Sharp Manufacturing Systems Corporation

JW Series 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 sections below:

1	System Configuration This section shows the types of External Devices which can be connected and SIO type.	☞ "1 System Configuration" (page 3)
2	Selection of External Device Select a model (series) of the External Device to be connected and connection method.	☞ "2 Selection of External Device" (page 5)
3	Example of Communication Settings This section shows setting examples for communicating between the Display and the External Device.	☞ "3 Example of Communication Setting" (page 6)
4	Setup Items This section describes communication setup items on the Display. Set communication settings of the Display with GP-Pro EX or in off-line mode.	☞ "4 Setup Items" (page 22)

↓

Operation

1 System Configuration

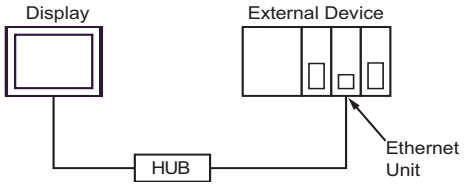
The following shows the system configuration where the External Device of SHARP MS Corporation and the Display are connected.

Series Name	CPU	Link I/F	SIO Type	Setting Example
JW300*1	JW-311CU JW-312CU	JW-25TCM JW-255CM	Ethernet (UDP)	Setting Example 1 (page 6)
			Ethernet (TCP)	Setting Example 2 (page 8)
	JW-321CU JW-322CU		Ethernet (UDP)	Setting Example 3 (page 10)
			Ethernet (TCP)	Setting Example 4 (page 12)
	JW-331CU JW-332CU JW-341CU JW-342CU JW-352CU JW-362CU		Ethernet (UDP)	Setting Example 5 (page 14)
			Ethernet (TCP)	Setting Example 6 (page 16)
JW30H	JW-31CUH1 JW-32CUH1 JW-32CUM1 JW-32CUM2 JW-33CUH1 JW-33CUH2 JW-33CUH3	JW-25TCM JW-255CM	Ethernet (UDP)	Setting Example 7 (page 18)
			Ethernet (TCP)	Setting Example 8 (page 20)

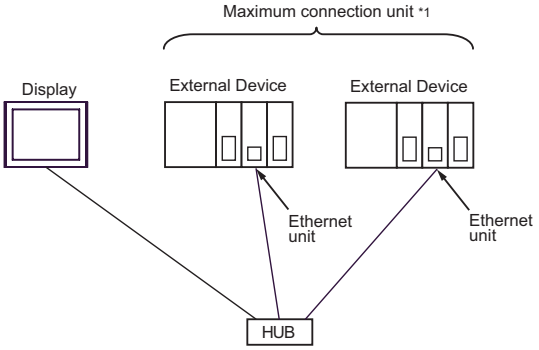
*1 Available with the Ethernet units compatible with JW300. "300" is labeled on the front of JW300-compatible units. For more information, contact the manufacturer of the External Device.

■ Connection Configuration

[1:1 Connection]

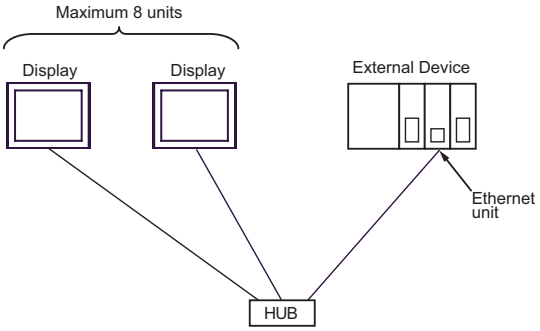


[1:n Connection]

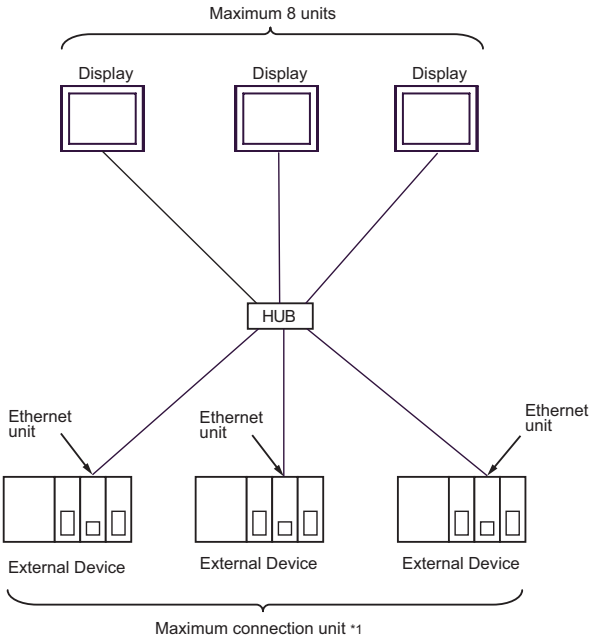


*1 You can connect up to 32 units of External Device for UDP, and 16 units of External Device for TCP at the same time.

[n:1 Connection]



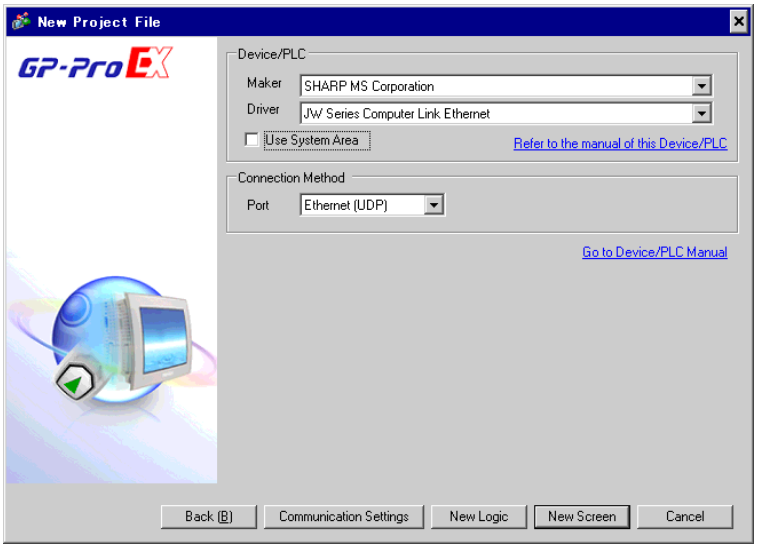
[n:m Connection]



*1 You can connect up to 32 units of External Device for UDP, and 16 units of External Device for TCP at the same time.

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 "SHARP MS Corporation".
Driver	Select a model (series) of the External Device to be connected and connection method. Select "JW Series Computer Link Ethernet". Check the External Device which can be connected in "JW Series Computer Link Ethernet" in system configuration. ☞"1 System Configuration" (page 3)
Use System Area	Check this option when you synchronize the system data area of the Display and the device (memory) of the External Device. When synchronized, you can use the ladder program of the External Device to switch the display or display the window on the Display. Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (Direct Access Method)" This can also be set with GP-Pro EX or in off-line mode of the Display. Cf. GP-Pro EX Reference Manual "5.17.6 Setting Guide of [System Setting Window], Setting Guide of [Main Unit Settings], System Area Setting" Cf. Maintenance/Troubleshooting manual "2.15.1 Common to the Display", Setting Guide of [Main Unit Settings], System Area Setting
Port	Select the port of the Display to be connected to the External Device from "Ethernet (UDP)" and "Ethernet (TCP)".

