Personal Computer Link Ethernet Driver

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Introduction

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

In this manual, the connection procedure will be described by following the below sections:

1 System Configuration "1 System Configuration" (page 3) This section shows the types of External Device which can be connected and SIO type. Selection of External Device "2 Selection of External Device" (page 6) Select a model (series) of the External Device to be connected and connection method. **Example of Communication Settings** 3 "3 Example of Communication Setting" This section shows setting examples for (page 7) communicating between the Display and the External Device. Setup Items 4 "4 Setup Items" (page 39) This section describes communication setup items on the Display. Set communication settings of the Display with GP-Pro Ex or in off-line mode.

Operation

1 System Configuration

The system configuration in the case when the External Device of YOKOGAWA Electric Corp. and the Display are connected is shown.

Series	CPU	Link I/F	Port No.	SIO Type	Data Code Settings	Setting Example		
		F3LE01-5T *1	Ethernet (UDP) 12289 Ethernet (TCP)	Ethernet	Binary*2	Setting Example 1 (page 7)		
				(UDP)	ASCII*3	Setting Example 2 (page 9)		
				Ethernet	Binary*2	Setting Example 5 (page 15)		
	F3SP21-0N				(TCP)	ASCII*3	Setting Example 6 (page 17)	
	F3SP25-2N F3SP28-3N	F3SP25-2N F3SP28-3N F3SP35-5N F3SP38-6N	12289	Ethernet (UDP)	Binary*2	Setting Example 1 (page 7)		
FA-M3	F3SP35-5N F3SP38-6N F3SP53-4H				ASCII*3	Setting Example 2 (page 9)		
TA-WIS	F3SP58-6H F3SP28-3S F3SP38-6S	Ethernet	Binary*2	Setting Example 5 (page 15)				
	F3SP53-4S F3SP58-6S F3SP59-7S	F3LE11-0T *1	12201		(TCP)	ASCII*3	Setting Example 6 (page 17)	
	F33F39-73	TSLEIT-01			Ethernet	Binary*3	Setting Example 3 (page 11)	
	12291				(UDP)	ASCII*2	Setting Example 4 (page 13)	
		Ethernet	Binary*3	Setting Example 7 (page 19)				
						(TCP)	ASCII*2	Setting Example 8 (page 21)

continued to next page

Series	CPU	Link I/F	Port No.	SIO Type	Data Code Settings	Setting Example					
		Ethernet	Binary*2	Setting Example 9 (page 23)							
		1228	12200	12200	(UDP)	ASCII*3	Setting Example 10 (page 25)				
					Ethernet (TCP)	12289	12209	12289		Ethernet	Binary*2
FA-M3	F3SP66-4S	Ethernet I/F on				ASCII*3	Setting Example 12 (page 29)				
TA-WIS	F3SP67-6S CPU Unit	CPU Unit	CPU Unit			Ethernet	Binary*3	Setting Example 13 (page 31)			
		(UDP)	ASCII*2	Setting Example 14 (page 33)							
		12271		12291	12291	Ethernet	Binary*3	Setting Example 15 (page 35)			
				(TCP)	ASCII*2	Setting Example 16 (page 37)					

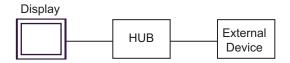
^{*1} In TCP connection, you can connect max 8 units of the External Device to 1 display unit.

^{*2} Set the data code setting to ON.

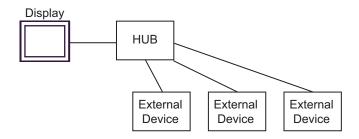
^{*3} Set the data code setting to OFF.

■ Connection Configuration

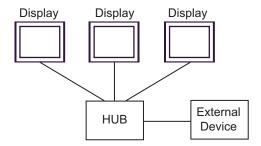
1:1 Connection



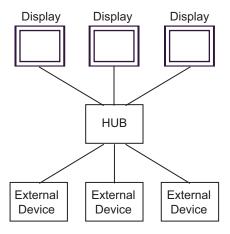
1:n Connection



n:1 Connection

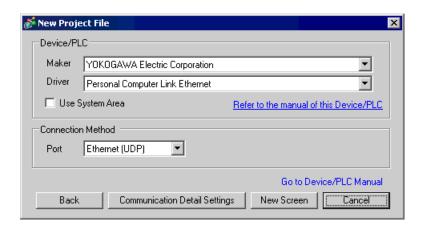


n:m Connection



2 Selection of External Device

Select the External Device to be connected to the Display.



Setup Items	Setup Description	
Maker	Select the maker of the External Device to be connected. Select "YOKOGAWA Electric Corporation".	
Driver	Select a model (series) of the External Device to be connected and connection method. Select "Personal Computer Link Ethernet". Check the External Device which can be connected in "Personal Computer Link Ethernet" in system configuration. ""1 System Configuration" (page 3)	
	Check this option to synchronize the system data area of the Display and the device (memory) of the External Device. When they are synchronized, you can use the ladder program of the External Device to switch the display or to display a window on the Display. Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (Direct Access	
Use System Area	Method)" This can also be set in GP-Pro EX or in the Display's off-line mode. Cf. GP-Pro EX Reference Manual "5.17.6 [System Settings] Setting Guide, [Display Unit] Settings Guide, System Area Settings"	
	Cf. Maintenance/Troubleshooting Manual "2.15.1 Settings common to all Display models, [Main Unit Settings] Settings Guide, System Area Settings"	
Port	Select the Display port to be connected to the External Device.	

