Schneider Electric SA
MOD_SIOM_32
3/2025

MODBUS SIO Master Driver

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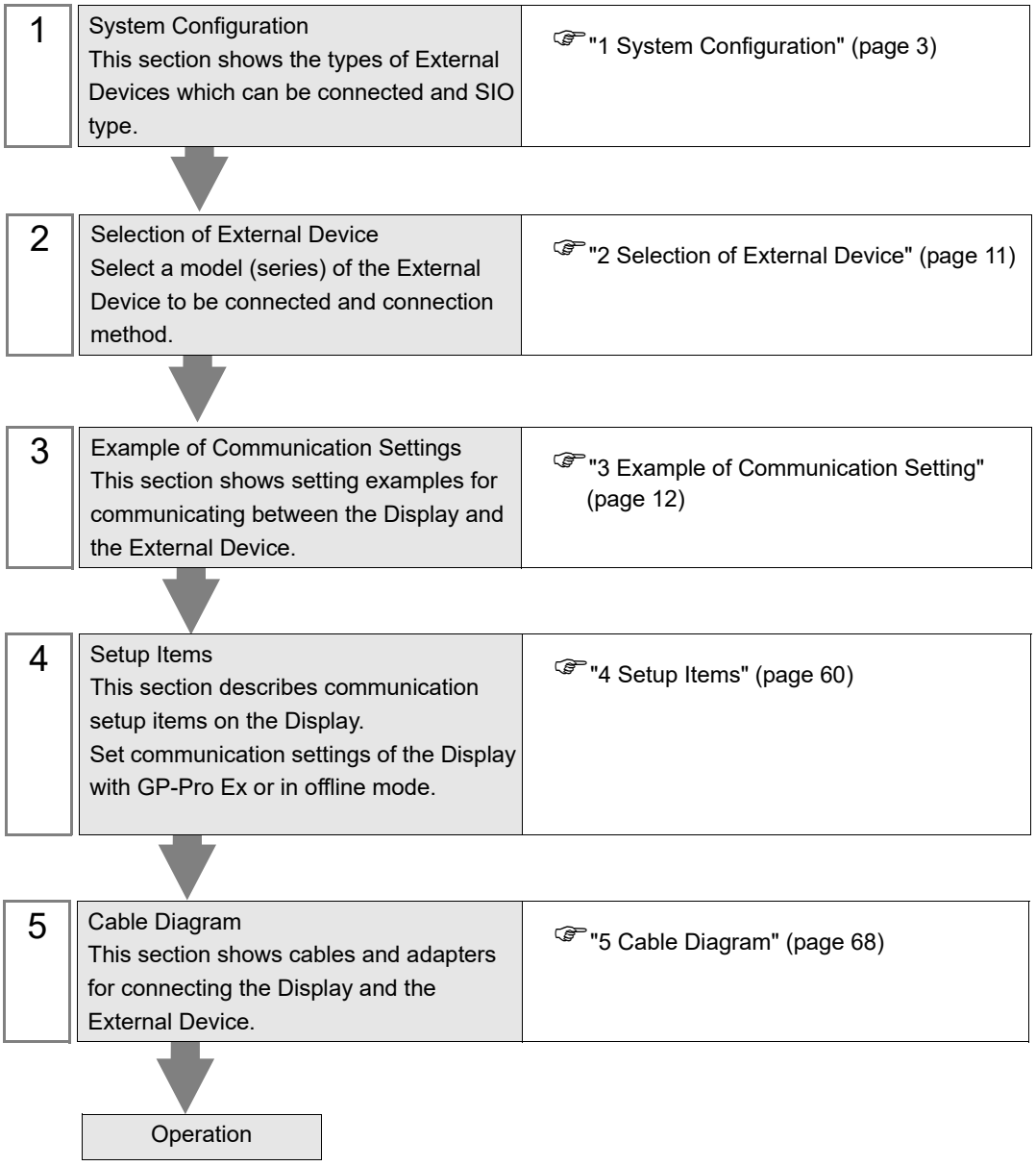
IMPORTANT

- The below Displays are no longer sold nor maintained by Pro-face. To reduce unplanned downtime due to aged hardware and to maximize your cyber security environment we recommend replacing your devices with a new, successor model. For details, please visit our homepage for "Recommended Substitution". Discontinued from GP-Pro EX 5.00 onwards: GP3000 Series, LT3000 Series, ST3000 Series, GP-4100 Series (Monochrome model), PL Series, PS3000/4000 Series, PE4000 Series.
- For details on the Displays supported by the driver, please check the "Connectable Devices" on our website.
  http://www.pro-face.com/trans/en/manual/1064.html

Introduction

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

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



1 System Configuration

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

1.1 Schneider Electric SA External Device.

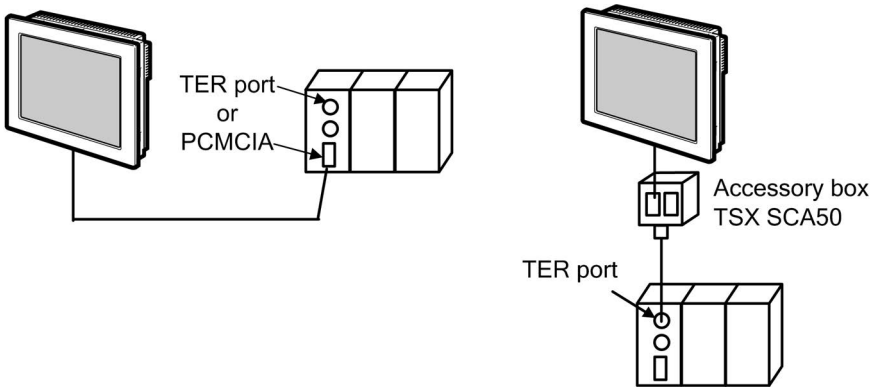
Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
Micro	TSX 37 05 028DR1 TSX 37 08 056DR1 TSX 37 10 128DT1 TSX 37 10 128DR1 TSX 37 10 128DTK1 TSX 37 10 164DTK1 TSX 37 10 028AR1 TSX 37 10 028DR1	TER port on CPU	RS232C	Setting Example 1 (page 12)	Cable Diagram 2 (page 81)
		Accessory box TSX SCA 50	RS485 (2wire)	Setting Example 3 (page 16)	Cable Diagram 3 (page 82)
	TSX 37 21 101 TSX 37 22 101 TSX 37 21 001 TSX 37 22 001	TER port on CPU	RS232C	Setting Example 1 (page 12)	Cable Diagram 2 (page 81)
		Accessory box TSX SCA 50	RS485 (2wire)	Setting Example 3 (page 16)	Cable Diagram 3 (page 82)
		PCMCIA card for RS232C TSX SCP 111	RS232C	Setting Example 2 (page 14)	Cable Diagram 4 (page 96)
		PCMCIA card for RS485 TSX SCP 114	RS485 (2wire)	Setting Example 3 (page 16)	Cable Diagram 5 (page 99)
Premium	TSX P57 103M TSX P57 153M TSX P57 203M TSX P57 253M TSX P57 303M TSX P57 353M TSX P57 453M	PCMCIA card for RS232C TSX SCP 111	RS232C	Setting Example 4 (page 18)	Cable Diagram 4 (page 96)
		PCMCIA card for RS485 TSX SCP 114	RS485 (2wire)	Setting Example 5 (page 20)	Cable Diagram 5 (page 99)
Twido	TWD LCAA 10DRF TWD LCAA 16DRF TWD LCAA 24DRF TWD LMDA 20DTK TWD LMDA 20DUK TWD LMDA 20DRT TWD LMDA 40DTK TWD LMDA 40DUK	Programming port on CPU	RS232C	Setting Example 6 (page 22)	Cable Diagram 2 (page 81)
		TWD NAC 485T	RS485 (2wire)	Setting Example 7 (page 24)	Cable Diagram 1 (page 68)
Quantum	140 CPU 113 02 140 CPU 113 03 140 CPU 434 12A 140 CPU 534 14A	Modbus port on CPU	RS232C	Setting Example 8 (page 26)	Cable Diagram 6 (page 108)

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
Momentum	171 CCS 700 00 171 CCS 700 10 171 CCS 760 00 171 CCC 760 10	Modbus port 1 on CPU	RS232C	Setting Example 9 (page 28)	Cable Diagram 7 (page 110)
	171 CCS 780 00 171 CCC 780 10	Modbus port 1 on CPU	RS232C	Setting Example 9 (page 28)	Cable Diagram 7 (page 110)
		Modbus port 2 on CPU	RS485 (4wire)	Setting Example 10 (page 30)	Cable Diagram 8 (page 112)
	171 CCC 980 20 171 CCC 980 30	Modbus port 2 on CPU	RS485 (4wire)	Setting Example 10 (page 30)	Cable Diagram 8 (page 112)
M221	TM221C16R TM221C16T TM221C16U TM221C24R TM221C24T TM221C24U TM221C40R TM221C40T TM221C40U TM221CE16R TM221CE16T TM221CE16U TM221CE24R TM221CE24T TM221CE24U TM221CE40R TM221CE40T TM221CE40U	Serial line 1 on CPU	RS232C	Setting Example 15 (page 48)	Cable Diagram 13 (page 142)
			RS485 (2wire)	Setting Example 16 (page 51)	Cable Diagram 14 (page 144)
		Serial line 2 on the Cartridges TMC2SL1 or TMC2CONV01	RS232C	Setting Example 18 (page 57)	Cable Diagram 16 (page 170)
			RS485 (2wire)	Setting Example 17 (page 54)	Cable Diagram 17 (page 172)
	TM221M16R TM221M16RG TM221M16T TM221M16TG TM221M32TK	Serial line 1 on CPU	RS232C	Setting Example 15 (page 48)	Cable Diagram 13 (page 142)
			RS485 (2wire)	Setting Example 16 (page 51)	Cable Diagram 14 (page 144)
		Serial line 2 on CPU	RS485 (2wire)	Setting Example 17 (page 54)	Cable Diagram 15 (page 157)
	TM221ME16R TM221ME16RG TM221ME16T TM221ME16TG TM221ME32TK	Serial line 1 on CPU	RS-232C	Setting Example 15 (page 48)	Cable Diagram 13 (page 142)
			RS485 (2wire)	Setting Example 16 (page 51)	Cable Diagram 14 (page 144)

■ Connection Configuration

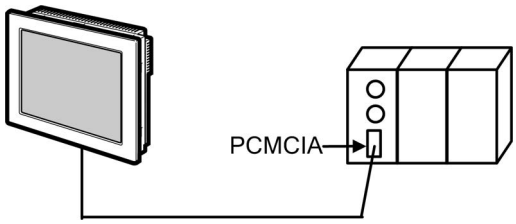
◆ Micro Series

- 1:1 Connection



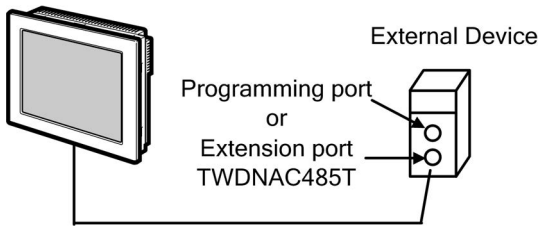
◆ Premium Series

- 1:1 Connection

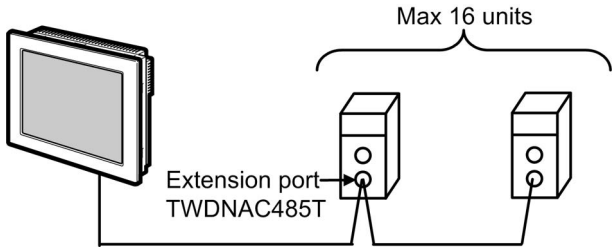


◆ Twido Series

- 1:1 Connection

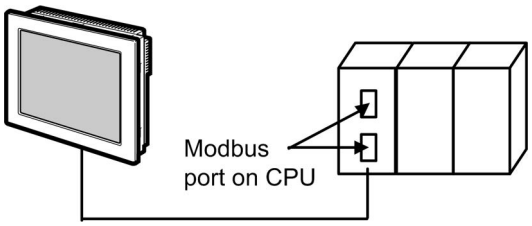


- 1:n Connection



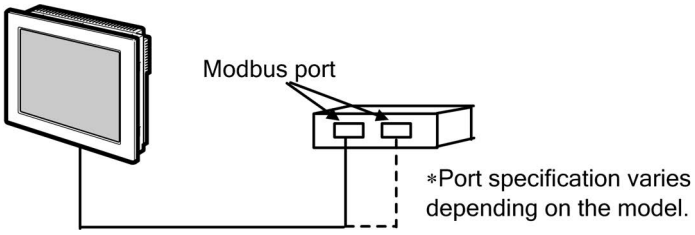
◆ Quantum Series

- 1:1 Connection



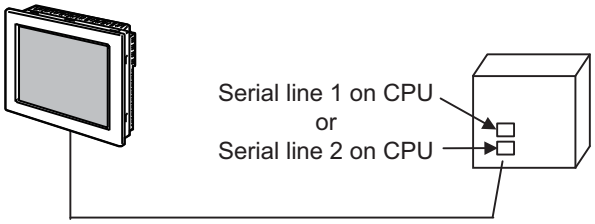
◆ Momentum Series

- 1:1 Connection

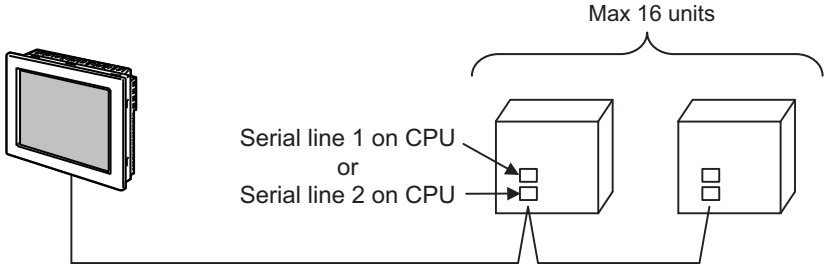


◆ M221 Series

- 1:1 Connection



- 1:n Connection



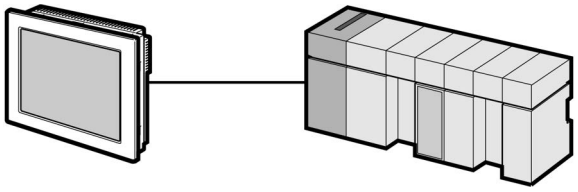
1.2 Yokogawa Electric Corporation External Devices.

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
FCN	NFCP100-S00	Serial port on CPU	RS232C	Setting Example 11 (page 32)	Cable Diagram 9 (page 117)
		NFLR111-S00	RS232C	Setting Example 12 (page 36)	Cable Diagram 10 (page 119)
		NFLR121-S00	RS485 (4 wire)	Setting Example 13 (page 40)	Cable Diagram 11 (page 121)
			RS485 (2 wire)	Setting Example 14 (page 44)	Cable Diagram 12 (page 129)
FCJ	NFJT100-S100	Serial port on CONTROL UNIT	RS232C	Setting Example 11 (page 32)	Cable Diagram 9 (page 117)

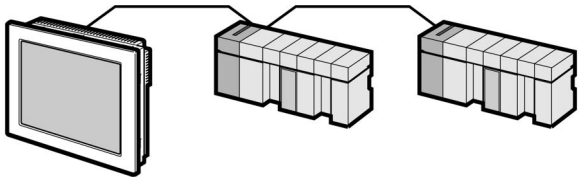
■ Connection Configuration

◆ FCN/FCJ Series

- 1:1 Connection



- 1:n Connection



■ 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)

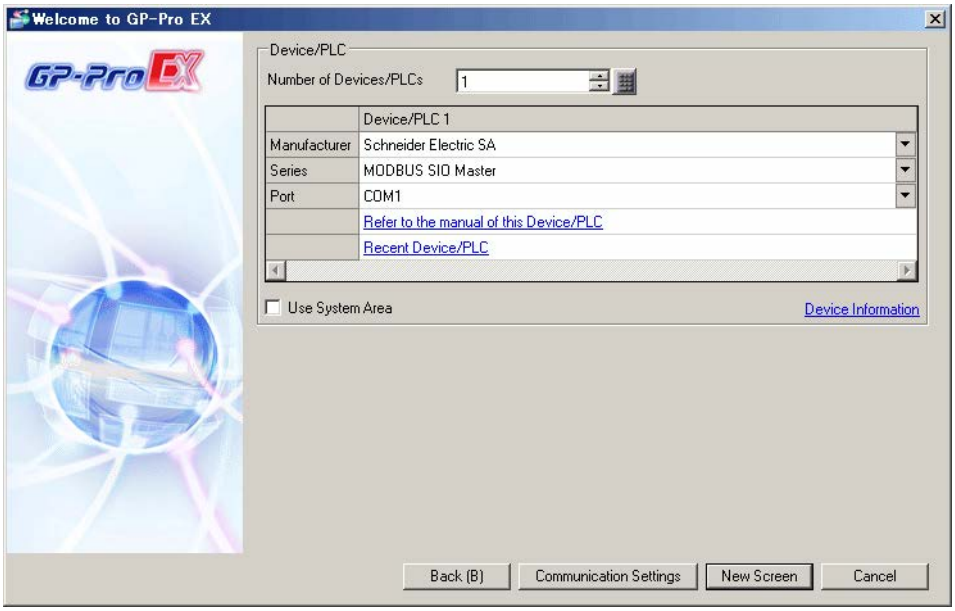
DIP Switch	Setting	Description
1	OFF	Reserved (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA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

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 "Schneider Electric SA".
Series	Select the External Device model (series) and the connection method. Select "MODBUS SIO Master". In System configuration, make sure the External Device you are connecting is supported by "MODBUS SIO Master". ☞ "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

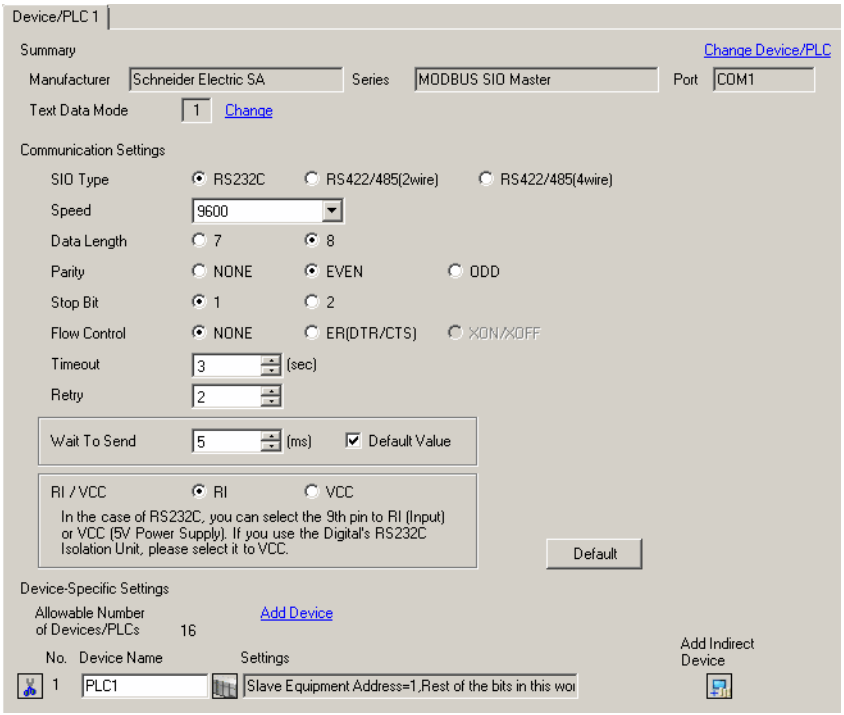
Examples of communication settings of the Display and the External Device, recommended by Pro-face, are shown.

3.1 Setting Example 1

■ Settings of GP-Pro EX

◆ Communication Settings

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

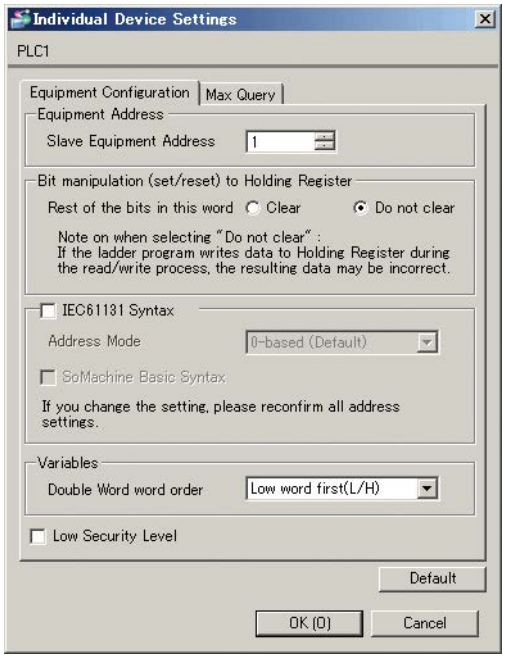


◆ Device Setting

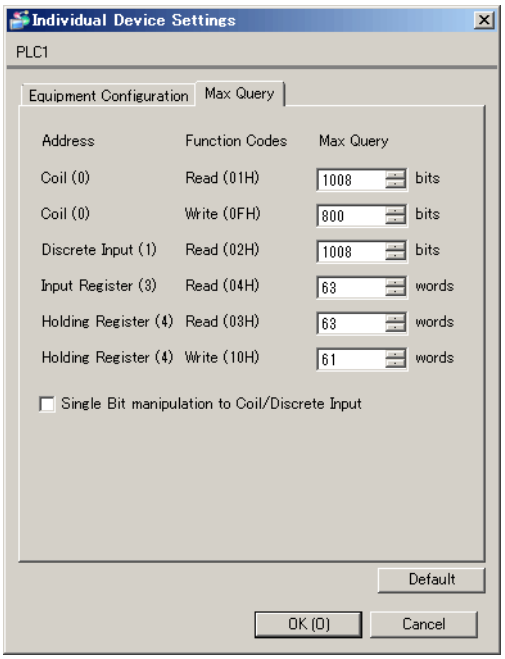
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the ladder software "PL7 PRO" for communication settings.

Double-click "Hardware Configuration" from "Configuration" in "Application Browser" of "PL7 PRO". Next, double-click "Comm" in the "Configuration" dialog box. Perform the settings in the displayed dialog box.

Setup Items	Setup Description	
CHANNEL	CHANNEL 0	
	MODBUS/JBUS LINK	MAST
Slave number	1	
Transmission speed	9600bps	
Delay between characters	5msec	
Data	RTU (8 bit)	
Stop	1 bit	
Parity	Even	

◆ Notes

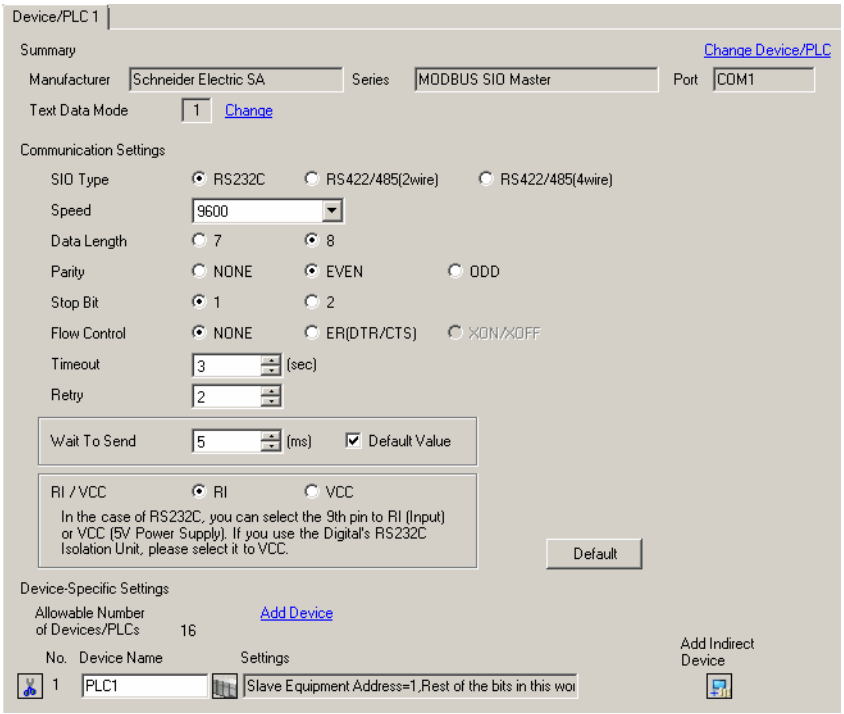
- Please refer to the manual of the ladder software for more detail on other setting description.