3 Example of Communication Setting

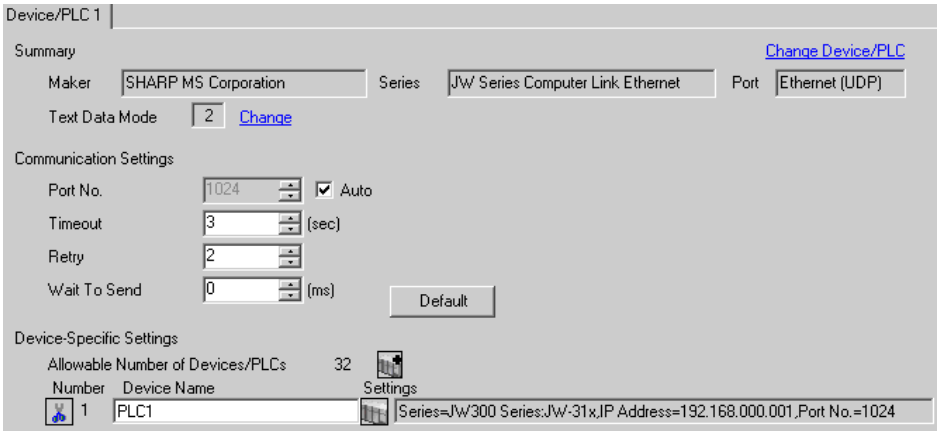
The following shows examples of communication settings of the Display and the External Device, which is recommended by Digital Electronics Corp.

3.1 Setting Example 1

■ Settings of GP-Pro EX

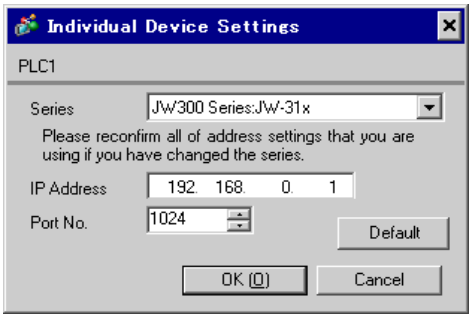
◆ Communication Settings

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 the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ Settings of External Device

Use the ladder software (JW-300SP) for the communication settings of the Ethernet unit.

To set the Ethernet unit No., use the unit No. switch on the back of the unit.

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

◆ Settings of Ethernet Module

1. Set the unit No. using the unit No. switch on the back of the Ethernet unit.You can select from 0 to 7.

IMPORTANT • Be sure not to duplicate unit Nos. between different units.

2. Start up the ladder software.
3. To transfer the communication settings from the ladder software to the External Device, follow these steps: From the [Online] menu, select [Communication Settings] to display the [Communication Settings] dialog box. Select [PLC(PG)] and then click the [Detail Settings] button to display the [PLC Device Parameter Settings] dialog box. In this dialog box, set the communication settings.
4. Create a new project. In the [Device Selection] dialog box displayed when you create the project, select the External Device to use.
   In the confirmation dialog box displayed when you complete the project, click [Yes] to read out the unit configuration of the External Device.
5. The read out unit configuration is displayed.
   Enter the Ethernet unit No. in [Unit No.SW] of [Option Unit].
6. Right-click [Option Unit], select [Additional Change] - [Option Unit] from the displayed menu, and then select the External Device to use.
   When you select the External Device, the parameter settings dialog box appears. Set the communication settings of the Ethernet unit.

   • IP Address

Setup Items	Setup Description
IP Address	Enter the IP address of the External Device. (ex. 192.168.0.1)
Subnet Mask	Enter the subnet mask of the External Device.

   • Connection Settings

Setup Items	Setup Description
No.	0
Open Method	UDP
Source Port No.	1024
Port Setting	DCML

7. From the [Online] menu, select [PLC Transfer] - [Write] to transfer the communication settings to the External Device.

◆ Notes

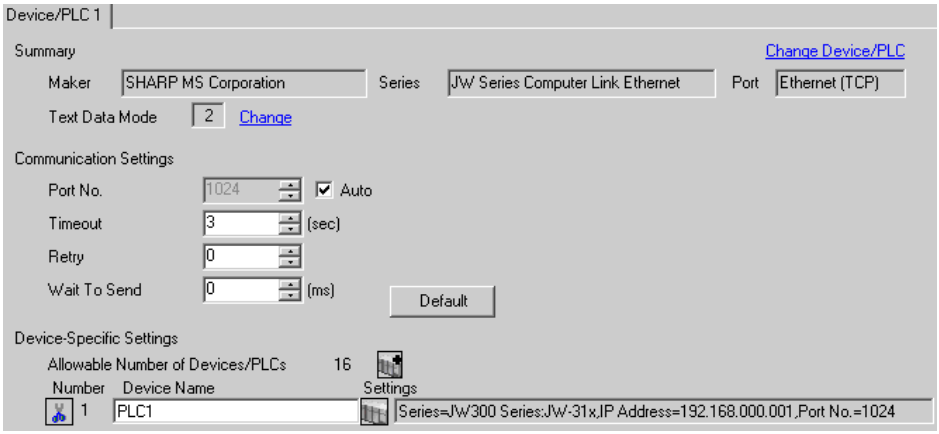
- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.

3.2 Setting Example 2

■ Settings of GP-Pro EX

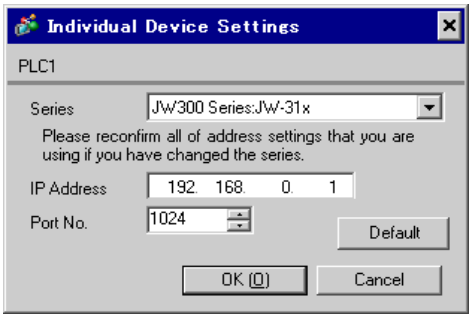
◆ Communication Settings

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 the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ Settings of External Device

Use the ladder software (JW-300SP) for the communication settings of the Ethernet unit.

To set the Ethernet unit No., use the unit No. switch on the back of the unit.

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

◆ Settings of Ethernet Module

1. Set the unit No. using the unit No. switch on the back of the Ethernet unit.You can select from 0 to 7.

IMPORTANT • Be sure not to duplicate unit Nos. between different units.

2. Start up the ladder software.
3. To transfer the communication settings from the ladder software to the External Device, follow these steps:
   From the [Online] menu, select [Communication Settings] to display the [Communication Settings] dialog box. Select [PLC(PG)] and then click the [Detail Settings] button to display the [PLC Device Parameter Settings] dialog box. In this dialog box, set the communication settings.
4. Create a new project. In the [Device Selection] dialog box displayed when you create the project, select the External Device to use.
   In the confirmation dialog box displayed when you complete the project, click [Yes] to read out the unit configuration of the External Device.
5. The read out unit configuration is displayed.
   Enter the Ethernet unit No. in [Unit No.SW] of [Option Unit].
6. Right-click [Option Unit], select [Additional Change] - [Option Unit] from the displayed menu, and then select the External Device to use.
   When you select the External Device, the parameter settings dialog box appears. Set the communication settings of the Ethernet unit.

   • IP Address

Setup Items	Setup Description
IP Address	Enter the IP address of the External Device. (ex. 192.168.0.1)
Subnet Mask	Enter the subnet mask of the External Device.

   • Connection Settings

Setup Items	Setup Description
No.	0
Open Method	TCP_Passive
Source Port No.	1024
Port Setting	DCML

7. From the [Online] menu, select [PLC Transfer] - [Write] to transfer the communication settings to the External Device.

◆ Notes

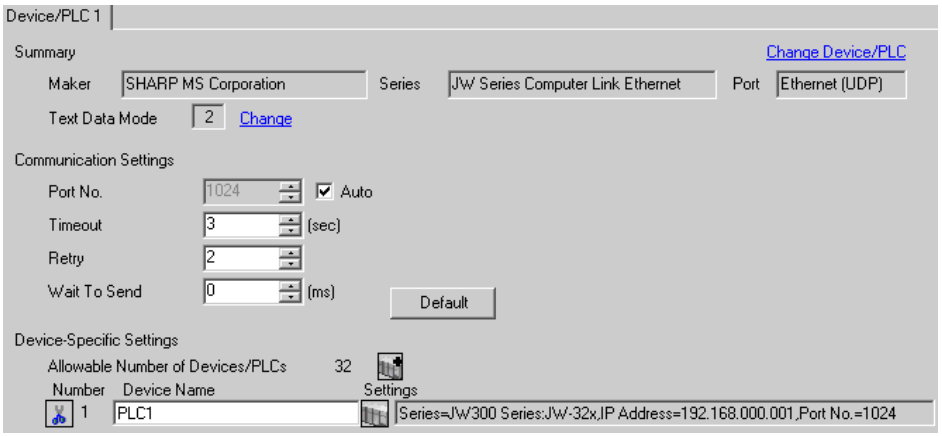
- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.

