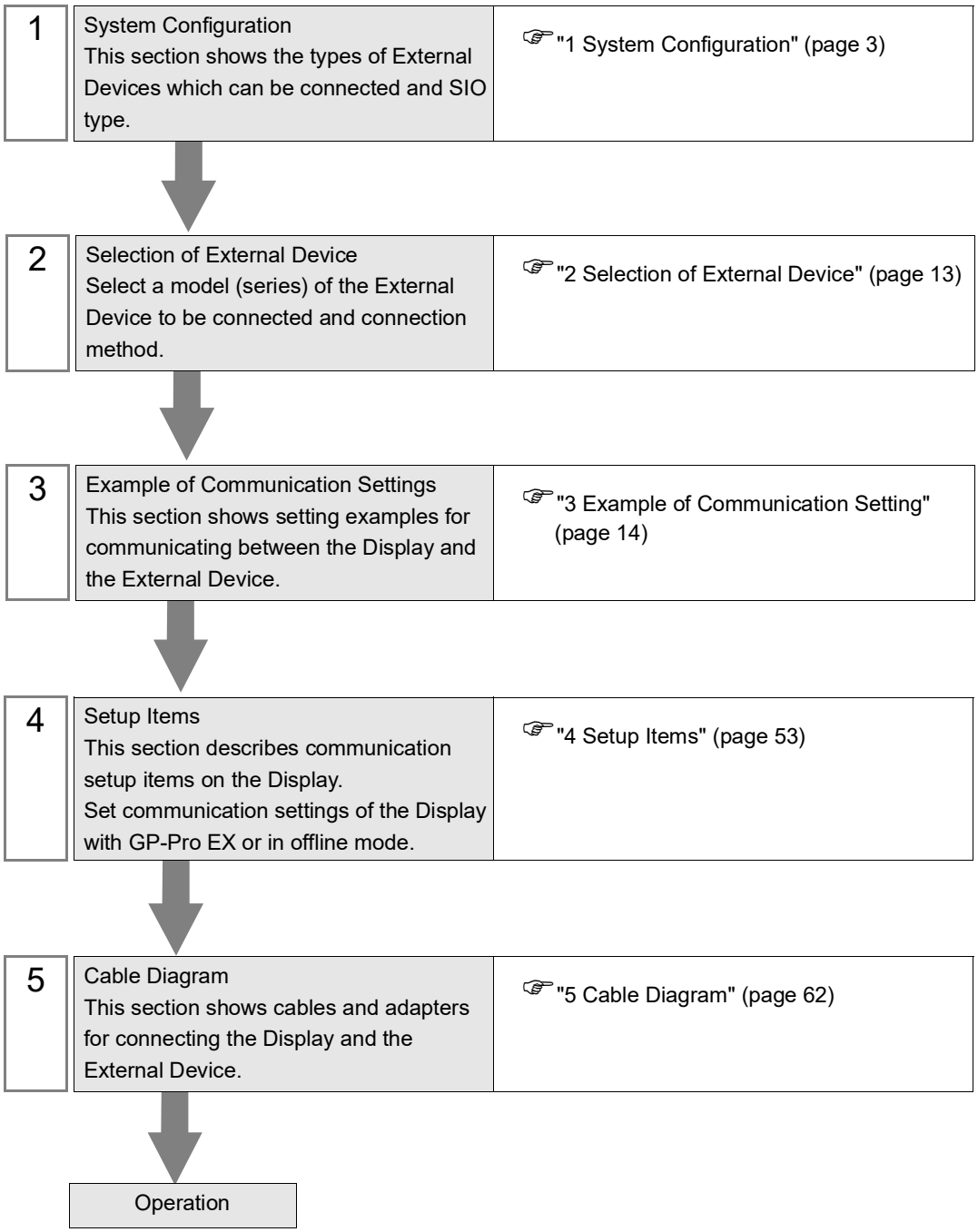
Mitsubishi Electric Corporation

Q/QnA Serial Communication Driver

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

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

Series	CPU	Link I/F	SIO Type	Example of Communication Settings	Cable Diagram
MELSEC Q	Q02CPU Q02HCPU Q06HCPU Q12HCPU Q25HCPU Q00JCPU Q00CPU Q01CPU Q02UCPU Q03UDCPU Q04UDHCPU Q06UDHCPU	QJ71C24 QJ71C24-R2 QJ71C24N QJ71C24N-R2	RS232C	Setting Example 3 (page 20)	Cable Diagram 1 (page 62)
		QJ71C24 QJ71C24N QJ71C24N-R4	RS422/485 (4wire)	Setting Example 4 (page 23)	Cable Diagram 2 (page 64)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 29)	Cable Diagram 6 (page 80)
	Q00UJCPU Q00UCPU Q01UCPU Q10UDHCPU Q13UDHCPU Q20UDHCPU Q26UDHCPU	QJ71C24N QJ71C24N-R2	RS232C	Setting Example 3 (page 20)	Cable Diagram 1 (page 62)
		QJ71C24N QJ71C24N-R4	RS422/485 (4wire)	Setting Example 4 (page 23)	Cable Diagram 2 (page 64)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 29)	Cable Diagram 6 (page 80)
	Q03UDECPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU	QJ71C24N[*1] QJ71C24N-R2[*1]	RS232C	Setting Example 3 (page 20)	Cable Diagram 1 (page 62)
		QJ71C24N[*1] QJ71C24N-R4[*1]	RS422/485 (4wire)	Setting Example 4 (page 23)	Cable Diagram 2 (page 64)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 29)	Cable Diagram 6 (page 80)
	Q00CPU Q01CPU Q00UJCPU Q00UCPU Q01UCPU Q02UCPU[*2]	RS232C connector on CPU	RS232C	Setting Example 5 (page 26)	Cable Diagram 3 (page 72)

Series	CPU	Link I/F	SIO Type	Example of Communication Settings	Cable Diagram
MELSEC QnA	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	A1SJ71QC24 A1SJ71QC24N A1SJ71QC24-R2 A1SJ71QC24N-R2	RS232C	Setting Example 1 (page 14)	Cable Diagram 1 (page 62)
		A1SJ71QC24 A1SJ71QC24N	RS422/485 (4wire)	Setting Example 2 (page 17)	Cable Diagram 2 (page 64)
			RS422/485 (4wire) Multilink	Setting Example 7 (page 32)	Cable Diagram 6 (page 80)
	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU Q4ARCPU	AJ71QC24 AJ71QC24N AJ71QC24-R2 AJ71QC24N-R2	RS232C	Setting Example 1 (page 14)	Cable Diagram 4 (page 73)
		AJ71QC24 AJ71QC24N	RS422/485 (4wire)	Setting Example 2 (page 17)	Cable Diagram 2 (page 64)
			RS422/485 (4wire) Multilink	Setting Example 7 (page 32)	Cable Diagram 6 (page 80)
		AJ71QC24-R4 AJ71QC24N-R4	RS422/485 (4wire) (when using CH1)	Setting Example 2 (page 17)	Cable Diagram 5 (page 75)
			RS422/485 (4wire) (when using CH2)	Setting Example 2 (page 17)	Cable Diagram 2 (page 64)
			RS422/485 (4wire) (when using CH2) Multilink	Setting Example 7 (page 32)	Cable Diagram 6 (page 80)
MELSEC L	L02CPU L26CPU-BT	LJ71C24 LJ71C24-R2	RS232C	Setting Example 3 (page 20)	Cable Diagram 1 (page 62)
		LJ71C24	RS422/485 (4wire) (when using CH2)	Setting Example 4 (page 23)	Cable Diagram 2 (page 64)
			RS422/485 (4wire) (when using CH2) Multilink	Setting Example 6 (page 29)	Cable Diagram 6 (page 80)

Series	CPU	Link I/F	SIO Type	Example of Communication Settings	Cable Diagram
MELSEC iQ-R	R00CPU R01CPU R02CPU R04CPU R08CPU R16CPU R32CPU R120CPU R04ENCPU R08ENCPU R16ENCPU R32ENCPU R120ENCPU R08PCPU R16PCPU R32PCPU R120PCPU R08SFCPU R16SFCPU R32SFCPU R120SFCPU R08PSFCPU R16PSFCPU R32PSFCPU R120PSFCPU	RJ71C24 RJ71C24-R2	RS232C	Setting Example 8 (page 35)	Cable Diagram 1 (page 62)
		RJ71C24 RJ71C24-R4	RS422/485 (4wire)	Setting Example 9 (page 38)	Cable Diagram 2 (page 64)
			RS422/485 (4wire) Multilink	Setting Example 9 (page 38)	Cable Diagram 6 (page 80)
			RS422/485 (2wire)	Setting Example 12 (page 47)	Cable Diagram 8 (page 87)

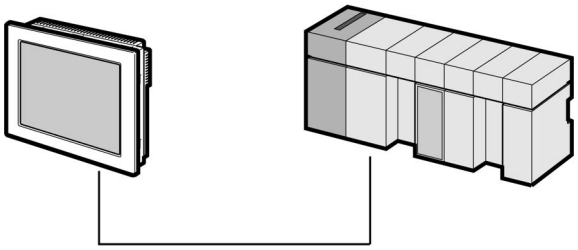
Series	CPU	Link I/F	SIO Type	Example of Communication Settings	Cable Diagram
MELSEC iQ-F	FX5UCPU	FX5-232-BD FX5-232ADP	RS232C	Setting Example 10 (page 41)	Cable Diagram 7 (page 88)
		RS422/485 connector on CPU FX5-485-BD FX5-485ADP	RS422/485 (4wire)	Setting Example 11 (page 44)	Cable Diagram 2 (page 64)
			RS422/485 (4wire) Multilink	Setting Example 11 (page 44)	Cable Diagram 6 (page 80)
			RS422/485 (2wire)	Setting Example 13 (page 50)	Cable Diagram 8 (page 87)
	FX5UCCPU	FX5-232ADP	RS232C	Setting Example 10 (page 41)	Cable Diagram 7 (page 88)
		RS422/485 connector on CPU FX5-485ADP	RS422/485 (4wire)	Setting Example 11 (page 44)	Cable Diagram 2 (page 64)
			RS422/485 (4wire) Multilink	Setting Example 11 (page 44)	Cable Diagram 6 (page 80)
			RS422/485 (2wire)	Setting Example 13 (page 50)	Cable Diagram 8 (page 90)
	FX5UJCPU	FX5-232-BD FX5-232ADP	RS232C	Setting Example 10 (page 41)	Cable Diagram 7 (page 88)
		FX5-485-BD FX5-485ADP	RS422/485 (4wire)	Setting Example 11 (page 44)	Cable Diagram 2 (page 64)
			RS422/485 (4wire) Multilink	Setting Example 11 (page 44)	Cable Diagram 6 (page 80)

*1 The unit whose first 5 digits of the serial No. is less than "10042" cannot be connected with the QnUDECPU/ QnUDEHCPU.

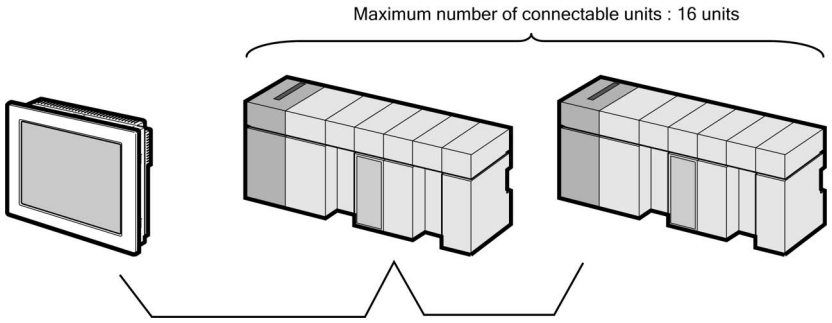
*2 Available when using the unit whose first 5 digits of the serial No. is "10102" or later, and GX Developer version 8.76E or later.

■ Connection Configuration

- 1:1 Connection

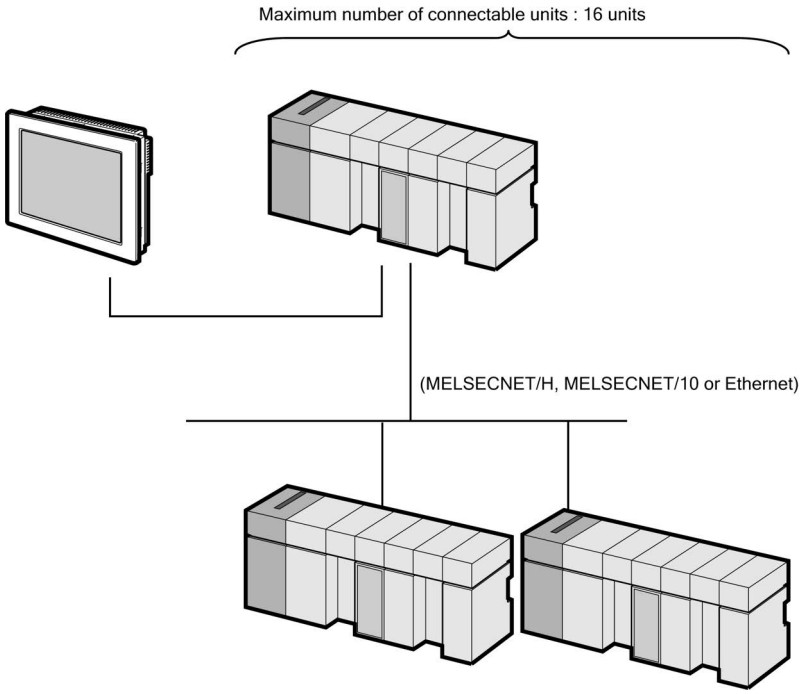


- 1:n Connection



- 1:n Connection (when communicating via network)

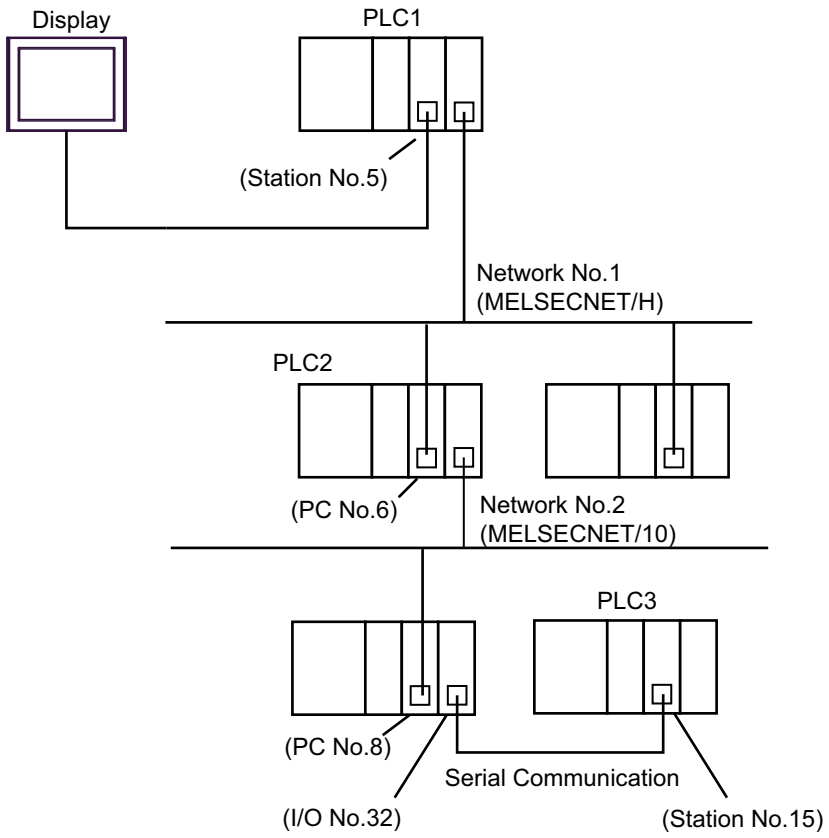
You can access other stations via MELSECNET/H, MELSECNET/10, Ethernet or Q Series C24 unit. Note that you can access only the source station when using the RS232C connector on Q00CPU or Q01CPU.



NOTE

- In case of communication via network, please set larger value than the response monitoring time of the relay station for timeout settings.
- The iQ-F series does not support connections over the network.

The following is an example setup on a network. Check the details of the setup items in "Setup Item."
☞"4 Setup Items" (page 53)

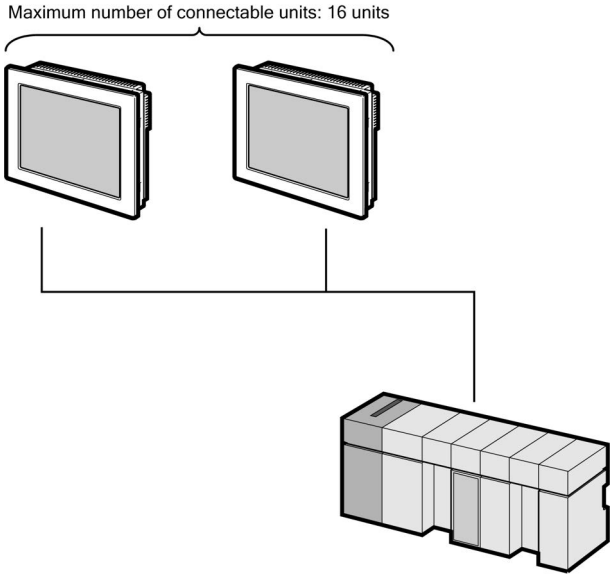


[Individual Device Settings] dialog box

External Device to be Accessed	Station No.*1	Network No.	PC No.	Request destination module I/O No.	Request destination module Station No.
PLC1	5	0	255	1023	0
PLC2	5	1	6	1023	0
PLC3	5	2	8	32	15

*1 Set the station number of the relay station (PLC1).

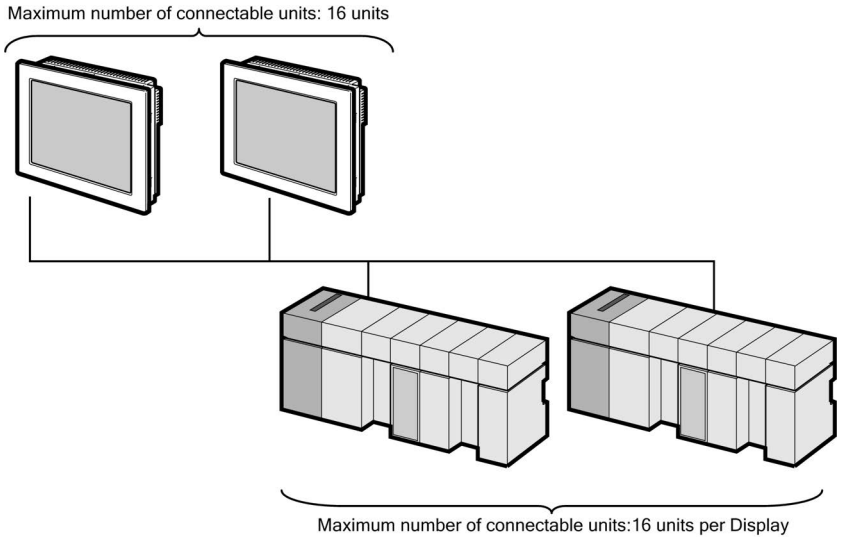
- n:1 Connection (Multilink connection)



NOTE

- The maximum number of connectable Displays is 16 units. However, keeping performance in consideration, the number of Displays that can be substantially used is up to 4.

- n:m Connection (Multilink connection)



NOTE

- The maximum number of connectable Displays is 16 units. However, keeping performance in consideration, the number of Displays that can be substantially used is up to 4.

■ IPC COM Port

When connecting IPC with an External Device, the COM port used depends on the series and SIO type. Please refer to the IPC manual for details.

Usable port

Series	Usable Port		
	RS-232C	RS-422/485(4 wire)	RS-422/485(2 wire)
PS-2000B	COM1*1 , COM2, COM3*1, COM4	-	-
PS-3450A, PS-3451A, PS3000-BA, PS3001-BD	COM1, COM2*1*2	COM2*1*2	COM2*1*2
PS-3650A (T41 model), PS-3651A (T41 model)	COM1*1	-	-
PS-3650A (T42 model), PS-3651A (T42 model)	COM1*1*2, COM2	COM1*1*2	COM1*1*2
PS-3700A (Pentium®4-M) PS-3710A	COM1*1, COM2*1, COM3*2 , COM4	COM3*2	COM3*2
PS-3711A	COM1*1, COM2*2	COM2*2	COM2*2
PS4000*3	COM1, COM2	-	-
PL3000	COM1*1*2, COM2*1, COM3, COM4	COM1*1*2	COM1*1*2
PE-4000B Atom N270	COM1, COM2	-	-
PE-4000B Atom N2600	COM1, COM2	COM3*4 , COM4*4, COM5*4, COM6*4	COM3*4, COM4*4, COM5*4, COM6*4
PS5000 (Slim Panel Type Core i3 Model) *5 *6	COM1, COM2*4	COM2*4	COM2*4
PS5000 (Slim Panel Type Atom Model) *5 *6	COM1, COM2*7	COM2*7	COM2*7
PS5000 (Enclosed Panel Type)*8	COM1	-	-
PS5000 (Modular Type PFXPU/PFXPP)*5 *6 PS5000 (Modular Type PFXPL2B5-6)	COM1*7	COM1*7	COM1*7
PS5000 (Modular Type PFXPL2B1-4)	COM1, COM2*7	COM2*7	COM2*7
PS6000	COM1*9	*10	*10

*1 The RI/5V can be switched. Use the IPC's switch to change if necessary.

*2 Set up the SIO type with the DIP Switch. Please set up as follows according to SIO type to be used.

*3 When making communication between an External Device and COM port on the Expansion slot, only RS-232C is supported. However, ER (DTR/CTS) control cannot be executed because of the specification of COM port.
For connection with External Device, use user-created cables and disable Pin Nos. 1, 4, 6 and 9.
Please refer to the IPC manual for details of pin layout.

*4 Set up the SIO type with the BIOS. Please refer to the IPC manual for details of BIOS.

*5 When setting up communication between an External Device and the RS-232C/422/485 interface module, use the IPC (RS-232C) or PS5000 (RS-422/485) cable diagrams. However, when using PFXZPBMPR42P2 in a RS-422/485 (4-wire) configuration with no flow control, connect 7.RTS+ and 8.CTS+, and connect 6.RTS- and 9.CTS-.
When using RS-422/485 communication with External Devices, you may need to reduce the transmission speed and increase the TX Wait time.

*6 To use RS-422/485 communication on the RS-232C/422/485 interface module, the DIP Switch setting is required. Please refer to "Knowledge Base" (FAQs) on the support site. (http://www.pro-face.com/trans/en/manual/1001.html)

Settings	FAQ ID
PFXZPBMPR42P2, RS422/485 change method	FA263858
PFXZPBMPR42P2 termination resistor setting	FA263974
PFXZPBMPR44P2, RS422/485 change method	FA264087
PFXZPBMPR44P2 termination resistor setting	FA264088

*7 Set up the SIO type with the DIP Switch. Please refer to the IPC manual for details of DIP Switch. The BOX Atom has not a switch to set the RS-232C, RS-422/485 mode. Use the BIOS for the setting.

*8 For the connection with the External Device, on the user-created cable read as if the connector on the Display-side is a M12 A-coding 8 pin socket. The pin assignment is the same as described in the cable diagram. For the M12 A-coding connector, use PFXZPSCNM122.

*9 In addition to COM1, you can also use the RS-232C COM port on the optional interface.

*10 Install the optional interface in the expansion slot.

DIP Switch settings (PL3000 / PS3000 Series)

RS-232C

DIP Switch	Setting	Description
1	OFF*1	Reserved (always OFF)
2	OFF	SIO type: RS-232C
3	OFF	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA (RXA): Not available
8	OFF	Short-circuit of SDB (TXB) and RDB (RXB): Not available
9	OFF	RS (RTS) Auto control mode: Disabled
10	OFF	

*1 When using PS-3450A, PS-3451A, PS3000-BA and PS3001-BD, turn ON the set value.

RS-422/485 (4 wire)

DIP Switch	Setting	Description
1	OFF	Reserved (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA (RXA): Not available
8	OFF	Short-circuit of SDB (TXB) and RDB (RXB): Not available
9	OFF*1	RS (RTS) Auto control mode: Disabled
10	OFF*1	

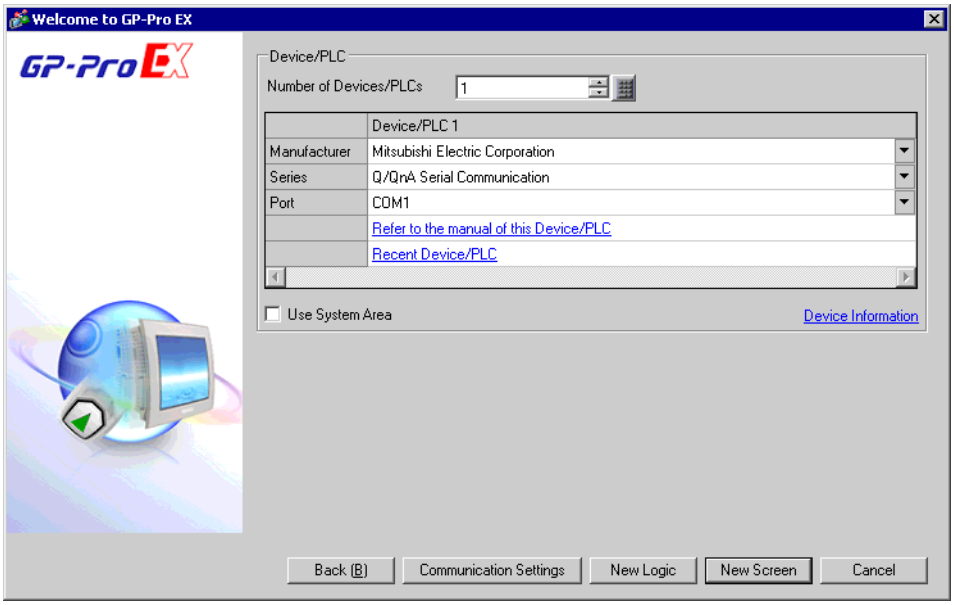
*1 When the connection configuration are the n:1 and n:m connections (both Multilink connections), turn ON the set value.

