OMRON Corporation

OMR_FINS_32
3/2024

CS/CJ Series HOST Link 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 This section shows the types of External Devices which can be connected and SIO type.	☞"1 System Configuration" (page 3)
2	Selection of External Device Select a model (series) of the External Device to be connected and connection method.	☞"2 Selection of External Device" (page 13)
3	Example of Communication Settings This section shows setting examples for communicating between the Display and the External Device.	☞"3 Example of Communication Setting" (page 14)
4	Communication Settings This section describes communication setup items on the Display. Set communication settings of the Display with GP-Pro EX or in offline mode.	☞"4 Setup Items" (page 84)
5	Cable Diagram This section shows cables and adapters for connecting the Display and the External Device.	☞"5 Cable Diagram" (page 89)

Operation

1 System Configuration

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

Series	CPU[*1]	Connection Port	SIO Type	Communication Settings	Cable Diagram
CS1	CS1G-CPU45 CS1G-CPU44 CS1G-CPU43 CS1G-CPU42 CS1G-CPU45H CS1G-CPU44H CS1G-CPU43H CS1G-CPU42H CS1G-CPU45-V1 CS1G-CPU44-V1 CS1G-CPU43-V1 CS1G-CPU42-V1 CS1H-CPU67 CS1H-CPU66 CS1H-CPU65 CS1H-CPU64 CS1H-CPU63 CS1H-CPU67H CS1H-CPU66H CS1H-CPU65H CS1H-CPU64H CS1H-CPU63H CS1H-CPU67-V1 CS1H-CPU66-V1 CS1H-CPU65-V1 CS1H-CPU64-V1 CS1H-CPU63-V1	RS232C port on the CPU unit	RS232C	Setting Example 1 (page 14)	Cable Diagram 1 (page 89)
		Peripheral port on the CPU unit[*2]	RS232C	Setting Example 2 (page 17)	Cable Diagram 2 (page 92)
		CS1W-SCU21	RS232C	Setting Example 5 (page 26)	Cable Diagram 1 (page 89)
		CS1W-SCB21	RS232C	Setting Example 3 (page 20)	Cable Diagram 1 (page 89)
		CS1W-SCB41	RS232C	Setting Example 3 (page 20)	Cable Diagram 1 (page 89)
			RS422/485 (4wire)	Setting Example 4 (page 23)	Cable Diagram 3 (page 96)
			RS422/485 (4wire) Multilink	Setting Example 4 (page 23)	Cable Diagram 4 (page 105)
CS1D Duplex System	CS1D-CPU67H CS1D-CPU65H CS1D-CPU68HA CS1D-CPU67HA CS1D-CPU67P CS1D-CPU65P	RS232C port on the CPU unit	RS232C	Setting Example 19 (page 70)	Cable Diagram 1 (page 89)
		CJ1W-CIF11	RS422/485 (4wire)	Setting Example 20 (page 73)	Cable Diagram 5 (page 117)
CJ1	CJ1G-CPU45 CJ1G-CPU44 CJ1M-CPU23 CJ1M-CPU22 CJ1M-CPU21 CJ1M-CPU13 CJ1M-CPU12 CJ1M-CPU11 CJ1H-CPU66H CJ1H-CPU65H CJ1G-CPU45H CJ1G-CPU44H CJ1G-CPU43H CJ1G-CPU42H	RS232C port on the CPU unit	RS232C	Setting Example 1 (page 14)	Cable Diagram 1 (page 89)
		Peripheral port on the CPU unit[*2]	RS232C	Setting Example 2 (page 17)	Cable Diagram 2 (page 92)
		CJ1W-SCU41	RS232C	Setting Example 5 (page 26)	Cable Diagram 1 (page 89)
			RS422/485 (4wire)	Setting Example 6 (page 30)	Cable Diagram 3 (page 96)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 30)	Cable Diagram 4 (page 105)

Series	CPU*1	Connection Port	SIO Type	Communication Settings	Cable Diagram
CJ2	CJ2H-CPU68-EIP CJ2H-CPU67-EIP CJ2H-CPU66-EIP CJ2H-CPU65-EIP CJ2H-CPU64-EIP	RS232C serial port on the CPU unit	RS-232C	Setting Example 11 (page 46)	Cable Diagram 1 (page 89)
		CJ1W-SCU21 CJ1W-SCU21-V1	RS-232C	Setting Example 5 (page 26)	Cable Diagram 1 (page 89)
		CJ1W-SCU22	RS-232C	Setting Example 21 (page 76)	Cable Diagram 1 (page 89)
		CJ1W-SCU31-V1	RS422/485 (4wire)	Setting Example 6 (page 30)	Cable Diagram 3 (page 96)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 30)	Cable Diagram 4 (page 105)
		CJ1W-SCU32	RS422/485 (4wire)	Setting Example 22 (page 80)	Cable Diagram 5 (page 117)
			RS422/485 (4wire) Multilink	Setting Example 22 (page 80)	Cable Diagram 6 (page 126)
		CJ1W-SCU41 CJ1W-SCU41-V1	RS-232C	Setting Example 5 (page 26)	Cable Diagram 1 (page 89)
			RS422/485 (4wire)	Setting Example 6 (page 30)	Cable Diagram 3 (page 96)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 30)	Cable Diagram 4 (page 105)
		CJ1W-SCU42	RS-232C	Setting Example 21 (page 76)	Cable Diagram 1 (page 89)
			RS422/485 (4wire)	Setting Example 22 (page 80)	Cable Diagram 5 (page 117)
			RS422/485 (4wire) Multilink	Setting Example 22 (page 80)	Cable Diagram 6 (page 126)

Series	CPU[*1]	Connection Port	SIO Type	Communication Settings	Cable Diagram
CJ2	CJ2H-CPU68 CJ2H-CPU67 CJ2H-CPU66 CJ2H-CPU65 CJ2H-CPU64 CJ2M-CPU15 CJ2M-CPU14 CJ2M-CPU13 CJ2M-CPU12 CJ2M-CPU11	RS232C serial port on the CPU unit	RS-232C	Setting Example 11 (page 46)	Cable Diagram 1 (page 89)
		CJ1W-SCU21-V1	RS-232C	Setting Example 5 (page 26)	Cable Diagram 1 (page 89)
		CJ1W-SCU31-V1	RS422/485 (4wire)	Setting Example 6 (page 30)	Cable Diagram 3 (page 96)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 30)	Cable Diagram 4 (page 105)
		CJ1W-SCU41-V1	RS-232C	Setting Example 5 (page 26)	Cable Diagram 1 (page 89)
			RS422/485 (4wire)	Setting Example 6 (page 30)	Cable Diagram 3 (page 96)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 30)	Cable Diagram 4 (page 105)
	CJ2M-CPU35 CJ2M-CPU34 CJ2M-CPU33 CJ2M-CPU32 CJ2M-CPU31	CJ1W-SCU21-V1	RS-232C	Setting Example 5 (page 26)	Cable Diagram 1 (page 89)
		CJ1W-SCU31-V1	RS422/485 (4wire)	Setting Example 6 (page 30)	Cable Diagram 3 (page 96)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 30)	Cable Diagram 4 (page 105)
		CJ1W-SCU41-V1	RS-232C	Setting Example 5 (page 26)	Cable Diagram 1 (page 89)
			RS422/485 (4wire)	Setting Example 6 (page 30)	Cable Diagram 3 (page 96)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 30)	Cable Diagram 4 (page 105)
CP1	CP1L-M□□DR-A CP1L-M□□DR-D CP1L-M□□DT-D CP1L-M□□DT1-D CP1L-M□□DT-A CP1L-L□□DR-A CP1L-L□□DR-D CP1L-L□□DT-D CP1L-L□□DT1-D CP1L-L□□DT-A [*3]	Option board CP1W-CIF01	RS232C	Setting Example 7 (page 34)	Cable Diagram 1 (page 89)
		Option board CP1W-CIF11	RS422/485 (4wire)	Setting Example 8 (page 37)	Cable Diagram 5 (page 117)
			RS422/485 (4wire) Multilink	Setting Example 8 (page 37)	Cable Diagram 6 (page 126)

Series	CPU[*1]	Connection Port	SIO Type	Communication Settings	Cable Diagram
CP1	CP1H-X□□DR-A CP1H-X□□DT-D CP1H-X□□DT1-D CP1H-XA□□DR-A CP1H-XA□□DT-D CP1H-XA□□DT1-D CP1H-Y□□DT-D	Option board CP1W-CIF01	RS232C	Setting Example 9 (page 40)	Cable Diagram 1 (page 89)
		Option board CP1W-CIF11	RS422/485 (4wire)	Setting Example 10 (page 43)	Cable Diagram 5 (page 117)
			RS422/485 (4wire) Multilink	Setting Example 10 (page 43)	Cable Diagram 6 (page 126)
		CJ1W-SCU21 CJ1W-SCU21-V1	RS232C	Setting Example 5 (page 26)	Cable Diagram 1 (page 89)
		CJ1W-SCU22	RS232C	Setting Example 19 (page 70)	Cable Diagram 1 (page 89)
		CJ1W-SCU32	RS422/485 (4wire)	Setting Example 20 (page 73)	Cable Diagram 5 (page 117)
			RS422/485 (4wire) Multilink	Setting Example 20 (page 73)	Cable Diagram 6 (page 126)
		CJ1W-SCU41 CJ1W-SCU41-V1	RS232C	Setting Example 5 (page 26)	Cable Diagram 1 (page 89)
			RS422/485 (4wire)	Setting Example 6 (page 30)	Cable Diagram 3 (page 96)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 30)	Cable Diagram 4 (page 105)
		CJ1W-SCU42	RS232C	Setting Example 19 (page 70)	Cable Diagram 1 (page 89)
			RS422/485 (4wire)	Setting Example 20 (page 73)	Cable Diagram 5 (page 117)
			RS422/485 (4wire) Multilink	Setting Example 20 (page 73)	Cable Diagram 6 (page 126)
		CJ1W-SCU31-V1	RS422/485 (4wire)	Setting Example 6 (page 30)	Cable Diagram 3 (page 96)
			RS422/485 (4wire) Multilink	Setting Example 6 (page 30)	Cable Diagram 4 (page 105)
CP1E	CP1E-N□□DR-A CP1E-N□□DT-A CP1E-N□□DT1-A CP1E-N□□DR-D CP1E-N□□DT-D CP1E-N□□DT1-D	Internal RS-232C port on the CPU unit	RS232C	Setting Example 12 (page 49)	Cable Diagram 1 (page 89)

Series	CPU*1	Connection Port	SIO Type	Communication Settings	Cable Diagram
CP2E	CP2E-E□□D□-□ CP2E-S□□D□-□	Internal RS-232C port on the CPU unit	RS232C	Setting Example 14 (page 55)	Cable Diagram 9 (page 164)
		Internal RS-485 port on the CPU unit	RS422/485 (2wire)	Setting Example 13 (page 52)	Cable Diagram 7 (page 138)
	CP2E-N□□D□-□	CP1W-CIF01	RS232C	Setting Example 15 (page 58)	Cable Diagram 1 (page 89)
		CP1W-CIF11 CP1W-CIF12-V1 *4	RS422/485 (4wire)	Setting Example 16 (page 61)	Cable Diagram 5 (page 117)
			RS422/485 (4wire) Multilink	Setting Example 16 (page 61)	Cable Diagram 6 (page 126)
			RS422/485 (2wire)	Setting Example 17 (page 64)	Cable Diagram 8 (page 151)
		Port□ on the CP2W-CIFD1	RS232C	Setting Example 15 (page 58)	Cable Diagram 10 (page 166)
		CP2W-CIFD2	RS232C	Setting Example 15 (page 58)	Cable Diagram 10 (page 166)
		Port□ on the CP2W-CIFD3	RS422/485 (2wire)	Setting Example 18 (page 67)	Cable Diagram 7 (page 138)

*1 □ differs depending on the number of CPU input-output points.

*2 Turn ON the DIP switch 4 on the CPU unit.

*3 10-point CPU units cannot be used.

*4 For RS422/485 (2 wire), set pin No. 2/3 of SW1 to ON.
For RS422/485 (4 wire), set pin No. 2/3 of SW1 to OFF.

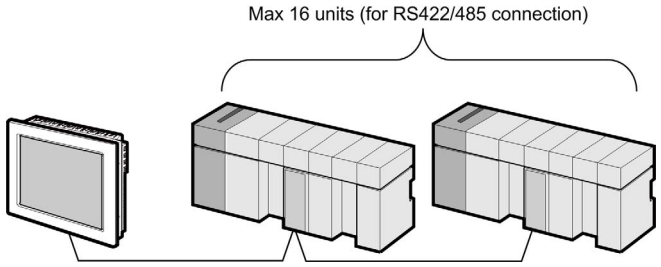
NOTE

- When the time of GP4000 series is automatically updated in [Clock Update Settings] of GP-Pro EX, there are some restrictions as shown below.
  For details on [Clock Update Settings], refer to GP-Pro EX Reference Manual.
  •CP1L, CP1E and CJ2H does not support automatic update of the time. Specify [Customize] in [Clock Update Settings].

■ Connection Configuration

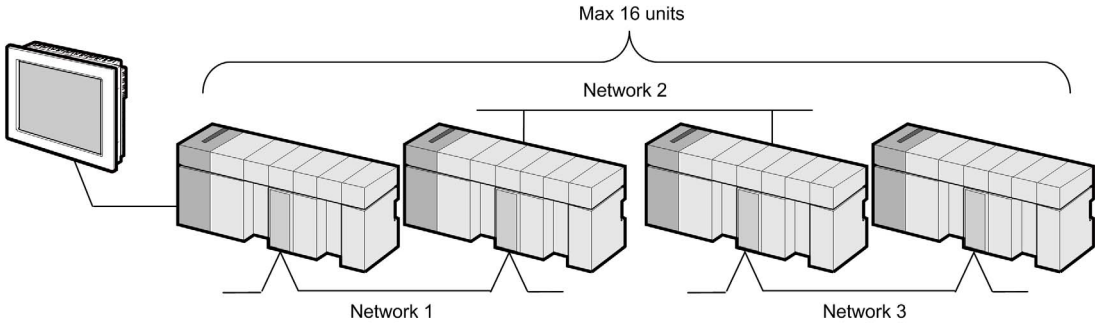
- 1:1 Connection

- 1:n Connection

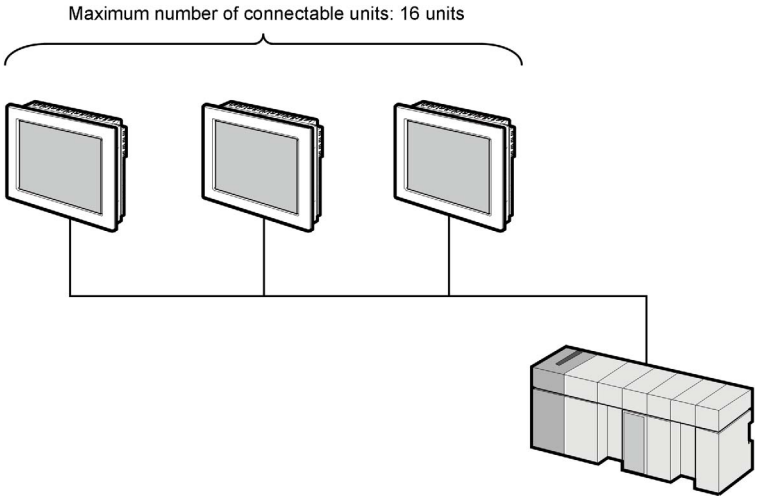


- Access beyond network

You can access beyond maximum 3 levels of network.



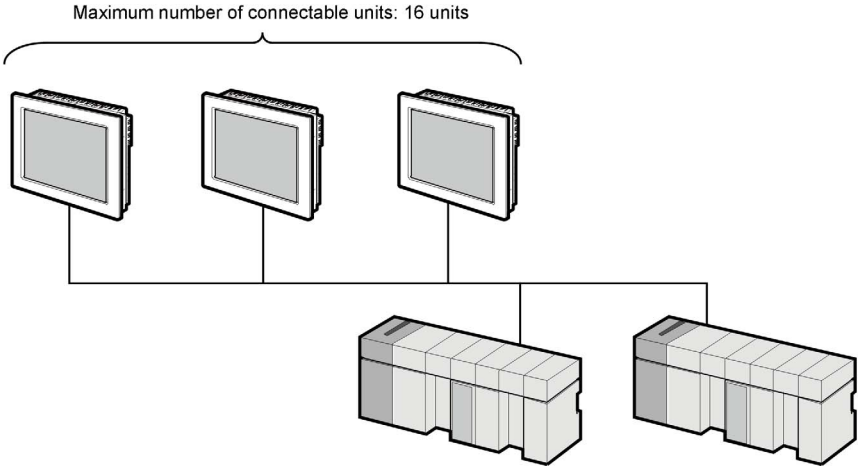
- n:1 Connection (Multilink connection)



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 (Advanced Box) PS6000 (Standard Box)	COM1*9	*10	*10
PS6000 (Basic Box)	COM1*9	COM1*9	COM1*9

*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 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	

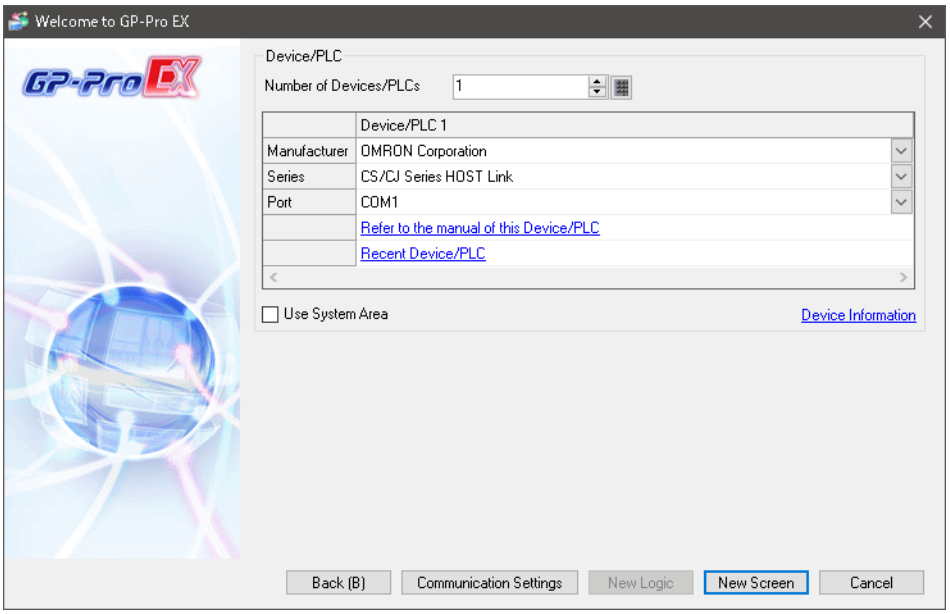
*1 When the connection configuration are the n:1 and n:m connections (both Multilink connections), turn ON the set value.

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 "OMRON Corporation".
Series	Select the External Device model (series) and the connection method. Select "CS/CJ Series HOST Link". In System configuration, make sure the External Device you are connecting is supported by "CS/CJ Series HOST Link". ☞ "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

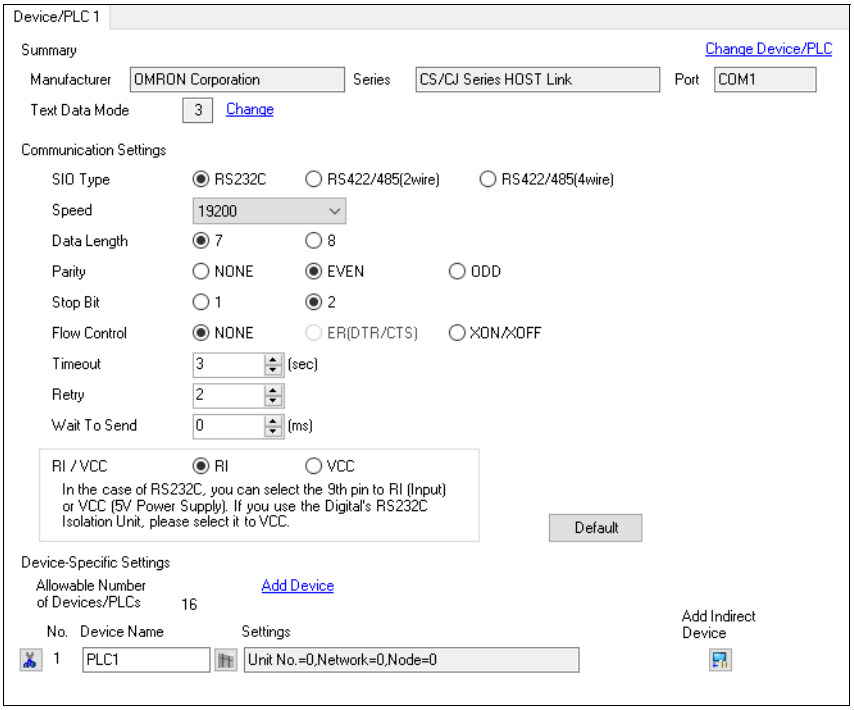
Examples of communication settings of the Display and the External Device, recommended by Pro-face, are shown.

3.1 Setting Example 1

■ Setting of GP-Pro EX

◆ Communication Settings

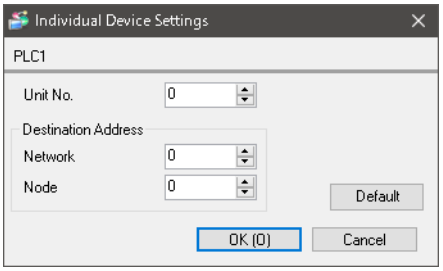
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

Click the [HOST Link Port] tab from the [PLC Settings] of the ladder software for the communication settings of the HOST link port (RS232C port on CPU) and set as below.

Setup Items	Settings
Speed	19200
Parameter	7,2,E
Mode	HOST link
DIP Switch*1	SW1: OFF SW5: OFF SW7: OFF SW8: OFF
Unit No.	Option
Source Network Address*2	Option
Node Address Setting Rotary Switch*3	Option

*1 Use the DIP switch on the front of the unit for setting.

*2 Parameter used when you access beyond network. Set in the routing table of "CX-Net Network Configuration". Please refer to the manual of the External Device for more details.

*3 Parameter used when you access beyond network. Set with the rotary switch on the front of the Controller Link unit used for access beyond network.

◆ Notes

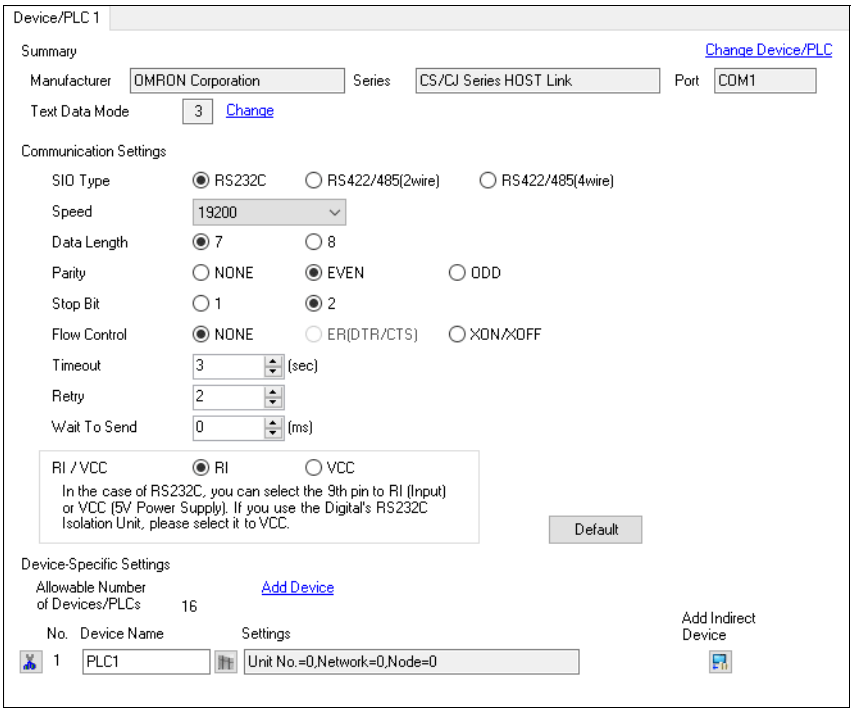
- Do not set the duplicate node address in the same network address group.

3.2 Setting Example 2

■ Setting of GP-Pro EX

◆ Communication Settings

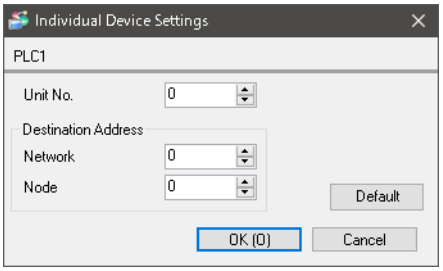
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

Click the [Peripheral Port] tab from the [PLC Settings] of the ladder software for the communication settings of the peripheral port and set as below.

Setup Items	Settings
Speed	19200
Parameter	7,2,E
Mode	HOST link
DIP Switch*1	SW1: OFF SW4: ON SW7: OFF SW8: OFF
Unit No.	Option
Source Network Address*2	Option
Node Address Setting Rotary Switch*3	Option

*1 Use the DIP switch on the front of the unit for setting.

*2 Parameter used when you access beyond network. Set in the routing table of "CX-Net Network Configuration". Please refer to the manual of the External Device for more details.

*3 Parameter used when you access beyond network. Set with the rotary switch on the front of the Controller Link unit used for access beyond network.

◆ Notes

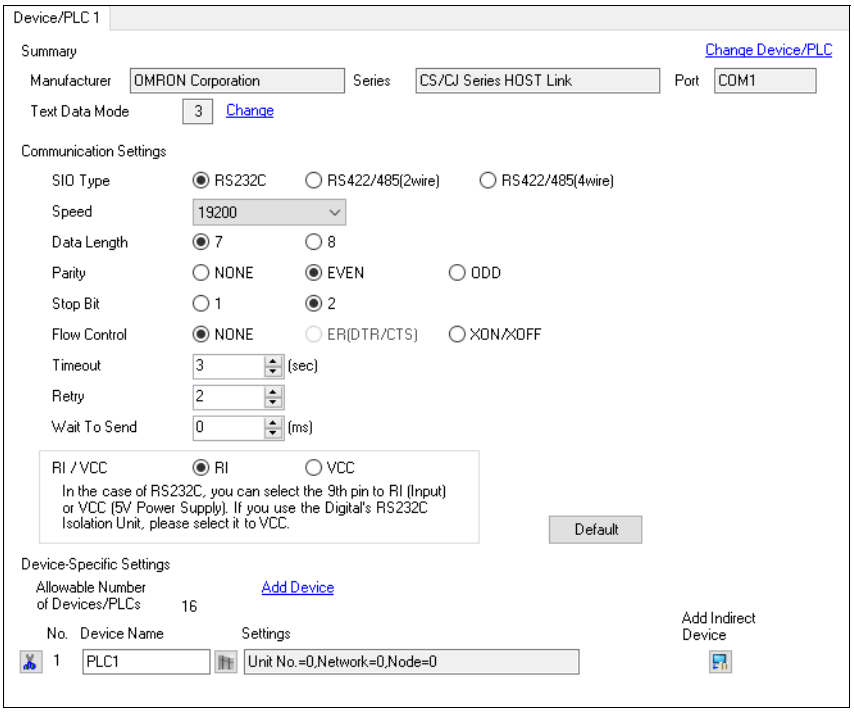
- Do not set the duplicate node address in the same network address group.

3.3 Setting Example 3

■ Setting of GP-Pro EX

◆ Communication Settings

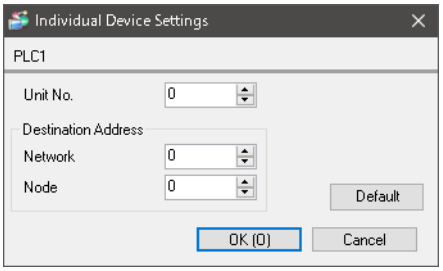
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For communication settings of INNER board, open [I/O Table] of the ladder software first. Then, select [INNER Board Soft Switch] from the menu displayed by right-clicking [CS**-CPU**] (CPU of the External Device to set) and set as below.

Setup Items	Settings
Port settings*1	User settings
Line Speed	19200
Parameter	1,7,2,E
Mode	Default (HOST Link)
Send Delay Time	0
CS Control	None
Unit No.	Option
Source Network Address*2	Option
Node Address Setting Rotary Switch*3	Option

*1 [Port settings] can be set only when the ladder software you use is a CX-One.

*2 Parameter used when you access beyond network. Set in the routing table of "CX-Net Network Configuration". Please refer to the manual of the External Device for more details.

*3 Parameter used when you access beyond network. Set with the rotary switch on the front of the Controller Link unit used for access beyond network.

◆ Notes

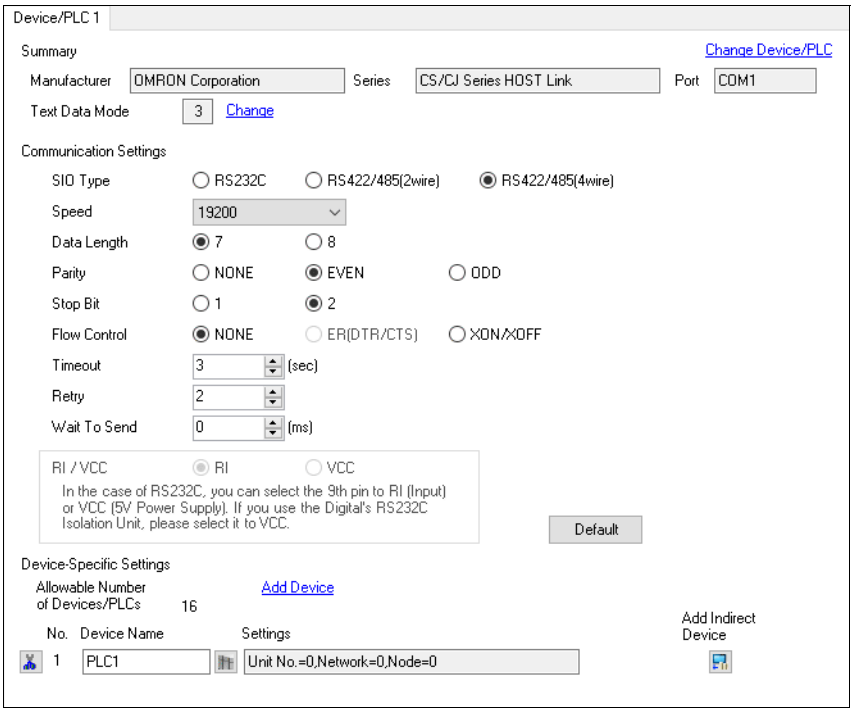
- Do not set the duplicate node address in the same network address group.

3.4 Setting Example 4

■ Setting of GP-Pro EX

◆ Communication Settings

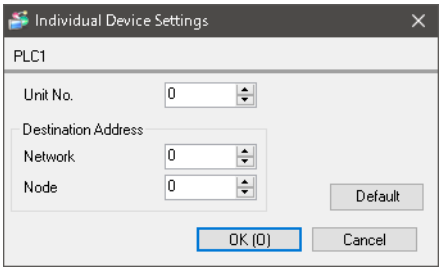
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For communication settings of INNER board, open [I/O Table] of the ladder software first. Then, select [INNER Board Soft Switch] from the menu displayed by right-clicking [CS**-CPU**] (CPU of the External Device to set) and set as below.

Setup Items	Settings
WIRE (2wire/4wire switch)*1	4wire
TERM (Termination resistance switch)*2	ON
Port settings*3	User settings
Line Speed	19200
Parameter	1,7,2,E
Mode	Default (HOST Link)
Send Delay Time	0
CS Control	None
Unit No.	Option
Source Network Address*4	Option
Node Address Setting Rotary Switch*5	Option

*1 Use the WIRE switch on the front of the INNER board to set.

*2 Use the TERM switch on the front of the INNER board to set. For 1:n connection, set only the station that serves as termination resistance to ON.

*3 [Port settings] can be set only when the ladder software you use is a CX-One.

*4 Parameter used when you access beyond network. Set in the routing table of "CX-Net Network Configuration". Please refer to the manual of the External Device for more details.

*5 Parameter used when you access beyond network. Set with the rotary switch on the front of the Controller Link unit used for access beyond network.

◆ Notes

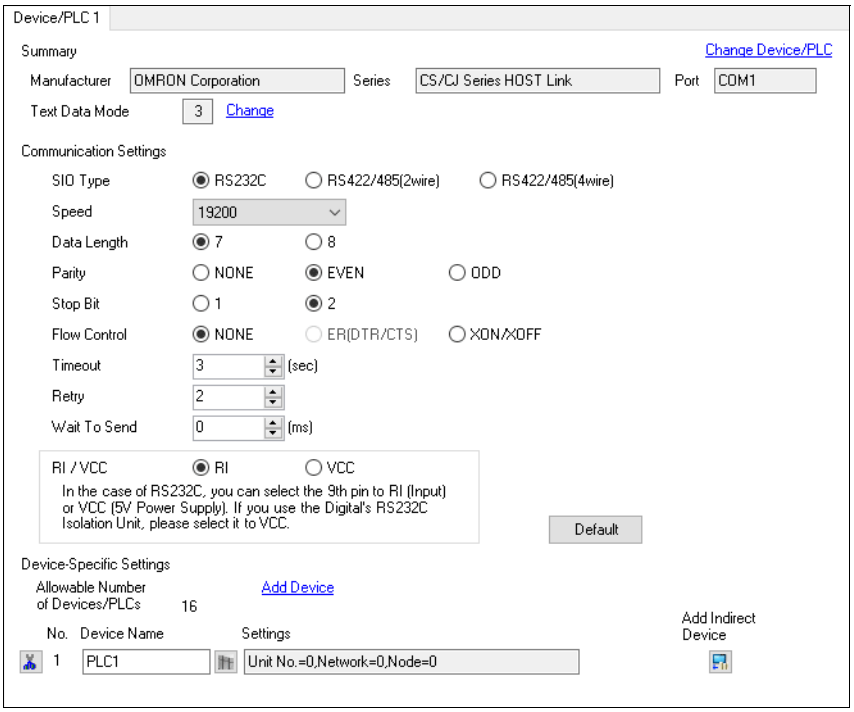
- Do not set the duplicate node address in the same network address group.

3.5 Setting Example 5

■ Setting of GP-Pro EX

◆ Communication Settings

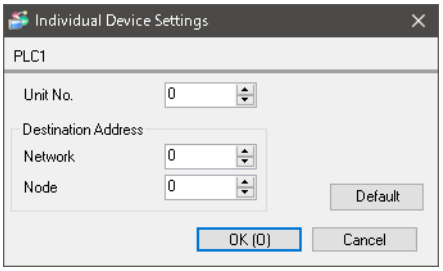
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch of the External Device and ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ DIP Switch Setting

Setup Items	Settings
Unit No. Setting Rotary Switch*1	0

*1 You need to set this switch to the same value as "CPU High Function Unit No." of the serial communication unit in the I/O table assigned by the ladder tool.

◆ Ladder Software Settings

For communication settings of the communication unit, you need to register the serial communication unit to be used by the ladder software in advance.

After registration, open [I/O Table] of the ladder software. Click [Switch] from the menu displayed by right-clicking [Serial Communication Unit] and set as below.

Setup Items	Settings
Displayed Parameter	Port1:Host Link Settings*1
Port settings*2	User settings
Serial communication mode	Host Link(default)
Data length	7bits
Stop bits	2bits
Parity	Even
Baud rate	19200bps
Send delay	Default(0ms)
Send delay(user-specified)	0
CTS Control	No
1:N/1:1 protocol setting	1:N protocol
Host Link compatible device mode	Default(Mode A)
Host Link unit number	0

*1 When you set the Port2, select "Port2: Host Link Settings".