3.2 Setting Example 2

■ Settings of GP-Pro EX

◆ Communication Settings

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

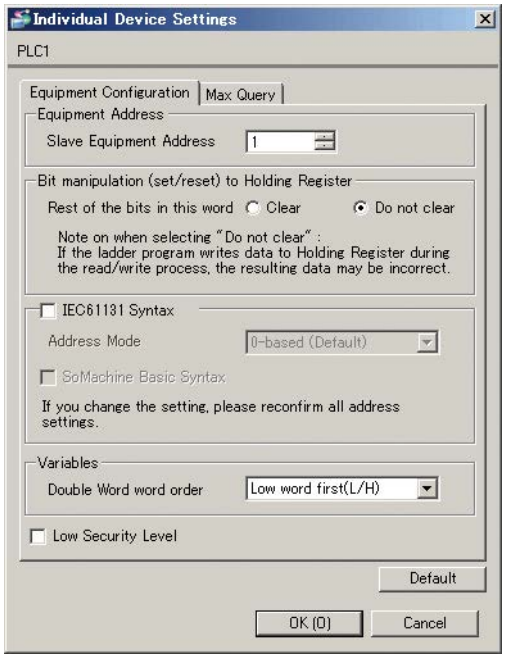


◆ Device Setting

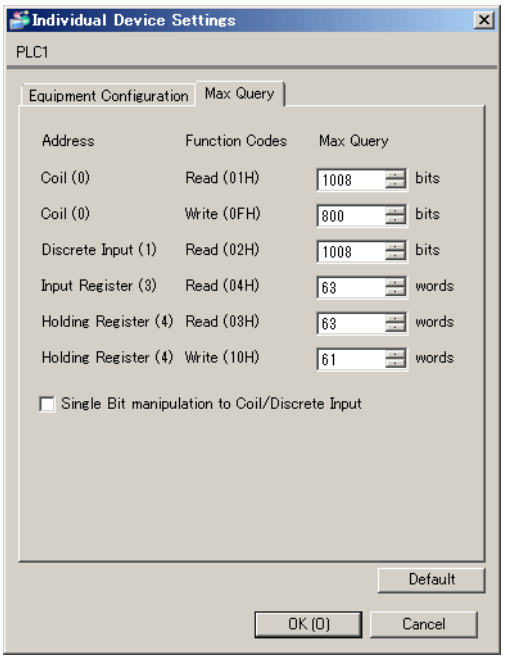
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the ladder software "PL7 PRO" for communication settings.

Double-click "Hardware Configuration" from "Configuration" in "Application Browser" of "PL7 PRO". Next, double-click "Comm" in the "Configuration" dialog box. Perform the settings in the displayed dialog box.

Setup Items	Setup Description	
CHANNEL	CHANNEL 1	
	TSX SCP 111 RS232 MP PCMCIA CARD	
	MODBUS/JBUS LINK	MAST
Slave number	1	
Type	Slave	
Transmission speed	9600bps	
Delay between characters	4msec	
Data	RTU (8 bit)	
Stop	1 bit	
Parity	Even	

◆ Notes

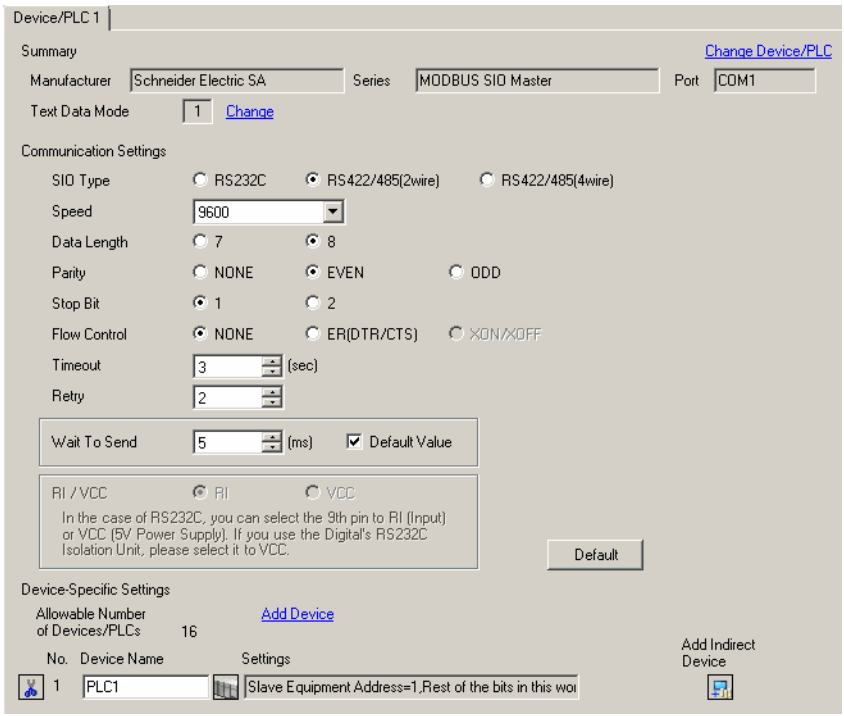
Please refer to the manual of the ladder software for more detail on other setting description.

3.3 Setting Example 3

■ Settings of GP-Pro EX

◆ Communication Settings

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

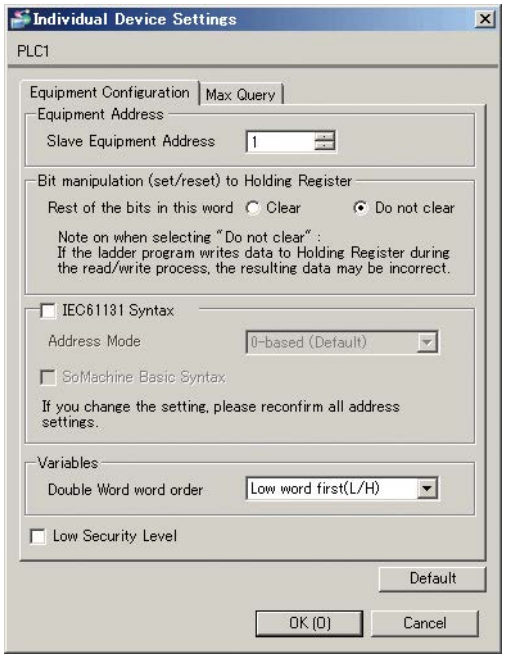


◆ Device Setting

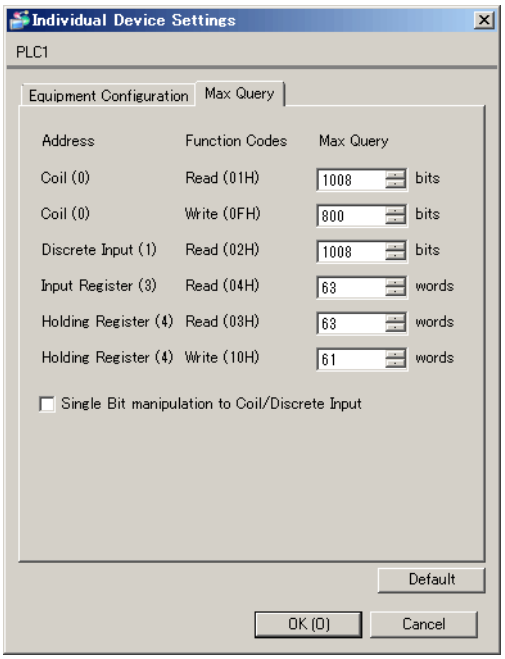
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the ladder software "PL7 PRO" for communication settings.

Double-click "Hardware Configuration" from "Configuration" in "Application Browser" of "PL7 PRO". Next, double-click "Comm" in the "Configuration" dialog box. Perform the settings in the displayed dialog box.

Setup Items	Setup Description	
CHANNEL	CHANNEL 1	
	TSX SCP 114 RS485 MP PCMCIA CARD	
	MODBUS/JBUS LINK	MAST
Slave number	1	
Type	Slave	
Transmission speed	9600bps	
Delay between characters	4msec	
Data	RTU (8 bit)	
Stop	1 bit	
Parity	Even	

◆ Notes

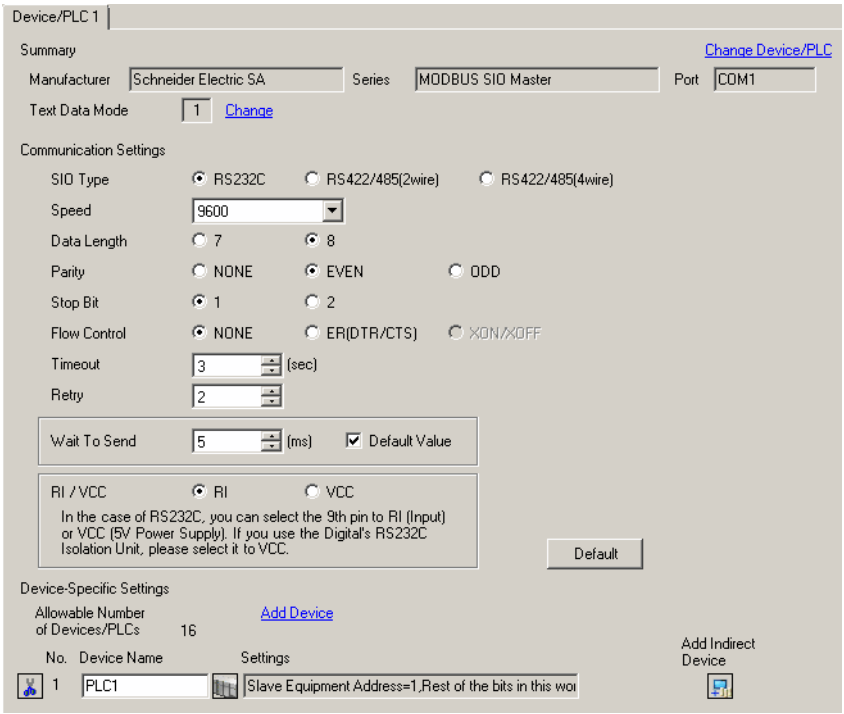
Please refer to the manual of the ladder software for more detail on other setting description.

3.4 Setting Example 4

■ Settings of GP-Pro EX

◆ Communication Settings

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

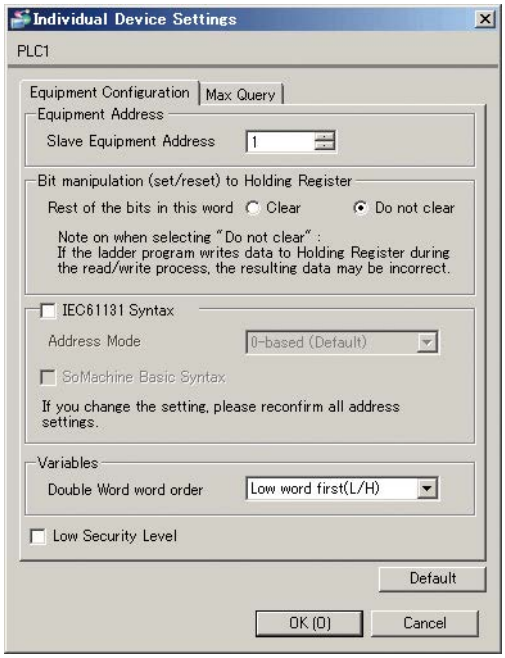


◆ Device Setting

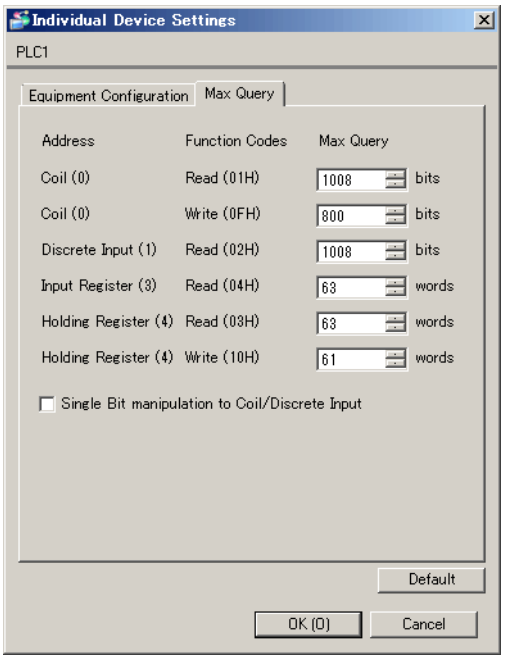
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the ladder software "PL7 PRO" for communication settings.

Double-click "Hardware Configuration" from "Configuration" in "Application Browser" of "PL7 PRO". Next, double-click "Comm" in the "Configuration" dialog box. Perform the settings in the displayed dialog box.

Setup Items	Setup Description	
CHANNEL	CHANNEL 1	
	TSX SCP 111 RS232 MP PCMCIA CARD	
	MODBUS/JBUS LINK	MAST
Type	Slave	
Slave number	1	
Transmission speed	9600bps	
Delay between characters	4msec	
Data	RTU (8 bit)	
Stop	1 bit	
Parity	Even	

◆ Notes

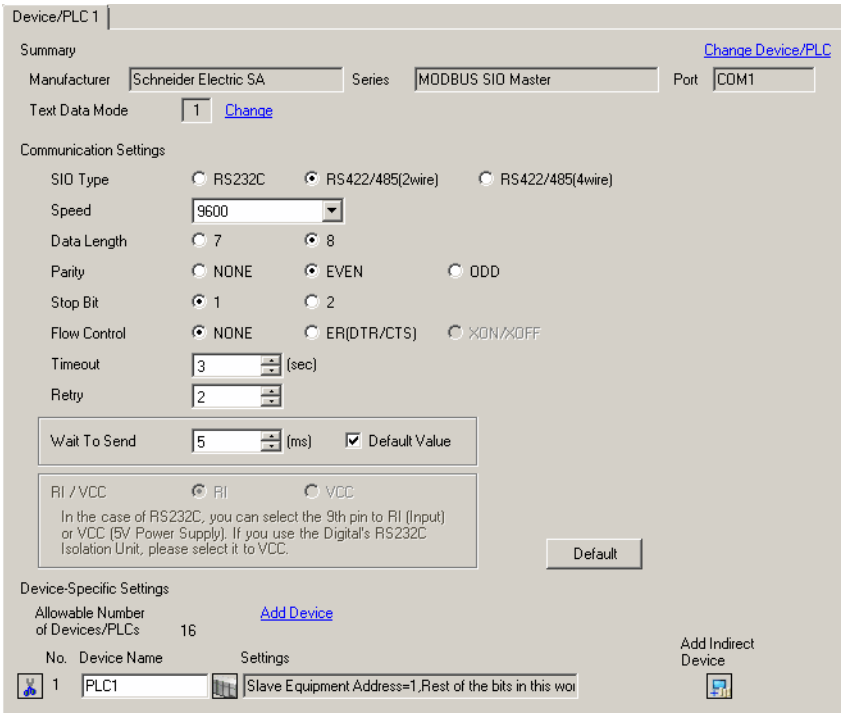
- Please refer to the manual of the ladder software for more detail on other setting description.

3.5 Setting Example 5

■ Settings of GP-Pro EX

◆ Communication Settings

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

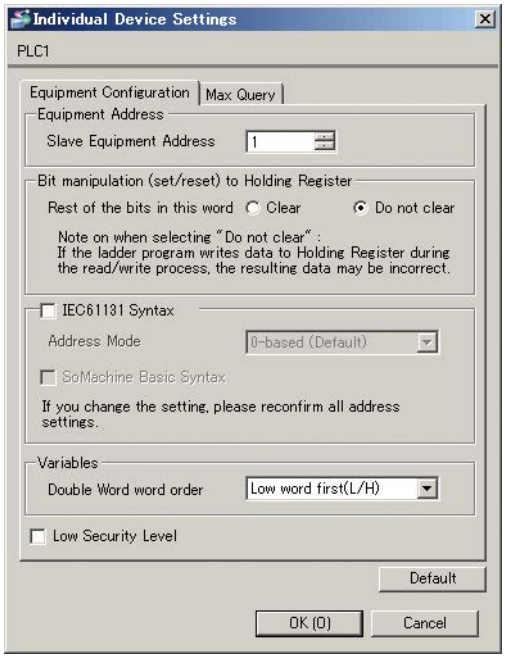


◆ Device Setting

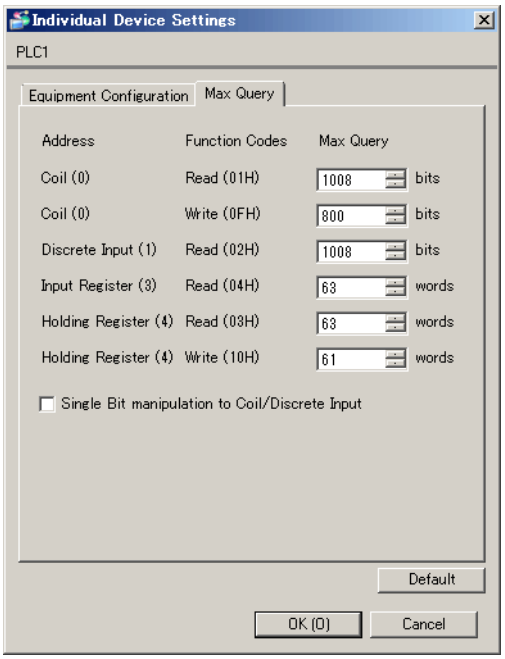
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the ladder software "PL7 PRO" for communication settings.

Double-click "Hardware Configuration" from "Configuration" in "Application Browser" of "PL7 PRO". Next, double-click "Comm" in the "Configuration" dialog box. Perform the settings in the displayed dialog box.

Setup Items	Setup Description	
CHANNEL	CHANNEL 1	
	TSX SCP 114 RS485 MP PCMCIA CARD	
	MODBUS/JBUS LINK	MAST
Type	Slave	
Slave number	1	
Transmission speed	9600bps	
Delay between characters	4msec	
Data	RTU (8 bit)	
Stop	1 bit	
Parity	Even	

◆ Notes

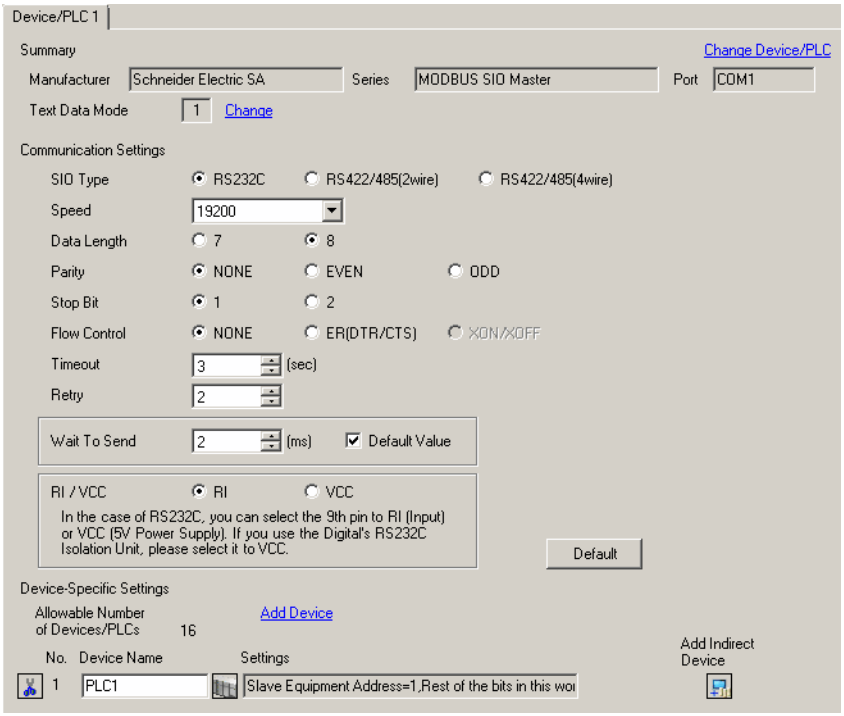
Please refer to the manual of the ladder software for more detail on other setting description.

3.6 Setting Example 6

■ Settings of GP-Pro EX

◆ Communication Settings

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

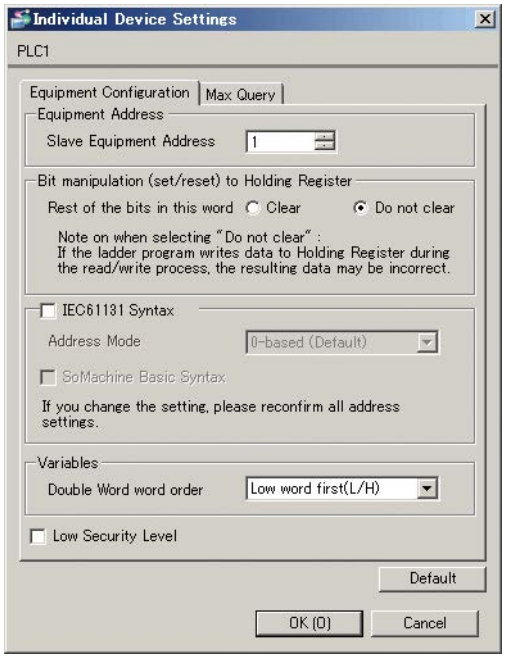


◆ Device Setting

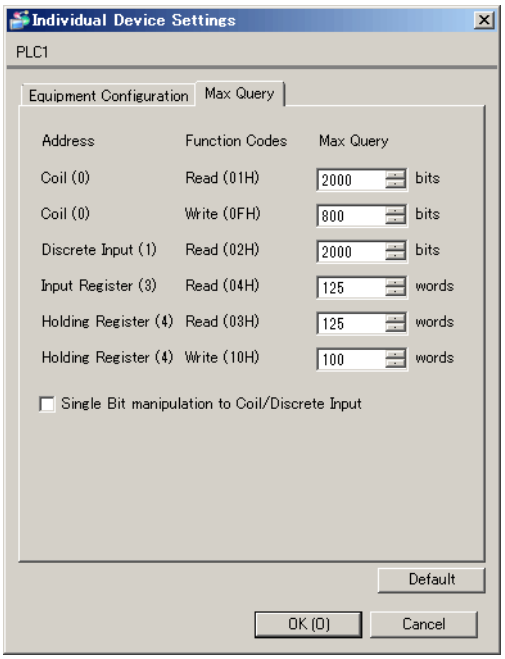
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the ladder software "TwidoSoft" for communication settings.

Select "Hardware" from "TWDLMDA40DUK" in "Application Browser" of "TwidoSoft", and right-click on "Port 1 : Remote Link, 1" to select "Edit Controller Comm Setup...".

Perform the settings in the "Controller Communication Setup" dialog box displayed next.

Setup Items		Setup Description
Protocol	Type	Modbus
	Address	1
Parameters	Baud Rate	19200
	Data Bits	8
	Parity	None
	Stop Bits	1
End of Frame		10
Response Timeout		10 x 100msec
Frame Timeout		4msec

◆ Notes

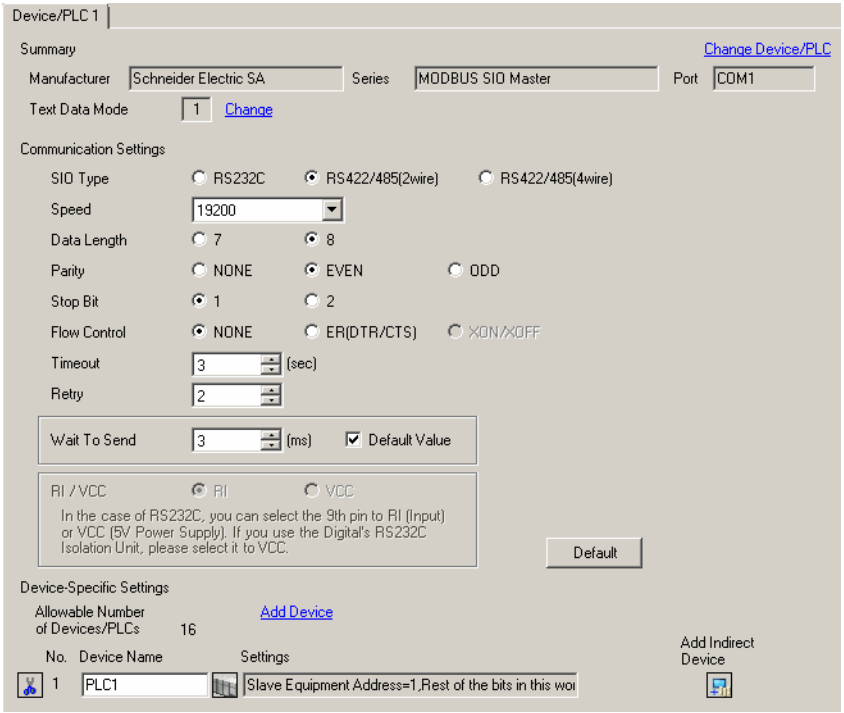
Please refer to the manual of the ladder software for more detail on other setting description.