3.3 Setting Example 3

■ Settings of GP-Pro EX

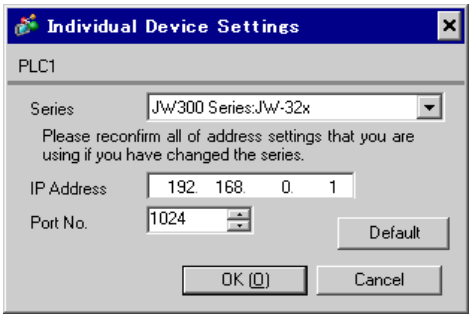
◆ Communication Settings

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 the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ Settings of External Device

Use the ladder software (JW-300SP) for the communication settings of the Ethernet unit.

To set the Ethernet unit No., use the unit No. switch on the back of the unit.

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

◆ Settings of Ethernet Module

1. Set the unit No. using the unit No. switch on the back of the Ethernet unit.You can select from 0 to 7.

IMPORTANT • Be sure not to duplicate unit Nos. between different units.

2. Start up the ladder software.
3. To transfer the communication settings from the ladder software to the External Device, follow these steps:
   From the [Online] menu, select [Communication Settings] to display the [Communication Settings] dialog box. Select [PLC(PG)] and then click the [Detail Settings] button to display the [PLC Device Parameter Settings] dialog box. In this dialog box, set the communication settings.
4. Create a new project. In the [Device Selection] dialog box displayed when you create the project, select the External Device to use.
   In the confirmation dialog box displayed when you complete the project, click [Yes] to read out the unit configuration of the External Device.
5. The read out unit configuration is displayed.
   Enter the Ethernet unit No. in [Unit No.SW] of [Option Unit].
6. Right-click [Option Unit], select [Additional Change] - [Option Unit] from the displayed menu, and then select the External Device to use.
   When you select the External Device, the parameter settings dialog box appears. Set the communication settings of the Ethernet unit.

   • IP Address

Setup Items	Setup Description
IP Address	Enter the IP address of the External Device. (ex. 192.168.0.1)
Subnet Mask	Enter the subnet mask of the External Device.

   • Connection Settings

Setup Items	Setup Description
No.	0
Open Method	UDP
Source Port No.	1024
Port Setting	DCML

7. From the [Online] menu, select [PLC Transfer] - [Write] to transfer the communication settings to the External Device.

◆ Notes

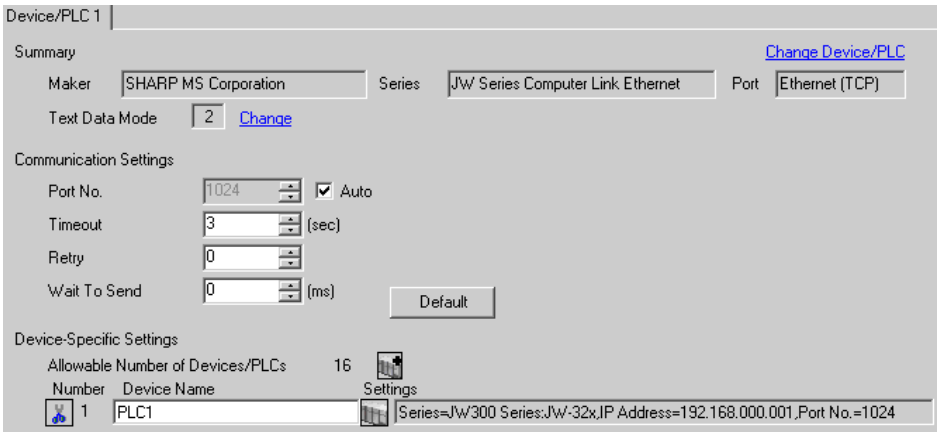
- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.

3.4 Setting Example 4

■ Settings of GP-Pro EX

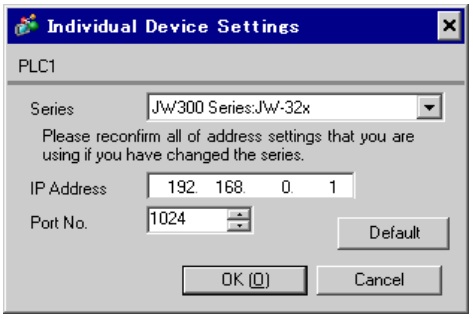
◆ Communication Settings

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 the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ Settings of External Device

Use the ladder software (JW-300SP) for the communication settings of the Ethernet unit.

To set the Ethernet unit No., use the unit No. switch on the back of the unit.

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

◆ Settings of Ethernet Module

1. Set the unit No. using the unit No. switch on the back of the Ethernet unit.You can select from 0 to 7.

IMPORTANT • Be sure not to duplicate unit Nos. between different units.

2. Start up the ladder software.
3. To transfer the communication settings from the ladder software to the External Device, follow these steps:
   From the [Online] menu, select [Communication Settings] to display the [Communication Settings] dialog box. Select [PLC(PG)] and then click the [Detail Settings] button to display the [PLC Device Parameter Settings] dialog box. In this dialog box, set the communication settings.
4. Create a new project. In the [Device Selection] dialog box displayed when you create the project, select the External Device to use.
   In the confirmation dialog box displayed when you complete the project, click [Yes] to read out the unit configuration of the External Device.
5. The read out unit configuration is displayed.
   Enter the Ethernet unit No. in [Unit No.SW] of [Option Unit].
6. Right-click [Option Unit], select [Additional Change] - [Option Unit] from the displayed menu, and then select the External Device to use.
   When you select the External Device, the parameter settings dialog box appears. Set the communication settings of the Ethernet unit.

   • IP Address

Setup Items	Setup Description
IP Address	Enter the IP address of the External Device. (ex. 192.168.0.1)
Subnet Mask	Enter the subnet mask of the External Device.

   • Connection Settings

Setup Items	Setup Description
No.	0
Open Method	TCP_Passive
Source Port No.	1024
Port Setting	DCML

7. From the [Online] menu, select [PLC Transfer] - [Write] to transfer the communication settings to the External Device.

◆ Notes

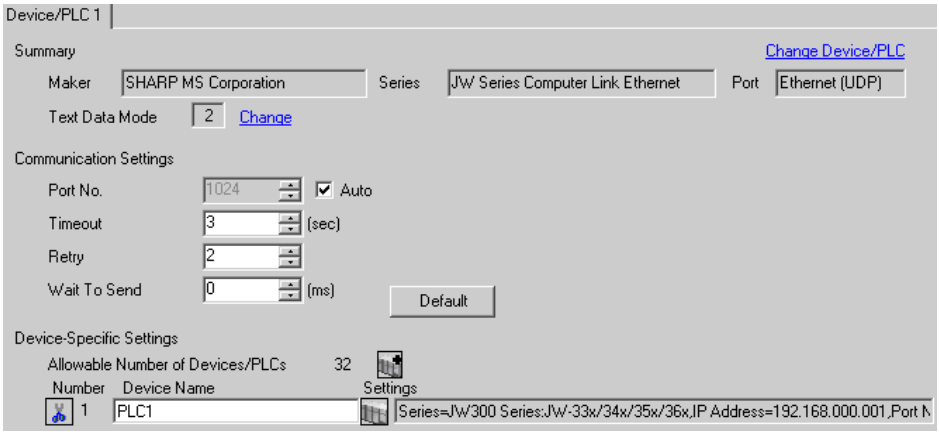
- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.

