Hitachi Industrial Equipment Systems Co., Ltd.

H Series Ethernet Driver

PREFACE

This manual describes how to connect the Display and the External Device (target PLC).

In this manual, the connection procedure is described in the sections identified below:

1	System Configuration This section lists the types of External Devices and SIO that you can connect.	☞ "1 System Configuration" (page 3)
2	External Device Selection Select a model (series) of the External Device and its connection method.	☞ "2 External Device Selection" (page 7)
3	Communication Settings This section shows setting examples for communicating between the Display and the External Device.	☞ "3 Communication Settings" (page 8)
4	Setup Items This section describes communication setup items on the Display. Set the Display's communication settings in GP Pro-EX or in offline mode.	☞ "4 Setup Items" (page 52)

Operation

1 System Configuration

The following table lists system configurations for connecting Hitachi Industrial Equipment Systems Co., Ltd. External Devices and the Display.

Series Name	CPU	Link I/F	SIO Type	Setting Example
H	H-4010(CPU3-40H) H-2002(CPU2-20H) H-1002(CPU2-10H) H-702(CPU2-07H) H-302(CPU2-03H)	LAN_ETH2 LAN_ETH	Ethernet (TCP)	Setting Example 1 (page 8)
			Ethernet (UDP)	Setting Example 2 (page 10)
EH-150	EH-150(EH-CPU548) EH-150(EH-CPU516) EH-150(EH-CPU448A) EH-150(EH-CPU448) EH-150(EH-CPU316A) EH-150(EH-CPU308A)	EH-ETH*1	Ethernet (TCP)	Setting Example 3 (page 12)
			Ethernet (UDP)	Setting Example 4 (page 14)
		Connector for ethernet on EH-ETH2	Ethernet (TCP)	Setting Example 13 (page 32)
			Ethernet (UDP)	Setting Example 14 (page 34)
Web Controller	EH-WD10DR EH-WA23DR	Ethernet port on CPU	Ethernet (TCP)	Setting Example 5 (page 16)
			Ethernet (UDP)	Setting Example 6 (page 18)
EHV	EHV-CPU128 EHV-CPU64 EHV-CPU32 EHV-CPU16	Ethernet port on CPU	Ethernet (TCP)	Setting Example 7 (page 20)
			Ethernet (UDP)	Setting Example 8 (page 22)
		EH-ETH*1	Ethernet (TCP)	Setting Example 9 (page 24)
			Ethernet (UDP)	Setting Example 10 (page 26)
		Connector for ethernet on EH-ETH2	Ethernet (TCP)	Setting Example 15 (page 36)
			Ethernet (UDP)	Setting Example 16 (page 38)

Series Name	CPU	Link I/F	SIO Type	Setting Example
EHV	EHV-CPU128 EHV-CPU64 EHV-CPU32 EHV-CPU16	Ethernet communication port on EH-ORML *2 *3	Ethernet (TCP)	Setting Example 11 (page 28)
			Ethernet (UDP)	Setting Example 12 (page 30)
		Ethernet communication port on EH-R2LH *2 *4	Ethernet (TCP)	Setting Example 17 (page 40)
			Ethernet (UDP)	Setting Example 18 (page 42)
MICRO-EH	EH-□20□□□ EH-□40□□□ EH-□64□□□	Communication port on EH-OBETH *5	Ethernet (TCP)	Setting Example 19 (page 44)
			Ethernet (UDP)	Setting Example 20 (page 47)
MICRO-EHV	MVH-A64□□ MVH-D64□□ MVH-A40□□ MVH-D40□□	Ethernet port on basic unit	Ethernet (TCP)	Setting Example 21 (page 50)

*1 When connecting with Display, EH-ETH with SOFTWARE VER.06 or later is required. (Check the label of EH-ETH main body for the version.)

*2 The following CPU ROM versions are required to use the remote communications module.

CPU	Supported versions
EHV-CPU128	ROM Ver.0117 or later
EHV-CPU64	ROM Ver.1117 or later
EHV-CPU32	ROM Ver.2117 or later
EHV-CPU16	ROM Ver.3117 or later

*3 EH-ORMM is required to use EH-ORML.

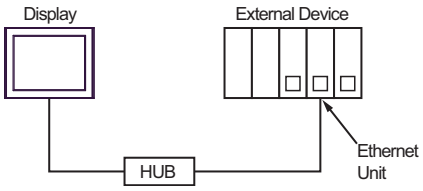
*4 EH-RMAH is required to use EH-R2LH.

*5 The following CPU ROM versions are required to use EH-OBETH.

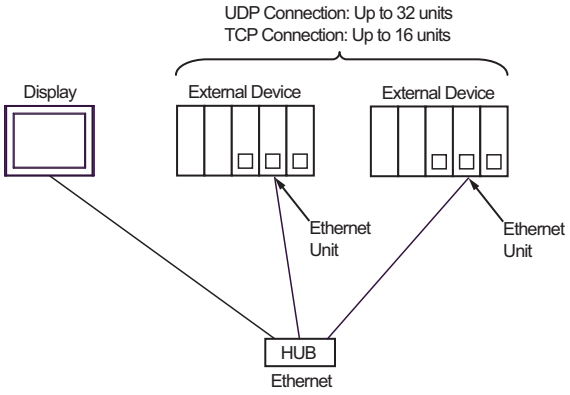
CPU	Supported versions
EH-□20□□□	MFG No. 05Gxx or later
EH-□40□□□	MFG No. 05Gxx or later
EH-□64□□□	MFG No. 05Gxx or later

■ Connection Configuration

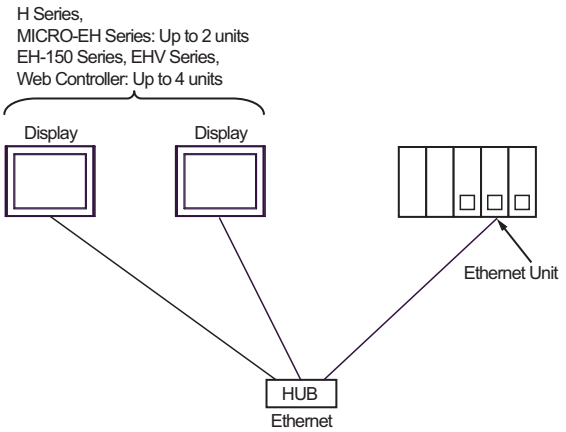
[1:1 Connection]



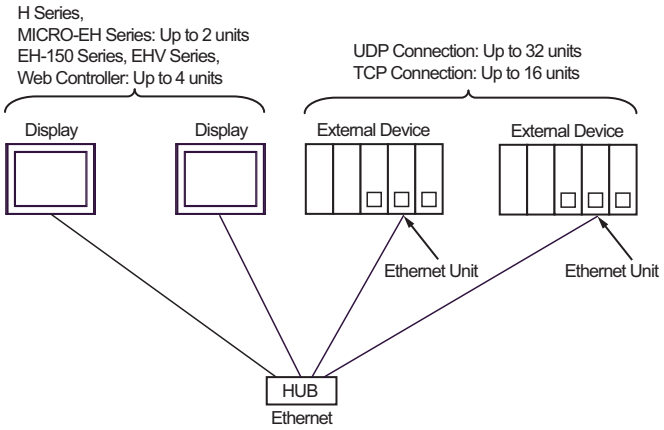
[1:n Connection]



[n:1Connection]

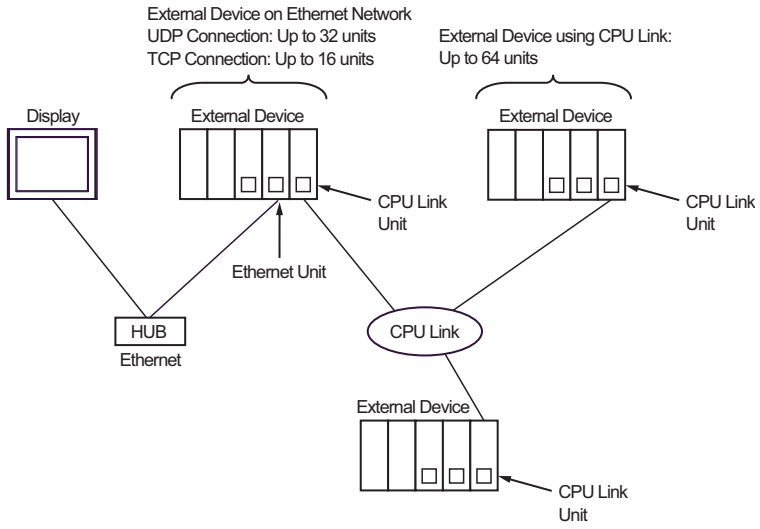


[n:m Connection]

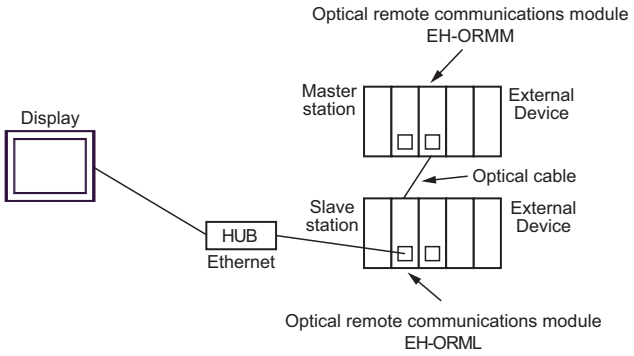


[Multiple CPU link]

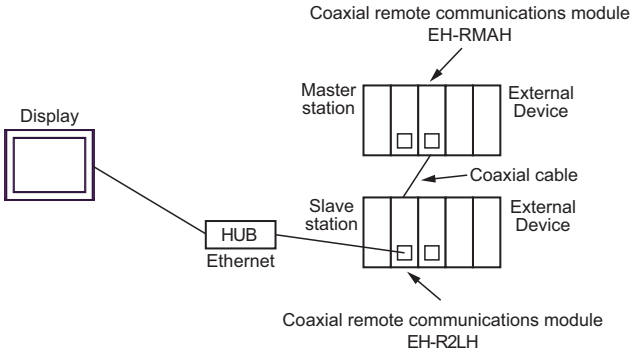
Web Controller does not support this configuration.



[When using the optical remote communications module]



[When using the coaxial remote communications module]

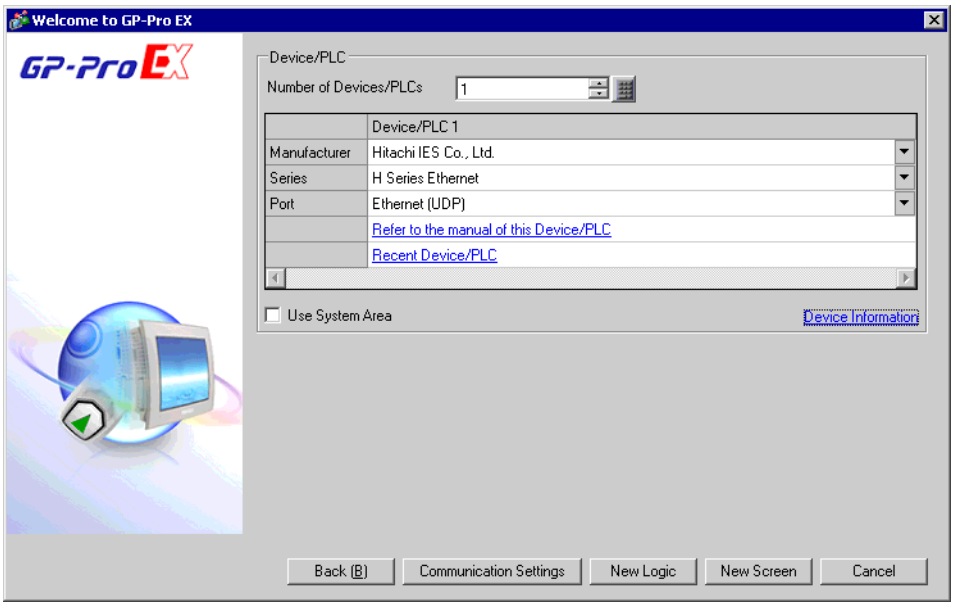


NOTE

- For slave stations at the end of the cable, TxD-T and RxD-T on coaxial remote communications modules must be terminated.

2 External Device Selection

Select the External Device to be connected to the Display.