*2 [Port settings] can be set only when the ladder software you use is a CX-One.

NOTE

- For access beyond network, set as below.

Setup Items	Settings
Source Network Address*1	Option
Node Address Setting Rotary Switch*2	Option

*1 Set in the routing table of "CX-Net Network Configuration". Please refer to the manual of the External Device for more details.

*2 Set with the rotary switch on the front of the Controller Link unit used for access beyond network.

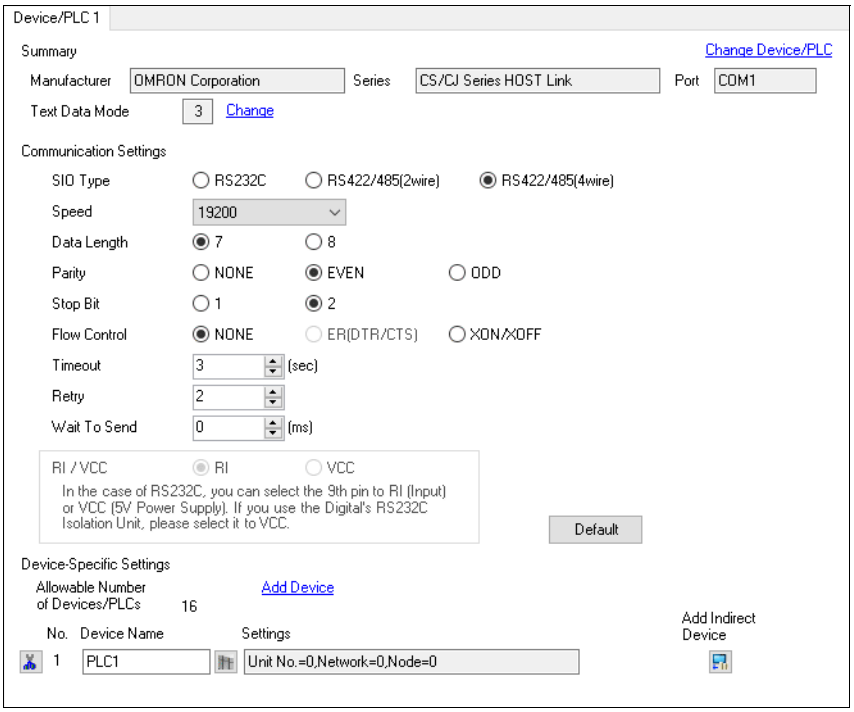
- Do not set the duplicate node address in the same network address group.

3.6 Setting Example 6

■ Setting of GP-Pro EX

◆ Communication Settings

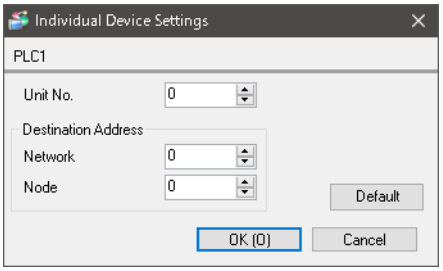
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch of the front of the Serial Communication unit and ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ DIP Switch Setting

Setup Items	Settings
Unit No. Setting Rotary Switch*1	0
WIRE (2wire/4wire switch)	4wire
TERM (Termination resistance switch)*2	ON

*1 You need to set this switch to the same value as "CPU High Function Unit No." of the serial communication unit in the I/O table assigned by the ladder tool.

*2 For 1:n connection, set only the station that serves as termination resistance to ON.

◆ Ladder Software Settings

For communication settings of the communication unit, you need to register the serial communication unit to be used by the ladder software in advance.

After registration, open [I/O Table] of the ladder software. Click [Switch] from the menu displayed by right-clicking [Serial Communication Unit] and set as below.

Setup Items	Settings
Displayed Parameter	Port1:Host Link Settings*1
Port settings*2	User settings
Serial communication mode	Host Link(default)
Data length	7bits
Stop bits	2bits
Parity	Even
Baud rate	19200bps
Send delay	Default(0ms)
Send delay(user-specified)	0
CTS Control	No
1:N/1:1 protocol setting	1:N protocol
Host Link compatible device mode	Default(Mode A)
Host Link unit number	0

*1 When you set the Port2, select "Port2: Host Link Settings".

*2 [Port settings] can be set only when the ladder software you use is a CX-One.

NOTE

- For access beyond network, set as below.

Setup Items	Settings
Source Network Address*1	Option
Node Address Setting Rotary Switch*2	Option

*1 Set in the routing table of "CX-Net Network Configuration". Please refer to the manual of the External Device for more details.

*2 Set with the rotary switch on the front of the Controller Link unit used for access beyond network.

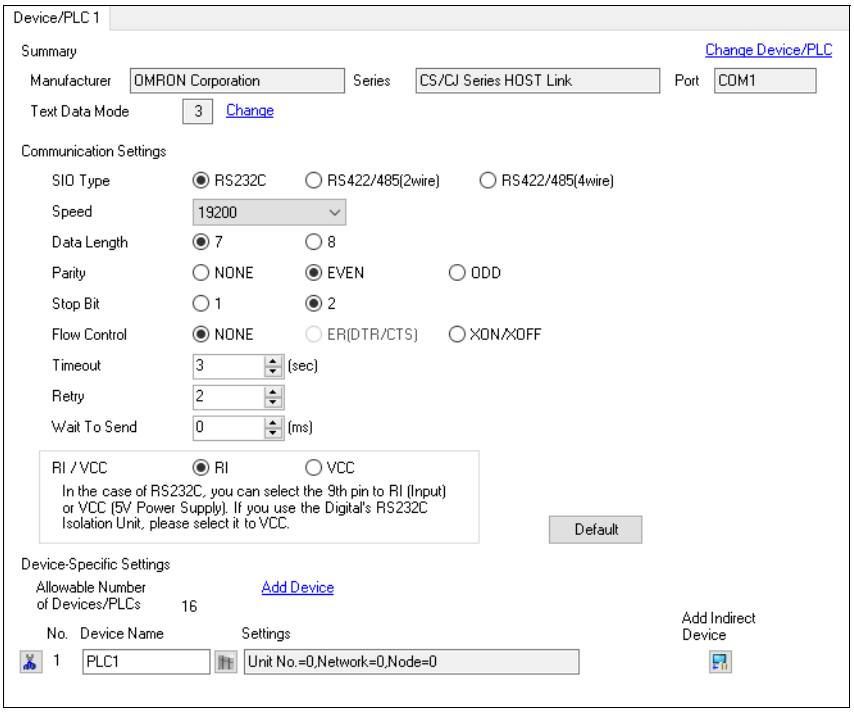
- Do not set the duplicate node address in the same network address group.

3.7 Setting Example 7

■ Setting of GP-Pro EX

◆ Communication Settings

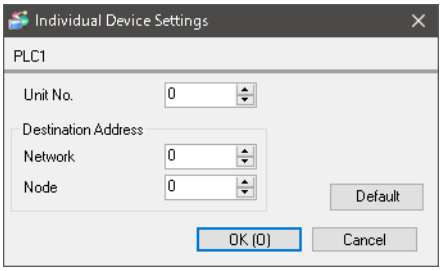
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch of the External Device and ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ DIP Switch Setting

Dip Switch	Setting	Description
SW1	OFF	Set whether the user memory is writable or not. ON: Write disable OFF: Write enable
SW2	OFF	Set whether data is loaded from a memory cassette or not when the power is on. ON: Load enabled OFF: Load disabled
SW3	OFF	Switch the status of special auxiliary relay (A395.12).
SW4	OFF	Set communication speed of serial port 1. ON: Communication speed of ladder software (Toolbus) is automatically recognized. OFF: Accordance with communication setting of ladder software.
SW5*1	OFF	Set communication speed of serial port 2. ON: Communication speed of ladder software (Toolbus) is automatically recognized. OFF: Accordance with communication setting of ladder software.
SW6*1	OFF	Always OFF.

*1 CPU input-output points are 30 points/40 points only.

◆ Ladder Software Setting

1 Start up the ladder software.
2 Select [New] in the [File] menu to display [Change PLC] dialog box.
3 Select External Device in the [Device Type].
4 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.
5 Select CPU type in the [CPU Type] and click [OK].
6 Select connection type in the [Network Type].
7 Click [OK].
8 Double click [Settings] in the tree view of the work space to display the [PLC Settings] dialog box.
9 Check "Custom" in the [Communications Settings] of the [Serial Port 1] tab.
10 Set the setup items as below.

Setup Items	Setting Value
Baud	19200
Format	7,2,E
Mode	Host Link
Unit Number	0

11 Close the [PLC Settings] dialog box.
12 Transfer the communication settings to External Device.
13 Reboot the External Device.

◆ Notes

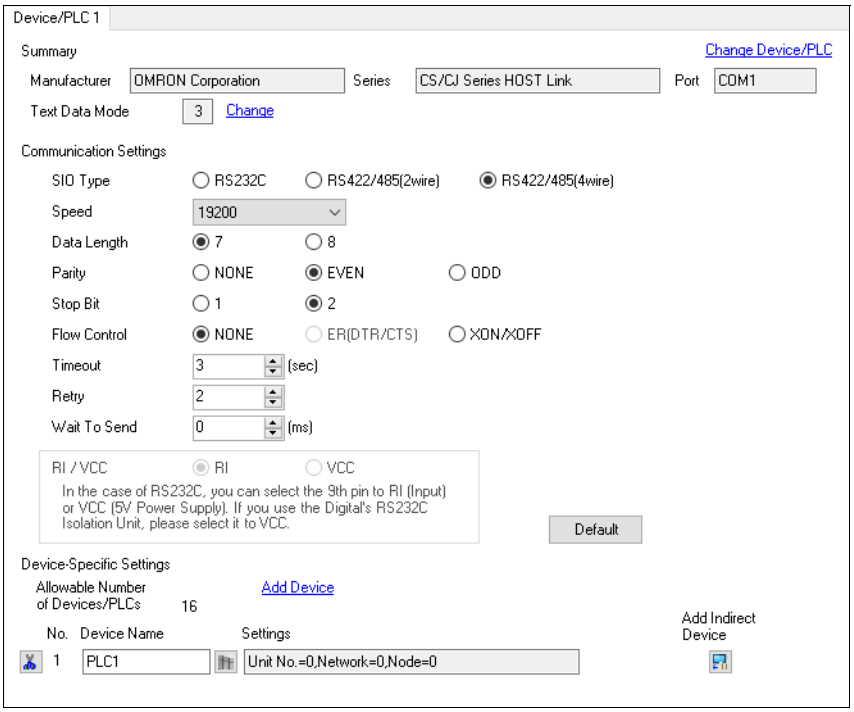
- Do not set the duplicate node address in the same network address group.

3.8 Setting Example 8

■ Setting of GP-Pro EX

◆ Communication Settings

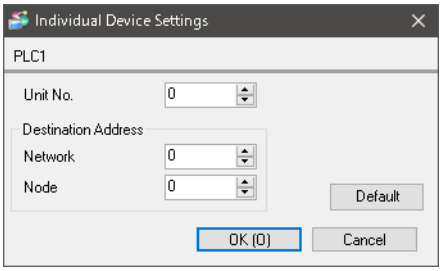
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch of the External Device and ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ DIP Switch Setting

Dip Switch	Setting	Description
SW1	OFF	Set whether the user memory is writable or not. ON: Write disable OFF: Write enable
SW2	OFF	Set whether data is loaded from a memory cassette or not when the power is on. ON: Load enabled OFF: Load disabled
SW3	OFF	Switch the status of special auxiliary relay (A395.12).
SW4	OFF	Set communication speed of serial port 1. ON: Communication speed of ladder software (Toolbus) is automatically recognized. OFF: Accordance with communication setting of ladder software.
SW5*1	OFF	Set communication speed of serial port 2. ON: Communication speed of ladder software (Toolbus) is automatically recognized. OFF: Accordance with communication setting of ladder software.
SW6*1	OFF	Always OFF.

*1 CPU input-output points are 30 points/40 points only.

◆ Ladder Software Setting

1. Start up the ladder software.
2. Select [New] in the [File] menu to display [Change PLC] dialog box.
3. Select External Device in the [Device Type].
4. Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.
5. Select CPU type in the [CPU Type] and click [OK].
6. Select connection type in the [Network Type].
7. Click [OK].
8. Double click [Settings] in the tree view of the work space to display the [PLC Settings] dialog box.
9. Check "Custom" in the [Communications Settings] of the [Serial Port 1] tab.
10. Set the setup items as below.

Setup Items	Setting Value
Baud	19200
Format	7,2,E
Mode	Host Link
Unit Number	0

11. Close the [PLC Settings] dialog box.
12. Transfer the communication settings to External Device.
13. Reboot the External Device.

◆ Notes

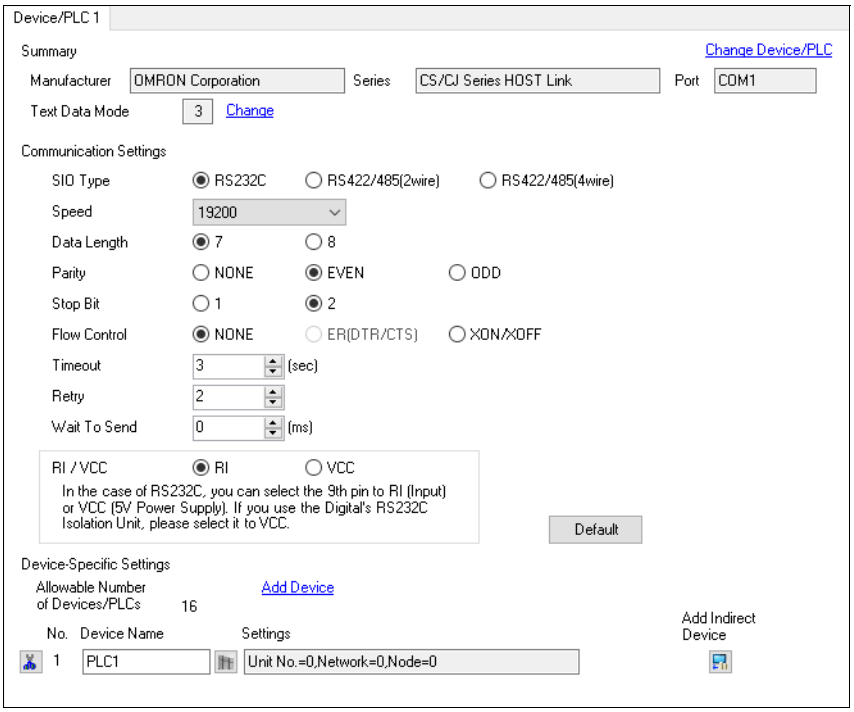
- Do not set the duplicate node address in the same network address group.

3.9 Setting Example 9

■ Setting of GP-Pro EX

◆ Communication Settings

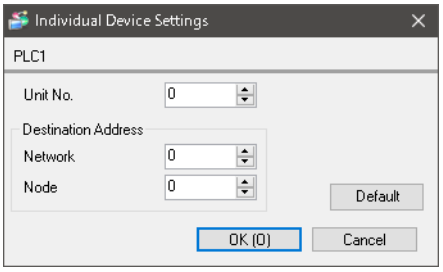
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch of the External Device and ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ DIP Switch Setting

Dip Switch	Setting	Description
SW1	OFF	Set whether the user memory is writable or not. ON: Write disable OFF: Write enable
SW2	OFF	Set whether data is loaded from a memory cassette or not when the power is on. ON: Load enabled OFF: Load disabled
SW3	OFF	Not used.
SW4	OFF	Set communication speed of serial port 1. ON: Communication speed of ladder software (Toolbus) is automatically recognized. OFF: Accordance with communication setting of ladder software.
SW5	OFF	Set communication speed of serial port 2. ON: Communication speed of ladder software (Toolbus) is automatically recognized. OFF: Accordance with communication setting of ladder software.
SW6	OFF	Switch the status of special auxiliary relay (A395.12).

◆ Ladder Software Setting

1 Start up the ladder software.

2 Select [New] in the [File] menu to display [Change PLC] dialog box.

3 Select External Device in the [Device Type].

4 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.

5 Select CPU type in the [CPU Type] and click [OK].

6 Select connection type in the [Network Type].

7 Click [OK].

8 Double click [Settings] in the tree view of the work space to display the [PLC Settings] dialog box.

9 Check "Custom" in the [Communications Settings] of the [Serial Port 1] tab.

10 Set the setup items as below.

Setup Items	Setting Value
Baud	19200
Format	7,2,E
Mode	Host Link
Unit Number	0

11 Close the [PLC Settings] dialog box.

12 Transfer the communication settings to External Device.

13 Reboot the External Device.

◆ Notes

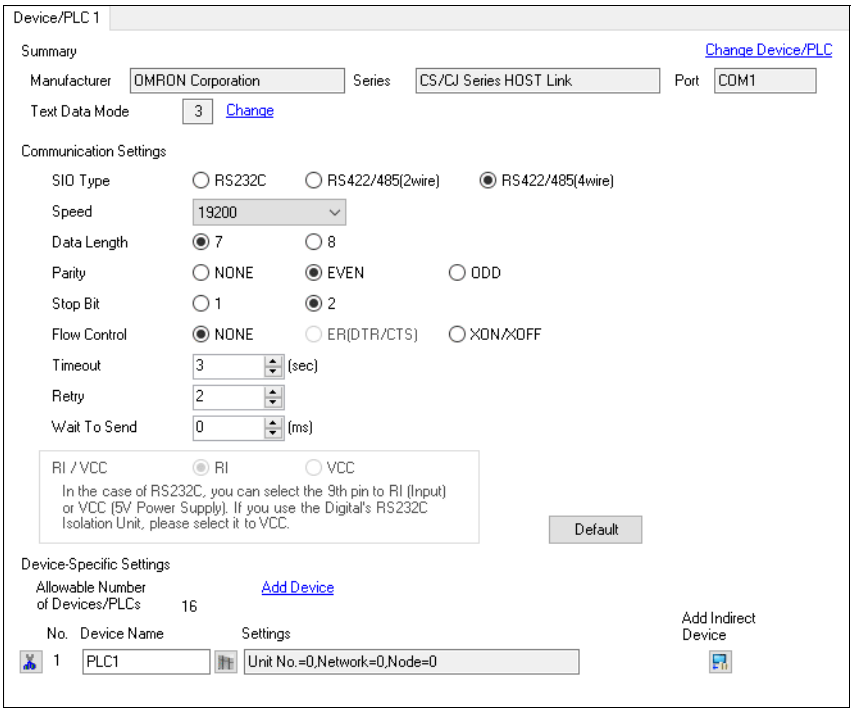
- Do not set the duplicate node address in the same network address group.

3.10 Setting Example 10

■ Setting of GP-Pro EX

◆ Communication Settings

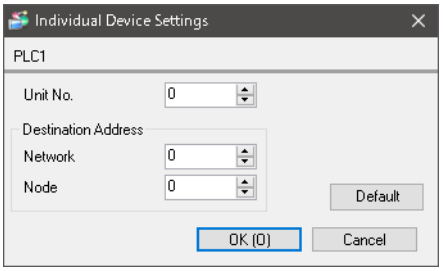
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch of the External Device and ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ DIP Switch Setting

Dip Switch	Setting	Description
SW1	OFF	Set whether the user memory is writable or not. ON: Write disable OFF: Write enable
SW2	OFF	Set whether data is loaded from a memory cassette or not when the power is on. ON: Load enabled OFF: Load disabled
SW3	OFF	Not used.
SW4	OFF	Set communication speed of serial port 1. ON: Communication speed of ladder software (Toolbus) is automatically recognized. OFF: Accordance with communication setting of ladder software.
SW5	OFF	Set communication speed of serial port 2. ON: Communication speed of ladder software (Toolbus) is automatically recognized. OFF: Accordance with communication setting of ladder software.
SW6	OFF	Switch the status of special auxiliary relay (A395.12).

◆ Ladder Software Setting

1 Start up the ladder software.
2 Select [New] in the [File] menu to display [Change PLC] dialog box.
3 Select External Device in the [Device Type].
4 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.
5 Select CPU type in the [CPU Type] and click [OK].
6 Select connection type in the [Network Type].
7 Click [OK].
8 Double click [Settings] in the tree view of the work space to display the [PLC Settings] dialog box.
9 Check "Custom" in the [Communications Settings] of the [Serial Port 1] tab.
10 Set the setup items as below.

Setup Items	Setting Value
Baud	19200
Format	7,2,E
Mode	Host Link
Unit Number	0

11 Close the [PLC Settings] dialog box.
12 Transfer the communication settings to External Device.
13 Reboot the External Device.

◆ Notes

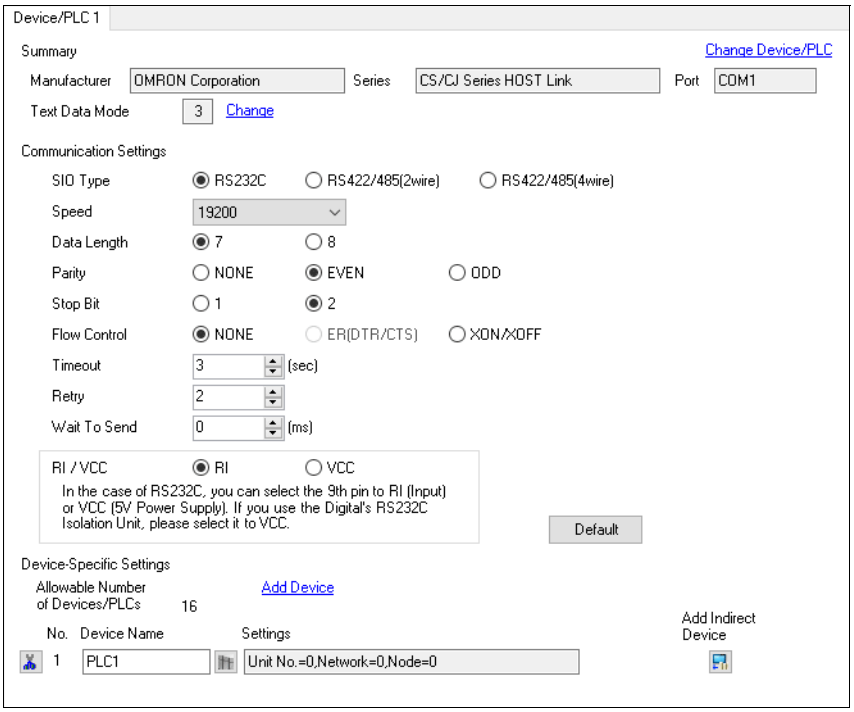
- Do not set the duplicate node address in the same network address group.

3.11 Setting Example 11

■ Setting of GP-Pro EX

◆ Communication Settings

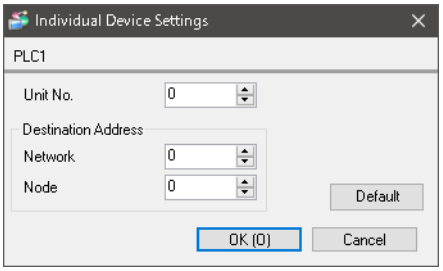
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

Click the [Serial Port] tab from the [PLC Settings] of the ladder software for the communication settings of the Serial port (RS232C port on CPU) and set as below.

Setup Items	Settings
Speed	19200
Parameter	7,2,E
Mode	HOST link
DIP Switch*1	SW1: OFF SW5: OFF SW7: OFF SW8: OFF
Unit No.	0

*1 Use the DIP switch on the front of the unit for setting.

NOTE

- For access beyond network, set as below.

Setup Items	Settings
Source Network Address*1	Option
Node Address Setting Rotary Switch*2	Option

*1 Set in the routing table of "CX-Net Network Configuration". Please refer to the manual of the External Device for more details.

*2 Set with the rotary switch on the front of the Controller Link unit used for access beyond network.

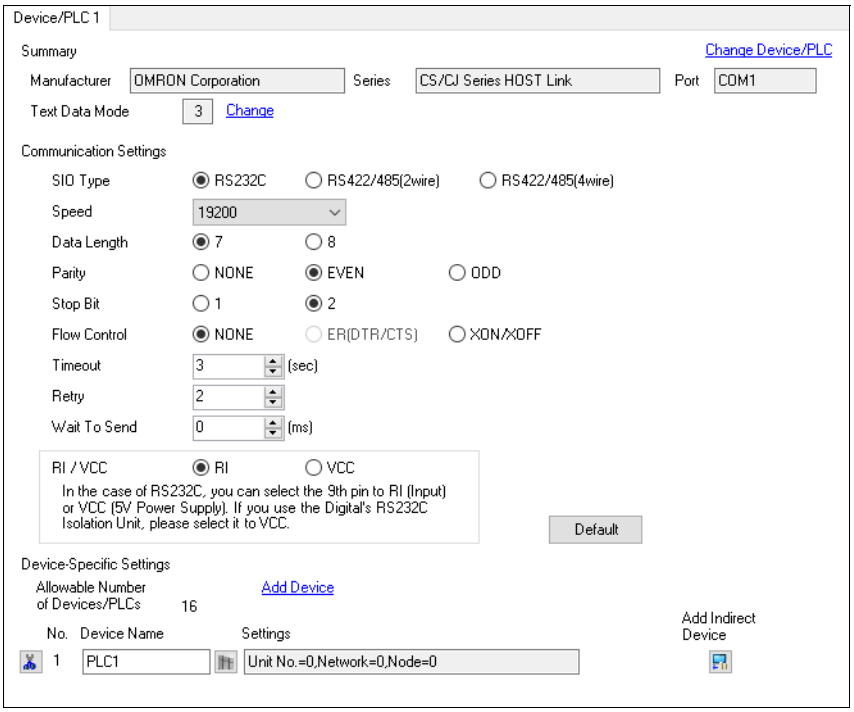
- Do not set the duplicate node address in the same network address group.

3.12 Setting Example 12

■ Setting of GP-Pro EX

◆ Communication Settings

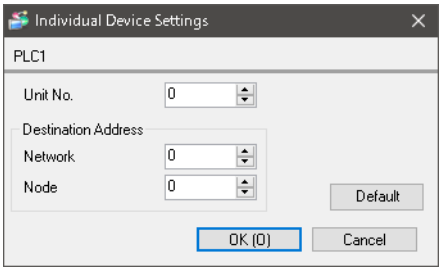
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ Ladder Software Setting

1 Start up the ladder software.
2 Select [New] in the [File] menu to display [Change PLC] dialog box.
3 Select External Device in the [Device Type].
4 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.
5 Select CPU type in the [CPU Type] and click [OK].
6 Select connection type in the [Network Type].
7 Click [OK].
8 Double click [Settings] in the tree view of the work space to display the [PLC Settings] dialog box.
9 Check "Custom" in the [Communications Settings] of the [Internal RS232C port] tab.
10 Set the setup items as below.

Setup Items	Setting Value
Baud	19200
Format	7,2,E
Mode	Host Link
Unit Number	0

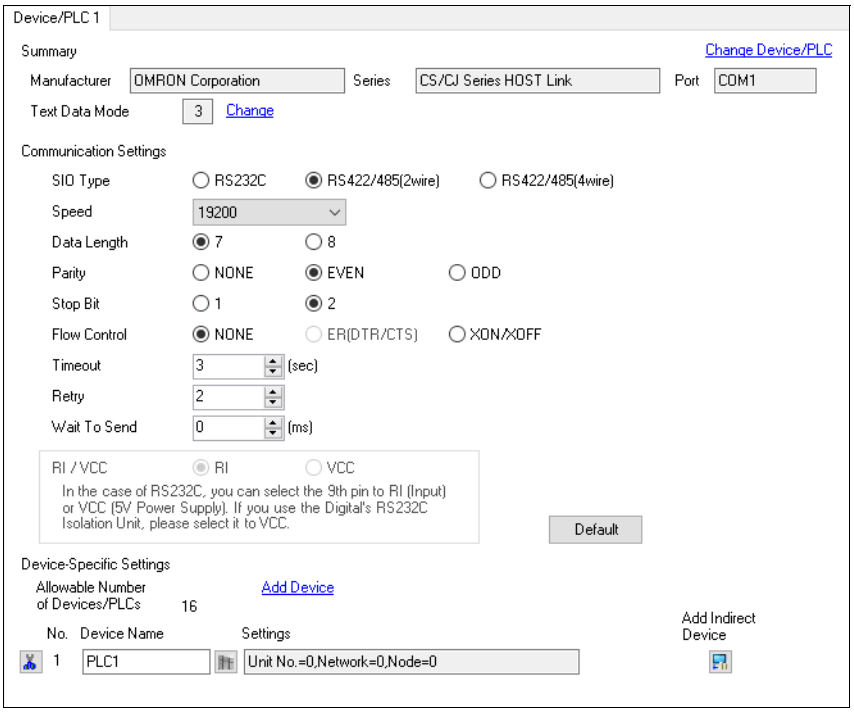
11 Close the [PLC Settings] dialog box.
12 Transfer the communication settings to External Device.
13 Reboot the External Device.

3.13 Setting Example 13

■ Setting of GP-Pro EX

◆ Communication Settings

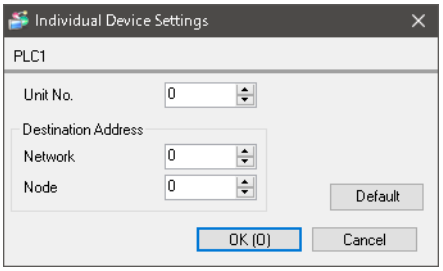
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

Click the [Built-in RS-485 Port] tab from the [PLC Settings] of the ladder software for the communication settings of the Serial port (internal RS-485 Port) and set as below.

Setup Items	Settings
Baud	19200
Format	7,2,E
Mode	HOST link
Unit No.	0

NOTE

- For access beyond network, set as below.

Setup Items	Settings
Source Network Address*1	Option
Node Address Setting Rotary Switch*2	Option

*1 Set in the routing table of "CX-Net Network Configuration". Please refer to the manual of the External Device for more details.

*2 Set with the rotary switch on the front of the Controller Link unit used for access beyond network.

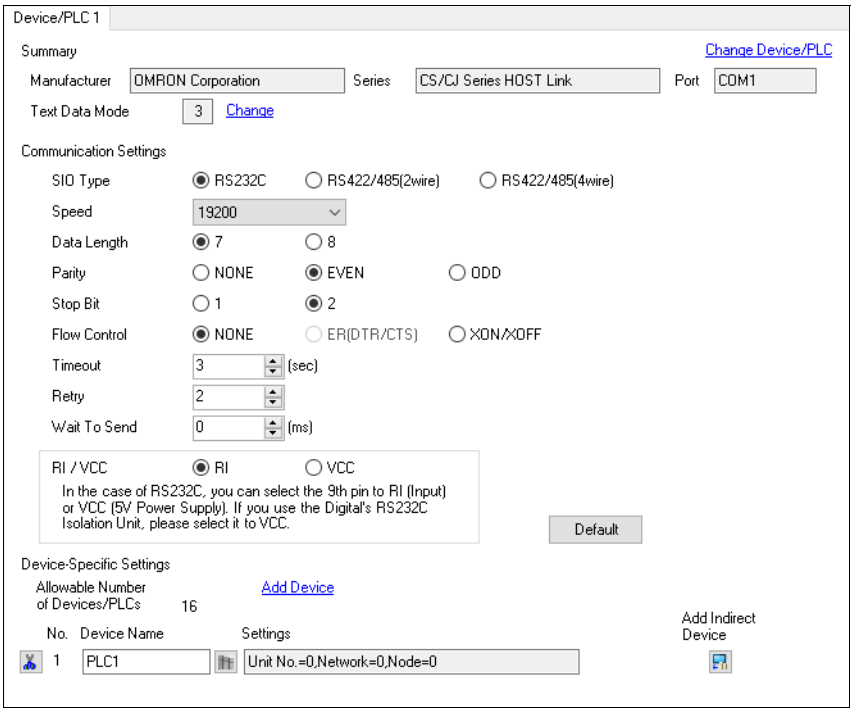
- Do not set the duplicate node address in the same network address group.

3.14 Setting Example 14

■ Setting of GP-Pro EX

◆ Communication Settings

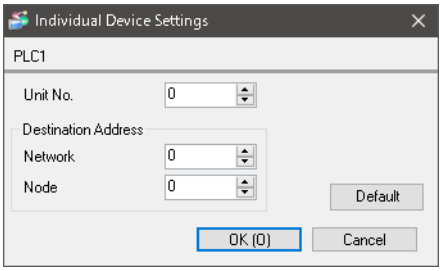
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

Click the [Serial Port] tab from the [PLC Settings] of the ladder software for the communication settings of the Serial port (RS232C port on CPU) and set as below.

Setup Items	Settings
Speed	19200
Parameter	7,2,E
Mode	HOST link
Unit No.	0

NOTE

- For access beyond network, set as below.

Setup Items	Settings
Source Network Address*1	Option
Node Address Setting Rotary Switch*2	Option

*1 Set in the routing table of "CX-Net Network Configuration". Please refer to the manual of the External Device for more details.

*2 Set with the rotary switch on the front of the Controller Link unit used for access beyond network.

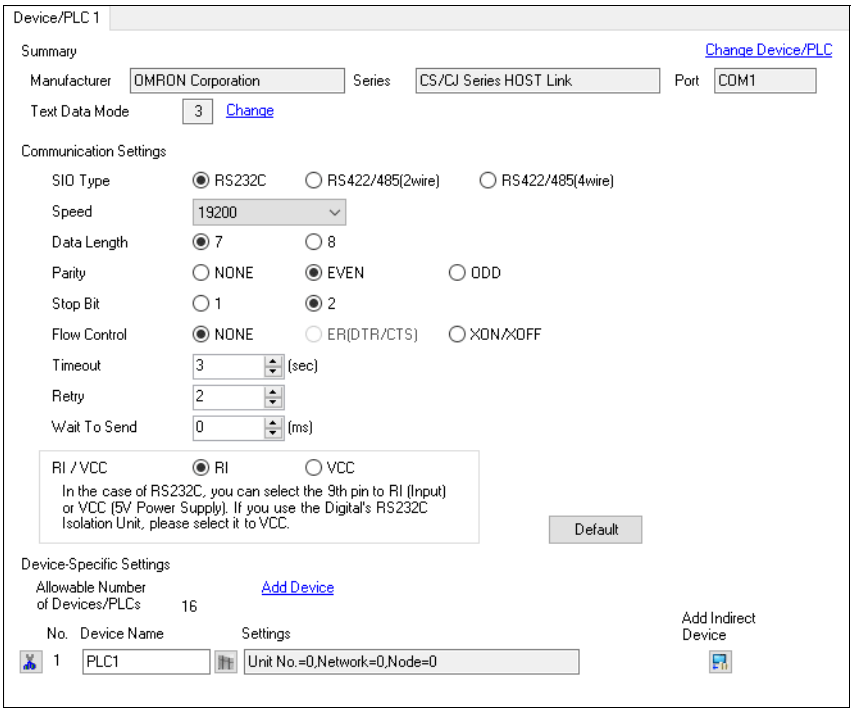
- Do not set the duplicate node address in the same network address group.

3.15 Setting Example 15

■ Setting of GP-Pro EX

◆ Communication Settings

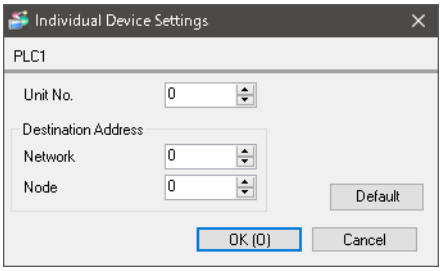
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ Ladder Software Setting

1 Start up the ladder software.
2 Select [New] in the [File] menu to display [Change PLC] dialog box.
3 Select External Device in the [Device Type].
4 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.
5 Select CPU type in the [CPU Type] and click [OK].
6 Select connection type in the [Network Type].
7 Click [OK].
8 Double click [Settings] in the tree view of the work space to display the [PLC Settings] dialog box.
9 Check "Custom" in the [Communications Settings] of the [Serial Port 1] tab.
10 Set the setup items as below.