RS-422/485 (2 wire)

DIP Switch	Setting	Description
1	OFF	Reserved (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	ON	Short-circuit of SDA (TXA) and RDA (RXA): Available
8	ON	Short-circuit of SDB (TXB) and RDB (RXB): Available
9	ON	RS (RTS) Auto control mode: Enabled
10	ON	

2 Selection of External Device

Select the External Device to be connected to the Display.



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

3 Example of Communication Setting

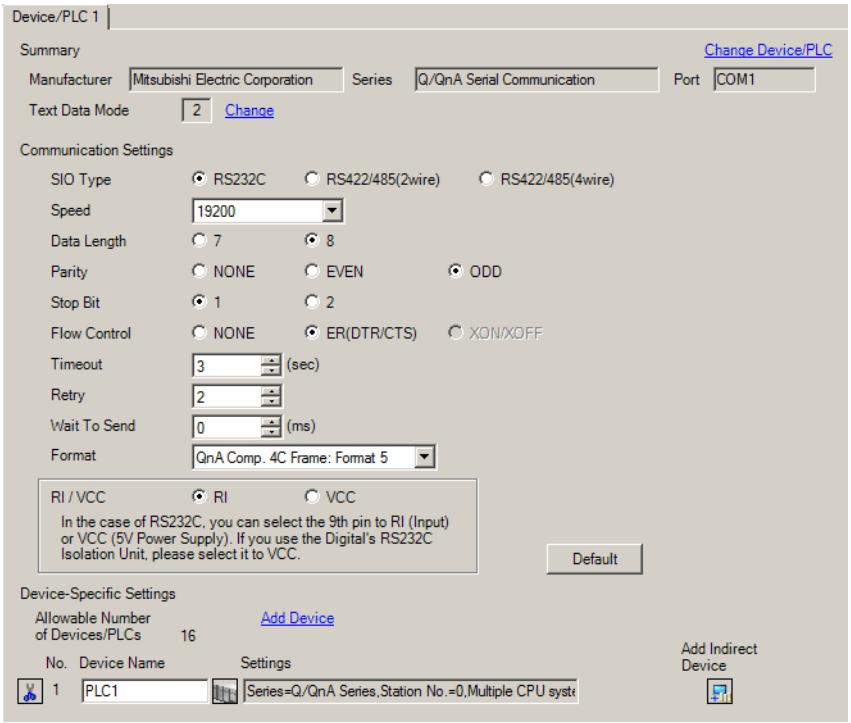
Examples of communication settings of the Display and the External Device, recommended by Pro-face, are shown.

3.1 Setting Example 1

■ Setting of GP-Pro EX

◆ Communication Settings

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



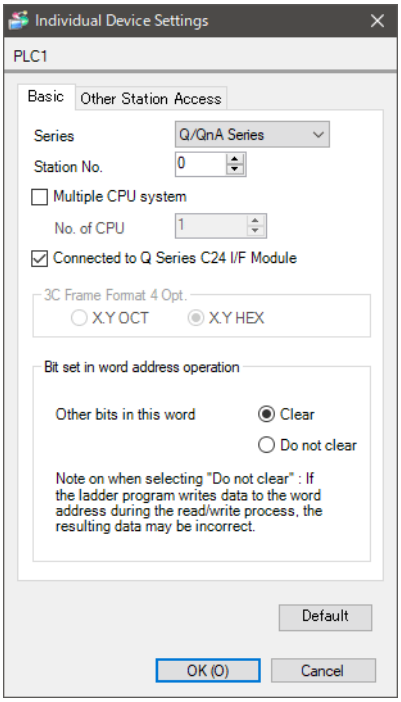
NOTE

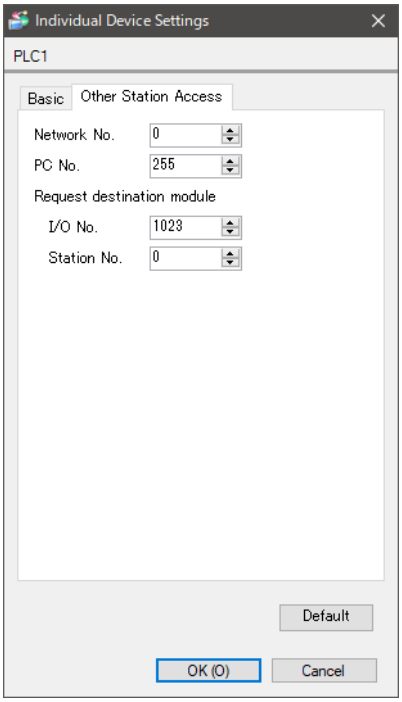
- When using A1SJ71QC24N, A1SJ71QC24N-R2, AJ71QC24N or AJ71QC24N-R2, you can set the "Speed" up to 115200.

◆ 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.





◆ Important Item

When you use 2 types of interface in A1SJ71QC24N, A1SJ71QC24N-R2, AJ71QC24N or AJ71QC24N-R2, please set the total speed of CH1 and CH2 to 115200 or less.

■ Setting of External Device

Use the front switch of the computer link unit to set the communication settings as below.

DIP Switch	Settings	Setup Description
SW1	OFF	Operation Setting = Independent Operation
SW2	ON	Data Length = 8 bits
SW3	ON	With/Without Parity = With
SW4	OFF	Parity = Odd parity
SW5	OFF	Stop Bit = 1 bit
SW6	ON	Sum Check = Enable
SW7	ON	Write during RUN = Enable
SW8	ON	Setting change Enable/Disable = Enable
SW9	OFF	Transmission Speed = 19200
SW10	ON	
SW11	ON	
SW12	OFF	

NOTE

- When using A1SJ71QC24N, A1SJ71QC24N-R2, AJ71QC24N or AJ71QC24N-R2, you can set the "Speed" up to 115200.

- Station Setting Switch

Setting Switch	Settings
x 10	0
x 1	0

- Mode Setting Switch

Setting Switch	Settings
MODE (CH1)	5*1
MODE (CH2)	5*1

*1 Set the value according to [Format] to be used.

◆ Important Item

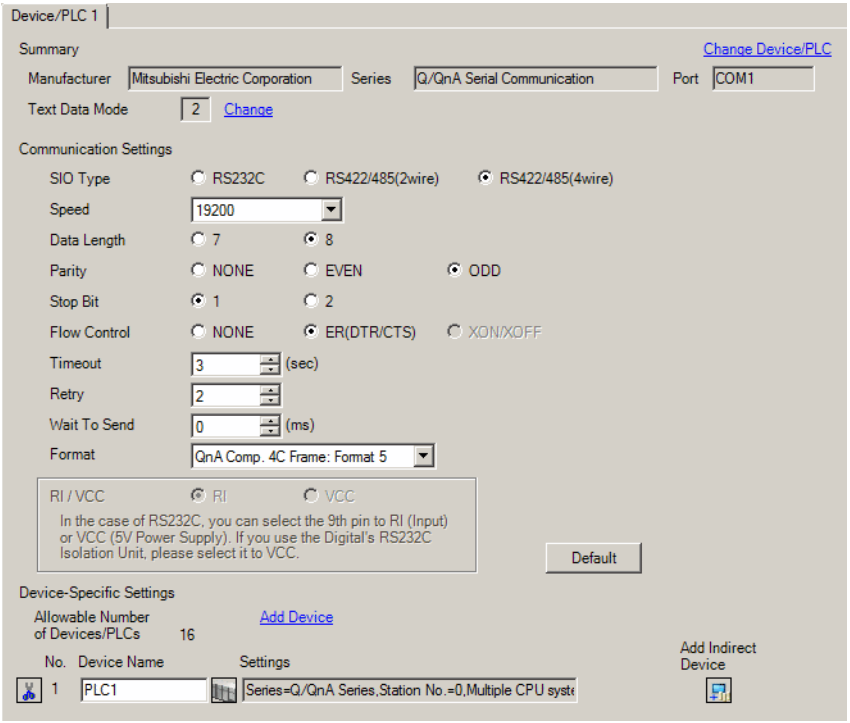
When you use 2 types of interface in A1SJ71QC24N, A1SJ71QC24N-R2, AJ71QC24N or AJ71QC24N-R2, please set the total speed of CH1 and CH2 to 115200 or less.

3.2 Setting Example 2

■ Setting of GP-Pro EX

◆ Communication Settings

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



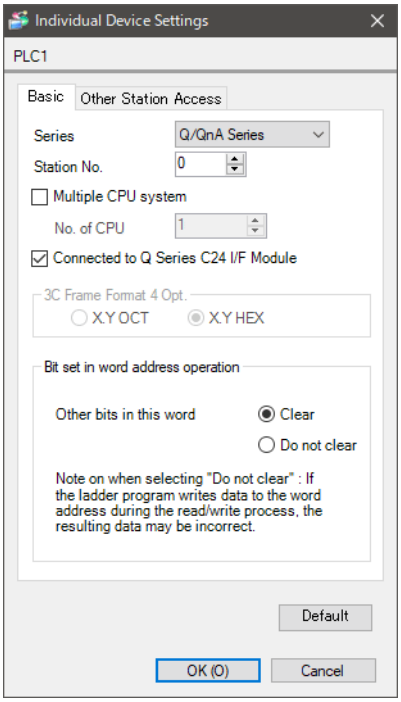
NOTE

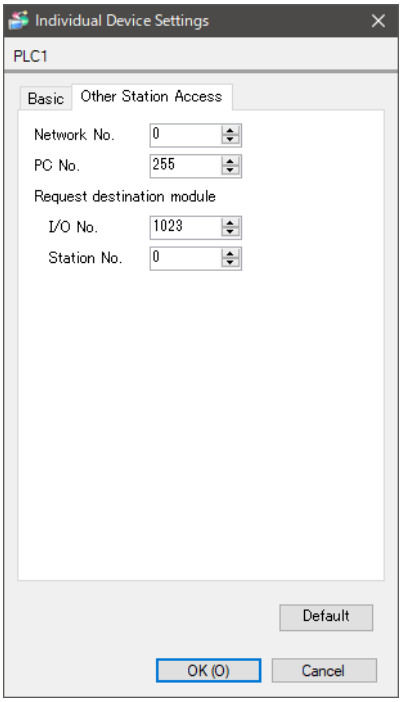
- When using A1SJ71QC24N, AJ71QC24N or AJ71QC24N-R4, you can set the "Speed" up to 115200.

◆ 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.





◆ Important Item

When you use 2 types of interface in A1SJ71QC24N, AJ71QC24N or AJ71QC24N-R4, please set the total speed of CH1 and CH2 to 115200 or less.

■ Setting of External Device

Use the front switch of the computer link unit to set the communication settings as below.

DIP Switch	Settings	Setup Description
SW1	OFF	Operation Setting = Independent Operation
SW2	ON	Data Length = 8 bits
SW3	ON	With/Without Parity = With
SW4	OFF	Parity = Odd parity
SW5	OFF	Stop Bit = 1 bit
SW6	ON	Sum Check = Enable
SW7	ON	Write during RUN = Enable
SW8	ON	Setting change Enable/Disable = Enable
SW9	OFF	Transmission Speed = 19200
SW10	ON	
SW11	ON	
SW12	OFF	

NOTE

- When using A1SJ71QC24N, AJ71QC24N or AJ71QC24N-R4, you can set the "Speed" up to 115200.

- Station Setting Switch

Setting Switch	Settings
x 10	0
x 1	0

- Mode Setting Switch

Setting Switch	Settings
MODE (CH1)	5*1
MODE (CH2)	5*1

*1 Set the value according to [Format] to be used.

◆ Important Item

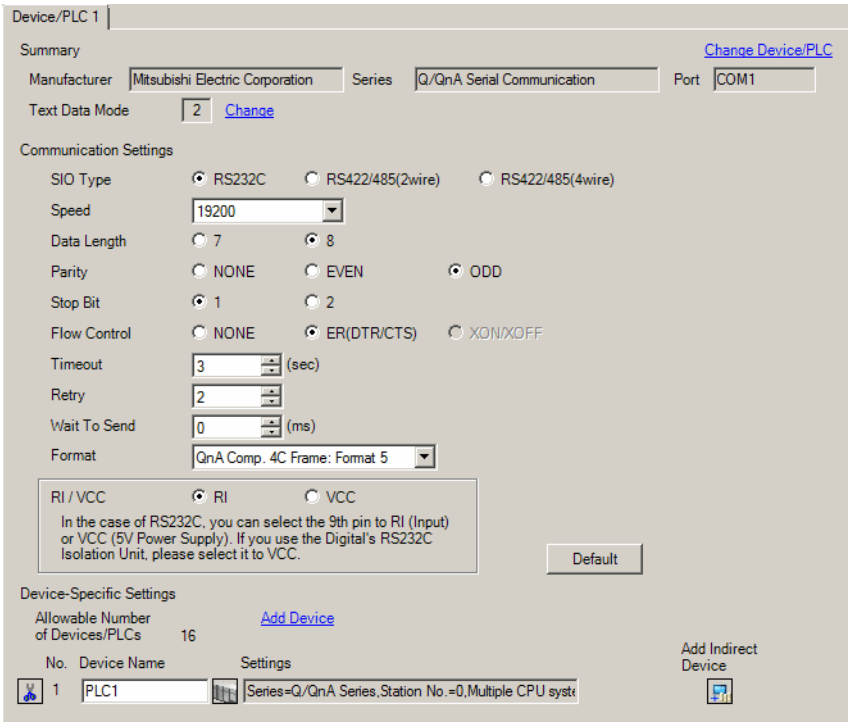
When you use 2 types of interface in A1SJ71QC24N, AJ71QC24N or AJ71QC24N-R4, please set the total speed of CH1 and CH2 to 115200 or less.

3.3 Setting Example 3

■ Setting of GP-Pro EX

◆ Communication Settings

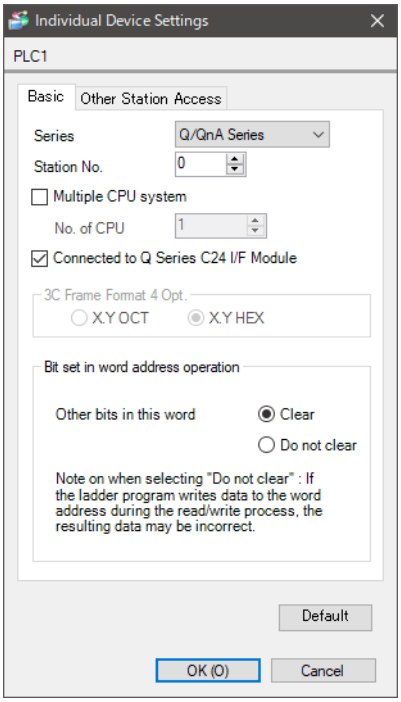
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

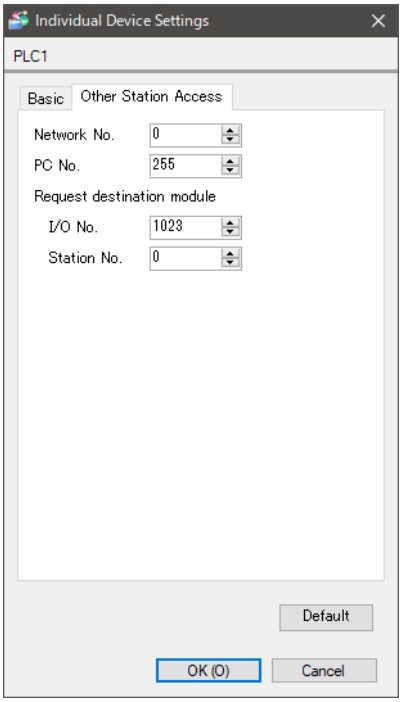


◆ Device Setting

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

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





◆ Important Item

When you use 2 types of interface in QJ71C24 or QJ71C24-R2, please set the total speed of CH1 and CH2 to 115200 or less.

■ Setting of External Device

Use the GPP function software by Mitsubishi Electric Corporation to perform the communication settings as below.

(1) Double-click [PC Parameter] from [Parameter] to select the [I/O Assign Setting] tab.

(2) Click [Type] to select [Intelligent].

(3) Click [Switch Settings] and set as below.

Setting Switch	Setting Value	Setup Description
Switch 1	07E6	Transmission Speed = 19200 Data Length = 8 With/Without Parity = With Parity = Odd parity Stop Bit = 1 Sum Check = Enable
Switch 2	0005*1	Mode = Form 5
Switch 5	0000	Station No. = 0

*1 Set the value according to [Format] to be used.

NOTE • Please refer to the manual of the External Device for more detail on setting description.

◆ Important Item

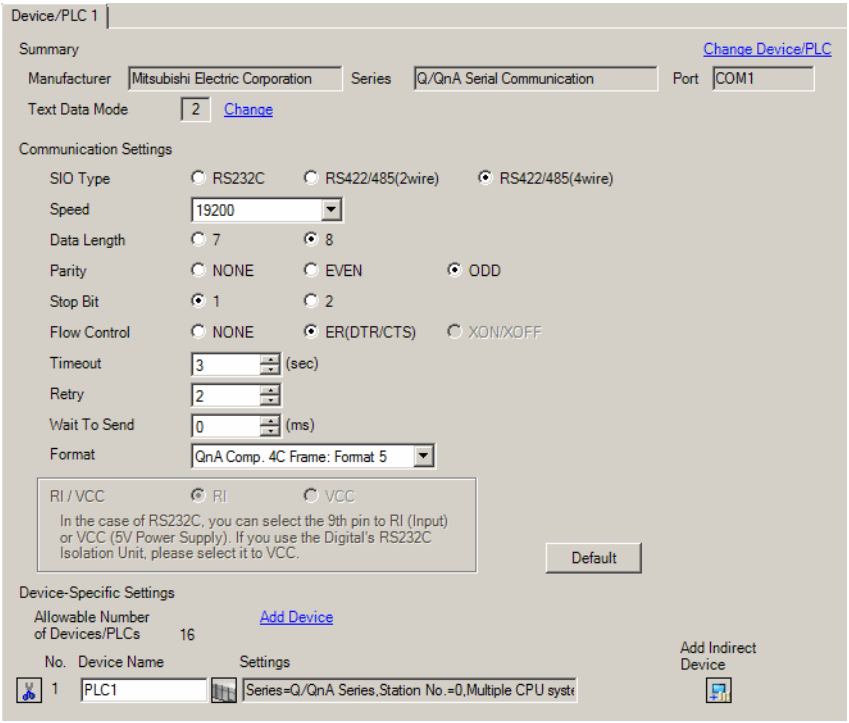
When you use 2 types of interface in QJ71C24 or QJ71C24-R2, please set the total speed of CH1 and CH2 to 115200 or less.

3.4 Setting Example 4

■ Setting of GP-Pro EX

◆ Communication Settings

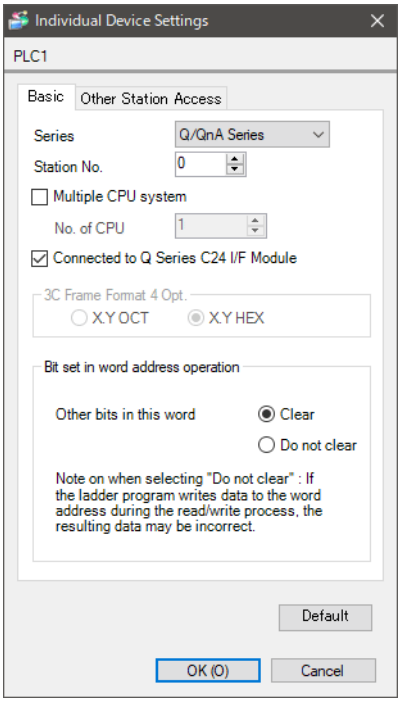
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

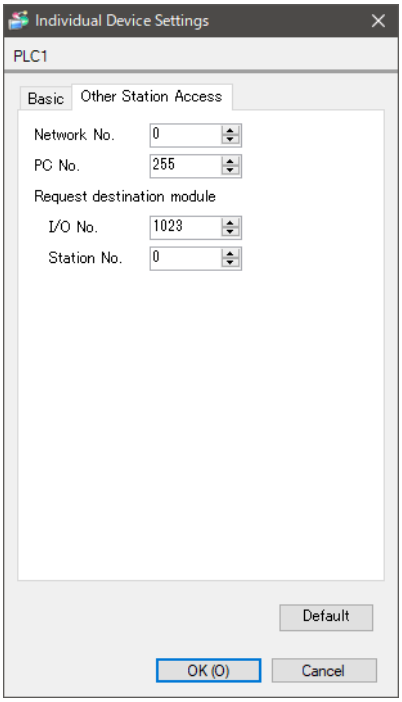


◆ Device Setting

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

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





◆ Important Item

When you use 2 types of interface in QJ71C24, please set the total speed of CH1 and CH2 to 115200 or less.

■ Setting of External Device

Use the GPP function software by Mitsubishi Electric Corporation to perform the communication settings as below.

(1) Double-click [PC Parameter] from [Parameter] to select the [I/O Assign Setting] tab.

(2) Click [Type] to select [Intelligent].

(3) Click [Switch Settings] and set as below.

Setting Switch	Setting Value	Setup Description
Switch 3	07E6	Transmission Speed = 19200 Data Length = 8 With/Without Parity = With Parity = Odd parity Stop Bit = 1 Sum Check = Enable
Switch 4	0005*1	Mode = Form 5
Switch 5	0000	Station No. = 0

*1 Set the value according to [Format] to be used.

NOTE • Please refer to the manual of the External Device for more detail on setting description.

◆ Important Item

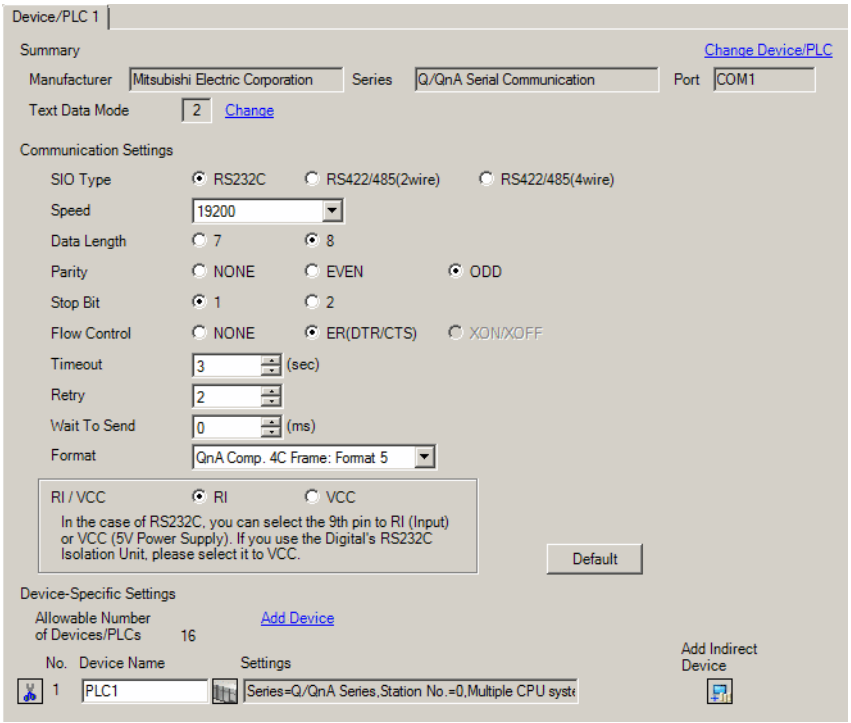
When you use 2 types of interface in QJ71C24, please set the total speed of CH1 and CH2 to 115200 or less.

3.5 Setting Example 5

■ Setting of GP-Pro EX

◆ Communication Settings

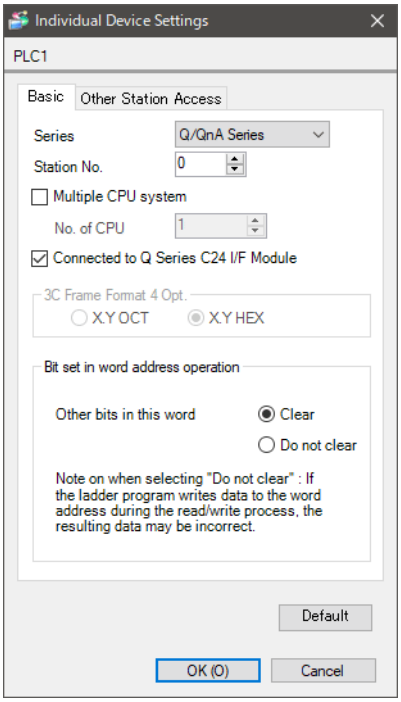
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

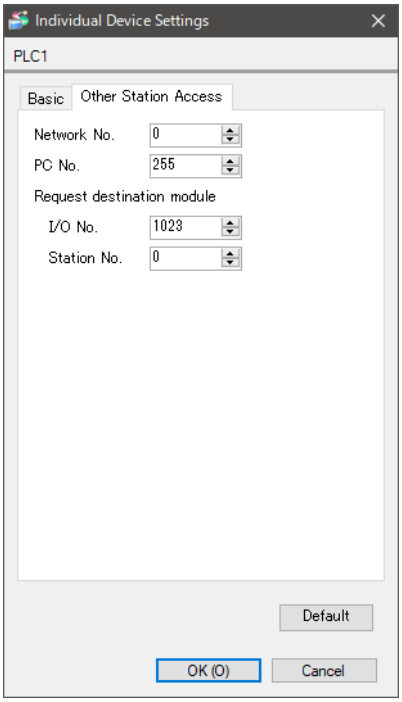


◆ Device Setting

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

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





■ Setting of External Device

Use the GPP function software by Mitsubishi Electric Corporation to perform the communication settings as below.