3 Example of Communication Setting

Examples of communication settings of the Display and the External Device, recommended by Pro-face, are shown.

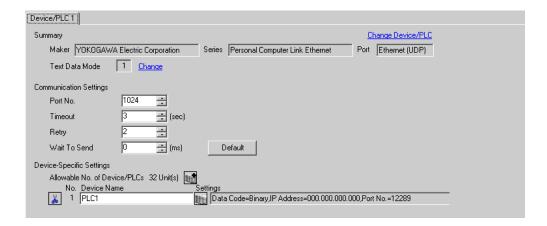
When you use the FA-M3 Series, use GP-Pro EX and the ladder software to set as below.

3.1 Setting Example 1

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[Setting]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



Notes

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Use the switches on the side of Ethernet module for setting the External Device.

◆ IP Address Setting Switch

Use 8 Hex rotary switches for setting.

Setup Items	Setup Description
IP Address Setting Rotary Switch	Option

◆ Port No.

Setup Items	Setup Description
Port No.	12289

◆ Condition Setting Switch

DIP Switch	Settings	Setup Description
SW1	ON	Binary
SW2	OFF	Not protect
SW3		(Reserved)
SW4		(Reserved)
SW5		(Reserved)
SW6		(Reserved)
SW7*1	OFF	Close
SW8	OFF	Normal

^{*1} SW7 is available to set in F3LE01-5T only.

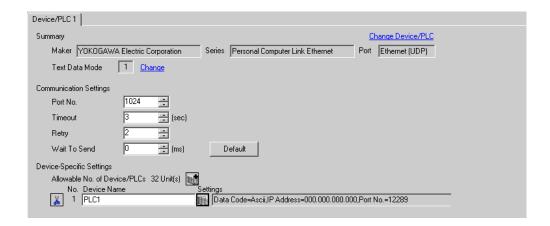
♦ Notes

3.2 Setting Example 2

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



Notes

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Use the switches on the side of Ethernet module for setting the External Device.

◆ IP Address Setting Switch

Use 8 Hex rotary switches for setting.

Setup Items	Setup Description
IP Address Setting Rotary Switch	Option

◆ Port No.

Setup Items	Setup Description
Port No.	12289

◆ Condition Setting Switch

DIP Switch	Settings	Setup Description
SW1	OFF	ASCII
SW2	OFF	Not protect
SW3		(Reserved)
SW4		(Reserved)
SW5		(Reserved)
SW6		(Reserved)
SW7 ^{*1}	OFF	Close
SW8	OFF	Normal

^{*1} SW7 is available to set in F3LE01-5T only.

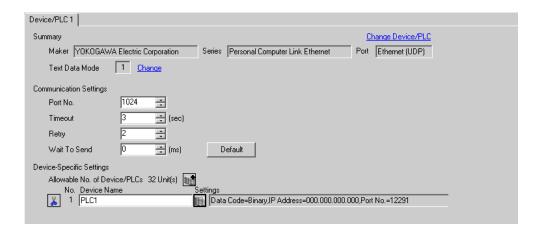
♦ Notes

3.3 Setting Example 3

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Use the switches on the side of Ethernet module for setting the External Device.

◆ IP Address Setting Switch

Use 8 Hex rotary switches for setting.

Setup Items	Setup Description
IP Address Setting Rotary Switch	Option

◆ Port No.

Setup Items	Setup Description
Port No.	12291

◆ Condition Setting Switch

DIP Switch	Settings	Setup Description
SW1	OFF	Binary
SW2	OFF	Not protect
SW3		(Reserved)
SW4		(Reserved)
SW5		(Reserved)
SW6		(Reserved)
SW7	OFF	Close
SW8	OFF	Normal

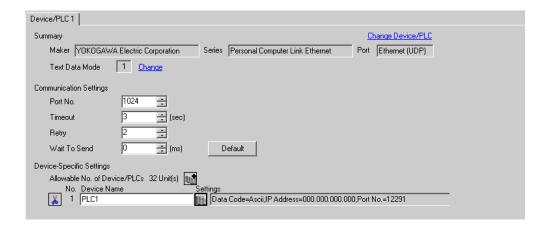
◆ Notes

3.4 Setting Example 4

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Use the switches on the side of Ethernet module for setting the External Device.

◆ IP Address Setting Switch

Use 8 Hex rotary switches for setting.

Setup Items	Setup Description
IP Address Setting Rotary Switch	Option

◆ Port No.

Setup Items	Setup Description
Port No.	12291

◆ Condition Setting Switch

DIP Switch	Settings	Setup Description
SW1	ON	ASCII
SW2	OFF	Not protect
SW3		(Reserved)
SW4		(Reserved)
SW5		(Reserved)
SW6		(Reserved)
SW7	OFF	Close
SW8	OFF	Normal

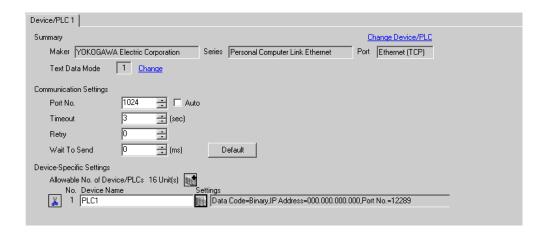
◆ Notes

3.5 Setting Example 5

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [fig. ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Use the switches on the side of Ethernet module for setting the External Device.