Setup Items	Setup Description
Number of Devices/ PLCs	Enter an integer from 1 to 4 to define the number of Devices/PLCs to connect to the display.
Manufacturer	Select the manufacturer of the External Device to connect. Select "Hitachi IES Co., Ltd.".
Series	Select the External Device model (series) and the connection method. Select "H Series Ethernet". In System configuration, make sure the External Device you are connecting is supported by "H Series Ethernet". ☞ "1 System Configuration" (page 3)
Port	Select the Display port to connect to the External Device.
Use System Area	Check this option to synchronize the system data area of the Display and the device (memory) of the External Device. When synchronized, you can use the External Device's ladder program to switch the display or display the window on the Display. Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)" This feature can also be set in GP-Pro EX or in the Display's offline mode. Cf. GP-Pro EX Reference Manual "System Settings [Display Unit] - [System Area] Settings Guide" Cf. Maintenance/Troubleshooting Guide "Main Unit - System Area Settings"

3 Communication Settings

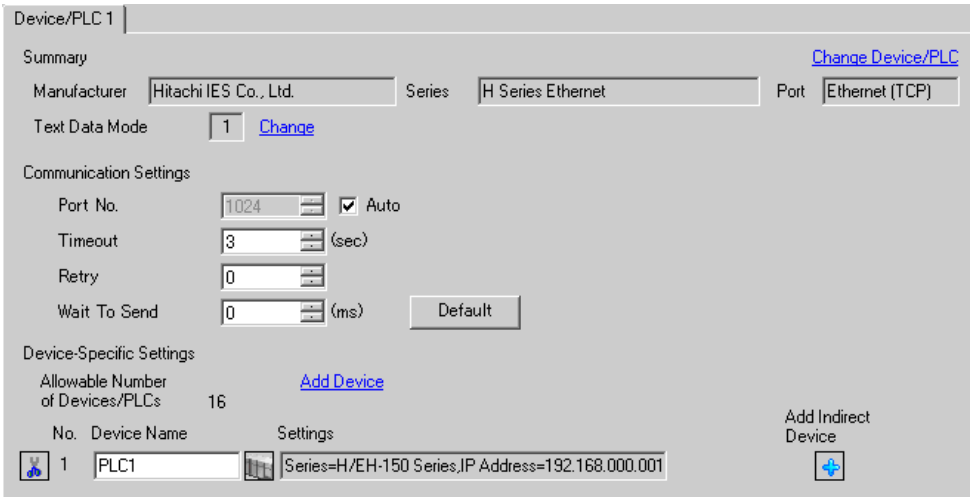
Examples of communication settings of the Display and the External Device, recommended by Digital Electronics Corp., are shown.

3.1 Setting Example 1

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [H/EH-150 Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ Settings of External Device (LAN-ETH, LAN-ETH2)

Use the ladder software (Ladder Editor for Windows) to enter the value for appointed I/O No. for communication setting.

Please refer to the manual of the ladder software for more details.

1. Assign the Ethernet unit in the CPU unit.
   Perform the environmental setting to allow the CPU unit to communicate with the ladder software.
2. Use [I/O assign] in the ladder software to assign the Ethernet unit to I/O.
3. Use [CPU Write] in the ladder software to write the I/O assignment setting in the External Device.
   That completes the environmental setting of the External Device.
4. Next, perform the communication settings of the External Device.
   Set the DIP Switch of the Ethernet unit as shown below.
   The setting below enables to set the IP address of the Ethernet unit.

DIP Switch	Settings	Requirements
1	OFF	Mode Selection (Always OFF)
2	ON*1	10BASE-T(ON)/10BASE-5(OFF) Switch
3	OFF	Reservation (Always OFF)
4	OFF	IP address rewrite setting (OFF: Rewritable)
5	OFF	Selection by function type You can set IP address at the status on the left.
6	ON	
7	ON	
8	OFF	

*1 For LAN-ETH2, always set OFF (10BASE-T only).

5. Enter IP address or port No. for appointed I/O No. in the I/O monitor of the ladder software.
   I/O No. to be entered varies depending on the slot position to which the Ethernet unit is assigned.
   Please refer to the manual of the External Device for more details.
6. Write the communication setting in the Ethernet unit.
   Display the address "R0" in I/O monitor of the ladder software and enter 1 for the setting value in the [Force Set/Reset] dialog box.
7. Turn OFF the power of the External Device. After turning OFF DIP Switches 5 to 8 in the Ethernet unit, turn ON the power of the External Device.

◆ Notes

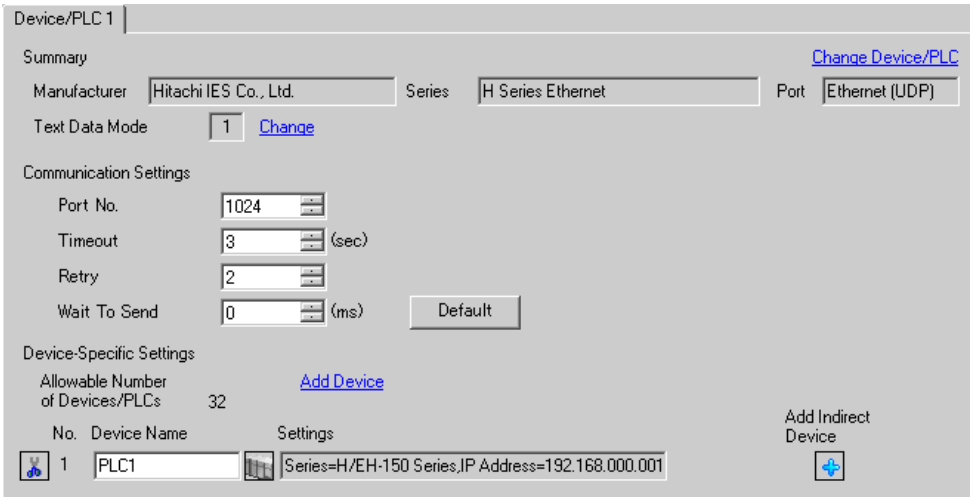
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.2 Setting Example 2

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [H/EH-150 Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ Settings of External Device (LAN-ETH, LAN-ETH2)

Use the ladder software (Ladder Editor for Windows) to enter the value for appointed I/O No. for communication setting.

Please refer to the manual of the ladder software for more details.

1. Assign the Ethernet unit in the CPU unit.
   Perform the environmental setting to allow the CPU unit to communicate with the ladder software.
2. Use the [I/O assign] of the ladder software to assign the Ethernet unit to I/O.
3. Use [CPU Write] in the ladder software to write the I/O assignment setting in the External Device.
   That completes the environmental setting of the External Device.
4. Next, perform the communication settings of the External Device.
   Set the DIP Switch of the Ethernet unit as shown below.
   The setting below enables to set the IP address of the Ethernet unit.

DIP Switch	Settings	Requirements
1	OFF	Mode Selection (Always OFF)
2	ON*1	10BASE-T(ON)/10BASE-5(OFF) Switch
3	OFF	Reservation (Always OFF)
4	OFF	IP address rewrite setting (OFF: Rewritable)
5	OFF	Selection by function type You can set IP address at the status on the left.
6	ON	
7	ON	
8	OFF	

*1 For LAN-ETH2, always set OFF (10BASE-T only).

5. Enter IP address or port No. for appointed I/O No. in the I/O monitor of the ladder software.
   I/O No. to be entered varies depending on the slot position to which the Ethernet unit is assigned.
   Please refer to the manual of the External Device for more details.
6. Write the communication setting in the Ethernet unit.
   Display the address "R0" in I/O monitor of the ladder software and enter 1 for the setting value in the [Force Set/Reset] dialog box.
7. Turn OFF the power of the External Device. After turning OFF DIP Switches 5 to 8 in the Ethernet unit, turn ON the power of the External Device.

◆ Notes

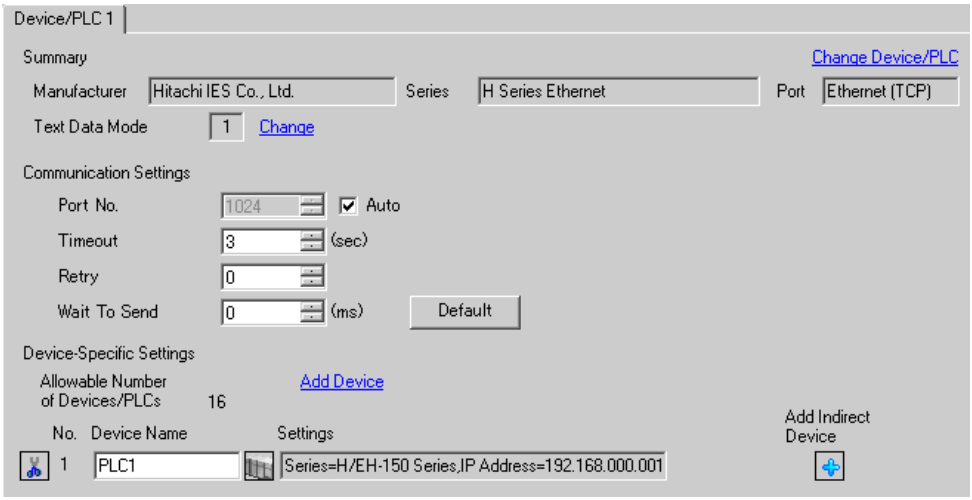
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.3 Setting Example 3

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [H/EH-150 Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ Settings of External Device (EH-ETH)

Use the Web Browser to access the Ethernet unit for communication setting.

Note that the ladder software (Ladder Editor for Windows) is used for setting up the environment of the External Device.

Please refer to the manual of the EH-ETH for more details.

1. Assign the Ethernet unit to CPU unit by using [I/O assign] in the ladder software.
2. Turn ON the DIP Switch 1 and 6 of the Ethernet unit, and turn ON the power. Then, a temporary address (192.168.0.4) for accessing the Ethernet unit will be set.

Bit No.*1								Operation Mode
1	2	3	4	5	6	7	8	
ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	Ethernet Information Setting Mode

*1 Use Bit No.3 to No.8 to set the fourth octet of IP address. The IP address is fixed to 192.168.0. until the third octet.

3. Connect the PC's Ethernet port and the EH-ETH's Ethernet port by LAN cable. (Connect via HUB or connect directly using a cross cable.)
4. Enter "http://192.168.0.4/" in the address input box of the Web Browser to access the Ethernet unit.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
5. Select [IP Address] from the menu frame in the displayed screen and set IP address.
6. Similarly, select [Task Code] from the menu frame and set [Port No.] and [Protocol].
   Also, please set the IP Address, [Port No.] and [Protocol] as the same value as those set on the Display side.
7. Turn OFF the power of the External Device. After turning OFF all DIP Switches, turn ON the power of the External Device.

◆ Notes

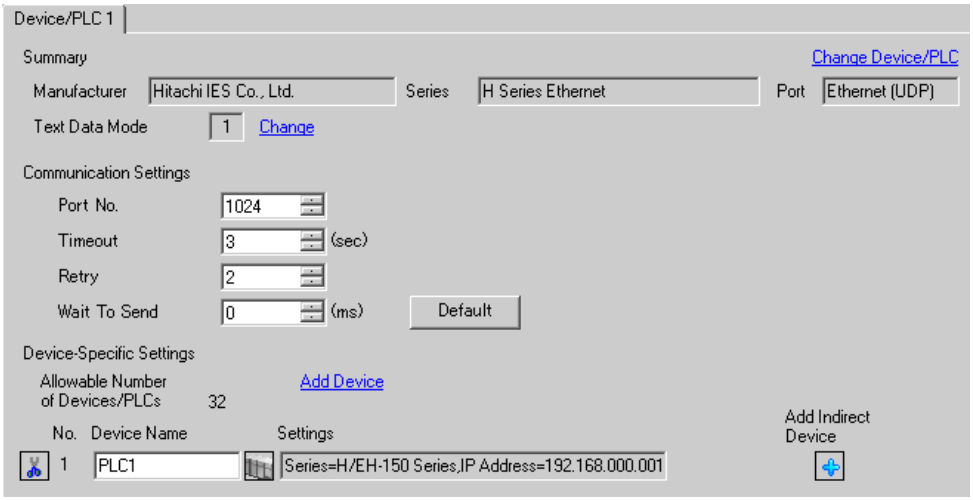
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.4 Setting Example 4

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [H/EH-150 Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ Settings of External Device (EH-ETH)

Use the Web Browser to access the Ethernet unit for communication setting.

Note that the ladder software (Ladder Editor for Windows) is used for setting up the environment of the External Device.

Please refer to the manual of the EH-ETH for more details.

1. Assign the Ethernet unit to CPU unit by using [I/O assign] in the ladder software.
2. Turn ON the DIP Switch 1 and 6 of the Ethernet unit, and turn ON the power. Then, a temporary address (192.168.0.4) for accessing the Ethernet unit will be set.

Bit No.*1								Operation Mode
1	2	3	4	5	6	7	8	
ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	Ethernet Information Setting Mode

*1 Use Bit No.3 to No.8 to set the fourth octet of IP address. The IP address is fixed to 192.168.0. until the third octet.

3. Connect the PC's Ethernet port and the EH-ETH's Ethernet port by LAN cable. (Connect via HUB or connect directly using a cross cable.)
4. Enter "http://192.168.0.4/" in the address input box of the Web Browser to access the Ethernet unit.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
5. Select [IP Address] from the menu frame in the displayed screen and set IP address.
6. Similarly, select [Task Code] from the menu frame and set [Port No.] and [Protocol].
   Also, please set the IP Address, [Port No.] and [Protocol] as the same value as those set on the Display side.
7. Turn OFF the power of the External Device. After turning OFF all DIP Switches, turn ON the power of the External Device.