(1) Double-click [PC Parameter] from [Parameter] to select [Serial Communication Settings].

(2) Set as below.

Setup Items	Settings
Use Serial Communication Function*1	Use
Baud Rate	19.2Kbps
Sum Check	Enable
Transmission Wait Time	No Wait
Write Setting during RUN	Enable

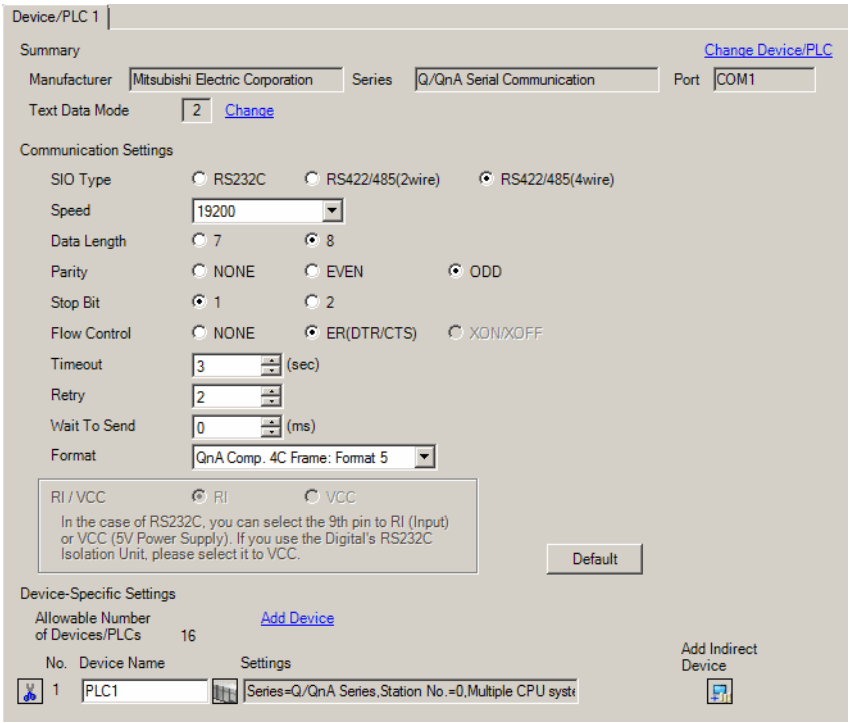
*1 Check the checkbox to make other setting items become available to set.

3.6 Setting Example 6

■ Setting of GP-Pro EX

◆ Communication Settings

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



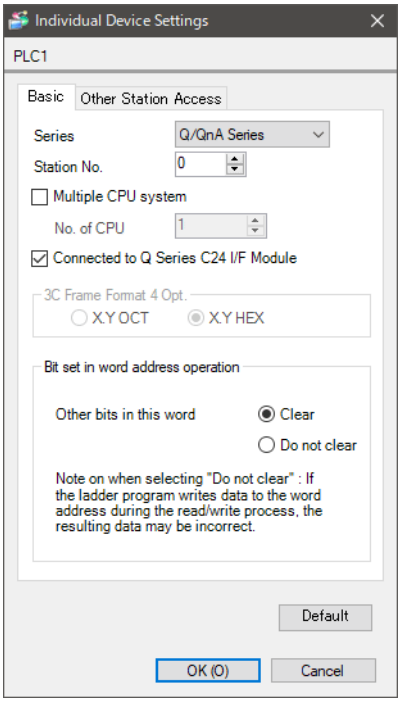
NOTE

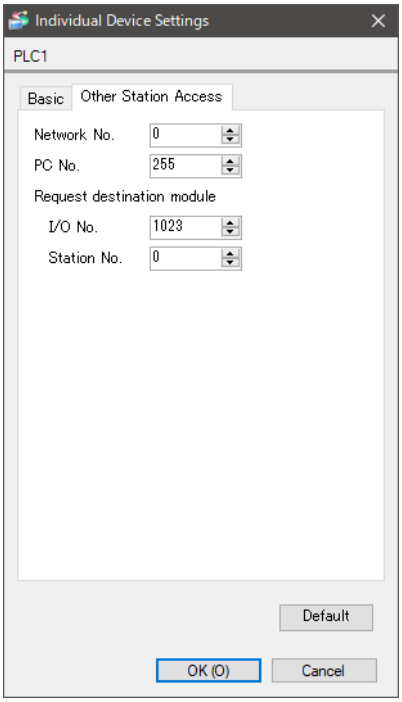
- When simultaneously using GP2000 Series during multilink connection, select "QnA Comp. 3C Frame: Format 4" from the "Format".

◆ 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.





◆ Important Item

When you use 2 types of interface in QJ71C24, please set the total speed of CH1 and CH2 to 115200 or less.

■ Setting of External Device

Use the GPP function software by Mitsubishi Electric Corporation to perform the communication settings as below.

(1) Double-click [PC Parameter] from [Parameter] to select the [I/O Assign Setting] tab.

(2) Click [Type] to select [Intelligent].

(3) Click [Switch Settings] and set as below.

Setting Switch	Setting Value	Setup Description
Switch 3	07E6	Transmission Speed = 19200 Data Length = 8 With/Without Parity = With Parity = Odd parity Stop Bit = 1 Sum Check = Enable
Switch 4	0005*1	Mode = Form 5
Switch 5	0000	Station No. = 0

*1 Set the value according to [Format] to be used.

NOTE • Please refer to the manual of the External Device for more detail on setting description.

◆ Important Item

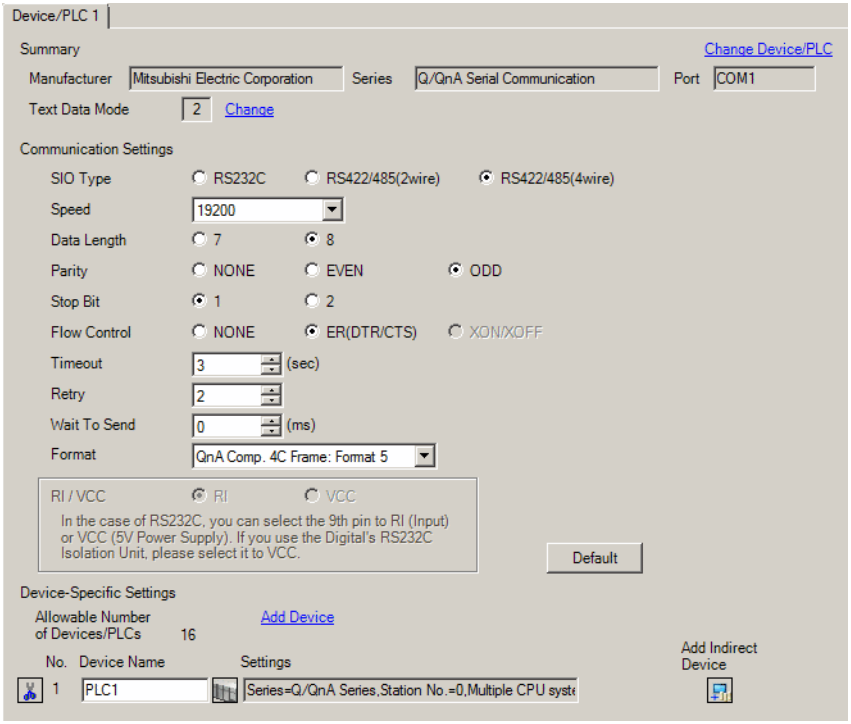
When you use 2 types of interface in QJ71C24, please set the total speed of CH1 and CH2 to 115200 or less.

3.7 Setting Example 7

■ Setting of GP-Pro EX

◆ Communication Settings

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



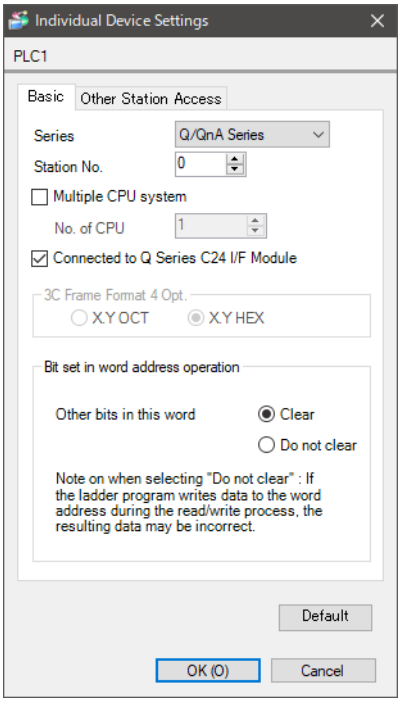
NOTE

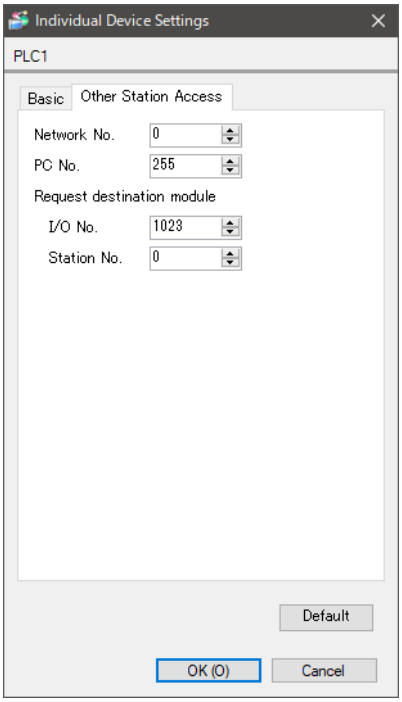
- When using A1SJ71QC24N, AJ71QC24N or AJ71QC24N-R4, you can set the "Speed" up to 115200.
- When simultaneously using GP2000 Series during multilink connection, select "QnA Comp. 3C Frame: Format 4" from the "Format".

◆ 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.





◆ Important Item

When you use 2 types of interface in A1SJ71QC24N, AJ71QC24N or AJ71QC24N-R4, please set the total speed of CH1 and CH2 to 115200 or less.

■ Setting of External Device

Use the front switch of the computer link unit to set the communication settings as below.

DIP Switch	Settings	Setup Description
SW1	OFF	Operation Setting = Independent Operation
SW2	ON	Data Length = 8 bits
SW3	ON	With/Without Parity = With
SW4	OFF	Parity = Odd parity
SW5	OFF	Stop Bit = 1 bit
SW6	ON	Sum Check = Enable
SW7	ON	Write during RUN = Enable
SW8	ON	Setting change Enable/Disable = Enable
SW9	OFF	Transmission Speed = 19200
SW10	ON	
SW11	ON	
SW12	OFF	

NOTE • When using A1SJ71QC24N, AJ71QC24N or AJ71QC24N-R4, you can set the "Speed" up to 115200.

• Station Setting Switch

Setting Switch	Settings
x 10	0
x 1	0

• Mode Setting Switch

Setting Switch	Settings
MODE (CH1)	5*1
MODE (CH2)	5*1

*1 Set the value according to [Format] to be used.

◆ Important Item

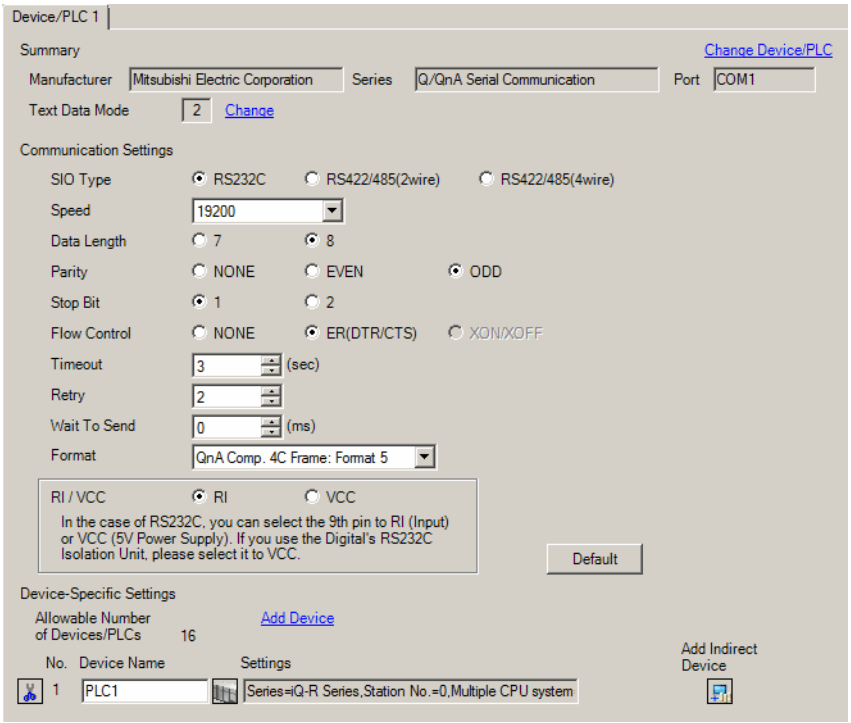
When you use 2 types of interface in A1SJ71QC24N, AJ71QC24N or AJ71QC24N-R4, please set the total speed of CH1 and CH2 to 115200 or less.

3.8 Setting Example 8

■ Setting of GP-Pro EX

◆ Communication Settings

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



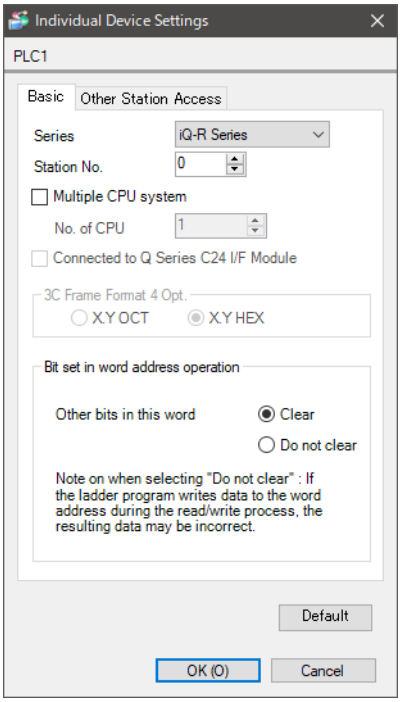
NOTE

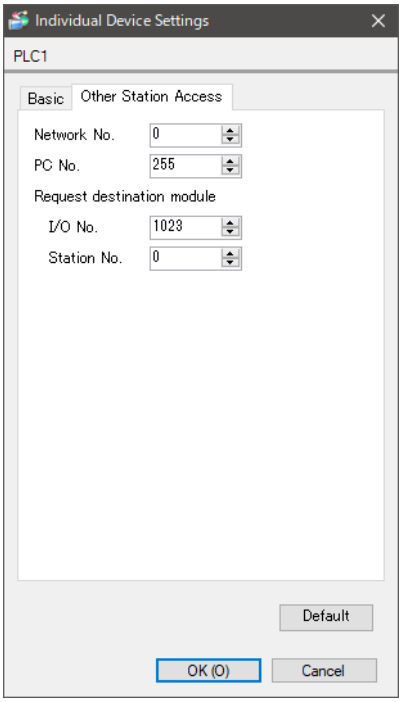
- When simultaneously using GP2000 Series during multilink connection, select "QnA Comp. 3C Frame: Format 4" from the "Format".

◆ 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.





■ Setting of External Device

Define the communication settings for the External Device using the engineering software MELSOFT GX Works3.

For more information, please refer to the manual of the External Device.

(1) Start up the engineering software.

(2) From the tree view, expand the [Parameter] and click [Module Information]. Select the Link I/F and then double click [Module Parameter].

(3) In the [Module Parameter] window, specify the following parameters.

- Basic Settings

Setup Items	Setting value
Communication Protocol Type	MC Protocol
Data Length	8 bit
Parity	Odd
Stop Bit	1 bit
Baud Rate	19200
Sum Check Code	Yes

- Fixed Settings

Setup Items	Setting value
Message Pattern	Pattern 5

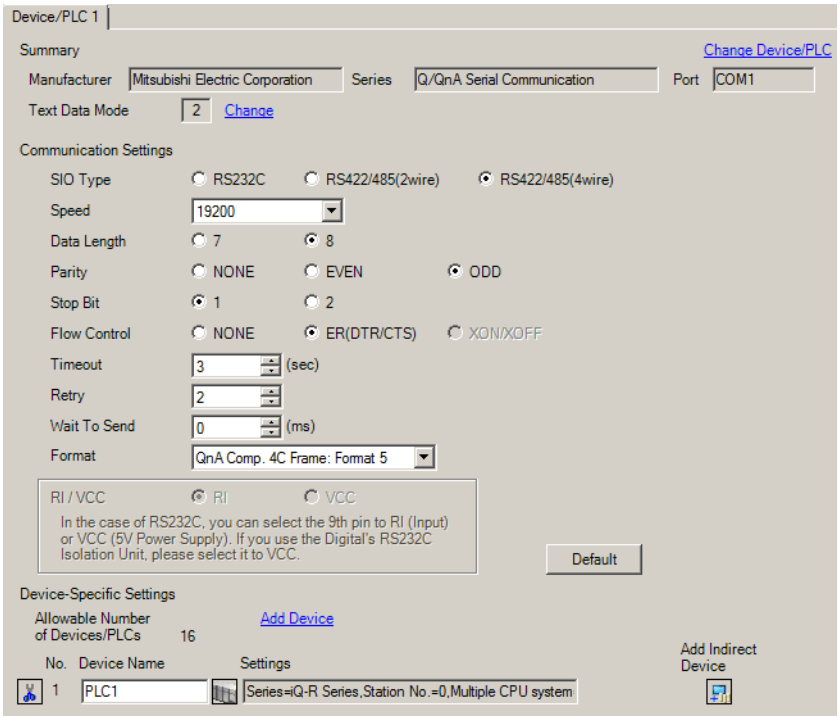
NOTE • When using RJ71C24, set to CH1.

3.9 Setting Example 9

■ Setting of GP-Pro EX

◆ Communication Settings

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



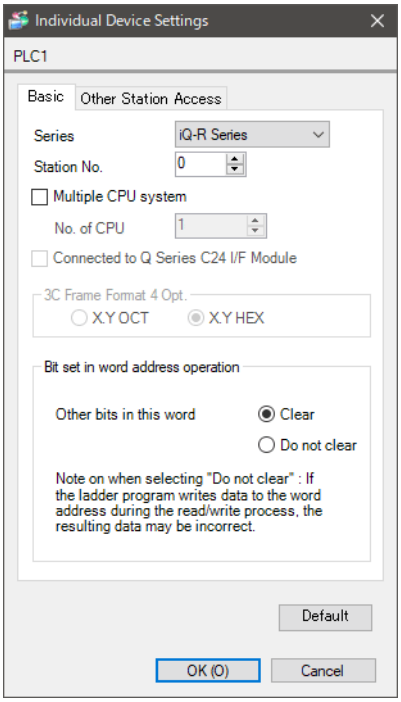
NOTE

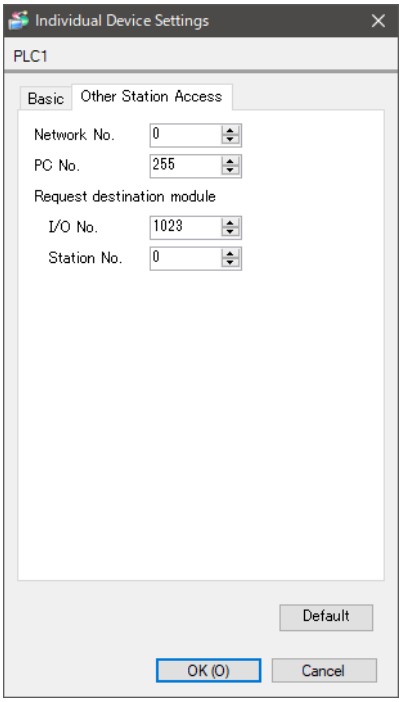
- When simultaneously using GP2000 Series during multilink connection, select "QnA Comp. 3C Frame: Format 4" from the "Format".

◆ 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.





■ Setting of External Device

Define the communication settings for the External Device using the engineering software MELSOFT GX Works3.

For more information, please refer to the manual of the External Device.

(1) Start up the engineering software.

(2) From the tree view, expand the [Parameter] and click [Module Information]. Select the Link I/F and then double click [Module Parameter].

(3) In the [Module Parameter] window, specify the following parameters.

- Basic Settings

Setup Items	Setting value
Communication Protocol Type	MC Protocol
Data Length	8 bit
Parity	Odd
Stop Bit	1 bit
Baud Rate	19200
Sum Check Code	Yes

- Fixed Settings

Setup Items	Setting value
Message Pattern	Pattern 5

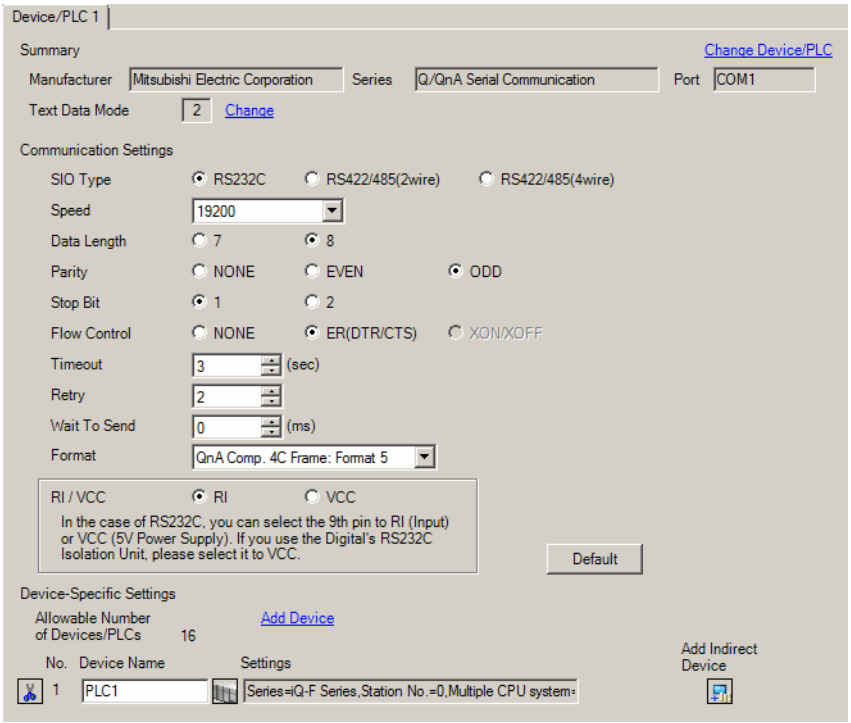
NOTE • When using RJ71C24, set to CH2.

3.10 Setting Example 10

■ Setting of GP-Pro EX

◆ Communication Settings

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



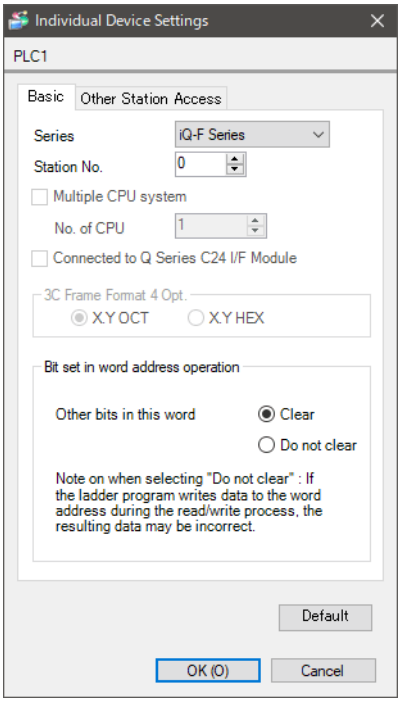
NOTE

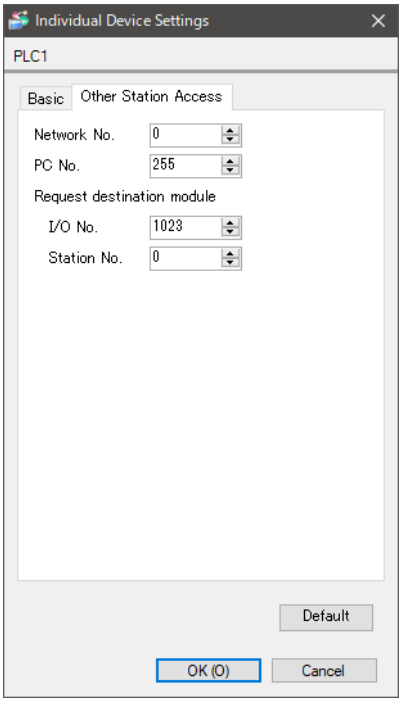
- When simultaneously using GP2000 Series during multilink connection, select "QnA Comp. 3C Frame: Format 4" from the "Format".

◆ 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.





■ Setting of External Device

Define the communication settings for the External Device using the engineering software MELSOFT GX Works3.

For more information, please refer to the manual of the External Device.

(1) Start up the engineering software.

(2) From the tree view, expand the [Parameter] and click [Module Information]. Select the Link I/F and then double click [Module Parameter].

(3) In the [Module Parameter] window, specify the following parameters.

