



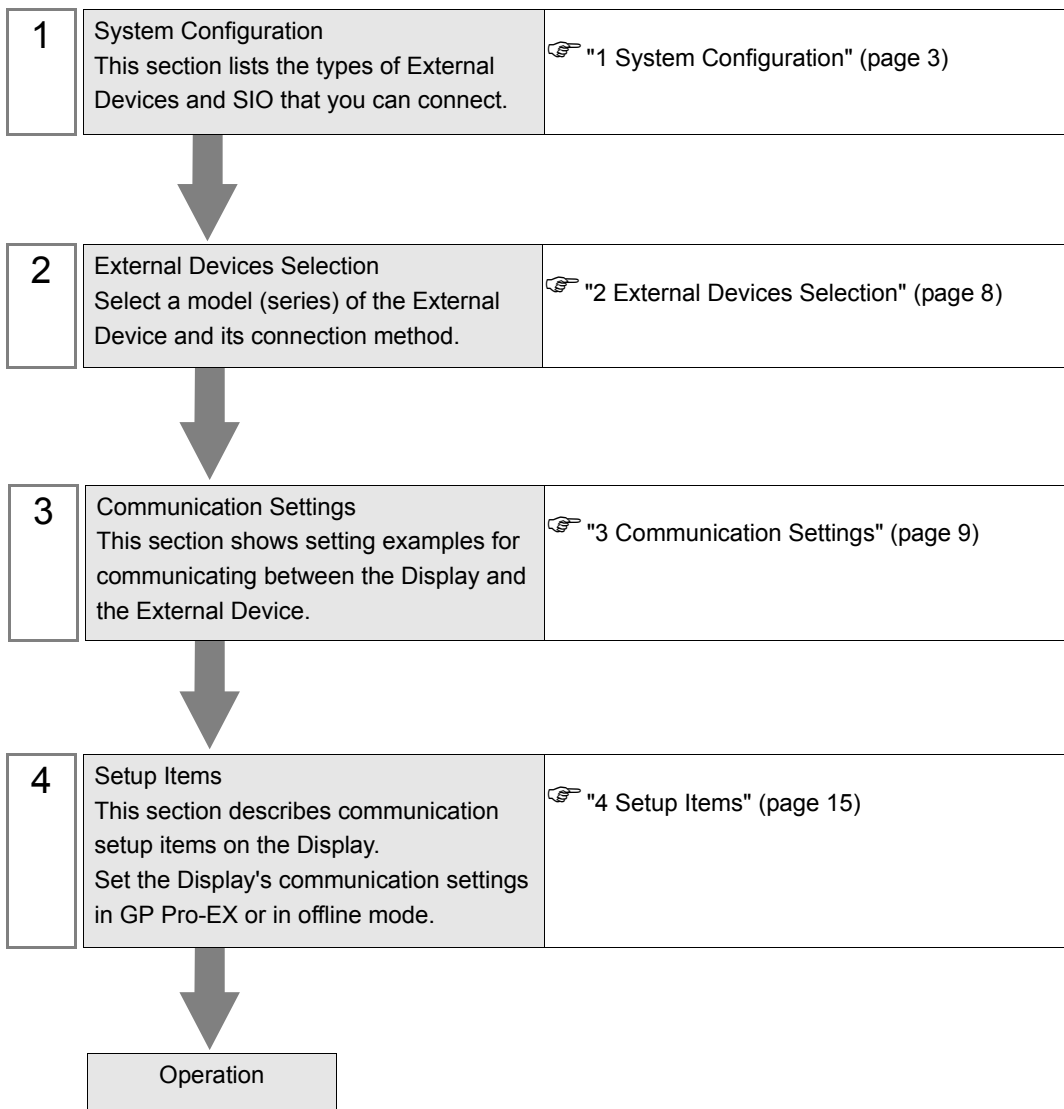
Q Series QnU CPU Ethernet Driver

1	System Configuration.....	3
2	External Devices Selection	8
3	Communication Settings	9
4	Setup Items	15
5	Supported Devices.....	19
6	Device Code and Address Code.....	27
7	Error Messages.....	33

Introduction

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

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



1 System Configuration

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

Series	CPU	Link I/F	SIO Type	Setting Example
MELSEC-Q Series	Q03UDEHCPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU	Ethernet connector on the CPU unit	Ethernet (UDP)	Setting Example 1 (page 9)
	Q03UDVCP Q04UDVCP Q06UDVCP Q13UDVCP Q26UDVCP		Ethernet (TCP)	Setting Example 2 (page 12)
	Q03UDCPU Q04UDHCPU Q06UDHCPU Q10UDHCPU Q13UDHCPU Q20UDHCPU Q26UDHCPU	Ethernet connector on Universal Model built-in Ethernet port QCPU* ¹	Ethernet (UDP)	Setting Example 1 (page 9)
			Ethernet (TCP)	Setting Example 2 (page 12)
	Q02CPU Q02HCPU Q06HCPU Q12HCPU Q25HCPU	Ethernet connector on Universal Model built-in Ethernet port QCPU* ²	Ethernet (UDP)	Setting Example 1 (page 9)
			Ethernet (TCP)	Setting Example 2 (page 12)
	Q172DCPU Q173DCPU	Ethernet connector on Universal Model built-in Ethernet port QCPU* ³	Ethernet (UDP)	Setting Example 1 (page 9)
			Ethernet (TCP)	Setting Example 2 (page 12)

*1 Since the Universal Model QCPU (Q03UDCPU, Q04UDHCPU, Q06UDHCPU, Q10UDHCPU, Q13UDHCPU, Q20UDHCPU, Q26UDHCPU) cannot be directly connected to the Display, use it with a Multi CPU System.