3.5 Setting Example 5

■ Settings of GP-Pro EX

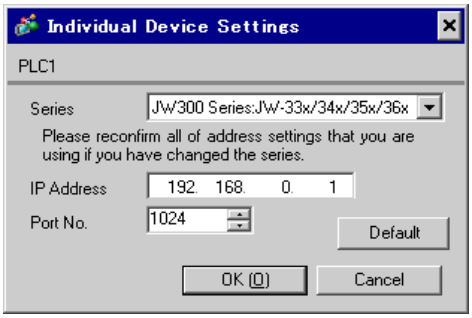
◆ Communication Settings

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



◆ Device Setting

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



■ Settings of External Device

Use the ladder software (JW-300SP) for the communication settings of the Ethernet unit.

To set the Ethernet unit No., use the unit No. switch on the back of the unit.

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

◆ Settings of Ethernet Module

1. Set the unit No. using the unit No. switch on the back of the Ethernet unit.You can select from 0 to 7.

IMPORTANT • Be sure not to duplicate unit Nos. between different units.

2. Start up the ladder software.
3. To transfer the communication settings from the ladder software to the External Device, follow these steps:
   From the [Online] menu, select [Communication Settings] to display the [Communication Settings] dialog box. Select [PLC(PG)] and then click the [Detail Settings] button to display the [PLC Device Parameter Settings] dialog box. In this dialog box, set the communication settings.
4. Create a new project. In the [Device Selection] dialog box displayed when you create the project, select the External Device to use.
   In the confirmation dialog box displayed when you complete the project, click [Yes] to read out the unit configuration of the External Device.
5. The read out unit configuration is displayed.
   Enter the Ethernet unit No. in [Unit No.SW] of [Option Unit].
6. Right-click [Option Unit], select [Additional Change] - [Option Unit] from the displayed menu, and then select the External Device to use.
   When you select the External Device, the parameter settings dialog box appears. Set the communication settings of the Ethernet unit.

   • IP Address

Setup Items	Setup Description
IP Address	Enter the IP address of the External Device. (ex. 192.168.0.1)
Subnet Mask	Enter the subnet mask of the External Device.

   • Connection Settings

Setup Items	Setup Description
No.	0
Open Method	UDP
Source Port No.	1024
Port Setting	DCML

7. From the [Online] menu, select [PLC Transfer] - [Write] to transfer the communication settings to the External Device.

◆ Notes

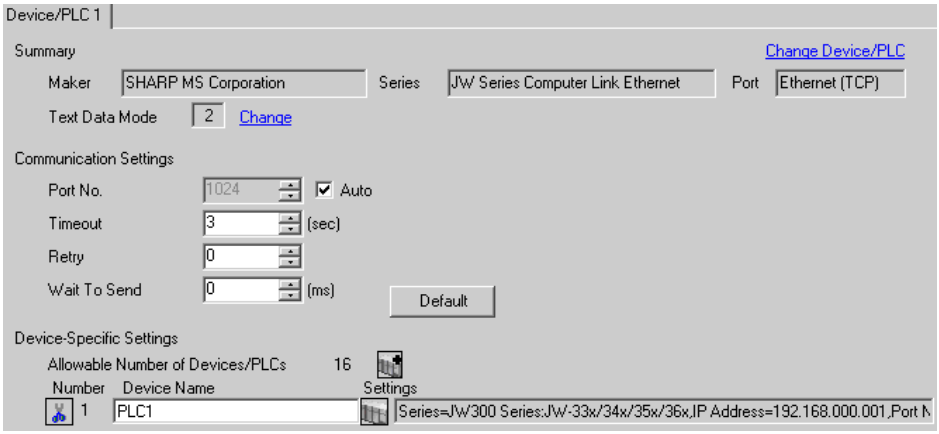
- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.

3.6 Setting Example 6

■ Settings of GP-Pro EX

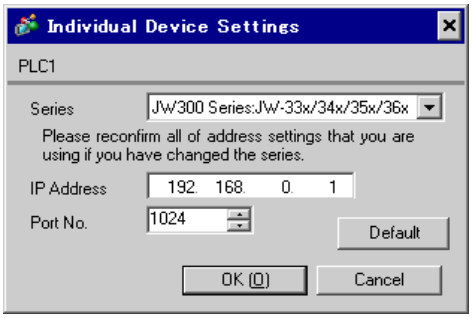
◆ Communication Settings

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



◆ Device Setting

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



■ Settings of External Device

Use the ladder software (JW-300SP) for the communication settings of the Ethernet unit.

To set the Ethernet unit No., use the unit No. switch on the back of the unit.

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

◆ Settings of Ethernet Module

1. Set the unit No. using the unit No. switch on the back of the Ethernet unit.You can select from 0 to 7.

IMPORTANT • Be sure not to duplicate unit Nos. between different units.

2. Start up the ladder software.
3. To transfer the communication settings from the ladder software to the External Device, follow these steps:
   From the [Online] menu, select [Communication Settings] to display the [Communication Settings] dialog box. Select [PLC(PG)] and then click the [Detail Settings] button to display the [PLC Device Parameter Settings] dialog box. In this dialog box, set the communication settings.
4. Create a new project. In the [Device Selection] dialog box displayed when you create the project, select the External Device to use.
   In the confirmation dialog box displayed when you complete the project, click [Yes] to read out the unit configuration of the External Device.
5. The read out unit configuration is displayed.
   Enter the Ethernet unit No. in [Unit No.SW] of [Option Unit].
6. Right-click [Option Unit], select [Additional Change] - [Option Unit] from the displayed menu, and then select the External Device to use.
   When you select the External Device, the parameter settings dialog box appears. Set the communication settings of the Ethernet unit.

   • IP Address

Setup Items	Setup Description
IP Address	Enter the IP address of the External Device. (ex. 192.168.0.1)
Subnet Mask	Enter the subnet mask of the External Device.

   • Connection Settings

Setup Items	Setup Description
No.	0
Open Method	TCP_Passive
Source Port No.	1024
Port Setting	DCML

7. From the [Online] menu, select [PLC Transfer] - [Write] to transfer the communication settings to the External Device.

◆ Notes

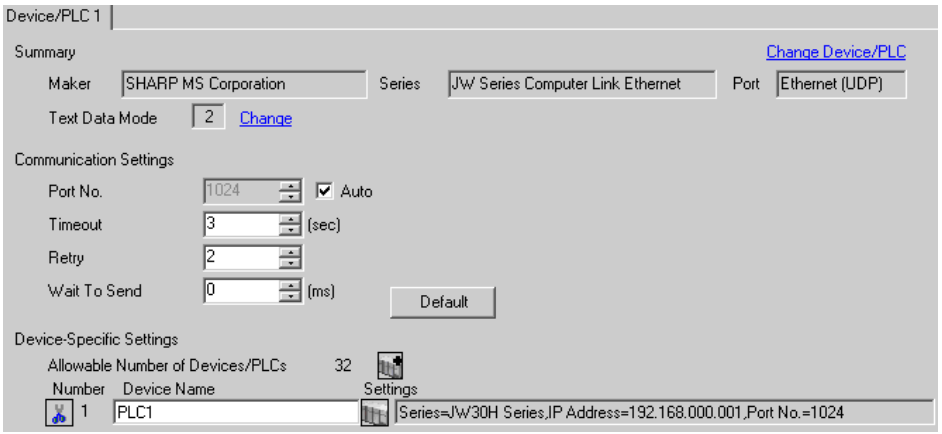
- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.