- Basic Settings

Setup Items	Setting value
Communication Protocol Type	MC Protocol
Data Length	8 bit
Parity	Odd
Stop Bit	1 bit
Baud Rate	19200
Sum Check Code	Yes

- Fixed Settings

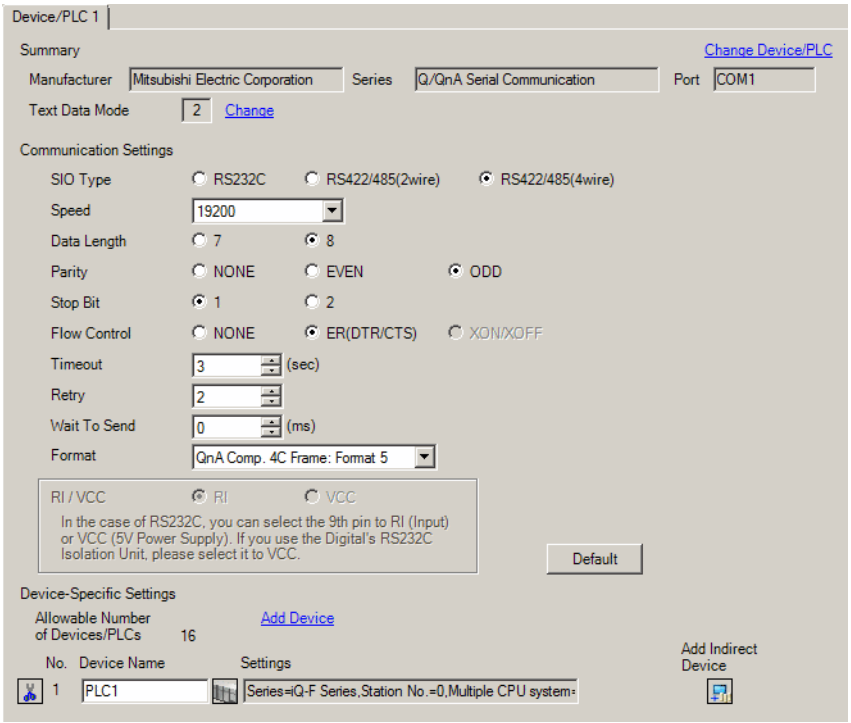
Setup Items	Setting value
Message Pattern	Pattern 5

3.11 Setting Example 11

■ Setting of GP-Pro EX

◆ Communication Settings

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



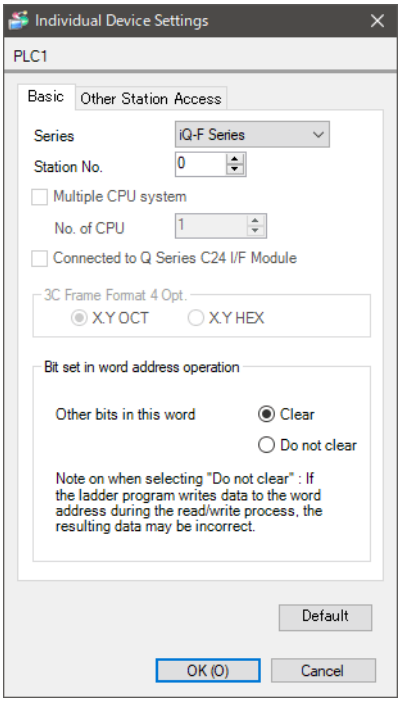
NOTE

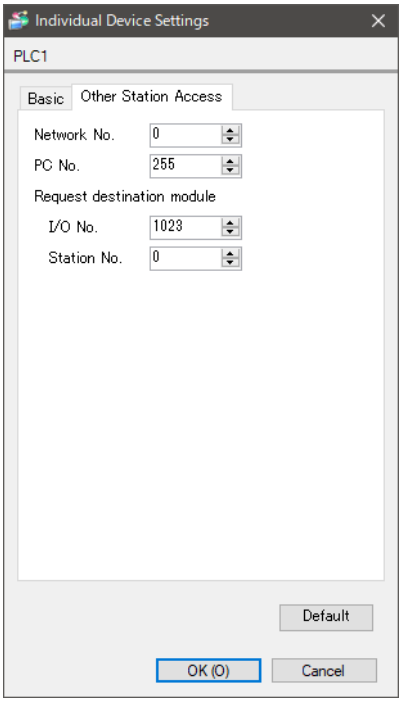
- When simultaneously using GP2000 Series during multilink connection, select "QnA Comp. 3C Frame: Format 4" from the "Format".

◆ 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.





■ Setting of External Device

Define the communication settings for the External Device using the engineering software MELSOFT GX Works3.

For more information, please refer to the manual of the External Device.

(1) Start up the engineering software.

(2) From the tree view, expand the [Parameter], select the External Device in use and then from [Module Parameter] double click [485 Serial Port].

(3) In the [Module Parameter 485 Serial Port] window, specify the following parameters.

- Basic Settings

Setup Items	Setting value
Communication Protocol Type	MC Protocol
Data Length	8 bit
Parity	Odd
Stop Bit	1 bit
Baud Rate	19200
Sum Check Code	Yes

- Fixed Settings

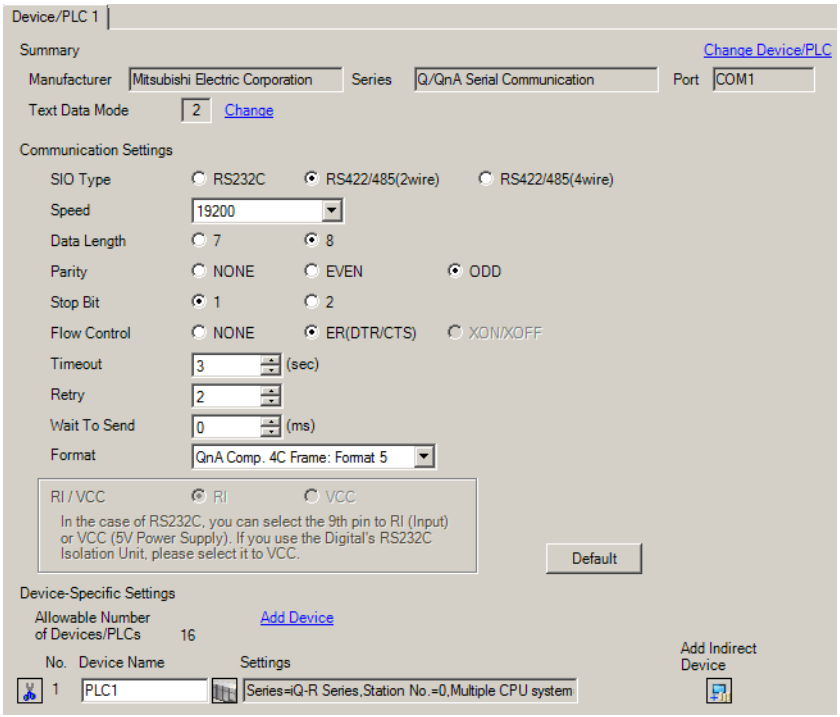
Setup Items	Setting value
Message Pattern	Pattern 5

3.12 Setting Example 12

■ Setting of GP-Pro EX

◆ Communication Settings

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



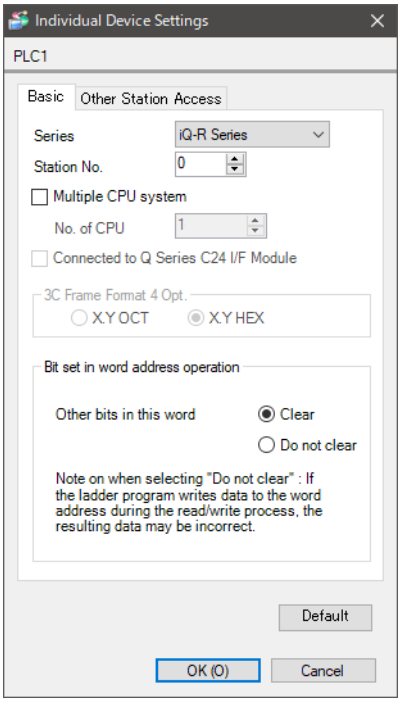
NOTE

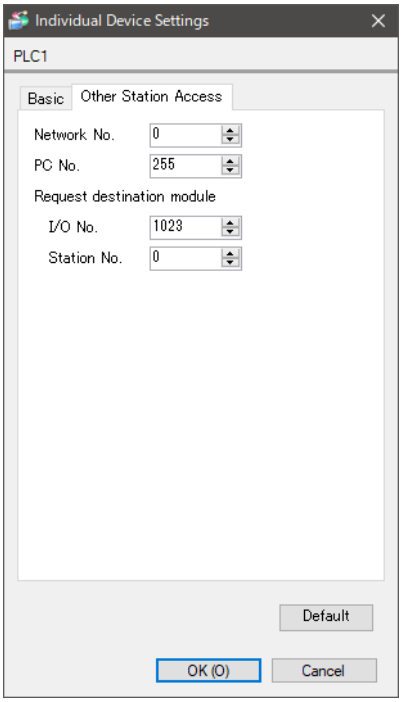
- When simultaneously using GP2000 Series during multilink connection, select "QnA Comp. 3C Frame: Format 4" from the "Format".

◆ 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.





■ Setting of External Device

Define the communication settings for the External Device using the engineering software MELSOFT GX Works3.

For more information, please refer to the manual of the External Device.

(1) Start up the engineering software.

(2) From the tree view, expand the [Parameter] and click [Module Information]. Select the Link I/F and then double click [Module Parameter].

(3) In the [Module Parameter] window, specify the following parameters.

- Basic Settings

Setup Items	Setting value
Communication Protocol Type	MC Protocol
Data Length	8 bit
Parity	Odd
Stop Bit	1 bit
Baud Rate	19200
Sum Check Code	Yes

- Fixed Settings

Setup Items	Setting value
Message Pattern	Pattern 5

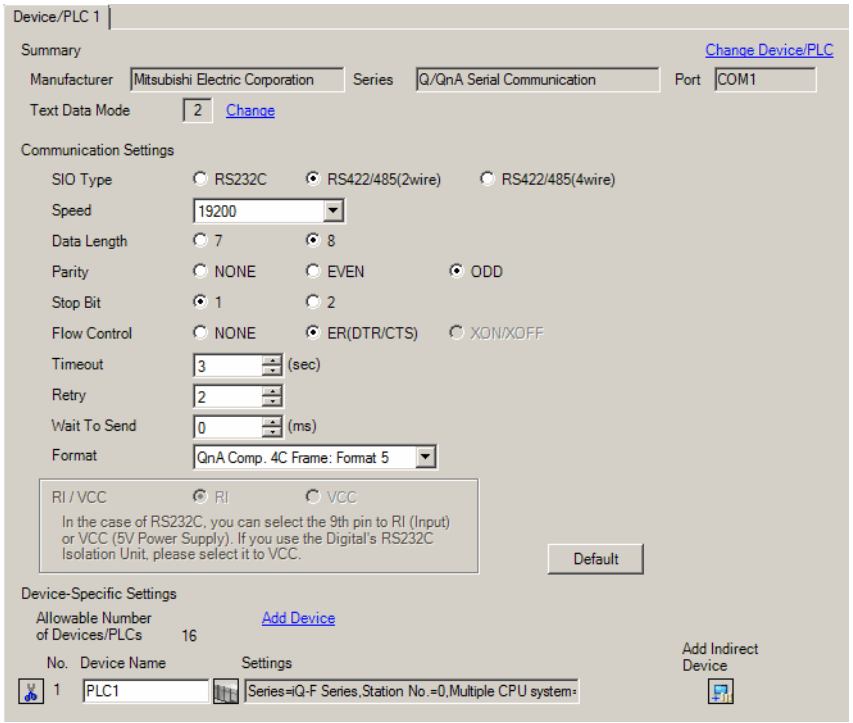
NOTE • When using RJ71C24, set to CH2.

3.13 Setting Example 13

■ Setting of GP-Pro EX

◆ Communication Settings

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



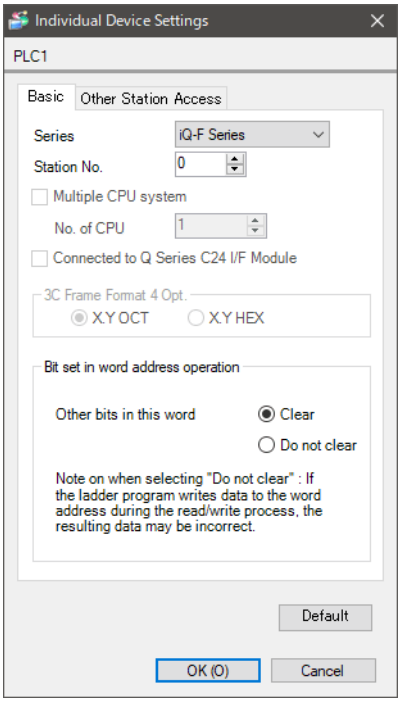
NOTE

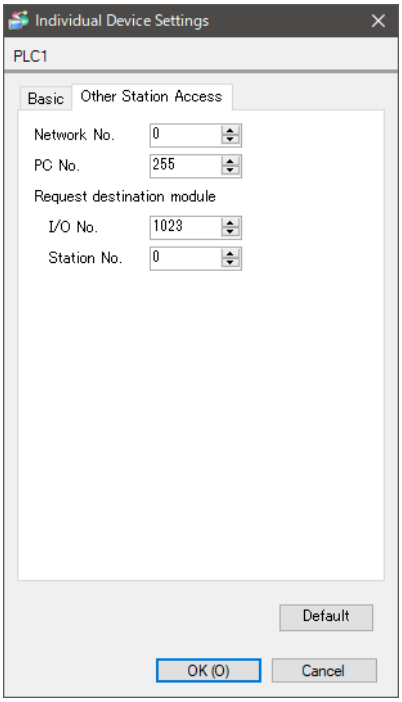
- When simultaneously using GP2000 Series during multilink connection, select "QnA Comp. 3C Frame: Format 4" from the "Format".

◆ 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.





■ Setting of External Device

Define the communication settings for the External Device using the engineering software MELSOFT GX Works3.

For more information, please refer to the manual of the External Device.

(1) Start up the engineering software.

(2) From the tree view, expand the [Parameter], select the External Device in use and then from [Module Parameter] double click [485 Serial Port].

(3) In the [Module Parameter 485 Serial Port] window, specify the following parameters.

- Basic Settings

Setup Items	Setting value
Communication Protocol Type	MC Protocol
Data Length	8 bit
Parity	Odd
Stop Bit	1 bit
Baud Rate	19200
Sum Check Code	Yes

- Fixed Settings

Setup Items	Setting value
Message Pattern	Pattern 5

4 Setup Items

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

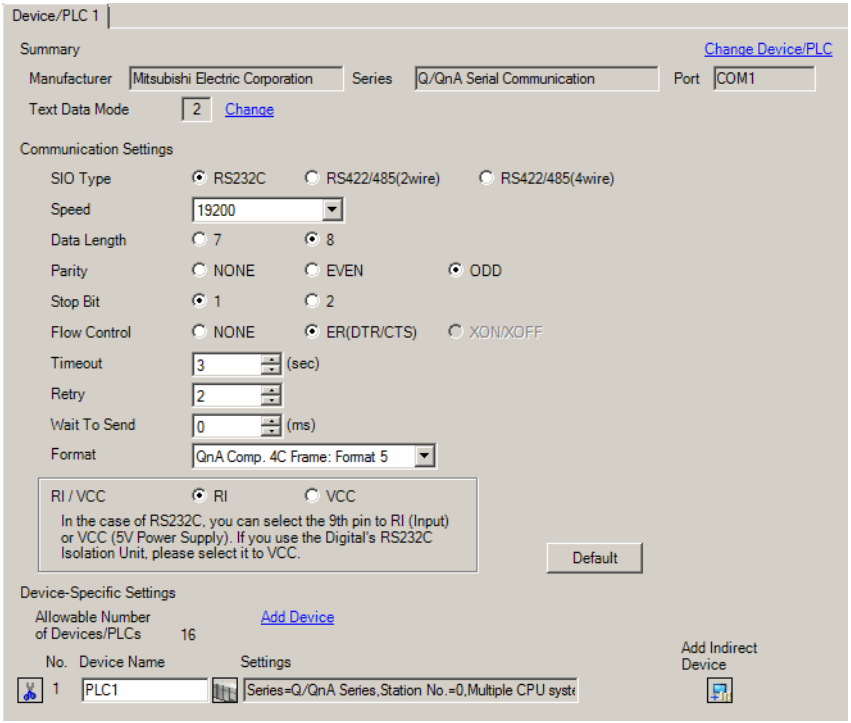
The setting of each parameter must be identical to that of External Device.

☞"3 Example of Communication Setting" (page 14)

4.1 Setup Items in GP-Pro EX

■ Communication Settings

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



Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device.
Speed	Select speed between the External Device and the Display.
Data Length	Select data length.
Parity	Select how to check parity.
Stop Bit	Select stop bit length.
Flow Control	Select the communication control method to prevent overflow of transmission and reception data.
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. **NOTE** In case of communicating via network,please set larger value than the response monitoring time of the relay station for timeout settings.

Setup Items	Setup Description
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.
Format	Select the communication frame for the use of MELSEC communication protocol, from "QnA Comp. 3C Frame: Format 4" or "QnA Comp. 4C Frame: Format 5". **NOTE** When simultaneously using GP2000 Series during multilink connection, select "QnA Comp. 3C Frame: Format 4"
RI/VCC	You can switch RI/VCC of the 9th pin when you select RS232C for SIO type. It is necessary to change RI/5V by changeover switch of IPC when connect with IPC. Please refer to the manual of the IPC for more detail.

NOTE

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

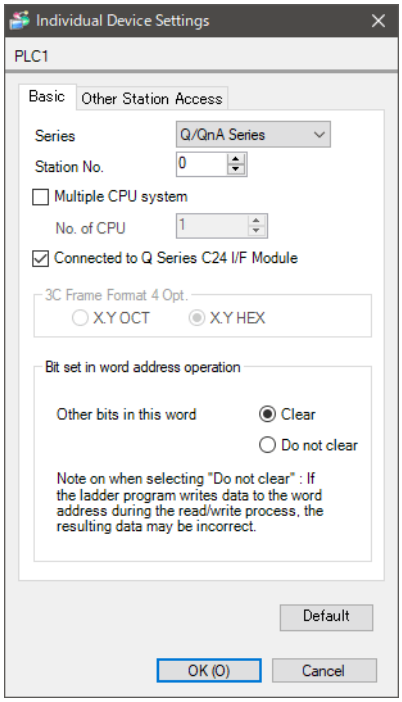
  Cf. GP-Pro EX Reference Manual "Changing the Device/PLC at Runtime (Indirect Device)"

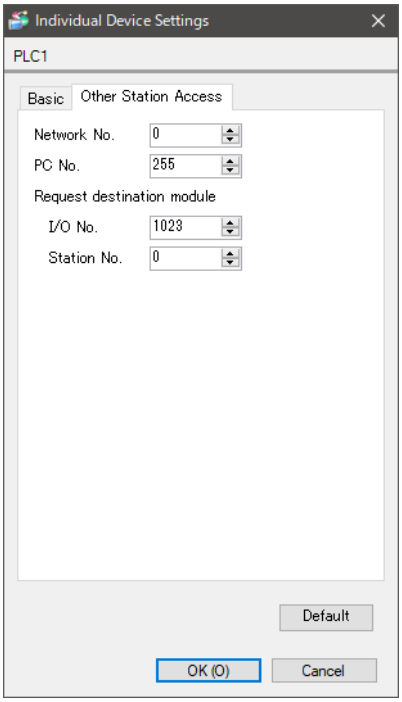
■ Device Setting

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

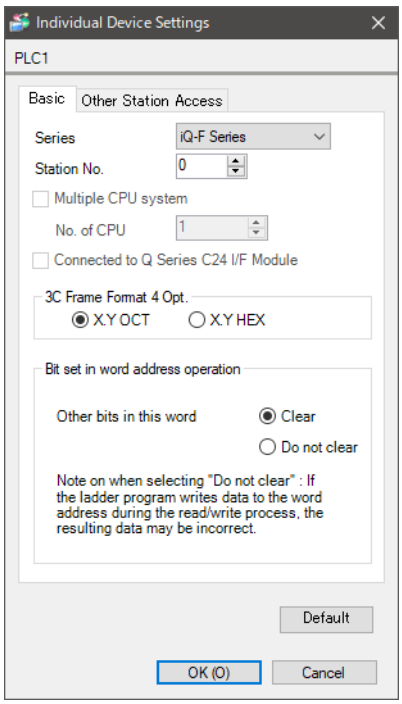
To connect multiple External Devices, from [Device-Specific Settings] in the [Device/PLC] window, click [Add Device] to add another External Device.

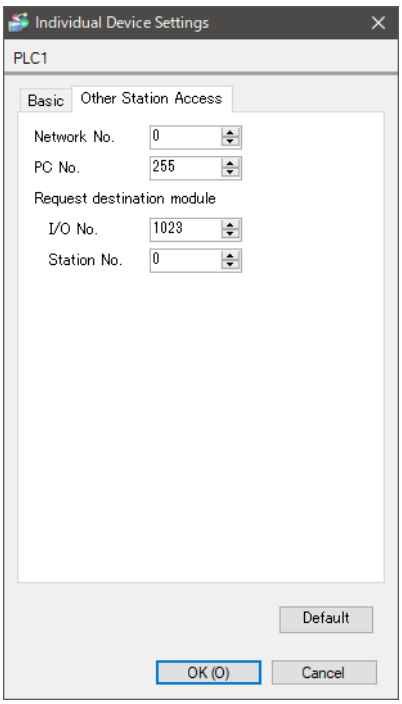
- When selecting Q/QnA Series or iQ-R Series,





- When selecting iQ-F Series





Setup Items	Setup Description
Series	Select the series of the External Device.
Station No.	Use an integer from 0 to 31 to enter the station number of the External Device directly connected to the Display.
Multiple CPU system	Select this check box when using a multiple CPU system.
No. of CPU	Enter the number of CPUs (1 to 4) in the multiple CPU system. **NOTE** • You can define [No. of CPU] only when the [Multiple CPU system] check box is selected.
Connected to Q Series C24 I/F Module	Select this check box when the Q Series C24 I/F unit is used. If this is selected when the Q Series C24 I/F unit is not used, an error may appear on the External Device.
3C Frame Format 4 Opt.	When the communication frame is [QnA Comp. 3C Frame: Format 4], select the data format ([X.Y OCT] or [X.Y HEX]) used to communicate with the external device. **NOTE** • You can set the [3C Frame Format 4 Opt.] option only when [QnA Comp. 3C Frame: Format 4] is selected in [Communication Settings] - [Format] and [iQ-F Series] is selected in [Individual Device Settings]-[Basic]-[Series].
Other bits in this word	Select "Clear" or "Do not clear" for the handling of other bit data in the same word when a bit operation is performed to a bit specified word address.
Network No.	Set when you communicate via network. Use an integer from 0 to 239 to enter network No. of the External Device to communicate. If you do not communicate via network, enter 0.
PC No.	Set when you communicate via network. Use an integer from 0 to 64 or 125 to 126 to enter PC No. of the External Device to communicate. If you do not communicate via network, enter 255.
Request destination module I/O No.	Set when you communicate via network. Use an integer from 0 to 511 to enter I/O No. of the External Device to communicate. If you do not communicate via network, enter 1023.
Request destination module Station No.	Set when you communicate via network. Use an integer from 0 to 31 to enter station No. of the External Device to communicate. If you do not communicate via network, enter 0.

4.2 Setup Items in Offline Mode

NOTE

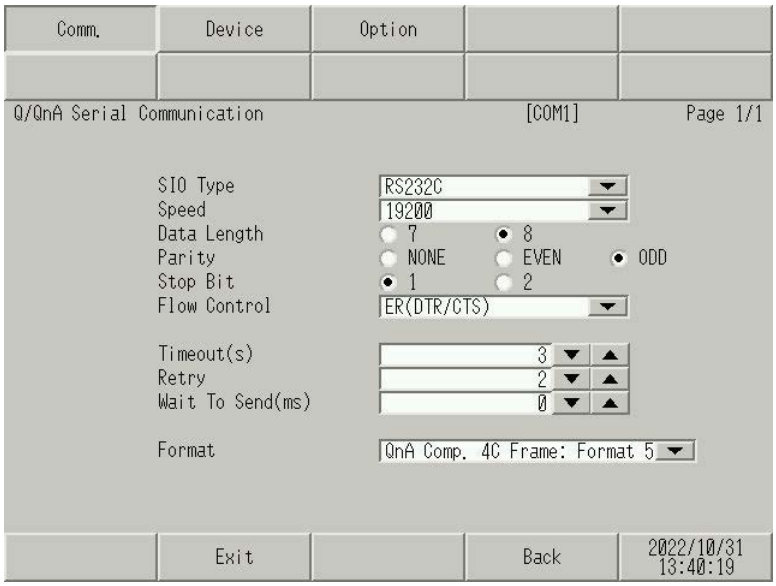
- Refer to the Maintenance/Troubleshooting guide for information on how to enter offline mode or about the operation.

  Cf. Maintenance/Troubleshooting Guide "Offline Mode"

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

■ Communication Settings

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



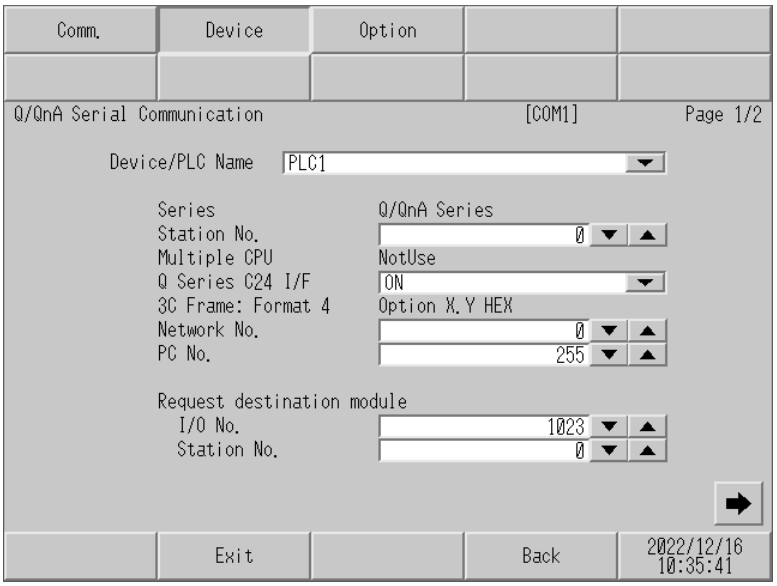
Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. **IMPORTANT** To make the communication settings correctly, confirm the serial interface specifications of Display unit for [SIO Type]. We cannot guarantee the operation if a communication type that the serial interface does not support is specified. For details concerning the serial interface specifications, refer to the manual for Display unit.
Speed	Select speed between the External Device and the Display.
Data Length	Select data length.
Parity	Select how to check parity.
Stop Bit	Select stop bit length.
Flow Control	Select the communication control method to prevent overflow of transmission and reception data.