◆ Notes

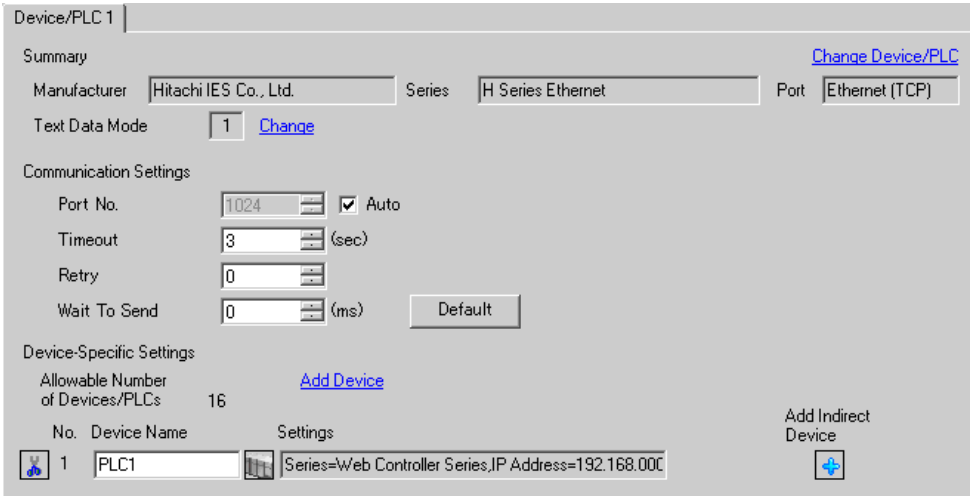
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.5 Setting Example 5

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [Web Controller Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ Settings of External Device (Web Controller)

Use a Web Browser to access the External Device communication settings.

Please refer to the manual of the Web Controller for more details.

1. By setting up the Operation Mode Setting Switch of the External Device as shown below, the temporary IP address of the Ethernet port will be set to "192.168.0.1".
   <Operation Mode Setting Switch>
   EH-WD10DR: Set the Rotary switch to "2".
   EH-WA23DR: Turn ON the DIP Switch 4 only.
2. Connect the PC's Ethernet port and the Web Controller's Ethernet port by LAN cable. (Connect via HUB or connect directly using a cross cable.)
3. Enter "http://192.168.0.1/mwconfig.cgi" in the address input box of the Web Browser to access the External Device.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
4. Login in the displayed System Configuration Login screen.
5. Select [Ethernet Protocol]-[Passive HIProtocol] from [System Configuration] and set [Task Code Port] and [Port No.].
6. Similarly, select [IP Address] from [System Configuration] in the displayed screen and set IP address.
   Also, please set [Task Code Port], [Port No.] and the IP Address as the same value as those set on the Display side.

NOTE

- The Web Controller will be rebooted after IP address settings.
  Enter "http://192.168.0.1/mwconfig.cgi" in the address input box of the Web Browser, and login on the System Configuration Login screen. Then, check the settings.

7. Setup the Operation Mode Setting Switch of the External Device as shown below, and turn the power ON again.
   <Operation Mode Setting Switch>
   EH-WD10DR: Set the Rotary switch to "0".
   EH-WA23DR: Turn OFF the all DIP Switches.

◆ Notes

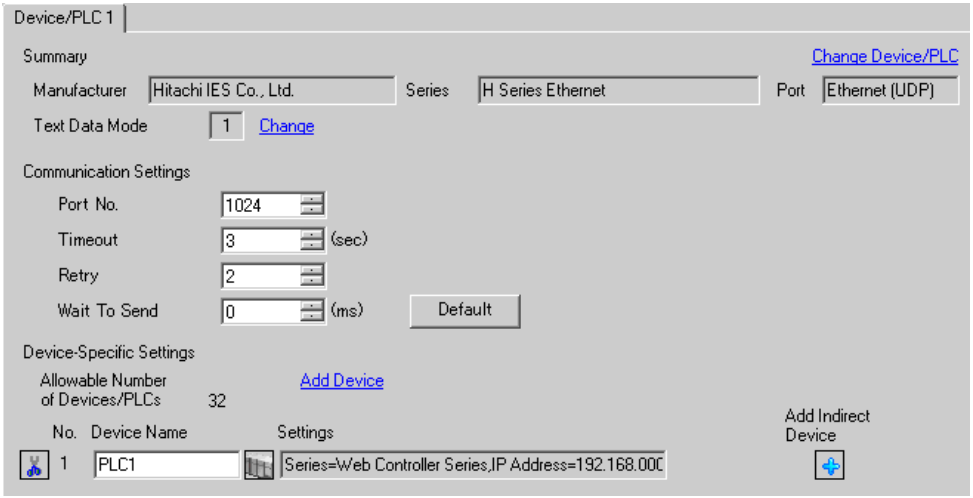
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.6 Setting Example 6

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [Web Controller Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ Settings of External Device (Web Controller)

Use a Web Browser to access the External Device communication settings.

Please refer to the manual of the Web Controller for more details.

1. By setting up the Operation Mode Setting Switch of the External Device as shown below, the temporary IP address of the Ethernet port will be set to "192.168.0.1".
   <Operation Mode Setting Switch>
   EH-WD10DR: Set the Rotary switch to "2".
   EH-WA23DR: Turn ON the DIP Switch 4 only.
2. Connect the PC's Ethernet port and the Web Controller's Ethernet port by LAN cable. (Connect via HUB or connect directly using a cross cable.)
3. Enter "http://192.168.0.1/mwconfig.cgi" in the address input box of the Web Browser to access the External Device.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
4. Login in the displayed System Configuration Login screen.
5. Select [Ethernet Protocol]-[Passive HIProtocol] from [System Configuration] and set [Task Code Port] and [Port No.].
6. Similarly, select [IP Address] from [System Configuration] in the displayed screen and set IP address.
   Also, please set [Task Code Port], [Port No.] and the IP Address as the same value as those set on the Display side.

NOTE

- The Web Controller will be rebooted after IP address settings.
  Enter "http://192.168.0.1/mwconfig.cgi" in the address input box of the Web Browser, and login on the System Configuration Login screen. Then, check the settings.

7. Setup the Operation Mode Setting Switch of the External Device as shown below, and turn the power ON again.
   <Operation Mode Setting Switch>
   EH-WD10DR: Set the Rotary switch to "0".
   EH-WA23DR: Turn OFF the all DIP Switches.

◆ Notes

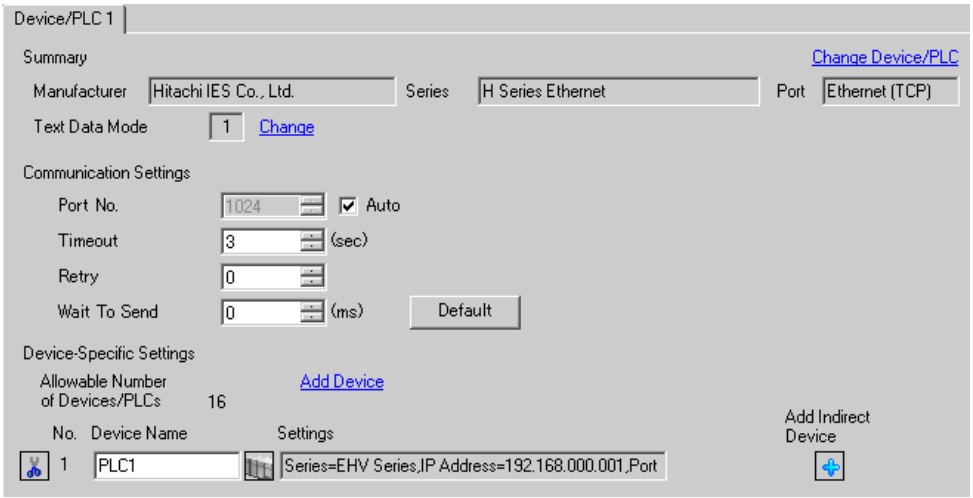
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.7 Setting Example 7

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [EHV Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ Settings of External Device (Ethernet Port on EHV-CPU)

Use the programming software (Control Editor) for communication settings.

Please refer to the manual of the EHV for more details.

1. Start the programming software and create the project. The project appears in the offline mode.
2. Select [Editor Communication Setting] from the [Tool] menu to display the communication setting dialog box.
3. Select the communication method to transfer the External Device between "USB" and "Serial", and then click [Setting].
4. Connect the PC and the External Device by a USB cable or a serial cable (Hitachi IES Co., Ltd.).
5. Select [Mode Change] - [Online] from the [Online] menu to move to the online mode.
6. Select [CPU Setting] - [IP Address Setting] from the [Tool] menu to set IP address.
7. Select [CPU Setting] - [Ethernet Communication (Task Code) Setting] from the [Tool] menu to set [Port No.] and [Protocol].

   Also, please set the IP Address, [Port No.] and [Protocol] as the same value as those set on the Display side.
8. Turn ON the power of the External Device again.

◆ Notes

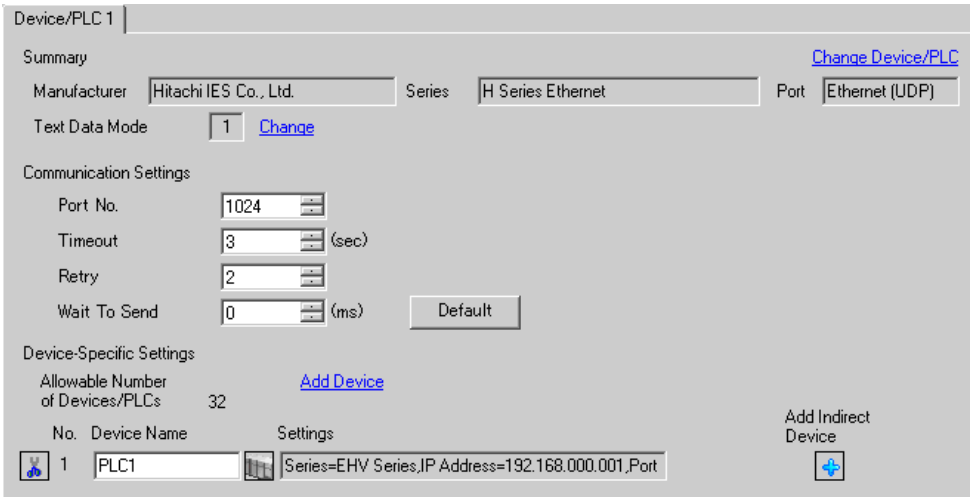
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.8 Setting Example 8

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [EHV Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ Settings of External Device (Ethernet Port on EHV-CPU)

Use the programming software (Control Editor) for communication settings.

Please refer to the manual of the EHV for more details.

1. Start the programming software and create the project. The project appears in the offline mode.
2. Select [Editor Communication Setting] from the [Tool] menu to display the communication setting dialog box.
3. Select the communication method to transfer the External Device between "USB" and "Serial", and then click [Setting].
4. Connect the PC and the External Device by a USB cable or a serial cable (Hitachi IES Co., Ltd.).
5. Select [Mode Change] - [Online] from the [Online] menu to move to the online mode.
6. Select [CPU Setting] - [IP Address Setting] from the [Tool] menu to set IP address.
7. Select [CPU Setting] - [Ethernet Communication (Task Code) Setting] from the [Tool] menu to set [Port No.] and [Protocol].

   Also, please set the IP Address, [Port No.] and [Protocol] as the same value as those set on the Display side.
8. Turn ON the power of the External Device again.

◆ Notes

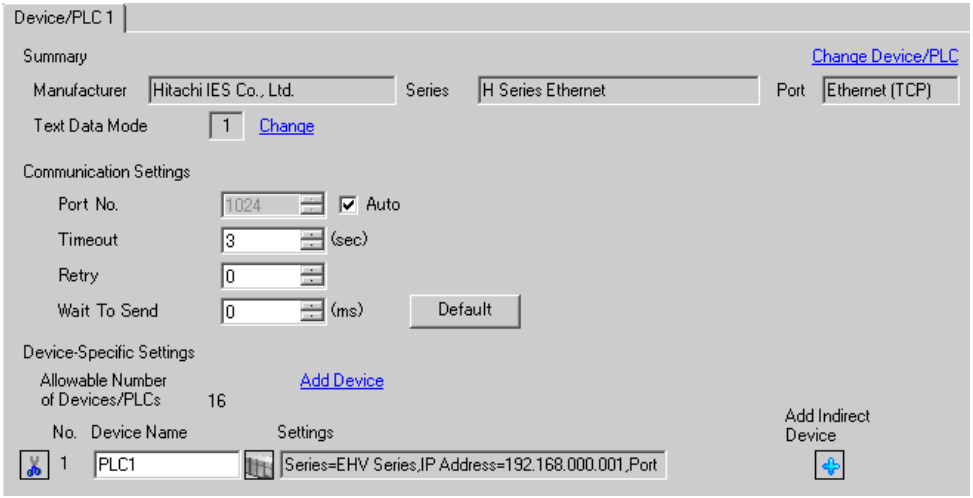
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.9 Setting Example 9

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [EHV Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ Settings of External Device (EH-ETH)

Use the Web Browser to access the Ethernet unit for communication setting.

Note that the ladder software (Control Editor) is used for setting up the environment of the External Device.

Please refer to the manual of the EH-ETH for more details.

1. Assign the Ethernet unit to CPU unit by using [I/O assign] in the ladder software.
2. Turn ON the DIP Switch 1 and 6 of the Ethernet unit, and turn ON the power. Then, a temporary address (192.168.0.4) for accessing the Ethernet unit will be set.

Bit No.*1								Operation Mode
1	2	3	4	5	6	7	8	
ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	Ethernet Information Setting Mode

*1 Use Bit No.3 to No.8 to set the fourth octet of IP address. The IP address is fixed to 192.168.0. until the third octet.