◆ IP Address Setting Switch

Use 8 Hex rotary switches for setting.

Setup Items	Setup Description
IP Address Setting Rotary Switch	Option

◆ Port No.

Setup Items	Setup Description
Port No.	12289

◆ Condition Setting Switch

DIP Switch	Settings	Setup Description
SW1	ON	Binary
SW2	OFF	Not protect
SW3		(Reserved)
SW4		(Reserved)
SW5		(Reserved)
SW6		(Reserved)
SW7*1	OFF	Close
SW8	OFF	Normal

^{*1} SW7 is available to set in F3LE01-5T only.

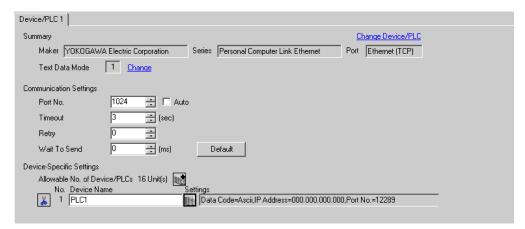
♦ Notes

3.6 Setting Example 6

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [fig. ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



♦ Notes

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Use the switches on the side of Ethernet module for setting the External Device.

◆ IP Address Setting Switch

Use 8 Hex rotary switches for setting.

Setup Items	Setup Description
IP Address Setting Rotary Switch	Option

◆ Port No.

Setup Items	Setup Description
Port No.	12289

◆ Condition Setting Switch

DIP Switch	Settings	Setup Description
SW1	OFF	ASCII
SW2	OFF	Not protect
SW3		(Reserved)
SW4		(Reserved)
SW5		(Reserved)
SW6		(Reserved)
SW7 ^{*1}	OFF	Close
SW8	OFF	Normal

^{*1} SW7 is available to set in F3LE01-5T only.

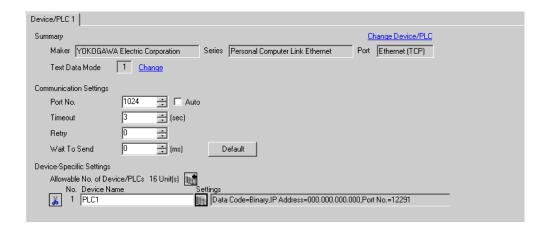
◆ Notes

3.7 Setting Example 7

■ Settings of GP-Pro EX

Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



Notes

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Use the switches on the side of Ethernet module for setting the External Device.

◆ IP Address Setting Switch

Use 8 Hex rotary switches for setting.

Setup Items	Setup Description
IP Address Setting Rotary Switch	Option

◆ Port No.

Setup Items	Setup Description
Port No.	12291

◆ Condition Setting Switch

DIP Switch	Settings	Setup Description
SW1	OFF	Binary
SW2	OFF	Not protect
SW3		(Reserved)
SW4		(Reserved)
SW5		(Reserved)
SW6		(Reserved)
SW7	OFF	Close
SW8	OFF	Normal

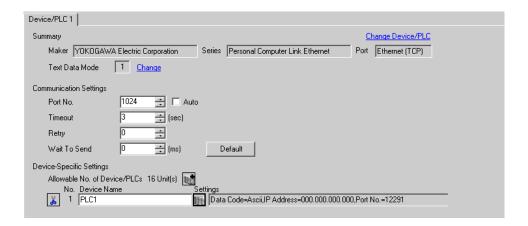
◆ Notes

3.8 Setting Example 8

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Use the switches on the side of Ethernet module for setting the External Device.

◆ IP Address Setting Switch

Use 8 Hex rotary switches for setting.

Setup Items	Setup Description
IP Address Setting Rotary Switch	Option

◆ Port No.

Setup Items	Setup Description
Port No.	12291

◆ Condition Setting Switch

DIP Switch	Settings	Setup Description
SW1	ON	ASCII
SW2	OFF	Not protect
SW3		(Reserved)
SW4		(Reserved)
SW5		(Reserved)
SW6		(Reserved)
SW7	OFF	Close
SW8	OFF	Normal

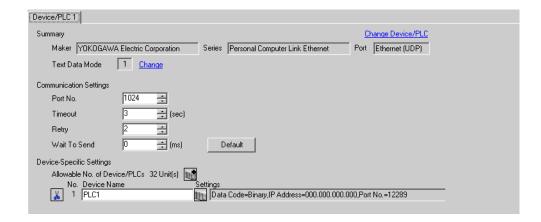
◆ Notes

3.9 Setting Example 9

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Make communication settings of the External Device with the ladder soft (Wide Field2).