Setup Items	Setup Description
Timeout	Use an integer from 1 to 127 to enter the time (sec) for which the Display waits for the response from the External Device. **NOTE** In case of communicating via network,please set larger value than the response monitoring time of the relay station for timeout settings.
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.
Format	Select the communication frame for the use of MELSEC communication protocol, from "QnA Comp. 3C Frame: Format 4" or "QnA Comp. 4C Frame: Format 5". **NOTE** When simultaneously using GP2000 Series during multilink connection, select "QnA Comp. 3C Frame: Format 4"

■ 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].

(Page 1/2)

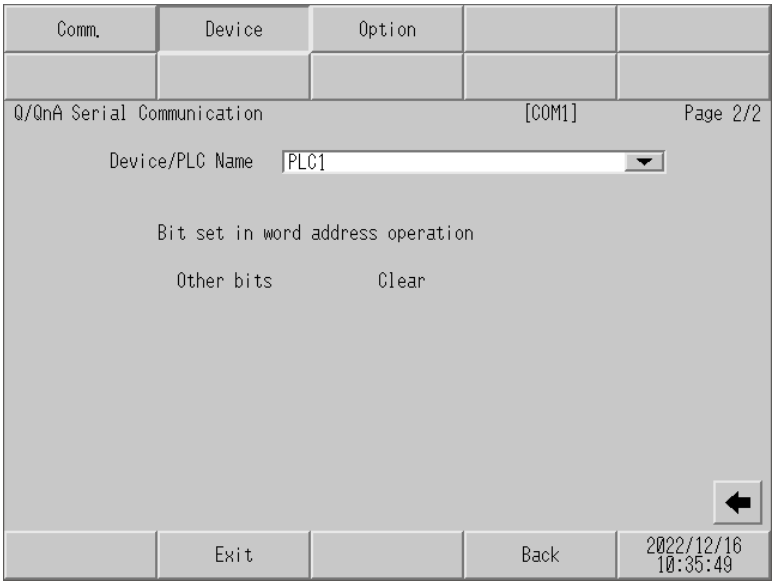


Setup Items	Setup Description
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])
Series	Displays the series of the External Device.
Station No.	Use an integer from 0 to 31 to enter the station number of the External Device directly connected to the Display.
Multiple CPU	Displays the multiple CPU setting as either “NotUse” or a value of 1 to 4.
Q Series C24 I/F	Select “ON” and “OFF” respectively when the Q Series C24 I/F unit is used and when the Q Series C24 I/F unit is not used. If “ON” is selected when the Q Series C24 I/F unit is not used, the error may be displayed on the External Device.
3C Frame Format 4 Opt.	When the communication frame is [QnA Comp. 3C Frame: Format 4], the data format used to communicate with the external device is displayed in either [X.Y OCT] or [X.Y HEX] format.
Network No.	Set when you communicate via network. Use an integer from 0 to 239 to enter network No. of the External Device to communicate. If you do not communicate via network, enter 0.
PC No.	Set when you communicate via network. Use an integer from 0 to 64 or 125 to 126 to enter PC No. of the External Device to communicate. If you do not communicate via network, enter 255.
Request destination module I/O No.	Set when you communicate via network. Use an integer from 0 to 511 to enter I/O No. of the External Device to communicate. If you do not communicate via network, enter 1023.
Request destination module Station No.	Set when you communicate via network. Use an integer from 0 to 31 to enter station No. of the External Device to communicate. If you do not communicate via network, enter 0.

IMPORTANT

- Do not set the duplicate device settings in multiple devices. Illegal address may be read.

(Page 2/2)



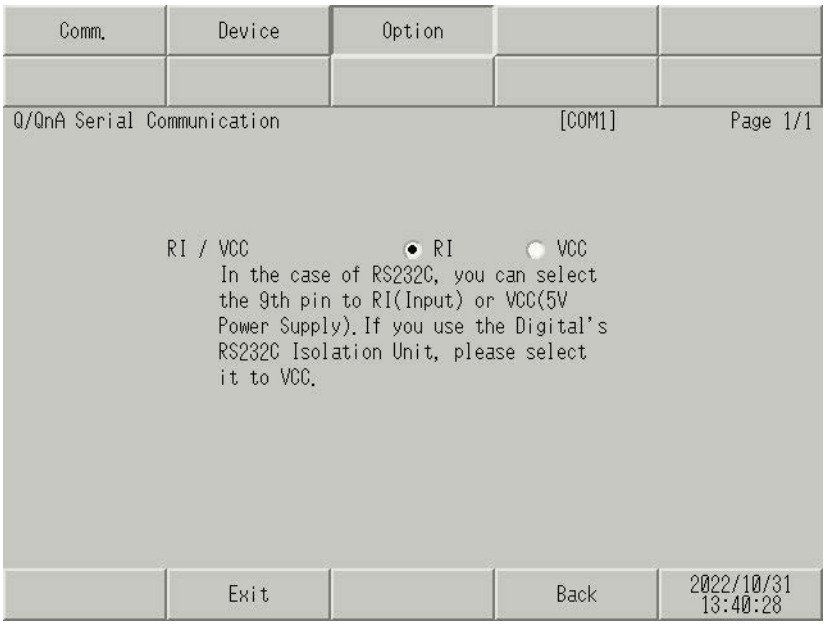
Setup Items	Setup Description
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])
Bit set in word address operation	Displays "Clear" or "Do not clear" for the handling of other bit data in the same word when a bit operation is performed to a bit specified word address. (Cannot be set in offline mode.)

IMPORTANT

- Do not set the duplicate device settings in multiple devices. Illegal address may be read.

■ Option

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 [Option].



Setup Items	Setup Description
RI/VCC	You can switch RI/VCC of the 9th pin when you select RS232C for SIO type. It is necessary to change RI/5V by changeover switch of IPC when connect with IPC. Please refer to the manual of the IPC for more detail.

NOTE

- GP-4100 series, GP-4*01TM and GP-Rear Module do not have the [Option] setting in the offline mode.

5 Cable Diagram

The cable diagram shown below may be different from the cable diagram recommended by Mitsubishi Electric Corporation. Please be assured there is no operational problem in applying the cable diagram shown in this manual.

- The FG pin of the External Device body must be D-class grounded. Please refer to the manual of the External Device for more details.
- SG and FG are connected inside the Display. When connecting SG to the External Device, design the system not to form short-circuit loop.
- Connect the isolation unit, when communication is not stabilized under the influence of a noise etc..

5.1 Cable Diagram 1

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	1A	Mitsubishi Q link cable by Pro-face CA3-CBLLNKMQ-01	The cable length must be 15m or less.
	1B	User-created cable	
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	1C	User-created cable	The cable length must be 15m or less.

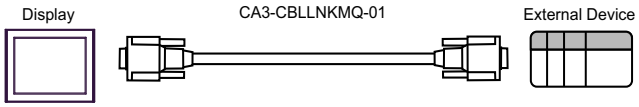
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

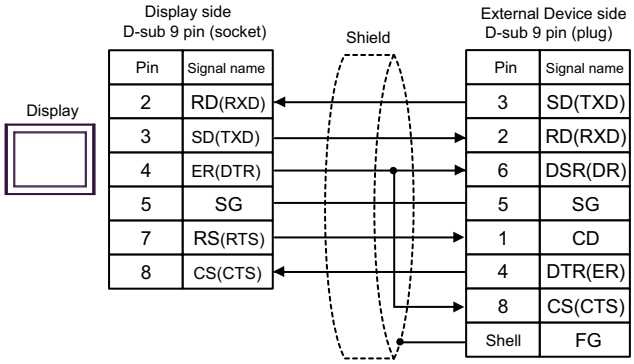
*3 Only the COM port which can communicate by RS-232C can be used.

■ IPC COM Port (page 10)

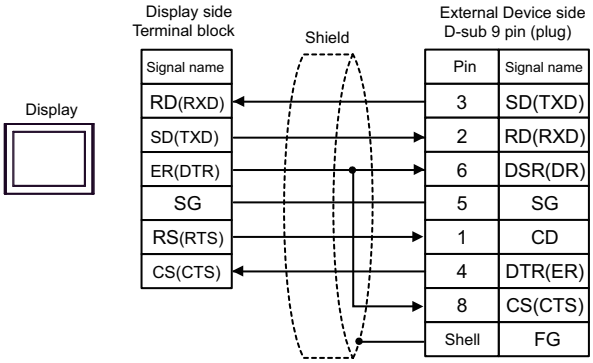
1A)



1B)


Display side
D-sub 9 pin (socket)
Shield
External Device side
D-sub 9 pin (plug)
Display
Pin
Signal name
2
RD(RXD)
3
SD(TXD)
4
ER(DTR)
5
SG
7
RS(RTS)
8
CS(CTS)
Pin
Signal name
3
SD(TXD)
2
RD(RXD)
6
DSR(DR)
5
SG
1
CD
4
DTR(ER)
8
CS(CTS)
Shell
FG

1C)


Display side
Terminal block
Shield
External Device side
D-sub 9 pin (plug)
Display
Signal name
RD(RXD)
SD(TXD)
ER(DTR)
SG
RS(RTS)
CS(CTS)
Pin
Signal name
3
SD(TXD)
2
RD(RXD)
6
DSR(DR)
5
SG
1
CD
4
DTR(ER)
8
CS(CTS)
Shell
FG

5.2 Cable Diagram 2

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1) IPC[*3]	2A	COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	2B	User-created cable	
GP3000[*4] (COM2)	2C	Online Adapter by Pro-face CA4-ADPONL-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	2D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	2E	User-created cable	The cable length must be 500m or less.
GP4000[*5] (COM2) GP-4201T (COM1) SP5000[*6] (COM1/2) SP-5B00 (COM2) ST6000[*7] (COM2) ST-6200 (COM1) STM6000 (COM1)	2F	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*8] + User-created cable	The cable length must be 500m or less.
	2B	User-created cable	
PE-4000B[*9] PS5000[*9] PS6000[*9]	2G	User-created cable	The cable length must be 500m or less.

*1 All GP3000 models except AGP-3302B

*2 Except AST-3211A and AST-3302B

*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used. (Except PE-4000B, PS5000, and PS6000)

■ IPC COM Port (page 10)

*4 All GP3000 models except GP-3200 series and AGP-3302B

*5 All GP4000 models except GP-4100 series, GP-4*01TM, GP-Rear Module, GP-4201T and GP-4*03T

*6 Except SP-5B00

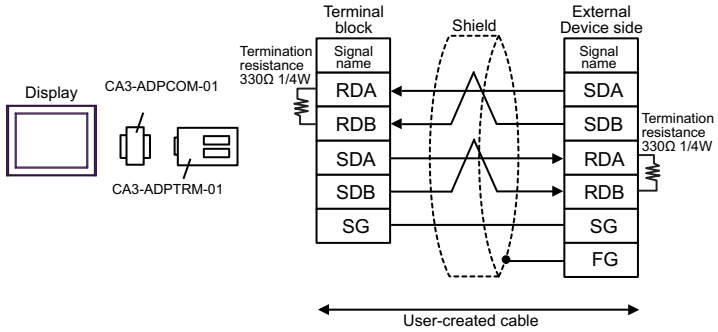
*7 Except ST-6200

*8 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 2A.

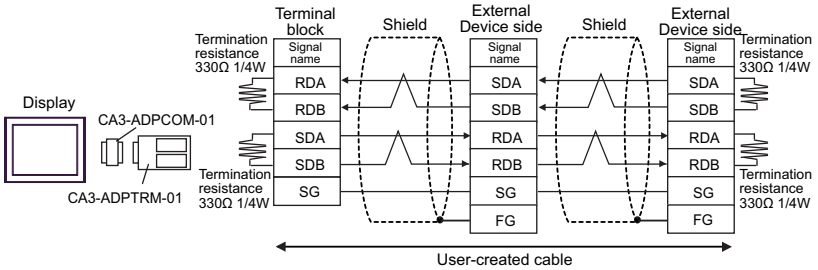
*9 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.
■ IPC COM Port (page 10)

2A)

- 1:1 Connection

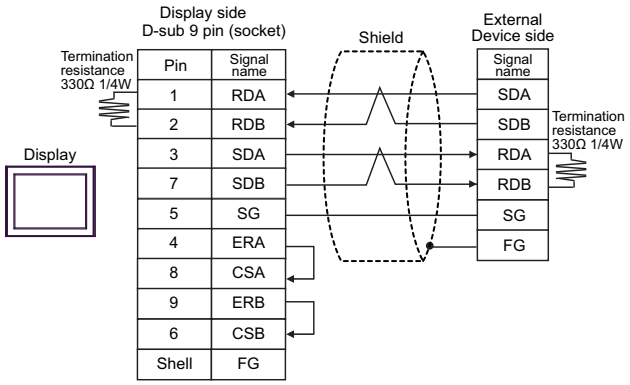


- 1:n Connection

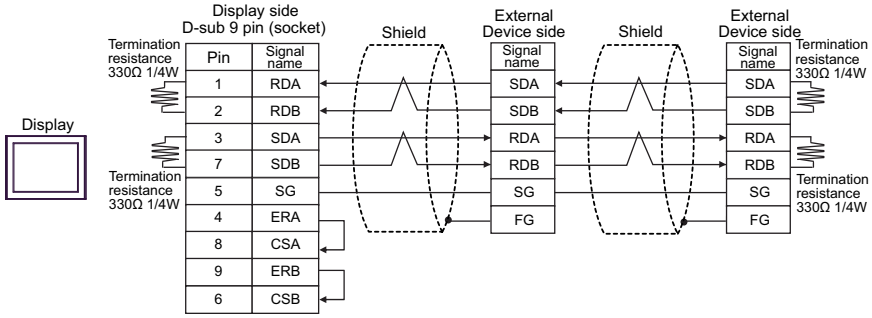


2B)

- 1:1 Connection

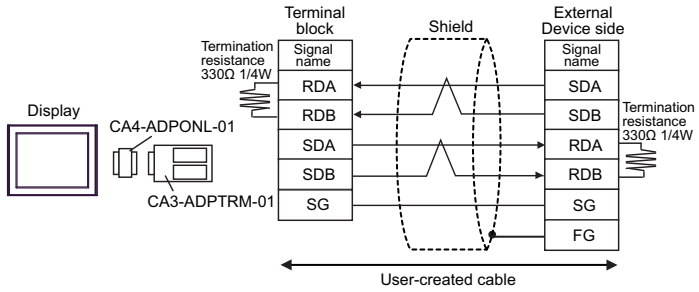


- 1:n Connection

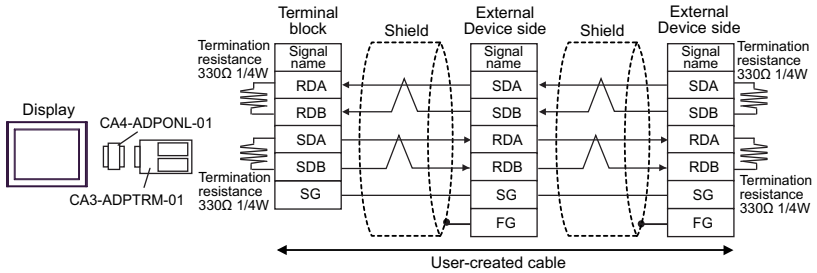


2C)

- 1:1 Connection

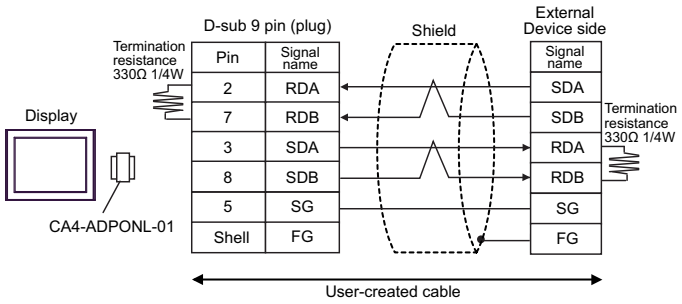


- 1:n Connection

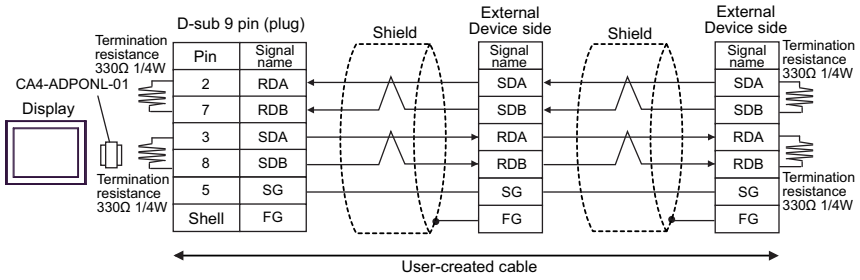


2D)

- 1:1 Connection

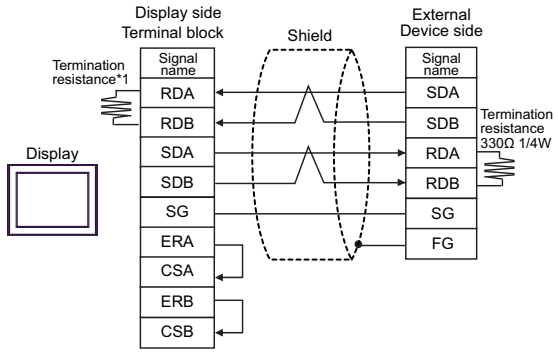


- 1:n Connection



2E)

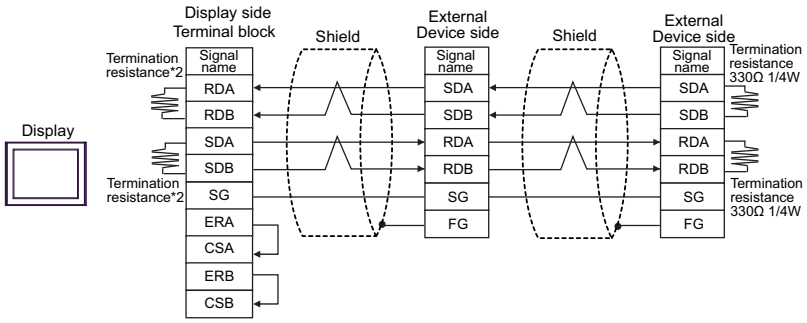
- 1:1 Connection



*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	OFF

- 1:n Connection

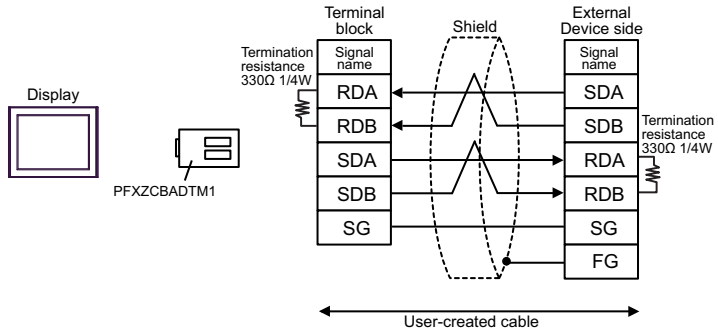


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

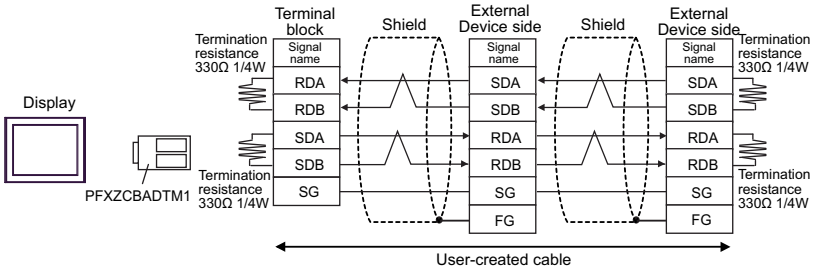
DIP Switch No.	Set Value
1	ON
2	OFF
3	ON
4	OFF

2F)

- 1:1 Connection

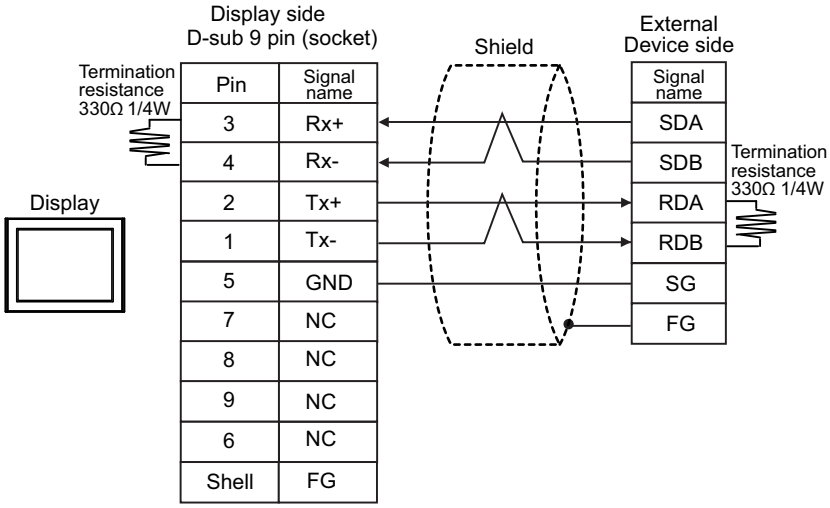


- 1:n Connection

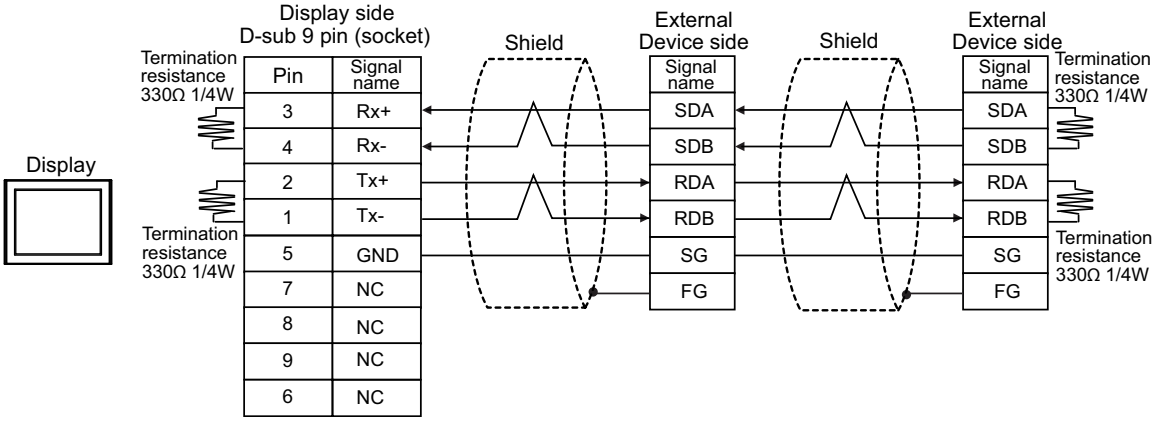


2G)

- 1:1 Connection



- 1:n Connection



5.3 Cable Diagram 3

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	3A	Mitsubishi PLC Q-Series Connection Cable (5m) by Pro-face CA3-CBLQ-01 or RS-232C cable by Mitsubishi Electric Corp. QC30R2 (3m) or RS-232C cable for QCPU connection by Diatrend Corp. DQCABR2V-H	Available to order the length of DQCABR2V-H by Diatrend Corp. up to 15m.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	3B	Mitsubishi PLC Q Series CPU I/F Cable by Pro-face ZC9CBQ31(3m)	

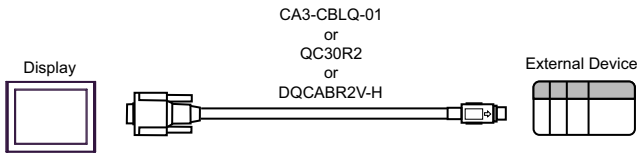
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

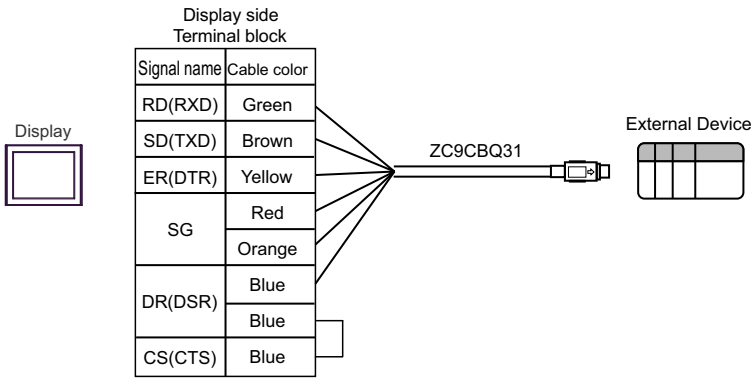
*3 Only the COM port which can communicate by RS-232C can be used.

■ IPC COM Port (page 10)

3A)



3B)



5.4 Cable Diagram 4

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	4A	RS-232C cable by Pro-face CA3-CBL232/5M-01 (5m)	The cable length must be 15m or less.
	4B	User-created cable	
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	4C	User-created cable	The cable length must be 15m or less.