3. Connect the PC's Ethernet port and the EH-ETH's Ethernet port by LAN cable. (Connect via HUB or connect directly using a cross cable.)
4. Enter "http://192.168.0.4/" in the address input box of the Web Browser to access the Ethernet unit.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
5. Select [IP Address] from the menu frame in the displayed screen and set IP address.
6. Similarly, select [Task Code] from the menu frame and set [Port No.] and [Protocol].
   Also, please set the IP Address, [Port No.] and [Protocol] as the same value as those set on the Display side.
7. Turn OFF the power of the External Device. After turning OFF all DIP Switches, turn ON the power of the External Device.

◆ Notes

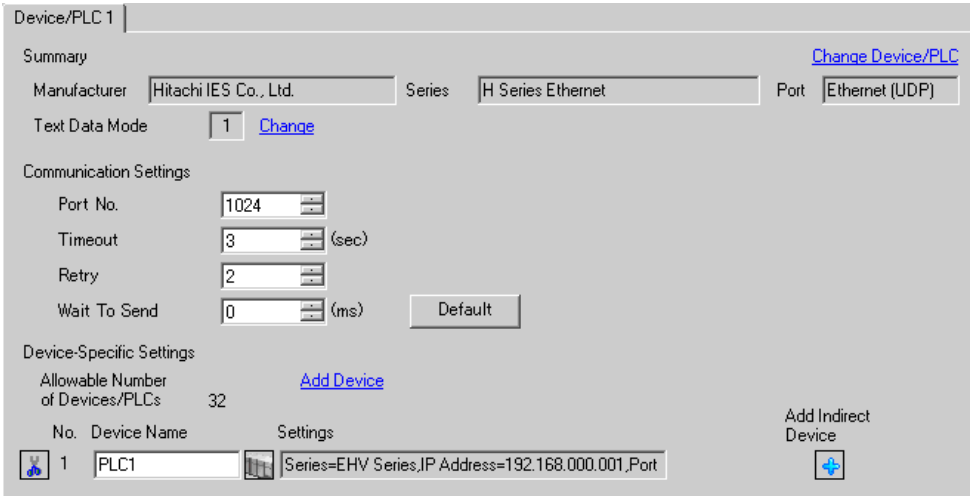
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.10 Setting Example 10

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [EHV Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ Settings of External Device (EH-ETH)

Use the Web Browser to access the Ethernet unit for communication setting.

Note that the ladder software (Control Editor) is used for setting up the environment of the External Device.

Please refer to the manual of the EH-ETH for more details.

1. Assign the Ethernet unit to CPU unit by using [I/O assign] in the ladder software.
2. Turn ON the DIP Switch 1 and 6 of the Ethernet unit, and turn ON the power. Then, a temporary address (192.168.0.4) for accessing the Ethernet unit will be set.

Bit No.*1								Operation Mode
1	2	3	4	5	6	7	8	
ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	Ethernet Information Setting Mode

*1 Use Bit No.3 to No.8 to set the fourth octet of IP address. The IP address is fixed to 192.168.0. until the third octet.

3. Connect the PC's Ethernet port and the EH-ETH's Ethernet port by LAN cable. (Connect via HUB or connect directly using a cross cable.)
4. Enter "http://192.168.0.4/" in the address input box of the Web Browser to access the Ethernet unit.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
5. Select [IP Address] from the menu frame in the displayed screen and set IP address.
6. Similarly, select [Task Code] from the menu frame and set [Port No.] and [Protocol].
   Also, please set the IP Address, [Port No.] and [Protocol] as the same value as those set on the Display side.
7. Turn OFF the power of the External Device. After turning OFF all DIP Switches, turn ON the power of the External Device.

◆ Notes

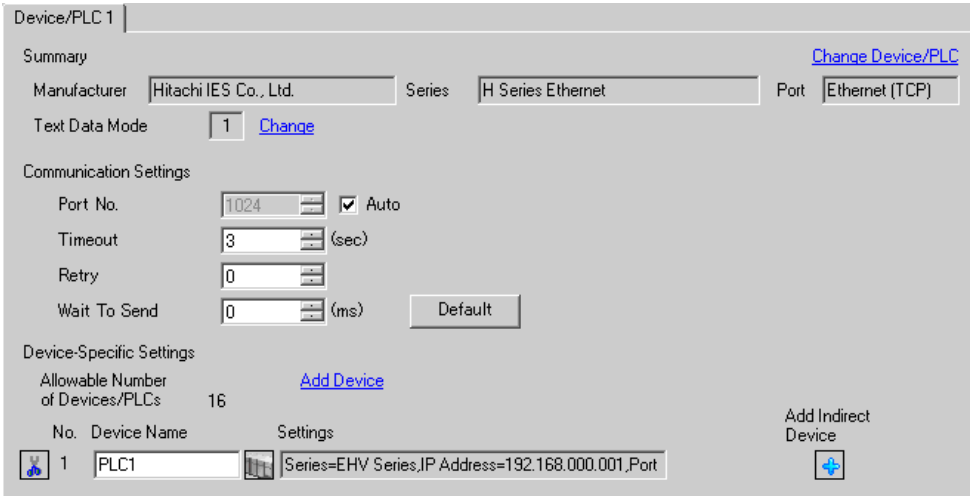
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.11 Setting Example 11

■ Settings of GP-Pro EX

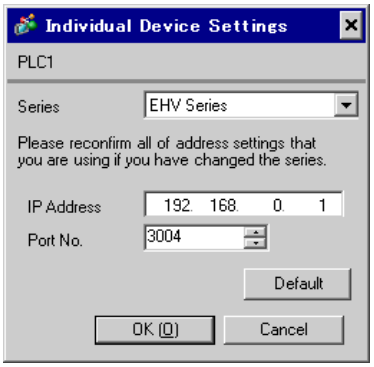
◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [EHV Series] from [Series].



◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ External Device Settings (Ethernet communications port on the EH-ORML)

For communications settings, use the station setting SW (rotary switch), the mode setting SW (DIP Switch) on the slave station communications module, and the EH remote slave station IP address setting tool (Version 1.00). Refer to your External Device manual for details.

1. Set the station setting SW on the slave station communications module to the "0" position.

NOTE
- To connect multiple slave stations, set the station setting SWs on the slave station communications modules to the "0, 1, 2, ..., 9" positions, starting with the station closest to the master station.

2. Set [8:TERM] of the mode setting SW on the slave station communications module to the ON position.

NOTE
- To connect multiple slave stations, set [8:TERM] of the mode setting SW only on the slave station communications module that terminates the connection, to the ON position.

3. Turn on the power.
4. Read out the CPU settings on the master station and the current values of the slave station communications module. Refer to your External Device manual for details.
5. Set [5:INIT] of the mode setting SW on the slave station communications module to the ON position.
6. Start up the EH remote slave station IP address setting tool.
7. Click [Connect] and read out the current setting values.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
8. Set each item as follows:

- IP Address Setting

Setup Items	Setting
IP Address	192.168.0.1
Subnet Mask	255.255.255.0
Transmission Speed/System	AUTO

- Logic Port No. Setting (Port1)

Setup Items	Setting
Port No.	3004
Protocol	TCP/IP

9. Click [Set].
10. Confirm the setting complete message and press [OK].
11. Set [5:INIT] of the SW mode setting on the slave station communications module to the OFF position.

◆ Notes

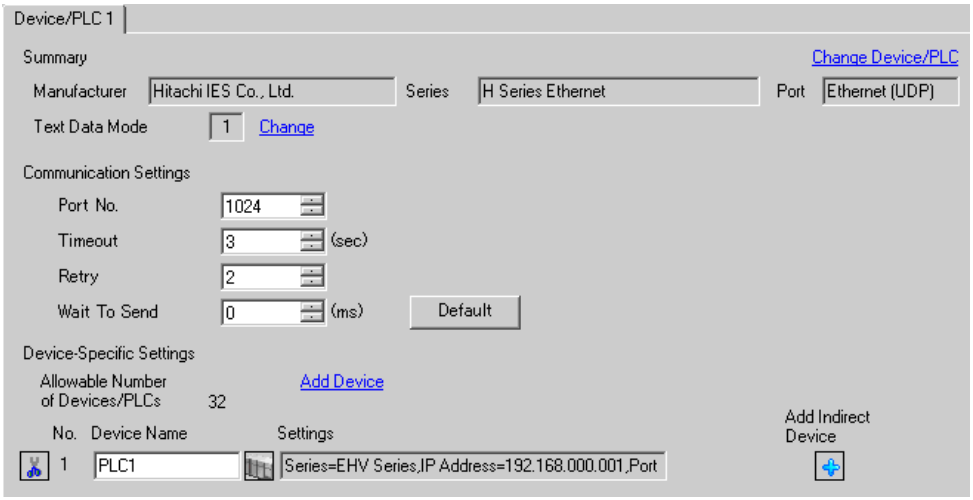
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.12 Setting Example 12

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [EHV Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ External Device Settings (Ethernet communications port on the EH-ORML)

For communications settings, use the station setting SW (rotary switch), the mode setting SW (DIP Switch) on the slave station communications module, and the EH remote slave station IP address setting tool (Version 1.00). Refer to your External Device manual for details.

1. Set the station setting SW on the slave station communications module to the "0" position.

NOTE
- To connect multiple slave stations, set the station setting SWs on the slave station communications modules to the "0, 1, 2, ..., 9" positions, starting with the station closest to the master station.

2. Set [8:TERM] of the mode setting SW on the slave station communications module to the ON position.

NOTE
- To connect multiple slave stations, set [8:TERM] of the mode setting SW only on the slave station communications module that terminates the connection, to the ON position.

3. Turn on the power.
4. Read out the CPU settings on the master station and the current values of the slave station communications module. Refer to your External Device manual for details.
5. Set [5:INIT] of the mode setting SW on the slave station communications module to the ON position.
6. Start up the EH remote slave station IP address setting tool.
7. Click [Connect] and read out the current setting values.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
8. Set each item as follows:

- IP Address Setting

Setup Items	Setting
IP Address	192.168.0.1
Subnet Mask	255.255.255.0
Transmission Speed/System	AUTO

- Logic Port No. Setting (Port1)

Setup Items	Setting
Port No.	3004
Protocol	UDP/IP

9. Click [Set].
10. Confirm the setting complete message and press [OK].
11. Set [5:INIT] of the SW mode setting on the slave station communications module to the OFF position.

◆ Notes

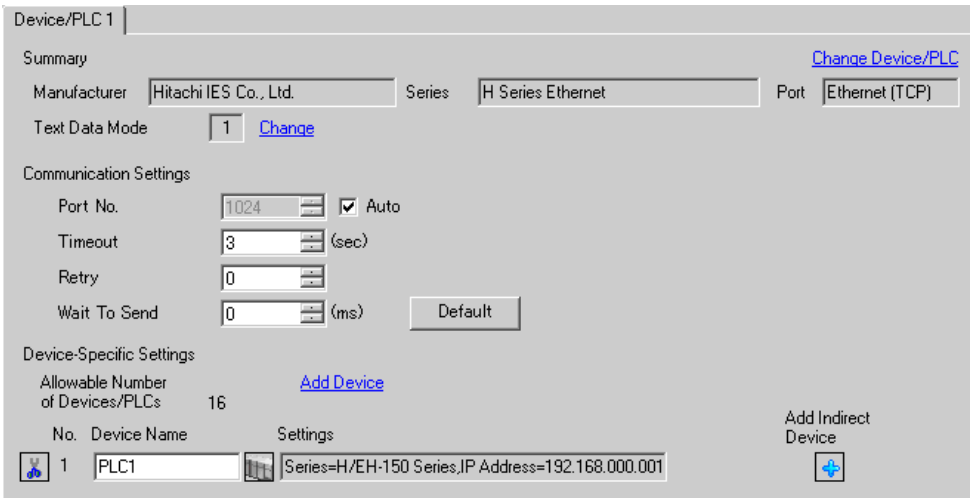
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.13 Setting Example 13

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [H/EH-150 Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ External Device Settings (Connector for ethernet on EH-ETH2)

Use the setting tool (EH-ETH2 Configurator) for communication setting.

Note that the ladder software (Ladder Editor for Windows) is used for setting up the environment of the External Device.

Please refer to the manual of the EH-ETH2 for more details.

1. Assign the Ethernet unit to CPU unit by using [I/O assign] in the ladder software.
2. Turn ON the DIP Switch 1 and 6 of the Ethernet unit, and turn ON the power. Then, a temporary address (192.168.0.4) for accessing the Ethernet unit will be set.

Bit No.*1								Operation Mode
1	2	3	4	5	6	7	8	
ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	Communications Parameter Setting Mode

*1 Use Bit No.4 to No.8 to set the fourth octet of IP address. The IP address is fixed to 192.168.0. until the third octet.