*2 Since the High Performance model QCPU (Q02CPU, Q02HCPU, Q06HCPU, Q12HCPU, Q25HCPU) cannot be directly connected to the Display, use it with a Multi CPU System.

*3 Since the motion CPU (Q172DCPU, Q173DCPU) cannot be directly connected to the Display, use it with a Multi CPU System.

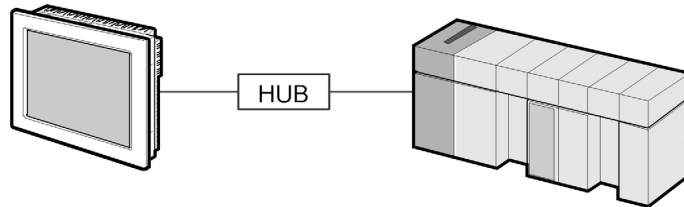
■ Connection Configuration

NOTE • Use Straight cables for Ethernet cables.

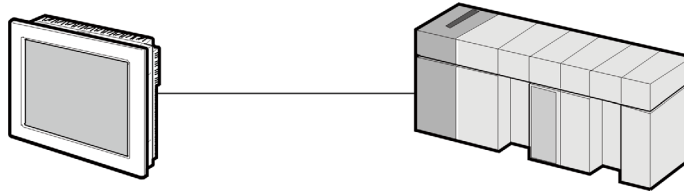
Crossing cables can also be used for connecting the External Device with the Display directly using an Ethernet cable.