Setup Items	Setting Value
Baud	19200
Format	7,2,E
Mode	Host Link
Unit Number	0

11 Close the [PLC Settings] dialog box.
12 Transfer the communication settings to External Device.
13 Reboot the External Device.

◆ Notes

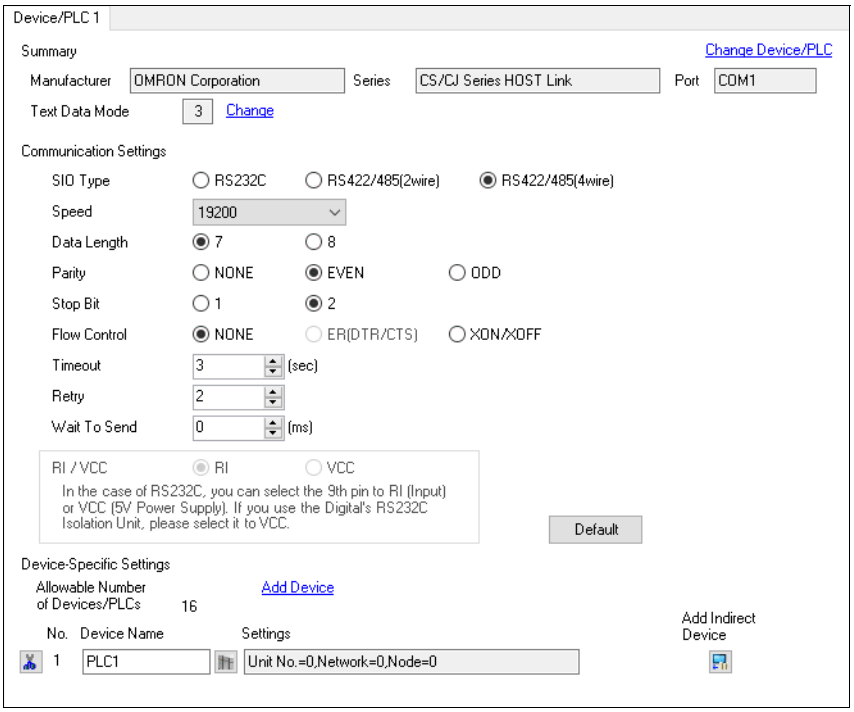
- Do not set the duplicate node address in the same network address group.

3.16 Setting Example 16

■ Setting of GP-Pro EX

◆ Communication Settings

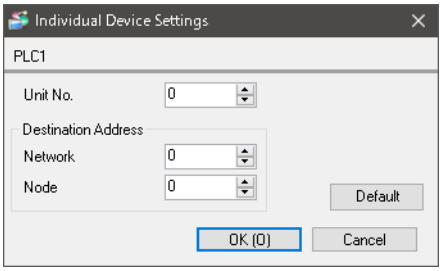
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch of the External Device and ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ DIP Switch Setting

Dip Switch		Setting	Description
CP1W-CIF11	CP1W-CIF12-V1		
SW1-1	SW1-1	ON	ON: Insert termination resistance (220Ω) OFF: Without termination resistance
SW1-2	SW1-2	OFF	ON: RS-422/485 (2wire) OFF: RS-422/485 (4wire)
SW1-3	SW1-3	OFF	ON: RS-422/485 (2wire) OFF: RS-422/485 (4wire)
SW1-4	SW1-4	OFF	-
SW1-5	SW2-1	ON	ON: With RS control of RD OFF: Without RS control of RD (always receiving)
SW1-6	SW2-2	ON	ON: With RS control of SD OFF: Without RS control of SD (always receiving)

◆ Ladder Software Setting

1 Start up the ladder software.
2 Select [New] in the [File] menu to display [Change PLC] dialog box.
3 Select External Device in the [Device Type].
4 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.
5 Select CPU type in the [CPU Type] and click [OK].
6 Select connection type in the [Network Type].
7 Click [OK].
8 Double click [Settings] in the tree view of the work space to display the [PLC Settings] dialog box.
9 Check "Custom" in the [Communications Settings] of the [Serial Port 1] tab.
10 Set the setup items as below.

Setup Items	Setting Value
Baud	19200
Format	7,2,E
Mode	Host Link
Unit Number	0

11 Close the [PLC Settings] dialog box.
12 Transfer the communication settings to External Device.
13 Reboot the External Device.

◆ Notes

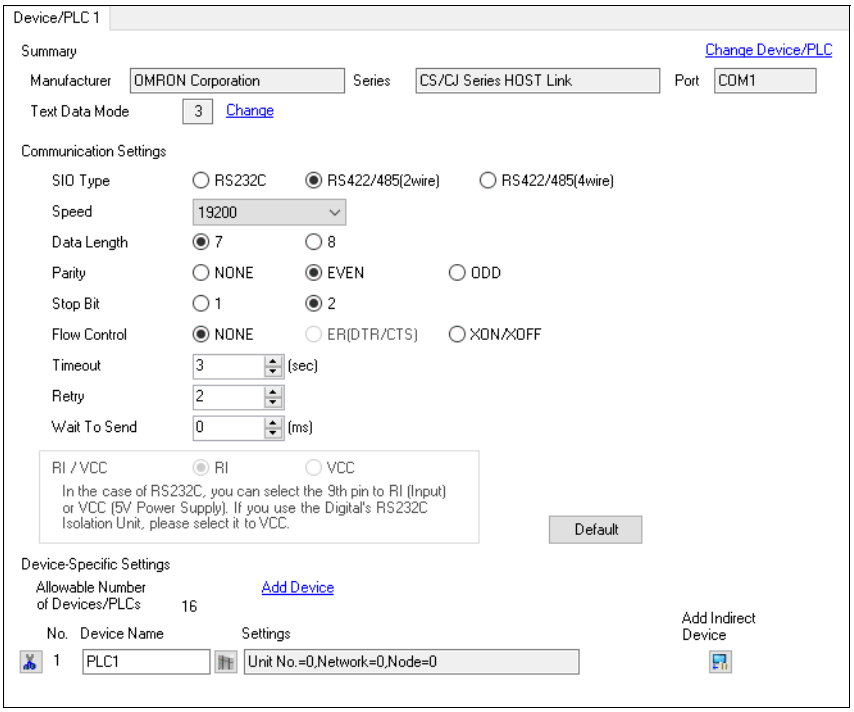
- Do not set the duplicate node address in the same network address group.

3.17 Setting Example 17

■ Setting of GP-Pro EX

◆ Communication Settings

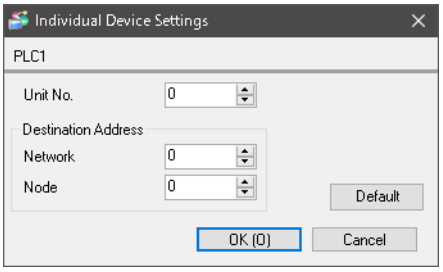
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch of the External Device and ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ DIP Switch Setting

Dip Switch		Setting	Description
CP1W-CIF11	CP1W-CIF12-V1		
SW1-1	SW1-1	ON	ON: Insert termination resistance (220Ω) OFF: Without termination resistance
SW1-2	SW1-2	OFF	ON: RS-422/485 (2wire) OFF: RS-422/485 (4wire)
SW1-3	SW1-3	OFF	ON: RS-422/485 (2wire) OFF: RS-422/485 (4wire)
SW1-4	SW1-4	OFF	-
SW1-5	SW2-1	ON	ON: With RS control of RD OFF: Without RS control of RD (always receiving)
SW1-6	SW2-2	ON	ON: With RS control of SD OFF: Without RS control of SD (always receiving)

◆ Ladder Software Setting

1 Start up the ladder software.
2 Select [New] in the [File] menu to display [Change PLC] dialog box.
3 Select External Device in the [Device Type].
4 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.
5 Select CPU type in the [CPU Type] and click [OK].
6 Select connection type in the [Network Type].
7 Click [OK].
8 Double click [Settings] in the tree view of the work space to display the [PLC Settings] dialog box.
9 Check "Custom" in the [Communications Settings] of the [Serial Port 1] tab.
10 Set the setup items as below.

Setup Items	Setting Value
Baud	19200
Format	7,2,E
Mode	Host Link
Unit Number	0

11 Close the [PLC Settings] dialog box.
12 Transfer the communication settings to External Device.
13 Reboot the External Device.

◆ Notes

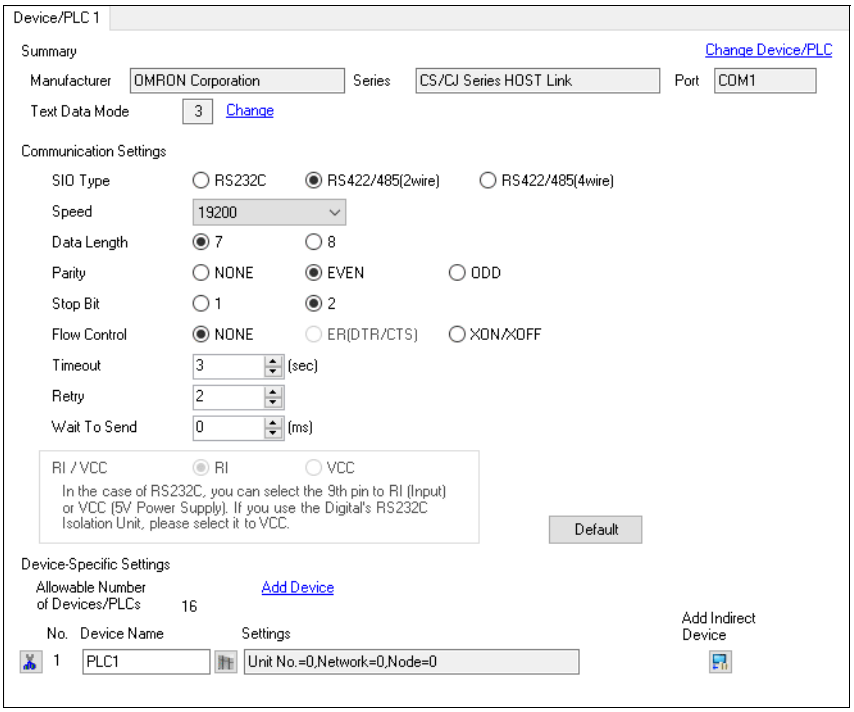
- Do not set the duplicate node address in the same network address group.

3.18 Setting Example 18

■ Setting of GP-Pro EX

◆ Communication Settings

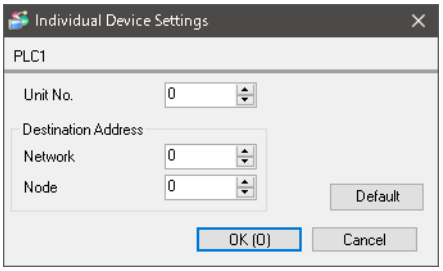
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch of the External Device and ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ DIP Switch Setting

Dip Switch	Setting	Description
SW1	ON	ON: Insert termination resistance (220Ω) both ends OFF: Without termination resistance
SW2	OFF	-
SW3	OFF	-
SW4	ON	ON: Insert termination resistance (220Ω) both ends OFF: Without termination resistance

◆ Ladder Software Setting

1 Start up the ladder software.
2 Select [New] in the [File] menu to display [Change PLC] dialog box.
3 Select External Device in the [Device Type].
4 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.
5 Select CPU type in the [CPU Type] and click [OK].
6 Select connection type in the [Network Type].
7 Click [OK].
8 Double click [Settings] in the tree view of the work space to display the [PLC Settings] dialog box.
9 Check "Custom" in the [Communications Settings] of the [Serial Port 1] tab.
10 Set the setup items as below.

Setup Items	Setting Value
Baud	19200
Format	7,2,E
Mode	Host Link
Unit Number	0

11 Close the [PLC Settings] dialog box.
12 Transfer the communication settings to External Device.
13 Reboot the External Device.

◆ Notes

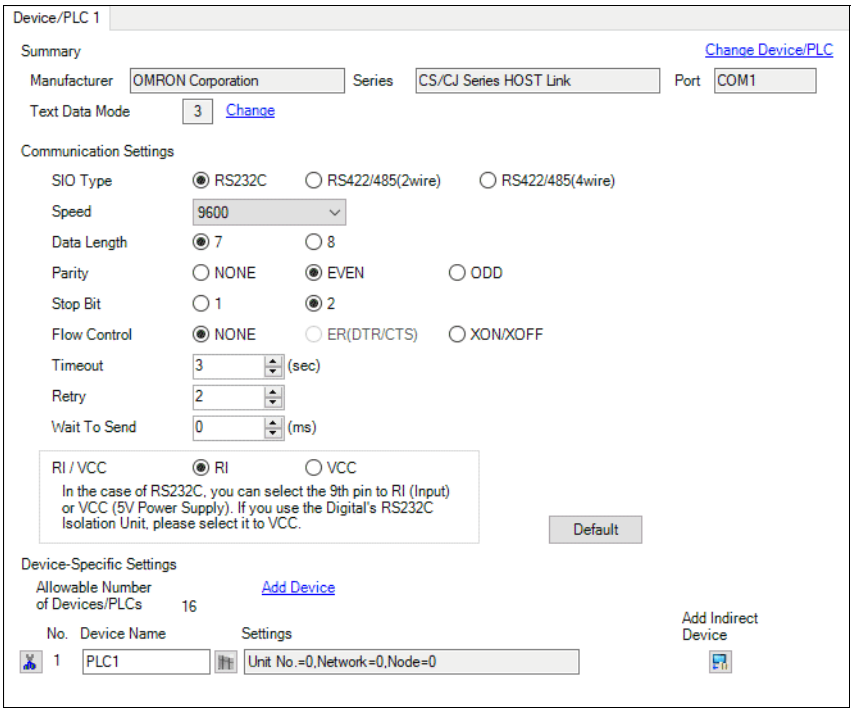
- Do not set the duplicate node address in the same network address group.

3.19 Setting Example 19

■ Setting of GP-Pro EX

◆ Communication Settings

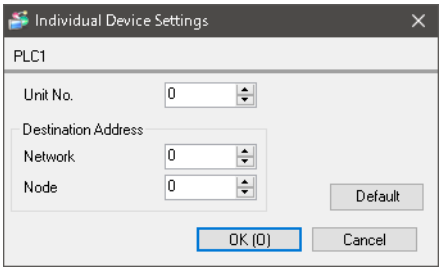
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ Ladder Software Setting

1 Start up the ladder software.
2 Select [New] in the [File] menu to display [Change PLC] dialog box.
3 Select [CS1D-H] in the [Device Type].
4 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.
5 Select CPU type in the [CPU Type].
6 Select [Work Online] in the [PLC] menu.
7 Click [Yes] in the displayed dialog box.
8 Click [OK] in the displayed dialog box.
9 Double click [Settings] in the tree view of the work space to display the [PLC Settings] dialog box.
10 Set the setup items as below.

Setup Items	Setting Value
Communications Settings	Standard (9600: 1,7,2,E)
Mode	Host Link
Unit Number	0

11 Close the [PLC Settings] dialog box.
12 Select [Transfer] -> [To PLC...[PC -> PLC]] in the [PLC] menu to transfer communication settings to the External Device.
13 Reboot the External Device.

◆ Notes

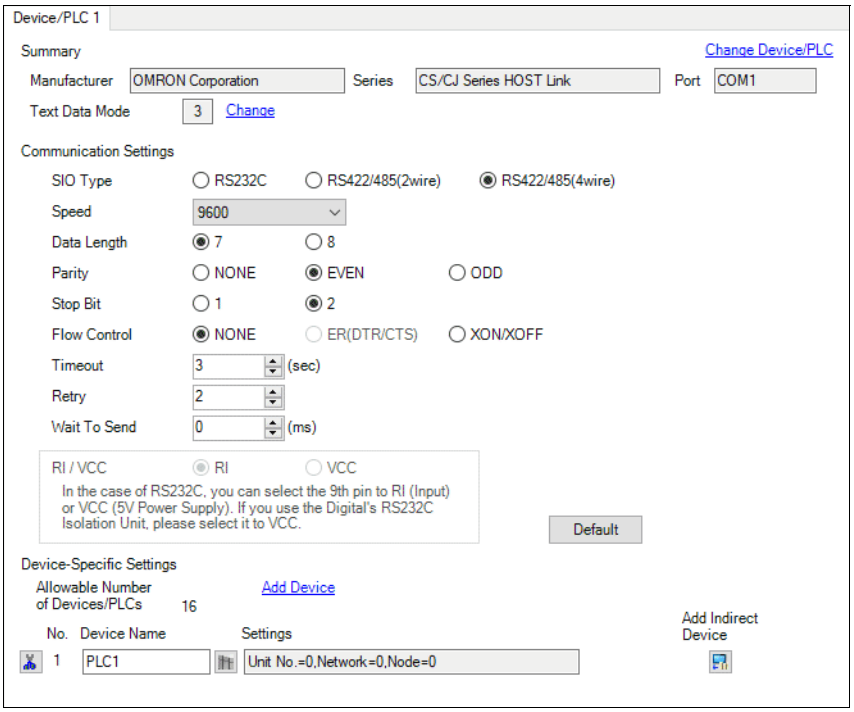
- Do not set the duplicate node address in the same network address group.

3.20 Setting Example 20

■ Setting of GP-Pro EX

◆ Communication Settings

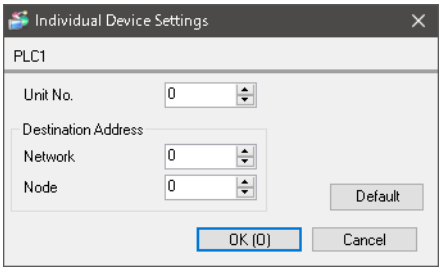
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch of the External Device and ladder software (CX-Programmer).

Refer to your External Device manual for details.

◆ CP1W-CIF11 DIP Switch Setting

Dip Switch	Setting	Description
SW1-1	ON	ON: Insert termination resistance (220Ω) OFF: Without termination resistance
SW1-2	OFF	ON: RS-422/485 (2wire) OFF: RS-422/485 (4wire)
SW1-3	OFF	ON: RS-422/485 (2wire) OFF: RS-422/485 (4wire)
SW1-4	OFF	-
SW1-5	ON	ON: With RS control of RD OFF: Without RS control of RD (always receiving)
SW1-6	ON	ON: With RS control of SD OFF: Without RS control of SD (always receiving)

◆ Ladder Software Setting

1 Start up the ladder software.
2 Select [New] in the [File] menu to display [Change PLC] dialog box.
3 Select [CS1D-H] in the [Device Type].
4 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.
5 Select CPU type in the [CPU Type].
6 Select [Work Online] in the [PLC] menu.
7 Click [Yes] in the displayed dialog box.
8 Click [OK] in the displayed dialog box.
9 Double click [Settings] in the tree view of the work space to display the [PLC Settings] dialog box.
10 Set the setup items as below.

Setup Items	Setting Value
Communications Settings	Standard (9600: 1,7,2,E)
Mode	Host Link
Unit Number	0

11 Close the [PLC Settings] dialog box.
12 Select [Transfer] -> [To PLC...[PC -> PLC]] in the [PLC] menu to transfer communication settings to the External Device.
13 Reboot the External Device.

◆ Notes

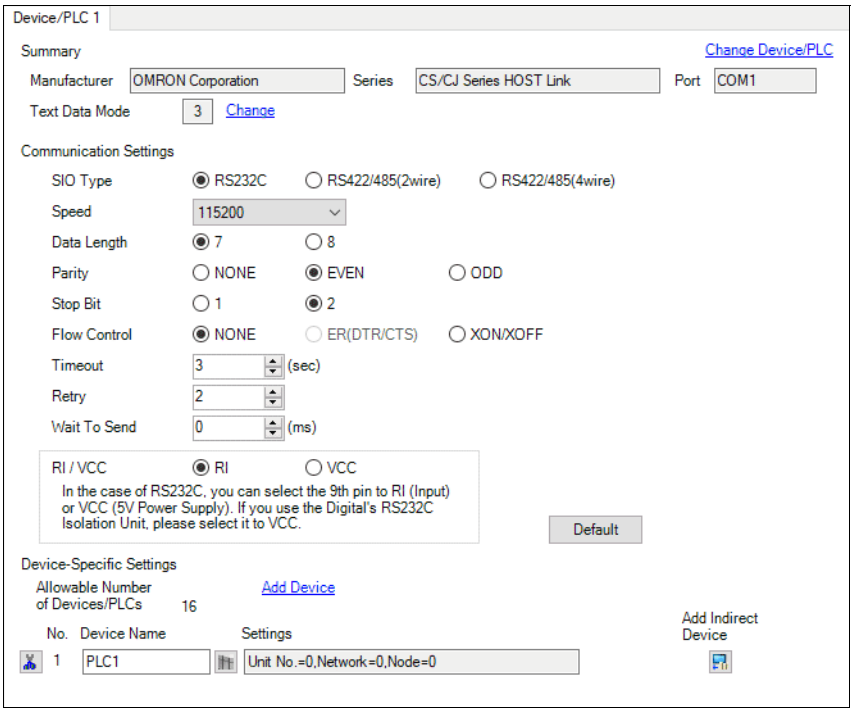
- Do not set the duplicate node address in the same network address group.

3.21 Setting Example 21

■ Setting of GP-Pro EX

◆ Communication Settings

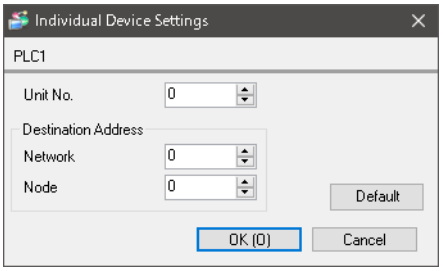
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch and rotary switch of the front of the External Device, the DIP switch of the front of the Serial Communication unit and ladder software (CX-Programmer). Refer to your External Device manual for details.

1 Turn OFF the External Device.

2 Set the DIP switches on the front of the External Device as follows.

DIP switche	Setting
SW1	OFF
SW2	OFF
SW3	OFF
SW4	OFF
SW5	OFF
SW6	OFF
SW7	OFF
SW8	OFF

3 Set the rotary switches on the front of the External Device as follows.

Setup Items	Setting
Unit No. (Setting Rotary Switch)	0
Node number x 16^1 (Node Address Setting Switch)	0
Node number x 16^0 (Node Address Setting Switch)	1

4 Set the DIP switch of the front of the Serial Communication unit as follows.

Setup Items	Setting
Unit No. (Setting Rotary Switch)	0

5 Turn ON the External Device.

6 Start up the ladder software.

7 Select [New] in the [File] menu to display [Change PLC] dialog box.

8 Set [Device Name] and select [CJ2H] in the [Device Type].

9 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.

10 Select CPU type in the [CPU Type].

11 Select [Work Online] in the [PLC] menu.

12 Click [Yes] in the displayed dialog box.

13 Click [OK] in the displayed dialog box.

14 Double click [I/O Table and Unit Setup] in the tree view of the work space.

15 Double click [00 [0000] Empty Slot] in the [[0000] Main Rack] to display the [Select Unit] dialog box.

16 Select serial communication unit in the [Communications Adapter] and click [OK].

17 Set unit number in the displayed [Add Unit] dialog box and click [OK].

18 Double click [I/O Table and Unit Setup] in the tree view of the work space.

19 Double click the set unit in the [[0000] Main Rack] to display the [View Parameters] dialog box.

20 Set the setup items as below and click [OK].

Setup Items	Setting
Displayed Parameter	All parameters, Port1: Host Link Settings or Port2: Host Link Settings
Port settings	User settings
Serial communication mode	Host Link(default)
Data length	7bits
Stop bits	2bits
Parity	Even
Baud rate	115200bps
Send delay	Default(0ms)
Send delay (user-specified)	0
CTS Control	No
1:N/1:1 protocol setting	1:N protocol
Host Link compatible device mode	Default(Mode A)
Host Link unit number	0

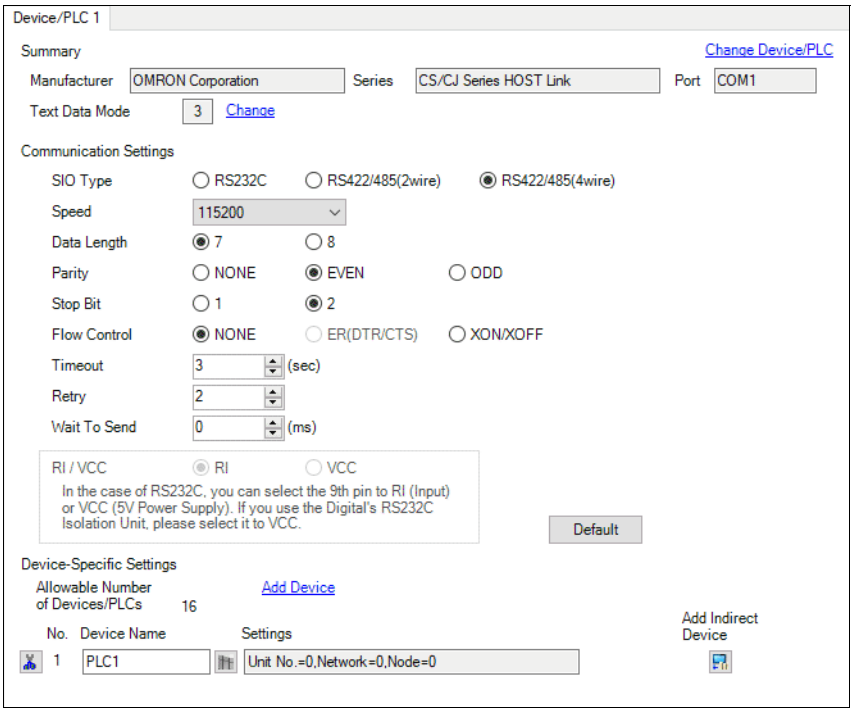
21 Select [Transfer to PLC] in the [Options] menu and transfer the settings to the PLC.

3.22 Setting Example 22

■ Setting of GP-Pro EX

◆ Communication Settings

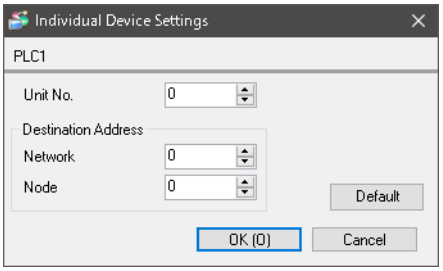
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



NOTE

- Set the unit No. you set in the External Device for "Unit No.".
- If you do not access beyond network, set "0" for "Network" and "Node" settings.

■ Setting of External Device

For External Device communication settings, use the DIP switch and rotary switch of the front of the External Device, the DIP switch of the front of the Serial Communication unit and ladder software (CX-Programmer). Refer to your External Device manual for details.

1 Turn OFF the External Device.

2 Set the DIP switches on the front of the External Device as follows.

DIP switche	Setting
SW1	OFF
SW2	OFF
SW3	OFF
SW4	OFF
SW5	OFF
SW6	OFF
SW7	OFF
SW8	OFF

3 Set the rotary switches on the front of the External Device as follows.

Setup Items	Setting
Unit No. (Setting Rotary Switch)	0
Node number x 16^1 (Node Address Setting Switch)	0
Node number x 16^0 (Node Address Setting Switch)	1

4 Set the DIP switch of the front of the Serial Communication unit as follows.

Setup Items	Setting
Unit No. (Setting Rotary Switch)	1
WIRE (2wire/4wire switch)	4
TERM (Terminating resistance switch)	ON

5 Turn ON the External Device.

6 Start up the ladder software.

7 Select [New] in the [File] menu to display [Change PLC] dialog box.

8 Set [Device Name] and select [CJ2H] in the [Device Type].

9 Click [Settings...] in the [Device Type] to display the [Device Type Settings] dialog box.

10 Select CPU type in the [CPU Type].

11 Select [Work Online] in the [PLC] menu.

12 Click [Yes] in the displayed dialog box.

13 Click [OK] in the displayed dialog box.

14 Double click [I/O Table and Unit Setup] in the tree view of the work space.

15 Double click [00 [0000] Empty Slot] in the [[0000] Main Rack] to display the [Select Unit] dialog box.

16 Select serial communication unit in the [Communications Adapter] and click [OK].

17 Set unit number in the displayed [Add Unit] dialog box and click [OK].

18 Double click [I/O Table and Unit Setup] in the tree view of the work space.

19 Double click the set unit in the [[0000] Main Rack] to display the [View Parameters] dialog box.

20 Set the setup items as below and click [OK].

Setup Items	Setting
Displayed Parameter	All parameters, Port1: Host Link Settings or Port2: Host Link Settings
Port settings	User settings
Serial communication mode	Host Link(default)
Data length	7bits
Stop bits	2bits
Parity	Even
Baud rate	115200bps
Send delay	Default(0ms)
Send delay (user-specified)	0
CTS Control	No
1:N/1:1 protocol setting	1:N protocol
Host Link compatible device mode	Default(Mode A)
Host Link unit number	0

21 Select [Transfer to PLC] in the [Options] menu and transfer the settings to the PLC.

4 Setup Items

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

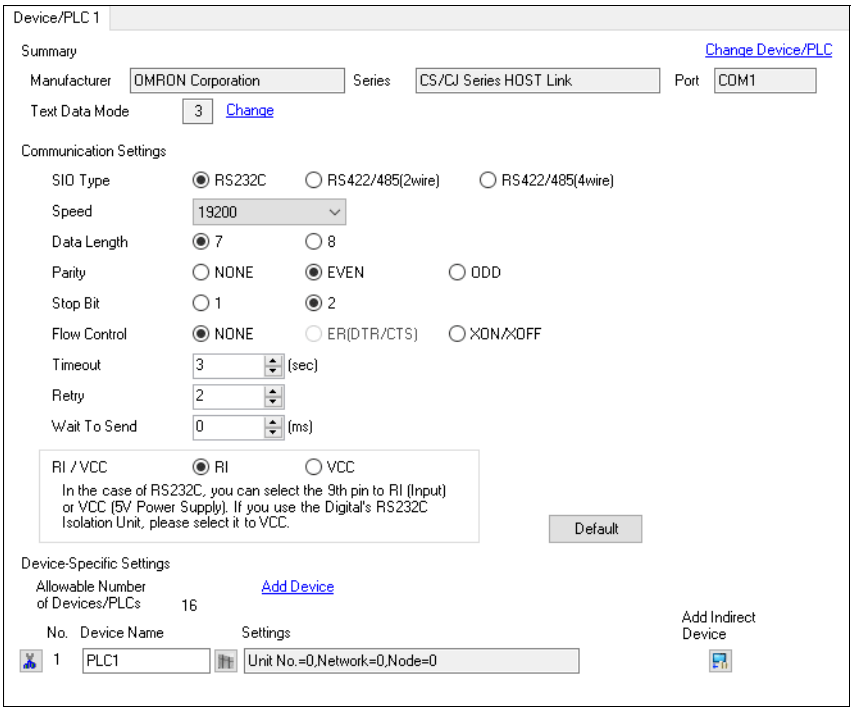
The setting of each parameter must be identical to that of External Device.

☞"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 (sec) for which the Display waits for the response from the External Device.
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.

continued to next page

Setup Items	Setup Description
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.
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

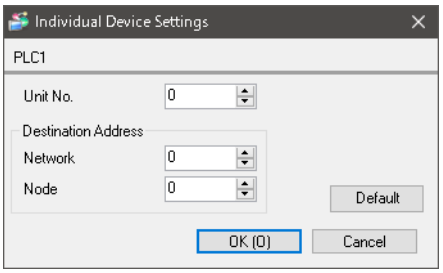
- Refer to the GP-Pro EX Reference Manual for Indirect Device.

  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.



Setup Items	Setup Description
Unit No.	Enter the unit No. for HOST link.
Network	Enter the destination network address.
Node	Enter the destination node address.

4.2 Setup Items in Offline Mode

NOTE

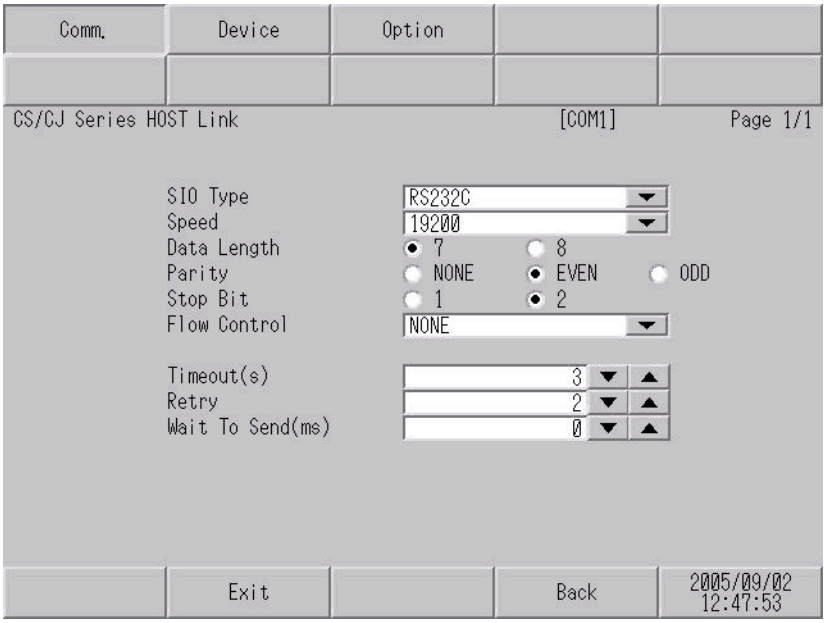
- Refer to the Maintenance/Troubleshooting Guide for information on how to enter offline mode or about the operation.

  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.

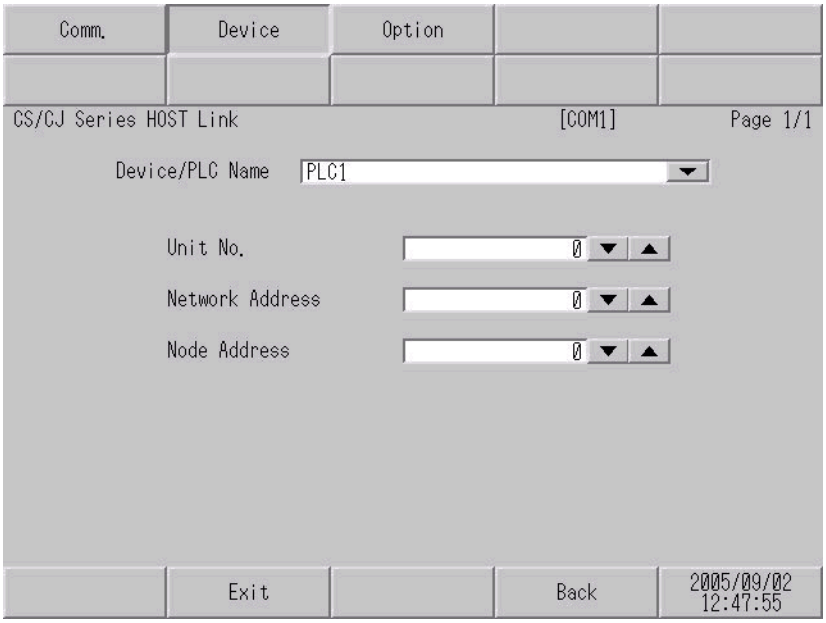


Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. **IMPORTANT** To make the communication settings correctly, confirm the serial interface specifications of Display unit for [SIO Type]. We cannot guarantee the operation if a communication type that the 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.
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.

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.