3. Connect the PC's Ethernet port and the EH-ETH2's Ethernet port by LAN cable. (Connect via HUB or connect directly using a cross cable.)
4. Start the setting tool.
5. Select [Communication Setting] from the [Option] menu.
6. Enter "192.168.0.4" in the IP address input box and click [OK].
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
7. Click [Set Ethernet Parameters] to display the setting dialog box.
8. Click [Online] and read out the current setting values.
9. Set each item as follows:

- IP Address Set

Setup Items	Setting
IP Address	192.168.0.1
Subnet mask	255.255.255.0
Transfer speed / Type	Auto Negotiation

- Task Code Logical Port No. Set (Port1)

Setup Items	Setting
Port No.	3004
Protocol	TCP/IP

10. Click [Set] to display the setting complete dialog box and click [OK].
11. Turn OFF the power of the External Device. After turning OFF all DIP Switches, turn ON the power of the External Device.

◆ Notes

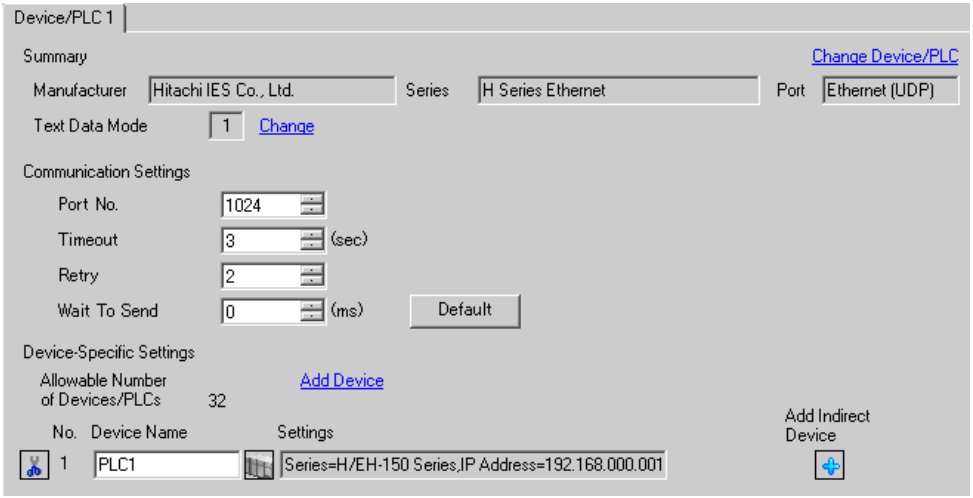
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.14 Setting Example 14

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [H/EH-150 Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ External Device Settings (Connector for ethernet on EH-ETH2)

Use the setting tool (EH-ETH2 Configurator) for communication setting.

Note that the ladder software (Ladder Editor for Windows) is used for setting up the environment of the External Device.

Please refer to the manual of the EH-ETH2 for more details.

1. Assign the Ethernet unit to CPU unit by using [I/O assign] in the ladder software.
2. Turn ON the DIP Switch 1 and 6 of the Ethernet unit, and turn ON the power. Then, a temporary address (192.168.0.4) for accessing the Ethernet unit will be set.

Bit No.*1								Operation Mode
1	2	3	4	5	6	7	8	
ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	Communications Parameter Setting Mode

*1 Use Bit No.4 to No.8 to set the fourth octet of IP address. The IP address is fixed to 192.168.0. until the third octet.

3. Connect the PC's Ethernet port and the EH-ETH2's Ethernet port by LAN cable. (Connect via HUB or connect directly using a cross cable.)
4. Start the setting tool.
5. Select [Communication Setting] from the [Option] menu.
6. Enter "192.168.0.4" in the IP address input box and click [OK].
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
7. Click [Set Ethernet Parameters] to display the setting dialog box.
8. Click [Online] and read out the current setting values.
9. Set each item as follows:

- IP Address Set

Setup Items	Setting
IP Address	192.168.0.1
Subnet mask	255.255.255.0
Transfer speed / Type	Auto Negotiation

- Task Code Logical Port No. Set (Port1)

Setup Items	Setting
Port No.	3004
Protocol	UDP/IP

10. Click [Set] to display the setting complete dialog box and click [OK].
11. Turn OFF the power of the External Device. After turning OFF all DIP Switches, turn ON the power of the External Device.

◆ Notes

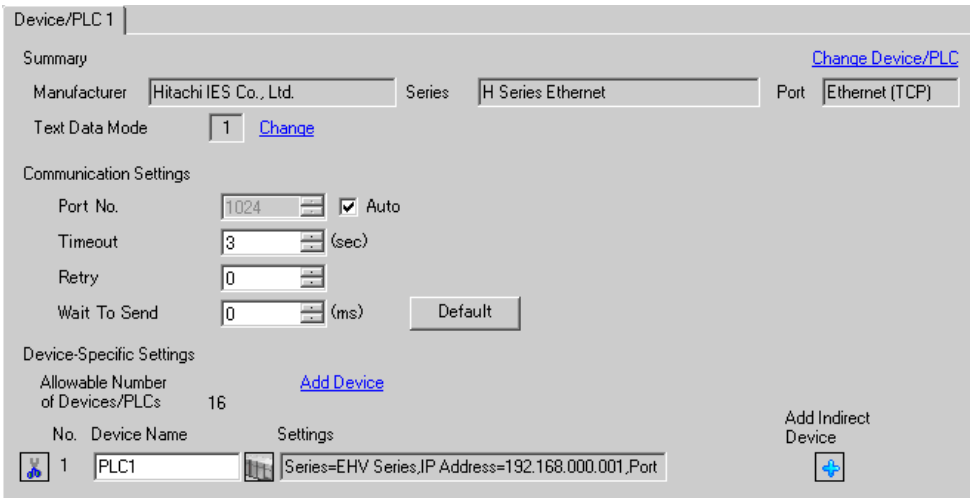
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.15 Setting Example 15

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [EHV Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ External Device Settings (Connector for ethernet on EH-ETH2)

Use the setting tool (EH-ETH2 Configurator) for communication setting.

Note that the ladder software (Control Editor) is used for setting up the environment of the External Device.

Please refer to the manual of the EH-ETH2 for more details.

1. Assign the Ethernet unit to CPU unit by using [I/O assign] in the ladder software.
2. Turn ON the DIP Switch 1 and 6 of the Ethernet unit, and turn ON the power. Then, a temporary address (192.168.0.4) for accessing the Ethernet unit will be set.

Bit No.*1								Operation Mode
1	2	3	4	5	6	7	8	
ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	Communications Parameter Setting Mode

*1 Use Bit No.4 to No.8 to set the fourth octet of IP address. The IP address is fixed to 192.168.0. until the third octet.

3. Connect the PC's Ethernet port and the EH-ETH2's Ethernet port by LAN cable. (Connect via HUB or connect directly using a cross cable.)
4. Start the setting tool.
5. Select [Communication Setting] from the [Option] menu.
6. Enter "192.168.0.4" in the IP address input box and click [OK].
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
7. Click [Set Ethernet Parameters] to display the setting dialog box.
8. Click [Online] and read out the current setting values.
9. Set each item as follows:

- IP Address Set

Setup Items	Setting
IP Address	192.168.0.1
Subnet mask	255.255.255.0
Transfer speed / Type	Auto Negotiation

- Task Code Logical Port No. Set (Port1)

Setup Items	Setting
Port No.	3004
Protocol	TCP/IP

10. Click [Set] to display the setting complete dialog box and click [OK].
11. Turn OFF the power of the External Device. After turning OFF all DIP Switches, turn ON the power of the External Device.

◆ Notes

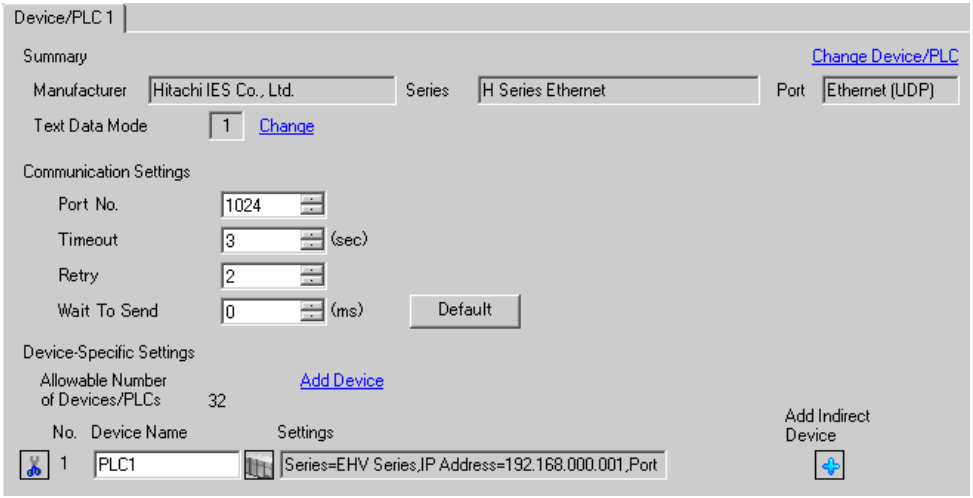
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.16 Setting Example 16

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [EHV Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ External Device Settings (Connector for ethernet on EH-ETH2)

Use the setting tool (EH-ETH2 Configurator) for communication setting.

Note that the ladder software (Control Editor) is used for setting up the environment of the External Device.

Please refer to the manual of the EH-ETH2 for more details.

1. Assign the Ethernet unit to CPU unit by using [I/O assign] in the ladder software.
2. Turn ON the DIP Switch 1 and 6 of the Ethernet unit, and turn ON the power. Then, a temporary address (192.168.0.4) for accessing the Ethernet unit will be set.

Bit No.*1								Operation Mode
1	2	3	4	5	6	7	8	
ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	Communications Parameter Setting Mode

*1 Use Bit No.4 to No.8 to set the fourth octet of IP address. The IP address is fixed to 192.168.0. until the third octet.

3. Connect the PC's Ethernet port and the EH-ETH2's Ethernet port by LAN cable. (Connect via HUB or connect directly using a cross cable.)
4. Start the setting tool.
5. Select [Communication Setting] from the [Option] menu.
6. Enter "192.168.0.4" in the IP address input box and click [OK].
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
7. Click [Set Ethernet Parameters] to display the setting dialog box.
8. Click [Online] and read out the current setting values.
9. Set each item as follows:

- IP Address Set

Setup Items	Setting
IP Address	192.168.0.1
Subnet mask	255.255.255.0
Transfer speed / Type	Auto Negotiation

- Task Code Logical Port No. Set (Port1)

Setup Items	Setting
Port No.	3004
Protocol	UDP/IP

10. Click [Set] to display the setting complete dialog box and click [OK].
11. Turn OFF the power of the External Device. After turning OFF all DIP Switches, turn ON the power of the External Device.

◆ Notes

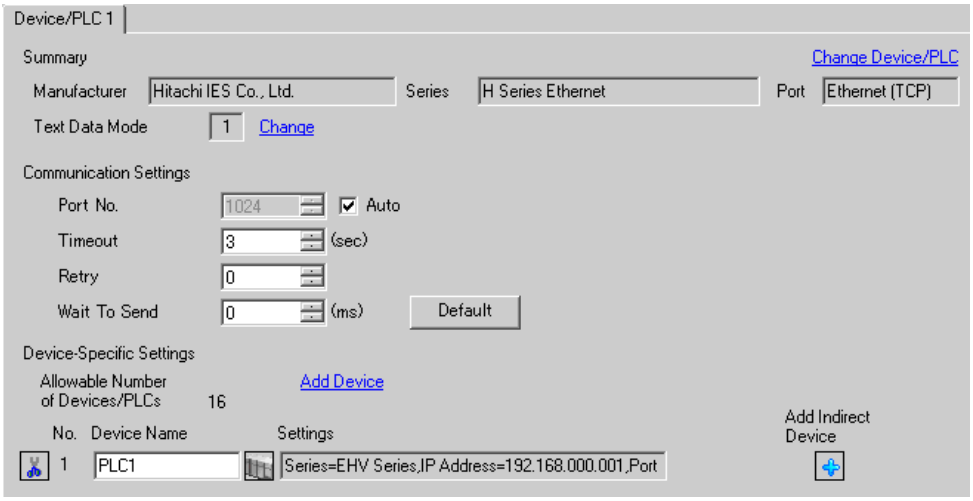
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.17 Setting Example 17

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [EHV Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ External Device Settings (Ethernet communication port on EH-R2LH)

Use the EH remote slave station IP address setting tool (Version 1.00) for communication setting.
Please refer to the manual of the External Device for more details.

1. Set [INIT] of the mode setting SW on the slave station communications module to the "ON" position.

NOTE

- When [INIT] of the mode setting SW is set to "ON", settings are temporarily changed to following contents.

Setup Items	Setting
IP Address	192.168.0.1 (Fixed)
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Logic Port	3004
Communications Protocol	UDP/IP
Timeout Setting	None

2. Turn on the power.
3. Start up the EH remote slave station IP address setting tool.
4. Click [Connect] and read out the current setting values.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
5. Set each item as follows:

- IP Address Setting

Setup Items	Setting
IP Address	192.168.0.1
Subnet Mask	255.255.255.0
Transmission Speed/System	AUTO

- Logic Port No. Setting (Port1)

Setup Items	Setting
Port No.	3004
Protocol	TCP/IP

6. Click [Set].
7. Confirm the setting complete message and press [OK].
8. Turn OFF the power of the External Device. After setting OFF [INIT] of the mode setting SW on the slave station communications module, turn ON the power of the External Device.