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

◆ Procedure

- (1) Start the ladder soft.
- (2) Create a new project. Select the External Device to be used when creating the project.
- (3) Select [Open]-[CPU Properties] from the [File] menu and open the CPU property file for settings.
- (4) In the [LOAD] settings, select the settings to be loaded. Set 0 (not loaded) for the others except the following settings.
 - [LOAD] Settings

Setup Items	Setup Description
NETWORK	1
ETHERNET	1
HIGHER-LEVEL LINK SERVICE	1

- (5) Make communication settings with the [Setting] tree's [NETWORK][ETHERNET][HIGHER-LEVEL LINK SERVICE].
 - [NETWORK] Settings

Setup Items	Setup Description
NETWORK_SELECT	1

[ETHERNET] Settings

Setup Items	Setup Description
ETHER_MY_IPADDRESS	IP Address of the External Device Ex: 192.168.0.3
ETHER_SUBNET_MASK	Subnet Mask of the External Device Ex: 255.255.255.0

Setup Items	Setup Description
HILINK_PROTOCOL_A	1
HILINK_DATA_FORMAT_A	1

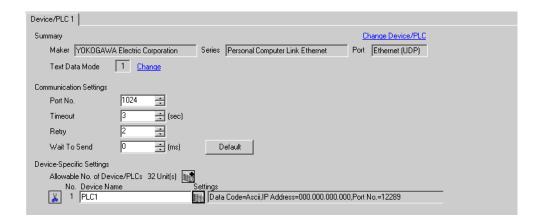
- (6) Select [Save as] from the [File] menu and save the CPU property file.
- (7) Select [Download]-[CPU Properties] from the [ONLINE] menu and download the set CPU property file to the External Device.

3.10 Setting Example 10

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Make communication settings of the External Device with the ladder soft (Wide Field2).

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

◆ Procedure

- (1) Start the ladder soft.
- (2) Create a new project. Select the External Device to be used when creating the project.
- (3) Select [Open]-[CPU Properties] from the [File] menu and open the CPU property file for settings.
- (4) In the [LOAD] settings, select the settings to be loaded. Set 0 (not loaded) for the others except the following settings.
 - [LOAD] Settings

Setup Items	Setup Description
NETWORK	1
ETHERNET	1
HIGHER-LEVEL LINK SERVICE	1

- (5) Make communication settings with the [Setting] tree's [NETWORK][ETHERNET][HIGHER-LEVEL LINK SERVICE].
 - [NETWORK] Settings

Setup Items	Setup Description
NETWORK_SELECT	1

[ETHERNET] Settings

Setup Items	Setup Description
ETHER_MY_IPADDRESS	IP Address of the External Device Ex: 192.168.0.3
ETHER_SUBNET_MASK	Subnet Mask of the External Device Ex: 255.255.255.0

Setup Items	Setup Description
HILINK_PROTOCOL_A	1
HILINK_DATA_FORMAT_A	0

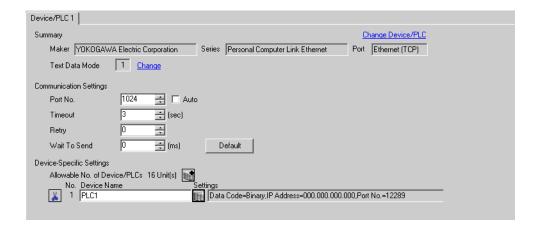
- (6) Select [Save as] from the [File] menu and save the CPU property file.
- (7) Select [Download]-[CPU Properties] from the [ONLINE] menu and download the set CPU property file to the External Device.

3.11 Setting Example 11

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Make communication settings of the External Device with the ladder soft (Wide Field2).

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

Procedure

- (1) Start the ladder soft.
- (2) Create a new project. Select the External Device to be used when creating the project.
- (3) Select [Open]-[CPU Properties] from the [File] menu and open the CPU property file for settings.
- (4) In the [LOAD] settings, select the settings to be loaded. Set 0 (not loaded) for the others except the following settings.
 - [LOAD] Settings

Setup Items	Setup Description
NETWORK	1
ETHERNET	1
HIGHER-LEVEL LINK SERVICE	1

- (5) Make communication settings with the [Setting] tree's [NETWORK][ETHERNET][HIGHER-LEVEL LINK SERVICE].
 - [NETWORK] Settings

Setup Items	Setup Description
NETWORK_SELECT	1

• [ETHERNET] Settings

Setup Items	Setup Description
ETHER_MY_IPADDRESS	IP Address of the External Device Ex: 192.168.0.3
ETHER_SUBNET_MASK	Subnet Mask of the External Device Ex: 255.255.255.0

Setup Items	Setup Description
HILINK_PROTOCOL_A	0
HILINK_DATA_FORMAT_A	1

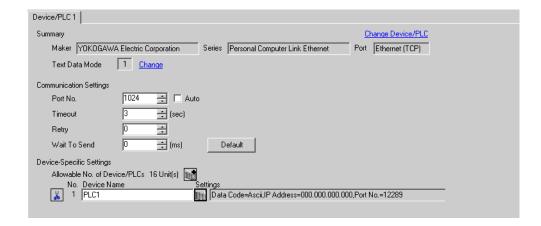
- (6) Select [Save as] from the [File] menu and save the CPU property file.
- (7) Select [Download]-[CPU Properties] from the [ONLINE] menu and download the set CPU property file to the External Device.

3.12 Setting Example 12

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Make communication settings of the External Device with the ladder soft (Wide Field2).