■ Device Setting

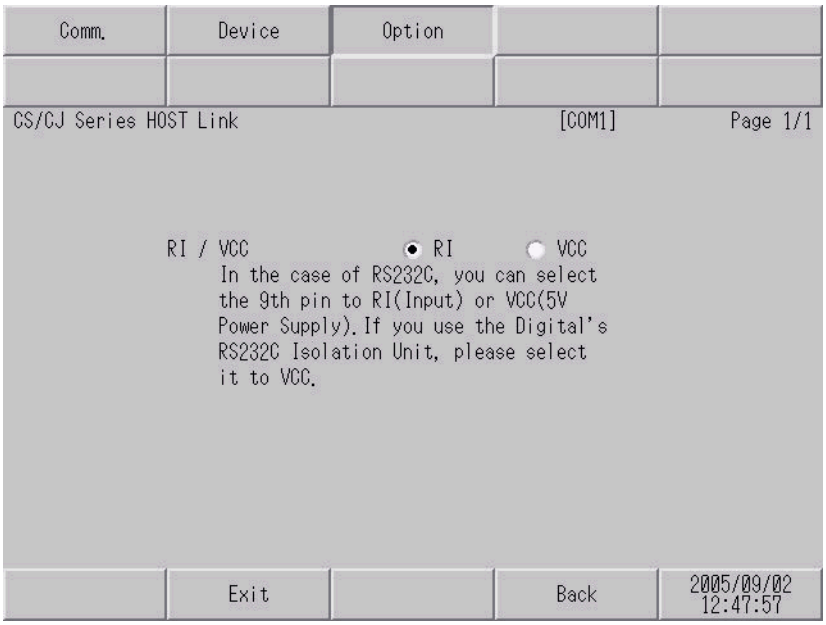
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings]. Touch the External Device you want to set from the displayed list, and touch [Device].



Setup Items	Setup Description
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])
Unit No.	Enter the unit No. for HOST link.
Network	Enter the destination network address.
Node	Enter the destination node address.

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

5 Cable Diagram

The following cable diagrams may be different from cable diagrams recommended by External Device Manufacturer.

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 grounded according to your country's applicable standard. Refer to your External Device manual for details.
- SG and FG are connected inside the Display. When connecting the External Device to SG, design your system to avoid short-circuit loops.
- Connect an isolation unit if the communication is not stable due to noise or other factors.

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) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	1A	Omron PLC SYSMAC Link Cable (5m) by Pro-face CA3-CBLSYS-01 or XW2Z-200S-V (2m) or XW2Z-500S-V (5m) by OMRON Corporation	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.
LT-4*01TM (COM1) LT-Rear Module (COM1)	1D	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	The cable length must be 5m or less.

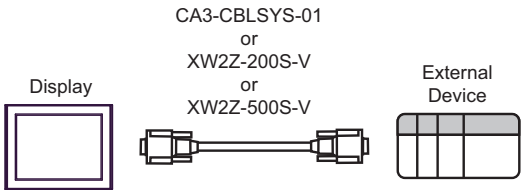
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

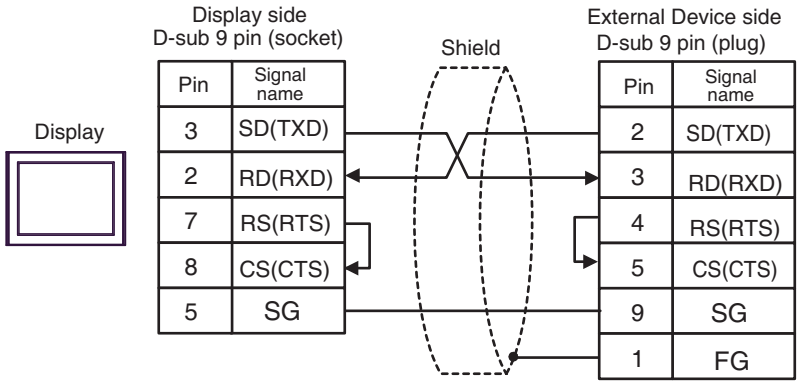
*3 Only the COM port which can communicate by RS-232C can be used.

■ IPC COM Port (page 10)

1A)



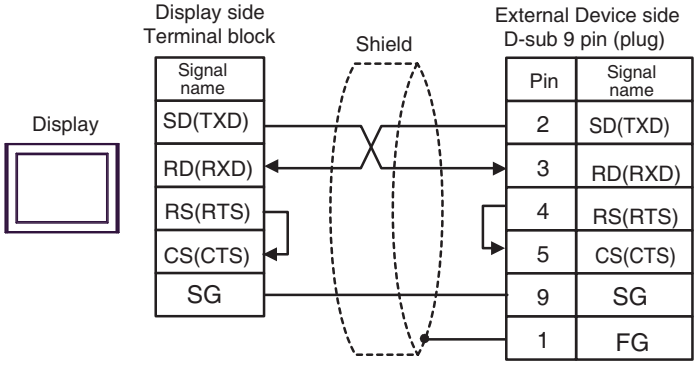
1B)



NOTE

- The cable length must be 15m or less.

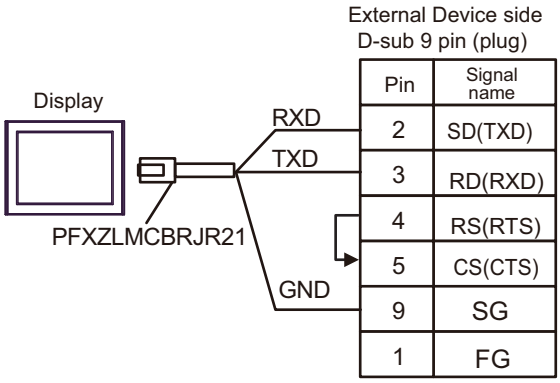
1C)



NOTE

- The cable length must be 15m or less.

1D)


External Device side
D-sub 9 pin (plug)
Display
RXD
TXD
GND
PFXZLMCBRJR21
Pin
Signal name
2
SD(TXD)
3
RD(RXD)
4
RS(RTS)
5
CS(CTS)
9
SG
1
FG

5.2 Cable Diagram 2

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	2A	User-created cable + CS1W-CN225 (2m) or CS1W-CN625 (6m) by OMRON Corporation	The cable length must be 15m or less.
	2B	User-created cable + CS1W-CN226 (2m) or CS1W-CN626 (6m) by OMRON Corporation	
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	2C	User-created cable + CS1W-CN225 (2m) or CS1W-CN625 (6m) by OMRON Corporation	The cable length must be 15m or less.
	2D	User-created cable + CS1W-CN226 (2m) or CS1W-CN626 (6m) by OMRON Corporation	
LT-4*01TM (COM1) LT-Rear Module (COM1)	2E	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21 + CS1W-CN225 (2m) or CS1W-CN625 (6m) by OMRON Corporation	The cable length must be 11m or less.
	2F	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21 + CS1W-CN226 (2m) or CS1W-CN626 (6m) by OMRON Corporation	

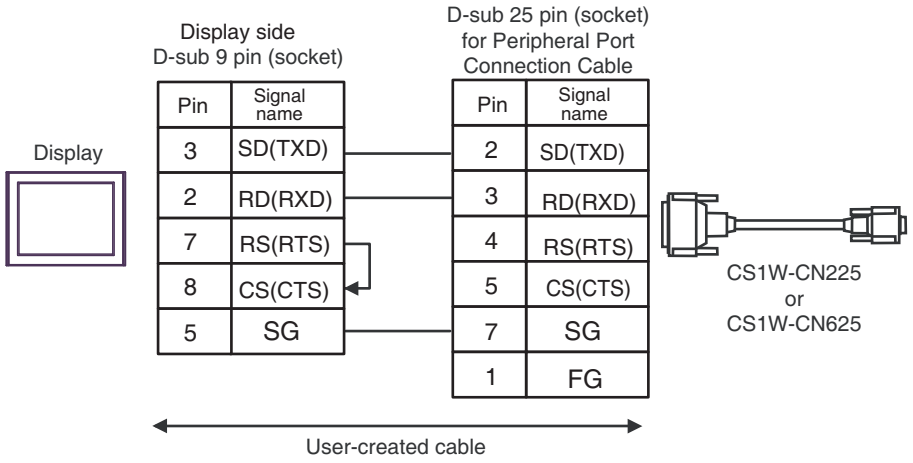
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

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

■ IPC COM Port (page 10)

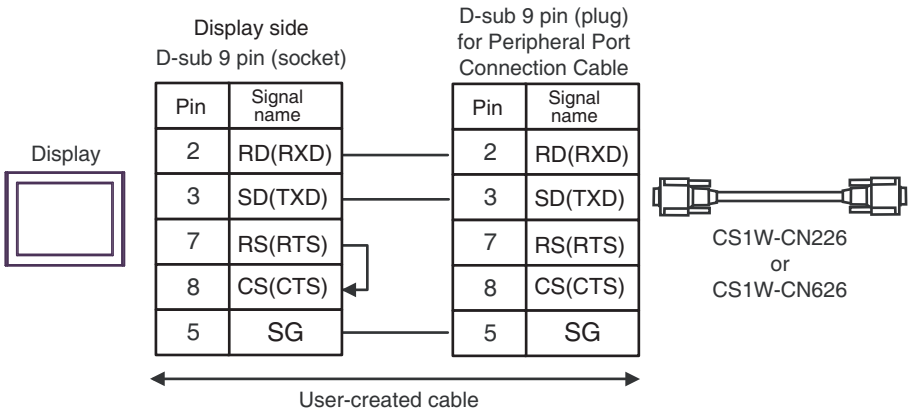
2A)



NOTE

- The cable length must be 15m or less.

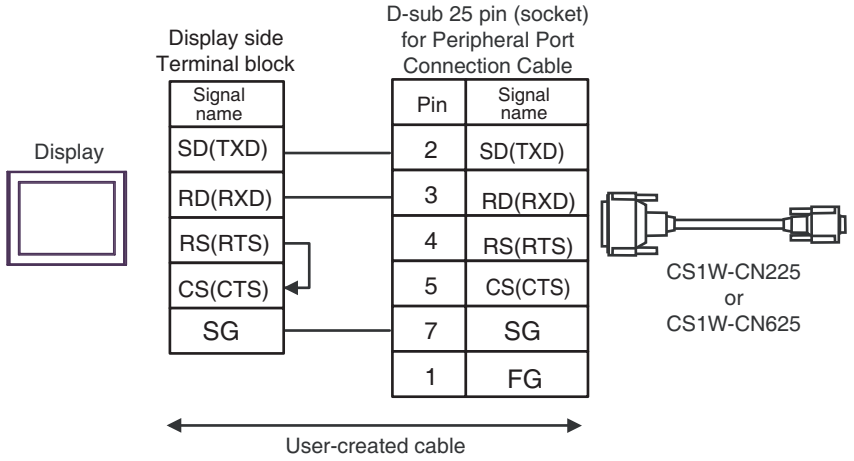
2B)



NOTE

- The cable length must be 15m or less.

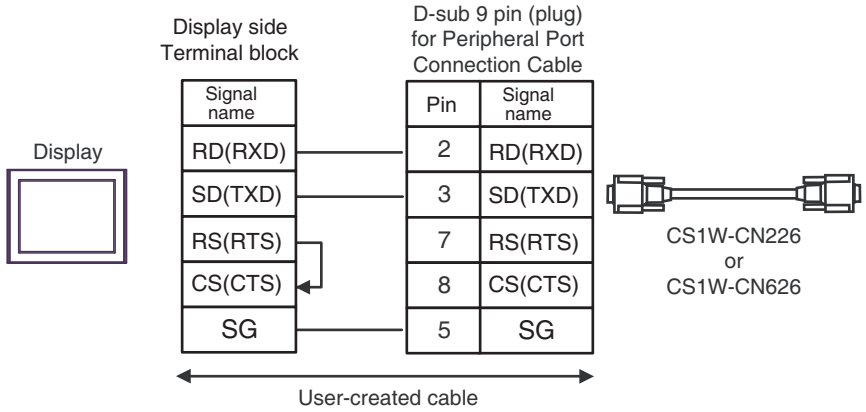
2C)



NOTE

- The cable length must be 15m or less.

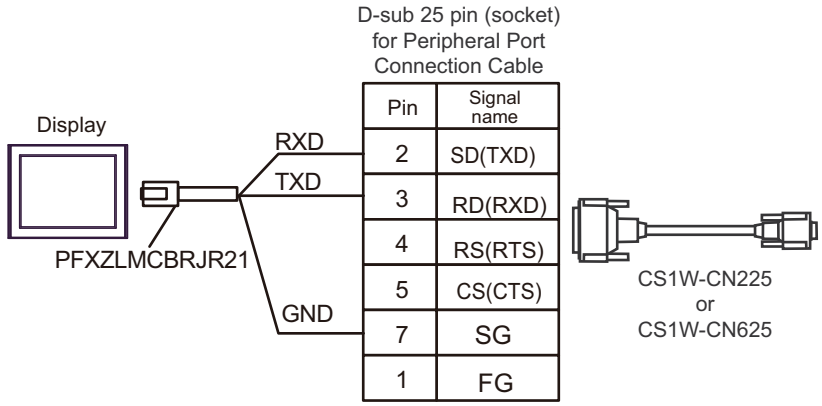
2D)



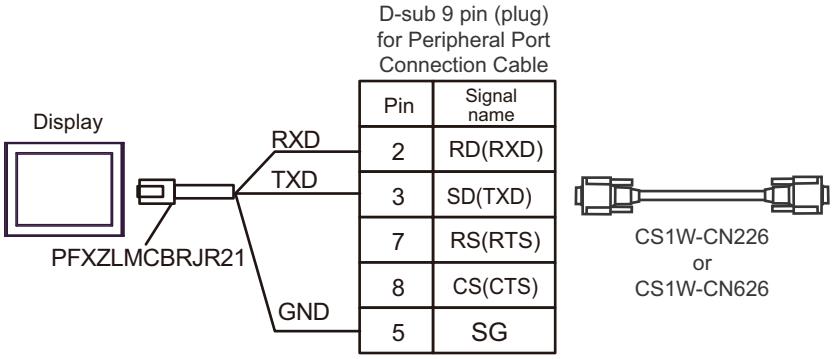
NOTE

- The cable length must be 15m or less.

2E)



2F)


D-sub 9 pin (plug)
for Peripheral Port
Connection Cable
Pin
Signal name
2
RD(RXD)
3
SD(TXD)
7
RS(RTS)
8
CS(CTS)
5
SG
Display
RXD
TXD
GND
PFXZLMCBRJR21
CS1W-CN226
or
CS1W-CN626

5.3 Cable Diagram 3

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]	3A	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.
	3B	User-created cable	
GP3000[*4] (COM2)	3C	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.
	3D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	3E	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) STC6000 (COM1) ET6000[*8] (COM2) PS6000 (Basic Box) (COM1/2)	3F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 [*9] + User-created cable	The cable length must be 500m or less.
	3B	User-created cable	
PE-4000B[*10] PS5000[*10] PS6000 (Optional Interface)[*10]	3G	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 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

*9 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 3A.

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

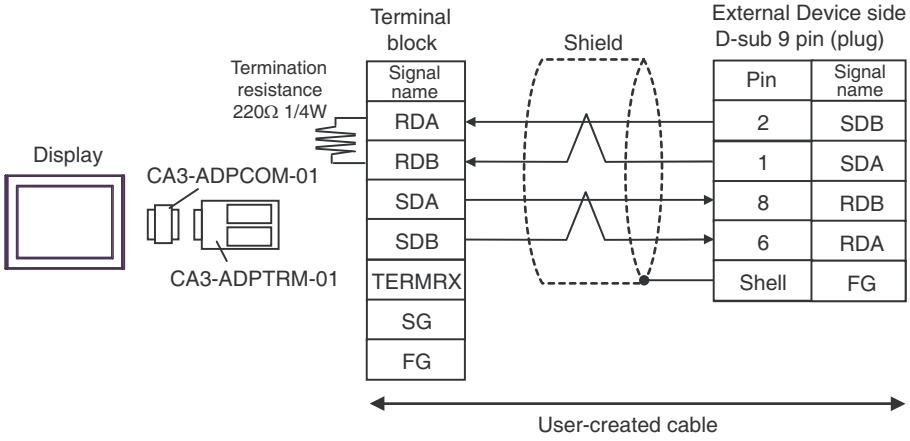
■ IPC COM Port (page 10)

IMPORTANT

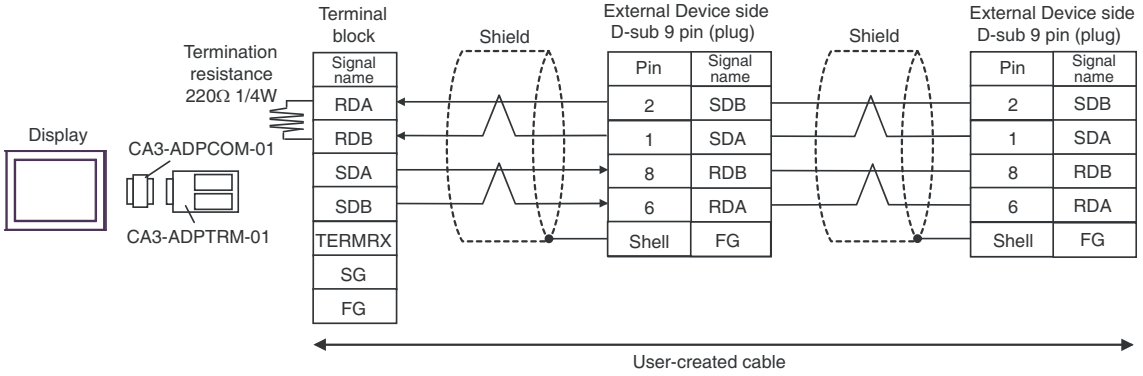
- Please turn ON the termination resistance switch on the PLC.
- Set the 2wire/4wire toggle switch to 4wire.
- Note that pole A and pole B are reversely named for the Display and the External Device.

3A)

- 1:1 connection



- 1:n connection

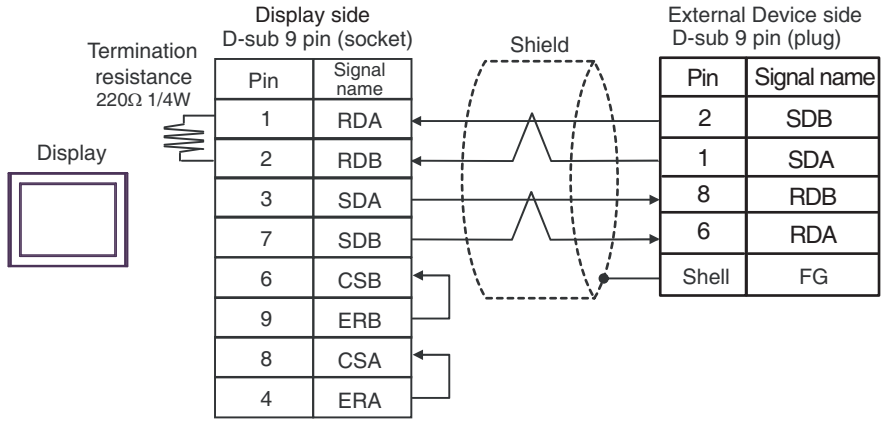


NOTE

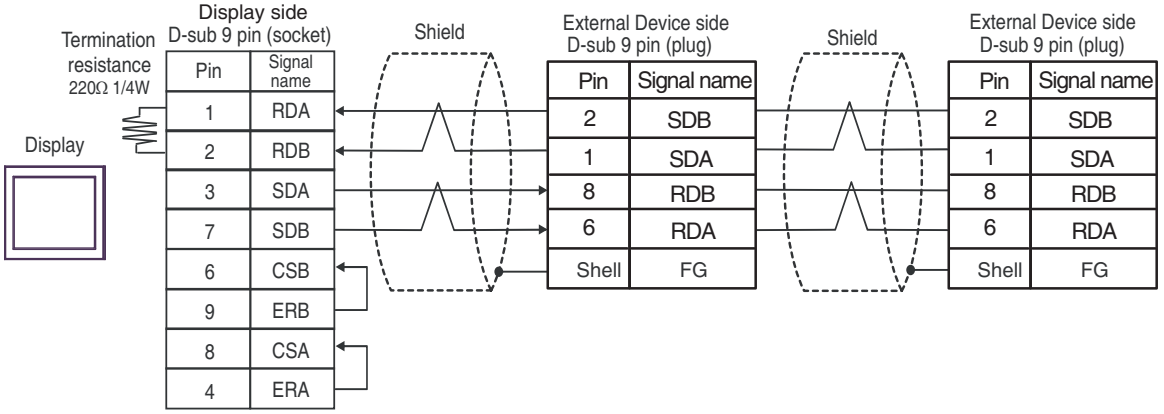
- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.
- The cable length must be 500m or less.

3B)

- 1:1 connection



- 1:n connection

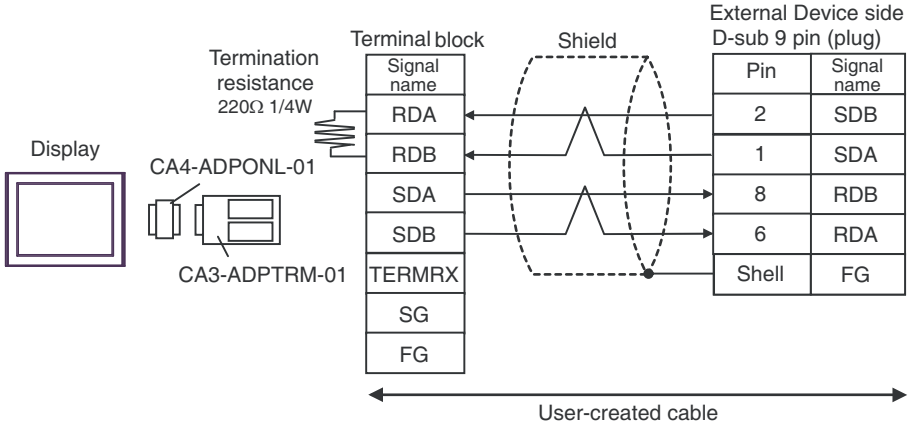


NOTE

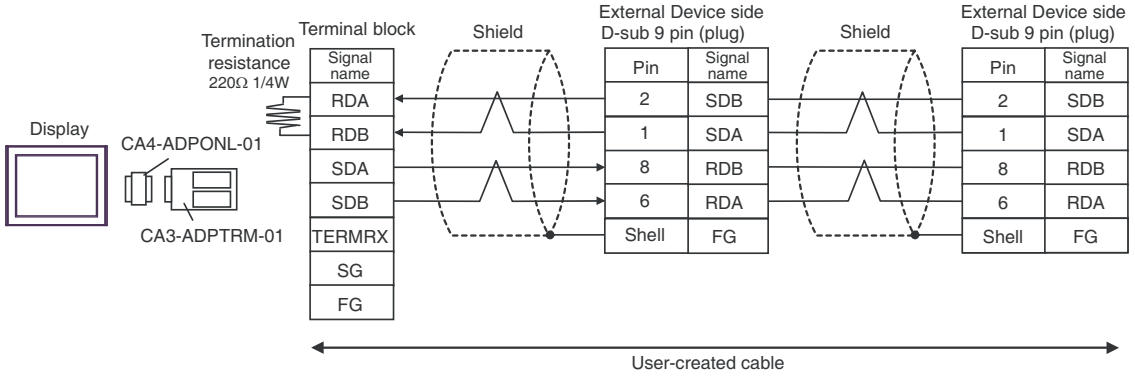
- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.
- The cable length must be 500m or less.

3C)

- 1:1 connection



- 1:n connection

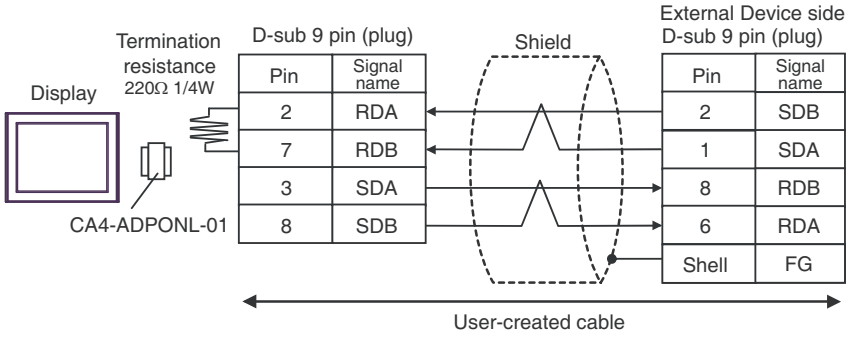


NOTE

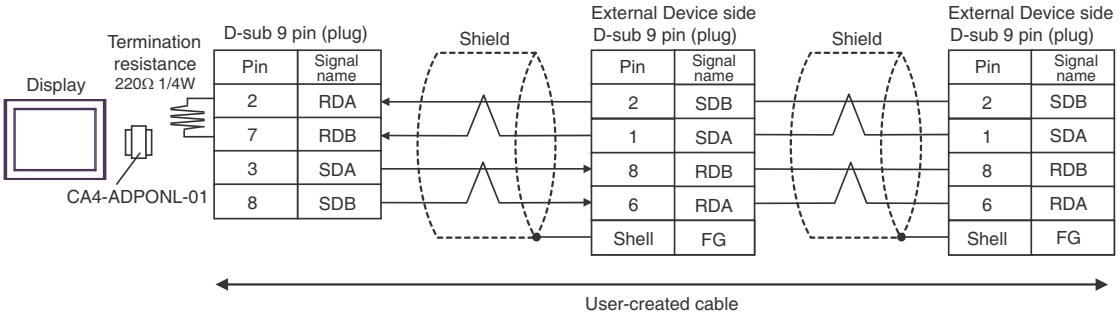
- The cable length must be 500m or less.

3D)

- 1:1 connection



- 1:n connection

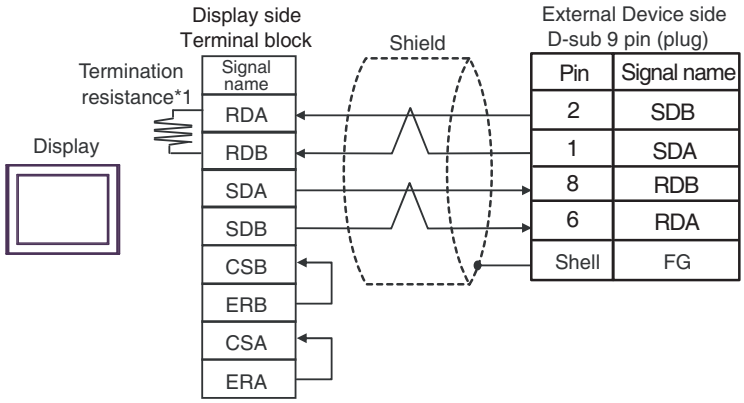


NOTE

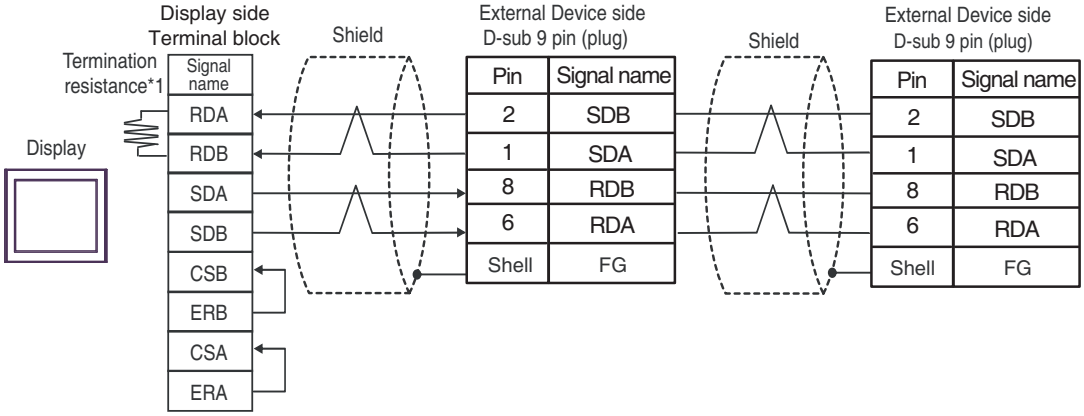
- The cable length must be 500m or less.

3E)

- 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.

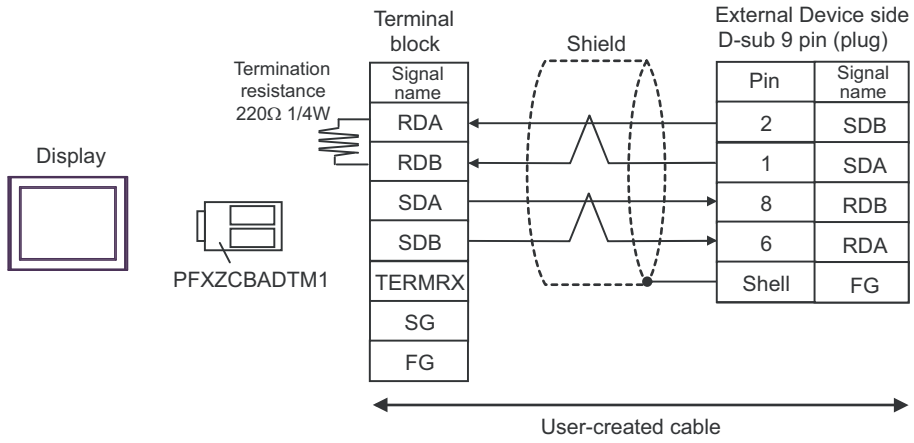
DIP Switch No.	Set Value
1	OFF
2	OFF
3	OFF
4	ON

NOTE

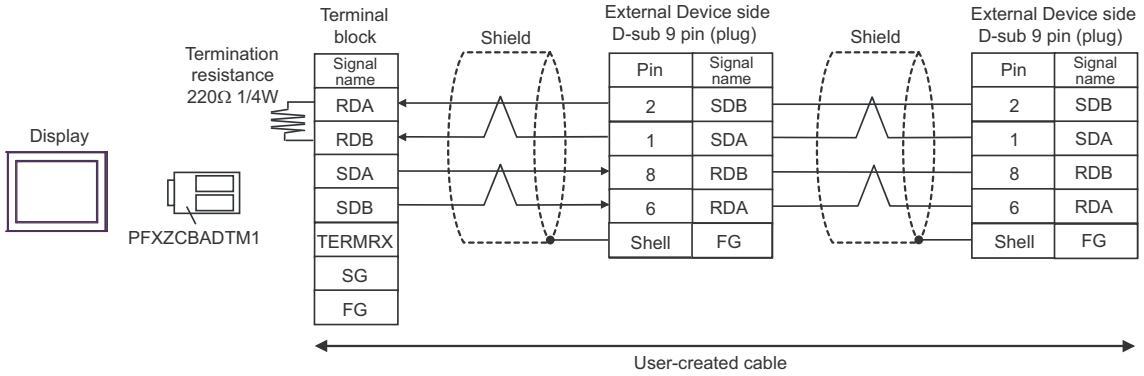
- The cable length must be 500m or less.

3F)

- 1:1 connection



- 1:n connection

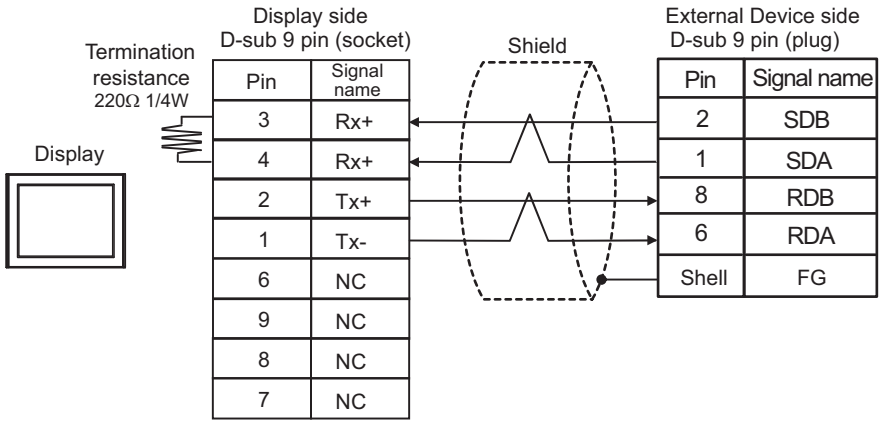


NOTE

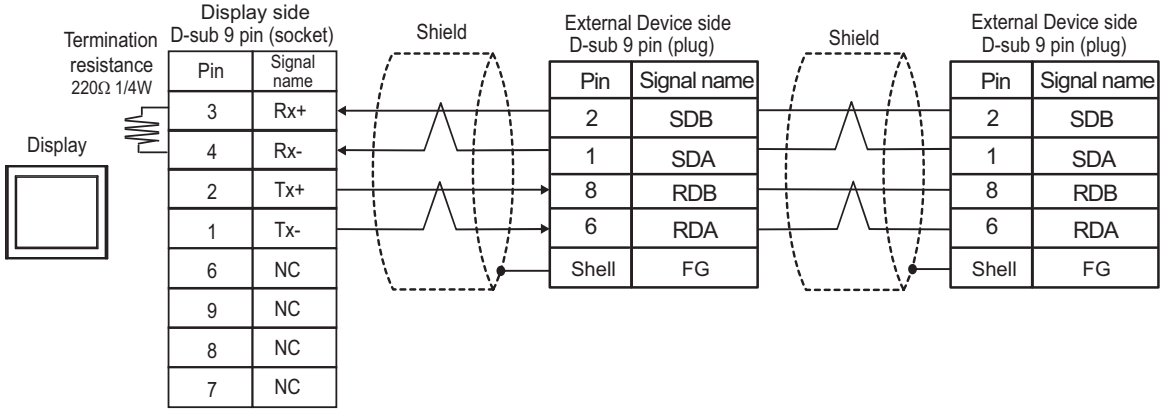
- The cable length must be 500m or less.

3G)

- 1:1 connection



- 1:n connection



NOTE

- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.
- The cable length must be 500m or less.

5.4 Cable Diagram 4

Displayy (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]	4A	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.
	4B	COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Multi-Link Cable (5m) by Pro-face CA3-CBLMLT-01 + User-created cable	
	4C	User-created cable	
GP3000[*1] (COM2)	4D	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.
	4E	Online Adapter by Pro-face CA4-ADPONL-01 + Multi-Link Cable (5m) by Pro-face CA3-CBLMLT-01 + User-created cable	
	4F	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	4G	User-created cable	The cable length must be 500m or less.

Displayy (Connection Port)	Cable		Notes
GP4000[*4] (COM2) GP-4201T (COM1) SP5000[*5] (COM1/2) SP-5B00 (COM2) ST6000[*6] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*7] (COM2) PS6000 (Basic Box) (COM1/2)	4H	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 [*8] + User-created cable	The cable length must be 500m or less.
	4I	Multi-Link Cable (5m) by Pro-face PFXZCBCBML1 [*9] + User-created cable	
	4C	User-created cable	
PE-4000B[*10] PS5000[*10] PS6000 (Optional Interface)[*10]	4J	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 GP4000 models except GP-4100 series, GP-4*01TM, GP-Rear Module, GP-4201T and GP-4*03T

*5 Except SP-5B00

*6 Except ST-6200

*7 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

*8 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 4A.