◆ Notes

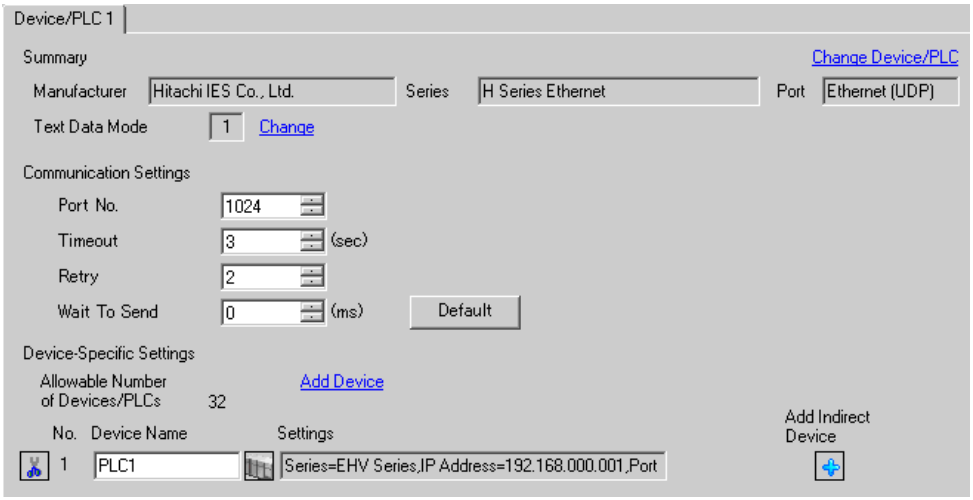
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.18 Setting Example 18

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [EHV Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ External Device Settings (Ethernet communication port on EH-R2LH)

Use the EH remote slave station IP address setting tool (Version 1.00) for communication setting.
Please refer to the manual of the External Device for more details.

1. Set [INIT] of the mode setting SW on the slave station communications module to the "ON" position.

NOTE

- When [INIT] of the mode setting SW is set to "ON", settings are temporarily changed to following contents.

Setup Items	Setting
IP Address	192.168.0.1 (Fixed)
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Logic Port	3004
Communications Protocol	UDP/IP
Timeout Setting	None

2. Turn on the power.
3. Start up the EH remote slave station IP address setting tool.
4. Click [Connect] and read out the current setting values.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)
5. Set each item as follows:

- IP Address Setting

Setup Items	Setting
IP Address	192.168.0.1
Subnet Mask	255.255.255.0
Transmission Speed/System	AUTO

- Logic Port No. Setting (Port1)

Setup Items	Setting
Port No.	3004
Protocol	UDP/IP

6. Click [Set].
7. Confirm the setting complete message and press [OK].
8. Turn OFF the power of the External Device. After setting OFF [INIT] of the mode setting SW on the slave station communications module, turn ON the power of the External Device.

◆ Notes

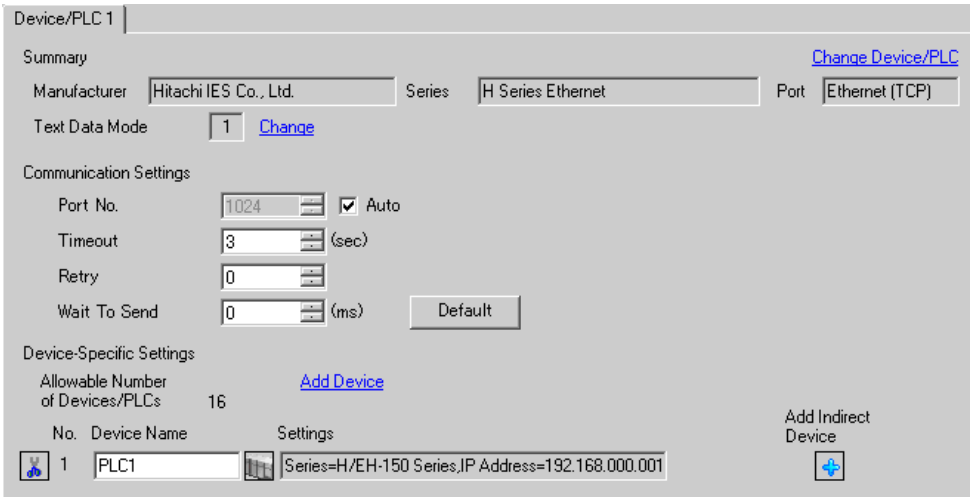
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.19 Setting Example 19

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [H/EH-150 Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ External Device Settings (Communication port on EH-OBETH)

Set the communication setting for both the Basic unit and EH-OBETH.

◆ Basic unit Setting

Use the ladder software (LADDER EDITOR for Windows) for communication setting.

Please refer to the manual of the ladder software for more details.

1. Select [Online] from the menu bar of the ladder software.
2. Select [I/O Monitor] from the [Window] menu.
3. Select [I/O monitor setting] from the [Edit] menu.
4. Enter "WRF03D" in [I/O No.]. Select the [Add/Insert/Overwrite 16 points from the set I/O No.] check box of [POINT NO.] and click [Add].
5. Select [Set Reset] from the [Monitor] menu.
6. Set the items as follows and click [Execute].

Setup Items	Setting
I/O No.	WRF03D
Input	hexadecimal value
Set value	8300

NOTE

- The setting value which is input into WRF03D is decided by the setting of each bit. The contents of 8300H are as follows.

Bit	Setting	Setup Description
15	1	Setting change request
14	0	Transmission procedure 1
13	0	Without station number
12	0	Not used
11-8	3H	Transmission speed(38.4kbps)
7-0	0	Station number(Without station number)

- When 8300H is set to WRF03D, current value is changed to 0300H.

◆ EH-OBETH Setting

Use a Web Browser to access the External Device communication settings.

Please refer to the manual of the External Device for more details.

1. Start a Web Browser on the PC.
2. Enter "http://192.168.0.1/" in the address input box of the Web Browser and press Enter key.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)

NOTE • The factory default IP address of EH-OBETH is "192.168.0.1".

3. Enter "root" in the [user name] and click [OK].

NOTE • The factory default username of EH-OBETH is "root". The password is not set.

4. Select [English] from the [SELECT Language].
5. Select [NETWORK] from the MENU frame. Set the items as follows and click [OK].

Setup Items	Setting
IP Address	192.168.0.1
Subnet Mask	255.255.255.0
PROTOCOL	TCP
Port No.1	3004
Port No.2	-

6. Select [SERIAL] from the MENU frame. Set the items as follows and click [OK].

Setup Items	Setting
Baudrate	38400
Station No.	disable

7. Select [SYSTEM] from the MENU frame.
8. Select the [SAVE] check box and click [OK].
9. Select the [REBOOT] check box to enable the changes and click [OK].

◆ Notes

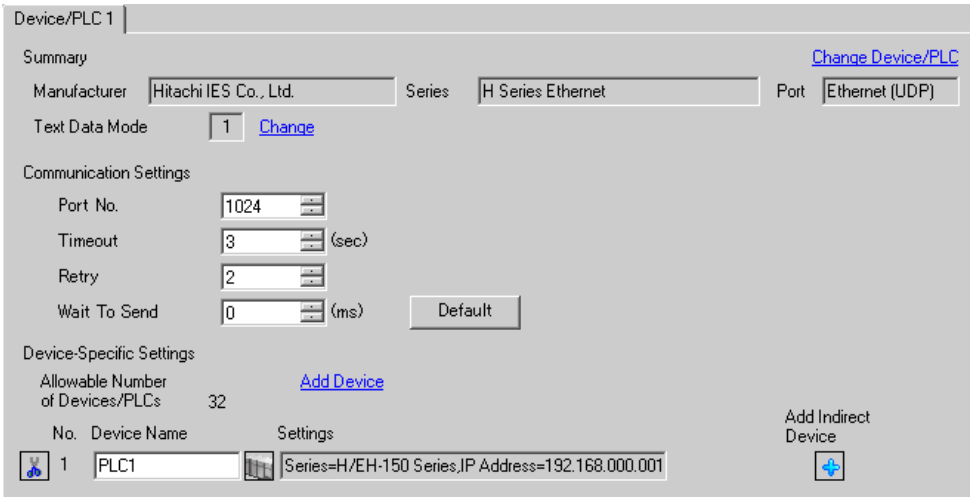
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.20 Setting Example 20

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [H/EH-150 Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ External Device Settings (Communication port on EH-OBETH)

Set the communication setting for both the Basic unit and EH-OBETH.

◆ Basic unit Setting

Use the ladder software (LADDER EDITOR for Windows) for communication setting.

Please refer to the manual of the ladder software for more details.

1. Select [Online] from the menu bar of the ladder software.
2. Select [I/O Monitor] from the [Window] menu.
3. Select [I/O monitor setting] from the [Edit] menu.
4. Enter "WRF03D" in [I/O No.]. Select the [Add/Insert/Overwrite 16 points from the set I/O No.] check box of [POINT NO.] and click [Add].
5. Select [Set Reset] from the [Monitor] menu.
6. Set the items as follows and click [Execute].

Setup Items	Setting
I/O No.	WRF03D
Input	hexadecimal value
Set value	8300

NOTE

- The setting value which is input into WRF03D is decided by the setting of each bit. The contents of 8300H are as follows.

Bit	Setting	Setup Description
15	1	Setting change request
14	0	Transmission procedure 1
13	0	Without station number
12	0	Not used
11-8	3H	Transmission speed(38.4kbps)
7-0	0	Station number(Without station number)

- When 8300H is set to WRF03D, current value is changed to 0300H.

◆ EH-OBETH Setting

Use the Web Browser to access the External Device for communication setting.

Please refer to the manual of the External Device for more details.

1. Start a Web Browser on the PC.
2. Enter "http://192.168.0.1/" in the address input box of the Web Browser and press Enter key.
   The login dialog box will display.
   To access, PC's IP address up to the third octet must be set to 192.168.0. (192.168.0.10, etc.)

NOTE • The factory default IP address of EH-OBETH is "192.168.0.1".

3. Enter "root" in the [user name] and click [OK].

NOTE • The factory default username of EH-OBETH is "root". The password is not set.

4. Select [English] from the [SELECT Language].
5. Select [NETWORK] from the MENU frame. Set the items as follows and click [OK].

Setup Items	Setting
IP Address	192.168.0.1
Subnet Mask	255.255.255.0
PROTOCOL	UDP
Port No.1	3004
Port No.2	-

6. Select [SERIAL] from the MENU frame. Set the items as follows and click [OK].

Setup Items	Setting
Baudrate	38400
Station No.	disable

7. Select [SYSTEM] from the MENU frame.
8. Select the [SAVE] check box and click [OK].
9. Select the [REBOOT] check box to enable the changes and click [OK].

◆ Notes

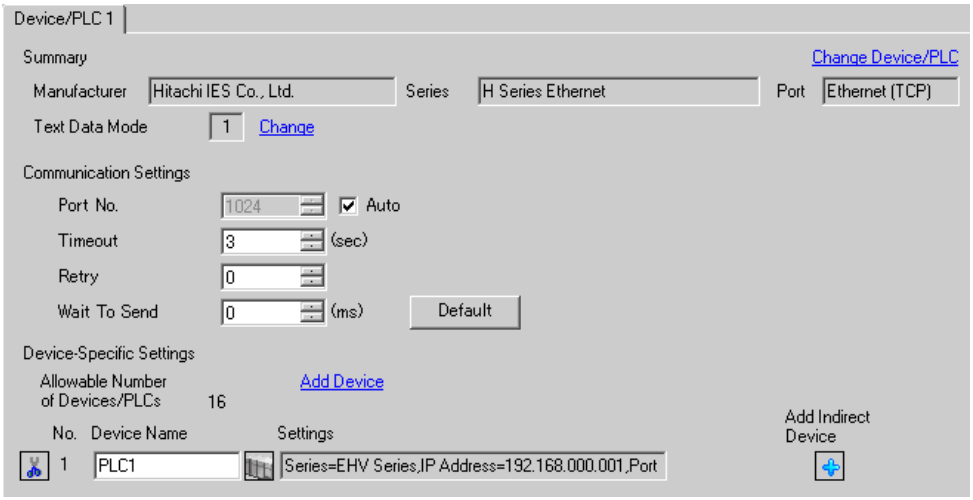
- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

3.21 Setting Example 21

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] . Select [EHV Series] from [Series].

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- Set IP address and Port Number on the External Device in the [Individual Device Settings] dialog box.
- You need to set IP address on the Display in offline mode.

■ External Device Settings (Ethernet port on basic unit)

Use the programming software (Control Editor) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Start the programming software and create the project. The project appears in the offline mode.
2. In the tree view, from [CPU parameters] double-click [CPU settings] and [IP address]. The [CPU Communication Setting (IP Address)] dialog box will appear.
3. Set the items as follows and click [Set].

Setup Items	Setting
IP Address	192.168.0.1
Subnet mask	255.255.255.0
Default gateway	0.0.0.0
Link Speed / Duplex	Auto Negotiation

4. In the tree view, from [CPU parameters] double-click [CPU settings] and [Ethernet (task code)]. The [CPU Communication Setting (Ethernet (task code))] dialog box will appear.
5. Set the port in use as follows, and then click [Set].

Setup Items	Setting	Remarks
Enable	ON	
Number	3004	Set a number that is not duplicated on other ports.
Protocol	TCP/IP	
Timeout (sec.)	30	Set to 0, when not using timeout.