3.7 Setting Example 7

■ Settings of GP-Pro EX

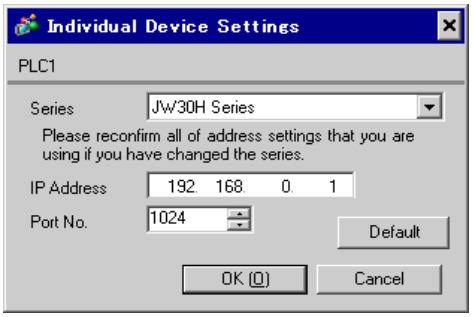
◆ Communication Settings

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 the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ Settings of External Device

Use the ladder software (JW-300SP) for the communication settings of the Ethernet unit.

To set the Ethernet unit No., use the unit No. switch on the back of the unit.

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

◆ Settings of Ethernet Module

1. Set the unit No. using the unit No. switch on the back of the Ethernet unit.You can select from 0 to 7.

IMPORTANT • Be sure not to duplicate unit Nos. between different units.

2. Start up the ladder software.
3. To transfer the communication settings from the ladder software to the External Device, follow these steps: From the [Online] menu, select [Communication Settings] to display the [Communication Settings] dialog box. Select [PLC(PG)] and then click the [Detail Settings] button to display the [PLC Device Parameter Settings] dialog box. In this dialog box, set the communication settings.
4. Create a new project. In the [Device Selection] dialog box displayed when you create the project, select the External Device to use, and then click [Next].
5. Click [OK] to display the project configuration of the External Device.
6. Click [Optional Parameter] to activate ExParam.
7. From the [File] menu, select [New].
8. Select the External Device to use and unit No. switch, and then click [OK].
9. From the [View] menu, select [Property Sheet]. In the parameter settings dialog box that appears, set the communication settings of the Ethernet unit. Then click [OK].

- IP Address

Setup Items	Setup Description
IP Address	Enter the IP address of the External Device. (ex. 192.168.0.1)
Subnet Mask	Enter the subnet mask of the External Device.

- Connection Settings

Setup Items	Setup Description
No.	0
Open Method	UDP
Source Port No.	1024
Port Setting	DCML

10. From the [PLC] menu, select [PLC Transfer] - [Write] to transfer the communication settings to the External Device.

◆ Notes

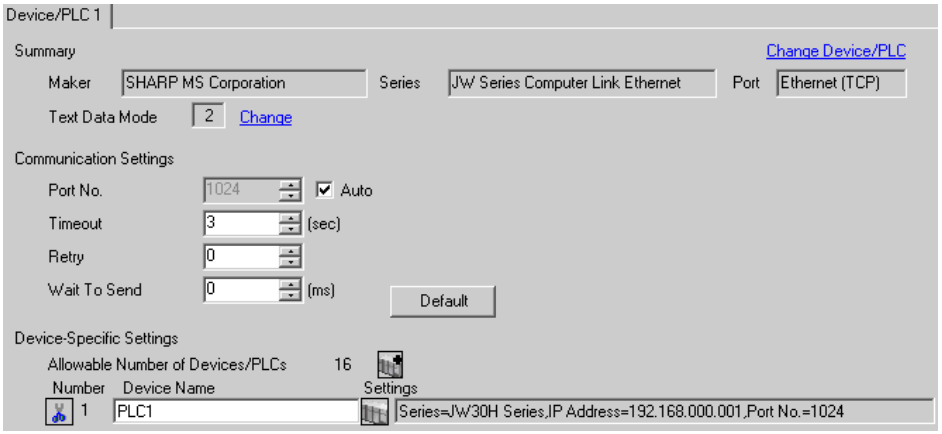
- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.

3.8 Setting Example 8

■ Settings of GP-Pro EX

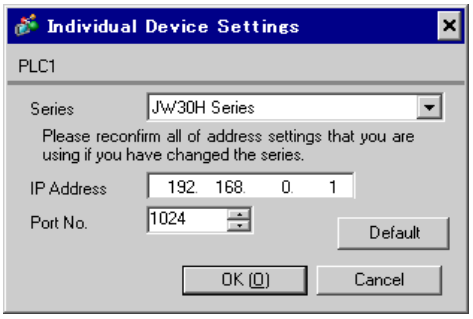
◆ Communication Settings

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 the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ Settings of External Device

Use the ladder software (JW-300SP) for the communication settings of the Ethernet unit.

To set the Ethernet unit No., use the unit No. switch on the back of the unit.

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

◆ Settings of Ethernet Module

1. Set the unit No. using the unit No. switch on the back of the Ethernet unit.You can select from 0 to 7.

IMPORTANT • Be sure not to duplicate unit Nos. between different units.

2. Start up the ladder software.
3. To transfer the communication settings from the ladder software to the External Device, follow these steps: From the [Online] menu, select [Communication Settings] to display the [Communication Settings] dialog box. Select [PLC(PG)] and then click the [Detail Settings] button to display the [PLC Device Parameter Settings] dialog box. In this dialog box, set the communication settings.
4. Create a new project. In the [Device Selection] dialog box displayed when you create the project, select the External Device to use, and then click [Next].
5. Click [OK] to display the project configuration of the External Device.
6. Click [Optional Parameter] to activate ExParam.
7. From the [File] menu, select [New].
8. Select the External Device to use and unit No. switch, and then click [OK].
9. From the [View] menu, select [Property Sheet]. In the parameter settings dialog box that appears, set the communication settings of the Ethernet unit. Then click [OK].

- IP Address

Setup Items	Setup Description
IP Address	Enter the IP address of the External Device. (ex. 192.168.0.1)
Subnet Mask	Enter the subnet mask of the External Device.

- Connection Settings

Setup Items	Setup Description
No.	0
Open Method	TCP_Passive
Source Port No.	1024
Port Setting	DCML

10. From the [PLC] menu, select [PLC Transfer] - [Write] to transfer the communication settings to the External Device.

◆ Notes

- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.

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 the External Device.

☞"3 Example of Communication Setting" (page 6)

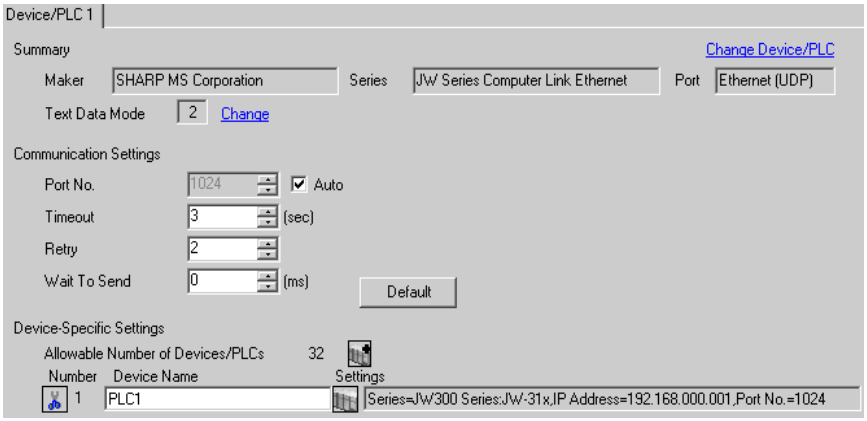
NOTE

- 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.

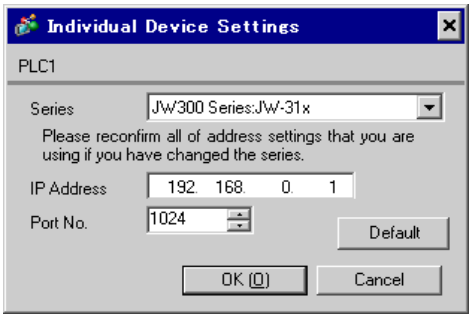


Setup Items	Setup Description
Port No.	Use an integer from "1024 to 65535" to enter the port No. of the Display. If you check [Auto], the port No. will be automatically set.
Timeout	Use an integer from "1 to 127" to enter the time (s) for which the Display waits for the response from the External Device.
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 the next command.