- 1:1 Connection

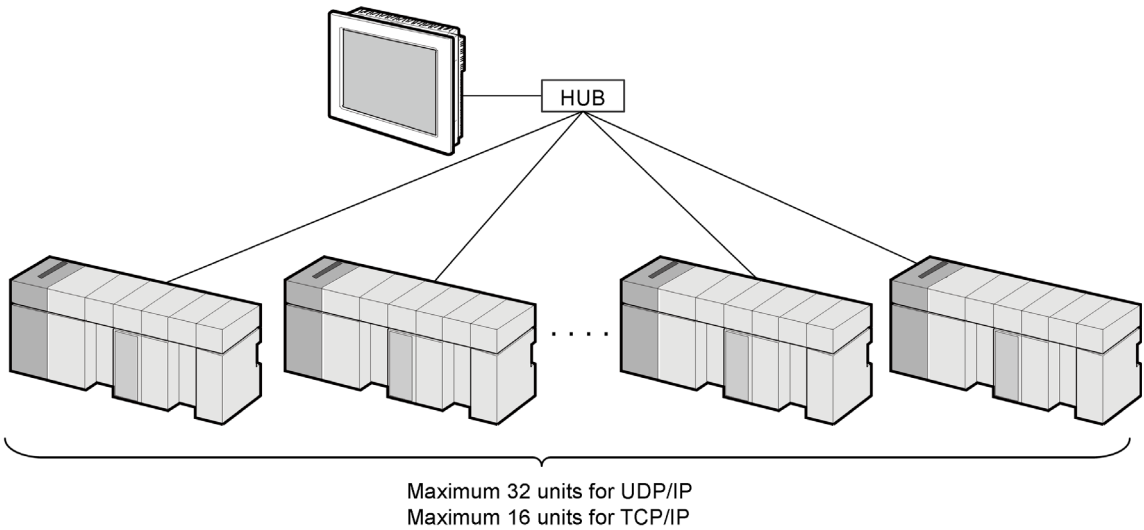
<HUB Connection>



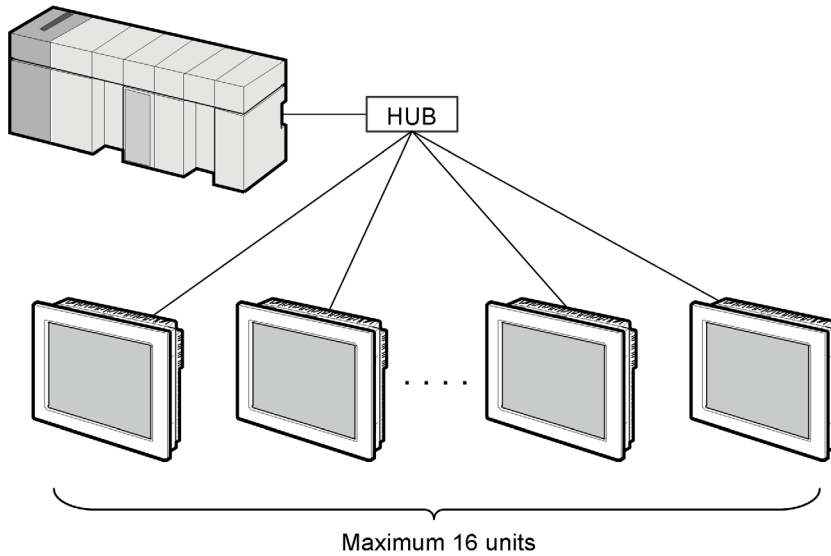
<Direct Connection>



- 1:n Connection



- n:1 Connection

**NOTE**

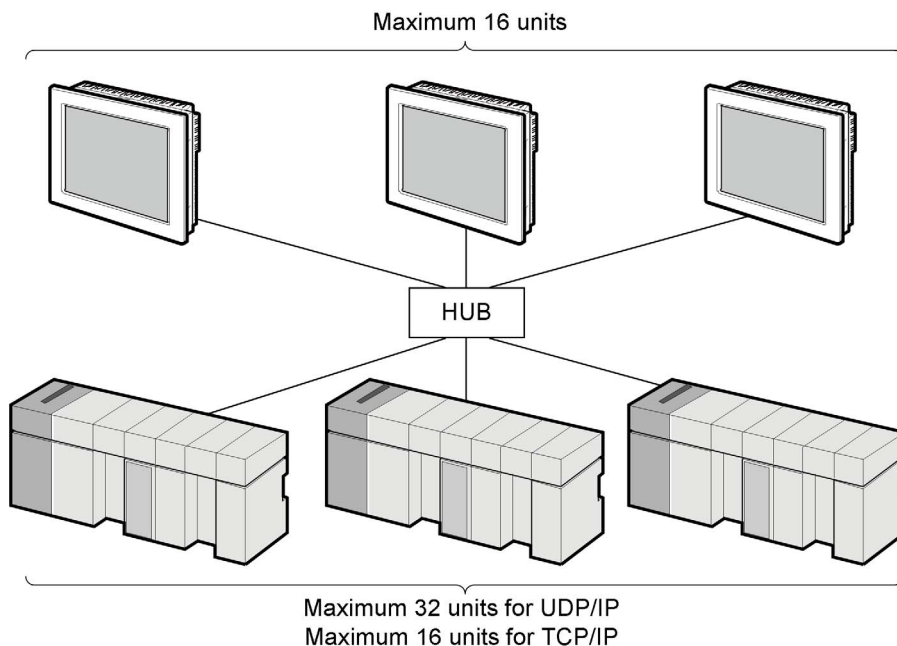
- For UDP communication with drivers (Ver.1.12.02 or later), make settings so that two or more Display units will not start communication all at once. If communication starts all at once, the communication processing load becomes large and as a result, communication cannot be made normally. Please check the followings.

When starting the system, start the External Device and then start the Display.

When starting the Display, make the following settings. When restarting or resetting the external device during operation, be sure to turn off all Displays once.

- When starting all Displays at a time:
Adjust [Start Time] in [Display Unit] of the GP-Pro EX so that the setting time can be different in each Display.
- When starting the Displays one by one:
Start from the Displays orderly whose [Start Time] setting is shorter in [Display Unit] of the GP-Pro EX.

- n:m Connection

**NOTE**

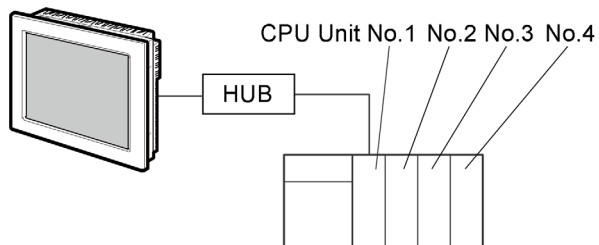
- For UDP communication with drivers (Ver.1.12.02 or later), make settings so that two or more Displays units will not start communication all at once. If communication starts all at once, the communication processing load becomes large and as a result, communication cannot be made normally. Please check the followings.

When starting the system, start the External Device and then start the Display.

When starting the Display, make the following settings. When restarting or resetting the external device during operation, be sure to turn off all Displays once.

- When starting all Displays at a time:
Adjust [Start Time] in [Display Unit] of the GP-Pro EX so that the setting time can be different in each Display.
- When starting the Displays one by one:
Start from the Displays orderly whose [Start Time] setting is shorter in [Display Unit] of the GP-Pro EX.

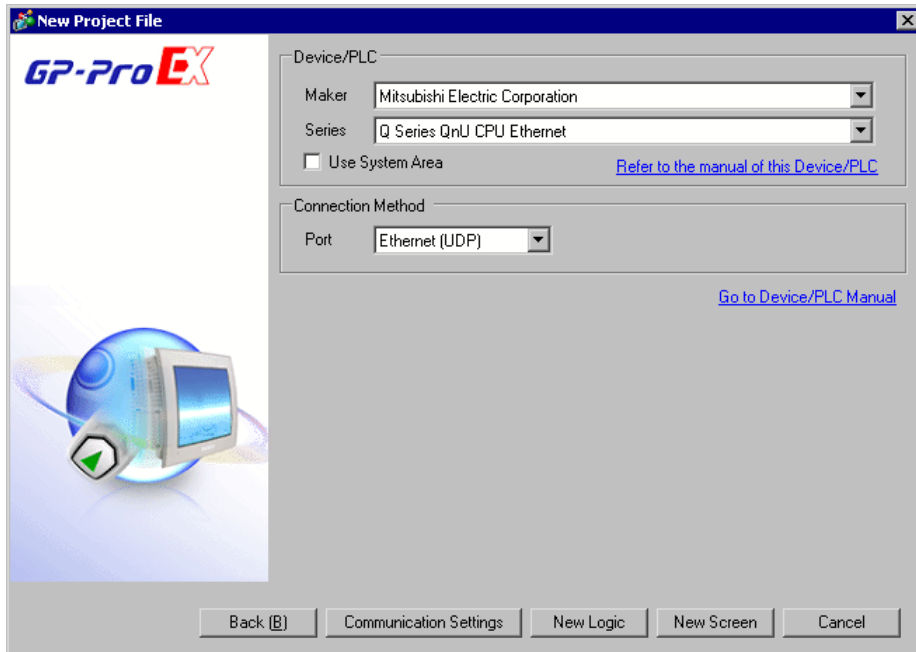
- Multi-CPU System

**NOTE**

- For the CPU unit numbers, the number "1" is assigned to the CPU slot, and any subsequent units are aligned to the right and assigned "2", "3", "4", in order.
- The multi-CPU system enables you to access a CPU that is not directly connected. For External Devices that can be used in a multi-CPU system, refer to the External Device manual.