6. Enter online mode, and transfer the configured settings to the External Device.
7. Restart the External Device.

◆ Notes

- Check with a network administrator about IP address. Set up unique IP addresses on the same network.
- If a time out monitoring is set up on the External Device, the connection will close if there is no communication within the set time frame. If you run communication while the connection is closed, although an error displays the connection is automatically restored.

4 Setup Items

Set communication settings of the Display with GP-Pro Ex or in offline mode of the Display.

The setting of each parameter must be identical to that of External Device.

☞"3 Communication Settings" (page 8)

NOTE

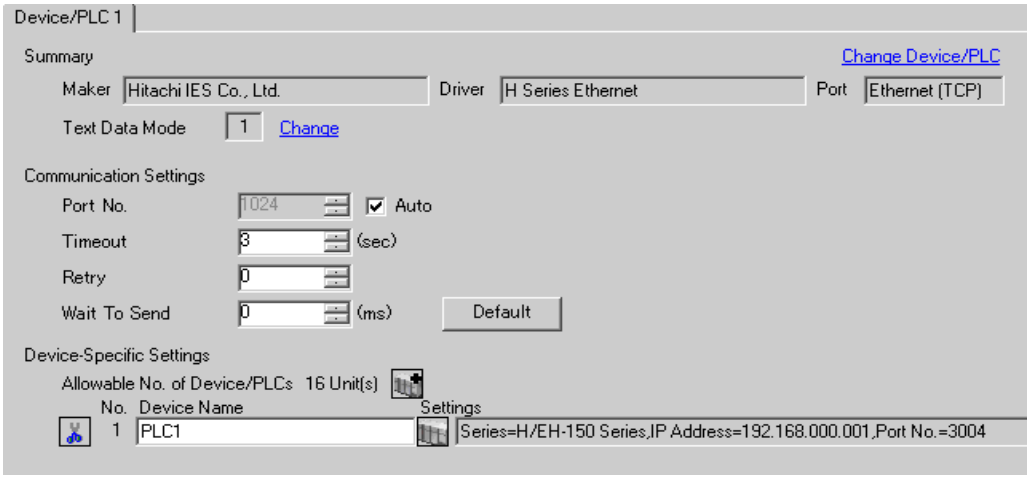
- Set the Display's IP address in offline mode.

  Cf. Maintenance/Troubleshooting Guide "Ethernet Settings"

4.1 Setup Items in GP-Pro EX

■ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



Setup Items	Setup Description
Port No.	Use an integer from 1024 to 65535 to enter the port No. of the Display. When you check the option of [Auto], the port No. will be automatically set. **NOTE** • [Auto] option is available to set only when you select "Ethernet (TCP)" in [Connecting Method].
Timeout	Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device.
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.

NOTE

- Refer to the GP-Pro EX Reference Manual for Indirect Device.

  Cf. GP-Pro EX Reference Manual "Changing the Device/PLC at Runtime (Indirect Device)"

■ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

To connect multiple External Devices, from [Device-Specific Settings] in the [Device/PLC] window, click [Add Device] to add another External Device.

Setup Items	Setup Description
Series	Select a model of the External Device.
IP Address	Set IP address of the External Device. **NOTE** • Check with a network administrator about IP address. Do not set the duplicate IP address.
Port No.	Use an integer from 1024 to 65535 to enter the port No. of the External Device.

4.2 Settings in Offline Mode

NOTE

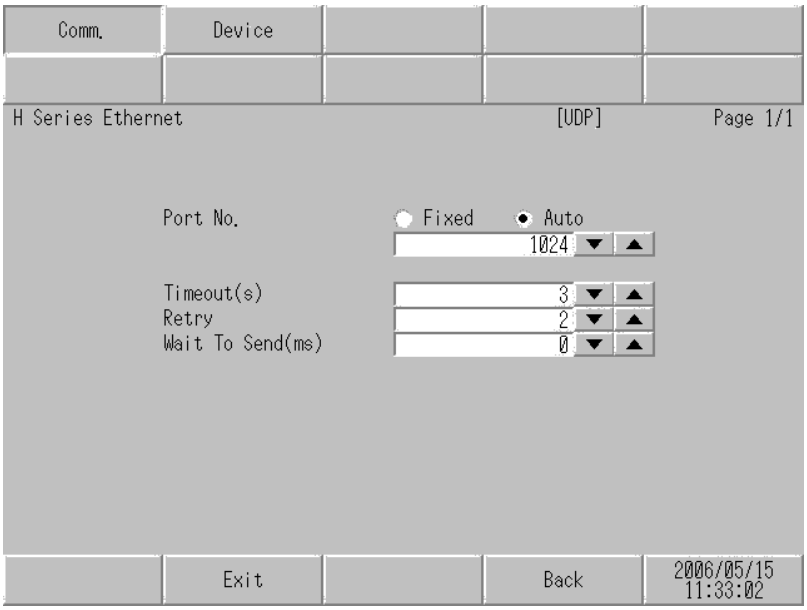
- Refer to the Maintenance/Troubleshooting Guide for information on how to enter offline mode or about the operation.

  Cf. Maintenance/Troubleshooting Guide "Offline Mode"

- The number of the setup items to be displayed for 1 page in the offline mode depends on the Display in use. Please refer to the Reference manual for details.

■ Communication Settings

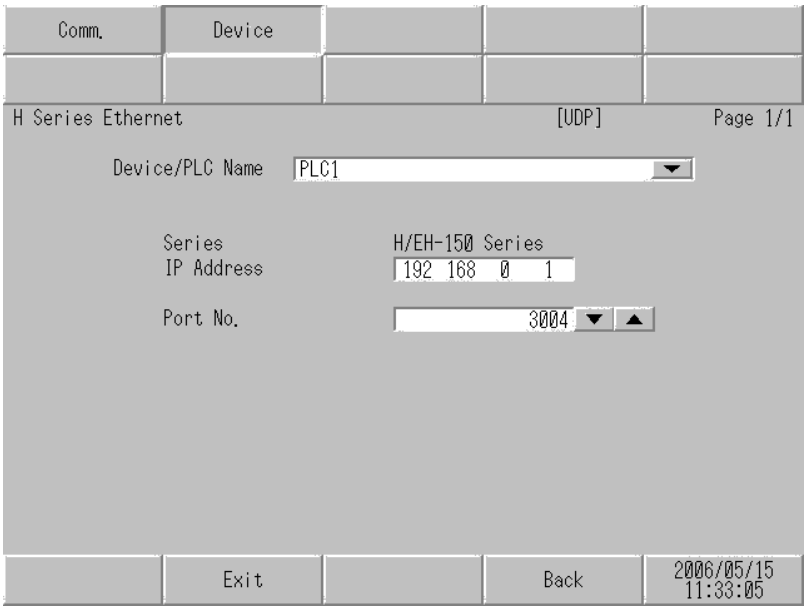
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings] in the offline mode. Touch the External Device you want to set from the displayed list.



Setup Items	Setup Description
Port No.	Set the Port No. of the display. In UDP connection, entered port No. will be assigned regardless of whether you select [Fixed] or [Auto]. In TCP connection, select either of [Fixed] or [Auto]. When you select [Fixed], use an integer from 1024 to 65535 to enter the port No. of the display. When you select [Auto], the port No. will be automatically assigned regardless of the entered value.
Timeout	Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device.
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.

■ Device Setting

To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings]. Touch the External Device you want to set from the displayed list, and touch [Device Settings].



Setup Items	Setup Description
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])
Series	Display a model of the External Device.
IP Address	Set IP address of the External Device. **NOTE** Check with a network administrator about IP address. Do not set the duplicate IP address.
Port No.	Use an integer from 1024 to 65535 to enter the port No. of the External Device.

5 Supported Device

Range of supported device address is shown in the table below. Please note that the actually supported range of the devices varies depending on the External Device to be used. Please check the actual range in the manual of your External Device.

5.1 H / EH-150 / MICRO-EH Series

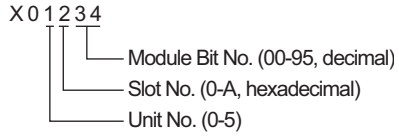
This address can be specified as system data area.

Device	Bit Address	Word Address	Double Word Address	32 bit	Remarks
External Input	X00000-X05A95	WX0000-WX05A7	DX0000-DX05A6		*1 *2
External Output	Y00000-Y05A95	WY0000-WY05A7	DY0000-DY05A6		*2
Remote Input Relay	X10000-X49995	WX1000-WX4997	DX1000-DX4996		*1 *3
Remote Output Relay	Y10000-Y49995	WY1000-WY4997	DY1000-DY4996		*3
Inner Output	R000-R7BF	-	-		
Special Inner Output	R7C0-R7FF	-	-		
Data Area	M0000-M3FFF	WM000-WM3FF	DM000-DM3FE		
First CPU Link	L00000-L03FFF	WL0000-WL03FF	DL0000-DL03FE		
Second CPU Link	L10000-L13FFF	WL1000-WL13FF	DL1000-DL13FE		
On Delay Timer	TD000 -TD255	-	-		
Single-shot Timer	SS000-SS255	-	-	L/H	
Watchdog Timer	WDT000-WDT255	-	-		
Mono Stable Timer	MS000-MS255	-	-		
Retentive Timer	TMR000-TMR255	-	-		
Up Counter	CU000-CU511	-	-		
Ring Counter	RCU000-RCU511	-	-		
Up-down Counter	CT000-CT511	-	-		
Timer Counter (Elapsed Value)	-	TC000-TC511	-		
Word Inner Output	-	WR0000-WRC3FF	DR0000-DRC3FE		Bit F
Network Link Area	-	WN0000-WN7FFF	DN0000-DN7FFE		Bit F

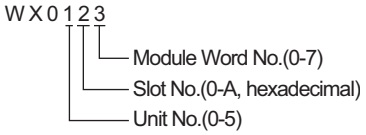
*1 Write disable

*2 Specify as shown below.

(Example) External input unit No.1, Slot No.2, Inner Module Bit No.34

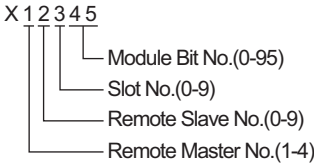


(Example) External input unit No.1, Slot No.2, Inner Module Word No.3

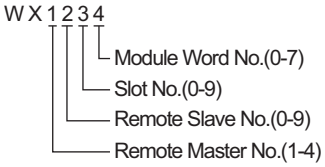


*3 Specify as shown below.

(Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Inner Module Bit No.45



(Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Inner Module Word No.4



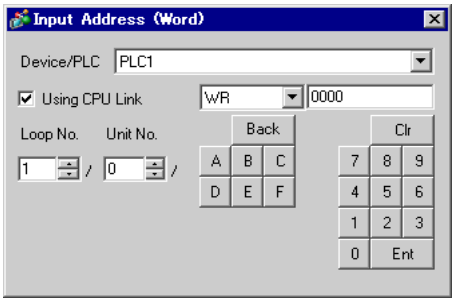
NOTE

- Available type and range of device vary depending on CPU. Be sure to check them in each CPU manual before using.

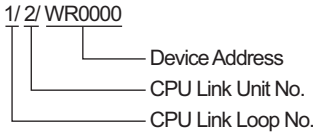
■ CPU How to set address when using the link

Set the check box of "Use CPU Link" to ON.

When using CPU Link, loop No. and unit No. are added to the address.



(Example) Loop No.1, Unit No.2



NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
  ☞ "Manual Symbols and Terminology"

5.2 Web Controller Series

This address can be specified as system data area.

Device	Bit Address	Word Address	Double Word Address	32 bits	Remarks
External Input	X0000-X0012 X1000-X1015 X2000-X2015 X3000-X3015 X4000-X4015	WX030-WX031 WX100-WX104 WX200-WX204 WX300-WX304 WX400-WX404	DX030 DX100-DX103 DX200-DX203 DX300-DX303 DX400-DX403		*1
External Output	Y0100-Y0109 Y1016-Y1031 Y2016-Y2031 Y3016-Y3031 Y4016-Y4031	WY40 WY105-WY107 WY205-WY207 WY305-WY307 WY405-WY407	DY105-DY106 DY205-DY206 DY305-DY306 DY405-DY406		
Inner Output	R000-R7BF	-	-		
Special Inner Output	R7C0-R7FF	-	-		
Data Area	M0000-M3FFF	WM000-WM3FF	DM000-DM3FE	L/H	
On Delay Timer	TD000-TD255	-	-		*2
Single-shot Timer	SS000-SS255	-	-		*2
Up Counter	CU000-CU255	-	-		*2
Up-down Counter	CT000-CT255	-	-		*2*3
Timer Counter (Elapsed Value)	-	TC000-TC255	-		
Word Inner Output	-	WR0000-WRC3FF	DR0000-DRC3FE		*4 Bit F
Word Special Inner Output		WRF000-WRF1FF	DRF000-DRF1FE		Bit F

*1 Write disable

*2 Each timer or counter needs to be defined on the ladder program.

*3 Both the Up-down counter Up input and Down input are defined by CT, however, the device names of the External Device are CTU, CTD respectively.

To access CTU, define the corresponding address as CTU on the ladder program of the External Device. Similarly, to access CTD, define the corresponding address as CTD on the ladder program of the External Device.