■ Device Setting

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

To connect multiple External Devices, click  from [Device-Specific Settings] of [Device/PLC Settings] to add External Devices.



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

4.2 Settings in Off-Line Mode

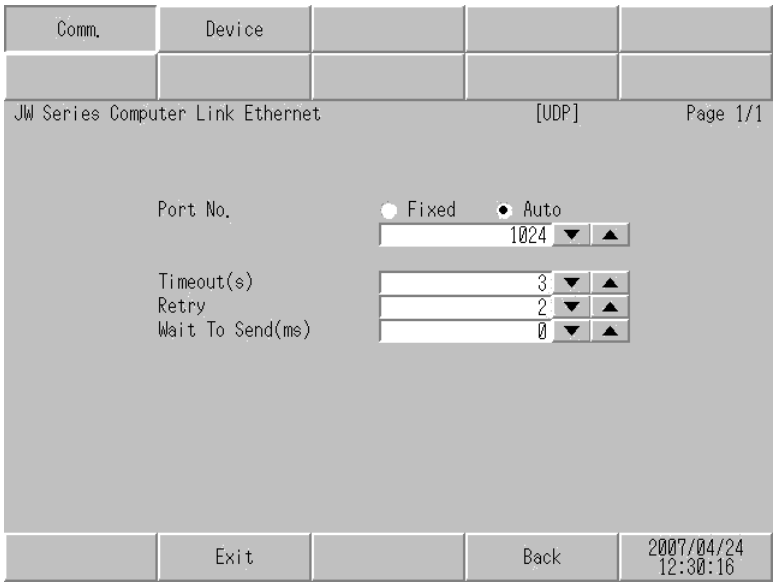
NOTE

- 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

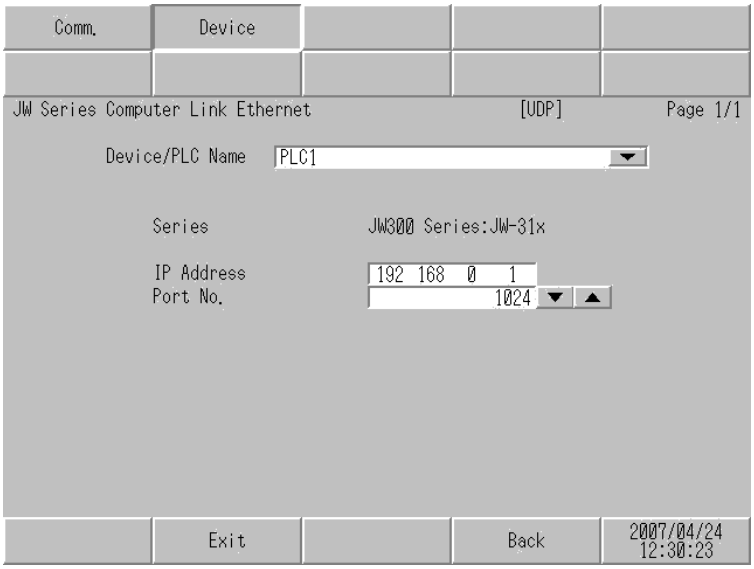
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Equipment Settings] in off-line mode. Touch the External Device you want to set from the displayed list.



Setup Items	Setup Description
Port No.	Set the Port No. of the Display. Select either "Fixed" or "Auto". If you select [Fixed], use an integer from "1024 to 65535" to enter the port No. of the Display. If 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 the next command.

■ Device Setting

To display the setting screen, touch [Device/PLC Settings] from [Peripheral Equipment 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 to set. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1])
Series	Displays the model of the External Device.
IP Address	Set the IP address of the External Device. **NOTE** Check with the network administrator about the IP address. Be sure not to duplicate IP addresses.
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.

5.1 JW300 Series (JW-31x)

: This address can be specified as system data area.

Device	Bit Address	Word Address	32 bit	Remarks
Relay	000000 - 015777 020000 - 075777	A00000 - A01576 A02000 - A07576		÷2
Timer (Contact)	T00000 - T01777	-		
Counter (Contact)	C00000 - C01777	-		
Timer/Counter (Current Value)	-	B00000 - B03776		÷2
Timer/Counter (Current Value)	-	TC00000 - TC01777		
Register (09, 19, 29, 39, 49, 59, 69, 79, 89, 99)	-	09000 - 09776		Bit15 ÷2
	-	19000 - 19776		
	...	...		
	-	89000 - 89776		
	-	99000 - 99776		
Register (E0, E1, E2, E3, E4, E5, E6, E7)	-	E0000 - E0776	L/H	Bit15 ÷2
	-	E1000 - E1776		
	...	...		
	-	E6000 - E6776		
	-	E7000 - E7776		
Register (109 to 389)	-	109000 - 109776		Bit15 ÷2
	-	119000 - 119776		
	...	...		
	-	379000 - 379776		
	-	389000 - 389776		
Register Z	-	Z000 - Z377		Bit15
File Register	-	-		
System Memory (#)	-	SYS0000 - SYS2776		÷2 *1

*1 Write disable

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"

5.2 JW300 Series (JW-32x)

: This address can be specified as system data area.

Device	Bit Address	Word Address	32 bit	Remarks
Relay	000000 - 015777 020000 - 075777 100000 - 153777	A00000 - A01576 A02000 - A07576 A10000 - A15376		÷2
Timer (Contact)	T00000 - T03777	-		
Counter (Contact)	C00000 - C03777	-		
Timer/Counter (Current Value)	-	B00000 - B07776		÷2
Timer/Counter (Current Value)	-	TC00000 - TC03777		
Register (09, 19, 29, 39, 49, 59, 69, 79, 89, 99)	-	09000 - 09776		Bit15 ÷2
	-	19000 - 19776		
	...	...		
	-	89000 - 89776		
	-	99000 - 99776		
Register (E0, E1, E2, E3, E4, E5, E6, E7)	-	E0000 - E0776	L/H	Bit15 ÷2
	-	E1000 - E1776		
	...	...		
	-	E6000 - E6776		
	-	E7000 - E7776		
Register (109 to 389)	-	109000 - 109776		Bit15 ÷2
	-	119000 - 119776		
	...	...		
	-	379000 - 379776		
	-	389000 - 389776		
Register Z	-	Z000 - Z377		Bit15
File Register	-	1-00000000 - 1-00077776		Bit15 ÷2
System Memory (#)	-	SYS0000 - SYS2776		÷2 *1

*1 Write disable

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"

5.3 JW300 Series (JW-33x/34x/35x/36x)

: This address can be specified as system data area.

Device	Bit Address	Word Address	32 bit	Remarks
Relay	000000 - 015777 020000 - 075777 100000 - 543777	A00000 - A01576 A02000 - A07576 A10000 - A54376		÷2
Timer (Contact)	T00000 - T17777	-		
Counter (Contact)	C00000 - C17777	-		
Timer/Counter (Current Value)	-	B00000 - B37776		÷2
Timer/Counter (Current Value)	-	TC00000 - TC17777		
Register (09, 19, 29, 39, 49, 59, 69, 79, 89, 99)	-	09000 - 09776		Bit15 ÷2
	-	19000 - 19776		
	...	...		
	-	89000 - 89776		
	-	99000 - 99776		
Register (E0, E1, E2, E3, E4, E5, E6, E7)	-	E0000 - E0776	L/H	Bit15 ÷2
	-	E1000 - E1776		
	...	...		
	-	E6000 - E6776		
	-	E7000 - E7776		
Register (109 to 389)	-	109000 - 109776		Bit15 ÷2
	-	119000 - 119776		
	...	...		
	-	379000 - 379776		
	-	389000 - 389776		
Register Z	-	Z000 - Z377		Bit15
File Register	-	1-00000000 - 1-00377776		JW-33x Series Bit15 ÷2
	-	1-00000000 - 1-01777776		JW-34x Series Bit15 ÷2
	-	1-00000000 - 1-07777776		JW-35x Series Bit15 ÷2
	-	1-00000000 - 1-37777776		JW-36x Series Bit15 ÷2
System Memory (#)	-	SYS0000 - SYS2776		÷2 *1

*1 Write disable

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"

5.4 JW-30H Series

: This address can be specified as system data area.