3.7 Setting Example 7

■ Settings of GP-Pro EX

◆ Communication Settings

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

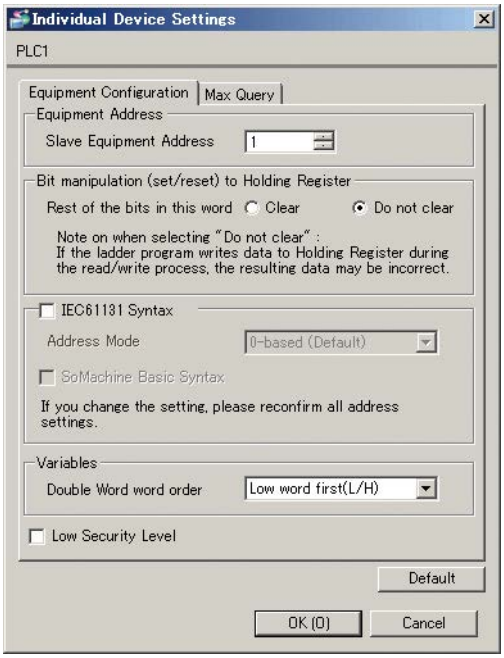


◆ Device Setting

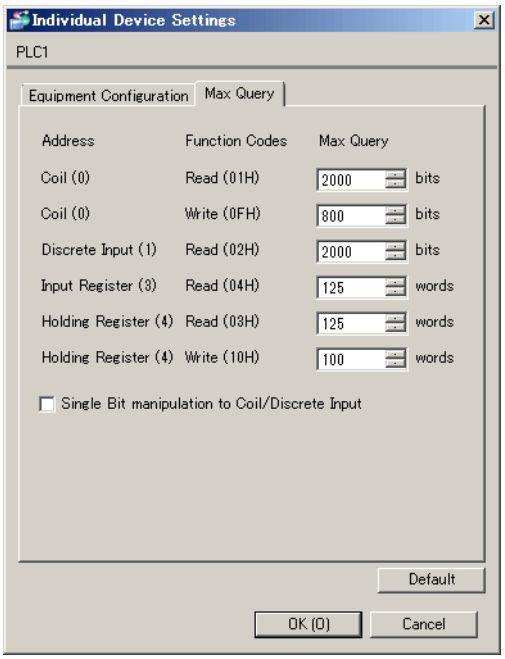
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the ladder software "TwidoSoft" for communication settings.

Right-click on "Hardware" from "TWDLMDA40DUK" in "Application Browser" of "TwidoSoft" to select "Add Option...". Right-click on "Port 2 : Modbus, 1" added to "Hardware" in "TWDLMDA40DUK" to select "Edit Controller Comm Setup...".

Perform the settings in the "Controller Communication Setup" dialog box displayed next.

Setup Items		Setup Description
Protocol	Type	Modbus
	Address	1
Parameters	Baud Rate	19200
	Data Bits	8
	Parity	None
	Stop Bits	1
End of Frame		10
Response Timeout		10 x 100msec
Frame Timeout		10msec

◆ Notes

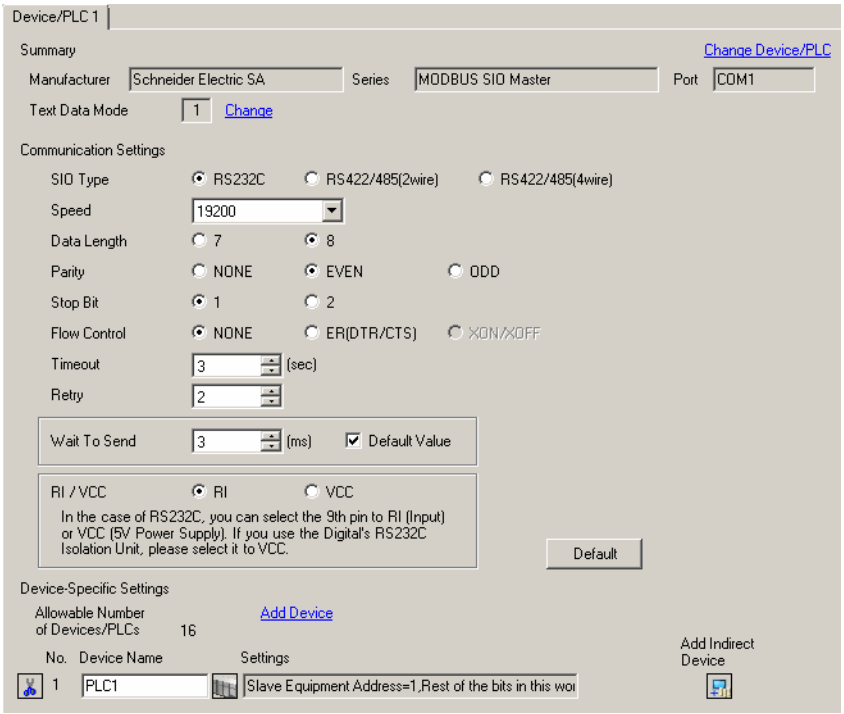
Please refer to the manual of the ladder software for more detail on other setting description.

3.8 Setting Example 8

■ Settings of GP-Pro EX

◆ Communication Settings

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

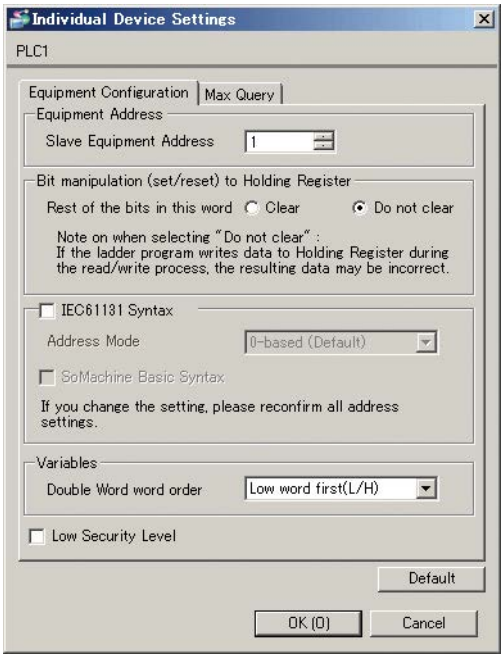


◆ Device Setting

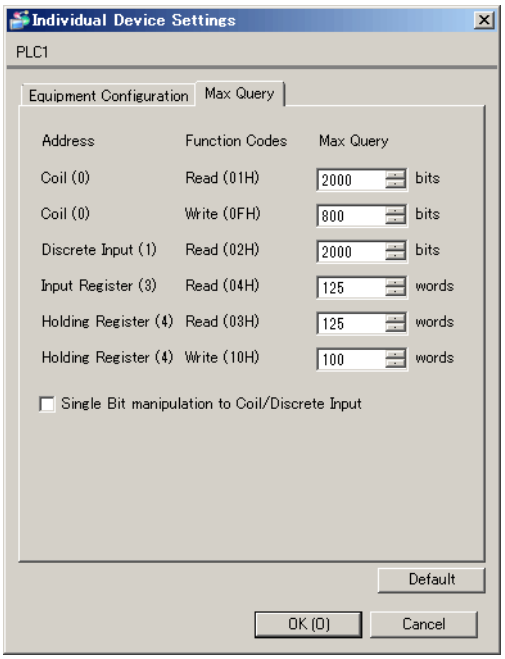
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the ladder software "Concept" for communication settings.

After selecting the External Device in Quantum Series in "PLC Selection" of "Concept", select "Modbus Port Settings" and perform the settings in the "Modbus Port Settings" dialog box.

Setup Items	Setup Description
Baud	19200
Data Bits	8
Stop Bits	1
Parity	Even
Delay(ms)	10
Address	1
Head slot	0
Mode	RTU
Protocol	RS232

◆ Notes

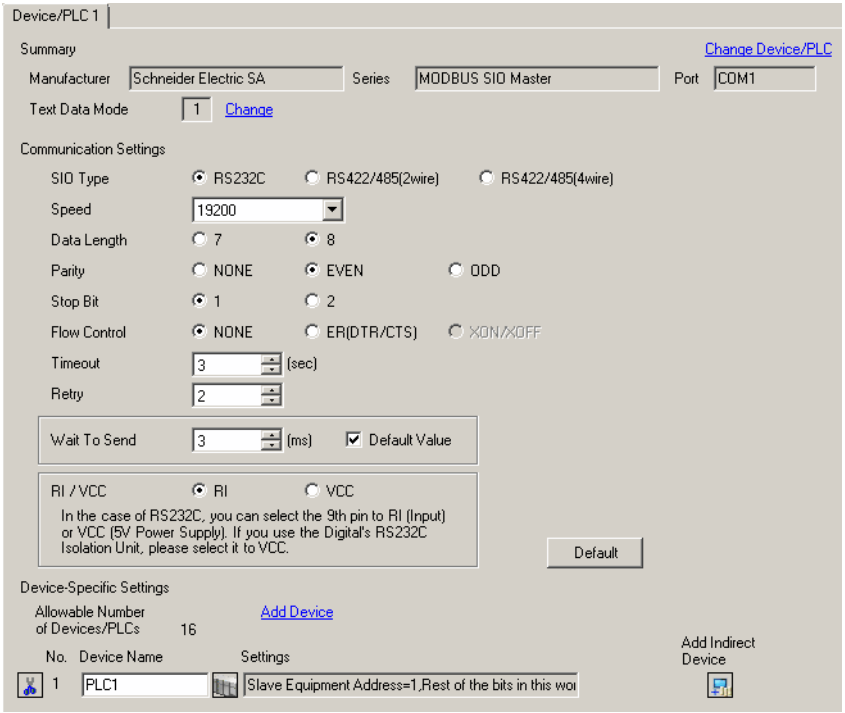
Please refer to the manual of the ladder software for more detail on other setting description.

3.9 Setting Example 9

■ Settings of GP-Pro EX

◆ Communication Settings

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

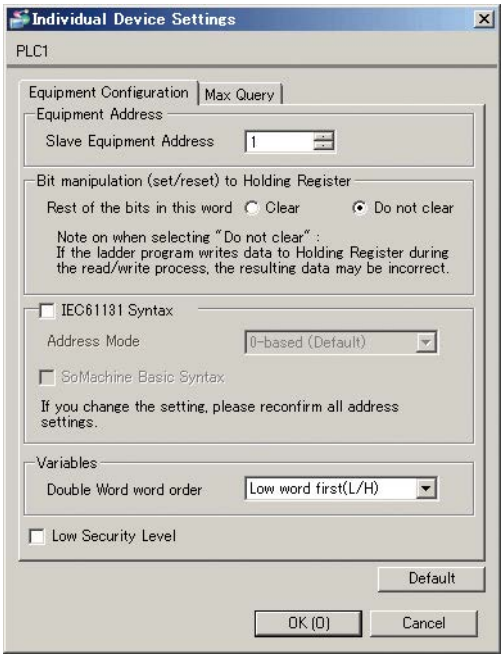


◆ Device Setting

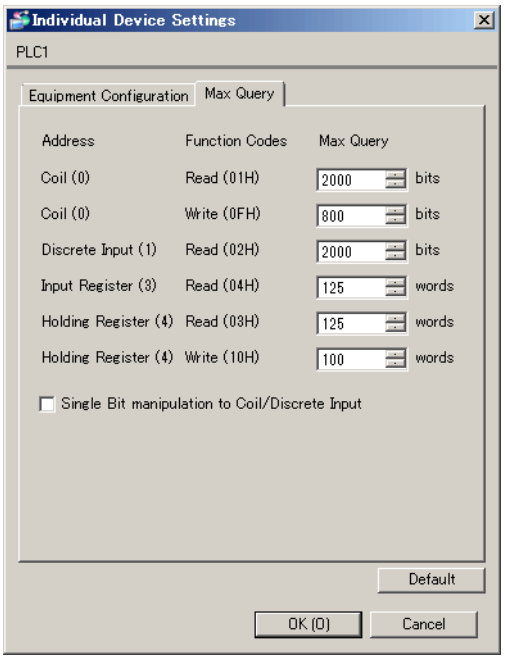
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the ladder software "Concept" for communication settings.

After selecting the External Device in Momentum Series in "PLC Selection" of "Concept", select "Modbus Port Settings" and perform the settings in the "Modbus Port Settings" dialog box.

Setup Items	Setup Description
Baud	19200
Data Bits	8
Stop Bits	1
Parity	Even
Delay(ms)	10
Address	1
Head slot	0
Mode	RTU
Protocol	RS232

◆ Notes

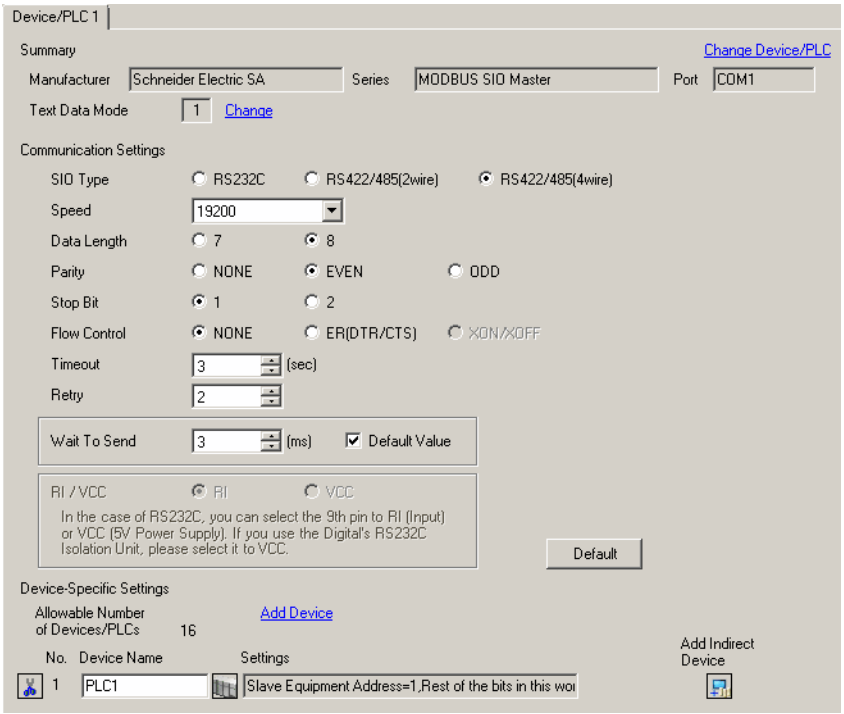
Please refer to the manual of the ladder software for more detail on other setting description.

3.10 Setting Example 10

■ Settings of GP-Pro EX

◆ Communication Settings

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

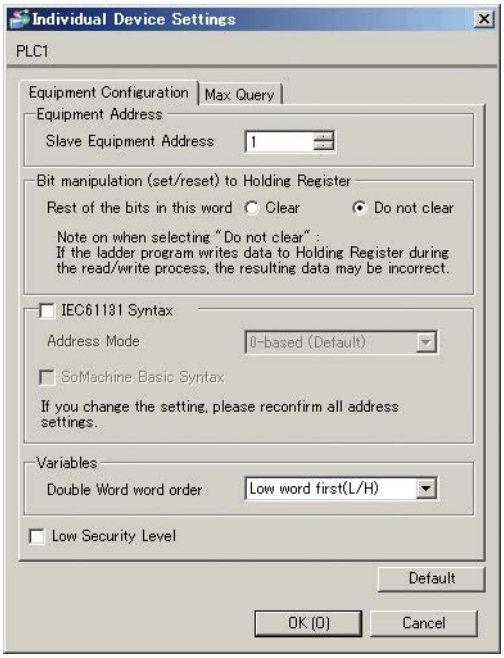


◆ Device Setting

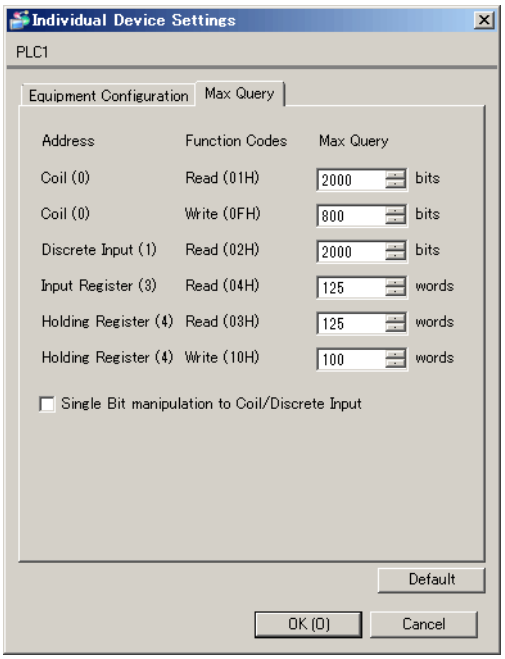
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the ladder software "Concept" for communication settings.

After selecting the External Device in Momentum Series in "PLC Selection" of "Concept", select "Modbus Port Settings" and perform the settings in the "Modbus Port Settings" dialog box.

Setup Items	Setup Description
Baud	19200
Data Bits	8
Stop Bits	1
Parity	Even
Delay(ms)	10
Address	1
Head slot	0
Mode	RTU
Protocol	RS485

◆ Notes

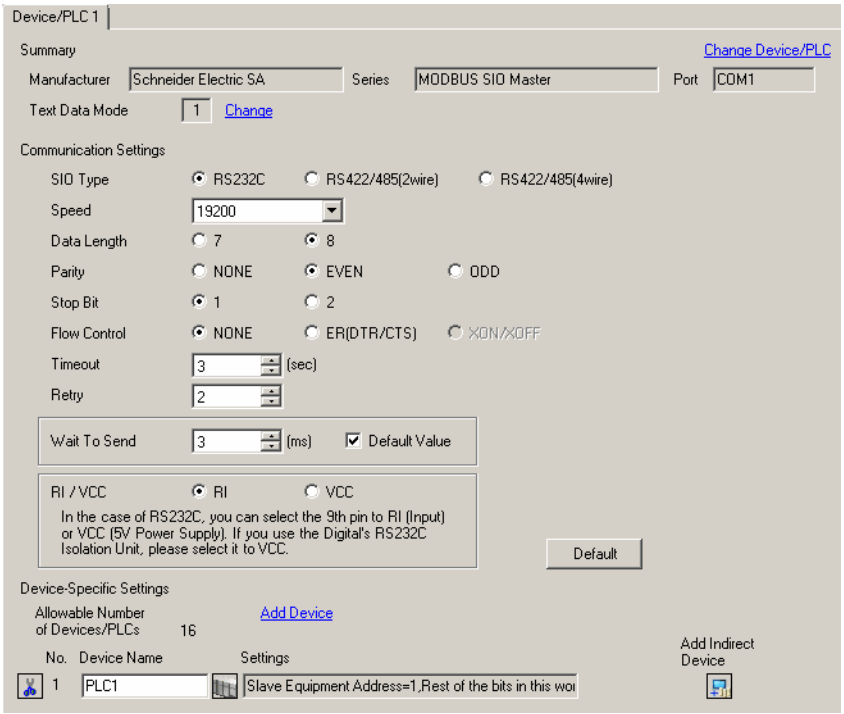
Please refer to the manual of the ladder software for more detail on other setting description.

3.11 Setting Example 11

■ Settings of GP-Pro EX

◆ Communication Settings

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

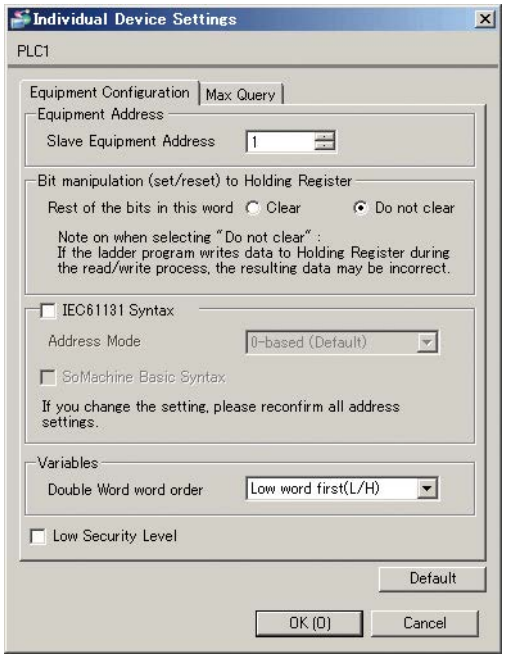


◆ Device Setting

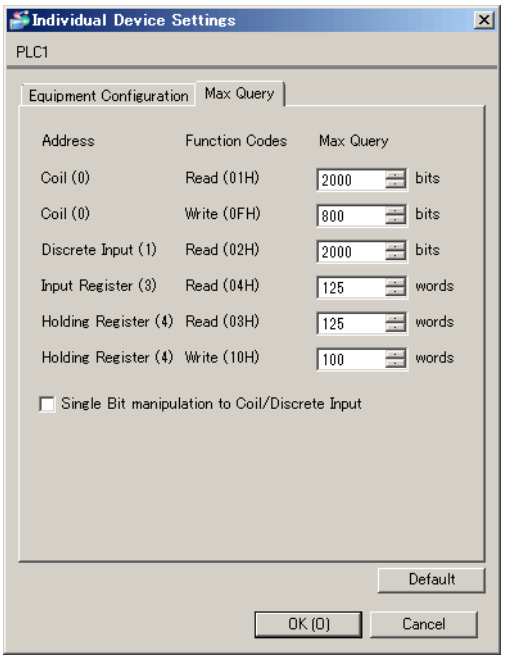
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the Web browser and ladder software (Logic Designer) for communication settings.

<Communication Settings for the Serial Port on CPU>

1 Set IP address of the External Device to "192.168.1.1".

NOTE

- For more details on how to set IP address of the External Device, refer to the online help of the dedicated tool for the FCN/FCJ basic settings (Resource Configurator).

2 Connect both the Ethernet ports between a PC and the External Device using the LAN cable. (Connect via HUB.)
3 Start up the Web browser.
4 Enter "http://192.168.1.1/mnt" in the address input box.
5 Enter [User Name] and [Password] in the displayed dialog box to login.
6 Click [Maintenance Menu] to display the [FCX Maintenance Menu] screen.
7 Click [Reboot] to display the [Reboot FCX] screen.
8 Check the [Reboot(Maintenance Mode)] option.
9 Click [OK] to display the [Reboot] screen.
10 Reboot the External Device. Confirm the reboot is complete.
11 Click [Maintenance Homepage] to display the [STARDOM FCX Maintenance Page] screen.
12 Click [OK] to display the [FCX Maintenance Menu] screen.
13 Click [Edit] to display the [Edit System Setting Files] screen.

14 Check the [COM1 Port Setting File] option and click [OK].

15 Set each item as follows:

Setup Items	Setup Description
Baudrate	19200
DataBitLength	8
StopBitLength	1
Parity	EVEN

16 Click [OK] to display the [Edit System Setting Files(RESULT)] screen.

17 Click [Maintenance Menu] to display the [FCX Maintenance Menu] screen.

18 Click [Reboot] to display the [Reboot FCX] screen.

19 Check the [Reboot(Online Mode)] option and click [OK].
The External Device is rebooted.

<Control Logic Download Procedures>

1 Start up the ladder software.

2 Create the control logic in order to start the MODBUS communication (RTU mode) slave function. For the example of control logic, refer to "◆Control Logic Example".