*4 For EH-WD10DR, the address range is [WR0000-WR3FFF] for Word Address and [DR0000-DR3FFE] for Double Word Address.

NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
  ☞ "Manual Symbols and Terminology"

5.3 EHV Series

This address can be specified as system data area.

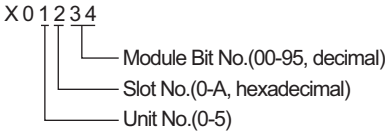
Device	Bit Address	Word Address	Double Word Address	32 bit	Remarks
External Input	X00000-X05A95	WX0000-WX05A7	DX0000-DX05A6		*1 *2
External Output	Y00000-Y05A95	WY0000-WY05A7	DY0000-DY05A6		*2
Remote Input Relay	X10000-X49A95	WX1000-WX49A7	DX1000-DX49A6		*1 *3 *4
Remote Output Relay	Y10000-Y49A95	WY1000-WY49A7	DY1000-DY49A6		*3 *4
Extension External Input	EX00000-EX5A7FF	WEX0000-WEX5A7F	DEX0000-DEX5A7E		*1
Extension External Output	EY00000-EY5A7FF	WEY0000-WEY5A7F	DEY0000-DEY5A7E		
Inner Output	R000-R7BF	-	-		
Data Area	M00000-M7FFFF	WM0000-WM7FFF	DM0000-DM7FFE		
First CPU Link	L00000-L03FFF	WL0000-WL03FF	DL0000-DL03FE		
Second CPU Link	L10000-L13FFF	WL1000-WL13FF	DL1000-DL13FE		
Third CPU Link	L20000-L23FFF	WL2000-WL23FF	DL2000-DL23FE		
Fourth CPU Link	L30000-L33FFF	WL3000-WL33FF	DL3000-DL33FE	L/H	
Fifth CPU Link	L40000-L43FFF	WL4000-WL43FF	DL4000-DL43FE		
Sixth CPU Link	L50000-L53FFF	WL5000-WL53FF	DL5000-DL53FE		
Seventh CPU Link	L60000-L63FFF	WL6000-WL63FF	DL6000-DL63FE		
Eighth CPU Link	L70000-L73FFF	WL7000-WL73FF	DL7000-DL73FE		
On Delay Timer	TD0000-TD2559	-	-		
Off Delay Timer	TDN0000-TDN2559	-	-		
Single-shot Timer	SS0000-SS2559	-	-		
Watchdog Timer	WDT0000-WDT2559	-	-		
Mono Stable Timer	MS0000-MS2559	-	-		
Retentive Timer	TMR0000-TMR2559	-	-		
Up-down Counter	CT000-CT511	-	-		
Up Counter	CU000-CU511	-	-		
Ring Counter	RCU000-RCU511	-	-		

Device	Bit Address	Word Address	Double Word Address	32 bit	Remarks
Timer Counter (Elapsed Value)	-	TC0000-TC2559	-	L/H	
Word Inner Output	WR00000-WREFFFF	WR0000-WREFFF	DR0000-DREFFE		
Data Area	WN000000-WN1FFFFF	WN00000-WN1FFFF	DN00000-DN1FFFE		

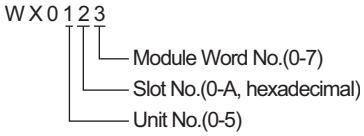
*1 Write disable

*2 Specify as shown below.

(Example) External input unit No.1, Slot No.2, Inner Module Bit No.34

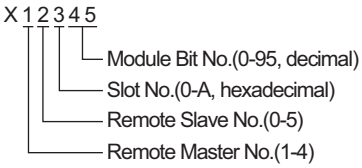


(Example) External input unit No.1, Slot No.2, Inner Module Word No.3

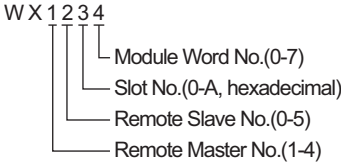


*3 Specify as shown below.

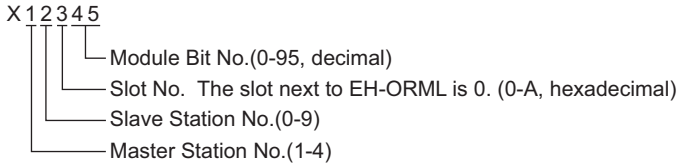
(Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Inner Module Bit No.45



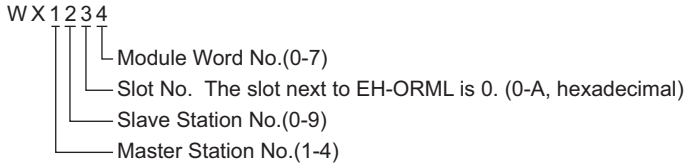
(Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Inner Module Word No.4



*4 When using the optical remote communications module, specify as shown below:
(Example) Master Station No.1, Slave Station No.2, Slot No.3, Inner Module Bit No.45



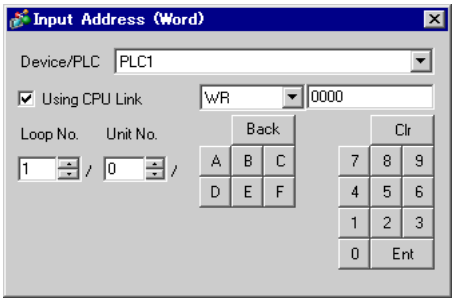
(Example) Master Station No.1, Slave Station No.2, Slot No.3, Inner Module Word No.4



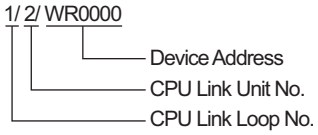
■ When using CPU Link

Set the check box of "Use CPU Link" to ON.

When using CPU Link, loop No. and unit No. are added to the address.



(Example) Loop No.1, Unit No.2



NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
  ☞ "Manual Symbols and Terminology"

5.4 MICRO-EHV Series

This address can be specified as system data area.

Device	Bit Address	Word Address	Double Word Address	32 bits	Remarks
External Input	X0000 – X0039	WX000 – WX002	DX000		*1
External Output	Y0100 – Y0123	WY010 – WY011	DY000		
Inner Output	R000 – R7BF	-	-		
Special Inner Output	R7C0 – RFFF	-	-		
Data Area	M0000 – M7FFF	WM000 – WM7FF	DM000 – DM7FE		
On Delay Timer	TD0000 - TD2047	-	-		
Off Delay Timer	TDN0000 – TDN2047				
Single-shot Timer	SS0000 – SS2047	-	-		
Watchdog Timer	WDT0000 – WDT2047	-	-		
Mono Stable Timer	MS0000 – MS2047	-	-	L / H	
Retentive Timer	TMR0000 – TMR2047	-	-		
Up-down Counter	CT000 – CT511	-	-		
Up Counter	CU000 – CU511	-	-		
Ring Counter	RCU000 – RCU511	-	-		
Timer Counter (Elapsed Value)	-	TC0000 – TC2047	-		
Word Inner Output	WR0000.0 – WR7FFF.F	WR0000 – WR7FFF	DR0000 – DR7FFE		
Word Special Inner Output	WRF000.0 – WRF1FF.F	WRF000 – WRF1FF	DRF000 – DRF1FE		

*1 Write disable

NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
  ☞ "Manual Symbols and Terminology"

6 Device Code and Address Code

Use device code and address code when you select "Device Type & Address" for the address type in data displays.

6.1 H / EH-150 / MICRO-EH Series

Device	Device Name	Device Code (HEX)	Address Code
Input Relay	X	0080	Word Address
	WX		Word Address
	DX	0020	Word Address
Output Relay	Y	0081	Word Address
	WY		Word Address
	DY	0021	Word Address
Data Area	M	0082	Word Address
	WM		Word Address
	DM	0022	Word Address
CPU Link	L	0083	Word Address
	WL		Word Address
	DL	0023	Word Address
Timer Counter (Elapsed Value)	TC	0060	Word Address
Word Inner Output	WR	0000	Word Address
	DR	0024	Word Address
Network Link Area	WN	0001	Word Address
	DN	0025	Word Address

6.2 Web Controller Series

Device	Device Name	Device Code (HEX)	Address Code
External Input	X	0080	Word Address
	WX		Word Address
	DX	0020	Word Address
External Output	Y	0081	Word Address
	WY		Word Address
	DY	0021	Word Address
Inner Output	M	0082	Word Address
	WM		Word Address
	DM	0022	Word Address
Timer Counter (Elapsed Value)	TC	0060	Word Address
Word Inner Output Word Special Inner Output	WR	0000	Word Address
	DR	0024	Word Address

6.3 EHV Series

Device	Device Name	Device Code (HEX)	Address Code
External Input	X	0080	Word Address
	WX		Word Address
	DX	0020	Word Address
External Output	Y	0081	Word Address
	WY		Word Address
	DY	0021	Word Address
Extension External Input	EX	0084	Word Address
	WEX		Word Address
	DEX	0026	Word Address
Extension External Output	EY	0085	Word Address
	WEY		Word Address
	DEY	0027	Word Address
Data Area	M	0082	Word Address
	WM		Word Address
	DM	0022	Word Address
CPU Link	L	0083	Word Address
	WL		Word Address
	DL	0023	Word Address
Word Inner Output	WR	0000	Word Address
	DR	0024	Word Address
Data Area	WN	0001	Word Address
	DN	0025	Word Address
Timer Counter (Elapsed Value)	TC	0060	Word Address

6.4 MICRO-EHV Series

Device	Device Name	Device Code (HEX)	Address Code
External Input	W	0080	Word Address
	WX		Word Address
	DX	0020	Word Address
External Output	Y	0081	Word Address
	WY		Word Address
	DY	0021	Word Address
Data Area	M	0082	Word Address
	WM		Word Address
	DM	0022	Word Address
Timer Counter (Elapsed Value)	TC	0060	Word Address
Word Inner Output	WR	0000	Word Address
	DR	0024	Word Address
Word Special Inner Output	WRF	0001	Word Address
	DRF	0025	Word Address

7 Error Messages

Error messages are displayed on the screen of the Display as follows: "No.:Device Name:Error Message (Error Occurrence Area)". Each description is shown below.

Item	Requirements
No.	Error Number.
Device Name	Name of the External Device where error occurs. Device name is a title of the External Device set with GP-Pro EX.(Initial value[PLC1])
Error Message	Displays messages related to the error which occurs.
Error Occurrence Area	Displays IP address or device address of the External Device where error occurs, or error codes received from the External Device. **NOTE** • IP address is displayed such as "IP address (Decimal): MAC address (Hex)". • Device address is displayed such as "Address: Device address". • Received error codes are displayed such as "[Hex, Hex]".

Display Examples of Error Messages

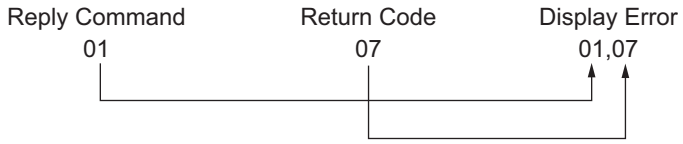
"RHAA035: PLC1: Error has been responded for device write command (Error Code: [02H,02H])"

NOTE
- Refer to your External Device manual for details on received error codes.
- Refer to "Display-related errors" in "Maintenance/Troubleshooting Guide" for details on the error messages common to the driver.

■ Error Codes Unique to External Device

Error codes are sent as separated 2 bytes codes

Example:



Error Code	Description
01,05	The requested number of points is beyond the designated range.
01,06	Designated device does not exist.
01,07	Designated device address is beyond the range.

NOTE
- Please refer to the manual of the External Device for more detail of received error codes.

■ Error Messages Unique to External Device

Error Code	Error Message	Description
RHxx128	(Node Name): Error has been responded for initial communication command (Error Code: [Hex,Hex])	After sending a communication start request to the External Device, it returned an error response.
RHxx129	(Node Name): Error has been responded for device read command (Error Code: [Hex,Hex])	After sending a read request to the External Device, it returned an error response.
RHxx130	(Node Name): Error has been responded for device write command (Error Code: [Hex,Hex])	After sending a write request to the External Device, it returned an error response.
RHxx131	(Node Name): Error has been responded for device read command (Error Code: [Hex,Hex] There are out of range devises)	After sending a read request to the External Device, it returned an error response. Check the read address.
RHxx132	(Node Name): Error has been responded for device write command (Error Code: [Hex,Hex]) There are out of range devises)	After sending a write request to the External Device, it returned an error response. Check the write address.
RHxx133	(Node Name): Error has been responded for Read Occupancy command (Error Code: [Hex,Hex]) Local station is WRITE-occupying CPU)	After sending a read occupancy request to the External Device, it returned an error response. Release the write occupancy held by the local node.
RHxx134	(Node Name): Error has been responded for Read Occupancy command (Error Code: [Hex,Hex]) Already READ-occupied by the other four stations)	After sending a read occupancy request to the External Device, it returned an error response. Release the read occupancy held by other nodes.
RHxx135	(Node Name): Error has been responded for Read Occupancy command (Error Code: [Hex,Hex]) Another station is WRITE-occupying CPU)	After sending a read occupancy request to the External Device, it returned an error response. Release the write occupancy held by other nodes.