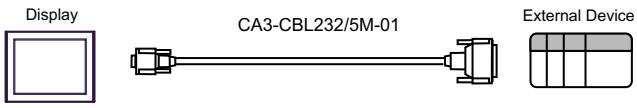
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

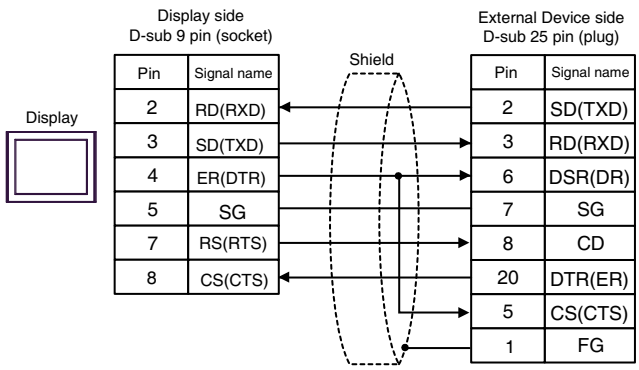
*3 Only the COM port which can communicate by RS-232C can be used.

■ IPC COM Port (page 10)

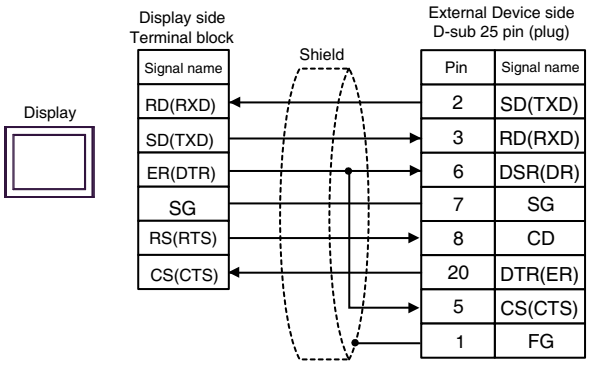
4A)



4B)



4C)


Display side
Terminal block
Signal name
RD(RXD)
SD(TXD)
ER(DTR)
SG
RS(RTS)
CS(CTS)
Shield
External Device side
D-sub 25 pin (plug)
Pin
Signal name
2
SD(TXD)
3
RD(RXD)
6
DSR(DR)
7
SG
8
CD
20
DTR(ER)
5
CS(CTS)
1
FG
Display

5.5 Cable Diagram 5

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1) IPC[*3]	5A	COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	5B	User-created cable	
GP3000[*4] (COM2)	5C	Online Adapter by Pro-face CA4-ADPONL-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	5D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	5E	User-created cable	The cable length must be 500m or less.
GP4000[*5] (COM2) GP-4201T (COM1) SP5000[*6] (COM1/2) SP-5B00 (COM2) ST6000[*7] (COM2) ST-6200 (COM1) STM6000 (COM1)	5F	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*8] + User-created cable	The cable length must be 500m or less.
	5B	User-created cable	
PE-4000B[*9] PS5000[*9] PS6000[*9]	5G	User-created cable	The cable length must be 500m or less.

*1 All GP3000 models except AGP-3302B

*2 Except AST-3211A and AST-3302B

*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used. (Except PE-4000B, PS5000, and PS6000)

■ IPC COM Port (page 10)

*4 All GP3000 models except GP-3200 series and AGP-3302B

*5 All GP4000 models except GP-4100 series, GP-4*01TM, GP-Rear Module, GP-4201T and GP-4*03T

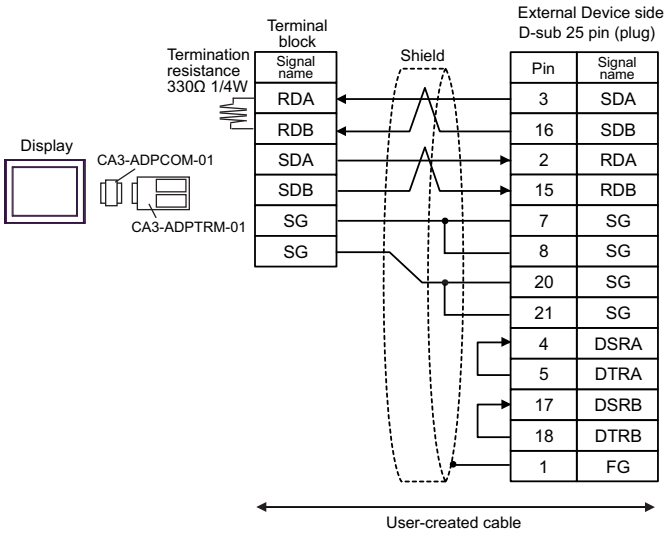
*6 Except SP-5B00

*7 Except ST-6200

*8 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 5A.

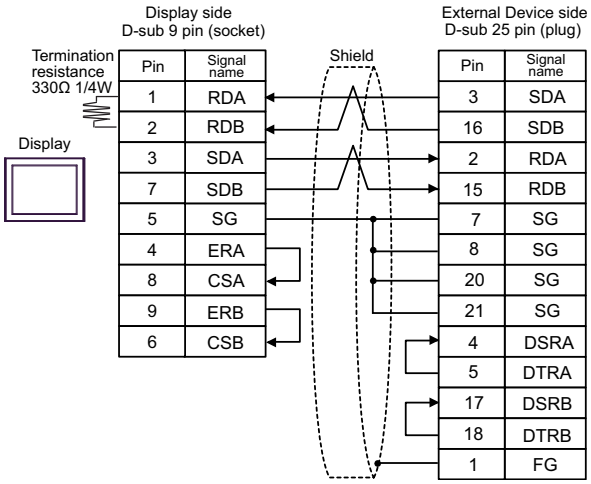
*9 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.
■ IPC COM Port (page 10)

5A)



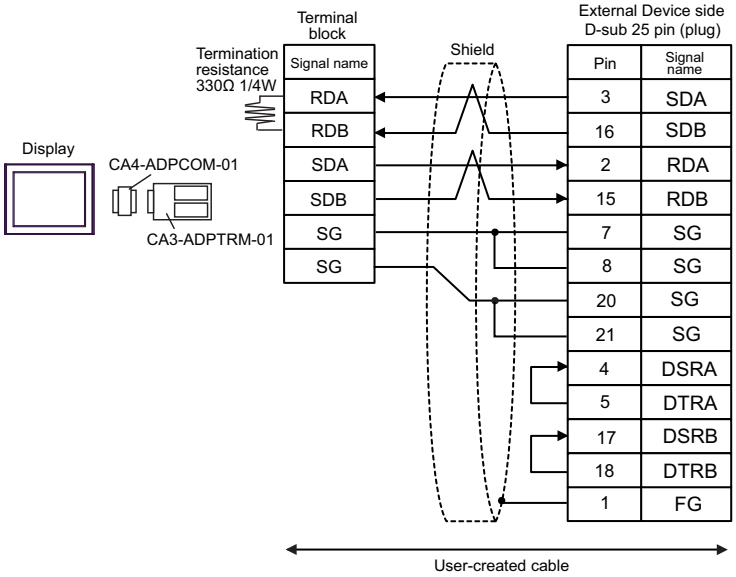
NOTE
- As the External Device has the termination resistance built-in, you do not need to connect the termination resistance.

5B)



NOTE
- As the External Device has the termination resistance built-in, you do not need to connect the termination resistance.

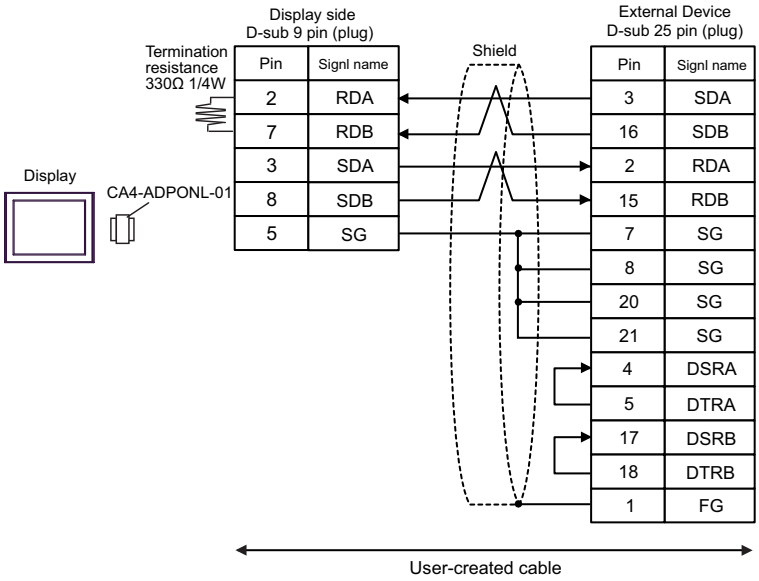
5C)



NOTE

- As the External Device has the termination resistance built-in, you do not need to connect the termination resistance.

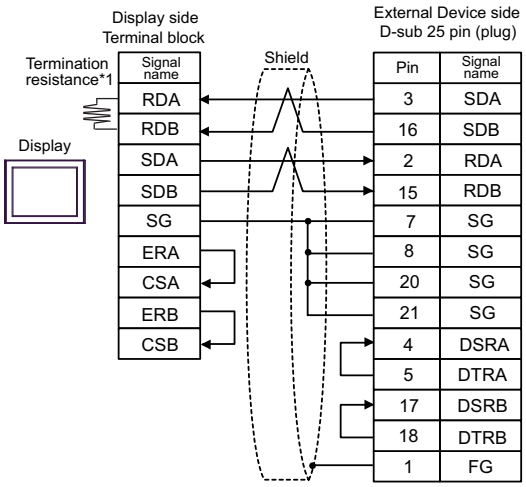
5D)



NOTE

- As the External Device has the termination resistance built-in, you do not need to connect the termination resistance.

5E)



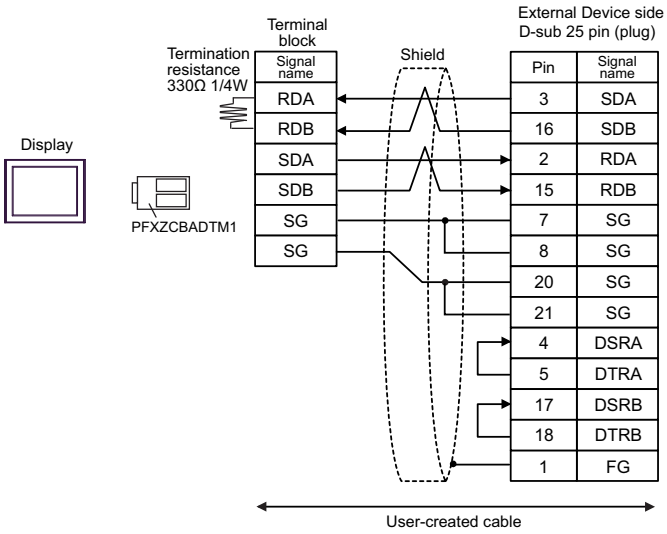
NOTE

- As the External Device has the termination resistance built-in, you do not need to connect the termination resistance.

*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	OFF

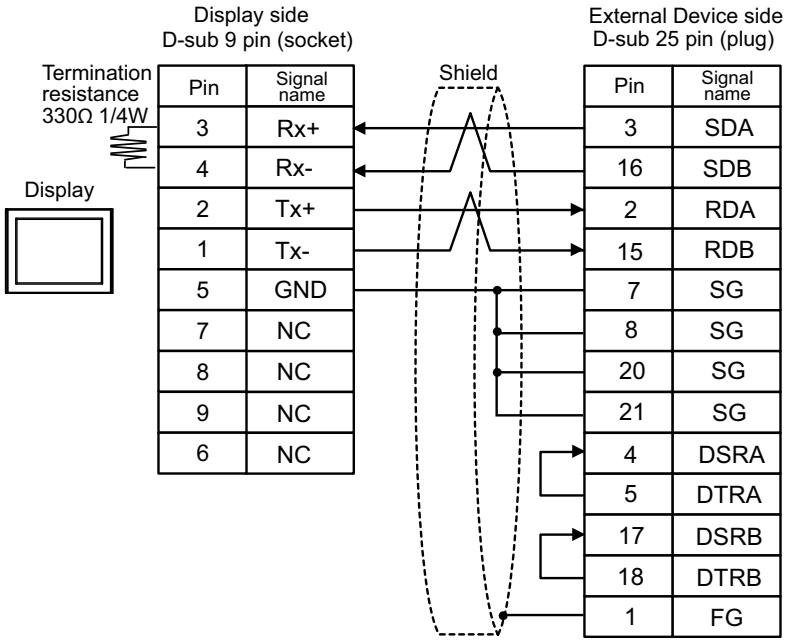
5F)



NOTE

- As the External Device has the termination resistance built-in, you do not need to connect the termination resistance.

5G)



NOTE

- As the External Device has the termination resistance built-in, you do not need to connect the termination resistance.

5.6 Cable Diagram 6

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1) IPC[*3]	6A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1200m or less.
	6B	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Multilink cable by Pro-face CA3-CBLMLT-01 + User-created cable	
	6C	User-created cable	
GP3000[*4] (COM2)	6D	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1200m or less.
	6E	Online adapter by Pro-face CA4-ADPONL-01 + Multilink cable by Pro-face CA3-CBLMLT-01 + User-created cable	
	6F	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	6G	User-created cable	The cable length must be 1200m or less.

Display (Connection Port)	Cable		Notes
GP4000[*5] (COM2) GP-4201T (COM1) SP5000[*6] (COM1/2) SP-5B00 (COM2) ST6000[*7] (COM2) ST-6200 (COM1) STM6000 (COM1)	6H	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*8] + User-created cable	The cable length must be 1200m or less.
	6I	Multilink cable by Pro-face PFXZCBCBML1[*9] + User-created cable	
	6C	User-created cable	
PE-4000B[*10] PS5000[*10] PS6000[*10]	6J	User-created cable	The cable length must be 1200m or less.

*1 All GP3000 models except AGP-3302B

*2 Except AST-3211A and AST-3302B

*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used. (Except PE-4000B, PS5000, and PS6000)

■ IPC COM Port (page 10)

*4 All GP3000 models except GP-3200 series and AGP-3302B

*5 All GP4000 models except GP-4100 series, GP-4*01TM, GP-Rear Module, GP-4201T and GP-4*03T

*6 Except SP-5B00

*7 Except ST-6200

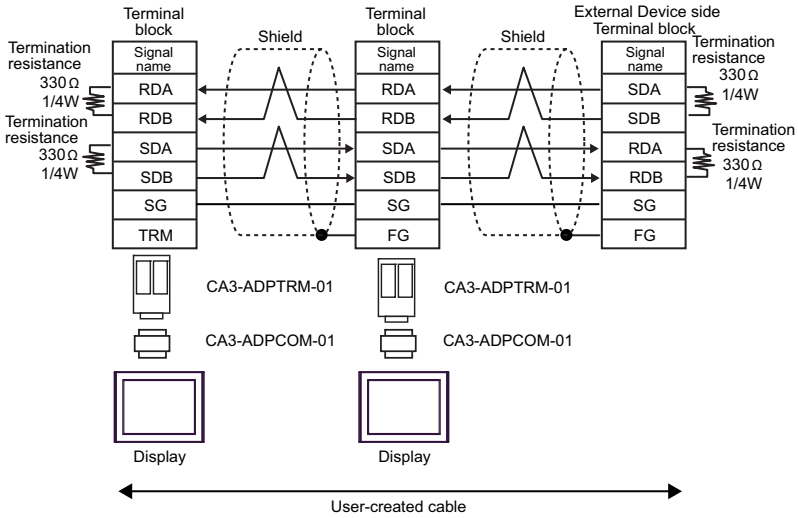
*8 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 6A.

*9 When using a Multilink Cable (CA3-CBLMLT-01) instead of the Multilink Cable, refer to Cable Diagram 6B.

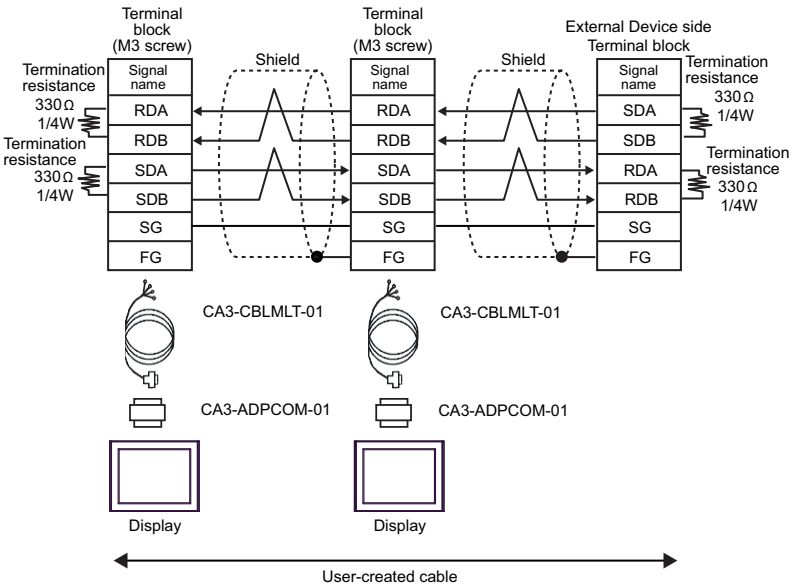
*10 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.

■ IPC COM Port (page 10)

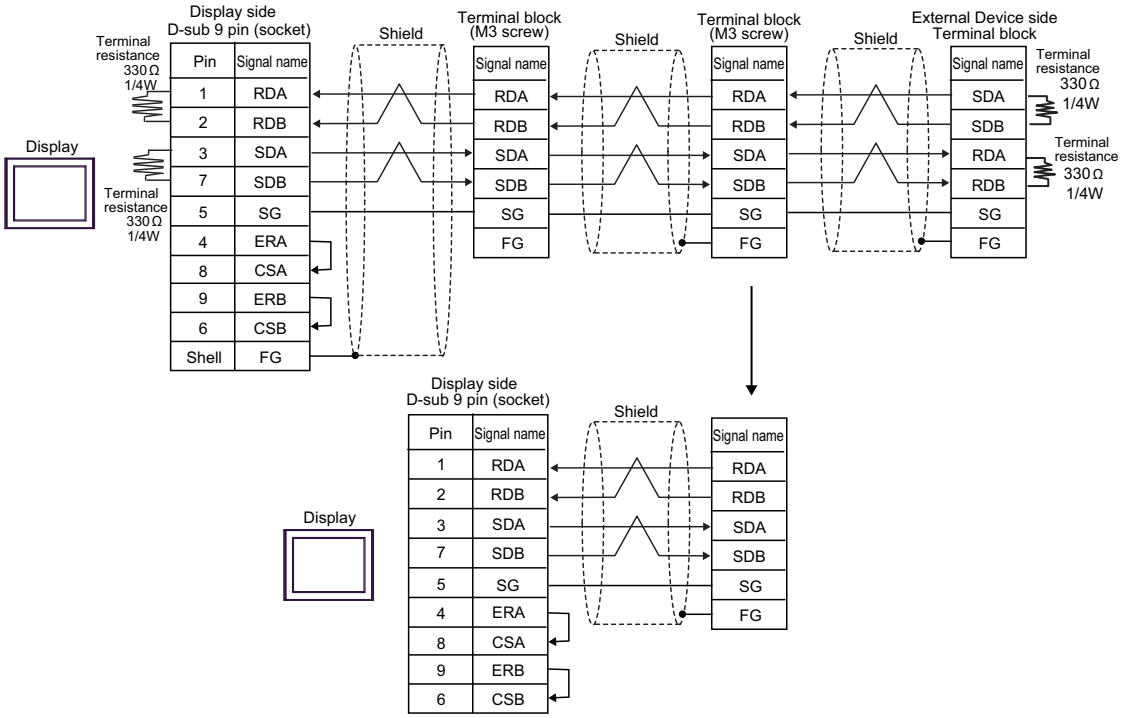
6A)


Terminal block
Shield
Terminal block
Shield
External Device side Terminal block
Signal name
RDA
RDB
SDA
SDB
SG
TRM
FG
Termination resistance 330Ω 1/4W
CA3-ADPTRM-01
CA3-ADPCOM-01
Display
User-created cable

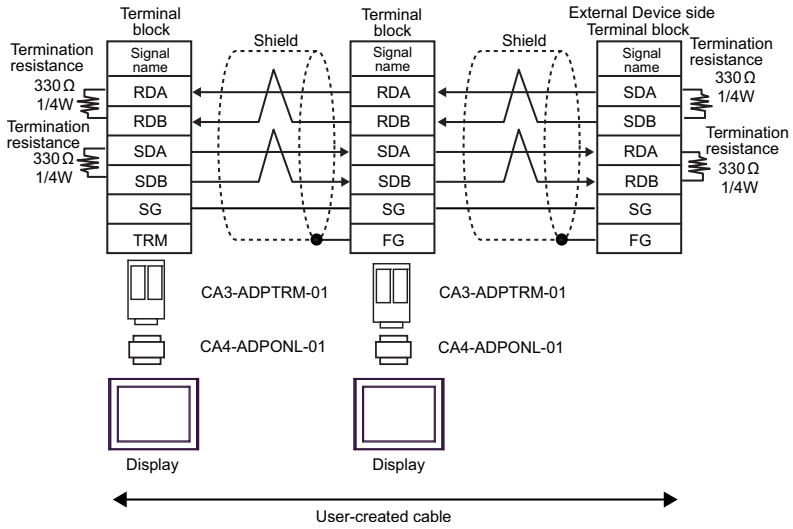
6B)


Terminal block (M3 screw)
Shield
Terminal block (M3 screw)
Shield
External Device side Terminal block
Signal name
RDA
RDB
SDA
SDB
SG
FG
Termination resistance 330Ω 1/4W
CA3-CBLMLT-01
CA3-ADPCOM-01
Display
User-created cable

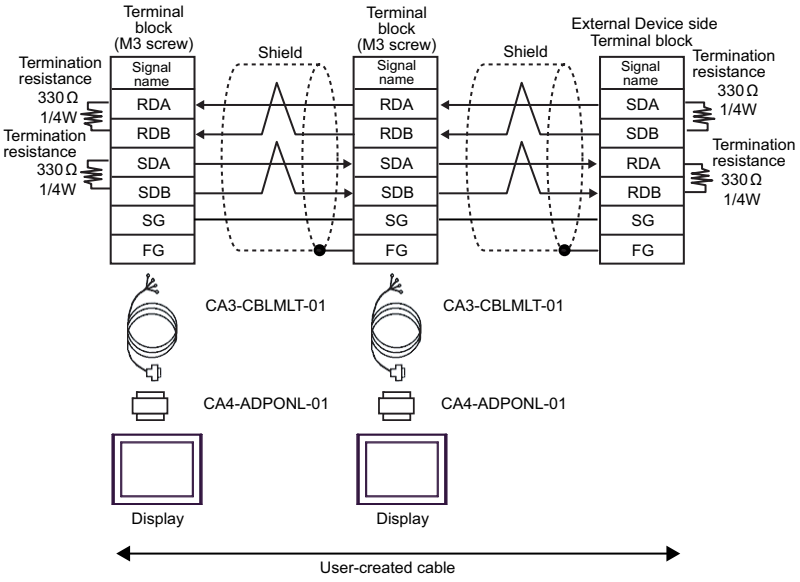
6C)


Display side
D-sub 9 pin (socket)
Terminal block
(M3 screw)
Terminal block
(M3 screw)
External Device side
Terminal block
Shield
Terminal resistance 330Ω 1/4W
Display
Pin
Signal name
1 RDA
2 RDB
3 SDA
7 SDB
5 SG
4 ERA
8 CSA
9 ERB
6 CSB
Shell FG
RDA
RDB
SDA
SDB
SG
FG
SDA
SDB
RDA
RDB
SG
FG

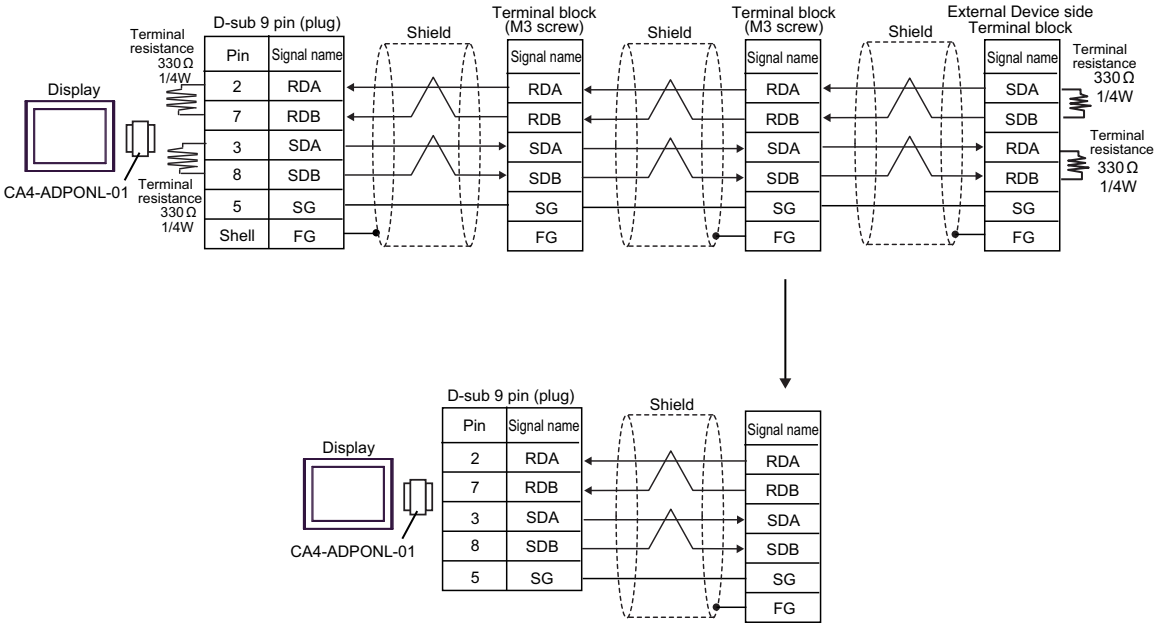
6D)