Device	Bit Address	Word Address	32 bit	Remarks
Relay	00000 - 15777 20000 - 75777	A0000 - A1576 A2000 - A7576	L/H	÷2
Timer (Contact)	T0000 - T1777	-		
Counter (Contact)	C0000 - C1777	-		
Timer/Counter (Current Value)	-	B0000 - B3776		÷2
Timer/Counter (Current Value)	-	TC0000 - TC1777		
Register (09, 19, 29, 39, 49, 59, 69, 79, 89, 99)	-	09000 - 09776		Bit15 ÷2
	-	19000 - 19776		
	...	...		
	-	89000 - 89776		
	-	99000 - 99776		
Register (E0, E1, E2, E3, E4, E5, E6, E7)	-	E0000 - E0776		Bit15 ÷2
	-	E1000 - E1776		
	...	...		
	-	E6000 - E6776		
	-	E7000 - E7776		
File Register (01-, 02-, 03-, 10-, 11-, 12-, 13-, 14-, 15-, 16-, 17-, 18-, 19-, 1A-, 1B-, 1C-, 1D-, 1E-, 1F-, 20-, 21-, 22-, 23-, 24-, 25-, 26-, 27-, 28-, 29-, 2A-, 2B-, 2C-)	-	1-000000 - 1-037776		Bit15 ÷2
	-	2-000000 - 2-177776		
	-	3-000000 - 3-177776		
	-	10-000000 - 10-177776		
	-	11-000000 - 11-177776		
	-	12-000000 - 12-177776		
	-	13-000000 - 13-177776		
	-	14-000000 - 14-177776		
	...	...		
	-	2A-000000 - 2A-177776		
	-	2B-000000 - 2B-177776		
	-	2C-000000 - 2C-177776		
System Memory (#)	-	SYS0000 - SYS2176		÷2 *1

*1 Write disable

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.

6.1 JW300 Series (JW-31x)

Device	Device Name	Device Code (HEX)	Address Code
Relay	A	0080	Value of word address divided by 2
Timer/Counter (Current Value)	B	0061	Value of word address divided by 2
Timer/Counter (Current Value)	TC	0060	Word Address
Register (09)	09	0000	Value of word address divided by 2
Register (19)	19	0001	Value of word address divided by 2
Register (29)	29	0002	Value of word address divided by 2
Register (39)	39	0003	Value of word address divided by 2
Register (49)	49	0004	Value of word address divided by 2
Register (59)	59	0005	Value of word address divided by 2
Register (69)	69	0006	Value of word address divided by 2
Register (79)	79	0007	Value of word address divided by 2
Register (89)	89	0008	Value of word address divided by 2
Register (99)	99	0009	Value of word address divided by 2
Register (E0)	E0	000A	Value of word address divided by 2
Register (E1)	E1	000B	Value of word address divided by 2
Register (E2)	E2	000C	Value of word address divided by 2
Register (E3)	E3	000D	Value of word address divided by 2
Register (E4)	E4	000E	Value of word address divided by 2
Register (E5)	E5	000F	Value of word address divided by 2
Register (E6)	E6	0010	Value of word address divided by 2
Register (E7)	E7	0011	Value of word address divided by 2
Register (109)	109	0040	Value of word address divided by 2
Register (119)	119	0041	Value of word address divided by 2
Register (129)	129	0042	Value of word address divided by 2
Register (139)	139	0043	Value of word address divided by 2
Register (149)	149	0044	Value of word address divided by 2
Register (159)	159	0045	Value of word address divided by 2
Register (169)	169	0046	Value of word address divided by 2

Device	Device Name	Device Code (HEX)	Address Code
Register (179)	179	0047	Value of word address divided by 2
Register (189)	189	0048	Value of word address divided by 2
Register (199)	199	0049	Value of word address divided by 2
Register (209)	209	004A	Value of word address divided by 2
Register (219)	219	004B	Value of word address divided by 2
Register (229)	229	004C	Value of word address divided by 2
Register (239)	239	004D	Value of word address divided by 2
Register (249)	249	004E	Value of word address divided by 2
Register (259)	259	004F	Value of word address divided by 2
Register (269)	269	0050	Value of word address divided by 2
Register (279)	279	0051	Value of word address divided by 2
Register (289)	289	0052	Value of word address divided by 2
Register (299)	299	0053	Value of word address divided by 2
Register (309)	309	0054	Value of word address divided by 2
Register (319)	319	0055	Value of word address divided by 2
Register (329)	329	0056	Value of word address divided by 2
Register (339)	339	0057	Value of word address divided by 2
Register (349)	349	0058	Value of word address divided by 2
Register (359)	359	0059	Value of word address divided by 2
Register (369)	369	005A	Value of word address divided by 2
Register (379)	379	005B	Value of word address divided by 2
Register (389)	389	005C	Value of word address divided by 2
Register Z	Z	0037	Word Address
System Memory	SYS	0062	Value of word address divided by 2

6.2 JW300 Series (JW-32x)

Device	Device Name	Device Code (HEX)	Address Code
Relay	A	0080	Value of word address divided by 2
Timer/Counter (Current Value)	B	0061	Value of word address divided by 2
Timer/Counter (Current Value)	TC	0060	Word Address
Register (09)	09	0000	Value of word address divided by 2
Register (19)	19	0001	Value of word address divided by 2
Register (29)	29	0002	Value of word address divided by 2
Register (39)	39	0003	Value of word address divided by 2
Register (49)	49	0004	Value of word address divided by 2
Register (59)	59	0005	Value of word address divided by 2
Register (69)	69	0006	Value of word address divided by 2
Register (79)	79	0007	Value of word address divided by 2
Register (89)	89	0008	Value of word address divided by 2
Register (99)	99	0009	Value of word address divided by 2
Register (E0)	E0	000A	Value of word address divided by 2
Register (E1)	E1	000B	Value of word address divided by 2
Register (E2)	E2	000C	Value of word address divided by 2
Register (E3)	E3	000D	Value of word address divided by 2
Register (E4)	E4	000E	Value of word address divided by 2
Register (E5)	E5	000F	Value of word address divided by 2
Register (E6)	E6	0010	Value of word address divided by 2
Register (E7)	E7	0011	Value of word address divided by 2
Register (109)	109	0040	Value of word address divided by 2
Register (119)	119	0041	Value of word address divided by 2
Register (129)	129	0042	Value of word address divided by 2
Register (139)	139	0043	Value of word address divided by 2
Register (149)	149	0044	Value of word address divided by 2
Register (159)	159	0045	Value of word address divided by 2
Register (169)	169	0046	Value of word address divided by 2
Register (179)	179	0047	Value of word address divided by 2
Register (189)	189	0048	Value of word address divided by 2
Register (199)	199	0049	Value of word address divided by 2