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

◆ Procedure

- (1) Start the ladder soft.
- (2) Create a new project. Select the External Device to be used when creating the project.
- (3) Select [Open]-[CPU Properties] from the [File] menu and open the CPU property file for settings.
- (4) In the [LOAD] settings, select the settings to be loaded. Set 0 (not loaded) for the others except the following settings.
 - [LOAD] Settings

Setup Items	Setup Description
NETWORK	1
ETHERNET	1
HIGHER-LEVEL LINK SERVICE	1

- (5) Make communication settings with the [Setting] tree's [NETWORK][ETHERNET][HIGHER-LEVEL LINK SERVICE].
 - [NETWORK] Settings

Setup Items	Setup Description
NETWORK_SELECT	1

• [ETHERNET] Settings

Setup Items	Setup Description
ETHER_MY_IPADDRESS	IP Address of the External Device Ex: 192.168.0.3
ETHER_SUBNET_MASK	Subnet Mask of the External Device Ex: 255.255.255.0

Setup Items	Setup Description
HILINK_PROTOCOL_A	0
HILINK_DATA_FORMAT_A	0

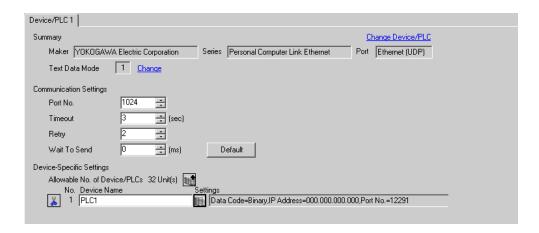
- (6) Select [Save as] from the [File] menu and save the CPU property file.
- (7) Select [Download]-[CPU Properties] from the [ONLINE] menu and download the set CPU property file to the External Device.

3.13 Setting Example 13

■ Settings of GP-Pro EX

◆ Communication Settings

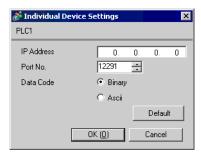
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Make communication settings of the External Device with the ladder soft (Wide Field2).

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

◆ Procedure

- (1) Start the ladder soft.
- (2) Create a new project. Select the External Device to be used when creating the project.
- (3) Select [Open]-[CPU Properties] from the [File] menu and open the CPU property file for settings.
- (4) In the [LOAD] settings, select the settings to be loaded. Set 0 (not loaded) for the others except the following settings.
 - [LOAD] Settings

Setup Items	Setup Description
NETWORK	1
ETHERNET	1
HIGHER-LEVEL LINK SERVICE	1

- (5) Make communication settings with the [Setting] tree's [NETWORK][ETHERNET][HIGHER-LEVEL LINK SERVICE].
 - [NETWORK] Settings

Setup Items	Setup Description
NETWORK_SELECT	1

[ETHERNET] Settings

Setup Items	Setup Description
ETHER_MY_IPADDRESS	IP Address of the External Device Ex: 192.168.0.3
ETHER_SUBNET_MASK	Subnet Mask of the External Device Ex: 255.255.255.0

Setup Items	Setup Description
HILINK_PROTOCOL_B	1
HILINK_DATA_FORMAT_B	1

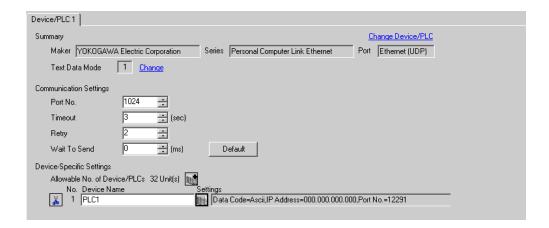
- (6) Select [Save as] from the [File] menu and save the CPU property file.
- (7) Select [Download]-[CPU Properties] from the [ONLINE] menu and download the set CPU property file to the External Device.

3.14 Setting Example 14

■ Settings of GP-Pro EX

◆ Communication Settings

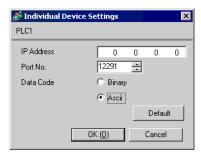
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Make communication settings of the External Device with the ladder soft (Wide Field2).

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

◆ Procedure

- (1) Start the ladder soft.
- (2) Create a new project. Select the External Device to be used when creating the project.
- (3) Select [Open]-[CPU Properties] from the [File] menu and open the CPU property file for settings.
- (4) In the [LOAD] settings, select the settings to be loaded. Set 0 (not loaded) for the others except the following settings.
 - [LOAD] Settings

Setup Items	Setup Description
NETWORK	1
ETHERNET	1
HIGHER-LEVEL LINK SERVICE	1

- (5) Make communication settings with the [Setting] tree's [NETWORK][ETHERNET][HIGHER-LEVEL LINK SERVICE].
 - [NETWORK] Settings

Setup Items	Setup Description
NETWORK_SELECT	1

• [ETHERNET] Settings

Setup Items	Setup Description
ETHER_MY_IPADDRESS	IP Address of the External Device Ex: 192.168.0.3
ETHER_SUBNET_MASK	Subnet Mask of the External Device Ex: 255.255.255.0

Setup Items	Setup Description
HILINK_PROTOCOL_B	1
HILINK_DATA_FORMAT_B	0

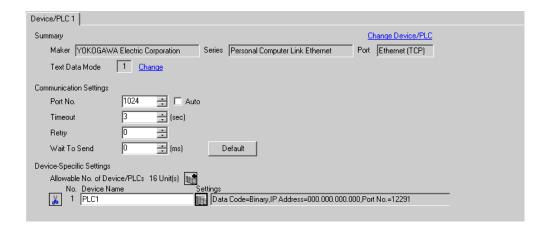
- (6) Select [Save as] from the [File] menu and save the CPU property file.
- (7) Select [Download]-[CPU Properties] from the [ONLINE] menu and download the set CPU property file to the External Device.

3.15 Setting Example 15

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

Make communication settings of the External Device with the ladder soft (Wide Field2).

