and click **No**.	
4	The P653_NJ_EIP_OMRON_ ZW-7000_EV100 project is displayed. *If an error message is displayed stating "Failed to Load Descendants", change the version of Sysmac Studio to the version specified in *5.2. Device Configuration* or to a higher version.	
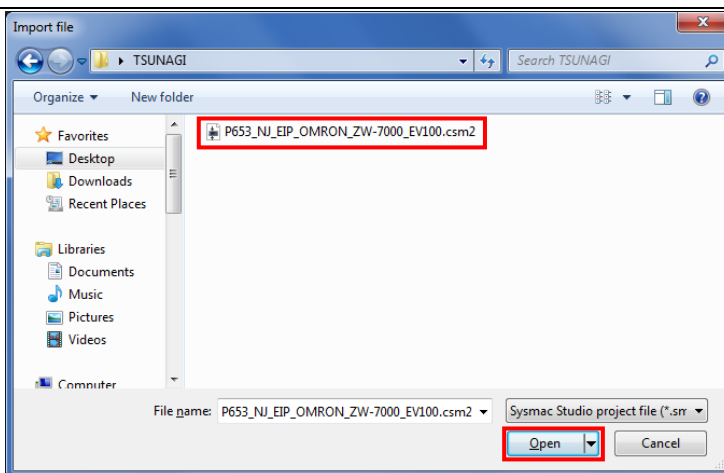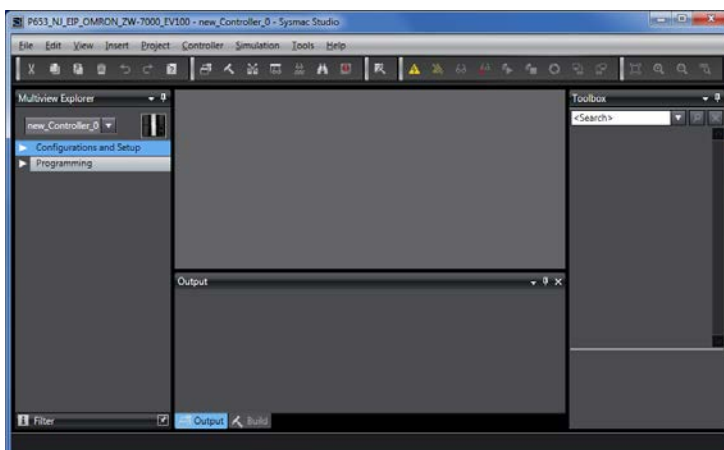
| 5	Select *Change Device* from the Controller Menu.	
6	The Change Device Dialog Box is displayed. Check that the *Device* and the *Version* Fields are set as shown on the right. Click **Cancel**. *If the settings are different, select the setting items from the pull-down list, and click **OK**.	
7	If you changed the settings in step 6, the Build Dialog Box is displayed. Check the contents and click **Yes**.	
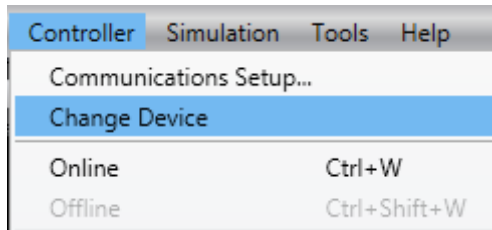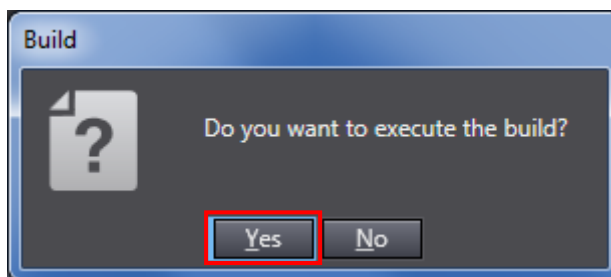
10. Revision History

Revision code	Date of revision	Description of revision
01	June 24, 2016	First edition

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