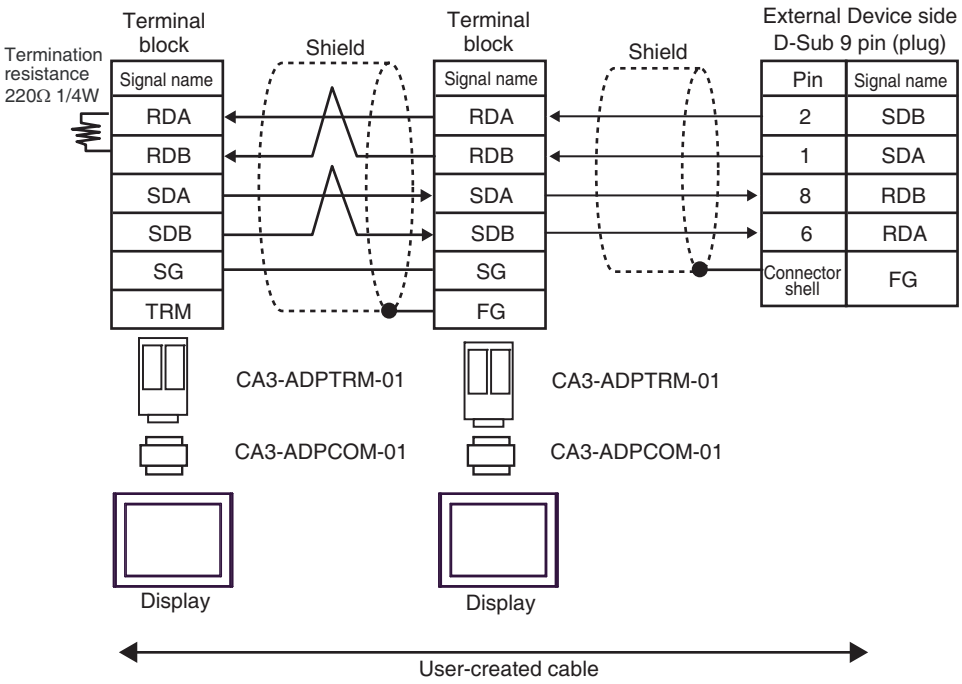
*9 When using a Multilink Cable (CA3-CBLMLT-01) instead of the Multilink Cable, refer to Cable Diagram 4B.

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

■ IPC COM Port (page 10)

4A)

- n:1 connection

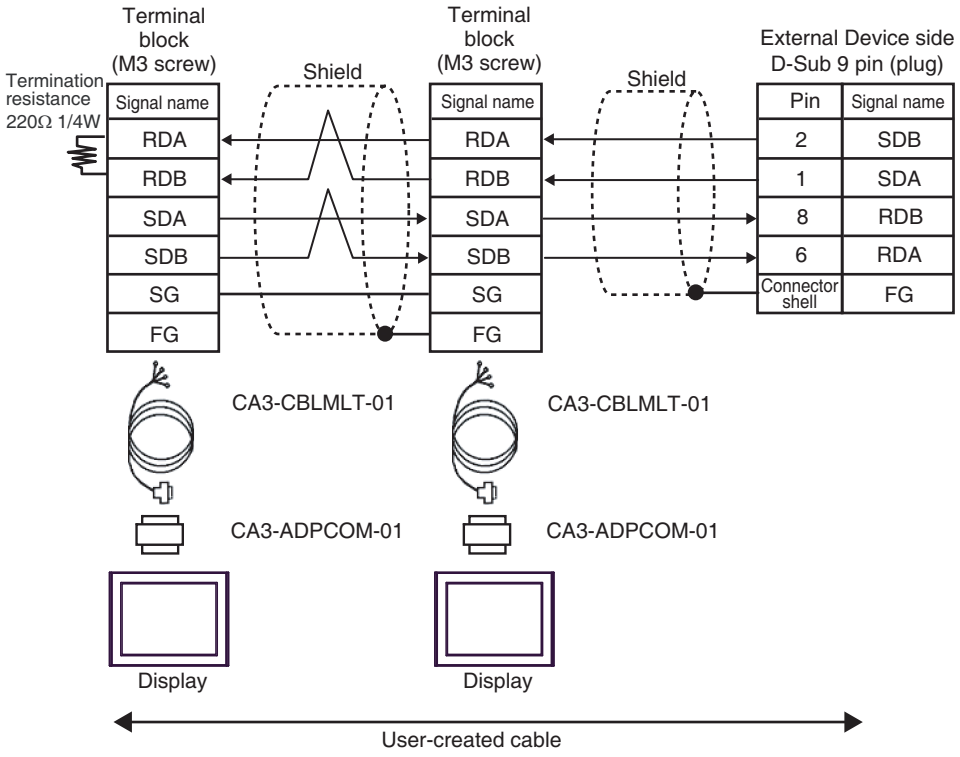


NOTE

- The cable length must be 500m or less.

4B)

- n:1 connection

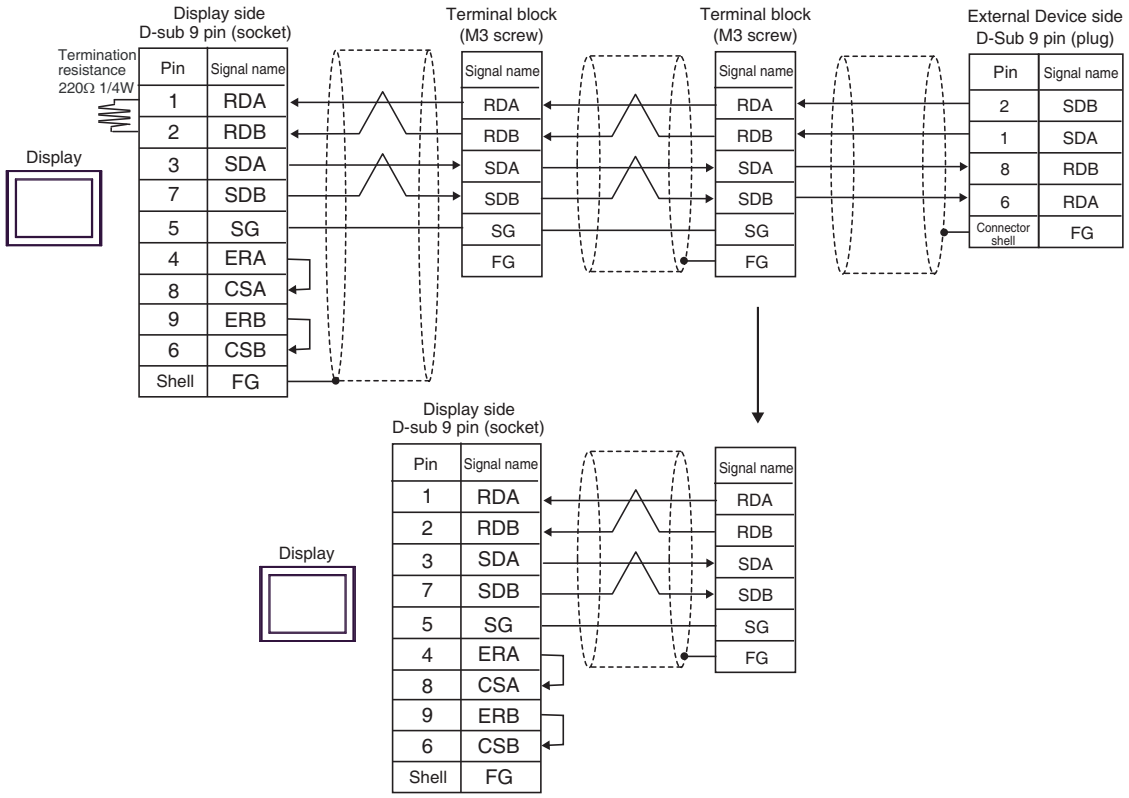


NOTE

- The cable length must be 500m or less.

4C)

- n:1 connection

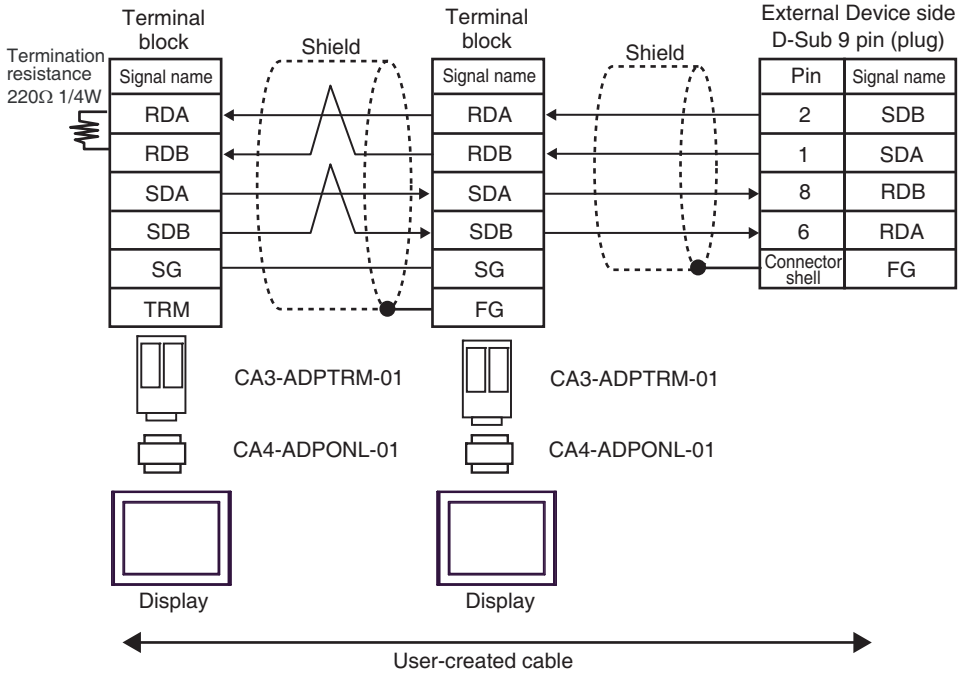


NOTE

- The cable length must be 500m or less.

4D)

- n:1 connection

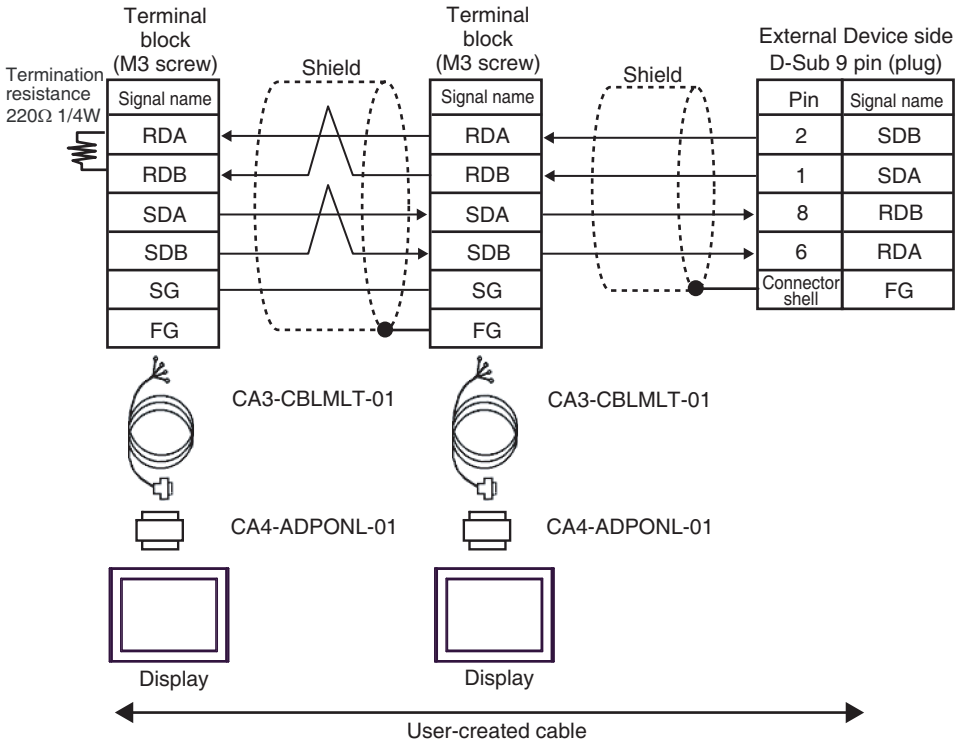


NOTE

- The cable length must be 500m or less.

4E)

- n:1 connection

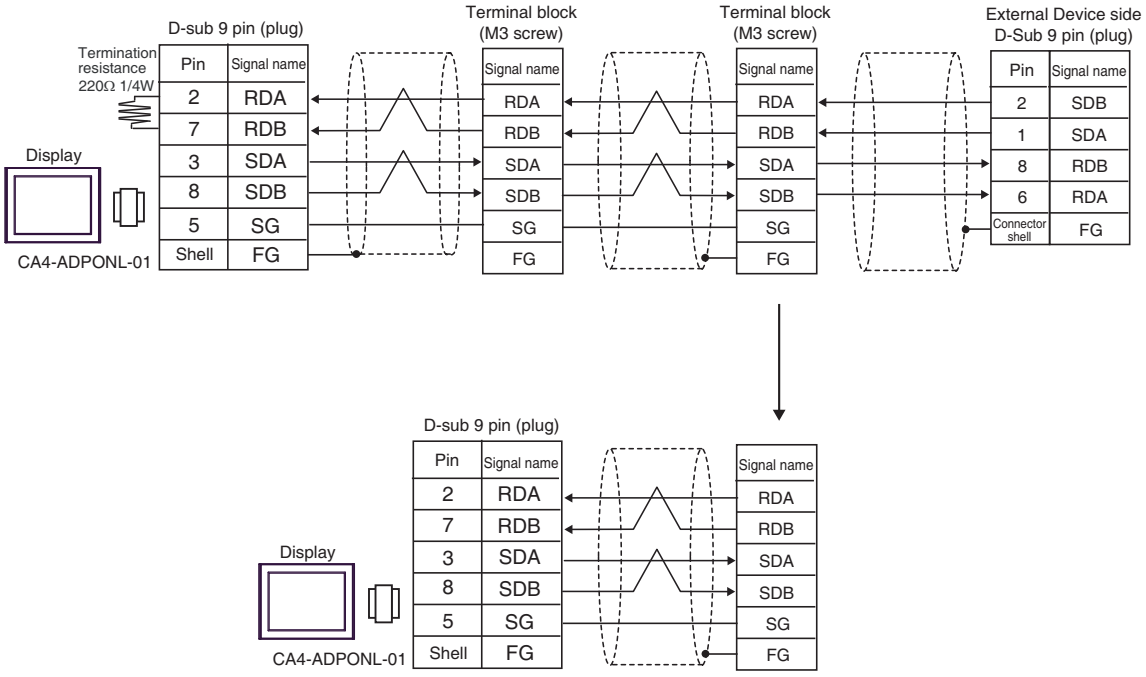


NOTE

- The cable length must be 500m or less.

4F)

- n:1 connection

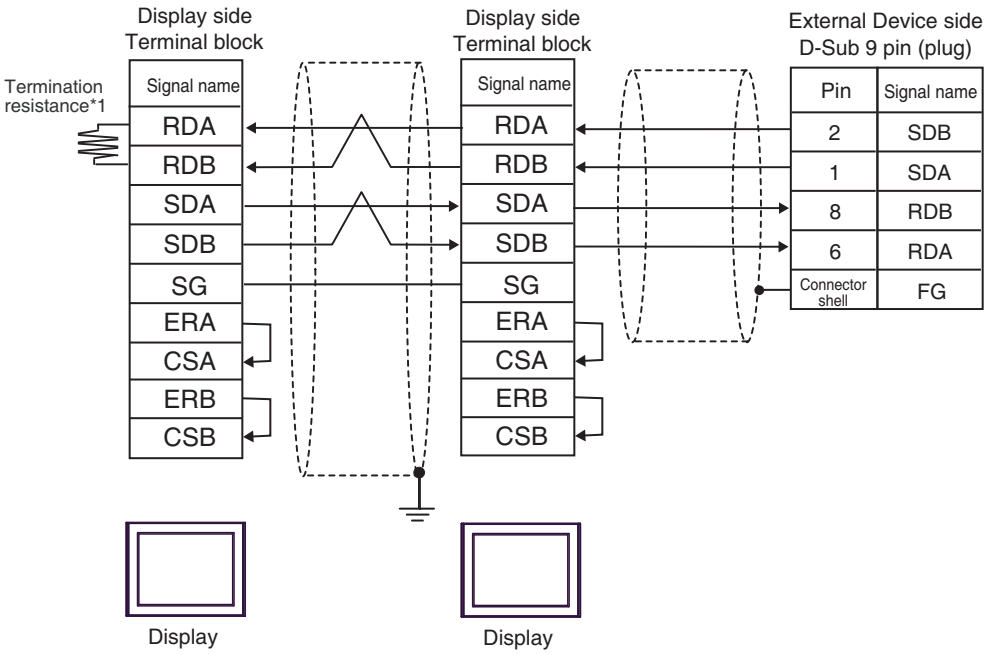


NOTE

- The cable length must be 500m or less.

4G)

- n: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	OFF
4	ON

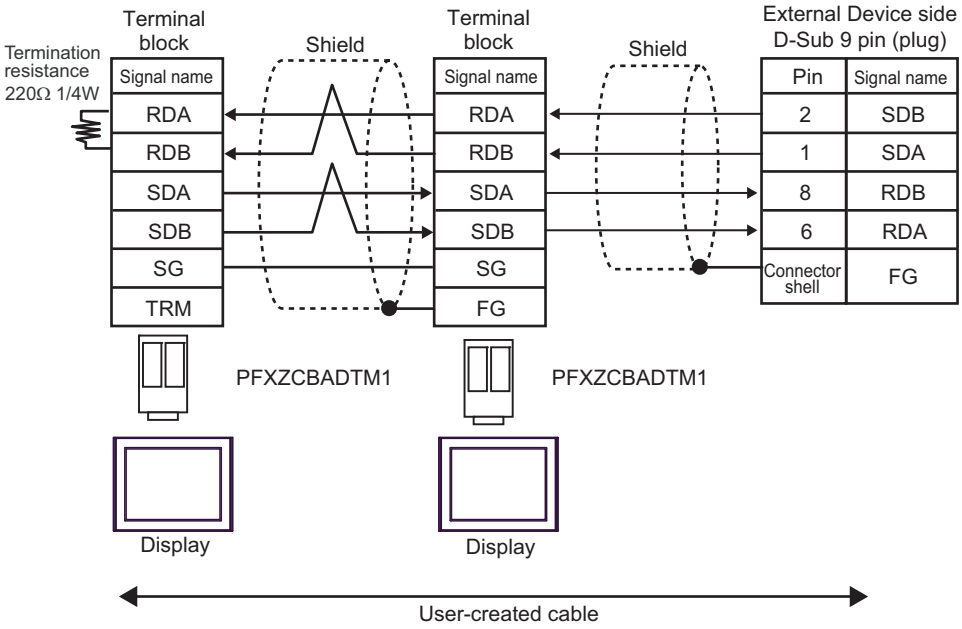
For the Display other than that used as the terminal, set the DIP Switch 1-4 on the rear of the Display to OFF in the n:1 connection.

NOTE

- The cable length must be 500m or less.

4H)

- n:1 connection

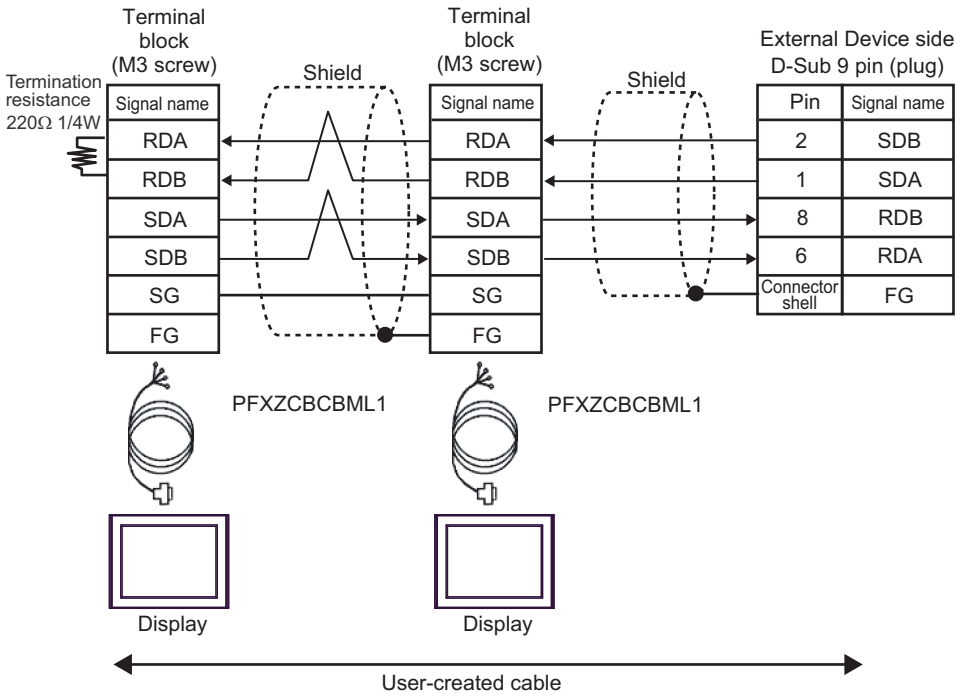


NOTE

- The cable length must be 500m or less.

4l)

- n:1 connection

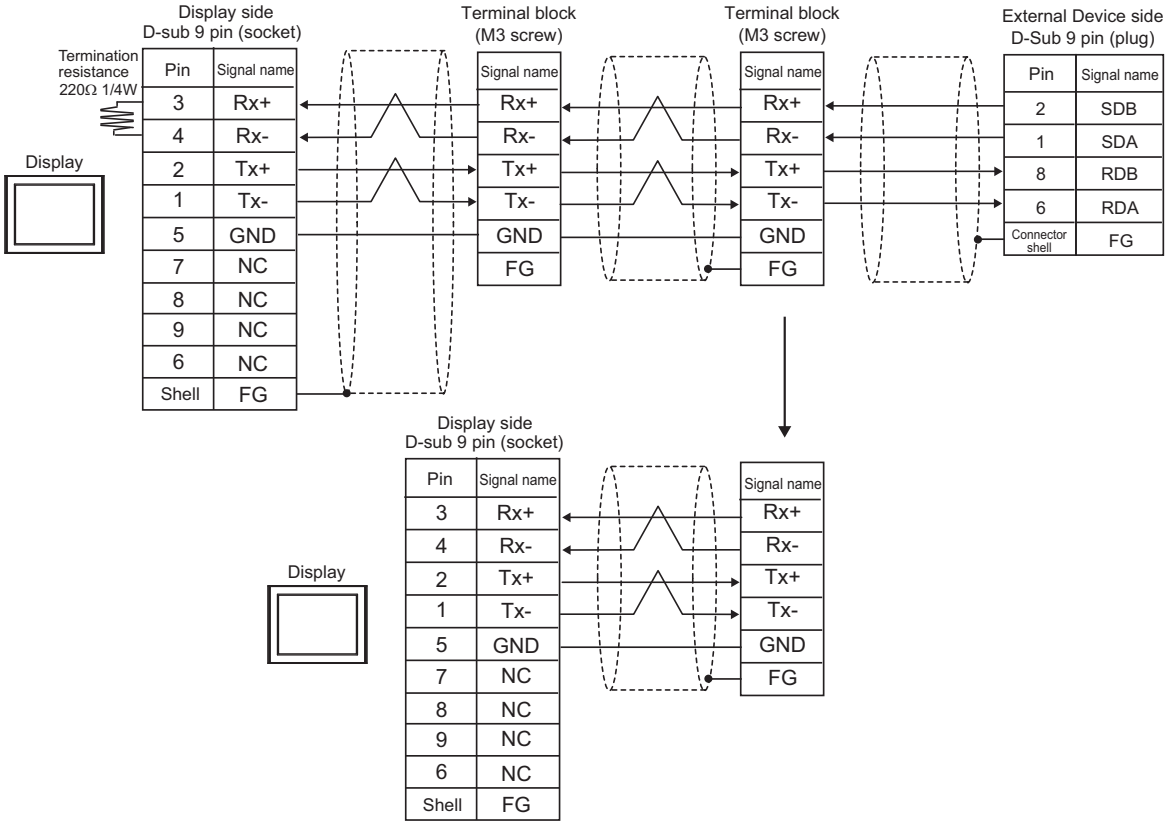


NOTE

- The cable length must be 500m or less.

4J)

- n:1 connection



NOTE

- The cable length must be 500m or less.

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.[*4]
	5B	User-created cable	
GP3000[*5] (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.[*4]
	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.[*4]
GP4000[*6] (COM2) GP-4201T (COM1) SP5000[*7] (COM1/2) SP-5B00 (COM2) ST6000[*8] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*9] (COM2) PS6000 (Basic Box) (COM1/2)	5F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 [*10] + User-created cable	The cable length must be 500m or less.[*4]
	5B	User-created cable	
PE-4000B[*11] PS5000[*11] PS6000 (Optional Interface)[*11]	5G	User-created cable	The cable length must be 500m or less.[*4]

*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 When using CJ1W-CIF11, the cable length must be 50 meters or less.

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

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

*7 Except SP-5B00

*8 Except ST-6200

*9 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

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

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

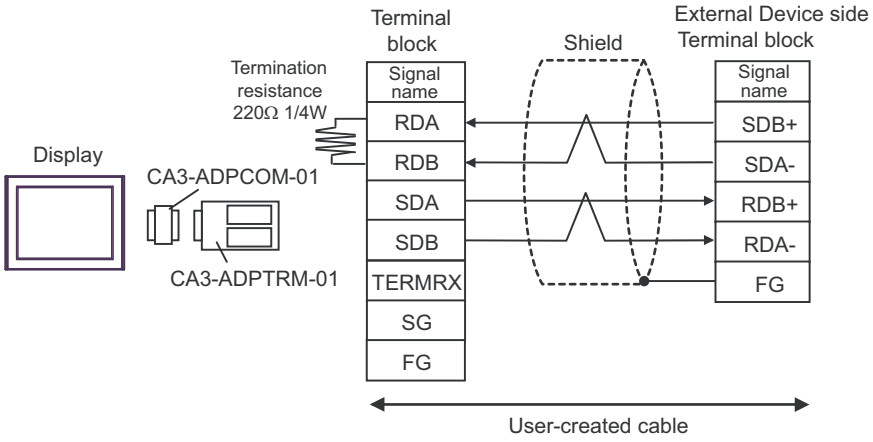
■ IPC COM Port (page 10)

IMPORTANT

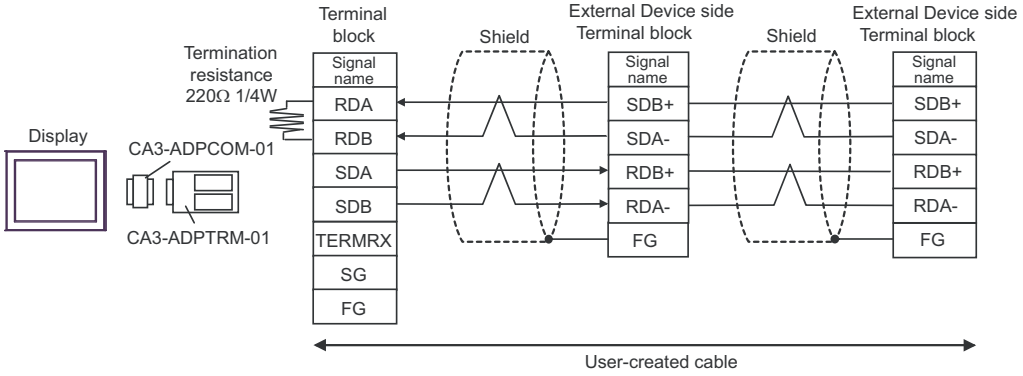
- Please turn ON the termination resistance switch on the PLC.
- Set the 2wire/4wire toggle switch to 4wire.
- Note that pole A and pole B are reversely named for the Display and the External Device.

5A)

- 1:1 connection



- 1:n connection

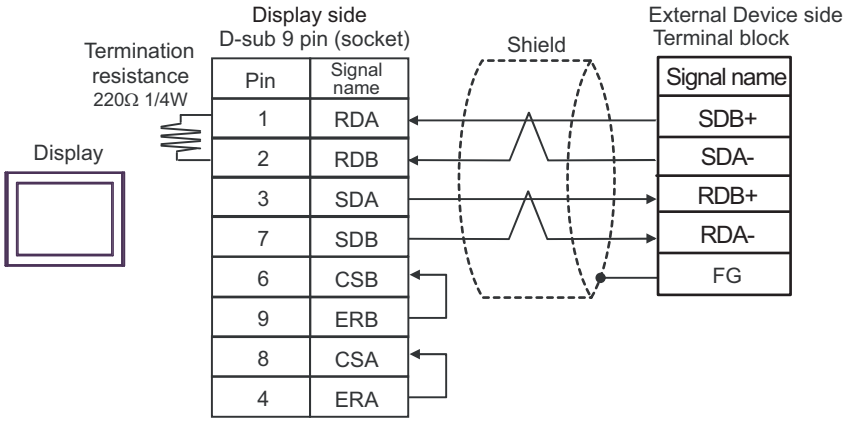


NOTE

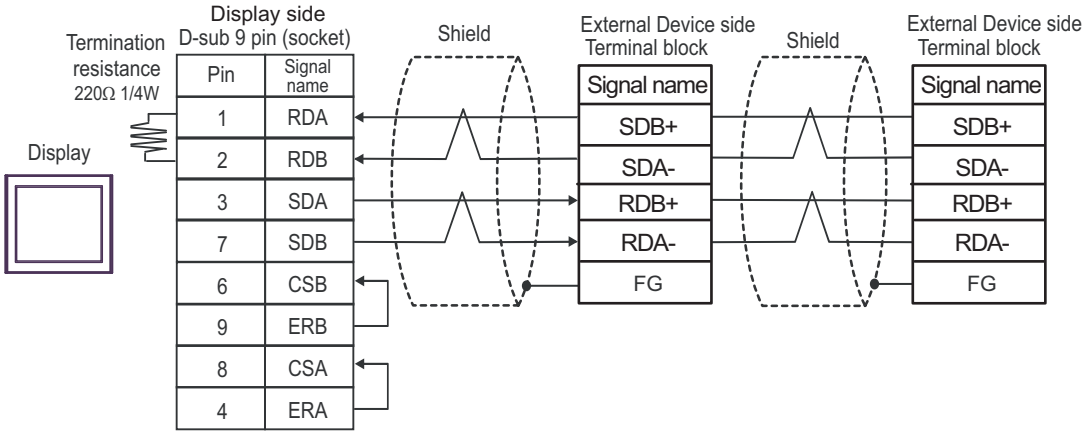
- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.
- The cable length must be 500m or less.

5B)

- 1:1 connection



- 1:n connection

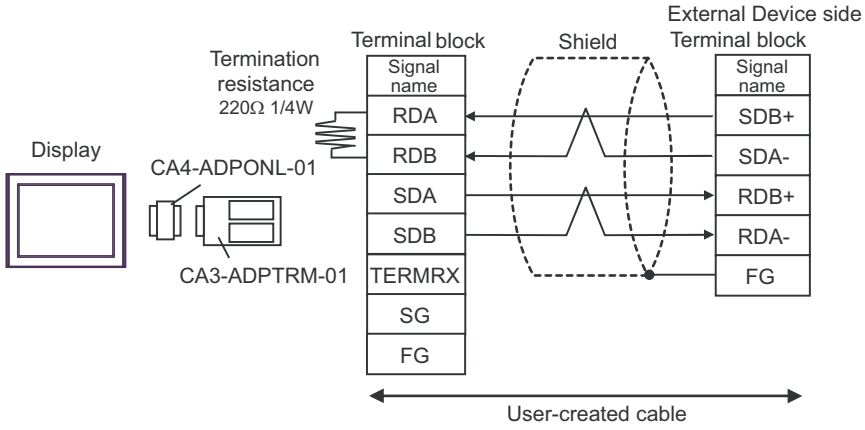


NOTE

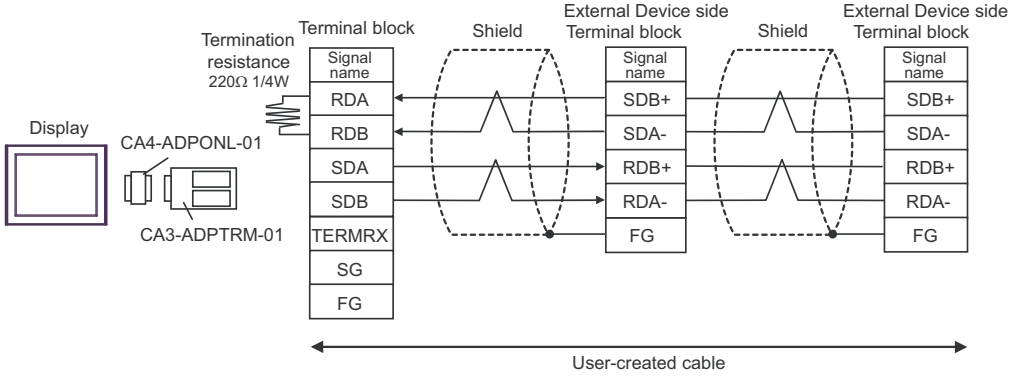
- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.
- The cable length must be 500m or less.

5C)

- 1:1 connection



- 1:n connection

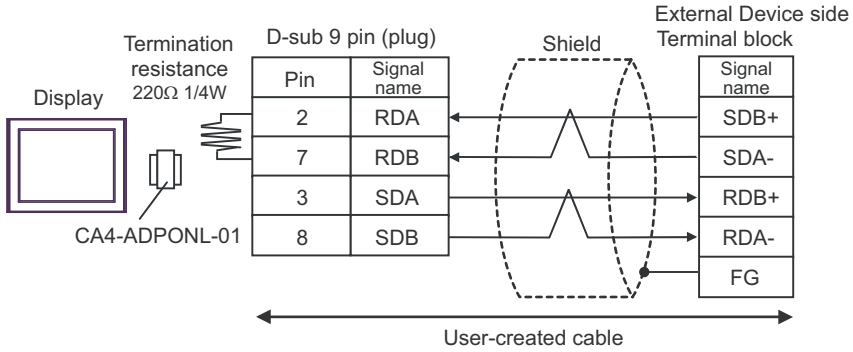


NOTE

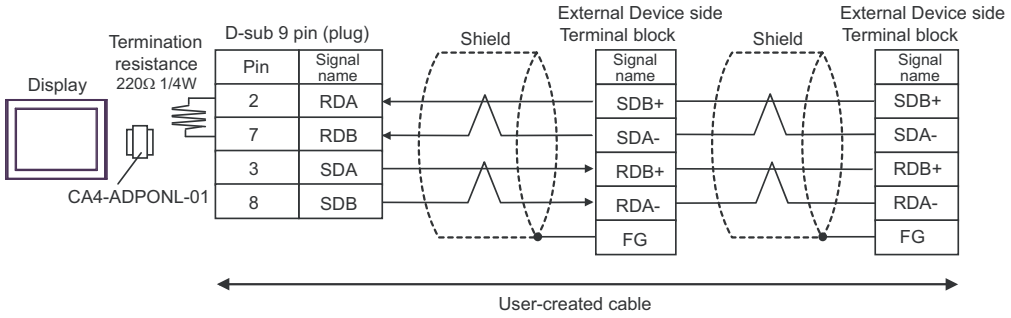
- The cable length must be 500m or less.