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

◆ Procedure

- (1) Start the ladder soft.
- (2) Create a new project. Select the External Device to be used when creating the project.
- (3) Select [Open]-[CPU Properties] from the [File] menu and open the CPU property file for settings.
- (4) In the [LOAD] settings, select the settings to be loaded. Set 0 (not loaded) for the others except the following settings.
 - [LOAD] Settings

Setup Items	Setup Description
NETWORK	1
ETHERNET	1
HIGHER-LEVEL LINK SERVICE	1

- (5) Make communication settings with the [Setting] tree's [NETWORK][ETHERNET][HIGHER-LEVEL LINK SERVICE].
 - [NETWORK] Settings

Setup Items	Setup Description
NETWORK_SELECT	1

• [ETHERNET] Settings

Setup Items	Setup Description
ETHER_MY_IPADDRESS	IP Address of the External Device Ex: 192.168.0.3
ETHER_SUBNET_MASK	Subnet Mask of the External Device Ex: 255.255.255.0

Setup Items	Setup Description
HILINK_PROTOCOL_B	0
HILINK_DATA_FORMAT_B	1

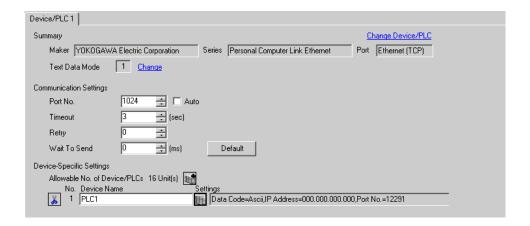
- (6) Select [Save as] from the [File] menu and save the CPU property file.
- (7) Select [Download]-[CPU Properties] from the [ONLINE] menu and download the set CPU property file to the External Device.

3.16 Setting Example 16

■ Settings of GP-Pro EX

◆ Communication Settings

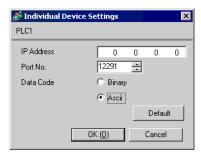
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



◆ Notes

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

■ Setting of External Device

Make communication settings of the External Device with the ladder soft (Wide Field2).

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

◆ Procedure

- (1) Start the ladder soft.
- (2) Create a new project. Select the External Device to be used when creating the project.
- (3) Select [Open]-[CPU Properties] from the [File] menu and open the CPU property file for settings.
- (4) In the [LOAD] settings, select the settings to be loaded. Set 0 (not loaded) for the others except the following settings.
 - [LOAD] Settings

Setup Items	Setup Description
NETWORK	1
ETHERNET	1
HIGHER-LEVEL LINK SERVICE	1

- (5) Make communication settings with the [Setting] tree's [NETWORK][ETHERNET][HIGHER-LEVEL LINK SERVICE].
 - [NETWORK] Settings

Setup Items	Setup Description
NETWORK_SELECT	1

• [ETHERNET] Settings

Setup Items	Setup Description
ETHER_MY_IPADDRESS	IP Address of the External Device Ex: 192.168.0.3
ETHER_SUBNET_MASK	Subnet Mask of the External Device Ex: 255.255.255.0

• [HIGHER-LEVEL LINK SERVICE] Settings

Setup Items	Setup Description
HILINK_PROTOCOL_B	0
HILINK_DATA_FORMAT_B	0

- (6) Select [Save as] from the [File] menu and save the CPU property file.
- (7) Select [Download]-[CPU Properties] from the [ONLINE] menu and download the set CPU property file to the External Device.

4 Setup Items

Set communication settings of the Display with GP-Pro EX or in off-line mode of the Display.

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

"3 Example of Communication Setting" (page 7)

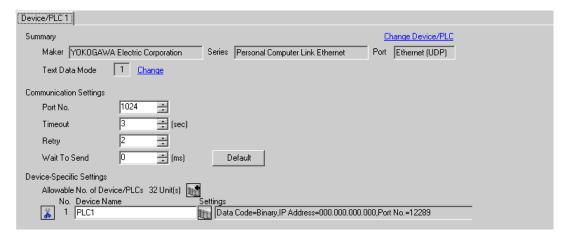
NOTE

- Set the Display's IP address in off-line mode.
- Cf. Maintenance/Troubleshooting Manual "2.5 Ethernet Settings"

4.1 Setup Items in GP-Pro EX

■ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

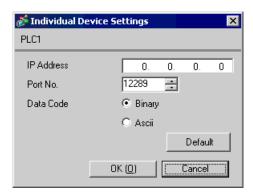


Setup Items	Setup Description		
Port No.	Use an integer from 1024 to 65535 to enter the port No. of the Display. When you check the option of [Auto Assign], the port No. will be automatically set. NOTE • [Auto Assign] option is available to set only when you select "Ethernet (TCP)" in [Connecting Method].		
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.		

■ Device Setting

To display the setting screen, click [[[Setting]]] of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When [Allowable No. of Device/PLCs] is multiple, click if from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



Setup Items	Setup Description	
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 12289 or 12291 to enter the port No. of the External Device.	
Data Code	Select the data format to communicate with the External Device from "Binary" or "ASCII".	