Terminal block
Termination resistance 330Ω 1/4W
Signal name
RDA
RDB
SDA
SDB
SG
TRM
FG
Shield
External Device side
Terminal block
SDA
SDB
RDA
RDB
CA3-ADPTRM-01
CA4-ADPONL-01
Display
User-created cable

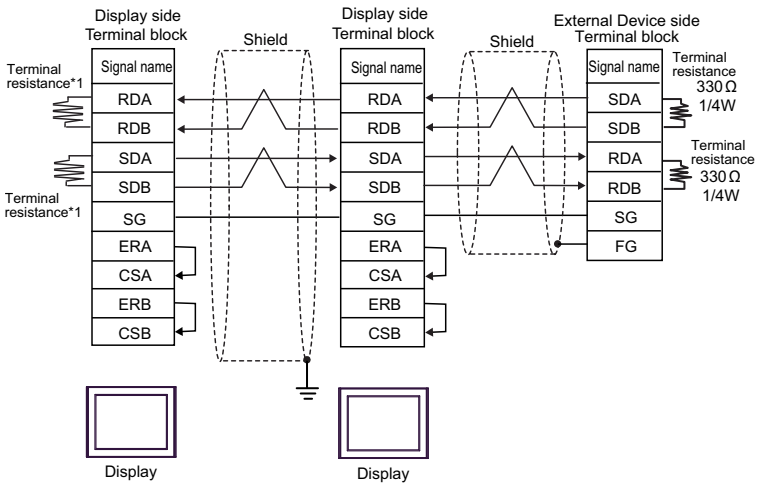
6E)


Terminal block (M3 screw)
Shield
Terminal block (M3 screw)
Shield
External Device side Terminal block
Termination resistance 330Ω 1/4W
Termination resistance 330Ω 1/4W
Termination resistance 330Ω 1/4W
Termination resistance 330Ω 1/4W
Signal name
RDA
RDB
SDA
SDB
SG
FG
CA3-CBLMLT-01
CA3-CBLMLT-01
CA4-ADPONL-01
CA4-ADPONL-01
Display
Display
User-created cable

6F)


D-sub 9 pin (plug)
Terminal block (M3 screw)
Terminal block (M3 screw)
External Device side Terminal block
Shield
Shield
Shield
Terminal resistance 330Ω 1/4W
Terminal resistance 330Ω 1/4W
Terminal resistance 330Ω 1/4W
Terminal resistance 330Ω 1/4W
Display
CA4-ADPONL-01
Pin
Signal name
2 RDA
7 RDB
3 SDA
8 SDB
5 SG
Shell FG
RDA
RDB
SDA
SDB
SG
FG
SDA
SDB
RDA
RDB
SG
FG
D-sub 9 pin (plug)
Shield
Display
CA4-ADPONL-01
2 RDA
7 RDB
3 SDA
8 SDB
5 SG
RDA
RDB
SDA
SDB
SG
FG

6G)

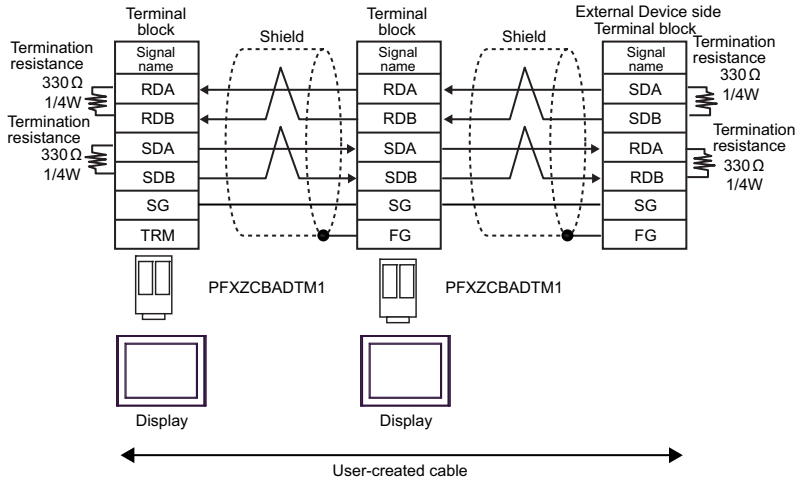


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

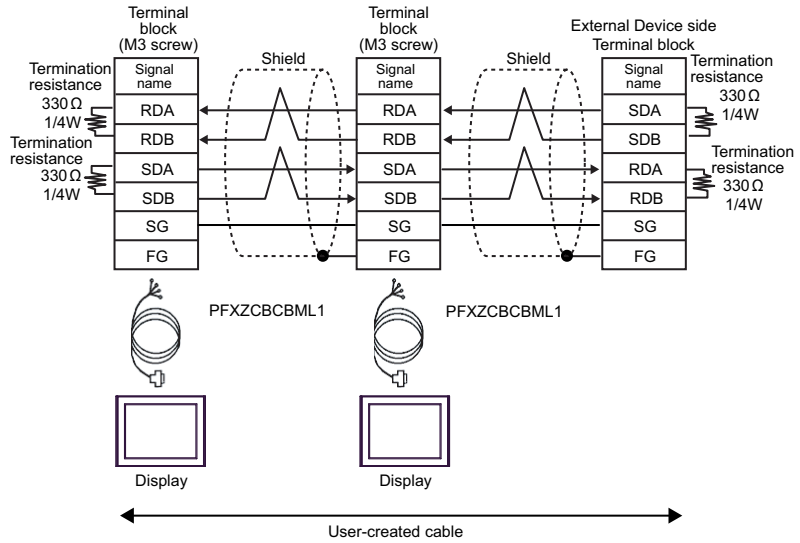
DIP Switch No.	Set Value
1	ON
2	OFF
3	ON
4	OFF

For the Displays other than that used as the terminal, set the DIP Switch 1-4 on the rear of the Display to OFF in the n:1 connection.

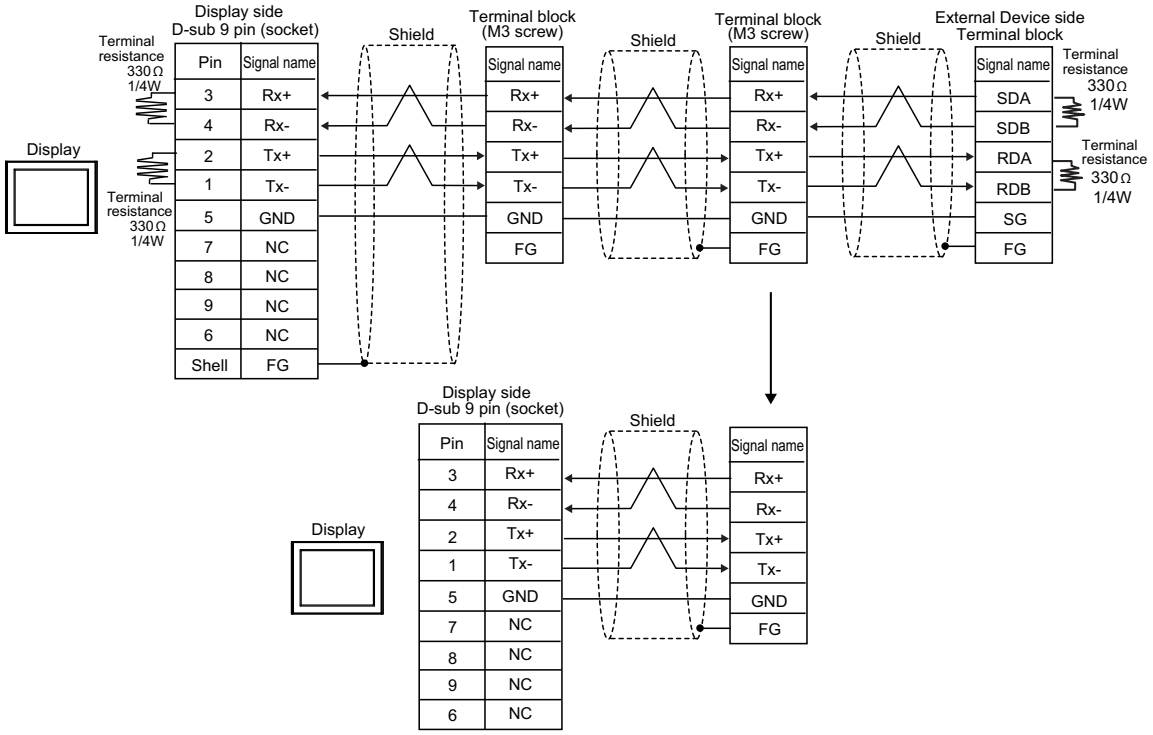
6H)


Terminal block
Signal name
RDA
RDB
SDA
SDB
SG
TRM
Shield
Terminal block
Signal name
RDA
RDB
SDA
SDB
SG
FG
Shield
External Device side Terminal block
Signal name
SDA
SDB
RDA
RDB
SG
FG
Termination resistance 330Ω 1/4W
Termination resistance 330Ω 1/4W
Termination resistance 330Ω 1/4W
Termination resistance 330Ω 1/4W
PFXZCBADTM1
PFXZCBADTM1
Display
Display
User-created cable

6I)


Terminal block (M3 screw)
Signal name
RDA
RDB
SDA
SDB
SG
FG
Shield
Terminal block (M3 screw)
Signal name
RDA
RDB
SDA
SDB
SG
FG
Shield
External Device side Terminal block
Signal name
SDA
SDB
RDA
RDB
SG
FG
Termination resistance 330Ω 1/4W
Termination resistance 330Ω 1/4W
Termination resistance 330Ω 1/4W
Termination resistance 330Ω 1/4W
PFXZCBCBML1
PFXZCBCBML1
Display
Display
User-created cable

6J)


Display side
D-sub 9 pin (socket)
Terminal block
(M3 screw)
Terminal block
(M3 screw)
External Device side
Terminal block
Shield
Shield
Shield
Terminal
resistance
330Ω
1/4W
Display
Terminal
resistance
330Ω
1/4W
Pin
Signal name
3 Rx+
4 Rx-
2 Tx+
1 Tx-
5 GND
7 NC
8 NC
9 NC
6 NC
Shell FG
Signal name
Rx+
Rx-
Tx+
Tx-
GND
FG
SDA
SDB
RDA
RDB
SG
Terminal
resistance
330Ω
1/4W
Terminal
resistance
330Ω
1/4W
Display side
D-sub 9 pin (socket)
Shield
Display
Pin
Signal name
3 Rx+
4 Rx-
2 Tx+
1 Tx-
5 GND
7 NC
8 NC
9 NC
6 NC
Signal name
Rx+
Rx-
Tx+
Tx-
GND
FG

5.7 Cable Diagram 7

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	7A	RS-232C connection cable by Mitsubishi Electric FX-232CAB-1(3m)	
	7B	User-created cable	The cable length must be 15m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	7C	User-created cable	The cable length must be 15m or less.

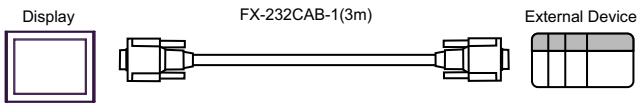
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

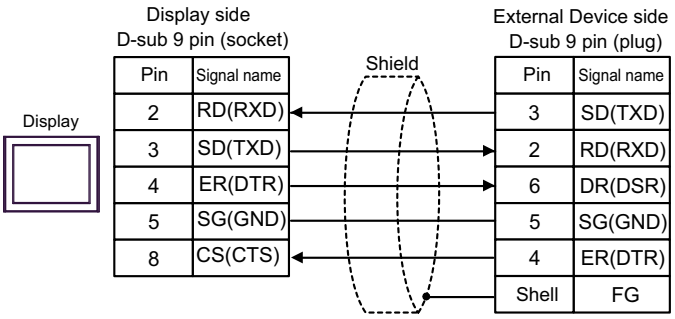
*3 Only the COM port which can communicate by RS-232C can be used.

■ IPC COM Port (page 10)

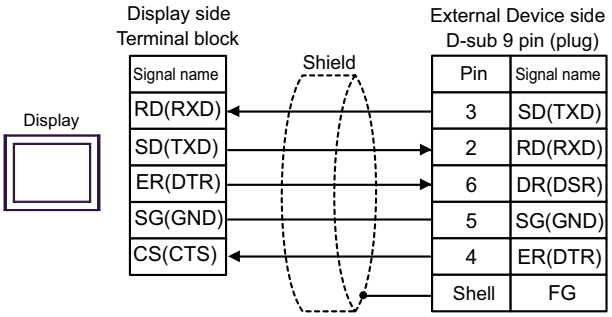
7A)



7B)


Display side
D-sub 9 pin (socket)
External Device side
D-sub 9 pin (plug)
Shield
Display
Pin
Signal name
2
RD(RXD)
3
SD(TXD)
4
ER(DTR)
5
SG(GND)
8
CS(CTS)
Pin
Signal name
3
SD(TXD)
2
RD(RXD)
6
DR(DSR)
5
SG(GND)
4
ER(DTR)
Shell
FG

7C)


Display side
Terminal block
External Device side
D-sub 9 pin (plug)
Shield
Display
Signal name
RD(RXD)
SD(TXD)
ER(DTR)
SG(GND)
CS(CTS)
Pin
Signal name
3
SD(TXD)
2
RD(RXD)
6
DR(DSR)
5
SG(GND)
4
ER(DTR)
Shell
FG

5.8 Cable Diagram 8

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST[*2] (COM2) IPC[*3] LT3000[*4] (COM1)	8A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500 meters or less.
	8B	User-created cable	
GP3000[*5] (COM2)	8C	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500 meters or less.
	8D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	8E	User-created cable	The cable length must be 500 meters or less.
GP4000[*6] (COM2) GP-4201T (COM1)	8F	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*7] + User-created cable	The cable length must be 500 meters or less.
	8B	User-created cable	

*1 All GP3000 models except AGP-3302B

*2 All ST models except AST-3211A and AST-3302B

*3 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
☞ ■ IPC COM Port (page 10)

*4 Except LT3201A

*5 All GP3000 models except GP-3200 series and AGP-3302B

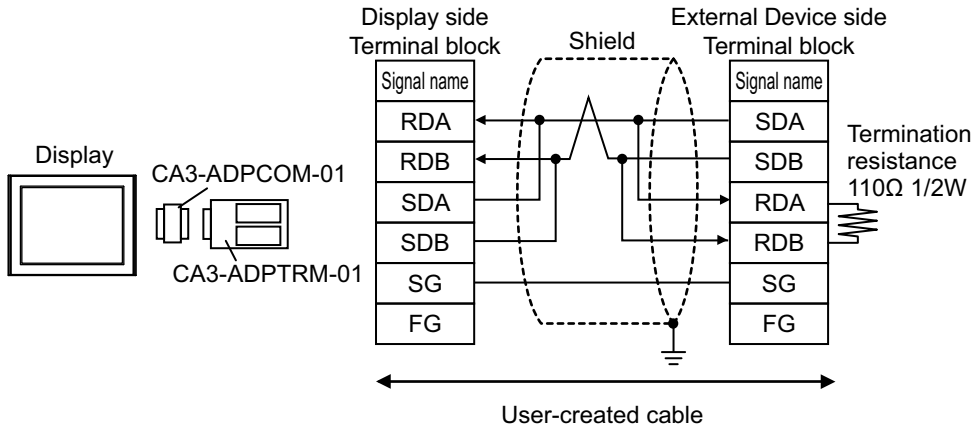
*6 All GP4000 models except GP-4100 series, GP-4*01TM, GP-4201T and GP-4*03T

*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 8A.

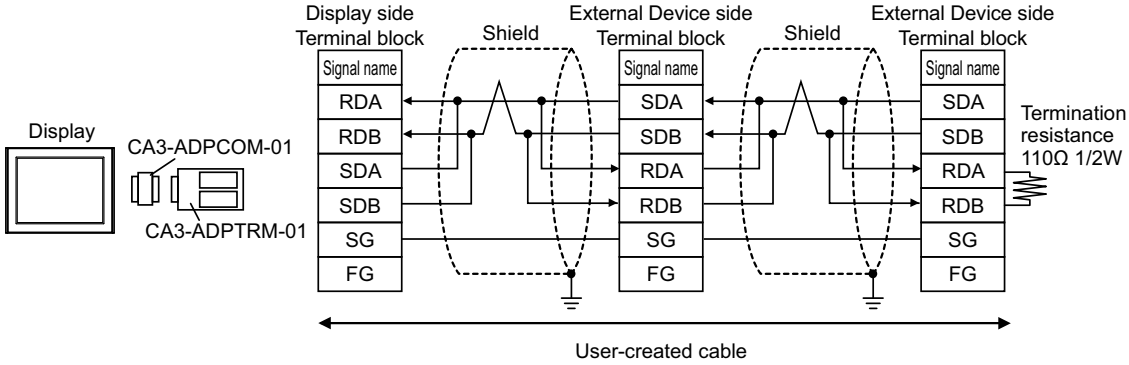
NOTE • The shield of cables in Cable Diagram 8A, 8B, 8C and 8D must be D-class grounded.

8A)

- 1:1 Connection

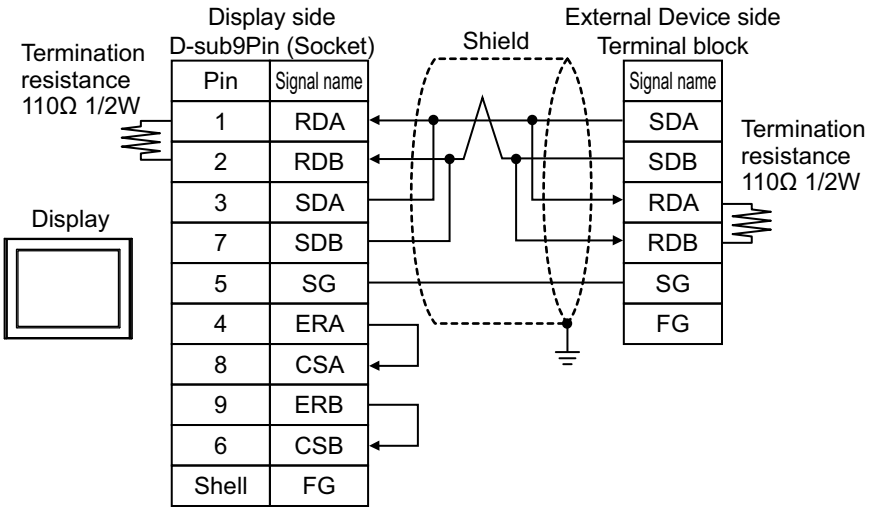


- 1:n Connection

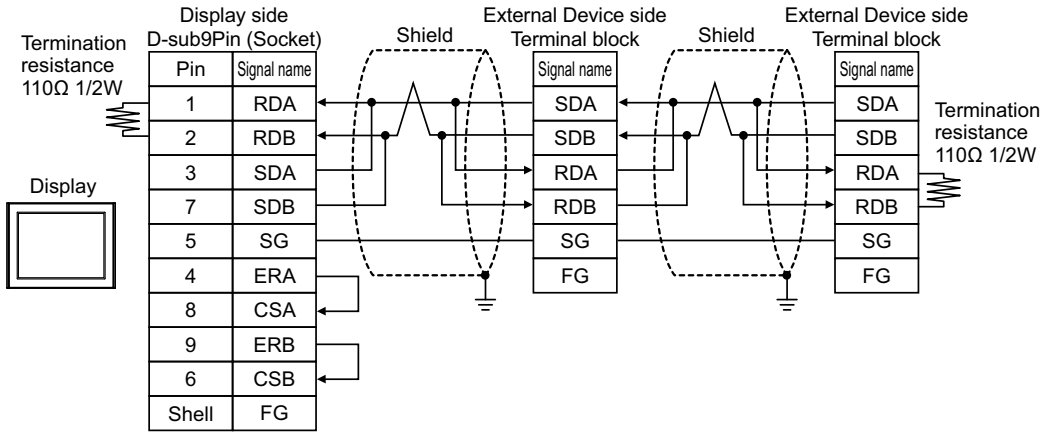


8B)

- 1:1 Connection

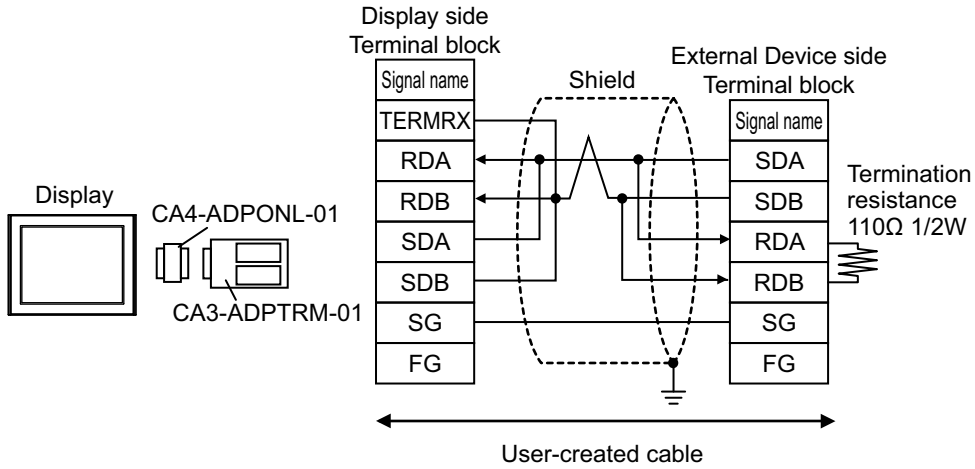


- 1:n Connection

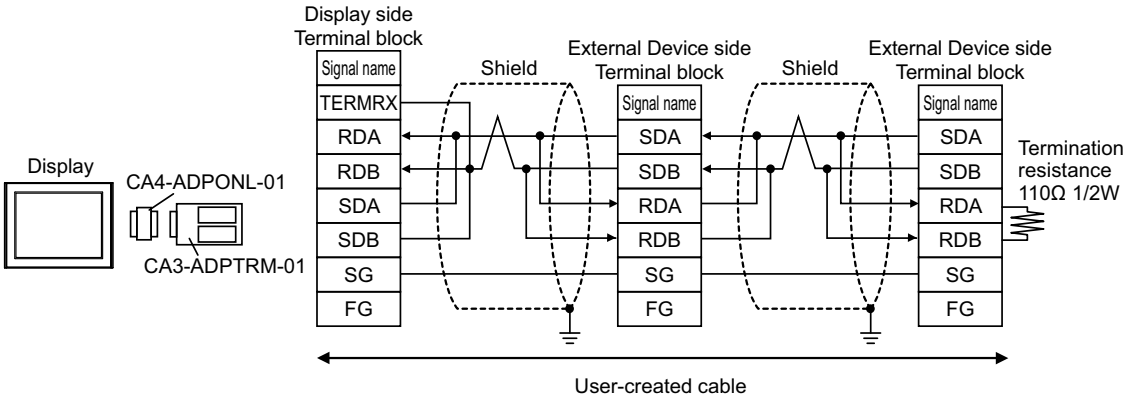


8C)

- 1:1 Connection

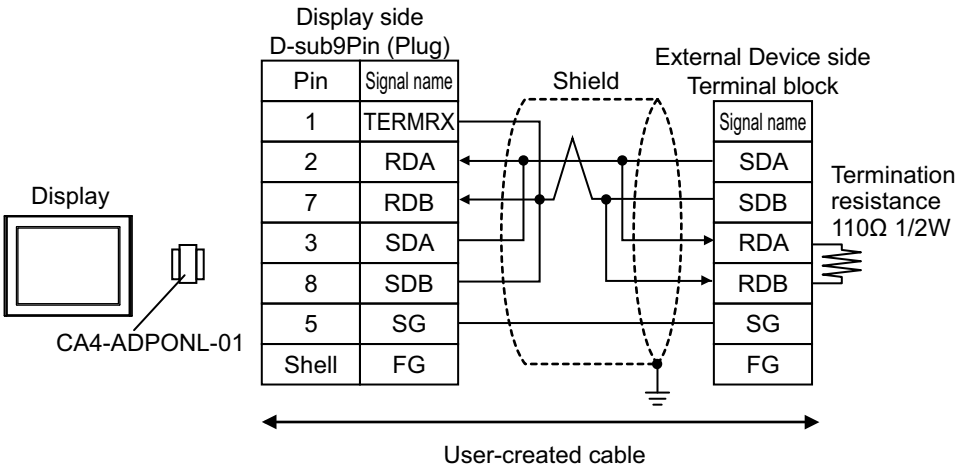


- 1:n Connection

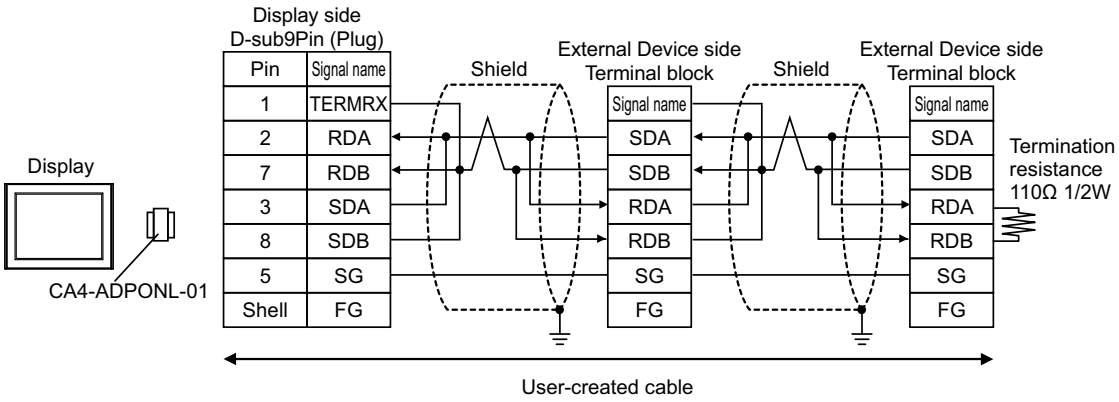


8D)