☞" ◆ Control Logic Example" (page 35)

3 Double-click ['COM1'] next to [PORT] to display the [Variable Properties] dialog box.

4 Enter the connecting port name in [Name], and click [OK].

5 Double-click [UNIT#1] next to [STATION] to display the [Variable Properties] dialog box.

6 Enter the connecting station name in [Name], and click [OK].

7 Select [Rebuild Project] from the [Build] menu.

8 Double-click [Target Setting] in the project tree window to display the [Target] dialog box.

9 Enter "192.168.1.1" in [Host Name/IP Address].

10 Click [OK].

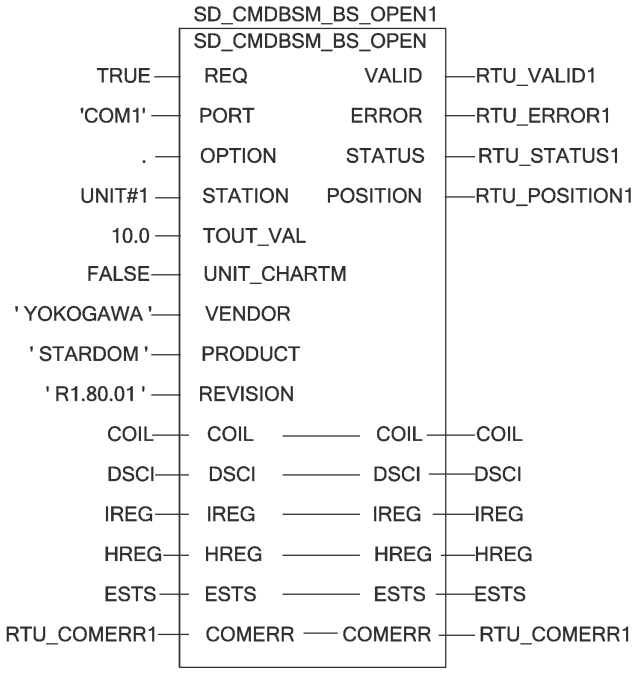
11 Download the communication settings to the External Device.

12 Reboot the External Device.

◆ Control Logic Example

To connect the Display to the External Device, the control logic is required.

The control logic example is shown below.

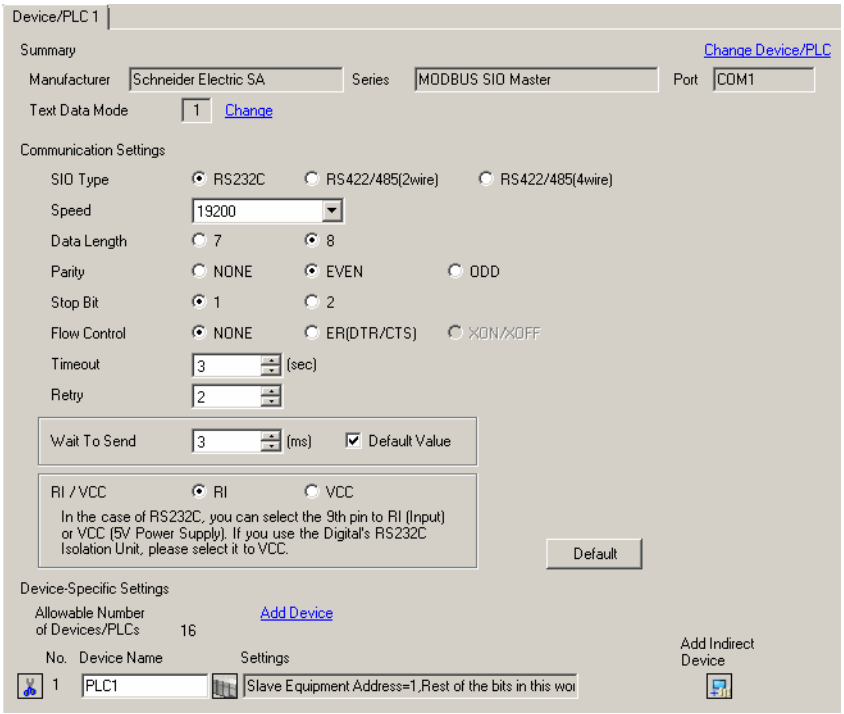


3.12 Setting Example 12

■ Settings of GP-Pro EX

◆ Communication Settings

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

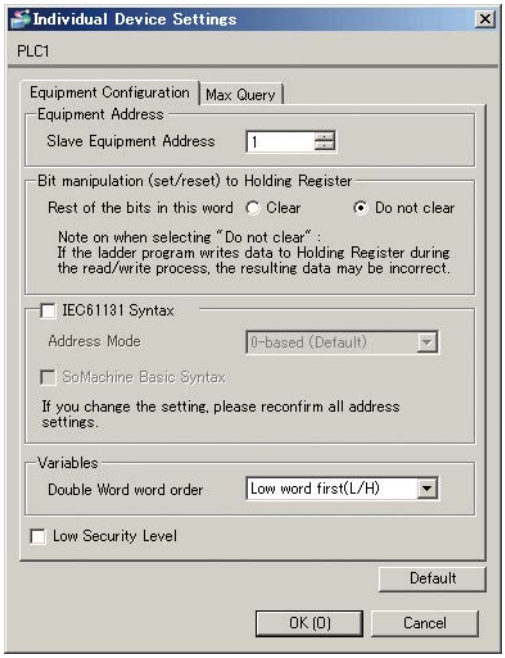


◆ Device Setting

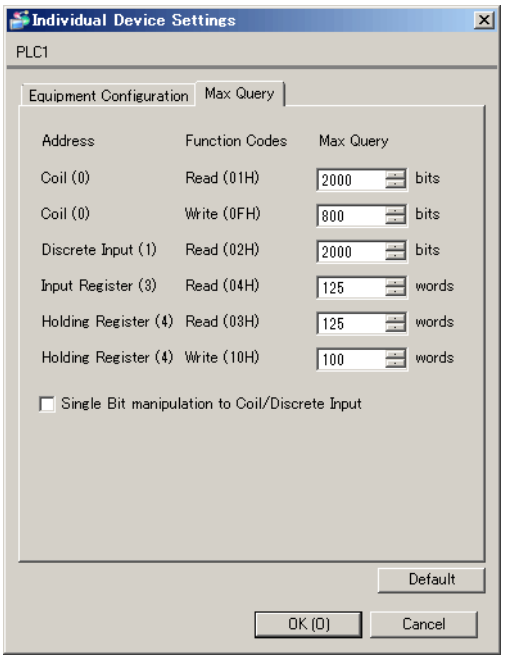
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the dedicated tool for basic settings (Resource Configurator) and ladder software (Logic Designer) for communication settings.

<Communication Settings for the Communication Module>

1 Set IP address of the External Device to "192.168.1.1".

NOTE

- For more details on how to set IP address of the External Device, refer to the online help of the dedicated tool for the FCN/FCJ basic settings.

2 Start up the dedicated tool for the basic settings.

3 From the [File] menu, select [Connection] to display the [Connect] dialog box.

4 Enter "192.168.1.1" in [Host].

5 Enter [User Name] and [Password] to login.

6 Select the link I/F to use from the [Controller Configuration] tree view.

7 Enter the port name in [Port Name].

8 Select [Port1] from the link I/F to use the [Controller Configuration] tree view.

9 Set specifications as follows:

Specifications	Setting
Wiring Method	-
Duplex Operation	Full-duplex
Baud Rate	19200
Data Bits	8
Parity Setting	EVEN
Stop Bits	1
Send Signal Check	NONE
Receive Flow Control	NONE
API Error Detection	YES

10 Download the communication settings to the External Device.

11 Reboot the External Device.

<Control Logic Download Procedures>

1 Start up the ladder software.

2 Create the control logic in order to start the MODBUS communication (RTU mode) slave function. For the example of control logic, refer to "◆Control Logic Example".

☞" ◆ Control Logic Example" (page 39)

3 Double-click ['COM1'] next to [PORT] to display the [Variable Properties] dialog box.

4 Enter the connecting port name in [Name], and click [OK].

5 Double-click [UNIT#1] next to [STATION] to display the [Variable Properties] dialog box.

6 Enter the connecting station name in [Name], and click [OK].

7 Select [Rebuild Project] from the [Build] menu.

8 Double-click [Target Setting] in the project tree window to display the [Target] dialog box.

9 Enter "192.168.1.1" in [Host Name/IP Address].

10 Click [OK].

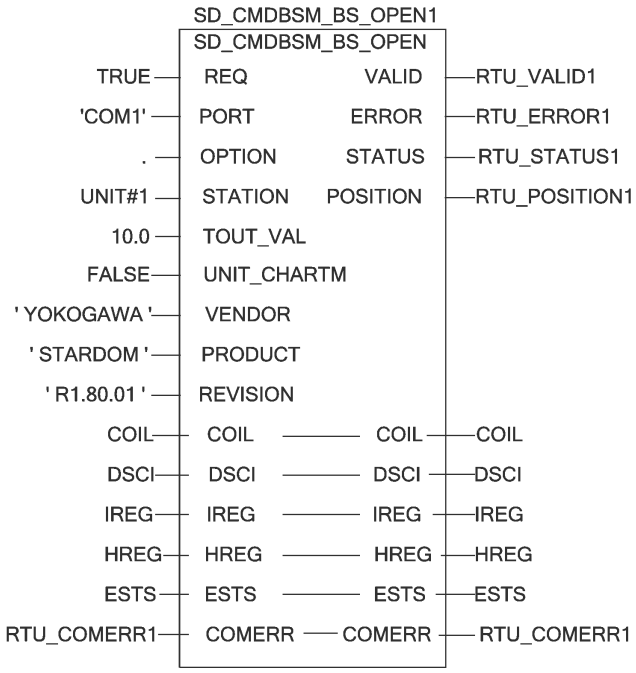
11 Download the communication settings to the External Device.

12 Reboot the External Device.

◆ Control Logic Example

To connect the Display to the External Device, the control logic is required.

The control logic example is shown below.

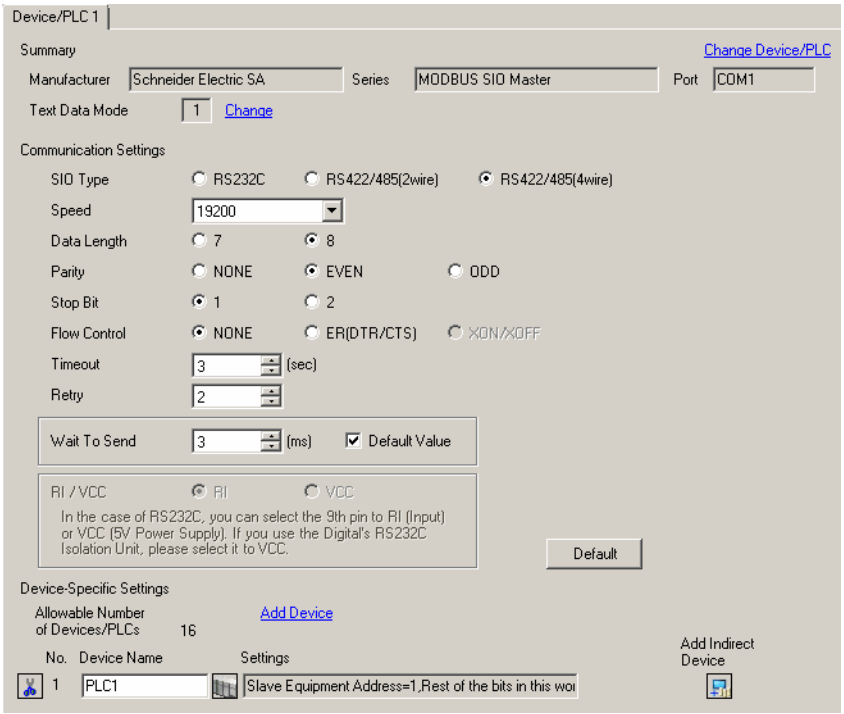


3.13 Setting Example 13

■ Settings of GP-Pro EX

◆ Communication Settings

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

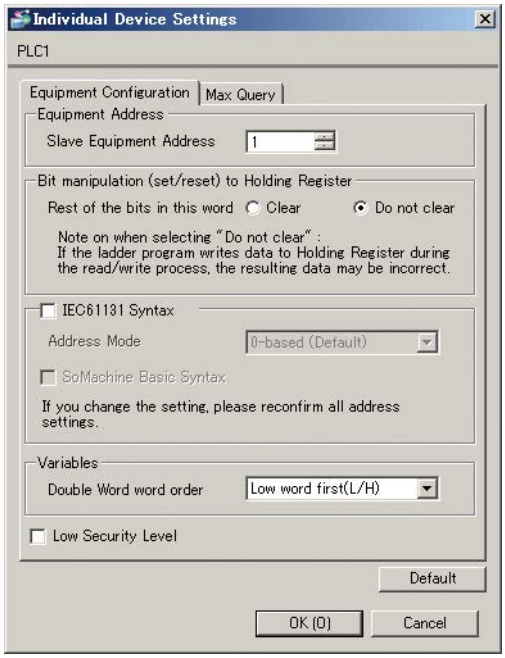


◆ Device Setting

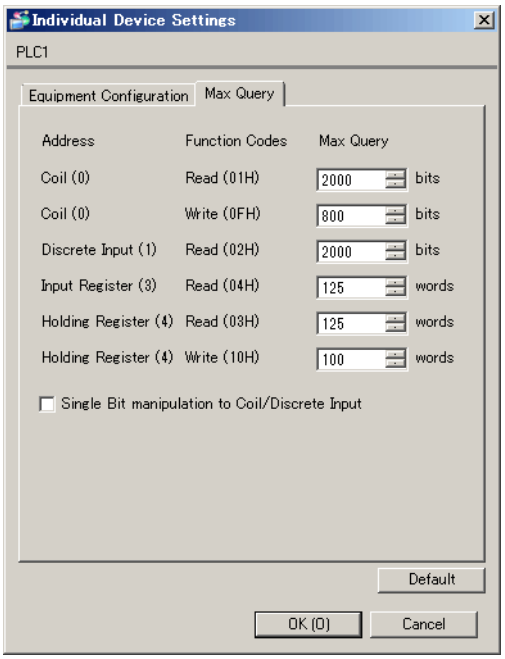
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the dedicated tool for basic settings (Resource Configurator) and ladder software (Logic Designer) for communication settings.

<Communication Settings for the Communication Module>

1 Set IP address of the External Device to "192.168.1.1".

NOTE

- For more details on how to set IP address of the External Device, refer to the online help of the dedicated tool for the FCN/FCJ basic settings.

2 Start up the dedicated tool for the basic settings.

3 From the [File] menu, select [Connection] to display the [Connect] dialog box.

4 Enter "192.168.1.1" in [Host].

5 Enter [User Name] and [Password] to login.

6 Select the link I/F to use from the [Controller Configuration] tree view.

7 Enter the port name in [Port Name].

8 Select [Port1] from the link I/F to use the [Controller Configuration] tree view.

9 Set specifications as follows:

Specifications	Setting
Wiring Method	-
Duplex Operation	Full-duplex
Baud Rate	19200
Data Bits	8
Parity Setting	EVEN
Stop Bits	1
Send Signal Check	NONE
Receive Flow Control	NONE
API Error Detection	YES

10 Download the communication settings to the External Device.

11 Reboot the External Device.

<Control Logic Download Procedures>

1 Start up the ladder software.

2 Create the control logic in order to start the MODBUS communication (RTU mode) slave function. For the example of control logic, refer to "◆Control Logic Example".

☞" ◆ Control Logic Example" (page 43)

3 Double-click ['COM1'] next to [PORT] to display the [Variable Properties] dialog box.

4 Enter the connecting port name in [Name], and click [OK].

5 Double-click [UNIT#1] next to [STATION] to display the [Variable Properties] dialog box.

6 Enter the connecting station name in [Name], and click [OK].

7 Select [Rebuild Project] from the [Build] menu.

8 Double-click [Target Setting] in the project tree window to display the [Target] dialog box.

9 Enter "192.168.1.1" in [Host Name/IP Address].

10 Click [OK].

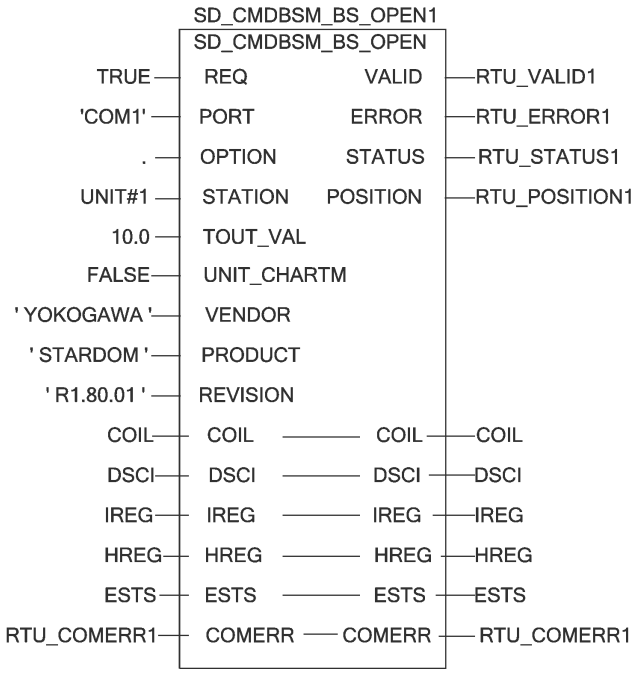
11 Download the communication settings to the External Device.

12 Reboot the External Device.

◆ Control Logic Example

To connect the Display to the External Device, the control logic is required.

The control logic example is shown below.

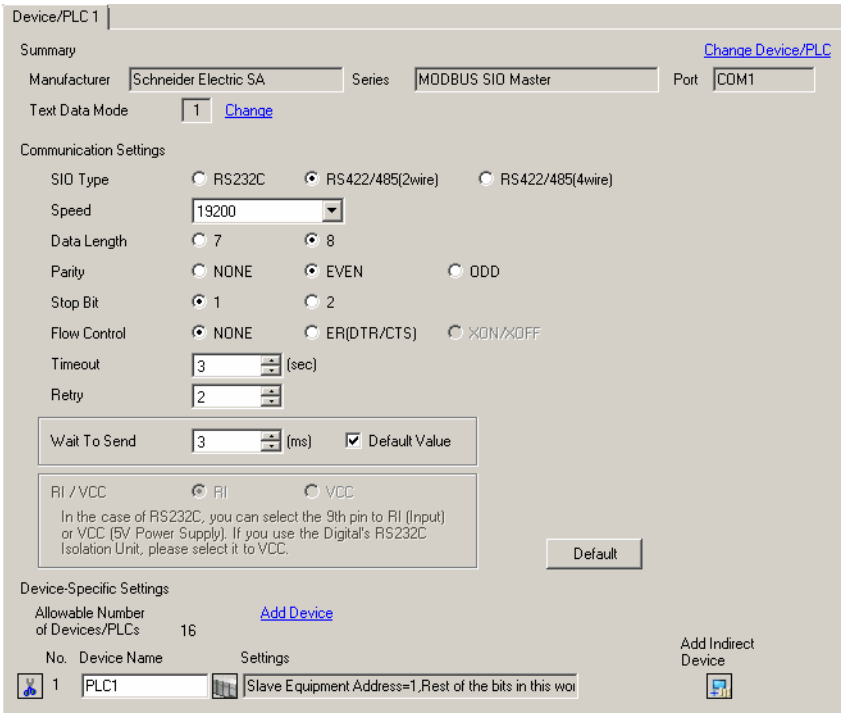


3.14 Setting Example 14

■ Settings of GP-Pro EX

◆ Communication Settings

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

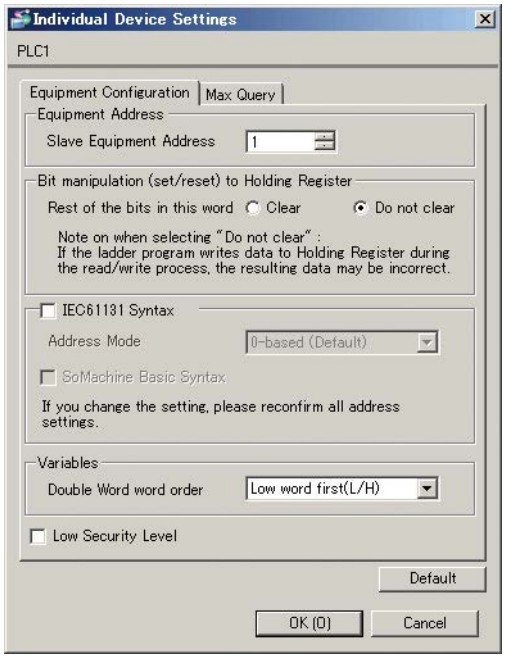


◆ Device Setting

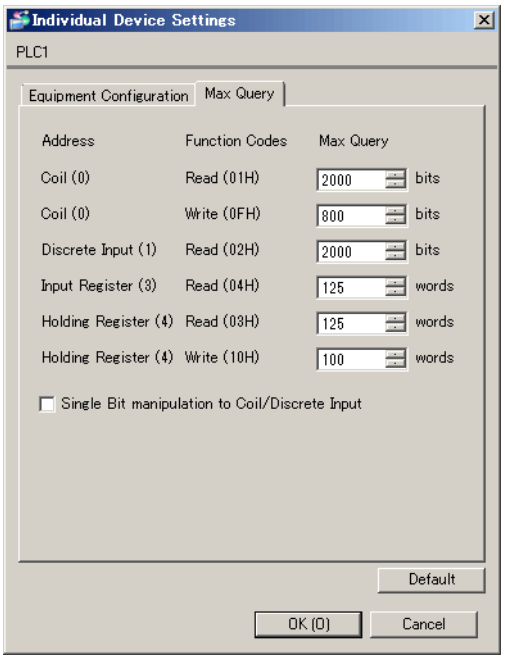
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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

[Equipment Configuration] tab



[Max Query] tab



■ Settings of External Device

Use the dedicated tool for basic settings (Resource Configurator) and ladder software (Logic Designer) for communication settings.

<Communication Settings for the Communication Module>

1 Set IP address of the External Device to "192.168.1.1".

NOTE

- For more details on how to set IP address of the External Device, refer to the online help of the dedicated tool for the FCN/FCJ basic settings.

2 Start up the dedicated tool for the basic settings.

3 From the [File] menu, select [Connection] to display the [Connect] dialog box.

4 Enter "192.168.1.1" in [Host].

5 Enter [User Name] and [Password] to login.

6 Select the link I/F to use from the [Controller Configuration] tree view.

7 Enter the port name in [Port Name].

8 Select [Port1] from the link I/F to use the [Controller Configuration] tree view.

9 Set specifications as follows:

Specifications	Setting
Wiring Method	-
Duplex Operation	Full-duplex
Baud Rate	19200
Data Bits	8
Parity Setting	EVEN
Stop Bits	1
Send Signal Check	NONE
Receive Flow Control	NONE
API Error Detection	YES

10 Download the communication settings to the External Device.

11 Reboot the External Device.

<Control Logic Download Procedures>

1 Start up the ladder software.

2 Create the control logic in order to start the MODBUS communication (RTU mode) slave function. For the example of control logic, refer to "◆Control Logic Example".

☞" ◆ Control Logic Example" (page 47)

3 Double-click ['COM1'] next to [PORT] to display the [Variable Properties] dialog box.

4 Enter the connecting port name in [Name], and click [OK].

5 Double-click [UNIT#1] next to [STATION] to display the [Variable Properties] dialog box.

6 Enter the connecting station name in [Name], and click [OK].

7 Select [Rebuild Project] from the [Build] menu.

8 Double-click [Target Setting] in the project tree window to display the [Target] dialog box.

9 Enter "192.168.1.1" in [Host Name/IP Address].

10 Click [OK].

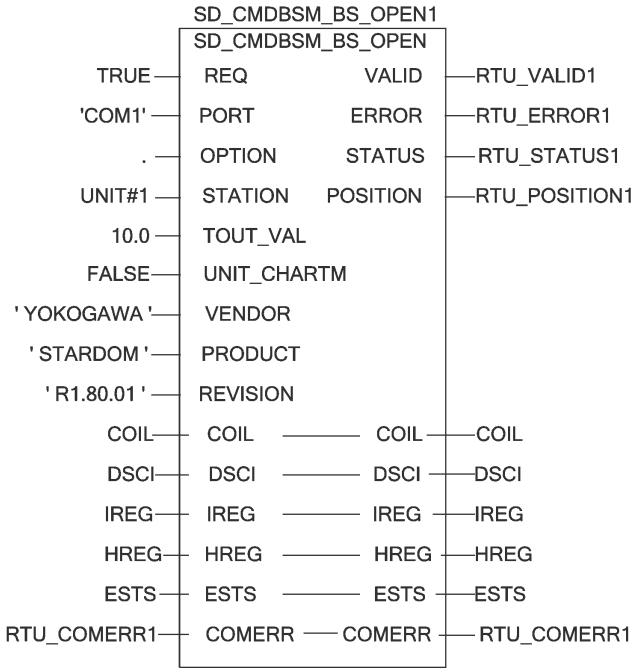
11 Download the communication settings to the External Device.