5D)

- 1:1 connection



- 1:n connection

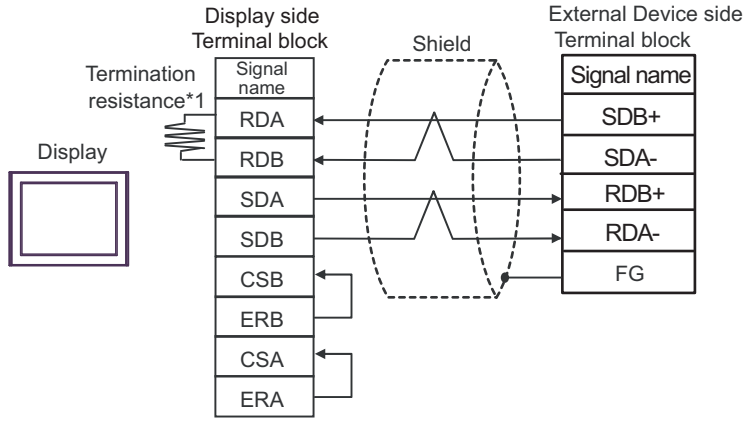


NOTE

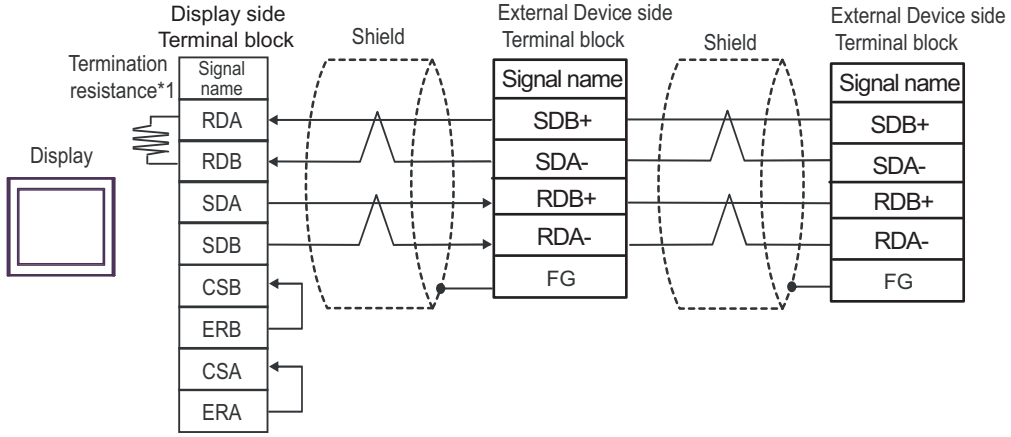
- The cable length must be 500m or less.

5E)

- 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.

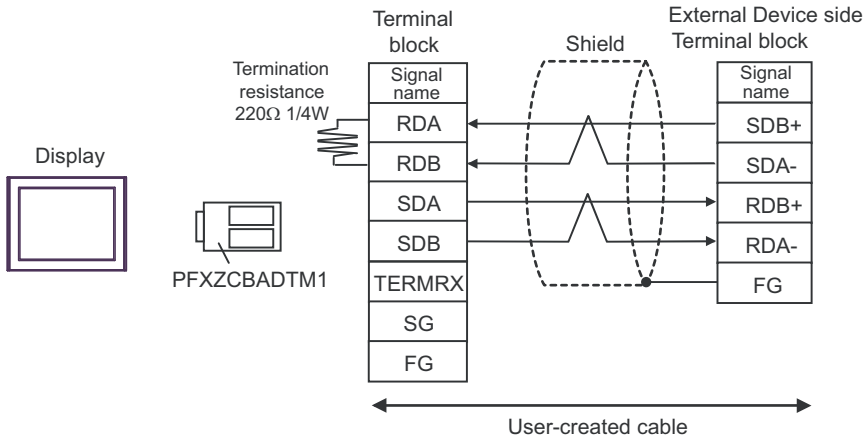
DIP Switch No.	Set Value
1	OFF
2	OFF
3	OFF
4	ON

NOTE

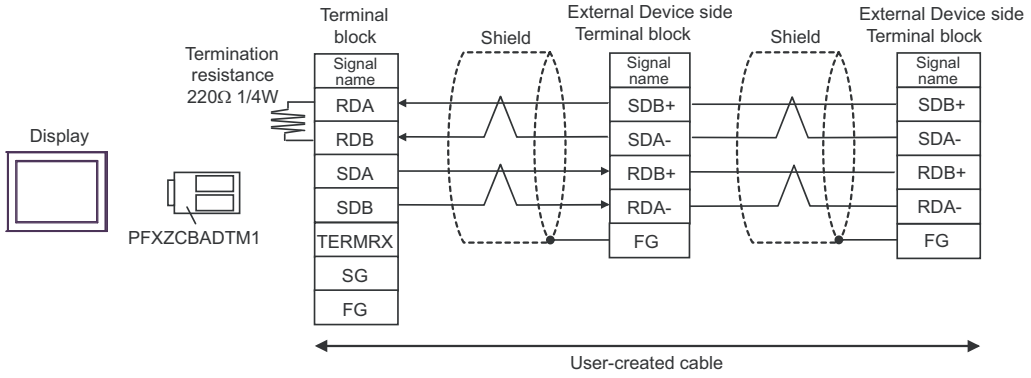
- The cable length must be 500m or less.

5F)

- 1:1 connection



- 1:n connection

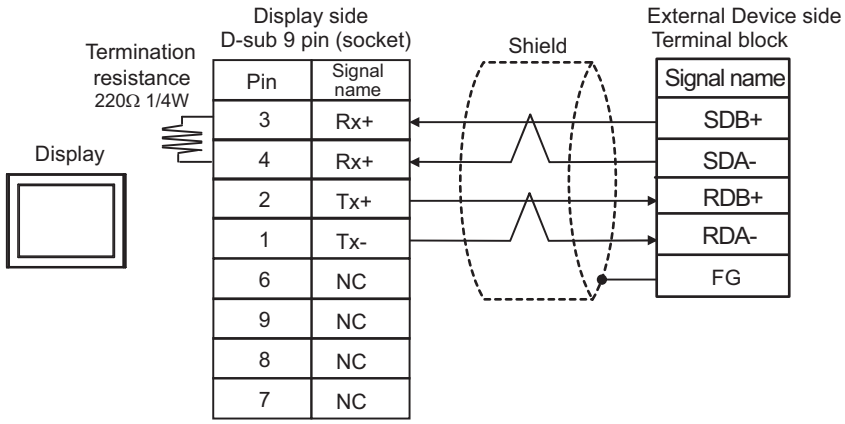


NOTE

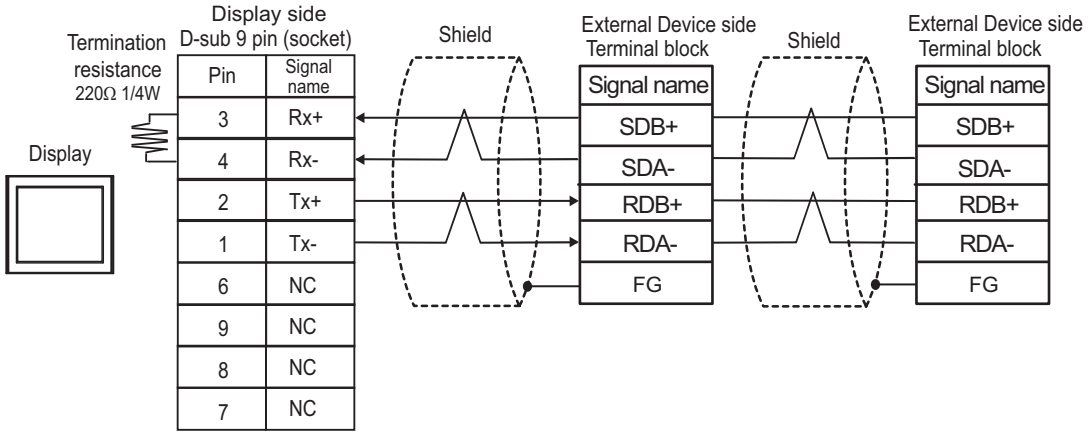
- The cable length must be 500m or less.

5G)

- 1:1 connection



- 1:n connection



NOTE

- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.
- The cable length must be 500m or less.

5.6 Cable Diagram 6

Displayy (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 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	6B	COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Multi-Link Cable (5m) by Pro-face CA3-CBLMLT-01 + User-created cable	
	6C	User-created cable	
GP3000[*1] (COM2)	6D	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.
	6E	Online Adapter by Pro-face CA4-ADPONL-01 + Multi-Link Cable (5m) 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 500m or less.

Displayy (Connection Port)	Cable		Notes
GP4000[*4] (COM2) GP-4201T (COM1) SP5000[*5] (COM1/2) SP-5B00 (COM2) ST6000[*6] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*7] (COM2) PS6000 (Basic Box) (COM1/2)	6H	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 [*8] + User-created cable	The cable length must be 500m or less.
	6I	Multi-Link Cable (5m) by Pro-face PFXZCBCBML1 [*9] + User-created cable	
	6C	User-created cable	
PE-4000B[*10] PS5000[*10] PS6000 (Optional Interface)[*10]	6J	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 GP4000 models except GP-4100 series, GP-4*01TM, GP-Rear Module, GP-4201T and GP-4*03T

*5 Except SP-5B00

*6 Except ST-6200

*7 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

*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.

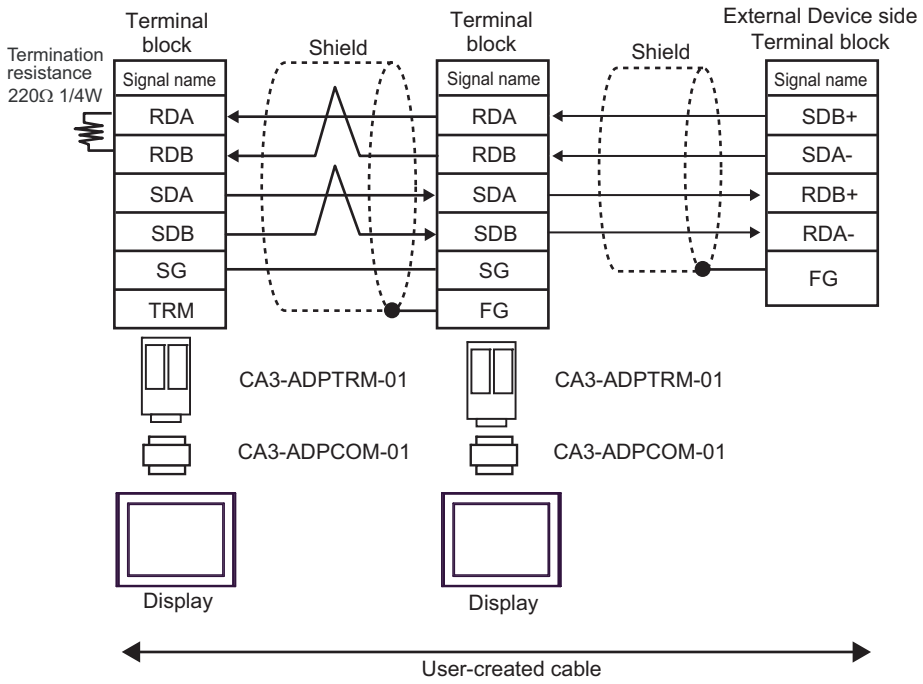
*9 When using a Multilink Cable (CA3-CBLMLT-01) instead of the Multilink Cable, refer to Cable Diagram 6B.

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

■ IPC COM Port (page 10)

6A)

- n:1 connection

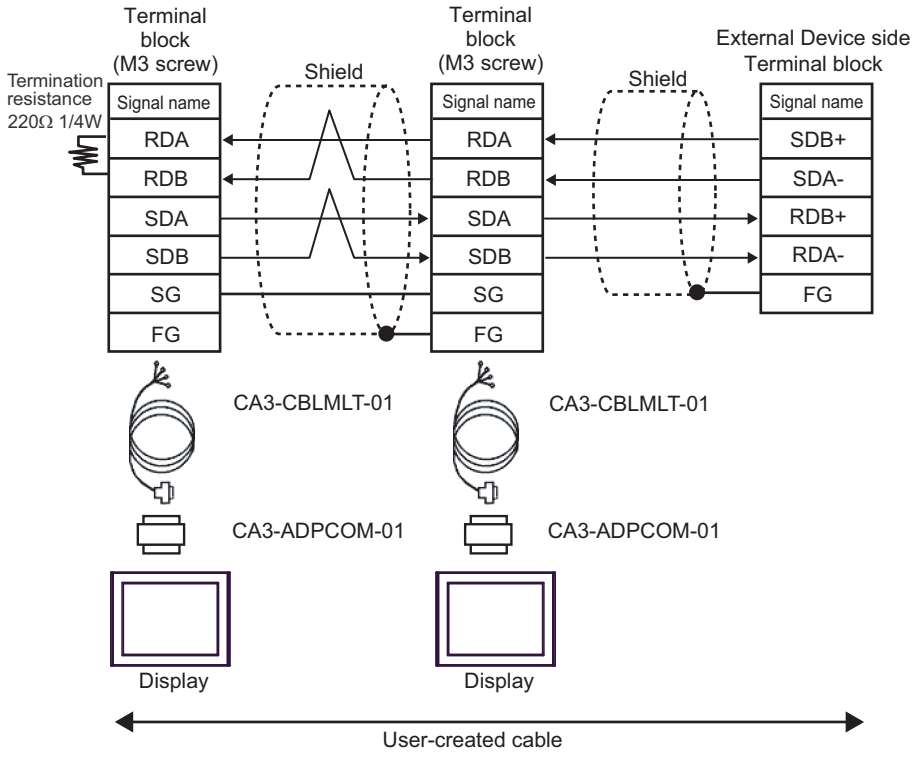


NOTE

- The cable length must be 500m or less.

6B)

- n:1 connection

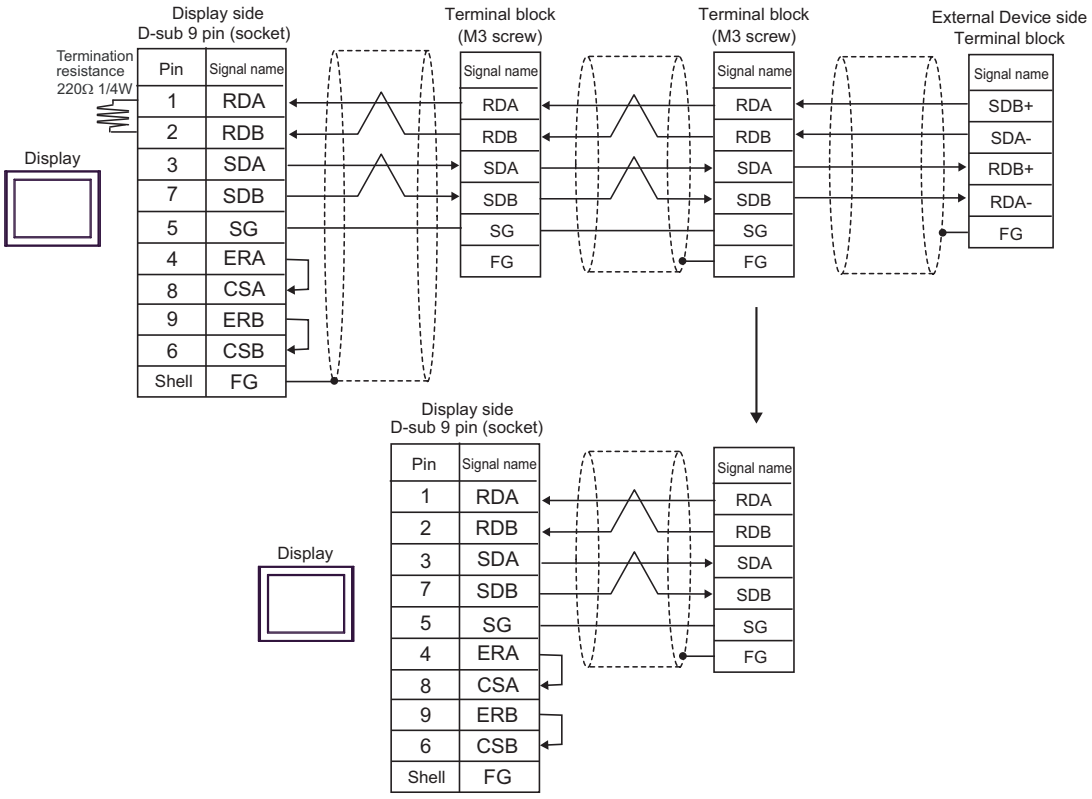


NOTE

- The cable length must be 500m or less.

6C)

- n:1 connection

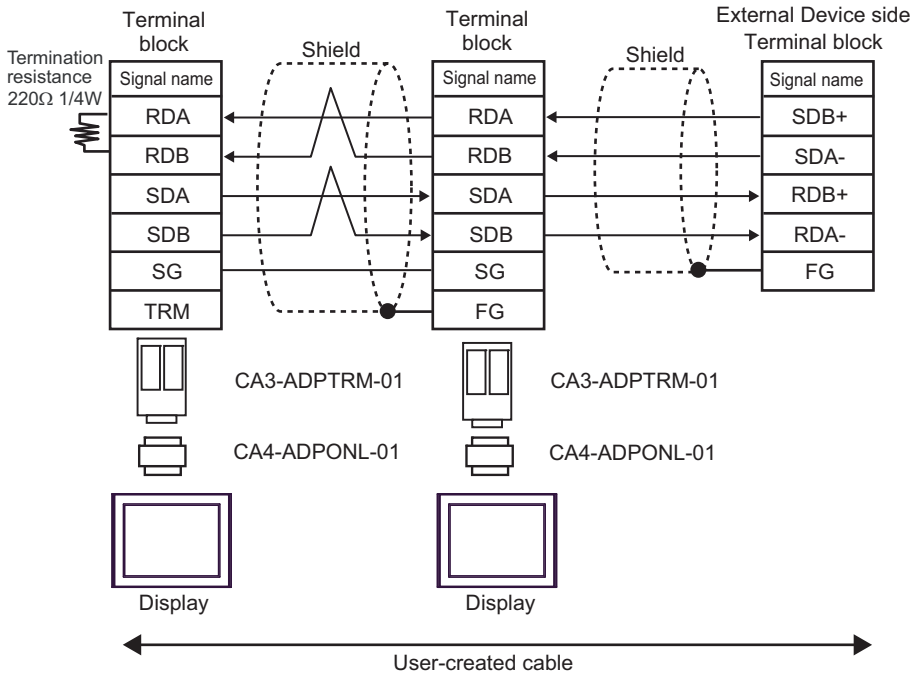


NOTE

- The cable length must be 500m or less.

6D)

- n:1 connection

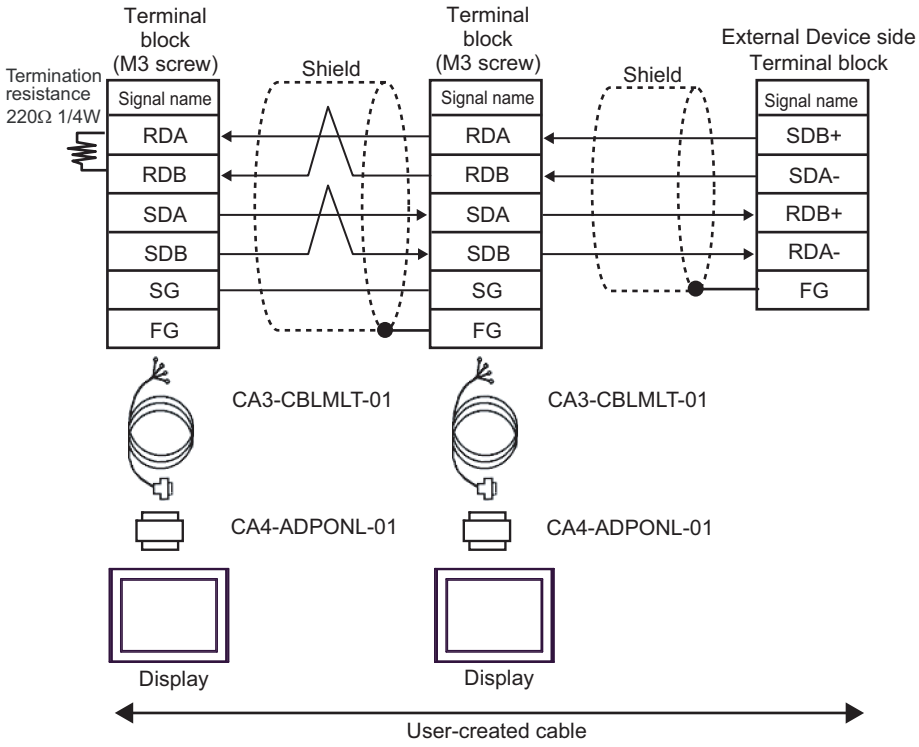


NOTE

- The cable length must be 500m or less.

6E)

- n:1 connection

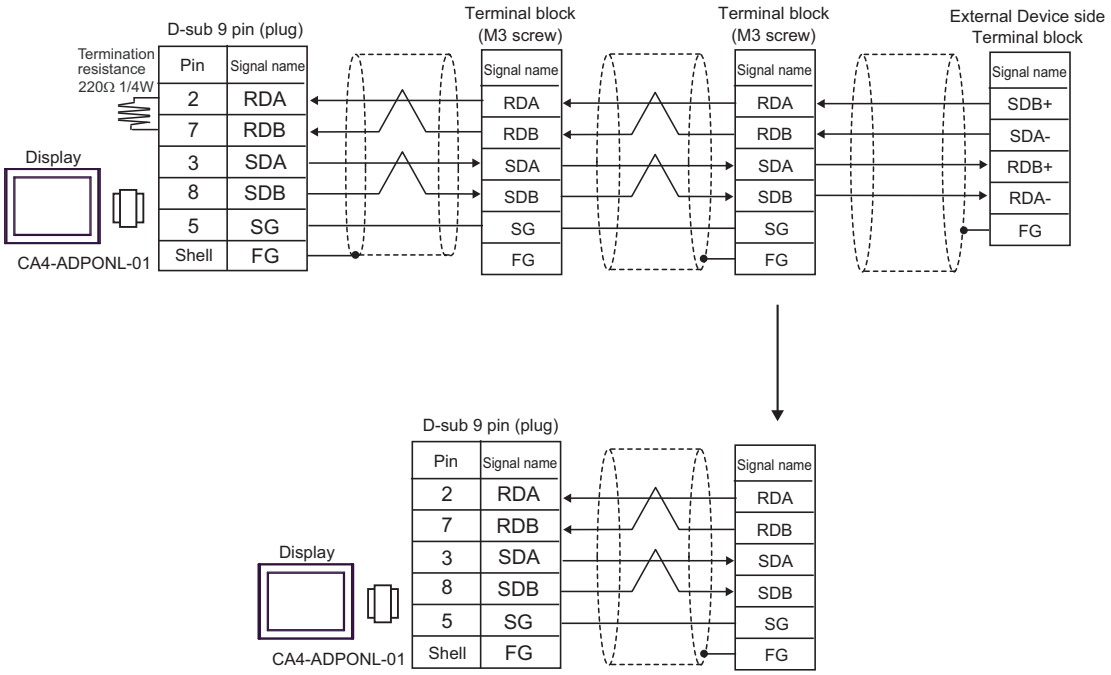


NOTE

- The cable length must be 500m or less.

6F)

- n:1 connection

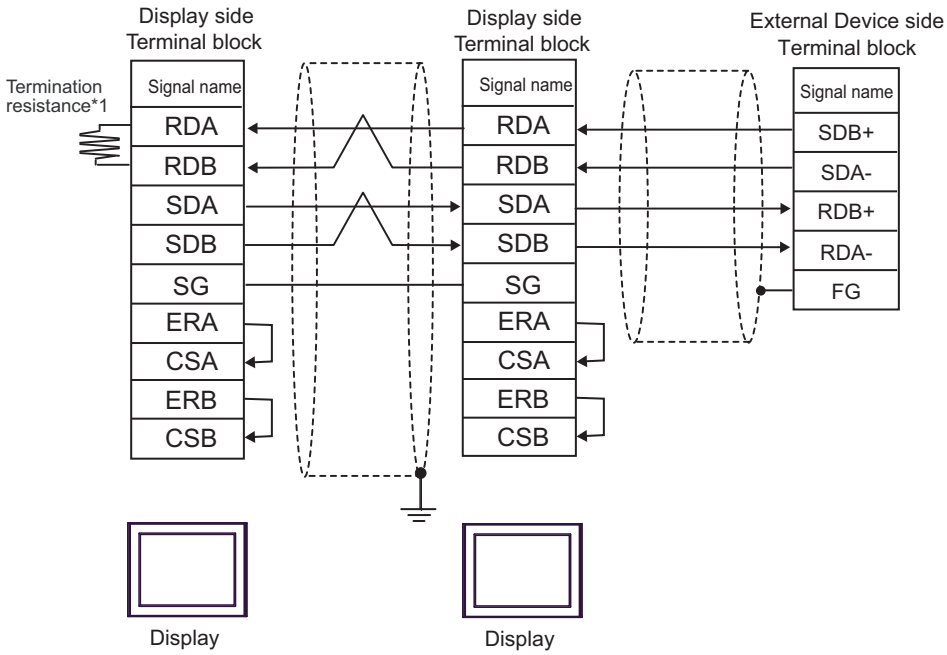


NOTE

- The cable length must be 500m or less.

6G)

- n: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	OFF
4	ON

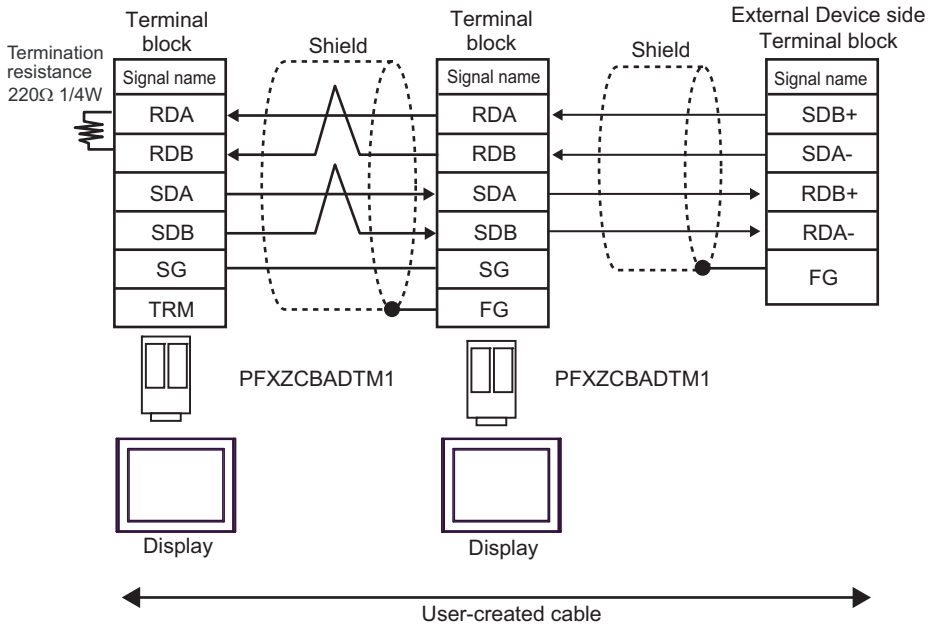
For the Display other than that used as the terminal, set the DIP Switch 1-4 on the rear of the Display to OFF in the n:1 connection.

NOTE

- The cable length must be 500m or less.

6H)

- n:1 connection

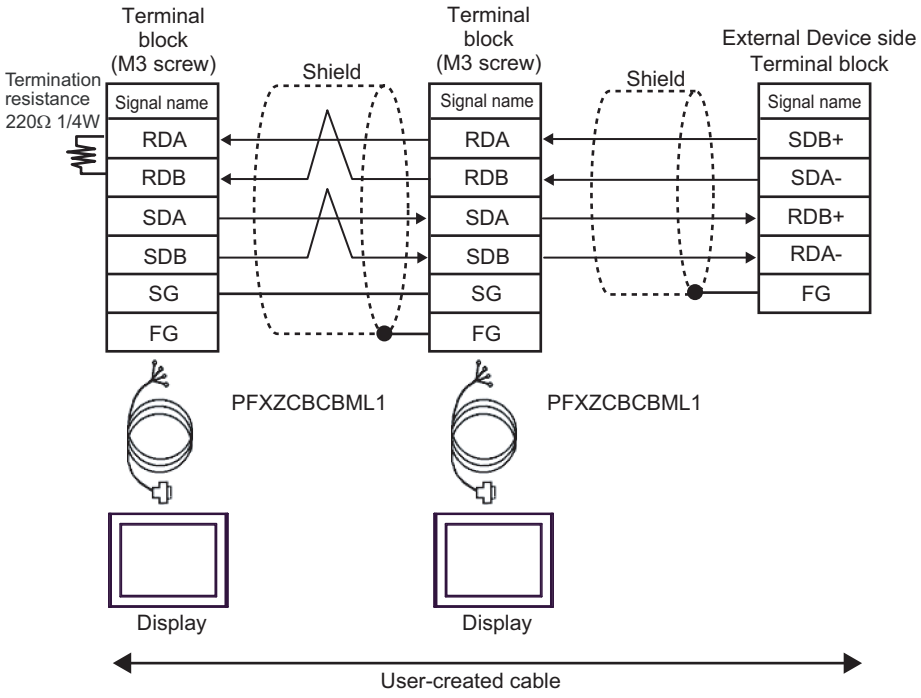


NOTE

- The cable length must be 500m or less.

6l)

- n:1 connection

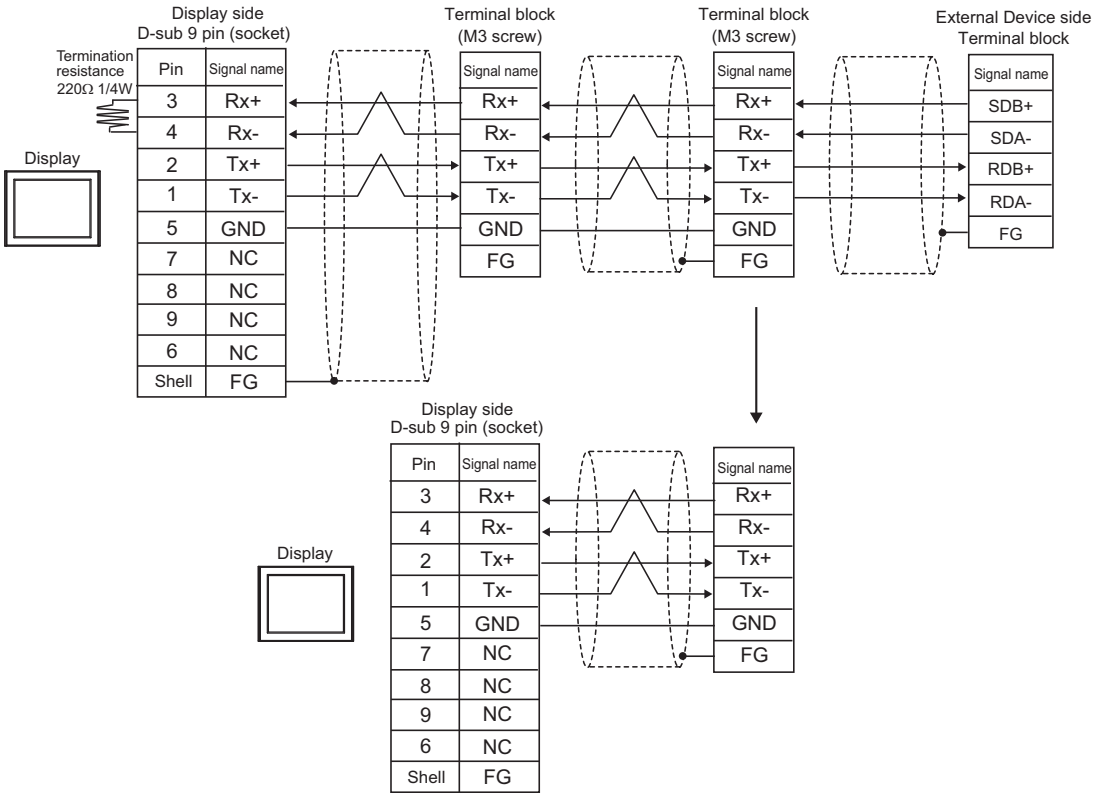


NOTE

- The cable length must be 500m or less.

6J)

- n:1 connection



NOTE

- The cable length must be 500m or less.

5.7 Cable Diagram 7

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	7A	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.
	7B	User-created cable	
GP3000[*3] (COM2)	7C	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.
	7D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	7E	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.
	7F	User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	7G	User-created cable	The cable length must be 500m or less.
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	7H	User-created cable	The cable length must be 500m or less.
GP4000[*6] (COM2) GP-4201T (COM1) SP5000[*7] (COM1/2) SP-5B00 (COM2) ST6000[*8] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*9] (COM2) PS6000 (Basic Box) (COM1/2)	7I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 [*10] + User-created cable	The cable length must be 500m or less.
	7B	User-created cable	

Display (Connection Port)	Cable		Notes
LT-4*01TM (COM1) LT-Rear Module (COM1)	7J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	The cable length must be 500m or less.
PE-4000B*11 PS5000*11 PS6000 (Optional Interface)*11	7K	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 All GP3000 models except GP-3200 series and AGP-3302B

*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B, PS5000, and PS6000)

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*5 Except GP-4203T

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

*7 Except SP-5B00

*8 Except ST-6200

*9 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

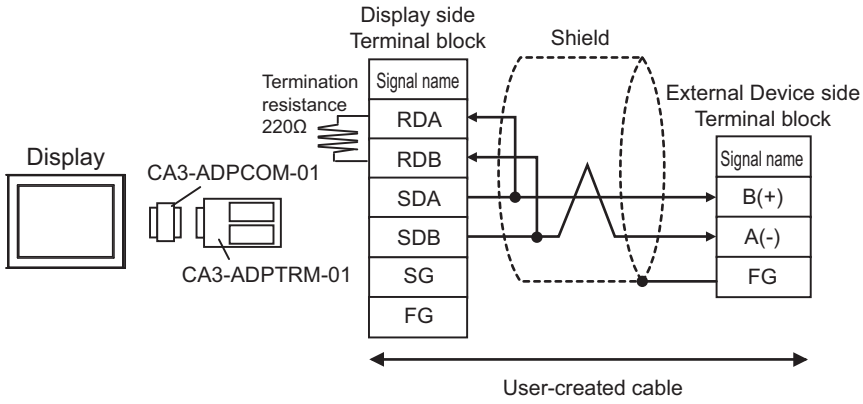
*10 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 7A.

*11 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.