2 External Devices Selection

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 "Mitsubishi Electric Corporation".
Series	Select a model (series) of the External Device to be connected and connection method. Select "Q Series QnU CPU Ethernet". In System configuration, check to make sure the external device to which you are connecting is supported in "Q Series QnU CPU Ethernet". ☞ "1 System Configuration" (page 3)
Use System Area	Check this option when you synchronize the system data area of Display and the device (memory) of External Device. When synchronized, you can use the ladder program of External Device to switch the display or display the window on the display. Cf. GP-Pro EX Reference Manual Appendix "LS Area (Direct Access Method Area)" This can also be set in GP-Pro EX or in the Display's offline mode. Cf. GP-Pro EX Reference Manual "Display Unit (System Area) Settings Guide" Cf. Maintenance/Troubleshooting Manual "Main Unit - System Area Settings"
Port	Select the Display port to be connected to the External Device.

3 Communication Settings

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

3.1 Setting Example 1

■ GP-Pro EX Settings

◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

Port No.

Timeout (sec)

Retry

Wait To Send (ms)

Device-Specific Settings

Allowable Number of Devices/PLCs 32 [Add Device](#)


No.	Device Name	Settings
1	PLC1	IP Address=192.168.0.001

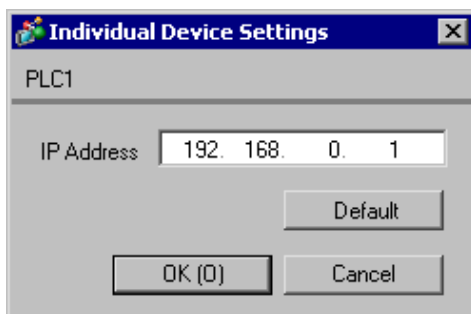
[Add Indirect Device](#)

IMPORTANT

- When directly connecting an External Device (1:1 connection) using the cross cable, you need to set 6 (sec) or more for [Timeout].
- In the case of "n:1" or "n:m" connection, you need to set 3 (sec) or more for [Timeout] and 2 or more for [Retry].
- When communication is made from the Display before the initialization processing in the External Device is completed, the communication error occurs to the Display. In this case, adjust the time in [Timeout].
When the motion CPU is used in the multiple CPU system especially, adjust [Timeout] to 10 (sec) or more.

◆ Device Setting

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



◆ Notes

- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.
- Set the IP address of the External Device under [Individual Device Settings].
- You need to set the IP address of the Display in its offline mode.

■ External Device Settings

Use the ladder software (GX-Developer Ver.8.68W or later) for the External Device communication settings.

For Q□□UDVCPU, use GX Works2 1.95Z or later.

Refer to your External Device manual for details.

- 1 Start up the ladder software.
- 2 From the [Project] menu, select [New project] to display the [New Project] dialog box.
- 3 Select the External Device you want to use from [PLC Type], and then click [OK].
- 4 Double-click [PLC Parameter] in the tree view to display the [Q parameter setting] dialog box.
- 5 Select the [Built-in Ethernet port] tab.
- 6 Enter "192.168.0.1" in [IP address].
- 7 Click [Open settings] to display the [Built-in Ethernet port open setting] dialog box.
- 8 Set each item as follows:

Protocol	Open Method
UDP	MELSOFT connection

- 9 Click [End].
- 10 Click [End] in the [Q parameter setting] dialog box.
- 11 Transfer the communication settings to the External Device.

This completes the External Device setup.

◆ 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

■ GP-Pro EX Settings

◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

Port No. Auto

Timeout (sec)

Retry

Wait To Send (ms)

Device-Specific Settings


Allowable Number of Devices/PLCs 16 [Add Device](#)

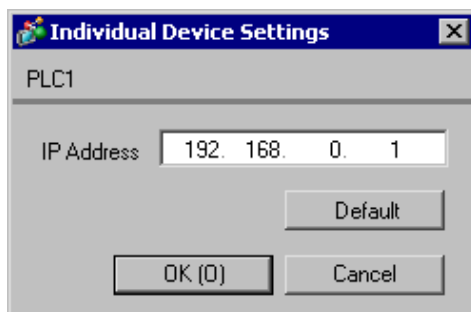
No.	Device Name	Settings	Add Indirect Device
1	PLC1	IP Address=192.168.000.001	<input type="button" value="Add"/>

IMPORTANT

- When directly connecting an External Device (1:1 connection) using the cross cable, you need to set 6 (sec) or more for [Timeout].
 - In the case of "n: 1" or "n:m" connection, you need to set 3 (sec) or more for [Timeout].
 - When communication is made from the Display before the initialization processing in the External Device is completed, the communication error occurs to the Display. In this case, adjust the time in [Timeout].
- When the motion CPU is used in the multiple CPU system especially, adjust [Timeout] to 10 (sec) or more.