12 Reboot the External Device.

◆ Control Logic Example

To connect the Display to the External Device, the control logic is required.

The control logic example is shown below.

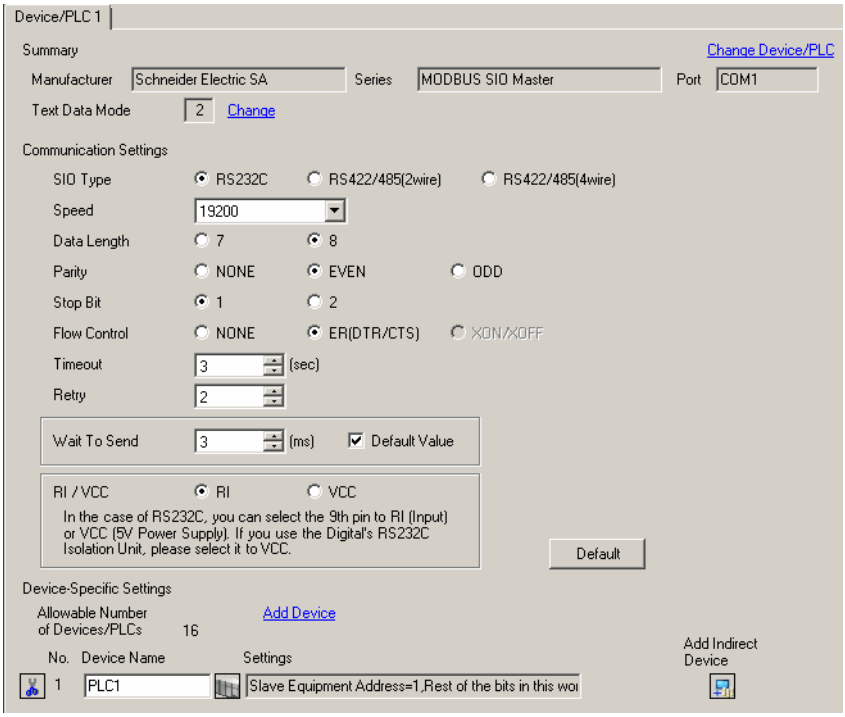


3.15 Setting Example 15

■ Settings of GP-Pro EX

◆ Communication Settings

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



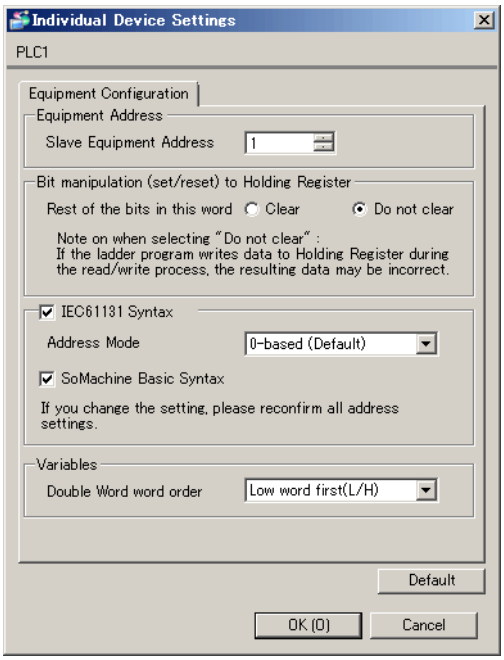
NOTE

- Set [Text Data Mode] to 2.

◆ 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.



■ Settings of External Device

Use the ladder software "SoMachine Basic" for communication settings.

1 Start up the ladder software.

2 From the [Configuration] tab, select [SL1 (Serial line)].

3 Set [Serial line configuration] as follows.

Setup Items	Settings
Protocol	Modbus
Baud rate	19200
Parity	Even
Data bits	8
Stop bits	1
Physical medium	RS-232C

4 From the [Configuration] tab, select [Modbus].

5 Set [Modbus] as follows.

Setup Items	Settings
Device	None
Transmission mode	RTU
Addressing	Slave
Address	1
Response timeout (×100 ms)	10
Time between frames (ms)	10

6 Download the communication settings to the External Device.

◆ Notes

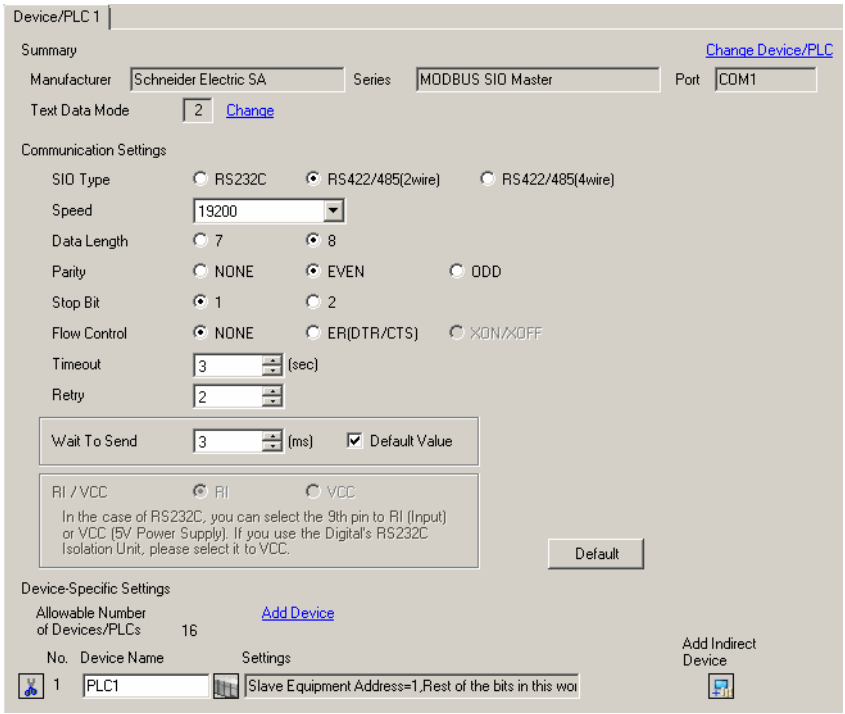
Please refer to the manual of the ladder software for more detail on other setting description.

3.16 Setting Example 16

■ Settings of GP-Pro EX

◆ Communication Settings

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



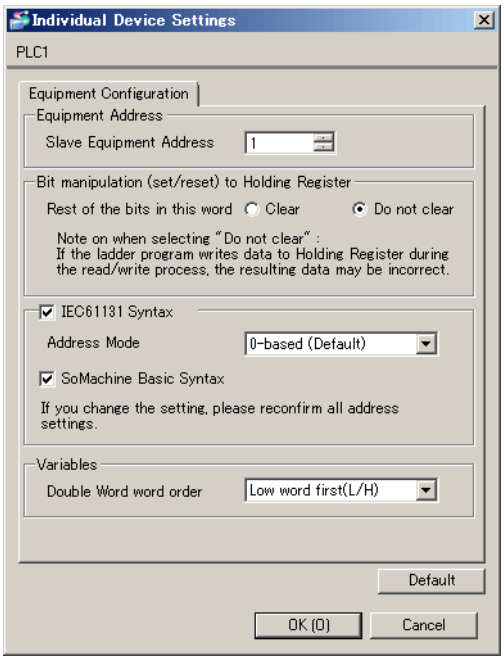
NOTE

- Set [Text Data Mode] to 2.

◆ 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.



■ Settings of External Device

Use the ladder software "SoMachine Basic" for communication settings.

1 Start up the ladder software.

2 From the [Configuration] tab, select [SL1 (Serial line)].

3 Set [Serial line configuration] as follows.

Setup Items	Settings
Protocol	Modbus
Baud rate	19200
Parity	Even
Data bits	8
Stop bits	1
Physical medium	RS-485

4 From the [Configuration] tab, select [Modbus].

5 Set [Modbus] as follows.

Setup Items	Settings
Device	None
Transmission mode	RTU
Addressing	Slave
Address	1
Response timeout (×100 ms)	10
Time between frames (ms)	10

6 Download the communication settings to the External Device.

◆ Notes

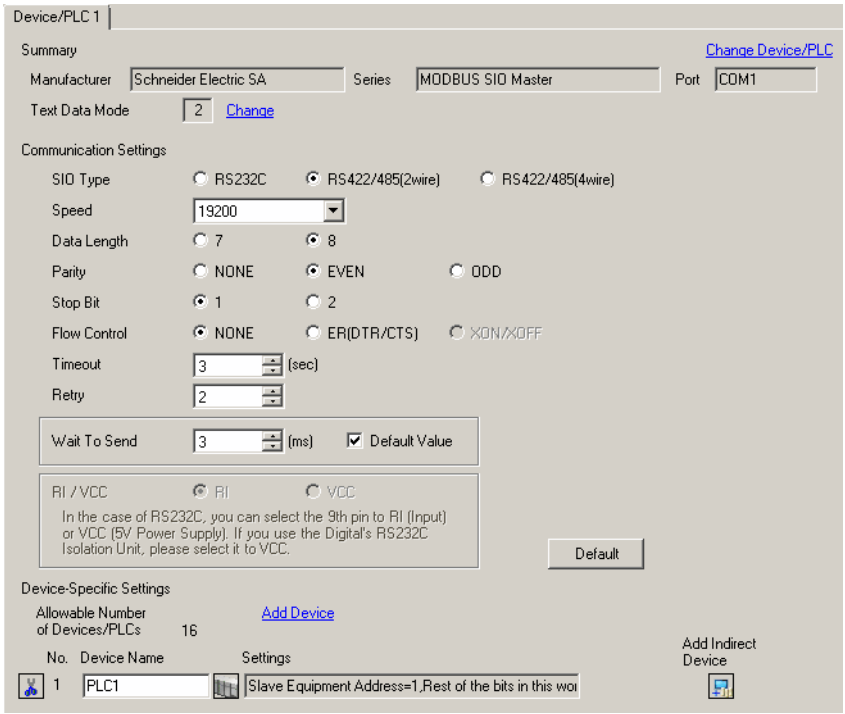
Please refer to the manual of the ladder software for more detail on other setting description.

3.17 Setting Example 17

■ Settings of GP-Pro EX

◆ Communication Settings

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



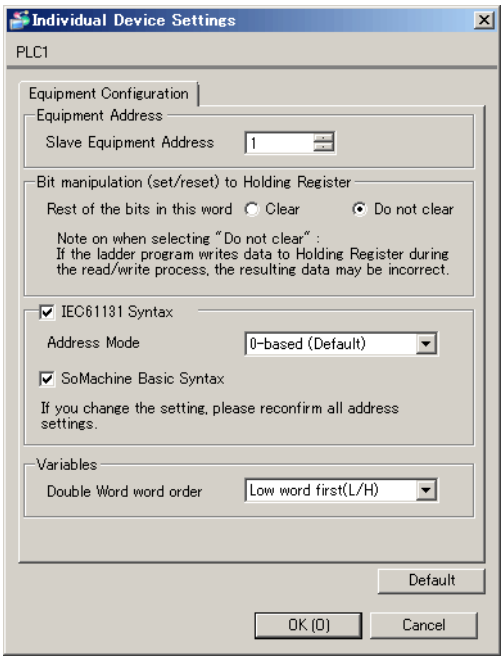
NOTE

- Set [Text Data Mode] to 2.

◆ 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.



■ Settings of External Device

Use the ladder software "SoMachine Basic" for communication settings.

1 Start up the ladder software.

2 From the [Configuration] tab, select [SL2 (Serial line)].

3 Set [Serial line configuration] as follows.

Setup Items	Settings
Protocol	Modbus
Baud rate	19200
Parity	Even
Data bits	8
Stop bits	1
Physical medium	RS-485

4 From the [Configuration] tab, select [Modbus].

5 Set [Modbus] as follows.

Setup Items	Settings
Device	None
Transmission mode	RTU
Addressing	Slave
Address	1
Response timeout (×100 ms)	10
Time between frames (ms)	10

6 Download the communication settings to the External Device.

◆ Notes

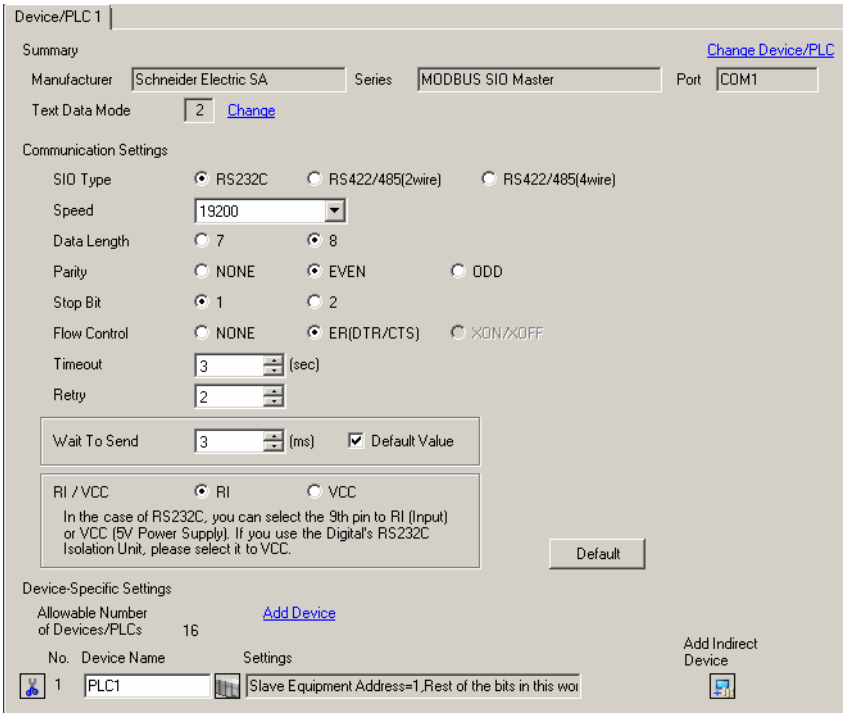
Please refer to the manual of the ladder software for more detail on other setting description.

3.18 Setting Example 18

■ Settings of GP-Pro EX

◆ Communication Settings

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



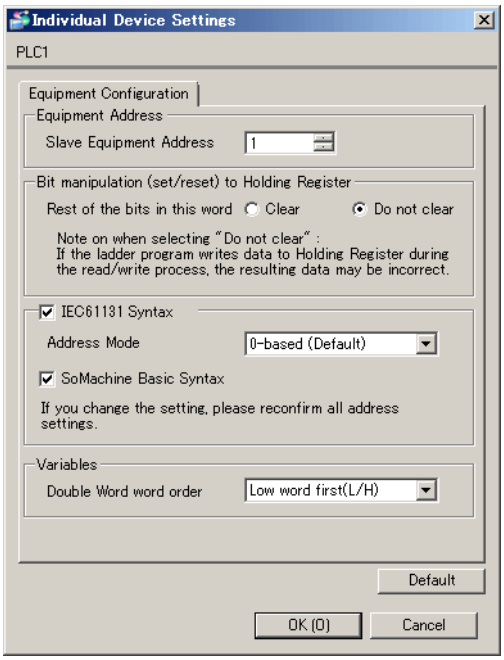
NOTE

- Set [Text Data Mode] to 2.

◆ 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.



■ Settings of External Device

Use the ladder software "SoMachine Basic" for communication settings.

1 Start up the ladder software.

2 From the [Configuration] tab, select [SL2 (Serial line)].

3 Set [Serial line configuration] as follows.

Setup Items	Settings
Protocol	Modbus
Baud rate	19200
Parity	Even
Data bits	8
Stop bits	1
Physical medium	RS-232C

4 From the [Configuration] tab, select [Modbus].

5 Set [Modbus] as follows.

Setup Items	Settings
Device	None
Transmission mode	RTU
Addressing	Slave
Address	1
Response timeout (×100 ms)	10
Time between frames (ms)	10

6 Download the communication settings to the External Device.

◆ Notes

Please refer to the manual of the ladder software for more detail on other setting description.

4 Setup Items

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

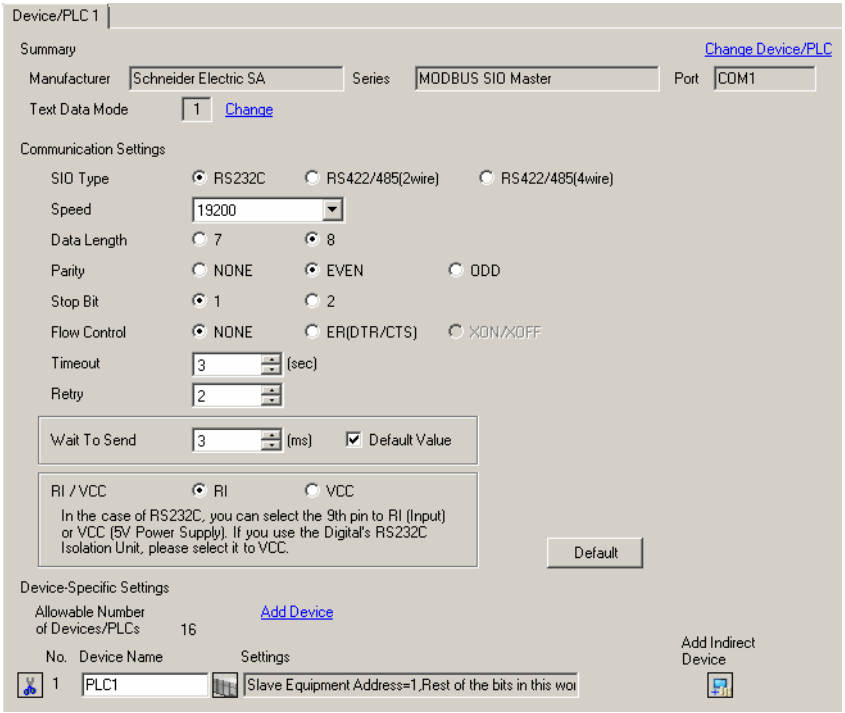
The setting of each parameter must be identical to that of External Device.

☞"3 Example of Communication Setting" (page 12)

4.1 Setup Items in GP-Pro EX

■ Communication Settings

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



Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device.
Speed	Select speed between the External Device and the Display.
Data Length	Select data length.
Parity	Select how to check parity.
Stop Bit	Select stop bit length.
Flow Control	Select the communication control method to prevent overflow of transmission and reception data.
Timeout	Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device.
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.

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. When the check box of the default value is checked, the Wait To Send value automatically changes in the formula below by changing each value for Speed/Data Length/Parity/Stop Bit. $\text{Wait To Send (ms)} = \frac{3500 \times (1 + \text{Data Length} + \text{Stop Bit} + \text{Parity})}{\text{Speed (bps)}}$ Value for the parity setting is shown below. No Parity = 0 Parity Even = 1 Parity Odd = 1 **NOTE** • After changing the Wait To Send value for the project, of which [Default Value] is checked, in the offline mode, the Wait To Send value will be recalculated when the project is received and communication settings are displayed.
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.

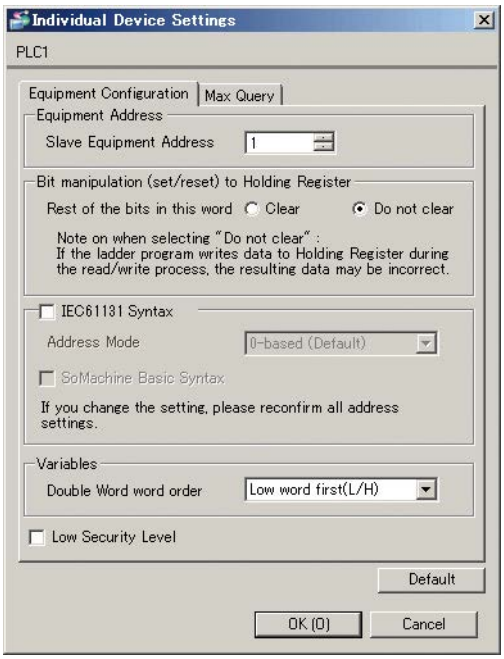
Cf. GP-Pro EX Reference Manual "Changing the Device/PLC at Runtime (Indirect Device)"

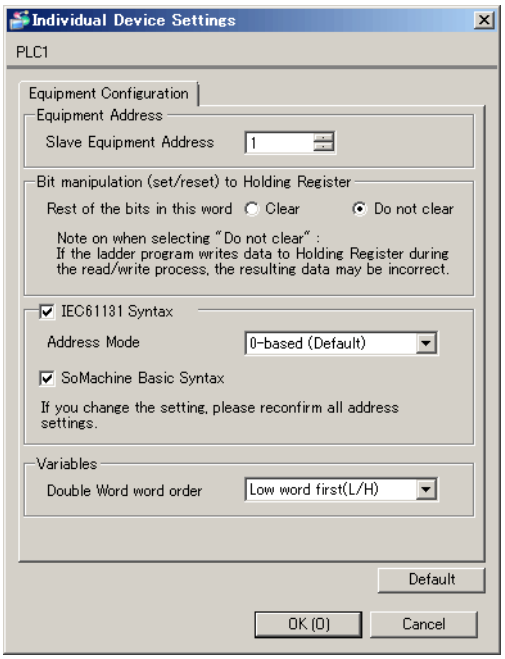
◆ Device Setting

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.

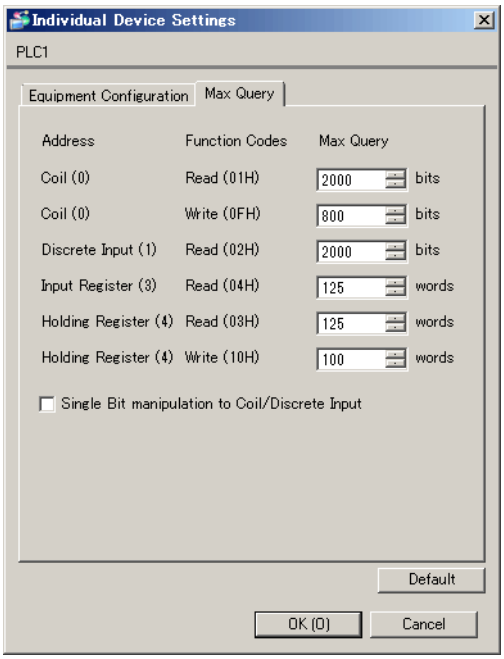
[Equipment Configuration] tab





Setup Items		Setup Description
Slave Equipment Address		Use an integer from 1 to 247 to enter the slave equipment address of the External Device.
Bit manipulation (set / reset) to Holding Resister		From "Clear" or "Do not clear", select treatment of the rest of the bits in the same word when the bit manipulation to Holding Register is performed.
	Rest of the bits in this word	
IEC61131 Syntax		Check this item when you use the IEC61131 syntax for variables. In case that you check on, select Address Mode, [0-based] or [1-based].
SoMachine Basic Syntax		Check this item when you use SoMachine Basic syntax for variables. Use this setting with M221 series only.
Double Word word order		Select the order of storing double word data from "Low word first" or "High word first".
Low Security Level		Put a check when lowering the format check level.

[Max Query] tab



Setup Items	Setup Description
Coil Read	Set the number of max data for device [coil] which can be read for one communication, using 16 to 2000 bits. **NOTE** • When [Single Bit manipulation to Coil/Discrete Input] is checked, set the data maximum number from 1 to 2000.
Coil Write	Set the number of max data for device [coil] which can be written for one communication, using 1 to 800 bits.
Discrete Input Read	Set the number of max data for device [discrete input] which can be read for one communication, using 16 to 2000 bits. **NOTE** • When [Single Bit manipulation to Coil/Discrete Input] is checked, set the data maximum number from 1 to 2000.
Input Register Read	Set the number of max data for device [input register] which can be read for one communication, using 1 to 125 words.
Holding Register Read	Set the number of max data for device [holding register] which can be read for one communication, using 1 to 125 words.
Holding Register Write	Set the number of max data for device [holding register] which can be written for one communication, using 1 to 100 words.
Single Bit manipulation to Coil/ Discrete Input	Put a check when writing in or reading out coil or discreet input in bits.