- 1:1 Connection

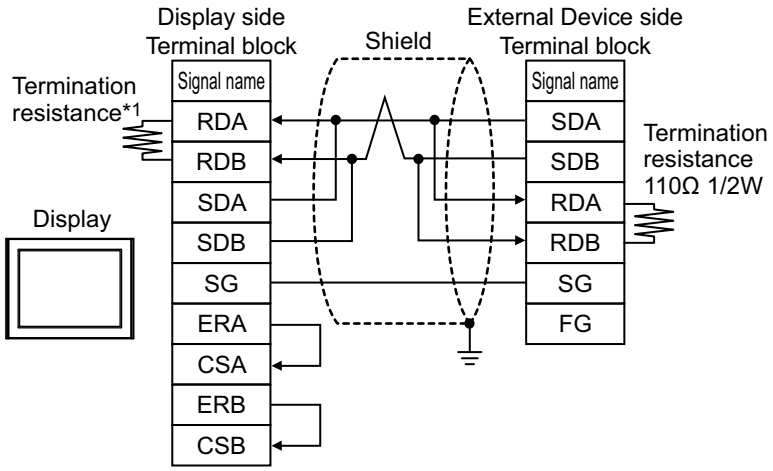


- 1:n Connection

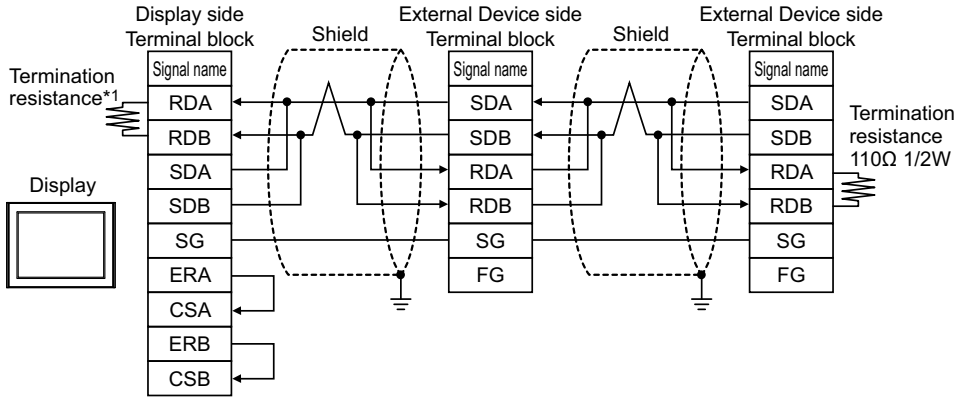


8E)

- 1:1 Connection



- 1:n Connection

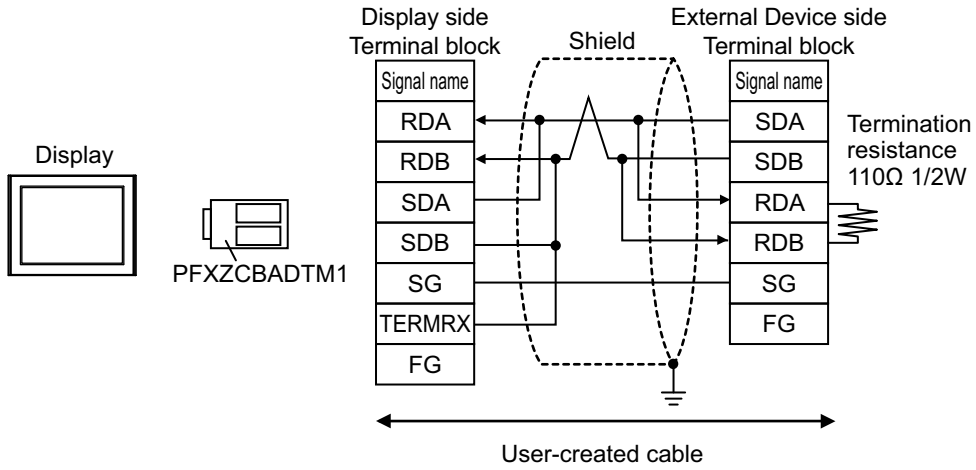


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

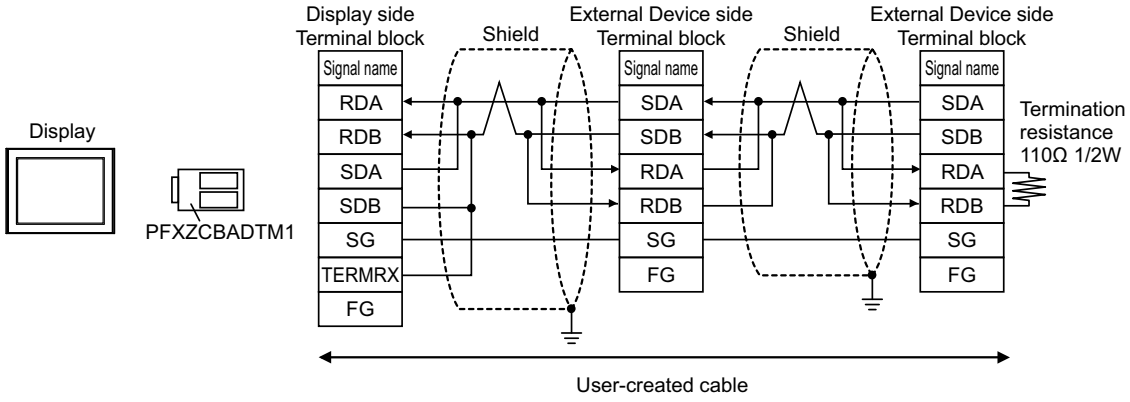
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

8F)

- 1:1 Connection



- 1:n Connection



6 Range of Supported Device Address

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.

6.1 MELSEC Q (High performance model, Basic model) / MELSEC QnA Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
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 *1
Link Register	-	W0000-W657F		Bit F *1
Special Link Register	-	SW000-SW7FF		Bit F *1
Module Access Device	-	U000-G00000 - U1FF-G65535		Bit F *1 *2
File Register (Normal)	-	R00000-R32767		Bit F *1 *3

Device	Bit Address	Word Address	32bits	Notes
File Register (Block switching is not necessary)	-	ZR0000000-ZR1042431	L/H	Bit F *1 *3
File Register (0R - 31R) *4	-	0R0000-0R32767		
	-	1R0000-1R32767		
	-	2R0000-2R32767		Bit F *1 *3
	:	:		
	-	30R0000-30R32767		
	-	31R0000-31R26623		

*1 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear] ..... Bit F

[Do not clear] .... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

*2 Device for accessing SLMP compatible devices, as well as the intelligent function unit's buffer memory. The first three digits of the address specifies the intelligent module's starting I/O number.

*3 It is different by the memory card which uses the range of file register.

*4 Set the block No. on the head of device name. This is the device name for conversion with GP-Pro/PB III for Windows. When you newly specify the device, we recommend that you should use the file register (Block switching is not necessary).

NOTE

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

6.2 MELSEC Q (Universal model) Series

This address can be specified as system data area.

Device	First 5 digits of the serial No. in the CPU unit: Less than 10042		First 5 digits of the serial No. in the CPU unit: 10042 or later		32bits	Notes
	Bit Address	Word Address	Bit Address	Word Address		
Input Relay	X0000-X1FFF	X0000-X1FF0	X0000-X1FFF	X0000-X1FF0	L/H	***0
Output Relay	Y0000-Y1FFF	Y0000-Y1FF0	Y0000-Y1FFF	Y0000-Y1FF0		***0
Internal Relay	M00000-M32767	M00000-M32752	M00000-M61439	M00000-M61424		÷16
Special Relay	SM0000-SM2047	SM0000-SM2032	SM0000-SM2047	SM0000-SM2032		÷16
Latch Relay	L00000-L32767	L00000-L32752	L00000-L32767	L00000-L32752		÷16
Annunciator	F00000-F32767	F00000-F32752	F00000-F32767	F00000-F32752		÷16
Edge Relay	V00000-V32767	V00000-V32752	V00000-V32767	V00000-V32752		÷16
Step Relay	S0000-S8191	S0000-S8176	S0000-S8191	S0000-S8176		÷16
Link Relay	B0000-B7FFF	B0000-B7FF0	B0000-BEFFF	B0000-BEFF0		***0
Special Link Relay	SB0000 - SB7FFF	SB0000 - SB7FF0	SB0000 - SB7FFF	SB0000 - SB7FF0		***0
Timer (Contact)	TS00000-TS25023	-	TS00000-TS25471	-		
Timer (Coil)	TC00000-TC25023	-	TC00000-TC25471	-		
Retentive Timer (Contact)	SS00000-SS25023	-	SS00000-SS25471	-		
Retentive Timer (Coil)	SC00000-SC25023	-	SC00000-SC25471	-		
Counter (Contact)	CS00000-CS25023	-	CS00000-CS25471	-		
Counter (Coil)	CC00000-CC25023	-	CC00000-CC25471	-		
Timer (Current Value)	-	TN00000-TN25023	-	TN00000-TN25471		

Device	First 5 digits of the serial No. in the CPU unit: Less than 10042		First 5 digits of the serial No. in the CPU unit: 10042 or later		32bits	Notes
	Bit Address	Word Address	Bit Address	Word Address		
Retentive Timer (Current Value)	-	SN00000-SN25023	-	SN00000-SN25471	L/H	
Counter (Current Value)	-	CN00000-CN25023	-	CN00000-CN25471		
Data Register/ External Data Register *1	-	D00000-D28159	-	D0000000-D4910079 *2		Bit F *3
Special Register	-	SD0000-SD2047	-	SD0000-SD2047		Bit F *3
Link Register/ External Link Register *4	-	W0000-W6DEF	-	W000000-W4AEBFF *2		Bit F *3
Special Link Register	-	SW0000-SW6DFF	-	SW0000-SW6FFF		Bit F *3
Module Access Device	-	U000-G00000 - U1FF-G65535	-	U000-G00000 - U1FF-G65535		Bit F *3 *5
File Register (Normal)	-	R00000-R32767	-	R00000-R32767		Bit F *3 *6
File Register (Block switching is not necessary)	-	ZR0000000-ZR4184063	-	ZR0000000-ZR4849663		Bit F *3 *6
File Register (0R - 31R) *7	-	0R0000-0R32767	-	0R0000-0R32767		Bit F *3 *6
	-	1R0000-1R32767	-	1R0000-1R32767		
	-	2R0000-2R32767	-	2R0000-2R32767		
	:	:	:	:		
	-	30R0000-30R32767	-	30R0000-30R32767		
	-	31R0000-31R26623	-	31R0000-31R26623		

*1 External Data Register can be used in the CPU of which first 5 digits of serial No. is 09042 or later.

*2 To use addresses D0065536 or higher, or addresses W010000 or higher, the Serial Communication unit must meet the following requirements:

- The first 5 digits of the serial number are 09043 or later.
- The function version is B or later.

*3 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear]..... Bit F

[Do not clear].....When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

*4 External Link Register can be used in the CPU of which first 5 digits of serial No. is 09042 or later.

*5 Device for accessing SLMP compatible devices, as well as the intelligent function unit's buffer memory. The first three digits of the address specifies the intelligent module's starting I/O number.

*6 It is different by the memory card which uses the range of file register.

*7 Set the block No. on the head of device name. This is the device name for conversion with GP-Pro/PB III for Windows. When you newly specify the device, we recommend that you should use the file register (Block switching is not necessary).

NOTE

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

6.3 MELSEC L Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
Input Relay	X0000-X1FFF	X0000-X1FF0		*** 0
Output Relay	Y0000-Y1FFF	Y0000-Y1FF0		*** 0
Internal Relay	M00000-M61439	M00000-M61424		÷ 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-BEFFF	B0000-BEFF0		*** 0
Special Link Relay	SB0000 - SB7FFF	SB0000 - SB7FF0		*** 0
Timer (Contact)	TS00000-TS25471	-		
Timer (Coil)	TC00000-TC25471	-		
Retentive Timer (Contact)	SS00000-SS25471	-		
Retentive Timer (Coil)	SC00000-SC25471	-	L / H	
Counter (Contact)	CS00000-CS25471	-		
Counter (Coil)	CC00000-CC25471	-		
Timer (Current Value)	-	TN00000-TN25471		
Retentive Timer (Current Value)	-	SN00000-SN25471		
Counter (Current Value)	-	CN00000-CN25471		
Data Register	-	D000000-D421887		Bit F *1
Special Register	-	SD0000-SD2047		Bit F *1
Link Register	-	W00000-W66FFF		Bit F *1
Special Link Register	-	SW0000-SW6FFF		Bit F *1
Module Access Device	-	U000-G00000 - U1FF-G65535		Bit F *1 *2
File Register (Normal)	-	R00000-R32767		Bit F *1 *3
File Register (Block switching is not necessary)	-	ZR000000-ZR393215		Bit F *1 *3

Device	Bit Address	Word Address	32bits	Notes
File Register (0R - 11R) *4	-	0R0000-0R32767	L/H	Bit F *1 *3
	-	1R0000-1R32767		
	-	2R0000-2R32767		
	:	:		
	-	10R0000-10R32767		
	-	11R0000-11R32767		

*1 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear] ..... Bit F

[Do not clear] .... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

*2 Device for accessing SLMP compatible devices, as well as the intelligent function unit's buffer memory. The first three digits of the address specifies the intelligent module's starting I/O number.

*3 It is different by the memory card which uses the range of file register.

*4 Set the block No. on the head of device name. This is the device name for conversion with GP-Pro/PB III for Windows. When you newly specify the device, we recommend that you should use the file register (Block switching is not necessary).

NOTE

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

6.4 MELSEC iQ-R Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
Input Relay	X0000 - X1FFF	X0000 - X1FF0		***0
Output Relay	Y0000 - Y1FFF	Y0000 - Y1FF0		***0
Internal Relay	M00000 - M61439	M00000 - M61424		÷16
Special Relay	SM0000 - SM2047	SM0000 - SM2032		÷16
Latch Relay	L00000 - L32767	L000000 - L32752		÷16
Annunciator	F00000 - F32767	F00000 - F32752		÷16
Edge Relay	V00000 - V32767	V00000 - V32752		÷16
Link Relay	B0000 - BEFFF	B0000 - BEFF0		***0
Special Link Relay	SB0000 - SB7FFF	SB0000 - SB7FF0		***0
Timer (contact)	TS00000 - TS32767	-		
Timer (coil)	TC00000 - TC32767	-		
Retentive Timer (contact)	SS00000 - SS32767	-		
Retentive Timer (coil)	SC00000 - SC32767	-		
Counter (Contact)	CS00000 - CS32767	-		
Counter (coil)	CC00000 - CC32767	-		
Timer (Current Value)	-	TN00000 - TN32767		
Retentive Timer (Current value)	-	SN00000 - SN32767	L/H	
Counter (Current Value)	-	CN00000 - CN32767		
Long Counter (Current Value)	-	L_CN0000000 - L_CN4761215		
Data Register	-	D0000000 - D0065535		Bit F *1
Special Register	-	SD0000 - SD2047		Bit F *1
Link Register	-	W000000 - W00FFFF		Bit F *1
Special Link Register	-	SW0000 - SW7FFF		Bit F *1
Module Access Device	-	U000-G000000000 - U1FF-G99999999		Bit F *1 *2
File Register	-	R00000 - R32767		Bit F *1
File Register (Block switching is not necessary)	-	ZR0000000 - ZR4849663		Bit F *1
File Register (Up to 1042432 points can be used by block switching)	-	0R00000 - 0R32767		Bit F *1
	-	1R00000 - 1R32767		Bit F *1
	-	2R00000 - 2R32767		Bit F *1
	:	:		
	-	30R00000 - 30R32767		Bit F *1
	-	31R00000 - 31R26623		Bit F *1

*1 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear] ..... Bit

[Do not clear] .... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

*2 Device for accessing SLMP compatible devices, as well as the intelligent function unit's buffer memory. The first three digits of the address specifies the intelligent module's starting I/O number.

NOTE

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

6.5 MELSEC iQ-F Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
Input Relay	X0000 - X1777	X0000 - X1760		OCT 8
Output Relay	Y0000 - Y1777	Y0000 - Y1760		OCT 8
Internal Relay	M00000 - M32767	M00000 - M32752		÷16
Special Relay	SM0000 - SM9999	SM0000 - SM9984		÷16
Latch Relay	L00000 - L32767	L000000 - L32752		÷16
Annunciator	F00000 - F32767	F00000 - F32752		÷16
Step Relay	S0000 - S4095	S0000 - S4080		÷16
Link Relay	B0000 - B7FFF	B0000 - B7FF0		***0
Special Link Relay	SB0000 - SB7FFF	SB0000 - SB7FF0		***0
Timer (contact)	TS0000 - TS1023	-		
Timer (coil)	TC0000 - TC1023	-		
Retentive Timer (contact)	SS0000 - SS1023	-		
Retentive Timer (coil)	SC0000 - SC1023	-		
Counter (Contact)	CS0000 - CS1023	-		
Counter (coil)	CC0000 - CC1023	-	L/H	
Long Counter (Contact)*1	L_CS0000 - L_CS1023	-		
Long Counter (coil)*1	L_CC0000 - L_CC1023	-		
Timer (Current Value)	-	TN0000 - TN1023		
Retentive Timer (Current value)	-	SN0000 - SN1023		
Counter (Current Value)	-	CN0000 - CN1023		
Long Counter (Current Value)*1	-	L_CN0000 - L_CN1023		Bit F *2 *3
Data Register	-	D0000 - D7999		Bit F *3
Special Register	-	SD00000 - SD11999		Bit F *3
Link Register	-	W0000 - W7FFF		Bit F *3
Special Link Register	-	SW0000 - SW7FFF		Bit F *3
Module Access Device	-	U000-G00000 - U1FF-G65535		Bit F *2 *3
File Register	-	R00000 - R32767		Bit F *3

*1 You can use this device only when the format is [QnA Comp. 4C Frame: Format 5].

*2 Device for accessing SLMP compatible devices, as well as the intelligent function unit's buffer memory. The first three digits of the address specifies the intelligent module's starting I/O number.

*3 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear] ..... Bit

[Do not clear] .... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

NOTE

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

7 Device Code and Address Code

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

7.1 MELSEC Q/QnA Series

Device	Device Name	Device Code (HEX)	Address Code
Input Relay	X	0080	Value of word address divided by 0x10
Output Relay	Y	0081	Value of word address divided by 0x10
Internal Relay	M	0082	Value of word address divided by 16
Special Relay	SM	0083	Value of word address divided by 16
Latch Relay	L	0084	Value of word address divided by 16
Annunciator	F	0085	Value of word address divided by 16
Edge Relay	V	0086	Value of word address divided by 16
Step Relay	S	0087	Value of word address divided by 16
Link Relay	B	0088	Value of word address divided by 0x10
Special Link Relay	SB	0089	Value of word address divided by 0x10
Timer (Current Value)	TN	0060	Word Address
Retentive Timer (Current Value)	SN	0062	Word Address
Counter (Current Value)	CN	0061	Word Address
Data Register / External Data Register	D	0000	Word Address
Special Register	SD	0001	Word Address
Link Register / External Link Register	W	0002	Word Address
Special Link Register	SW	0003	Word Address
Module Access Device	U000-G - U1FF-G	0076 - 1F76	Word Address[*1]
File Register (Normal)	R	000F	Word Address
File Register (Block switching is not necessary)	ZR	000E	Word Address

Device	Device Name	Device Code (HEX)	Address Code
File Register (0R - 31R)	0R	0010	Word Address
	1R	0011	Word Address
	2R	0012	Word Address
	:	:	:
	30R	002E	Word Address
	31R	002F	Word Address

*1 Specify the Device Name with the Device Code (HEX) and the value in bits 28 to 31 for the address number. For example, for **U1FF-G**, the device code is "0x1F76", and bits 28 to 31 in the address part is set to “F”.

7.2 MELSEC L Series

Device	Device Name	Device Code (HEX)	Address Code
Input Relay	X	0080	Value of word address divided by 0x10
Output Relay	Y	0081	Value of word address divided by 0x10
Internal Relay	M	0082	Value of word address divided by 16
Special Relay	SM	0083	Value of word address divided by 16
Latch Relay	L	0084	Value of word address divided by 16
Annunciator	F	0085	Value of word address divided by 16
Edge Relay	V	0086	Value of word address divided by 16
Step Relay	S	0087	Value of word address divided by 16
Link Relay	B	0088	Value of word address divided by 0x10
Special Link Relay	SB	0089	Value of word address divided by 0x10
Timer (Current Value)	TN	0060	Word Address
Retentive Timer (Current Value)	SN	0062	Word Address
Counter (Current Value)	CN	0061	Word Address
Data Register	D	0000	Word Address
Special Register	SD	0001	Word Address
Link Register	W	0002	Word Address
Special Link Register	SW	0003	Word Address
Module Access Device	U000-G - U1FF-G	0076 - 1F76	Word Address[*1]
File Register (Normal)	R	000F	Word Address
File Register (Block switching is not necessary)	ZR	000E	Word Address
File Register (0R - 11R)	0R	0010	Word Address
	1R	0011	Word Address
	2R	0012	Word Address
	:	:	:
	10R	001A	Word Address
	11R	001B	Word Address

*1 Specify the Device Name with the Device Code (HEX) and the value in bits 28 to 31 for the address number. For example, for **U1FF-G**, the device code is "0x1F76", and bits 28 to 31 in the address part is set to “F”.

7.3 MELSEC iQ-R Series

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	
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	

Device	Device Name	Device Code (HEX)	Address Code
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	
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	
Long Counter(Current Value)	L_CN	0x0065	Word Address
	1/L_CN	0x0165	
	2/L_CN	0x0265	
	3/L_CN	0x0365	
	4/L_CN	0x0465	
Data Register	D	0000	Word Address
	1/D	0100	
	2/D	0200	
	3/D	0300	
	4/D	0400	

Device	Device Name	Device Code (HEX)	Address Code
Special Register	SD	0001	Word Address
	1/SD	0101	
	2/SD	0201	
	3/SD	0301	
	4/SD	0401	
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	
Module Access Device	U000-G - U1FF-G	0076 - 1F76	Word Address[*1]
File Register	R	000F	Word Address
	1/R	010F	
	2/R	020F	
	3/R	030F	
	4/R	040F	
File Register (Block switching is not necessary)	ZR	000E	Word Address
	1/ZR	010E	
	2/ZR	020E	
	3/ZR	030E	
	4/ZR	040E	

Device	Device Name	Device Code (HEX)	Address Code
File Register (Up to 1042432 points can be used by block switching)	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	

Device	Device Name	Device Code (HEX)	Address Code
File Register (Up to 1042432 points can be used by block switching)	3R	0013	Word Address
	1/3R	0113	
	2/3R	0213	
	3/3R	0313	
	4/3R	0413	
	4R	0014	Word Address
	1/4R	0114	
	2/4R	0214	
	3/4R	0314	
	4/4R	0414	
	:	:	
	27R	002B	Word Address
	1/27R	012B	
	2/27R	022B	
	3/27R	032B	
	4/27R	042B	
	28R	002C	Word Address
	1/28R	012C	
	2/28R	022C	
	3/28R	032C	
	4/28R	042C	
	29R	002D	Word Address
	1/29R	012D	
	2/29R	022D	
	3/29R	032D	
	4/29R	042D	
	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	

*1 Specify the Device Name with the Device Code (HEX) and the value in bits 28 to 31 for the address number. For example, for **U1FF-G**, the device code is "0x1F76", and bits 28 to 31 in the address part is set to “F”.

7.4 MELSEC iQ-F Series

Device	Device Name	Device Code (HEX)	Address Code
Input Relay	X	0080	Value of word address divided by 0x10
Output Relay	Y	0081	Value of word address divided by 0x10
Internal Relay	M	0082	Value of word address divided by 16
Special Relay	SM	0083	Value of word address divided by 16
Latch Relay	L	0084	Value of word address divided by 16
Annunciator	F	0085	Value of word address divided by 16
Step Relay	S	0087	Value of word address divided by 16
Link Relay	B	0088	Value of word address divided by 0x10
Special Link Relay	SB	0089	Value of word address divided by 0x10
Timer(Current Value)	TN	0060	Word Address
Retentive Timer(Current Value)	SN	0062	Word Address
Counter(Current Value)	CN	0061	Word Address
Long Counter (Contact)	L_CS	0x00EA	Word Address
Long Counter (Coil)	L_CC	0x00EB	Word Address
Long Counter(Current Value)	L_CN	0x0065	Word Address
Data Register	D	0000	Word Address
Special Register	SD	0001	Word Address
Link Register	W	0002	Word Address
Special Link Register	SW	0003	Word Address
Module Access Device	U000-G - U1FF-G	0076 - 1F76	Word Address*1
File Register	R	000F	Word Address

*1 Specify the Device Name with the Device Code (HEX) and the value in bits 28 to 31 for the address number. For example, for **U1FF-G**, the device code is "0x1F76", and bits 28 to 31 in the address part is set to “F”

8 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 error occurs. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1])
Error Message	Displays messages related to the error which occurs.
Error Occurrence Area	Displays IP address or device address of the External Device where error occurs, or error codes received from the External Device. **NOTE** • IP address is displayed such as "IP address (Decimal): MAC address(Hex)". • Device address is displayed such as "Address: Device address". • Received error codes are displayed such as "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.