◆ Device Setting

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



◆ Notes

- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.
- Set the IP address of the External Device under [Individual Device Settings].
- You need to set the IP address of the Display in its offline mode.

■ External Device Settings

Use the ladder software (GX-Developer Ver.8.68W or later) for the External Device communication settings.

For Q□□UDVCPU, use GX Works2 1.95Z or later.

Refer to your External Device manual for details.

- 1 Start up the ladder software.
- 2 From the [Project] menu, select [New project] to display the [New Project] dialog box.
- 3 Select the External Device you want to use from [PLC Type], and then click [OK].
- 4 Double-click [PLC Parameter] in the tree view to display the [Q parameter setting] dialog box.
- 5 Select the [Built-in Ethernet port] tab.
- 6 Enter "192.168.0.1" in [IP address].
- 7 Click [Open settings] to display the [Built-in Ethernet port open setting] dialog box.
- 8 Set each item as follows:

Protocol	Open Method
TCP	MELSOFT connection

- 9 Click [End].
- 10 Click [End] in the [Q parameter setting] dialog box.
- 11 Transfer the communication settings to the External Device.

This completes the External Device setup.

◆ 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 up the Display's communication settings in GP Pro-EX or in the Display's offline mode.

The setting of each parameter must match that of the External Device.

 "3 Communication Settings" (page 9)

NOTE

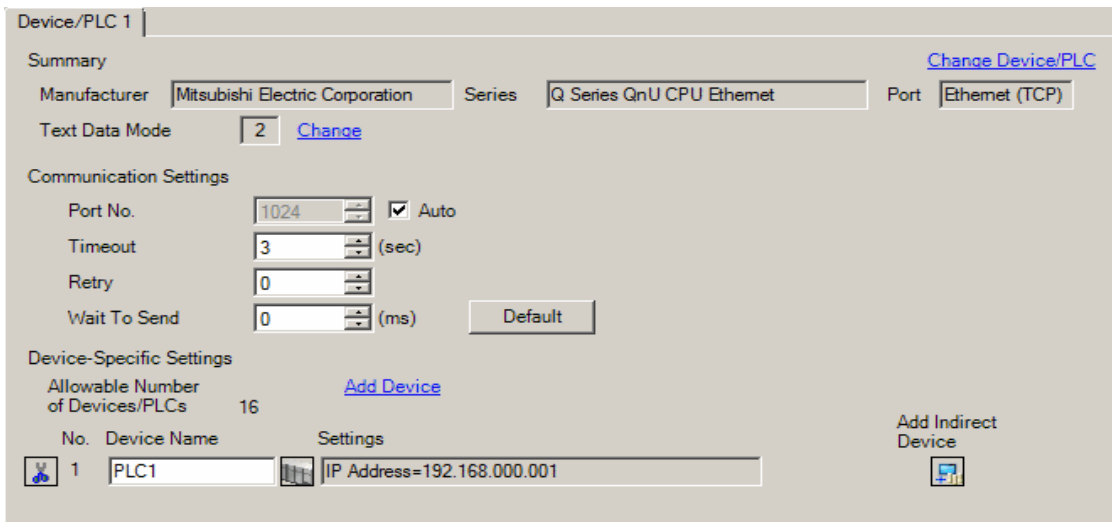
- You need to set the IP address of the Display in its offline mode.

Cf. Maintenance/Troubleshooting Guide "Ethernet Settings"

4.1 Setup Items in GP-Pro EX

■ Communication Settings

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



Device/PLC 1 | [Change Device/PLC](#)

Summary

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

Port No. Auto


Timeout (sec)

Retry

Wait To Send (ms)


Device-Specific Settings

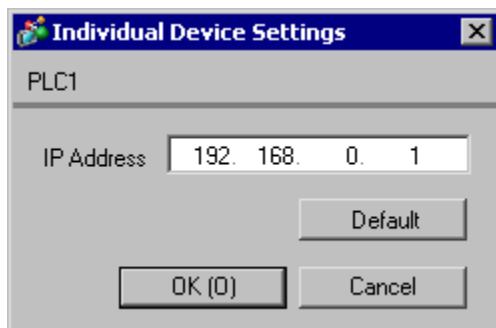
Allowable Number of Devices/PLCs 16 [Add Device](#)

No.	Device Name	Settings	Add Indirect Device
1	PLC1	IP Address=192.168.000.001	

Setup Items	Setup Description
Port No.	Use an integer from 1024 to 65534 to enter the port No. of the Display. If you check [Auto], the port No. is automatically set. NOTE • The [Auto] option can be set only when you select "Ethernet (TCP)" under [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 [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the External Device and click [Settings] . To connect multiple External Devices, from [Device-Specific Settings] in the [Device/PLC] window, click [Add Device] to add another External Device.



Setup Items	Setup Description
IP Address	Set the IP address of the External Device. NOTE <ul style="list-style-type: none"> • Check with the network administrator about the IP address. • Be sure not to duplicate IP addresses on the same network.

4.2 Setup Items in Offline Mode

NOTE

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

Cf. Maintenance/Troubleshooting Guide "Offline Mode"

■ Communication Settings

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

Comm.	Device			
Q Series QnU CPU Ethernet		[UDP]	Page 1/1	
Port No.	<input type="radio"/> Fixed <input checked="" type="radio"/> Auto <input type="text" value="1024"/>			
Timeout(s)	<input type="text" value="3"/>			
Retry	<input type="text" value="2"/>			
Wait To Send(ms)	<input type="text" value="0"/>			
Exit		Back	2008/07/03 11:48:43	

Setup Items	Setup Description
Port No.	Set the Port No. of the Display. With the UDP connection, the entered port No. is assigned regardless of whether you select [Fixed] or [Auto]. With the TCP connection, select either [Fixed] or [Auto]. If you select [Fixed], use an integer from 1024 to 65534 to enter the port No. of the Display. If you select [Auto], the port No. is automatically assigned regardless of the entered value.
Timeout	Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device.
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.