4.2 Setup Items in Offline Mode

NOTE

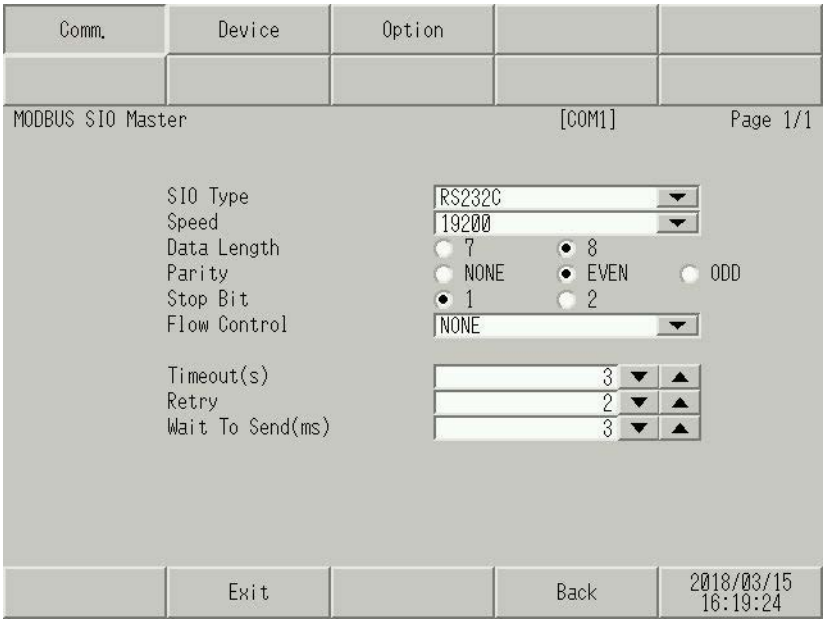
- Refer to the Maintenance/Troubleshooting guide for information on how to enter offline mode or about the operation.

  Cf. Maintenance/Troubleshooting Guide "Offline Mode"

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

◆ Communication Settings

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



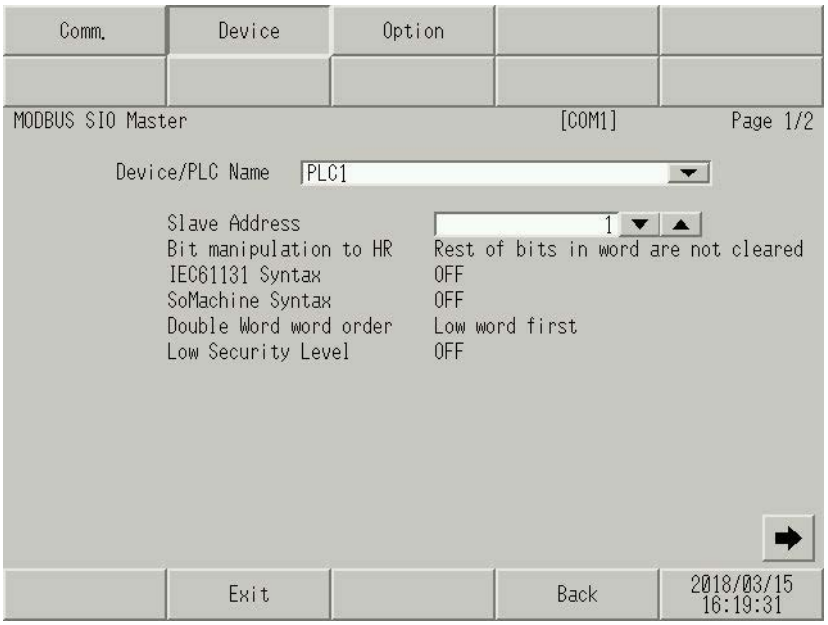
Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. **IMPORTANT** To make the communication settings correctly, confirm the serial interface specifications of Display unit for [SIO Type]. We cannot guarantee the operation if a communication type that the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

Setup Items	Setup Description
Timeout	Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device.
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.

◆ Device Setting

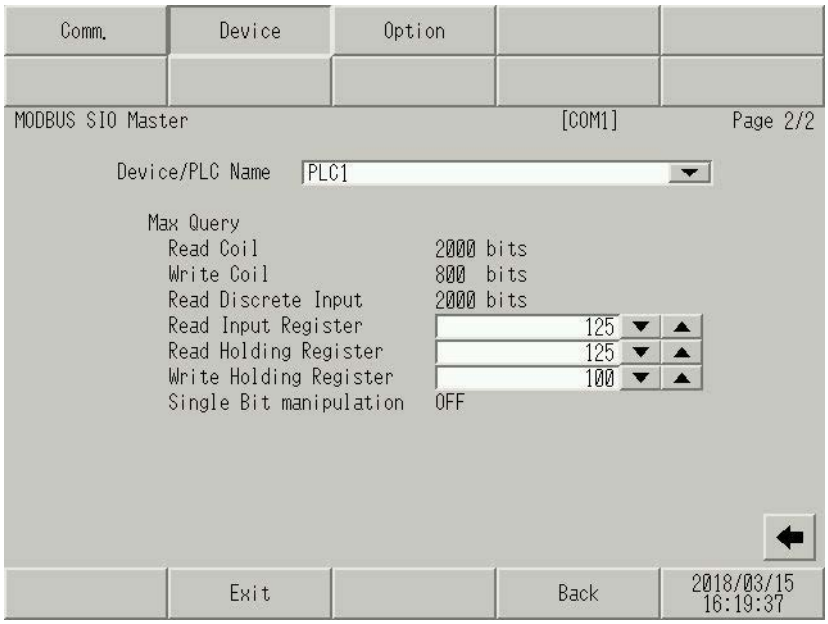
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings]. Touch the External Device you want to set from the displayed list, and touch [Device].

(Page 1/2).



Setup Items	Setup Description
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX. (Initial value [PLC1])
Slave Address	Use an integer from 1 to 247 to enter the slave equipment address of the External Device.
Bit manipulation to HR	From "Rest of bits in word are cleared" or "Rest of bits in word are not cleared", select treatment of the rest of the bits in the same word when the bit manipulation to Holding Register is performed. (Not available to set in offline mode.)
IEC61131 Syntax	Displays the usage status of the currently set IEC61131 syntax in ON/OFF. (Not available to set in offline mode.)
SoMachine Syntax	Displays the usage status of the currently set SoMachine Basic syntax in ON/OFF. (Not available to set in offline mode.)
Double Word word order	Displays the currently set order of storing double word data from "Low word first" or "High word first". (Not available to set in offline mode.)
Low Security Level	When an format check level is lowered, ON/OFF is displayed. When the level is lowered, ON is displayed. (Not available to set in offline mode.)

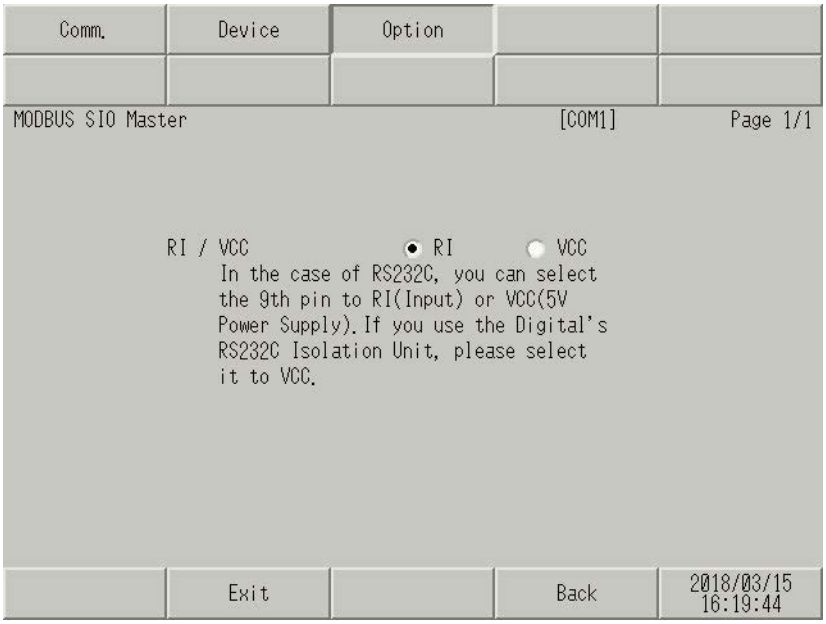
(Page 2/2).



Setup Items	Setup Description
Read Coil	Displays the number of max data for device [coil] which can be read for one communication. (Not available to set in offline mode.)
Write Coil	Displays the number of max data for device [coil] which can be written for one communication. (Not available to set in offline mode.)
Read Discrete Input	Displays the number of max data for device [discrete input] which can be read for one communication. (Not available to set in offline mode.)
Read Input Register	Set the number of max data for device [input register] which can be read for one communication, using 1 to 125 words.
Read Holding Register	Set the number of max data for device [holding register] which can be read for one communication, using 1 to 125 words.
Write Holding Register	Set the number of max data for device [holding register] which can be written for one communication, using 1 to 100 words.
Single Bit manipulation	ON/OFF display shows whether the coil or discreet input is written or read out in bits. If ON is displayed, writing or reading can be executed in bits. (Not available to set in offline mode.)

◆ 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[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	1A	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 200m or less.
	1B	User-created cable	
GP3000[*3] (COM2)	1C	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 200m or less.
	1D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	1E	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 200m or less.
	1F	User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	1G	User-created cable	The cable length must be 200m or less.
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	1H	User-created cable	The cable length must be 200m or less.

Display (Connection Port)	Cable		Notes
GP4000[*6] (COM2) GP-4201T (COM1) GP6000 (COM2) 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)	1I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 [*10] + User-created cable	The cable length must be 200m or less.
	1B	User-created cable	
LT-4*01TM (COM1) LT-Rear Module (COM1)	1J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	The cable length must be 200m or less.
PE-4000B[*11] PS5000[*11] PS6000 (Optional Interface)[*11]	1K	User-created cable	The cable length must be 200m 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)

■ IPC COM Port (page 8)

*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.

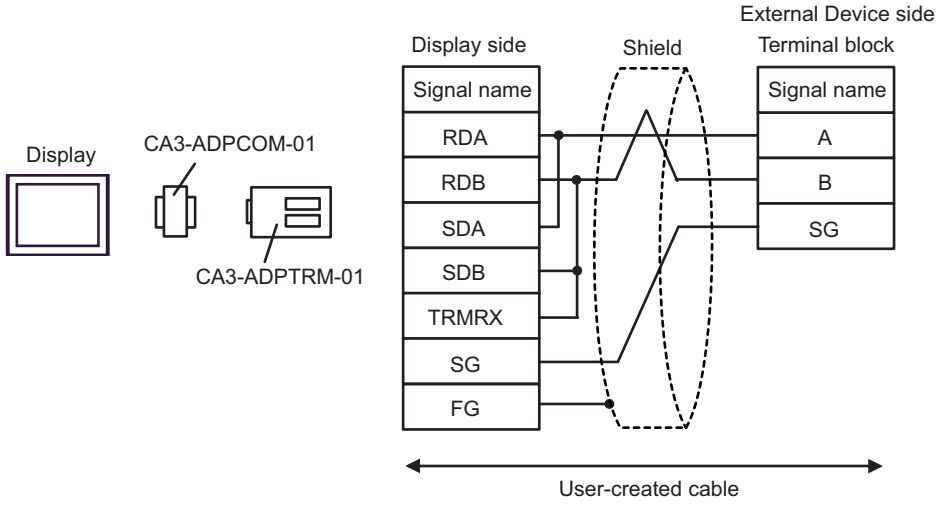
*10 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 1A.

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

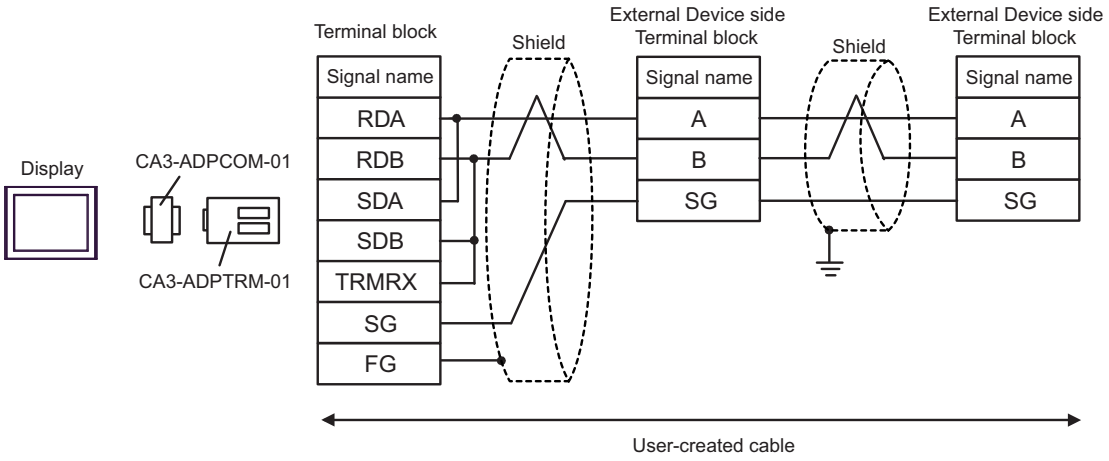
■ IPC COM Port (page 8)

1A)

- 1:1 Connection



- 1:n Connection

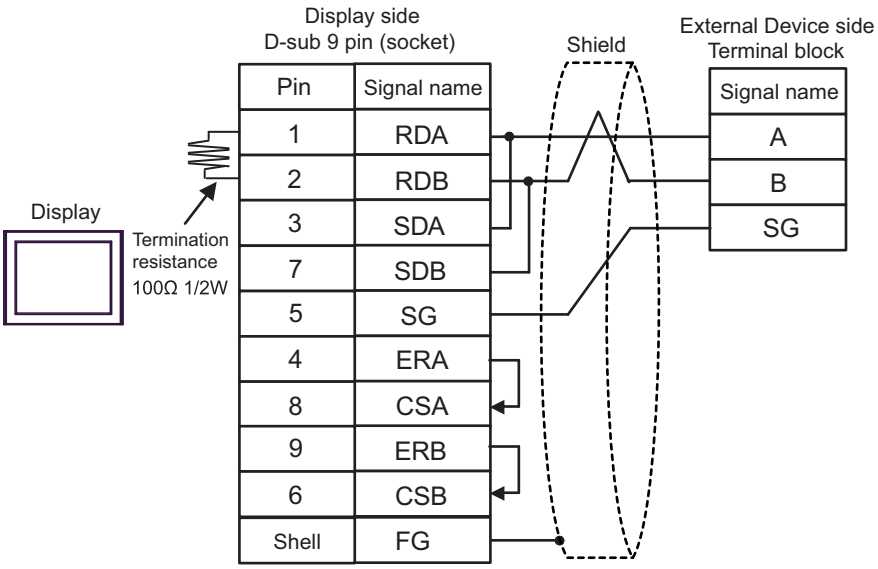


NOTE

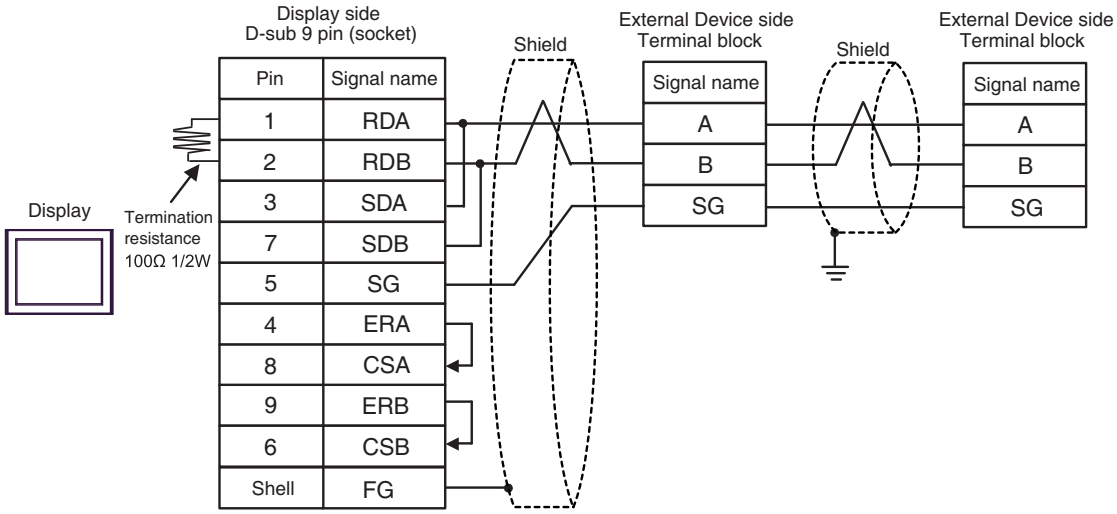
- The cable length must be 200m or less.

1B)

- 1:1 Connection



- 1:n Connection

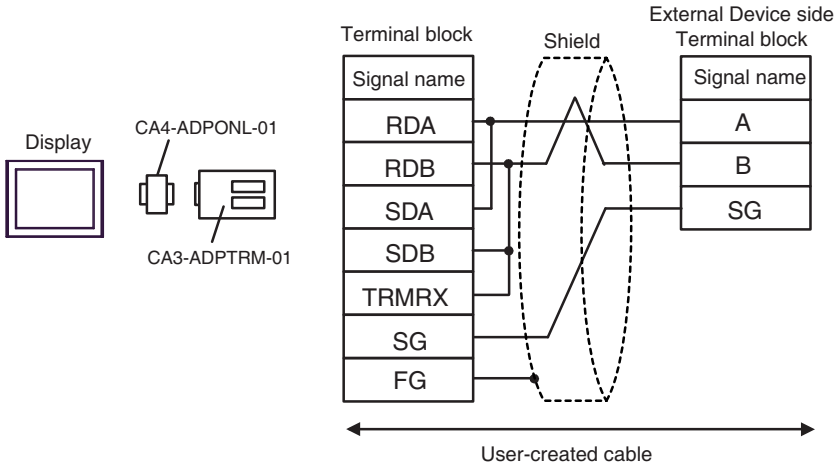


NOTE

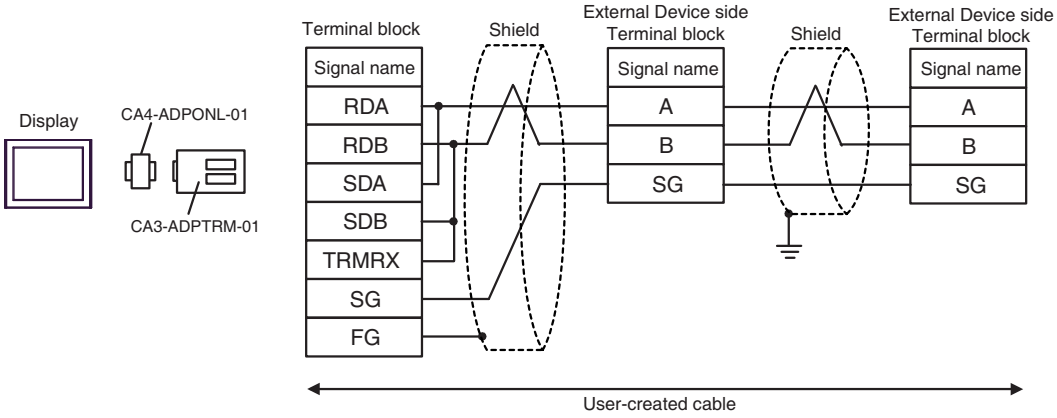
- The cable length must be 200m or less.

1C)

- 1:1 Connection



- 1:n Connection

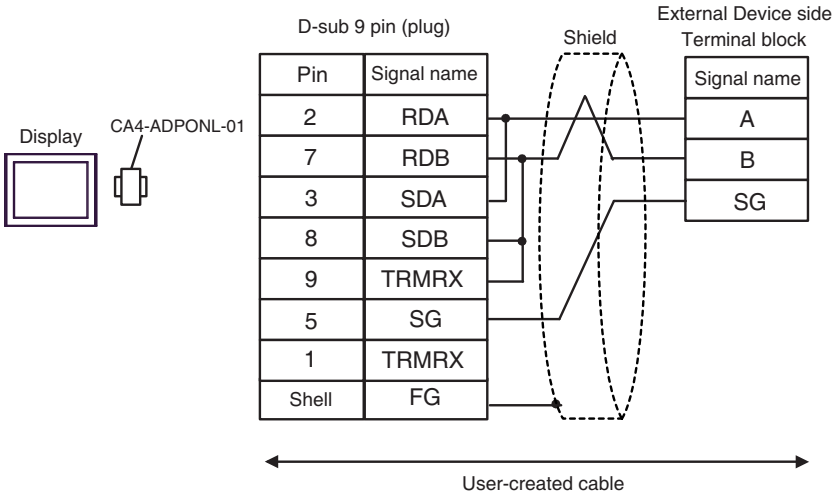


NOTE

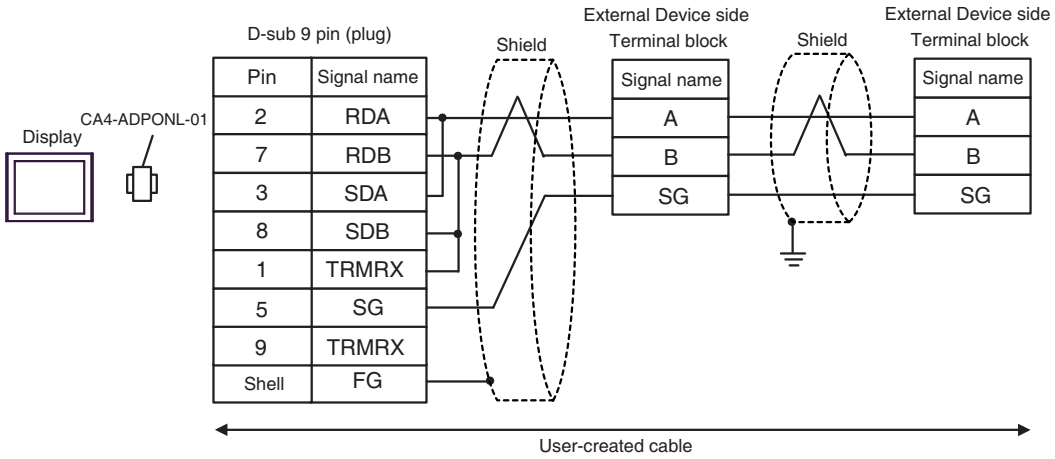
- The cable length must be 200m or less.

1D)

- 1:1 Connection



- 1:n Connection

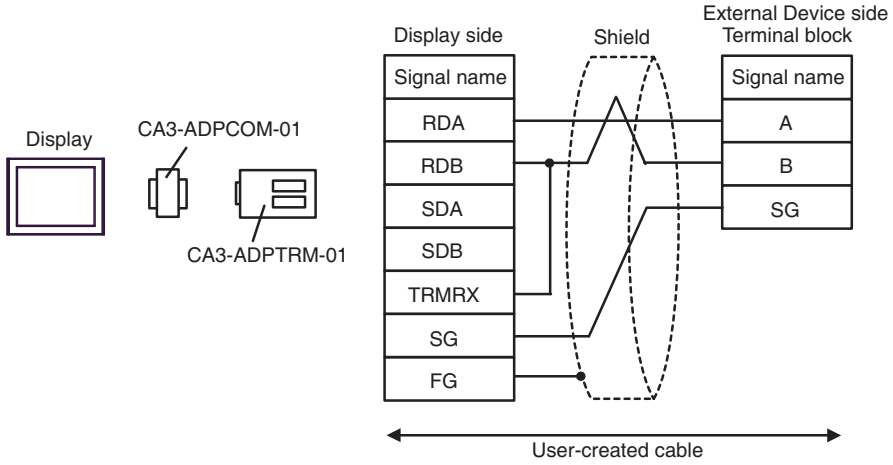


NOTE

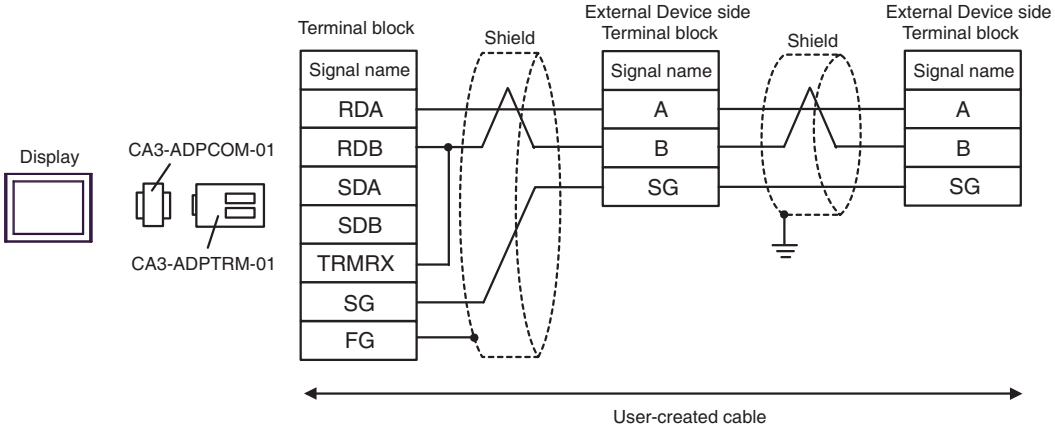
- The cable length must be 200m or less.