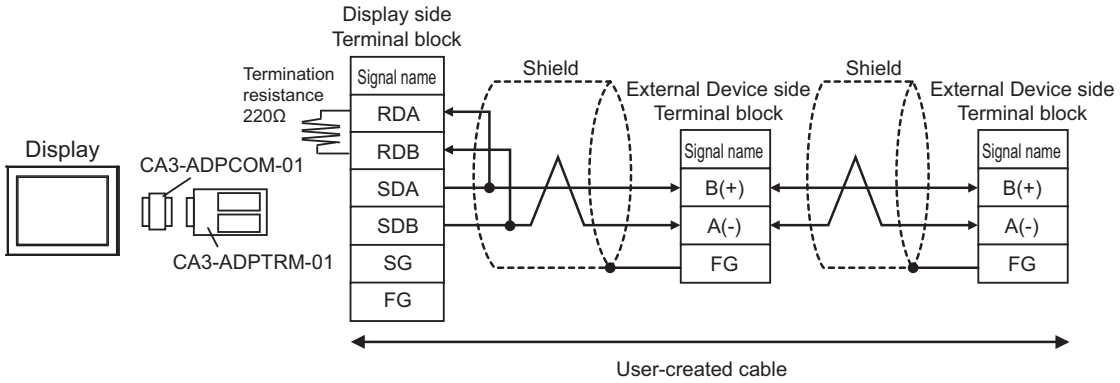
■ IPC COM Port (page 10)

7A)

- 1:1 connection

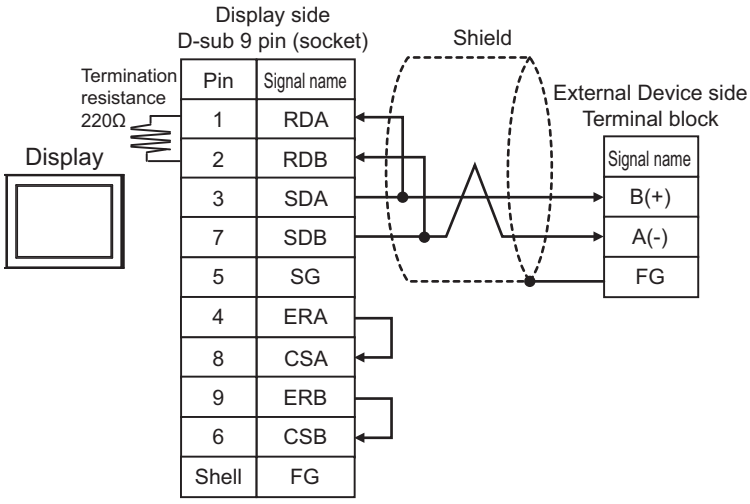


- 1:n connection

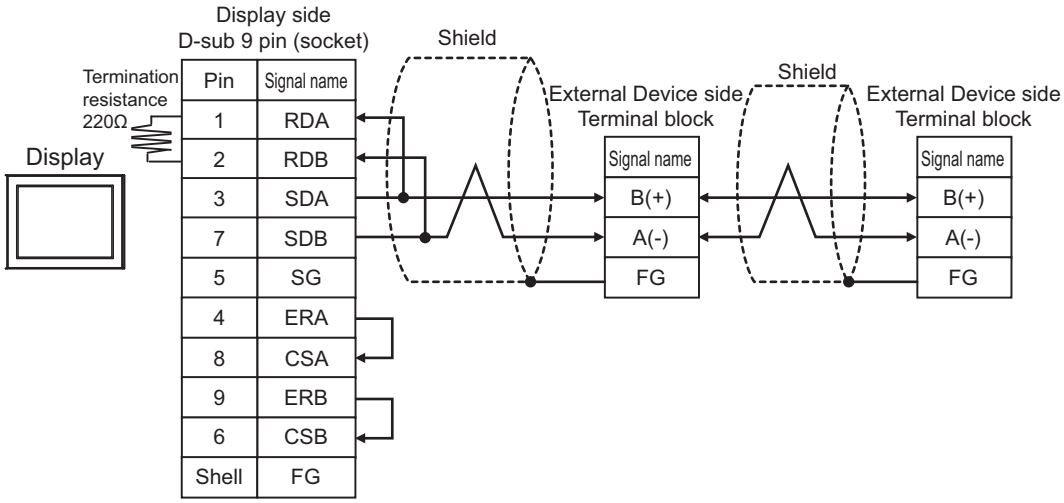


7B)

- 1:1 connection

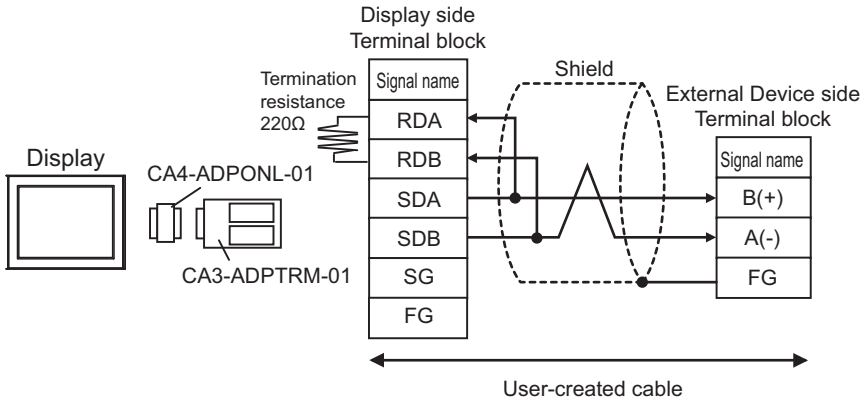


- 1:n connection

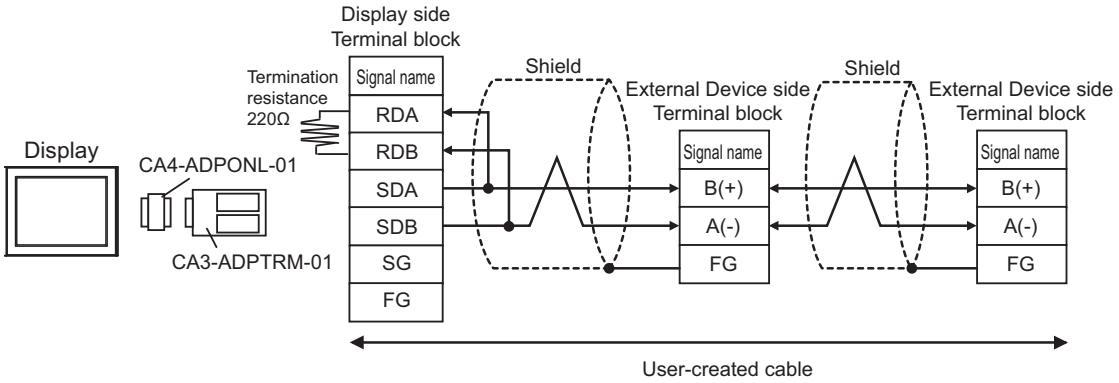


7C)

- 1:1 connection

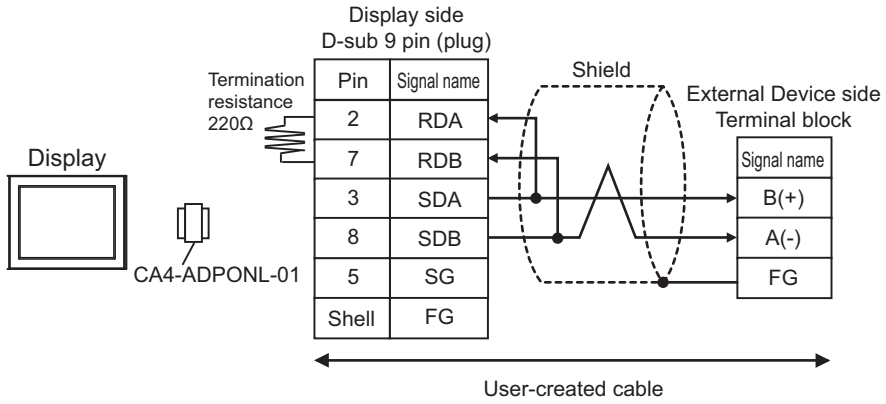


- 1:n connection

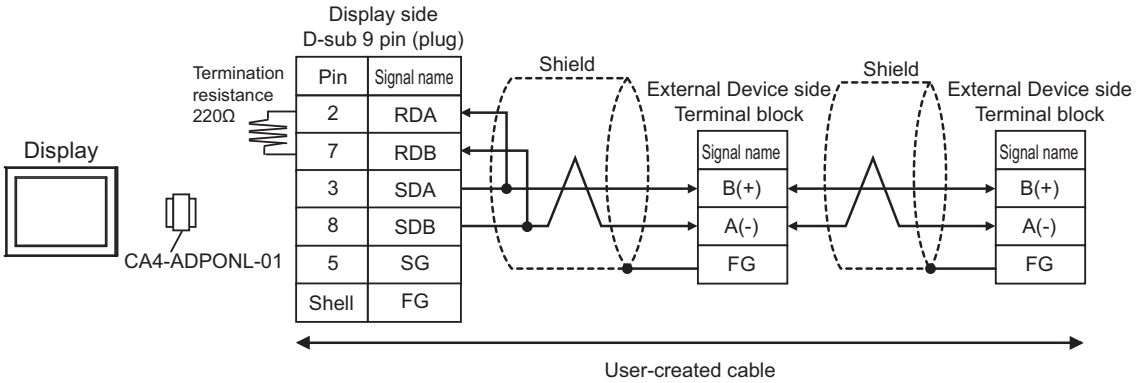


7D)

- 1:1 connection

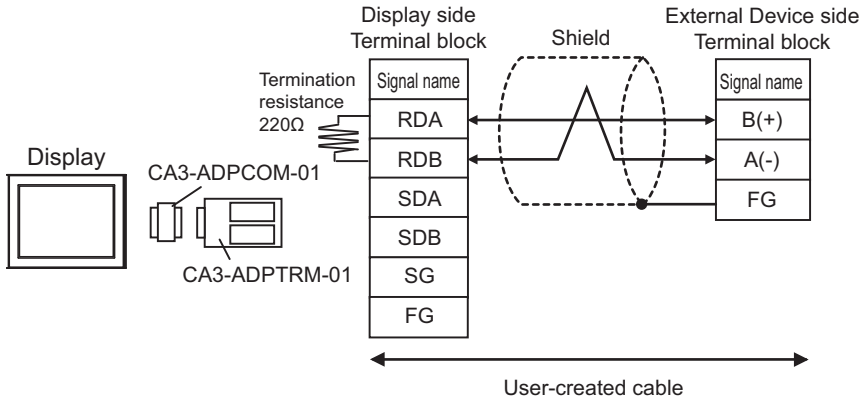


- 1:n connection

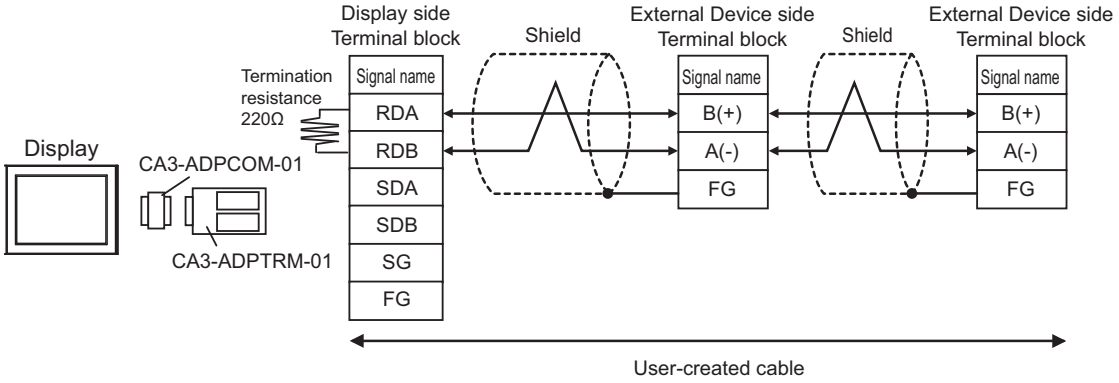


7E)

- 1:1 connection

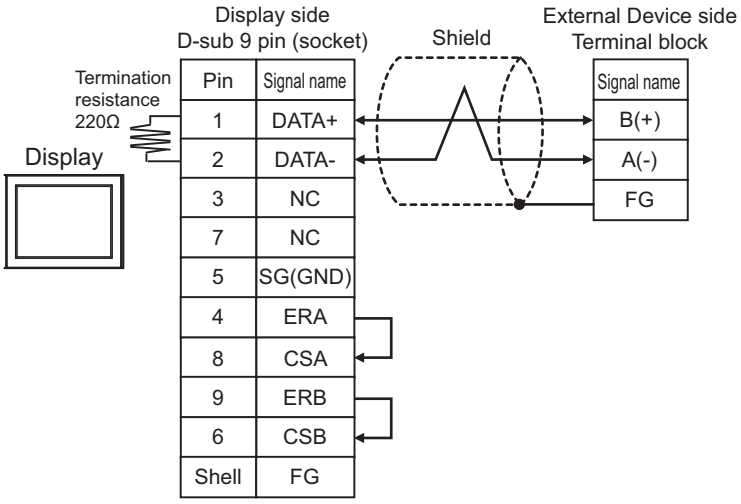


- 1:n connection

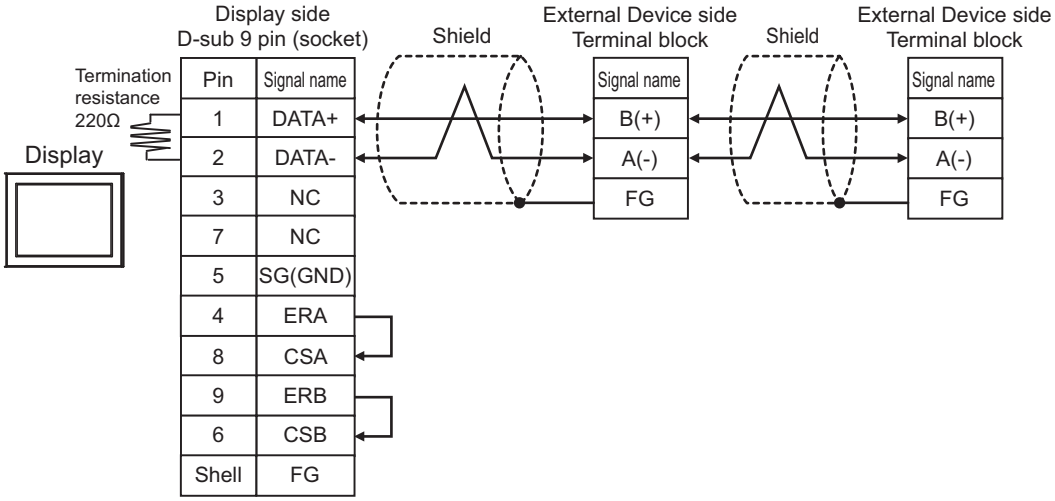


7F)

- 1:1 connection

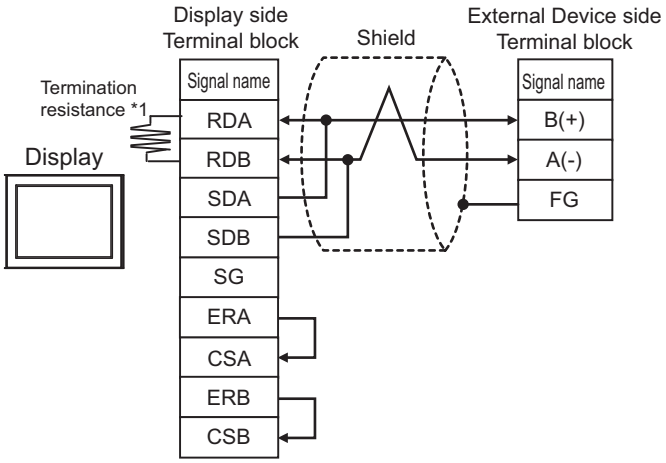


- 1:n connection

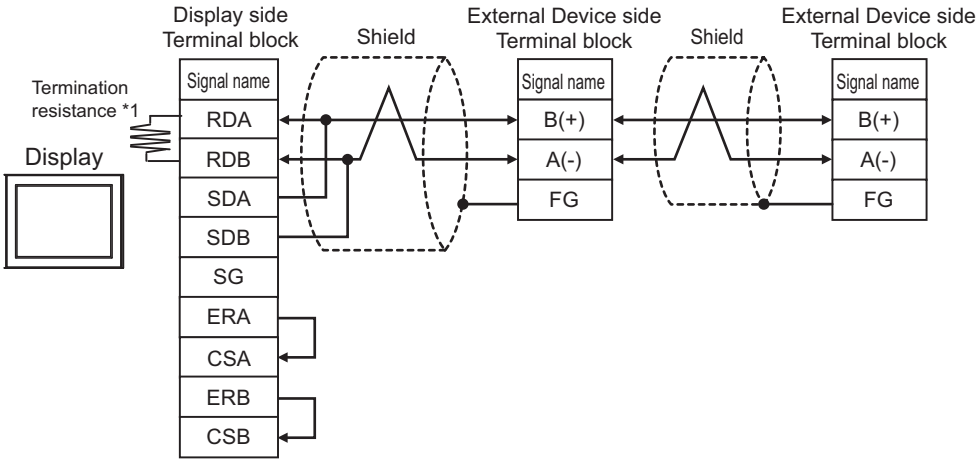


7G)

- 1:1 connection



- 1:n connection

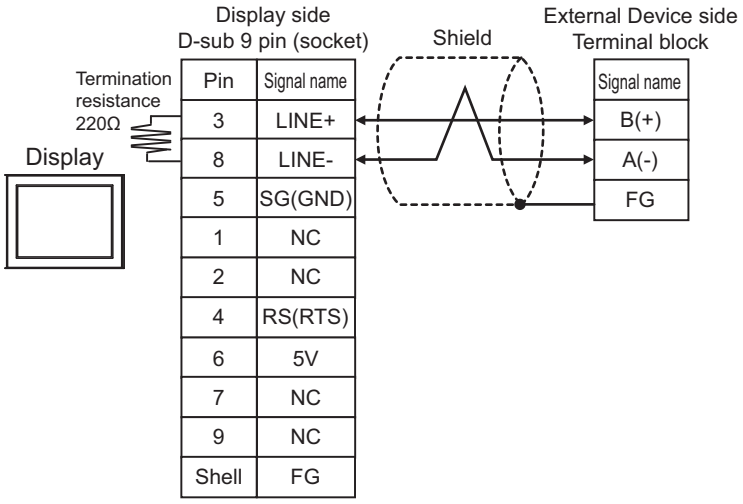


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

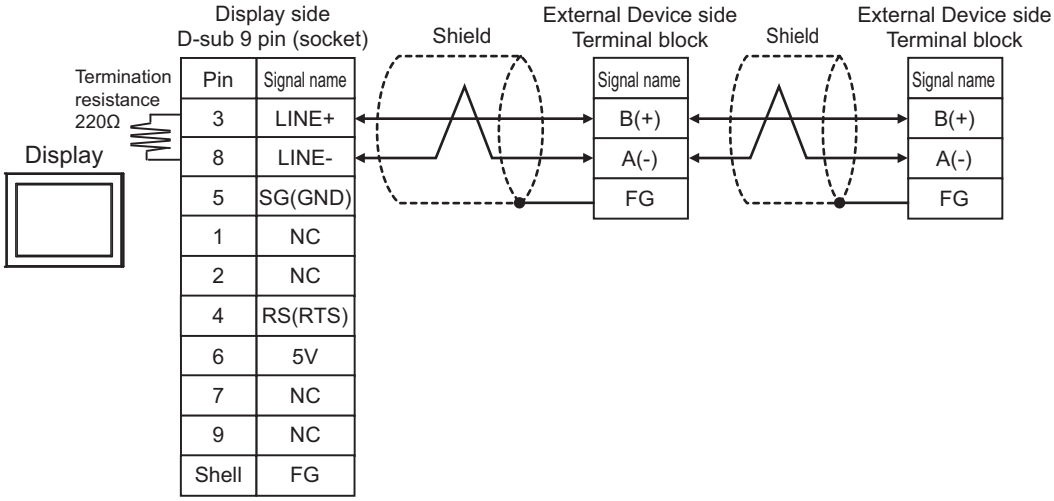
DIP Switch No.	Set Value
1	OFF
2	OFF
3	OFF
4	ON

7H)

- 1:1 connection

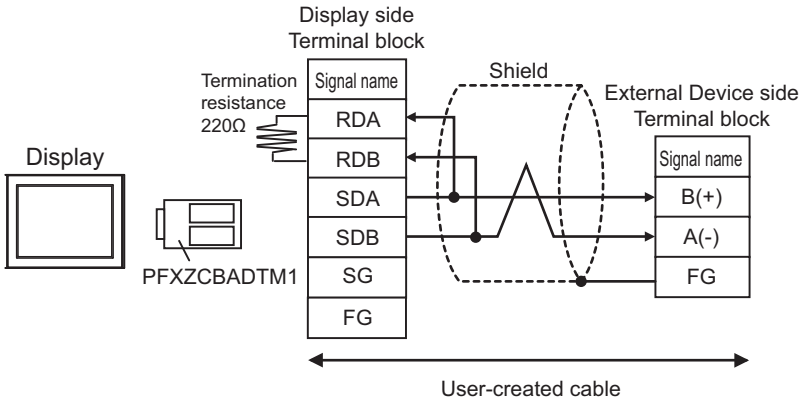


- 1:n connection

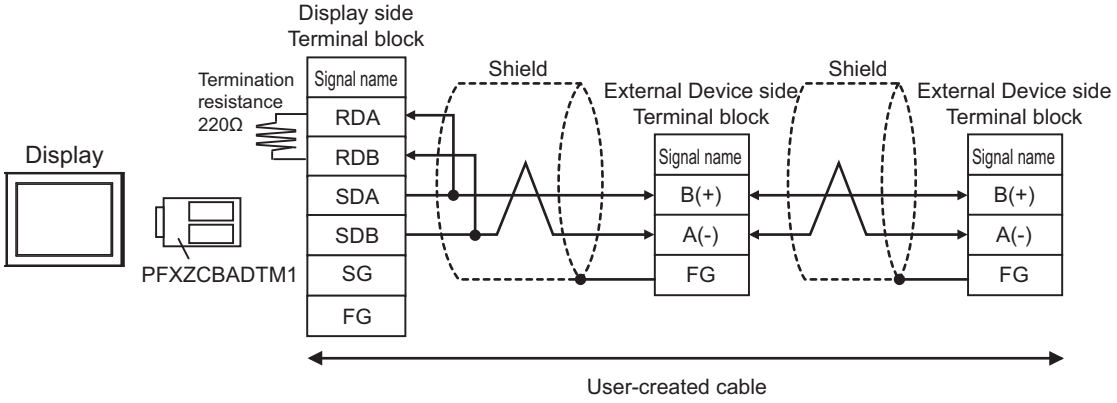


7I)

- 1:1 connection

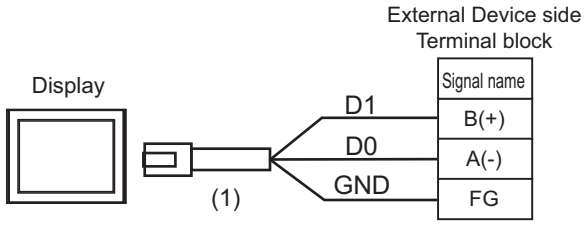


- 1:n connection

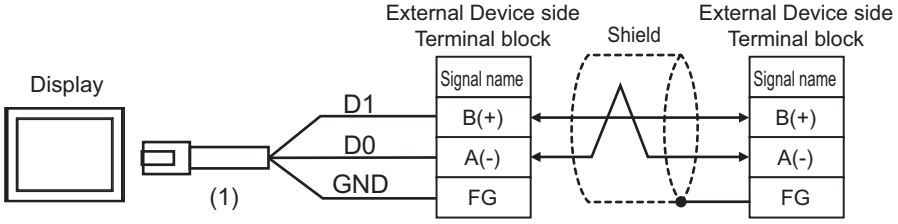


7J)

- 1:1 connection



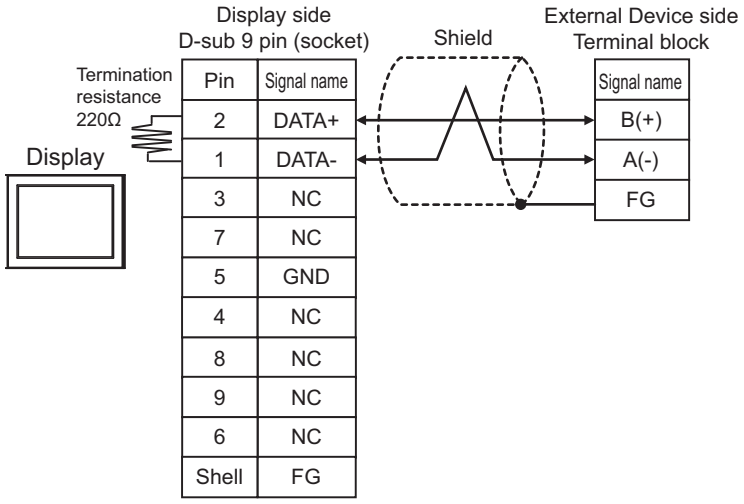
- 1:n connection



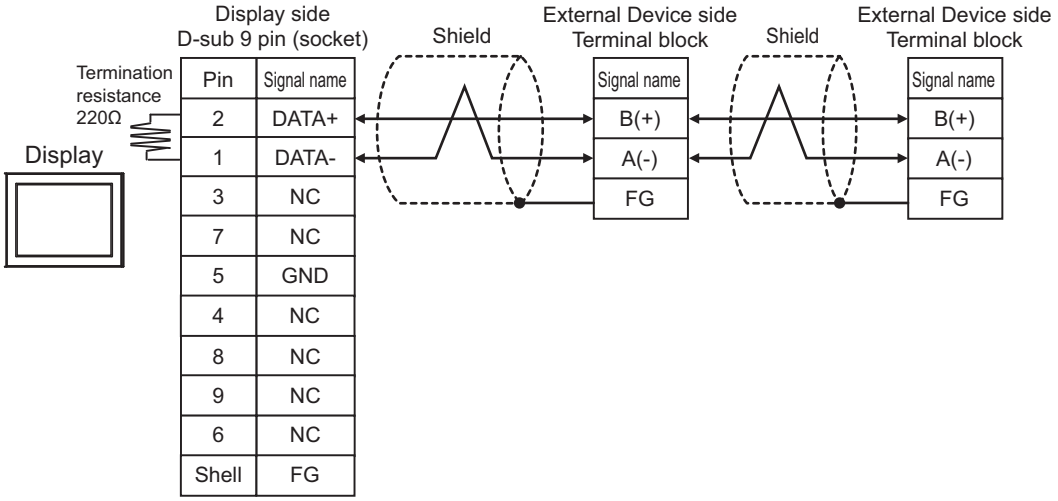
Number	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

7K)

- 1:1 connection



- 1:n connection



5.8 Cable Diagram 8

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	8A	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.
	8B	User-created cable	
GP3000[*3] (COM2)	8C	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.
	8D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	8E	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.
	8F	User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	8G	User-created cable	The cable length must be 500m or less.
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	8H	User-created cable	The cable length must be 500m or less.
GP4000[*6] (COM2) GP-4201T (COM1) SP5000[*7] (COM1/2) SP-5B00 (COM2) ST6000[*8] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*9] (COM2) PS6000 (Basic Box) (COM1/2)	8I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 [*10] + User-created cable	The cable length must be 500m or less.
	8B	User-created cable	

Display (Connection Port)	Cable		Notes
LT-4*01TM (COM1) LT-Rear Module (COM1)	8J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	The cable length must be 500m or less.
PE-4000B*11 PS5000*11 PS6000 (Optional Interface)*11	8K	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 All GP3000 models except GP-3200 series and AGP-3302B

*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B, PS5000, and PS6000)

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*5 Except GP-4203T

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

*7 Except SP-5B00

*8 Except ST-6200

*9 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

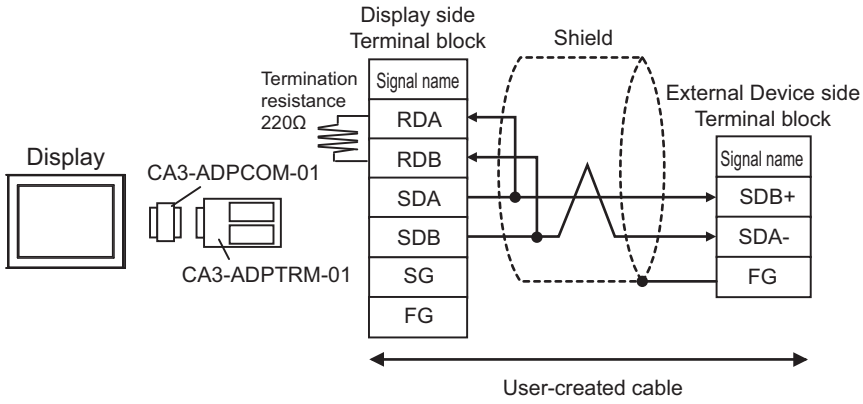
*10 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 8A.

*11 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.

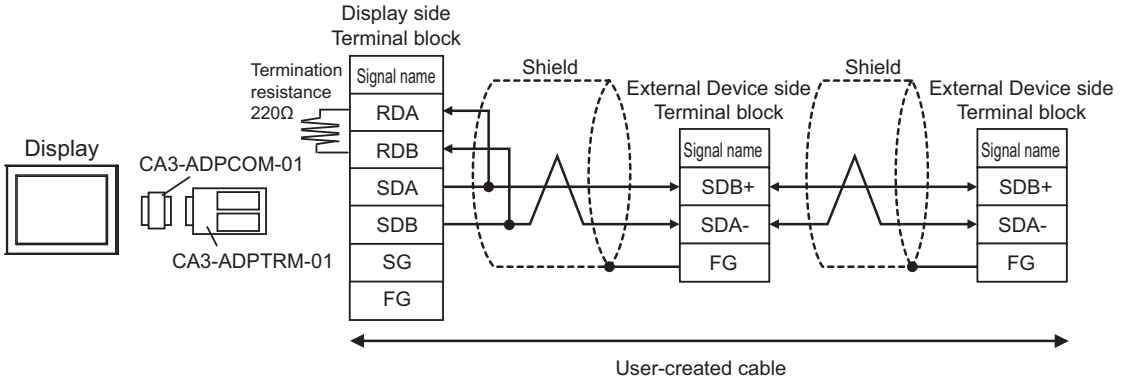
■ IPC COM Port (page 10)

8A)

- 1:1 connection

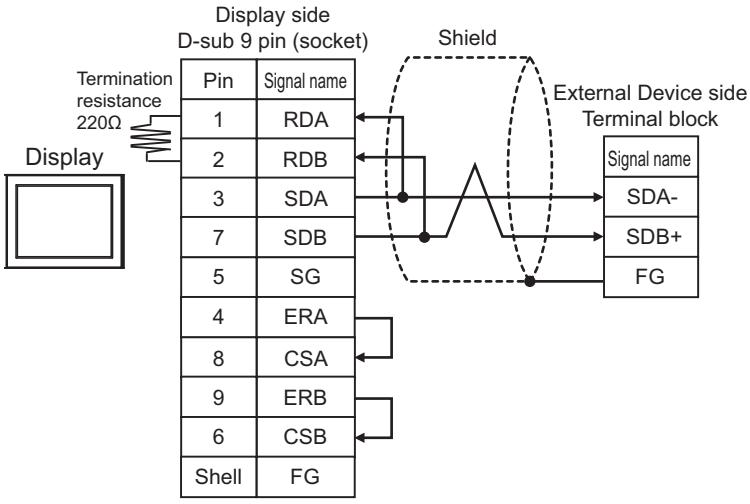


- 1:n connection

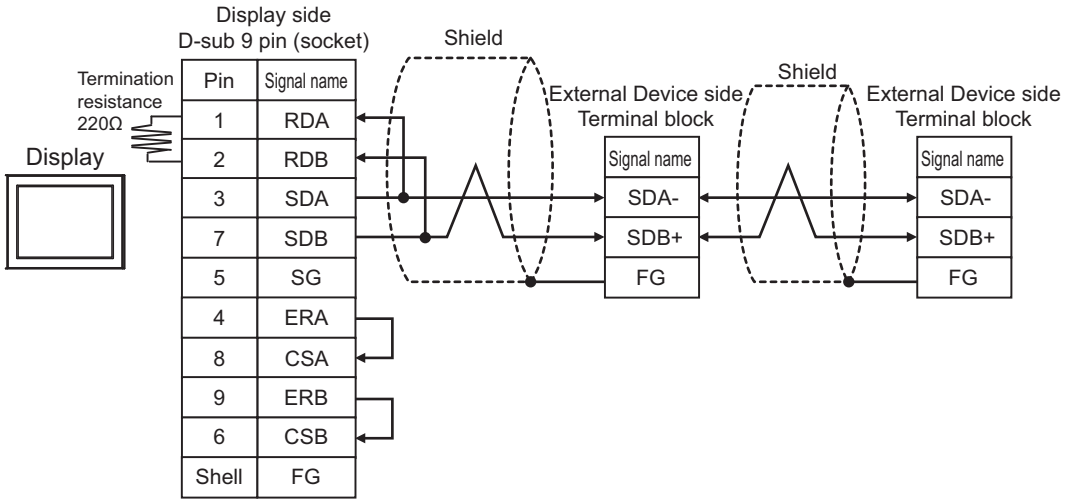


8B)

- 1:1 connection

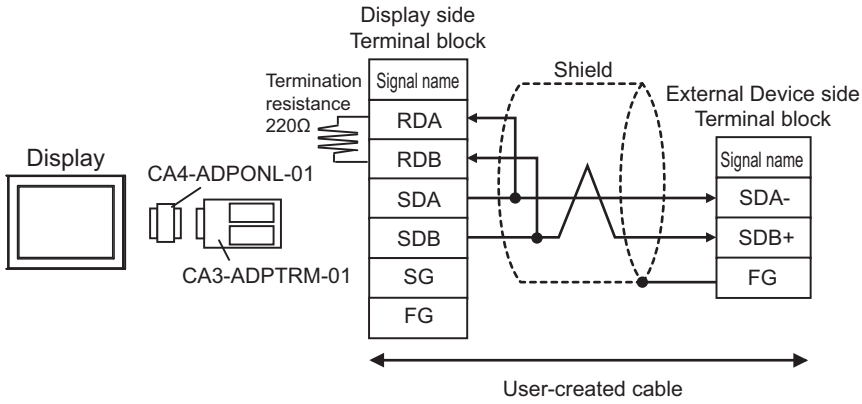


- 1:n connection

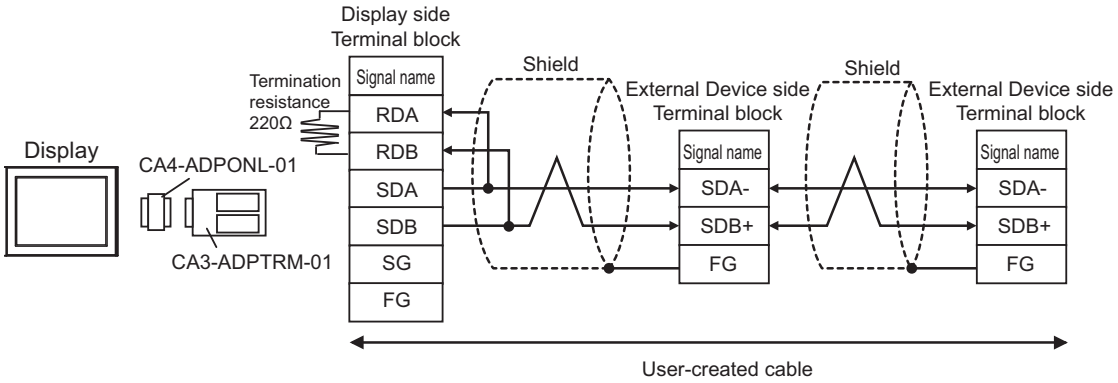


8C)

- 1:1 connection

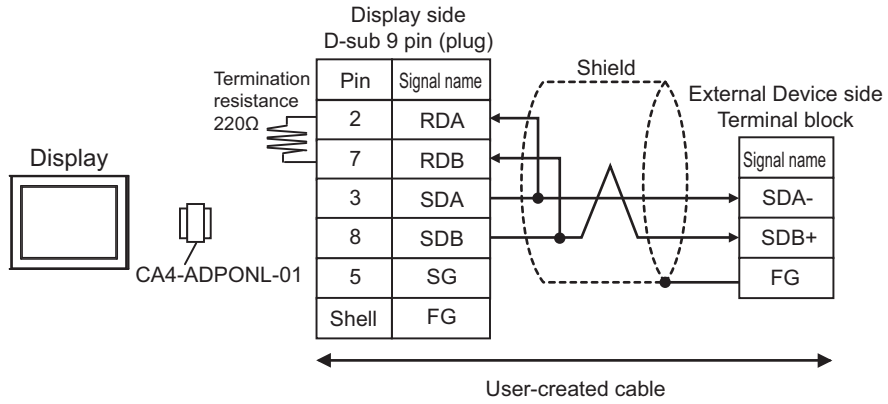


- 1:n connection

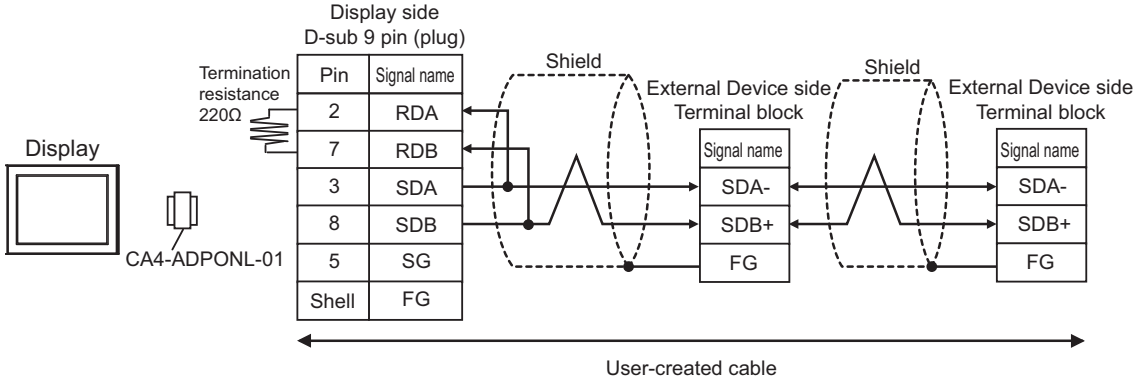


8D)