■ Device Setting

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

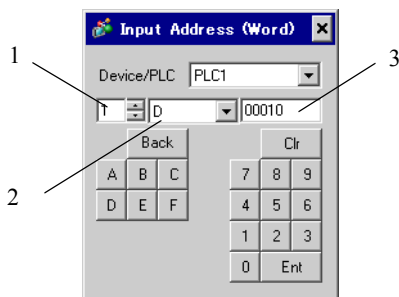
Comm.	Device			
Q Series QnU CPU Ethernet		[UDP]	Page 1/1	
Device/PLC Name	[PLC1]			
IP Address	[192] [168] [0] [1]			
	Exit	Back	2008/07/03 11:48:50	

Setup Items	Setup Description
Device/PLC Name	Select the External Device to set. Device/PLC name is the title of the External Device set with GP-Pro EX. (Initial value [PLC1])
IP Address	Set the IP address of the External Device. <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">NOTE</div> <ul style="list-style-type: none"> • Check with the network administrator about the IP address. • Be sure not to duplicate IP addresses on the same network.

5 Supported Devices


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.














Enter the External Device address in the dialog box below.



















- | | |
|----------------|--|
| 1. Unit number | Use an integer from 1 to 4 to enter the unit number of the CPU with which to communicate. To access a CPU that is directly connected, as in a single CPU system, select "0". |
| 2. Device | Select a device. |
| 3. Address | Set the address. |

5.1 MELSEC Q (Universal Model) Series

 This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Input Relay	X0000-X1FFF	X0000-X1FF0	L/H	 *1
Output Relay	Y0000-Y1FFF	Y0000-Y1FF0		 *1
Internal Relay	M00000-M32767	M00000-M32752		 *1
	M00000-M61439	M00000-M61424		 *2
Special Relay	SM0000-SM2047	SM0000-SM2032		 *1
Latch Relay	L00000-L32767	L00000-L32752		 *1
Annunciator	F00000-F32767	F00000-F32752		 *1
Edge Relay	V00000-V32767	V00000-V32752		 *1
Step Relay	S0000-S8191	S0000-S8176		 *1
	S00000-S16383	S00000-S16368		 *2
Link Relay	B0000-B7FFF	B0000-B7FF0		 *1
	B0000-BEFFF	B0000-BEFFF0		 *2
Special Link Relay	SB0000-SB7FFF	SB0000-SB7FF0		 *1
Timer (Contact)	TS00000-TS25023	---		*1
	TS00000-TS32767	---		*2
Timer (Coil)	TC00000-TC25023	---		*1
	TC00000-TC32767	---		*2
Retentive Timer (Contact)	SS00000-SS25023	---		*1
	SS00000-SS32767	---		*2
Retentive Timer (Coil)	SC00000-SC25023	---		*1
	SC00000-SC32767	---		*2
Counter (Contact)	CS00000-CS25023	---		*1
	CS00000-CS32767	---		*2
Counter (Coil)	CC00000-CC25023	---		*1
	CC00000-CC32767	---	*2	
Timer (Current Value)	---	TN00000-TN25023	*1	
	---	TN00000-TN32767	*2	
Retentive Timer (Current Value)	---	SN00000-SN25023	*1	
	---	SN00000-SN32767	*2	

Continued on next page.

Device	Bit Address	Word Address	32 bits	Remarks
Counter (Current Value)	---	CN00000-CN25023	L/H	*1
	---	CN00000-CN32767		*2
Data Register/ Extended Data Register*3	---	D0000000-D4910079		 *4
Special Register	---	SD0000-SD2047		
Link Register/ Extended Link Register*5	---	W000000-W4AEBFF		
Special Link Register	---	SW0000-SW6DFF		 *1
	---	SW0000-SW6FFF		 *2
File Register (Normal)	---	R00000-R32767		
File Register (Serial)	---	ZR0000000- ZR4849663		
File Register (0R to 31R)*6	---	0R00000-0R32767		
	---	1R00000-1R32767		
	---	2R00000-2R32767		
	:	:		:
	---	30R00000-30R32767		
	---	31R00000-31R32767		
Common device for Multiple CPU*7	---	U3E0-10000- U3E0-24335		
	---	U3E1-10000- U3E1-24335		
	---	U3E2-10000- U3E2-24335		
	---	U3E3-10000- U3E3-24335		

*1 For the universal model QCPU with a serial number whose first 5 digits is less than "10042".

*2 For the universal model QCPU with a serial number whose first 5 digits is "10042" or more.

*3 Extended data register can be used in the case of the universal model QCPU with a serial number whose first 5 digits is less than "09042".

*4 You can set the multi-CPU system in the system data area as well.

*5 Extended link register can be used in the case of the universal model QCPU with a serial number whose first 5 digits is less than "09042".

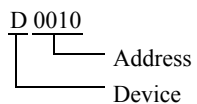
*6 Set the block number at the beginning of the device name. This is a device notation compatible with GP-Pro/PBIII for Windows. When you specify a new device, we recommend using the file register (serial).