1E)

- 1:1 Connection



- 1:n Connection

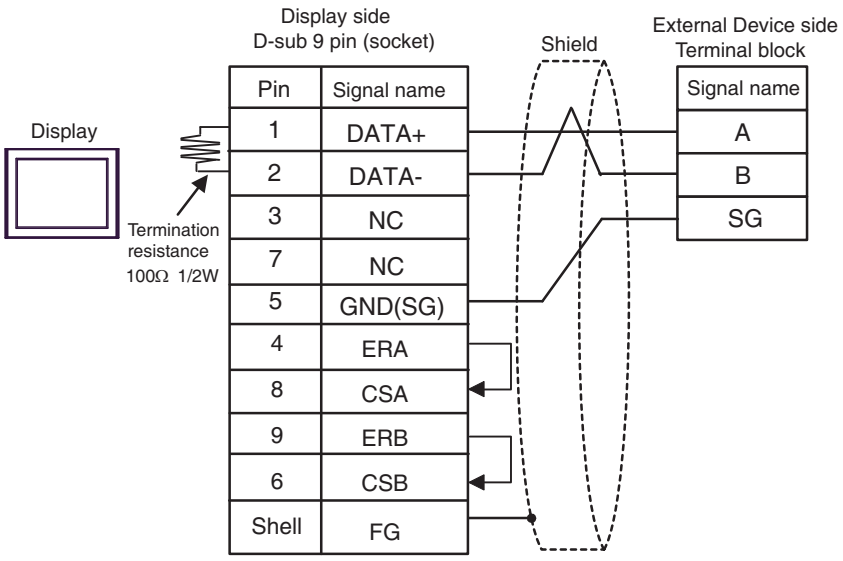


NOTE

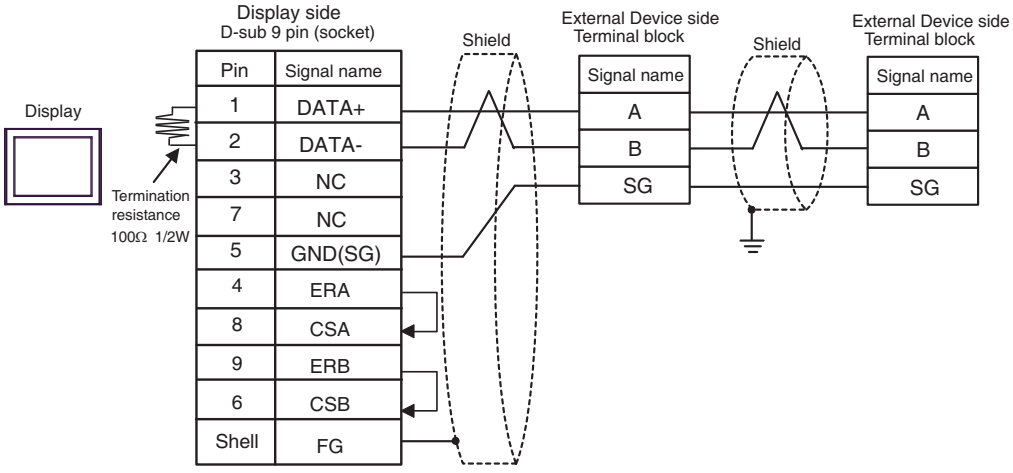
- The cable length must be 200m or less.

1F)

- 1:1 Connection



- 1:n Connection

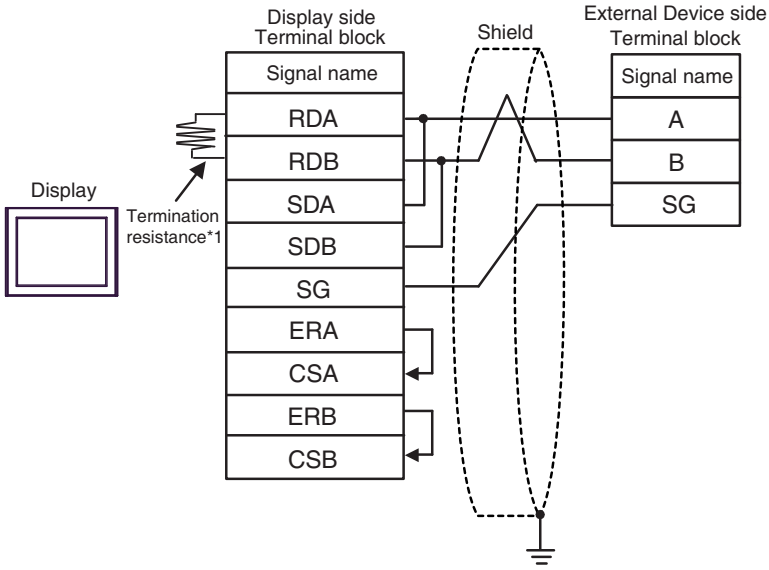


NOTE

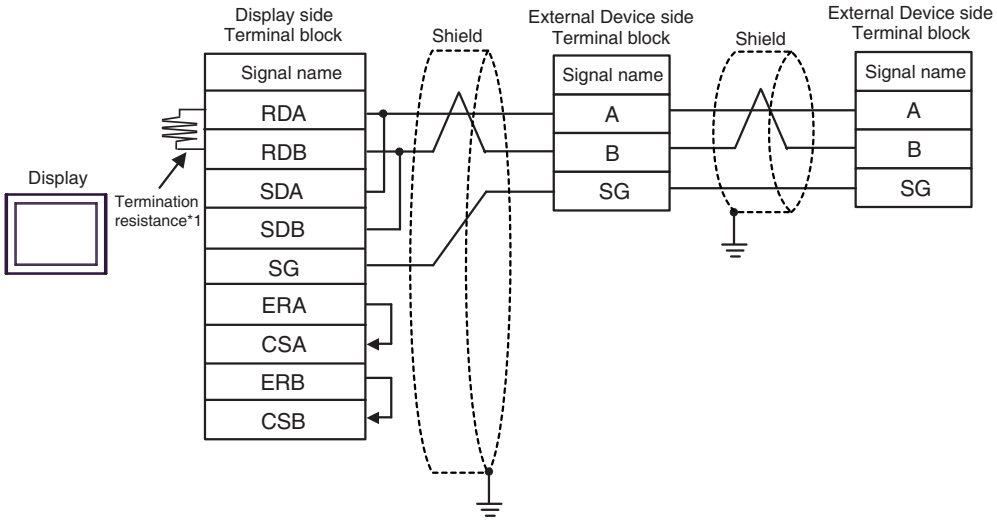
- The cable length must be 200m or less.

1G)

- 1:1 Connection



- 1:n Connection



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

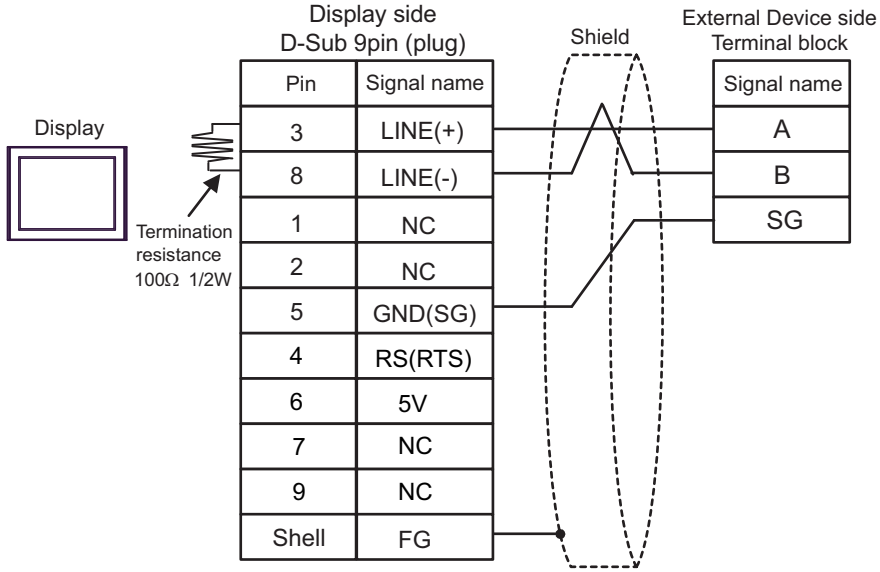
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

NOTE

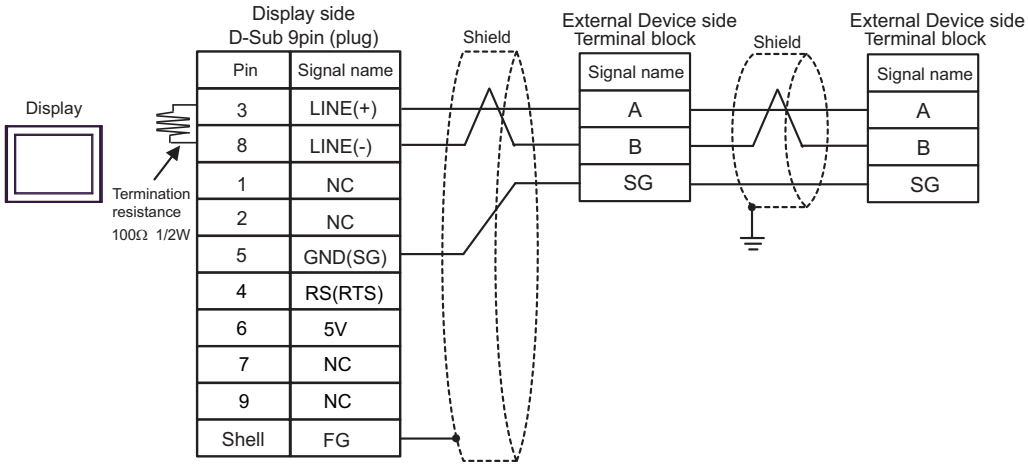
- The cable length must be 200m or less.

1H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

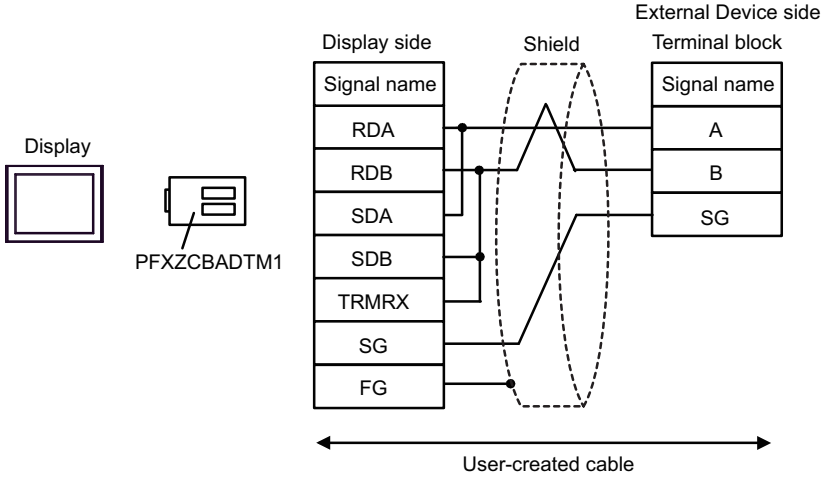
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

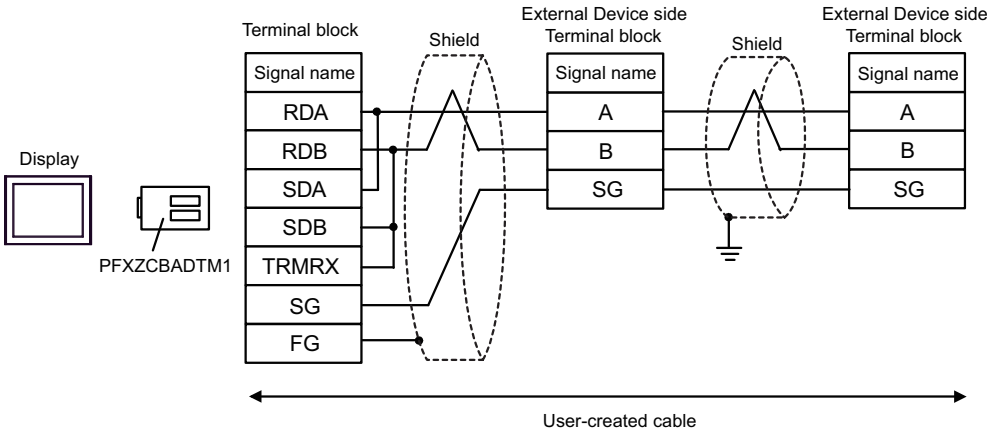
- In COM on the GP-4107, the SG and FG terminals are isolated.
- The cable length must be 200m or less.

1l)

- 1:1 Connection



- 1:n Connection

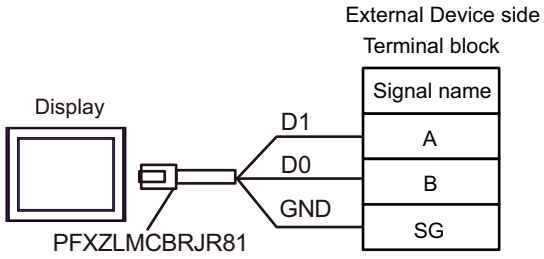


NOTE

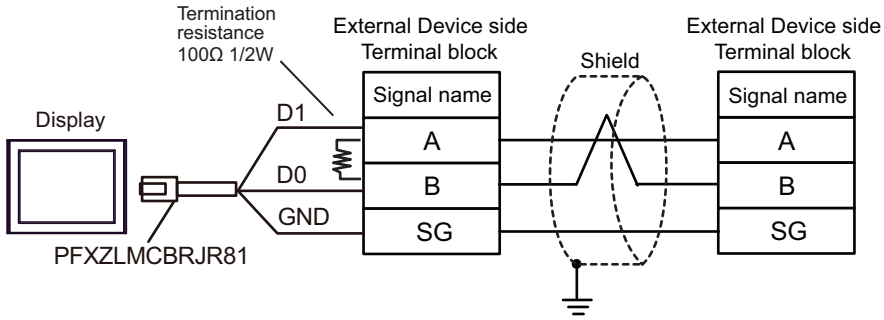
- The cable length must be 200m or less.

1J)

- 1:1 Connection



- 1:n Connection

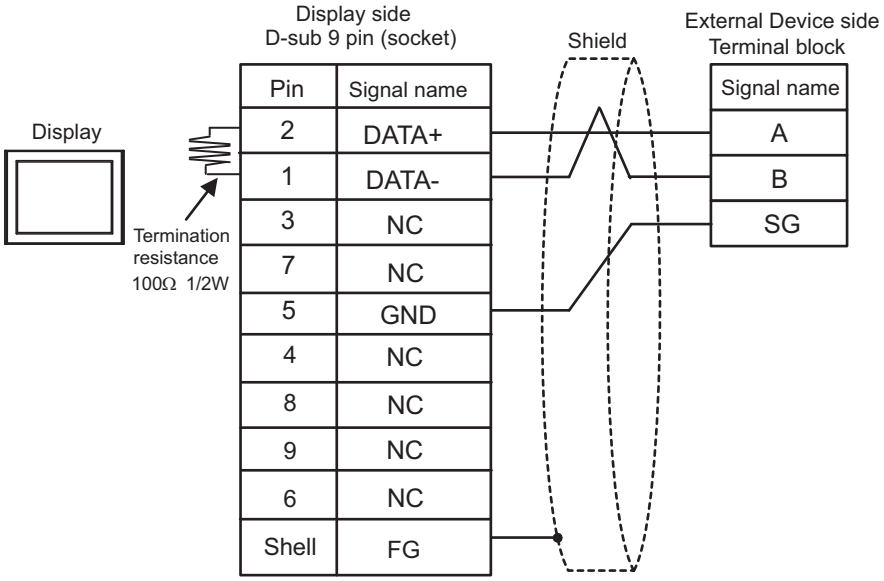


NOTE

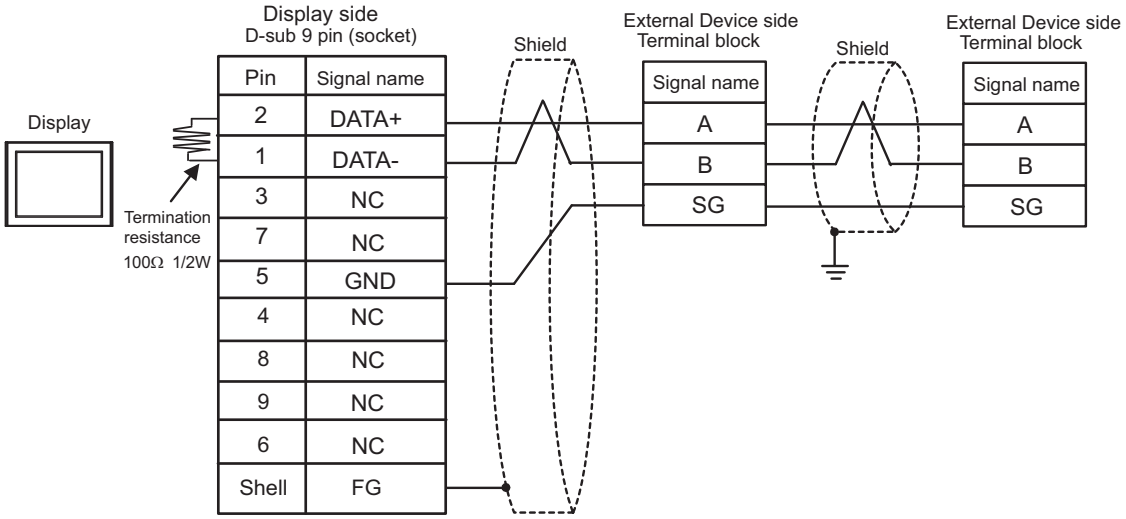
- The cable length must be 200m or less.

1K)

- 1:1 Connection



- 1:n Connection



NOTE

- The cable length must be 200m or less.

5.2 Cable Diagram 2

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) GP6000 (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	Cable by Schneider Electric Industries TSX PCX 1031 (2.5m)*4	
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	2B	User-created cable + Cable by Schneider Electric Industries TSX PCX 1031 (2.5m)*2	

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

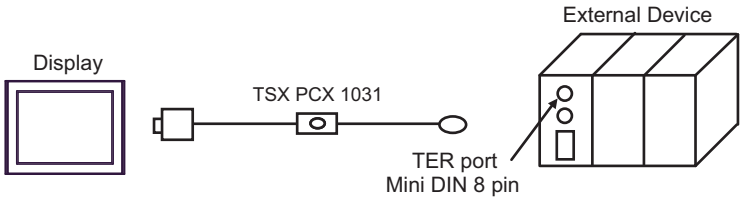
*2 Except SP-5B00

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

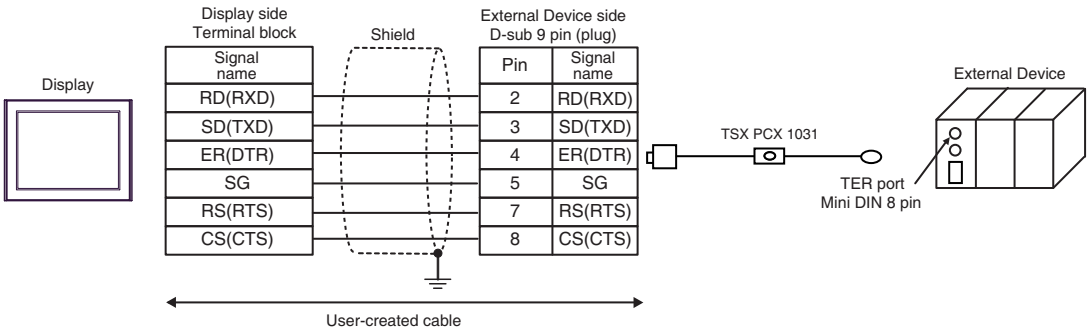
■ IPC COM Port (page 8)

*4 Set the rotary switch to "3 (OTHER DIRECT)".

2A)



2B)



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)	3A	COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Accessory box by Schneider Electric Industries TSX SCA 50	The cable length must be 10m or less.[*3]
	3B	User-created cable + Accessory box by Schneider Electric Industries TSX SCA 50	
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 + Accessory box by Schneider Electric Industries TSX SCA 50	The cable length must be 10m or less.[*3]
	3D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable + Accessory box by Schneider Electric Industries TSX SCA 50	
IPC[*5]	3E	COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Accessory box by Schneider Electric Industries TSX SCA 50	The cable length must be 10m or less.[*3]
	3F	User-created cable + Accessory box by Schneider Electric Industries TSX SCA 50	

Display (Connection Port)	Cable		Notes
GP-4106 (COM1) GP-4116T (COM1)	3G	User-created cable + Accessory box by Schneider Electric Industries TSX SCA 50	The cable length must be 10m or less.*3
GP-4107 (COM1) GP-4*03T*6 (COM2) GP-4203T (COM1)	3H	User-created cable + Accessory box by Schneider Electric Industries TSX SCA 50	The cable length must be 10m or less.*3
GP4000*7 (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000*8 (COM1/2) SP-5B00 (COM2) ST6000*9 (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000*10 (COM2) PS6000 (Basic Box) (COM1/2)	3I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 *11 + User-created cable + Accessory box by Schneider Electric Industries TSX SCA 50	The cable length must be 10m or less.*3
	3B	User-created cable + Accessory box by Schneider Electric Industries TSX SCA 50	
LT-4*01TM (COM1) LT-Rear Module (COM1)	3J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81 + Accessory box by Schneider Electric Industries TSX SCA 50	The cable length must be 5m or less.*3
PE-4000B*12 PS5000*12 PS6000 (Optional Interface)*12	3K	User-created cable + Accessory box by Schneider Electric Industries TSX SCA 50	The cable length must be 10m or less.*3

*1 All GP3000 models except AGP-3302B

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

*3 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 1000m or less (for LT-4*01TM and LT-Rear Module, 195m or less).