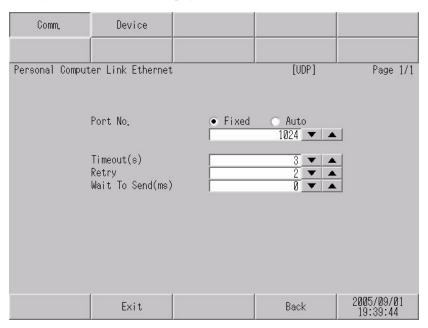
4.2 Setup Items in Off-Line Mode



- Refer to the Maintenance/Troubleshooting manual for information on how to enter off-line mode or about the operation.
- Cf. Maintenance/Troubleshooting Manual "2.2 Off-line Mode"

■ Communication Settings

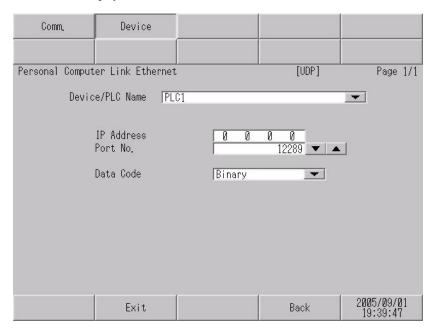
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings] in off-line mode. Touch the External Device you want to set from the displayed list.



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 he 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].



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])	
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 12289 or 12291 to enter the port No. of the External Device.	
Data Code	Select the data format to communicate with the External Device from "Binary" or "ASCII".	

5 Supported Device

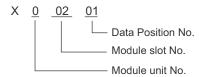
Range of supported device address is shown in the table below. Please note that the actually supported range of the devices varies depending on the External Device to be used. Please check the actual range in the manual of your External Device.

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Notes
Input Relay	X00201 to X71664	X00201 to X71649		÷18+ 1] *1*2
Output Relay	Y00201 to Y71664	Y00201 to Y71649		÷16+ 1] *1
Internal Relay	I00001 to I65535	I0001 to I65521		+16+ 1
Common Relay	E0001 to E4096	E0001 to E4081		+16+ 1
Special Relay	M0001 to M9984	M0001 to M9969		+16+ 1
Link Relay	L00001 to L78192	L00001 to L78177		+16+1] *3
Timer (Contact)	TU0001 to TU3072			
Counter (Contact)	CU000 to CU3072			
Timer (Current Value)		TP0001 to TP3072	-	
Timer (Setting Value)		TS0001 to TS3072	-	*2
Counter (Current Value)		CP0001 to CP3072		
Counter (Setting Value)		CS001 to CS3072		*2
Data Register		D00001 to D65535		_{в і т} 15)
Common Register		B000001 to B262144	[L/H]	_{в і т} 15)
General Register		R0001 to R4096		_{в і т} 15)
Special Register		Z0001 to Z1024		_{в і т} 15)
Link Register		W00001 to W78192		в і т 15] *3
Special Module		SW0010000 to SW7169999	-	*2*4
		INF100 to INF101		*2*5
		INF200 to INF214		*2*5
Information		INF30010 to INF37163		*2*5
		INF4100 to INF4215		Bit 15] *2*5
		INF500		*2*5
Program Information		PRI00000 to PRI99913		*2*6
User Log Read		ULR000000 to ULR 064128		*2*7
Error History Read		ERH000000 to ERH 128000		*2*8

*1 Address for input relay and output relay can be specified when data position number (bit) 01 to 49 for lower 2 digits is the value of (multiples of 16) + 1 only.

Example: X00201



- *2 Write disable
- *3 In link relay (L) and link register (W), the upper 1st digit on address input area shows the link number, and lower 4th digit shows the address. Specify the word address for link relay (L) and link register (W) with the value of (multiples of 16) + 1.

Example: When specifying L71024 of link relay



*4 Information of Special Module Read/Write

```
SW0 01 0003

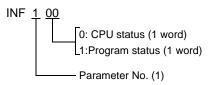
Data Position No. (0000 to 9999)

Module Slot No. (01 to 16)

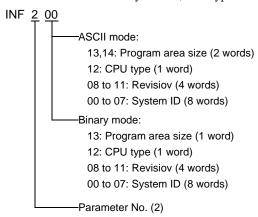
Module Unit No. (0 to 7)
```

*5 Information Read

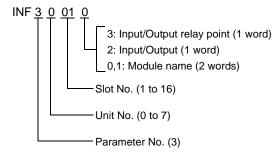
1. Read the status of CPU module and program



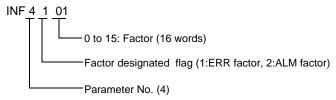
2. Read the information of system ID, CPU type and area size



3. Read the mounting module name



4. Read the ERR LED of CPU module or the ALM LED lighting factor



5. Delete the current alarm information of CPU module (write only)

```
INF 5 00
Parameter No. (5)
```

*6 Program Information Read

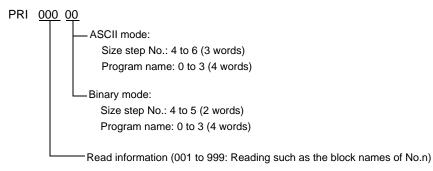
When 000 is written in Read information
PRI 000 00

ASCII mode:
Creation date: 7 to 13 (7 words)
Size step No.: 4 to 6 (3 words)
Program name: 0 to 3 (4 words)

Binary mode:
Creation date: 6 to 10 (5 words)
Size step No.: 4 to 5 (2 words)
Program name: 0 to 3 (4 words)

Read information (000: Program name, Creation date)

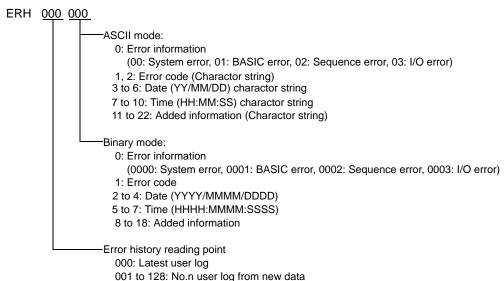
When one of the numbers from 001 to 999 is written in Read information



*7 User Log Read

ULR 000 000
User log: 0 to 128 (word)
User log reading point
000: Latest user log
001 to 064: No.n user log from new data

*8 Error History Read



NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
 - Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (Direct Access Method)"
- 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.