*7 For the Multi CPU System configuration, the available points should be as follows:
 2 CPUs: 14k points or less
 3 CPUs: 13k points or less
 4 CPUs: 12k points or less

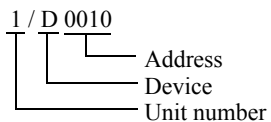
NOTE

- The address notation varies depending on the unit number you select.

(Example) When "0" is selected for the unit number:



(Example) When "1" is selected for the unit number:



- For system data area, refer to the GP-Pro EX Reference Manual.

Cf. GP-Pro EX Reference Manual Appendix "LS Area (Direct Access Method Area)"

- Please refer to the precautions on manual notation for icons in the table.






☞ "Manual Symbols and Terminology"

5.2 MELSEC Q (High Performance Model) Series

 : This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Input Relay	X0000-X1FFF	X0000-X1FF0	L/H	***0
Output Relay	Y0000-Y1FFF	Y0000-Y1FF0		***0
Internal Relay	M00000-M32767	M00000-M32752		+16
Special Relay	SM0000-SM2047	SM0000-SM2032		+16
Latch Relay	L00000-L32767	L00000-L32752		+16
Annunciator	F00000-F32767	F00000-F32752		+16
Edge Relay	V00000-V32767	V00000-V32752		+16
Step Relay	S0000-S8191	S0000-S8176		+16
Link Relay	B0000-B7FFF	B0000-B7FF0		***0
Special Link Relay	SB000-SB7FF	SB000-SB7F0		***0
Timer (Contact)	TS00000-TS23087	---		
Timer (Coil)	TC00000-TC23087	---		
Retentive Timer (Contact)	SS00000-SS23087	---		
Retentive Timer (Coil)	SC00000-SC23087	---		
Counter (Contact)	CS00000-CS23087	---		
Counter (Coil)	CC00000-CC23087	---		
Timer (Current Value)	---	TN00000-TN23087		
Retentive Timer (Current Value)	---	SN00000-SN23087		
Counter (Current Value)	---	CN00000-CN23087		
Data Register	---	D00000-D25983		Bit F *1
Special Register	---	SD0000-SD2047	Bit F	
Link Register	---	W0000-W657F	Bit F	
Special Link Register	---	SW000-SW7FF	Bit F	
File Register (Normal)	---	R00000-R32767	Bit F	
File Register (Serial)	---	ZR0000000- ZR1042431	Bit F	

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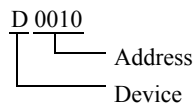
Device	Bit Address	Word Address	32 bits	Remarks
File Register (0R to 31R)*2	---	0R00000-0R32767	L/H	
	---	1R00000-1R32767		
	---	2R00000-2R32767		
	:	:		:
	---	30R00000-30R32767		
	---	31R00000-31R26623		

*1 You can set the multi-CPU system in the system data area as well.

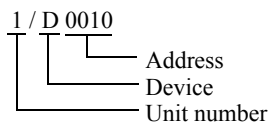
*2 Set the block number at the beginning of the device name. This is a device notation compatible with GP-Pro/PBIII for Windows. When you specify a new device, we recommend using the file register (serial).


NOTE

- The address notation varies depending on the unit number you select.
(Example) When "0" is selected for the unit number:










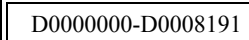








(Example) When "1" is selected for the unit number:



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

5.3 Q Series Motion Controller

 This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Input Relay	X0000-X1FFF	X0000-X1FF0	(L/H)	
Output Relay	Y0000-Y1FFF	Y0000-Y1FF0		
Internal Relay	M00000-M08191	M00000-M08176		
Special Relay	SM0000-SM2255	SM0000-SM2240		
Annunciator	F00000-F02047	F00000-F02032		
Link Relay	B0000-B1FFF	B0000-B1FF0		
Data Register	---	 D0000000-D0008191		
Special Register	---	SD0000-SD2255		
Link Register	---	W0000-W1FFF		
Common device for Multiple CPU ^{*1}	---	U3E0-10000- U3E0-24335		
	---	U3E1-10000- U3E1-24335		
	---	U3E2-10000- U3E2-24335		
	---	U3E3-10000- U3E3-24335		
Motion Register (#) ^{*2}	---	%MR00000- %MR12287 ^{*3}		

*1 For the Multi CPU System configuration, the available points should be as follows:

2 CPUs: 14k points or less

3 CPUs: 13k points or less

4 CPUs: 12k points or less

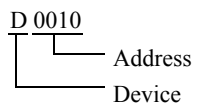
*2 No. 2 to No. 4 can be allocated to the motion CPU.

*3 Device name with motion CPU is #.

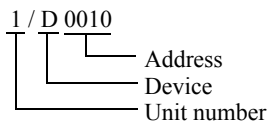
NOTE

- The address notation varies depending on the unit number you select.

(Example) When "0" is selected for the unit number:



(Example) When "1" is selected for the unit number:



- For system data area, refer to the GP-Pro EX Reference Manual.

Cf. GP-Pro EX Reference Manual Appendix "LS Area (Direct Access Method Area)"

- Please refer to the precautions on manual notation for icons in the table.

☞ "Manual Symbols and Terminology"

6 Device Code and Address Code

Use device code and address code when you set "Device Type & Address" for the address type of the data display or other devices.