- 1:1 connection

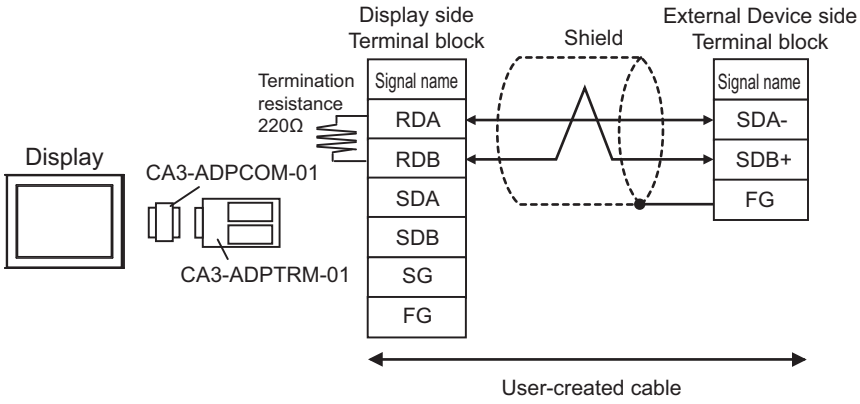


- 1:n connection

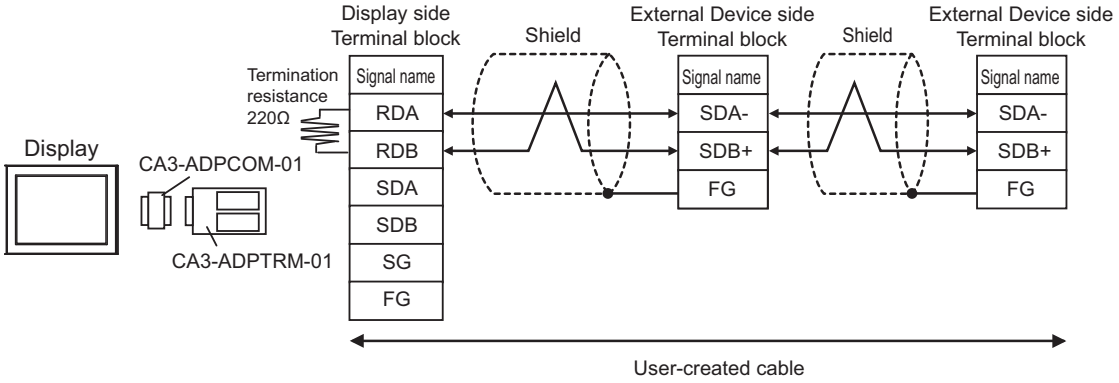


8E)

- 1:1 connection

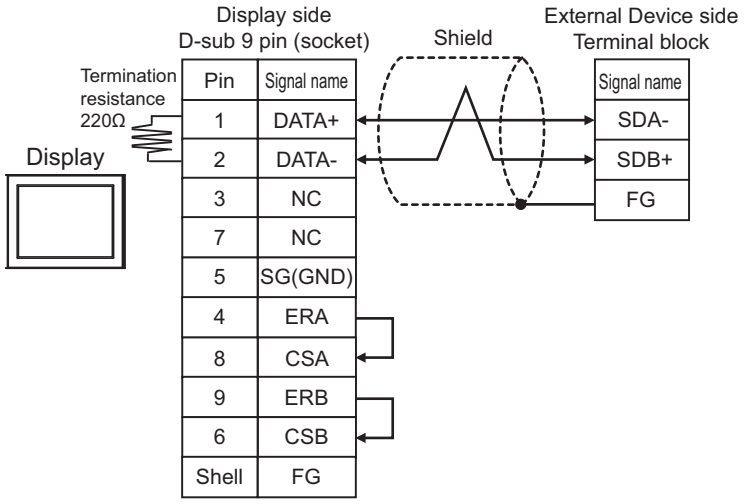


- 1:n connection

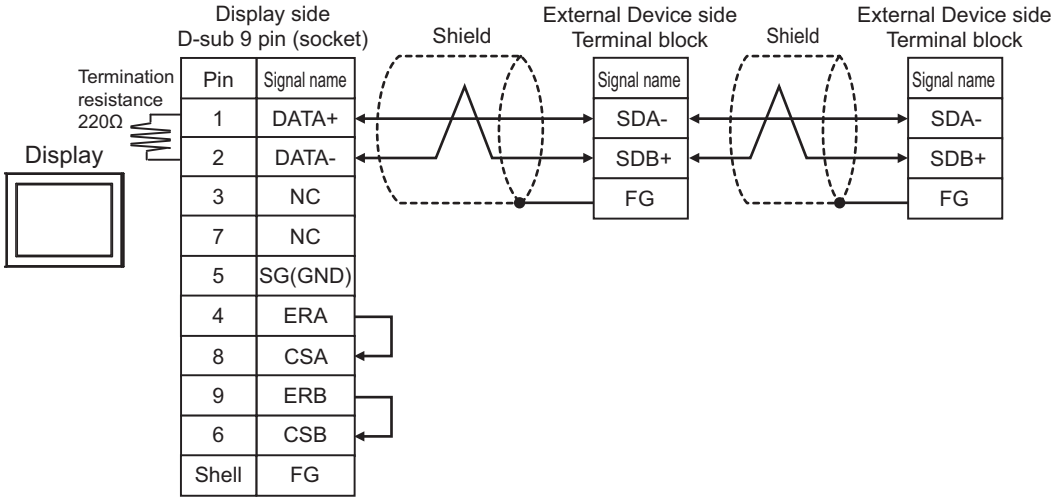


8F)

- 1:1 connection

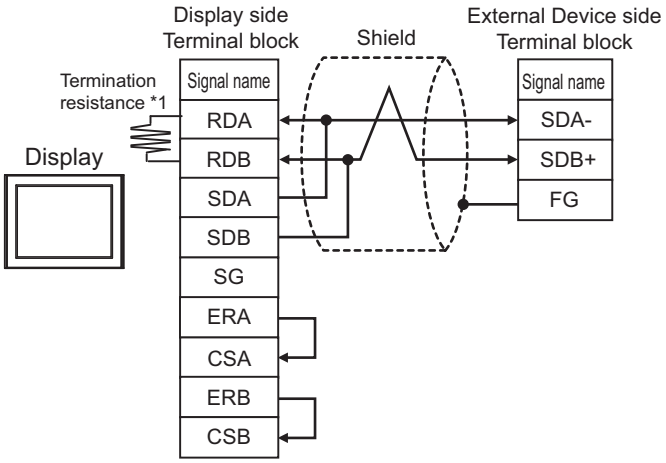


- 1:n connection

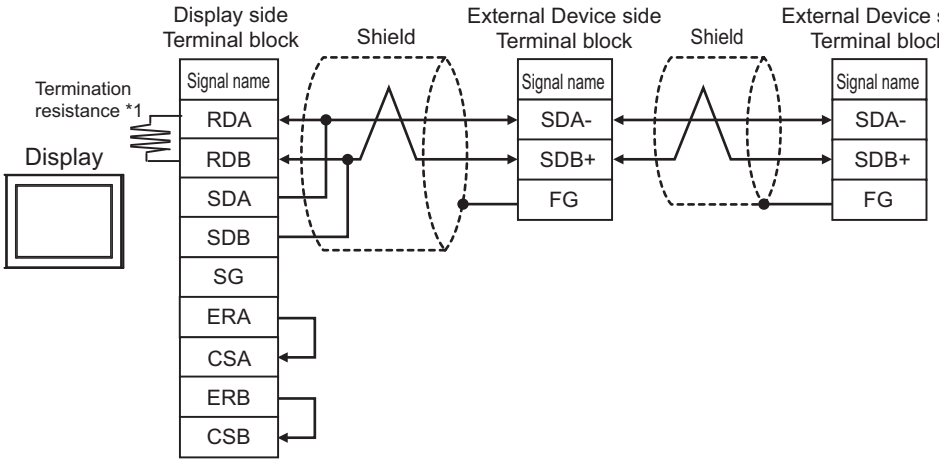


8G)

- 1:1 connection



- 1:n connection

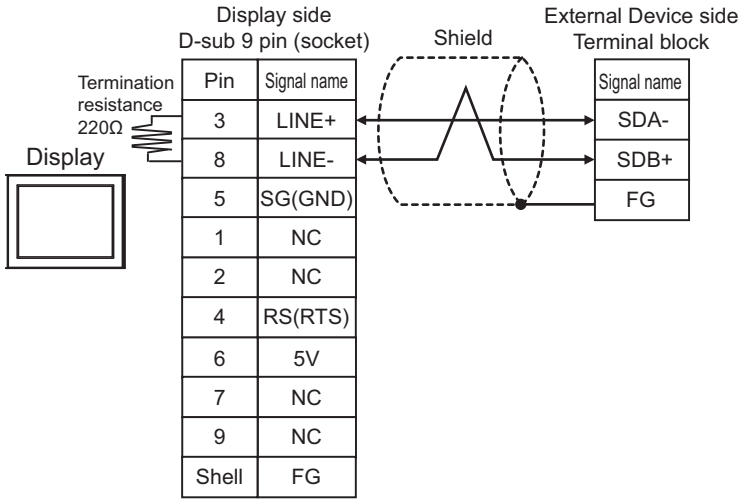


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

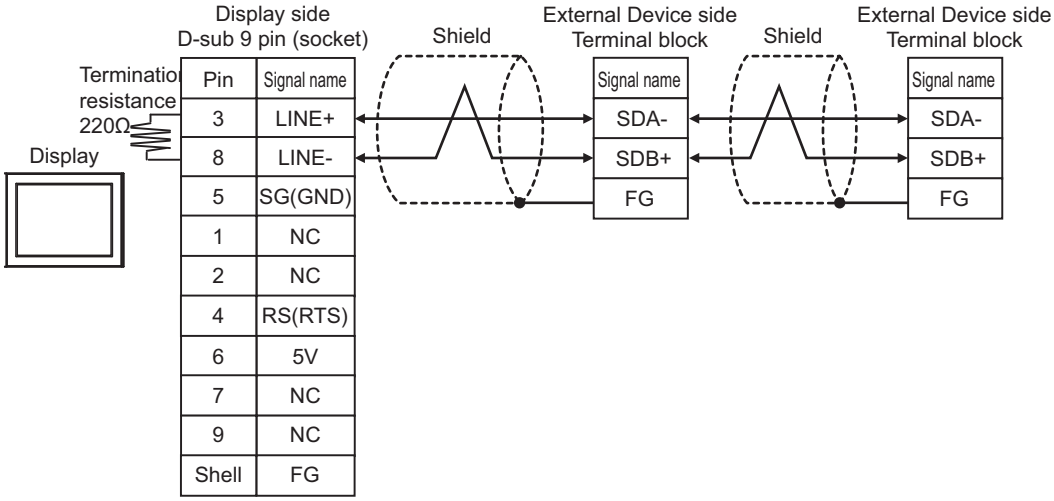
DIP Switch No.	Set Value
1	OFF
2	OFF
3	OFF
4	ON

8H)

- 1:1 connection

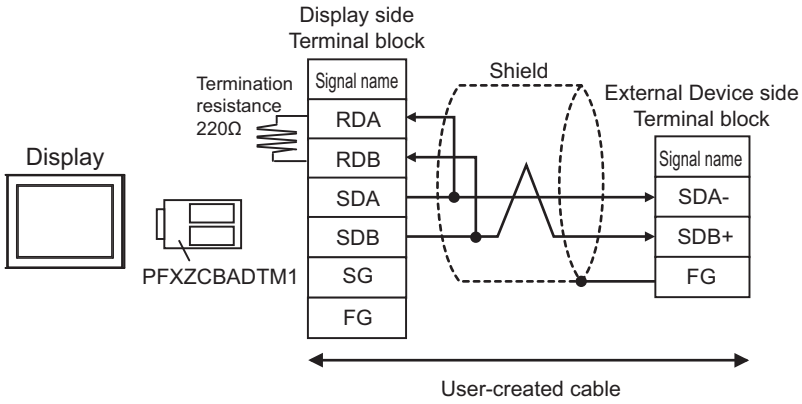


- 1:n connection

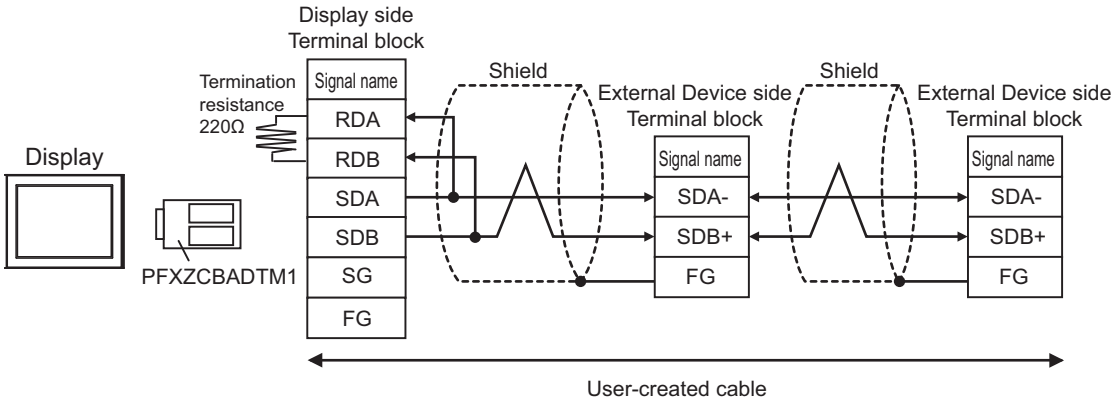


8I)

- 1:1 connection

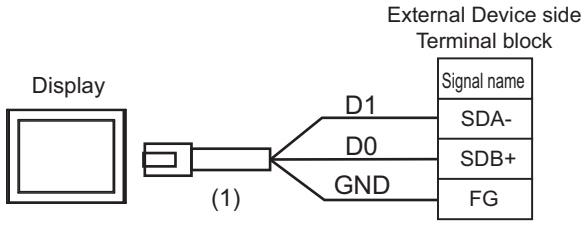


- 1:n connection

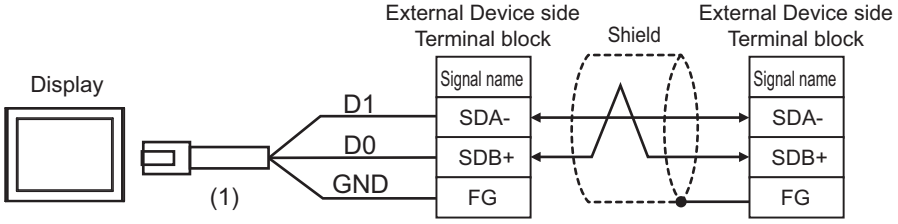


8J)

- 1:1 connection



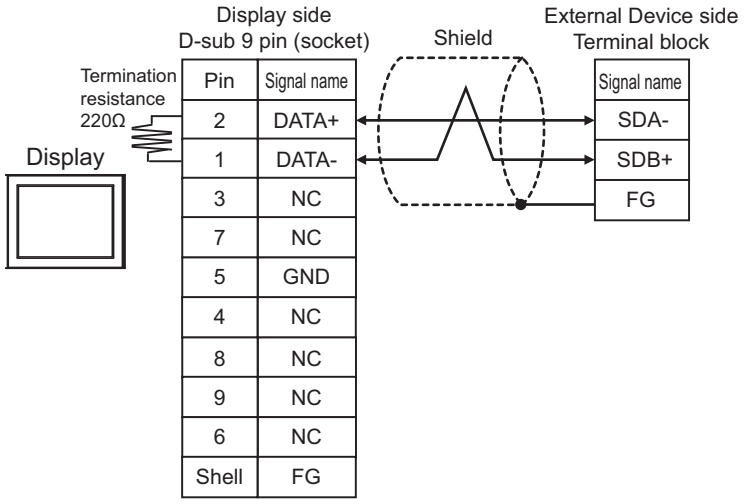
- 1:n connection



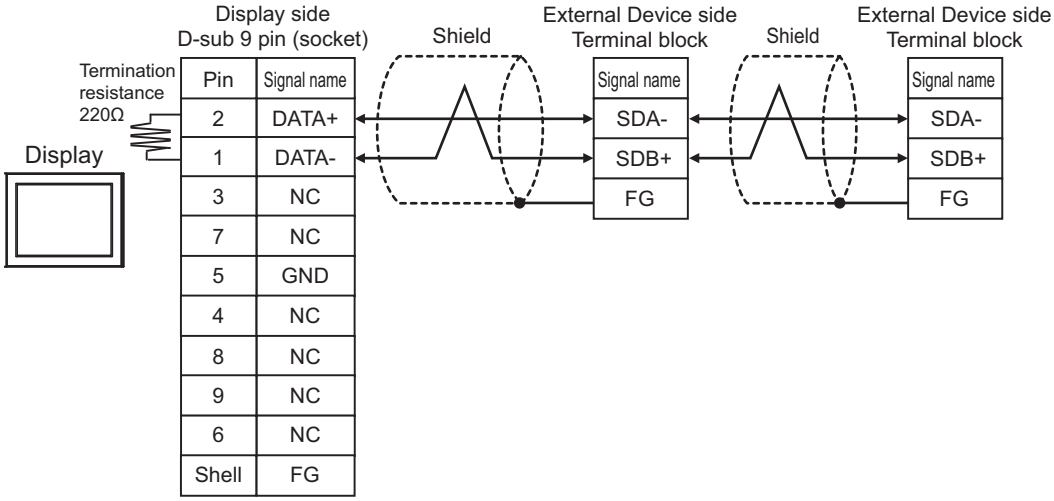
Number	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

8K)

- 1:1 connection



- 1:n connection



5.9 Cable Diagram 9

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	9A	User-created cable	The cable length must be 15m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	9B	User-created cable	The cable length must be 15m or less.
LT-4*01TM (COM1) LT-Rear Module (COM1)	9C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	The cable length must be 5m or less.

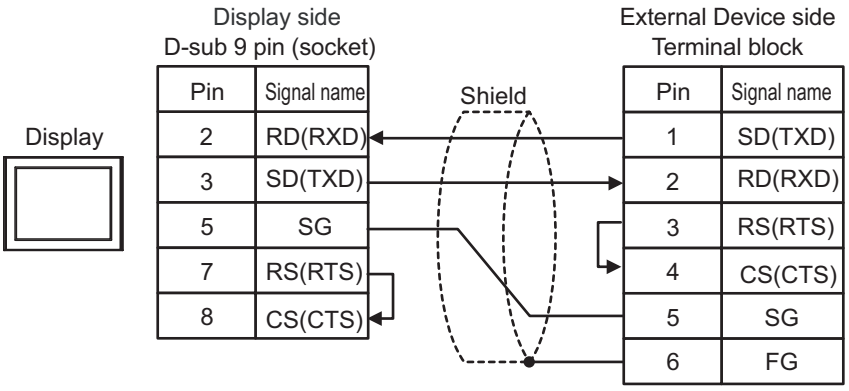
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

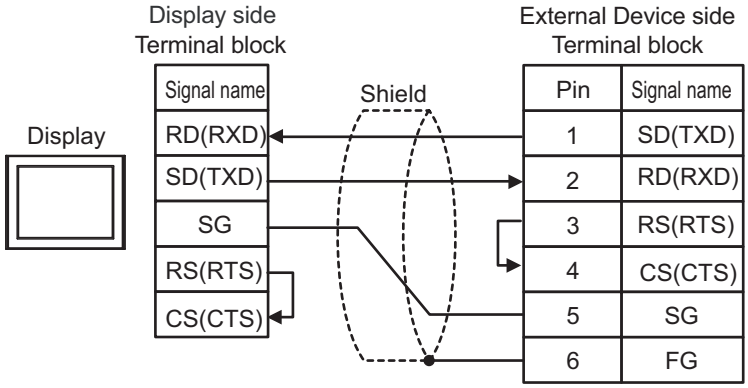
*3 Only the COM port which can communicate by RS-232C can be used.

■ IPC COM Port (page 10)

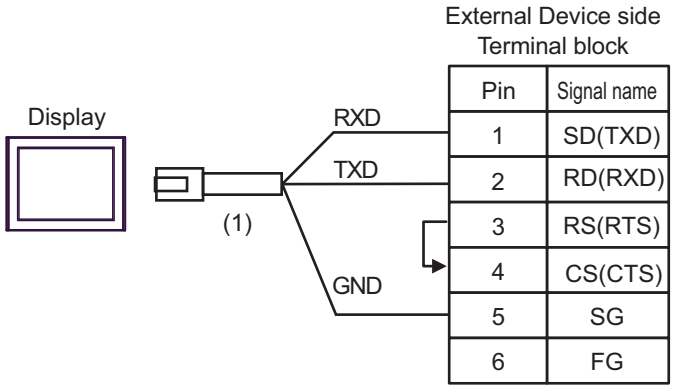
9A)



9B)



9C)



Legend	Name	Note
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

5.10 Cable Diagram 10

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	10A	User-created cable	The cable length must be 15m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	10B	User-created cable	The cable length must be 15m or less.
LT-4*01TM (COM1) LT-Rear Module (COM1)	10C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	The cable length must be 5m or less.

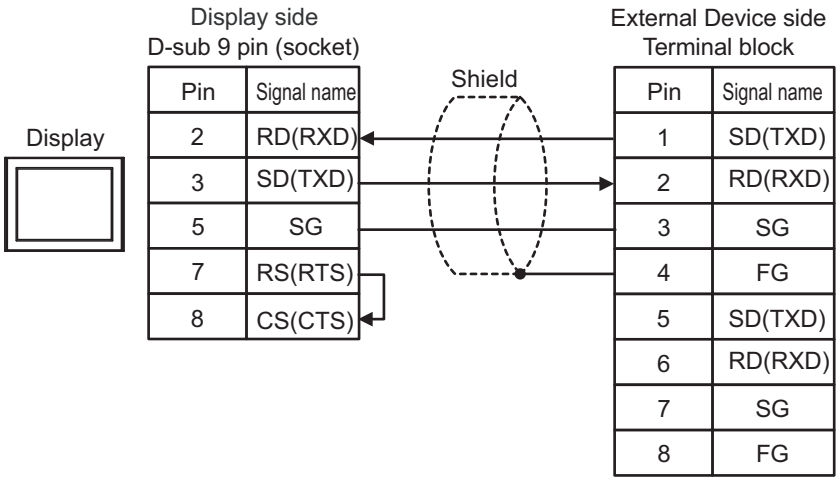
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

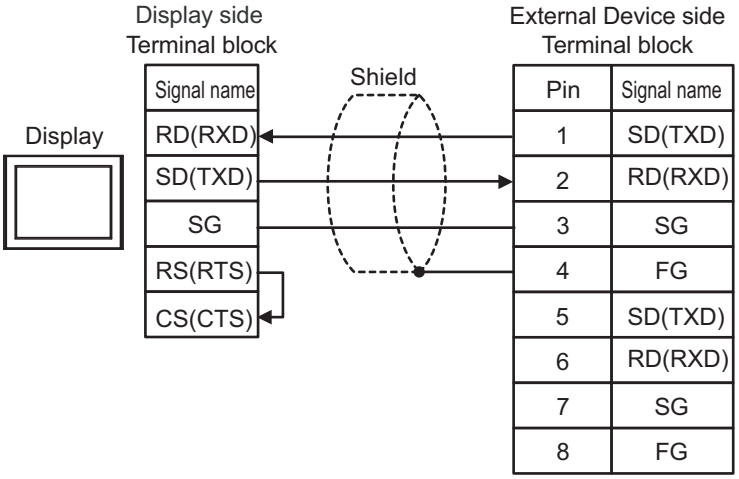
*3 Only the COM port which can communicate by RS-232C can be used.

■ IPC COM Port (page 10)

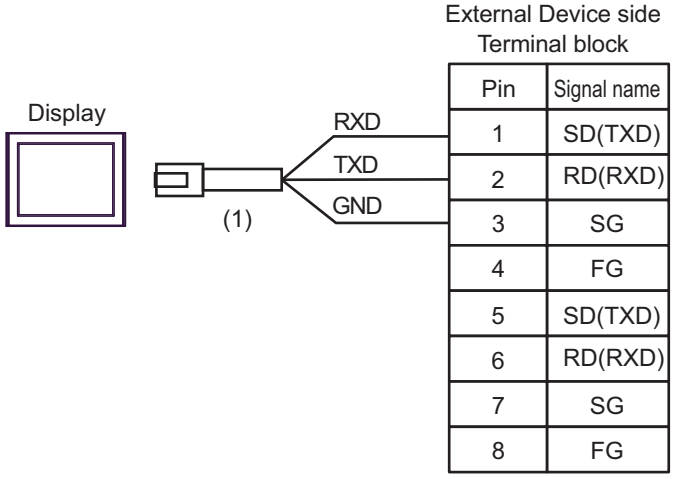
10A)



10B)



10C)



Legend	Name	Note
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

6 Supported Device

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

6.1 CS1/CJ1 Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
Channel I/O	0000.00-6143.15	0000-6143		
Internal Auxiliary Relay	W000.00-W511.15	W000-W511		
Special Auxiliary Relay	A000.00-A959.15	A000-A959		*1
Latch Relay	H000.00-H511.15	H000-H511		
Timer (Time Up Flag)	T0000-T4095	-		*2
Counter (Count Up Flag)	C0000-C4095	-		*2
Timer (Current Value)	-	T0000-T4095		
Counter (Current Value)	-	C0000-C4095		
Data Memory	D00000.00-D32767.15	D00000-D32767	L/H	*3
Extension Data Memory (E0-EC)	E000000.00-EC32767.15	E000000-EC32767		*4*5
Extension Data Memory (Current Bank)	-	EM00000-EM32767		Bit 15 *5*6
Task Flag (Bit)	TKB00-TKB31	-		*2
Task Flag (Status)	TK00.00-TK31.07	TK00-TK30		÷2 *2
Index Register	-	IR00-IR15		Bit 31 *7
Data Register	-	DR00-DR15		Bit 15 *7

*1 Write disable in A000 to A447.

*2 Write disable

*3 When using the communication unit (CS1W-SCU21), do not use the address of D30000 to D31599. When using the communication board (CS1W-SCU21/41), do not use the address of D32000 to D32767. These addresses may be used as the system setting area on the External Device.

*4 Max 13 banks (E0 to EC) can be used. 1 bank can contain 32768 words. Available bank number is different depending on the CPU unit.

*5 CJM1 Series does not include the extension data memory (E0 to EC, current bank EM).

*6 CJ1 Series does not include the extension data memory (current bank EM).

*7 You cannot write during RUN.

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.
  ☞Supported Devices Symbol and Terms
- Please refer to the precautions on manual notation for icons in the table.
  ☞"Manual Symbols and Terminology"

6.2 CJ2 Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Notes
Channel I/O	0000.00 - 6143.15	0000 - 6143		*1
Internal Auxiliary Relay	W000.00 - W511.15	W000 - W511		
Special Auxiliary Relay	A0000.00 - A1471.15 A10000.00 - A11535.15	A0000 - A1471 A10000 - A11535		*2
Latch Relay	H000.00 - H511.15	H000 - H511		*3
Timer (Time Up Flag)	T0000 - T4095	-		*4
Counter (Count Up Flag)	C0000 - C4095	-		*4
Timer (Current Value)	-	T0000 - T4095		
Counter (Current Value)	-	C0000 - C4095		
Data Memory	D00000.00 - D32767.15	D00000 - D32767	L/H	*1
Extension Data Memory (E0-E18)	E0 00000.00 - E18 32767.15	E0 00000 - E18 32767		*5 *6
Extension Data Memory (Current Bank)	-	EM00000 - EM32767		Bit 15
Task Flag (Bit)	TKB000 - TKB127	-		*4
Task Flag (Status)	TK000.00 - TK127.07	TK000 - TK126		÷2 *4
Index Register	-	IR00 - IR15		Bit 31 *7
Data Register	-	DR00 - DR15		Bit 15 *7

*1 Do not write in Channel I/O address 1500-1899 and Data Memory address D30000-D31599 from the Display. Because those address are used for setting the system on the External Device.

*2 Write disable in A000 - A447 and A10000 - A11535.

*3 When the CPU is CJ2H-CPU64-EIP, the bit address range is H000.00 to H999.15 and the word address range is H000 to H999.

*4 Write disable

*5 When the CPU is CJ2H-CPU64-EIP, the device is the extension data memory (E0-E3), the bit address range is E0 00000.00 to E3 32767.15, and the word address range is E0 00000 to E3 32767.

*6 Max 24 bank (E0 to E18) can be used. 1 bank is 32768 words. Available bank number is different depending on the CPU unit.

*7 Write disable during RUN

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.
  ☞Supported Devices Symbol and Terms
- Please refer to the precautions on manual notation for icons in the table.
  ☞"Manual Symbols and Terminology"

6.3 CP1 Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
Channel I/O	0000.00-6143.15	0000-6143		
Internal Auxiliary Relay	W000.00-W511.15	W000-W511		
Special Auxiliary Relay	A000.00-A959.15	A000-A959		*1
Latch Relay	H000.00-H511.15	H000-H511		*2
Timer (Time Up Flag)	T0000-T4095	-		*3
Counter (Count Up Flag)	C0000-C4095	-		*3
Timer (Current Value)	-	T0000-T4095	L/H	
Counter (Current Value)	-	C0000-C4095		
Data Memory	D00000.00-D32767.15	D00000-D32767		
Task Flag (Bit)	TKB00-TKB31	-		*3
Task Flag (Status)	TK00.00-TK31.07	TK00-TK30		÷2 *3
Index Register	-	IR00-IR15		Bit 31 *4
Data Register	-	DR00-DR15		Bit 15 *4

*1 Write disable in A000 to A447.

*2 When the CPU is CP1H-X40DR-A, the bit address range is H000.00 to H999.15 and the word address range is H000 to H999.

*3 Write disable

*4 You cannot write during RUN.

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.
  ☞Supported Devices Symbol and Terms
- Please refer to the precautions on manual notation for icons in the table.
  ☞"Manual Symbols and Terminology"

6.4 CP1E Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
Channel I/O	000.00-289.15	000-289	L/H	
Internal Auxiliary Relay	W00.00-W99.15	W00-W99		
Special Auxiliary Relay	A000.00-A753.15	A000-A753		*1
Latch Relay	H00.00-H49.15	H00-H49		
Timer (Time Up Flag)	T000-T255	-		*2
Counter (Count Up Flag)	C000-C255	-		*3
Timer (Current Value)	-	T000-T255		
Counter (Current Value)	-	C000-C255		
Data Memory	D0000.00-D8191.15	D0000-D8191		

*1 Write disable in A000 to A447.

*2 Write disable

NOTE

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

6.5 CP2E Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
Channel I/O	000.00-289.15	000-289	L/H	
Internal Auxiliary Relay	W000.00-W127.15	W000-W127		
Special Auxiliary Relay	A000.00-A959.15	A000-A959		*1
Latch Relay	H000.00-H127.15	H000-H127		
Timer (Time Up Flag)	T000-T255	-		*2
Counter (Count Up Flag)	C000-C255	-		*3
Timer (Current Value)	-	T000-T255		
Counter (Current Value)	-	C000-C255		
Data Memory	D00000.00-D16383.15	D00000-D16383		
Index Register	-	IR00-IR15		Bit 31 *3
Data Register	-	DR00-DR15		Bit 15 *3

*1 Write disable in A000 to A447.

*2 Write disable

*3 You cannot write during RUN.

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.
  ☞Supported Devices Symbol and Terms
- 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 & Address" for the address type in data displays.

Device	Device Name	Device Code (HEX)	Address Code
Channel I/O	-	0080	Word Address
Internal Auxiliary Relay	W	0082	Word Address
Special Auxiliary Relay	A	0085	Word Address
Latch Relay	H	0084	Word Address
Timer (Current Value)	T	0060	Word Address
Counter (Current Value)	C	0061	Word Address
Data Memory	D	0000	Word Address
Extension Data Memory (E0-E18)	E0	0010	Word Address
	E1	0011	Word Address
	E2	0012	Word Address
	E3	0013	Word Address
	E4	0014	Word Address
	E5	0015	Word Address
	E6	0016	Word Address
	E7	0017	Word Address
	E8	0018	Word Address
	E9	0019	Word Address
	EA	001A	Word Address
	EB	001B	Word Address
	EC	001C	Word Address
	ED	001D	Word Address
	EE	001E	Word Address
	EF	001F	Word Address
	E10	0020	Word Address
	E11	0021	Word Address
	E12	0022	Word Address
	E13	0023	Word Address
	E14	0024	Word Address

Device	Device Name	Device Code (HEX)	Address Code
Extension Data Memory (E0-E18)	E15	0025	Word Address
	E16	0026	Word Address
	E17	0027	Word Address
	E18	0028	Word Address
Extension Data Memory (Current Bank)	EM	0001	Word Address
Task Flag (Status)	TK	0002	Word Address
Index Register	IR	0003	Word Address
Data Register	DR	0004	Word Address

8 Error Messages

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

Item	Description
No.	Error No.
Device Name	Name of External Device where error occurs. Name of External Device is a title of 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 External Device where error occurs, or error codes received from External Device. NOTE • IP address is displayed such as "IP address(Decimal): MAC address(Hex)". • Device address is diplayed such as "Address: Device address". • Received error codes are displayed such as "Decimal[Hex]".

Display Examples of Error Messages

"RHAA036: PLC1: Error has been responded for device read command (Error Code: 4355[1103h] There are out of range devises)"

NOTE
- Device specific error codes (2 bytes) are structured as "Main Response Code (1 byte)" and "Sub Response Code (1 bytes)". If the Main Response Code is 0x11 and the Sub Response Code is 0x03, then the received error code is 0x1103.
- Refer to your External Device manual for details on received error codes.
- Refer to "Display-related errors" in "Maintenance/Troubleshooting Guide" for details on the error messages common to the driver.

■ Error Code Peculiar to External Device

Device specific error codes (2 bytes) are displayed as "Main Response Code (1 byte)" and "Sub Response Code (1 bytes)".

When received the error code from the external device, add to the below message. "Main Response Code" is displayed continuously "Main Response" and "Sub Response Code" is displayed continuously "Sub Response".

For details of the error code, please refer to the manual of the external device.

The error code peculiar to the external device is as follows.

Message ID	Error Message	Description
RHxx130	(Node Name): Error has been responded for device read command (Main Response: [Hex], Sub Response: [Hex])	Display the error message, when the error occurred by the reading demand.

Message ID	Error Message	Description
RHxx131	(Node Name): Error has been responded for device write command (Main Response: [Hex], Sub Response: [Hex])	Display the error message, when the error occurred by the write demand.