Device	Device Name	Device Code (HEX)	Address Code
I. (D.)	1X	0080	
	2X	0180	(Module unit No. x 0x40) + ((Module
Input Relay	3X	0280	slot No 1) x 0x4) + ((Terminal No 1) divided by 16)*1
	4X	0380	
	1Y	0081	
Output Palov	2Y	0181	(Module unit No. x 0x40) + ((Module slot No 1) x 0x4) + ((Terminal No
Output Relay	3Y	0281	1) divided by 16)*1
	4Y	0381	
	11	0082	
Internal Deles	2I	0182	Value of (word address - 1) divided by
Internal Relay	3I	0282	16
	4I	0382	
	1E	0084	
Common Relay	2E	0184	Value of (word address - 1) divided by
Common Keray	3E	0284	16
	4E	0384	
	1M	0083	
Special Poley	2M	0183	Value of (word address - 1) divided by
Special Relay	3M	0283	16
	4M	0383	
	1L	0088	
Link Relay	2L	0188	(Link No. x 0x10000) + ((word address
Link Relay	3L	0288	- 1) divided by 16)*2
	4L	0388	
Ti (C. (W.L.)	1TP	0060	
	2TP	0160	Value of word address from which 1 is
Timer (Current Value)	3TP	0260	deducted
	4TP	0360	

continued to next page

Device	Device Name	Device Code (HEX)	Address Code
Timer (Setting Value)	1TS	0063	
	2TS	0163	Value of word address from which 1 is
	3TS	0263	deducted
	4TS	0363	
	1CP	0061	
Counter (Current	2CP	0161	Value of word address from which 1 is
Value)	3СР	0261	deducted
	4CP	0361	
	1CS	0064	
Countag (Satting Value)	2CS	0164	Value of word address from which 1 is
Counter (Setting Value)	3CS	0264	deducted
	4CS	0364	
	1D	0000	
Data Basistan	2D	0100	Value of word address from which 1 is
Data Register	3D	0200	deducted
	4D	0300	
	1B	0004	
Common Dociston	2B	0104	Value of word address from which 1 is
Common Register	3B	0204	deducted
	4B	0304	
	1R	0003	
Company Description	2R	0103	Value of word address from which 1 is
General Register	3R	0203	deducted
	4R	0303	
	1Z	0001	
Special Degister	2Z	0101	Value of word address from which 1 is
Special Register	3Z	0201	deducted
	4Z	0301	
	1W	0002	
Link Darit	2W	0102	(Link No. x 0x10000) + ((word address
Link Register	3W	0202	- 1) divided by 16)*2
	4W	0302	

Device	Device Name	Device Code (HEX)	Address Code
Special Module	1SW	0065	
	2SW	0165	Word address
	3SW	0265	word address
	4SW	0365	
	1INF1	0066	
	2INF1	0166	Word address
	3INF1	0266	(Read only)
	4INF1	0366	
	1INF2	006a	
	2INF2	016a	Word address
	3INF2	026a	(Read only)
	4INF2	036a	
	1INF3	006b	
T. C	2INF3	016b	Word address
Information	3INF3	026b	(Read only)
	4INF3	036b	
	1INF4	0005	
	2INF4	0105	Word address
	3INF4	0205	(Read only)
	4INF4	0305	
	1INF5	006c	
	2INF5	016c	Word address
	3INF5	026c	(Write only)
	4INF5	036c	
	1PRI	0067	
D. I.C.	2PRI	0167	Word address
Program Information	3PRI	0267	(Read only)
	4PRI	0367	
	1ULR	0068	
	2ULR	0168	Word address
User Log Read	3ULR	0268	(Read only)
	4ULR	0368	

Device	Device Name	Device Code (HEX)	Address Code
Error History Read	1ERH	0069	Word address (Read only)
	2ERH	0169	
	3ERH	0269	
	4ERH	0369	

^{*1} Please refer to "5 Supported Device *1" for each name.

^{*2} Please refer to "5 Supported Device *3" for each name.

7 Error Messages

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

Item	Description		
No.	Error No.		
Device Name	Name of External Device where error occurs. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])		
Error Message	Displays messages related to the error which occurs.		
	Displays IP address or device address of External Device where error occurs, or error codes received from External Device.		
Error Occurrence Area	 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 "Decimal [Hex]". 		

Display Examples of Error Messages

"RHAA035: PLC1: Error has been responded for device write command (Error Code: 2 [02H])"



- Refer to your External Device manual for details on received error codes.
- Refer to "When an error is displayed (Error Code List)" in "Maintenance/Troubleshooting Manual" for details on the error messages common to the driver.