Device	Device Name	Device Code (HEX)	Address Code
Input Relay	X	0080	Value of word address divided by 0x10
	1/X	0180	
	2/X	0280	
	3/X	0380	
	4/X	0480	
Output Relay	Y	0081	Value of word address divided by 0x10
	1/Y	0181	
	2/Y	0281	
	3/Y	0381	
	4/Y	0481	
Internal Relay	M	0082	Value of word address divided by 16
	1/M	0182	
	2/M	0282	
	3/M	0382	
	4/M	0482	
Special Relay	SM	0083	Value of word address divided by 16
	1/SM	0183	
	2/SM	0283	
	3/SM	0383	
	4/SM	0483	
Latch Relay	L	0084	Value of word address divided by 16
	1/L	0184	
	2/L	0284	
	3/L	0384	
	4/L	0484	

Continued on next page.

Device	Device Name	Device Code (HEX)	Address Code
Annunciator	F	0085	Value of word address divided by 16
	1/F	0185	
	2/F	0285	
	3/F	0385	
	4/F	0485	
Edge Relay	V	0086	Value of word address divided by 16
	1/V	0186	
	2/V	0286	
	3/V	0386	
	4/V	0486	
Step Relay	S	0087	Value of word address divided by 16
	1/S	0187	
	2/S	0287	
	3/S	0387	
	4/S	0487	
Link Relay	B	0088	Value of word address divided by 0x10
	1/B	0188	
	2/B	0288	
	3/B	0388	
	4/B	0488	
Special Link Relay	SB	0089	Value of word address divided by 0x10
	1/SB	0189	
	2/SB	0289	
	3/SB	0389	
	4/SB	0489	
Timer (Current Value)	TN	0060	Word address
	1/TN	0160	
	2/TN	0260	
	3/TN	0360	
	4/TN	0460	

Continued on next page.

Device	Device Name	Device Code (HEX)	Address Code
Retentive Timer (Current Value)	SN	0062	Word address
	1/SN	0162	
	2/SN	0262	
	3/SN	0362	
	4/SN	0462	
Counter (Current Value)	CN	0061	Word address
	1/CN	0161	
	2/CN	0261	
	3/CN	0361	
	4/CN	0461	
Data Register / Extended Data Register	D	0000	Word address
	1/D	0100	
	2/D	0200	
	3/D	0300	
	4/D	0400	
Special Register	SD	0001	Word address
	1/SD	0101	
	2/SD	0201	
	3/SD	0301	
	4/SD	0401	
Link Register / Extended Link Register	W	0002	Word address
	1/W	0102	
	2/W	0202	
	3/W	0302	
	4/W	0402	
Special Link Register	SW	0003	Word address
	1/SW	0103	
	2/SW	0203	
	3/SW	0303	
	4/SW	0403	

Continued on next page.

Device	Device Name	Device Code (HEX)	Address Code
File Register (Normal)	R	000F	Word address
	1/R	010F	
	2/R	020F	
	3/R	030F	
	4/R	040F	
File Register (Serial)	ZR	000E	Word address
	1/ZR	010E	
	2/ZR	020E	
	3/ZR	030E	
	4/ZR	040E	

Continued on next page.

Device	Device Name	Device Code (HEX)	Address Code
File Register (0R to 31R)	0R	0010	Word address
	1/0R	0110	
	2/0R	0210	
	3/0R	0310	
	4/0R	0410	
	1R	0011	Word address
	1/1R	0111	
	2/1R	0211	
	3/1R	0311	
	4/1R	0411	
	2R	0012	Word address
	1/2R	0112	
	2/2R	0212	
	3/2R	0312	
	4/2R	0412	
	:	:	:
	30R	002E	Word address
	1/30R	012E	
	2/30R	022E	
	3/30R	032E	
4/30R	042E		
31R	002F	Word address	
1/31R	012F		
2/31R	022F		
3/31R	032F		
4/31R	042F		
Motion Register (#)	2/%MR	0234	Word address
	3/%MR	0334	
	4/%MR	0434	

Continued on next page.

Device	Device Name	Device Code (HEX)	Address Code
Common device for Multiple CPU	U3E0-	0035	Word address
	1/U3E0-	0135	
	2/U3E0-	0235	
	3/U3E0-	0335	
	4/U3E0-	0435	
	U3E1-	0036	
	1/U3E1-	0136	
	2/U3E1-	0236	
	3/U3E1-	0336	
	4/U3E1-	0436	
	U3E2-	0037	
	1/U3E2-	0137	
	2/U3E2-	0237	
	3/U3E2-	0337	
	4/U3E2-	0437	
	U3E3-	0038	
	1/U3E3-	0138	
	2/U3E3-	0238	
	3/U3E3-	0338	
	4/U3E3-	0438	

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 number
Device Name	Name of the External Device where an error has occurred. Device/PLC name is the title of the External Device set with GP Pro-EX. (Initial value [PLC1])
Error Message	Displays messages related to an error that has occurred.
Error Occurrence Area	<p>Displays the IP address or device address of the External Device where an error has occurred, or error codes received from the External Device.</p> <p>NOTE</p> <ul style="list-style-type: none"> • IP addresses are displayed as "IP address (Decimal): MAC address (Hex)". • Device addresses are 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 "Display-related errors" in "Maintenance/Troubleshooting Guide" for details on the error messages common to the driver.

■ Error Messages Unique to the External Device

Error No.	Error Message	Description
RHxx128	(Node Name): The specified CPU unit could not be accessed (Address: Device Address)	Appears if you access a CPU number that is not assigned.