Device	Device Name	Device Code (HEX)	Address Code
Register (209)	209	004A	Value of word address divided by 2
Register (219)	219	004B	Value of word address divided by 2
Register (229)	229	004C	Value of word address divided by 2
Register (239)	239	004D	Value of word address divided by 2
Register (249)	249	004E	Value of word address divided by 2
Register (259)	259	004F	Value of word address divided by 2
Register (269)	269	0050	Value of word address divided by 2
Register (279)	279	0051	Value of word address divided by 2
Register (289)	289	0052	Value of word address divided by 2
Register (299)	299	0053	Value of word address divided by 2
Register (309)	309	0054	Value of word address divided by 2
Register (319)	319	0055	Value of word address divided by 2
Register (329)	329	0056	Value of word address divided by 2
Register (339)	339	0057	Value of word address divided by 2
Register (349)	349	0058	Value of word address divided by 2
Register (359)	359	0059	Value of word address divided by 2
Register (369)	369	005A	Value of word address divided by 2
Register (379)	379	005B	Value of word address divided by 2
Register (389)	389	005C	Value of word address divided by 2
Register Z	Z	0037	Word Address
File Register	1-	0012	Value of word address divided by 2
System Memory	SYS	0062	Value of word address divided by 2

6.3 JW300 Series (JW-33x/34x/35x/36x)

Device	Device Name	Device Code (HEX)	Address Code
Relay	A	0080	Value of word address divided by 2
Timer/Counter (Current Value)	B	0061	Value of word address divided by 2
Timer/Counter (Current Value)	TC	0060	Word Address
Register (09)	09	0000	Value of word address divided by 2
Register (19)	19	0001	Value of word address divided by 2
Register (29)	29	0002	Value of word address divided by 2
Register (39)	39	0003	Value of word address divided by 2
Register (49)	49	0004	Value of word address divided by 2
Register (59)	59	0005	Value of word address divided by 2
Register (69)	69	0006	Value of word address divided by 2
Register (79)	79	0007	Value of word address divided by 2
Register (89)	89	0008	Value of word address divided by 2
Register (99)	99	0009	Value of word address divided by 2
Register (E0)	E0	000A	Value of word address divided by 2
Register (E1)	E1	000B	Value of word address divided by 2
Register (E2)	E2	000C	Value of word address divided by 2
Register (E3)	E3	000D	Value of word address divided by 2
Register (E4)	E4	000E	Value of word address divided by 2
Register (E5)	E5	000F	Value of word address divided by 2
Register (E6)	E6	0010	Value of word address divided by 2
Register (E7)	E7	0011	Value of word address divided by 2
Register (109)	109	0040	Value of word address divided by 2
Register (119)	119	0041	Value of word address divided by 2
Register (129)	129	0042	Value of word address divided by 2
Register (139)	139	0043	Value of word address divided by 2
Register (149)	149	0044	Value of word address divided by 2
Register (159)	159	0045	Value of word address divided by 2
Register (169)	169	0046	Value of word address divided by 2
Register (179)	179	0047	Value of word address divided by 2
Register (189)	189	0048	Value of word address divided by 2
Register (199)	199	0049	Value of word address divided by 2

Device	Device Name	Device Code (HEX)	Address Code
Register (209)	209	004A	Value of word address divided by 2
Register (219)	219	004B	Value of word address divided by 2
Register (229)	229	004C	Value of word address divided by 2
Register (239)	239	004D	Value of word address divided by 2
Register (249)	249	004E	Value of word address divided by 2
Register (259)	259	004F	Value of word address divided by 2
Register (269)	269	0050	Value of word address divided by 2
Register (279)	279	0051	Value of word address divided by 2
Register (289)	289	0052	Value of word address divided by 2
Register (299)	299	0053	Value of word address divided by 2
Register (309)	309	0054	Value of word address divided by 2
Register (319)	319	0055	Value of word address divided by 2
Register (329)	329	0056	Value of word address divided by 2
Register (339)	339	0057	Value of word address divided by 2
Register (349)	349	0058	Value of word address divided by 2
Register (359)	359	0059	Value of word address divided by 2
Register (369)	369	005A	Value of word address divided by 2
Register (379)	379	005B	Value of word address divided by 2
Register (389)	389	005C	Value of word address divided by 2
Register Z	Z	0037	Word Address
File Register	1-	0012	Value of word address divided by 2
System Memory	SYS	0062	Value of word address divided by 2

6.4 JW30H Series

Device	Device Name	Device Code (HEX)	Address Code
Relay	A	0080	Value of word address divided by 2
Timer/Counter (Current Value)	B	0061	Value of word address divided by 2
Timer/Counter (Current Value)	TC	0060	Word Address
Register (09)	09	0000	Value of word address divided by 2
Register (19)	19	0001	Value of word address divided by 2
Register (29)	29	0002	Value of word address divided by 2
Register (39)	39	0003	Value of word address divided by 2
Register (49)	49	0004	Value of word address divided by 2
Register (59)	59	0005	Value of word address divided by 2
Register (69)	69	0006	Value of word address divided by 2
Register (79)	79	0007	Value of word address divided by 2
Register (89)	89	0008	Value of word address divided by 2
Register (99)	99	0009	Value of word address divided by 2
Register (E0)	E0	000A	Value of word address divided by 2
Register (E1)	E1	000B	Value of word address divided by 2
Register (E2)	E2	000C	Value of word address divided by 2
Register (E3)	E3	000D	Value of word address divided by 2
Register (E4)	E4	000E	Value of word address divided by 2
Register (E5)	E5	000F	Value of word address divided by 2
Register (E6)	E6	0010	Value of word address divided by 2
Register (E7)	E7	0011	Value of word address divided by 2
File Register (1-)	1-	0012	Value of word address divided by 2
File Register (2-)	2-	0013	Value of word address divided by 2
File Register (3-)	3-	0014	Value of word address divided by 2
File Register (10-)	10-	0019	Value of word address divided by 2
File Register (11-)	11-	001A	Value of word address divided by 2
File Register (12-)	12-	001B	Value of word address divided by 2
File Register (13-)	13-	001C	Value of word address divided by 2
File Register (14-)	14-	001D	Value of word address divided by 2
File Register (15-)	15-	001E	Value of word address divided by 2
File Register (16-)	16-	001F	Value of word address divided by 2

Device	Device Name	Device Code (HEX)	Address Code
File Register (17-)	17-	0020	Value of word address divided by 2
File Register (18-)	18-	0021	Value of word address divided by 2
File Register (19-)	19-	0022	Value of word address divided by 2
File Register (1A-)	1A-	0023	Value of word address divided by 2
File Register (1B-)	1B-	0024	Value of word address divided by 2
File Register (1C-)	1C-	0025	Value of word address divided by 2
File Register (1D-)	1D-	0026	Value of word address divided by 2
File Register (1E-)	1E-	0027	Value of word address divided by 2
File Register (1F-)	1F-	0028	Value of word address divided by 2
File Register (20-)	20-	0029	Value of word address divided by 2
File Register (21-)	21-	002A	Value of word address divided by 2
File Register (22-)	22-	002B	Value of word address divided by 2
File Register (23-)	23-	002C	Value of word address divided by 2
File Register (24-)	24-	002D	Value of word address divided by 2
File Register (25-)	25-	002E	Value of word address divided by 2
File Register (26-)	26-	002F	Value of word address divided by 2
File Register (27-)	27-	0030	Value of word address divided by 2
File Register (28-)	28-	0031	Value of word address divided by 2
File Register (29-)	29-	0032	Value of word address divided by 2
File Register (2A-)	2A-	0033	Value of word address divided by 2
File Register (2B-)	2B-	0034	Value of word address divided by 2
File Register (2C-)	2C-	0035	Value of word address divided by 2
System Memory	SYS	0062	Value of word address divided by 2

7 Error Messages

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

Item	Description
No.	Error No.
Device Name	Name of the External Device where an error has occurred. 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 that has occurred.
Error Occurrence Area	Displays the IP address or device address of the External Device where an error has occurred, or error codes received from the External Device. **NOTE** • IP address is displayed as "IP address (Decimal): MAC address (Hex)". • Device address is displayed as "Address: Device address". • Received error codes are displayed as "Decimal [Hex]".

Display Examples of Error Messages

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

NOTE

- 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.