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

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

■ IPC COM Port (page 8)

*6 Except GP-4203T

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

*8 Except SP-5B00

*9 Except ST-6200

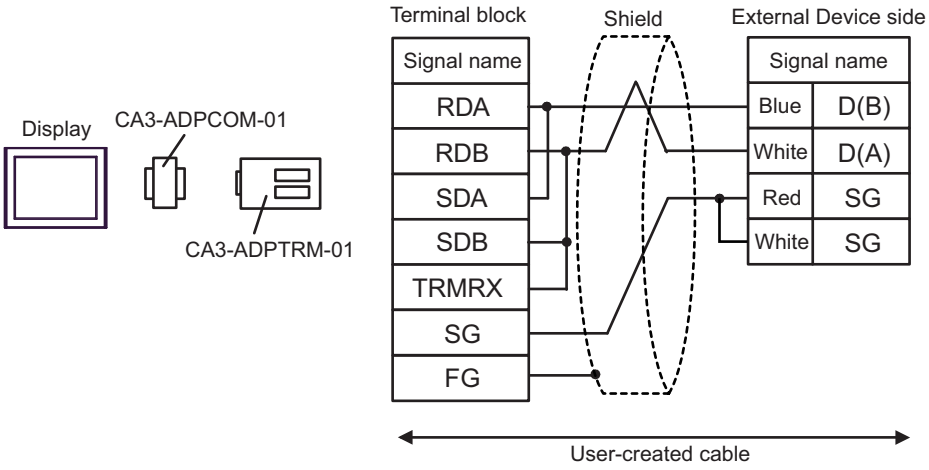
*10 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

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

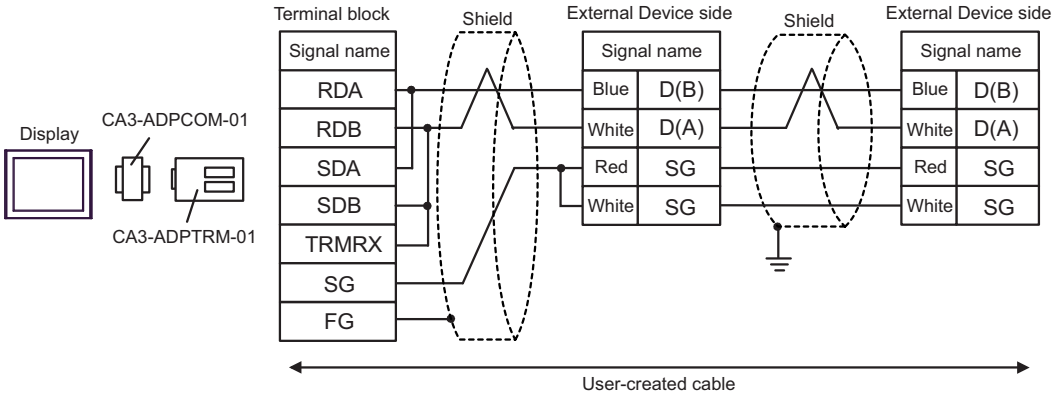
*12 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
■ IPC COM Port (page 8)

3A)

- 1:1 Connection



- 1:n Connection



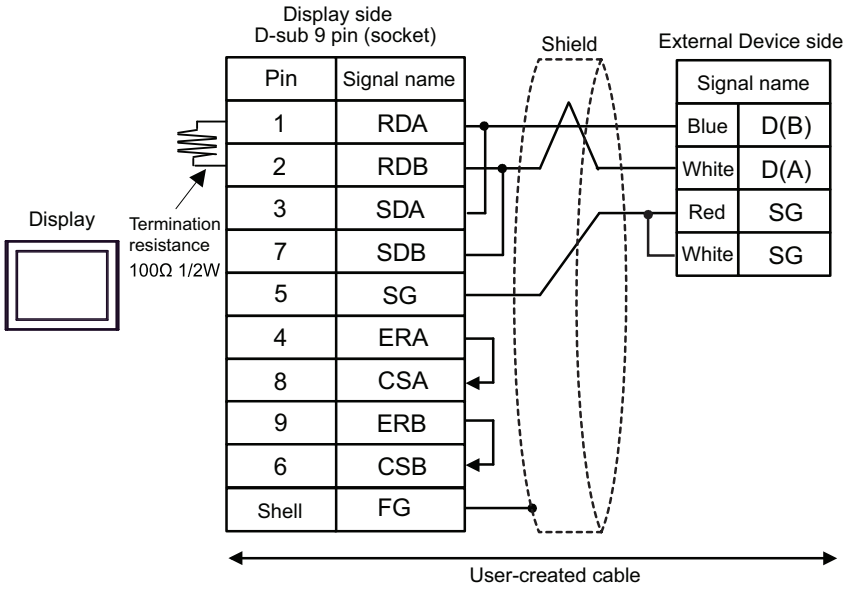
NOTE

- The cable length must be 10m or less.*1

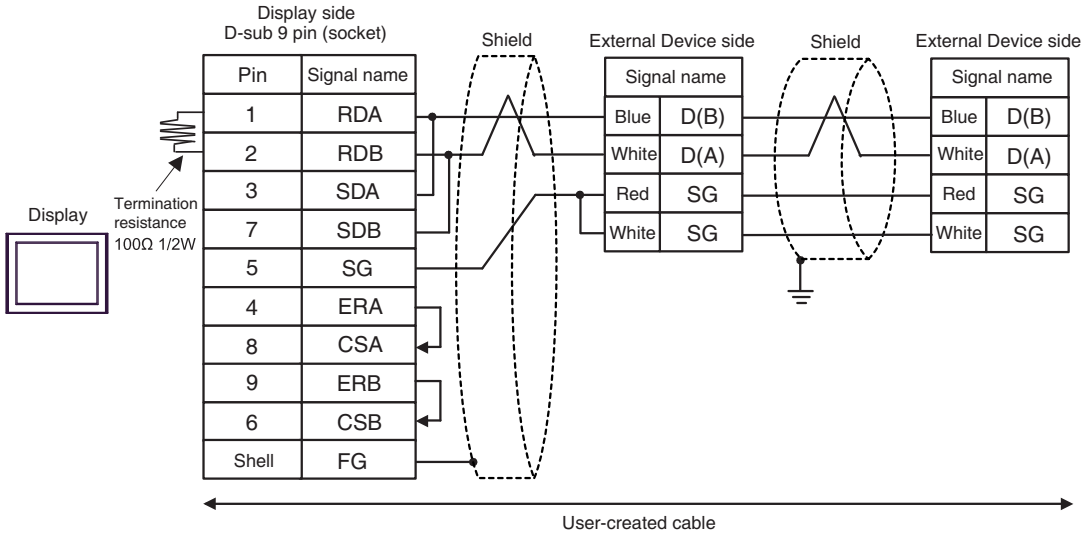
*1 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 1000m or less.

3B)

- 1:1 Connection



- 1:n Connection



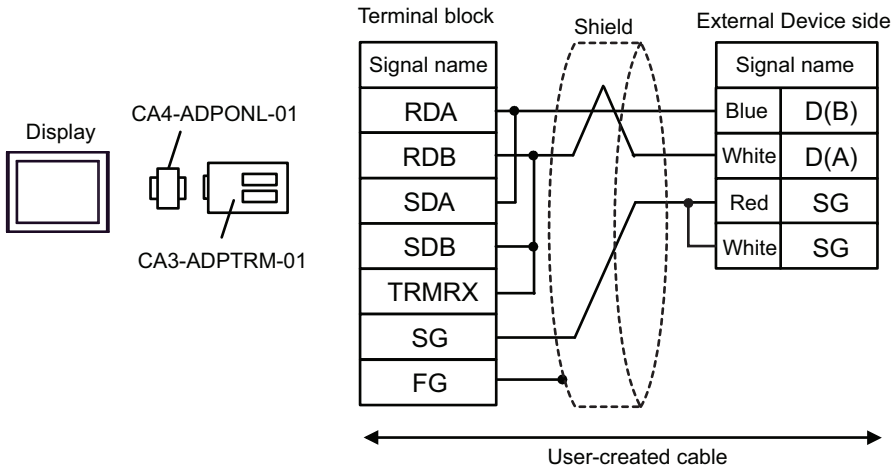
NOTE

- The cable length must be 10m or less.*1

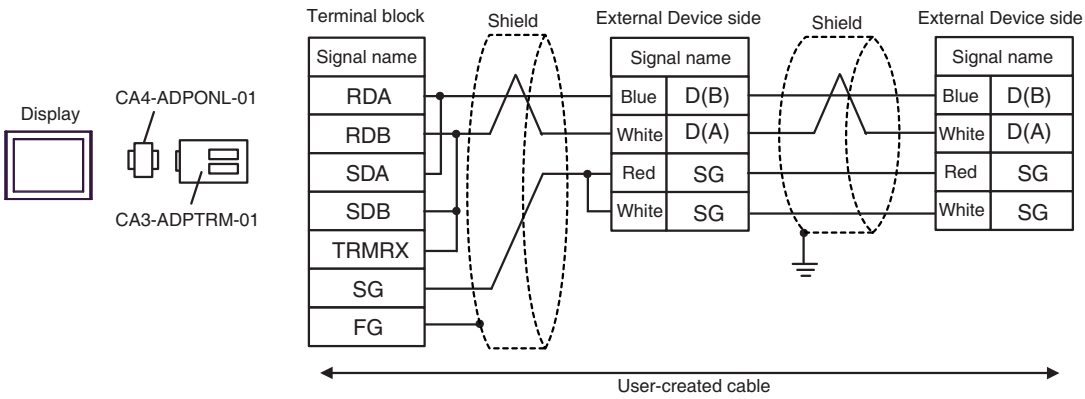
*1 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 1000m or less.

3C)

- 1:1 Connection



- 1:n Connection



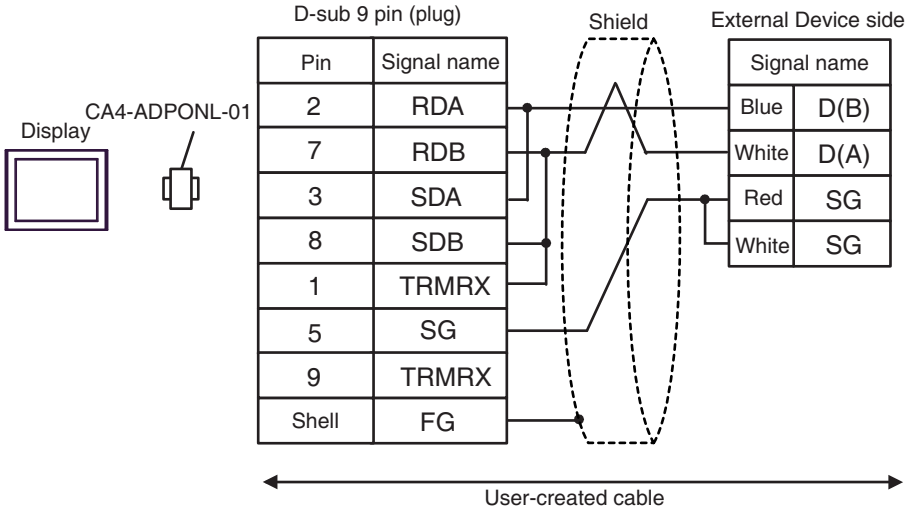
NOTE

- The cable length must be 10m or less.*1

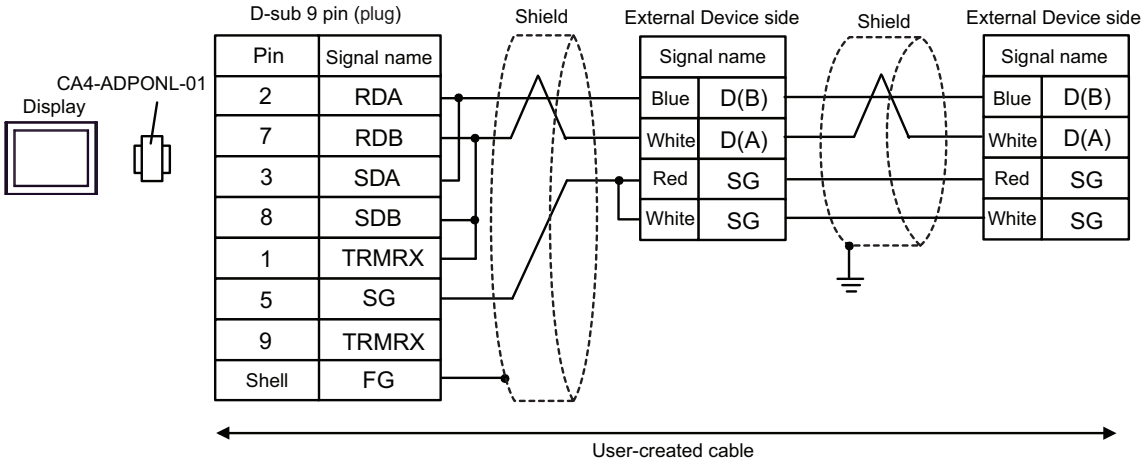
*1 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 1000m or less.

3D)

- 1:1 Connection



- 1:n Connection



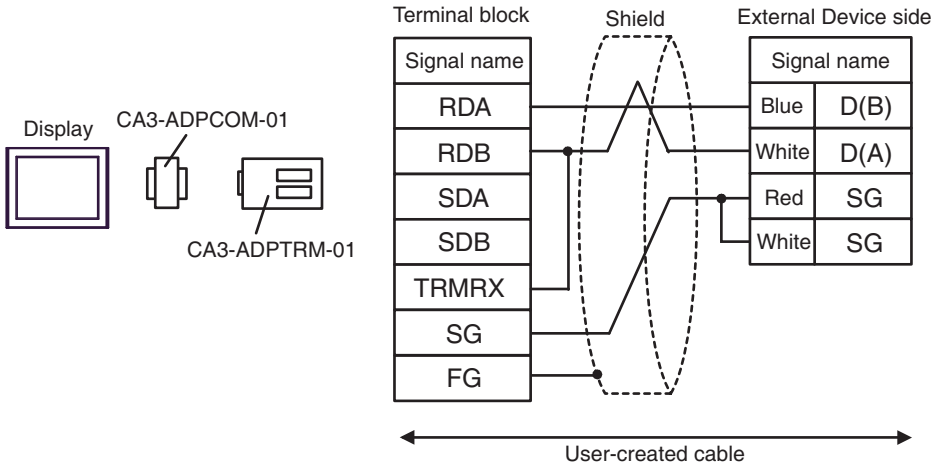
NOTE

- The cable length must be 10m or less.*1

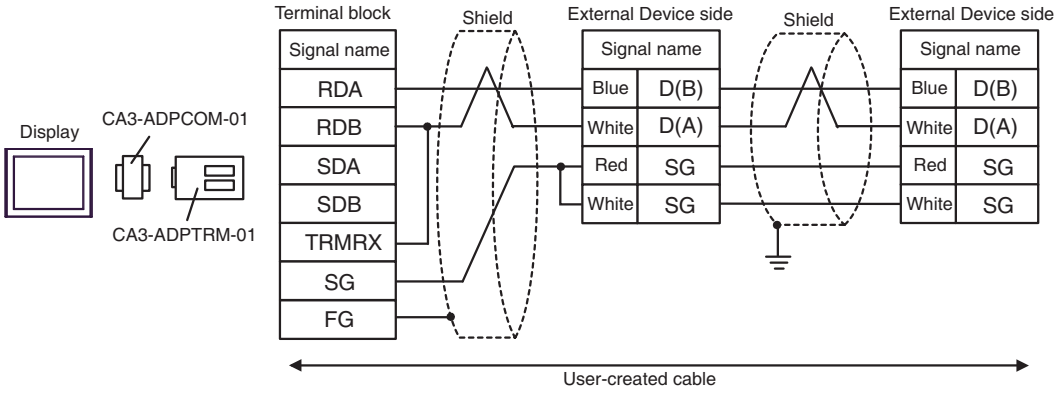
*1 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 1000m or less.

3E)

- 1:1 Connection



- 1:n Connection



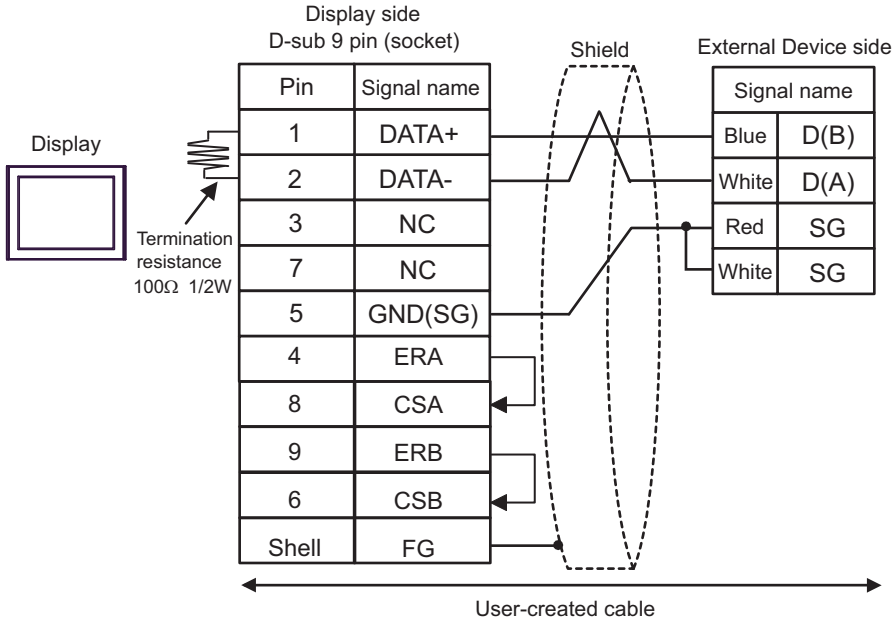
NOTE

- The cable length must be 10m or less.*1

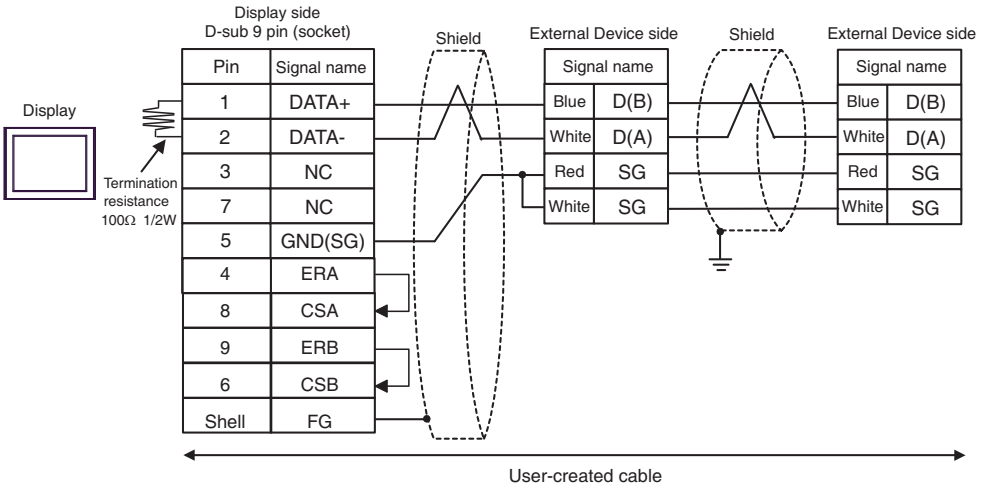
*1 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 1000m or less.

3F)

- 1:1 Connection



- 1:n Connection



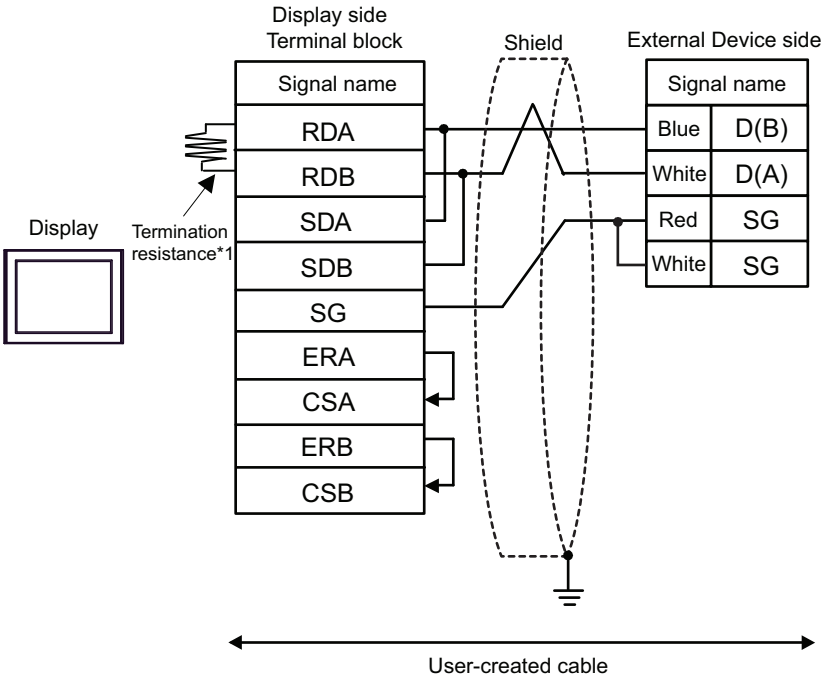
NOTE

- The cable length must be 10m or less.*1

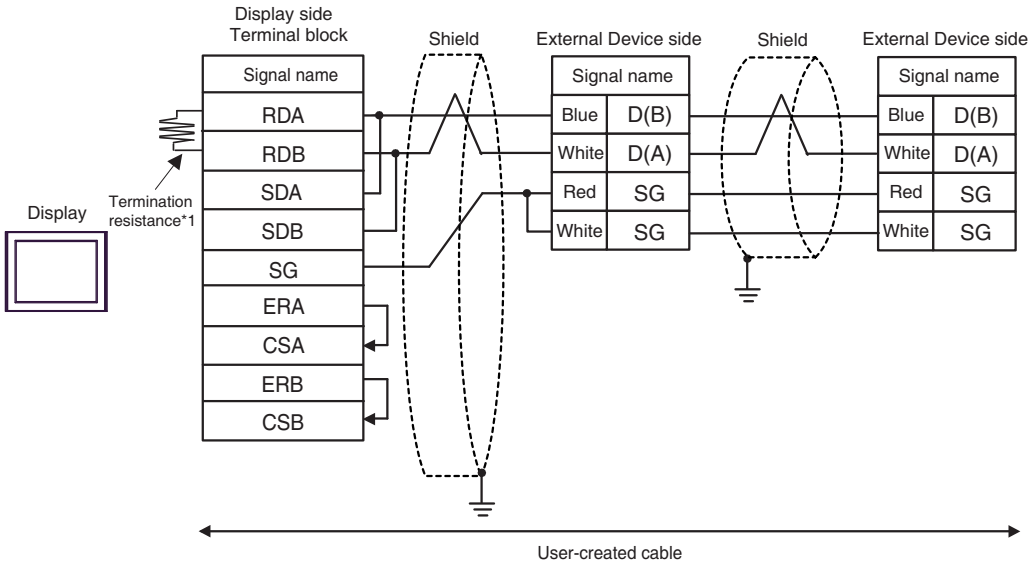
*1 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 1000m or less.

3G)

- 1:1 Connection



- 1:n Connection



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

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

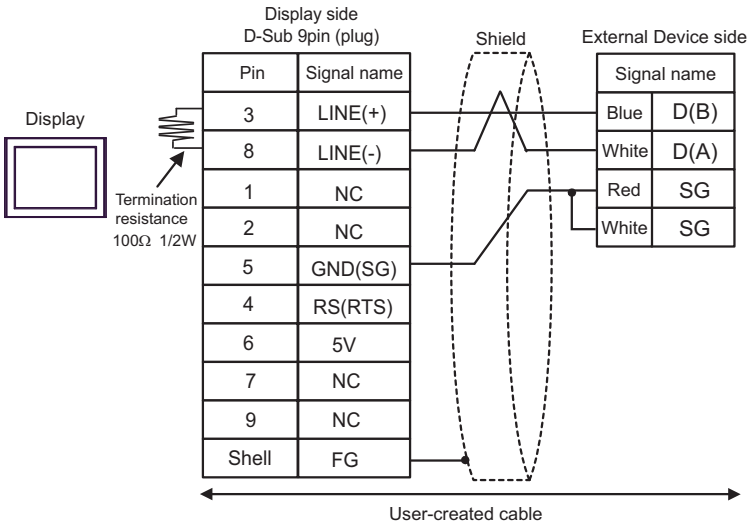
NOTE

- The cable length must be 10m or less.*1

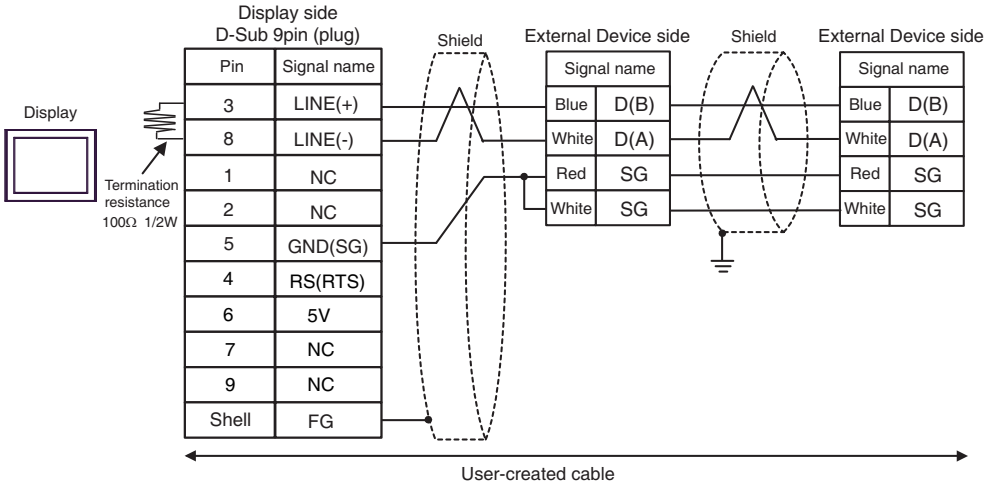
*1 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 1000m or less.

3H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

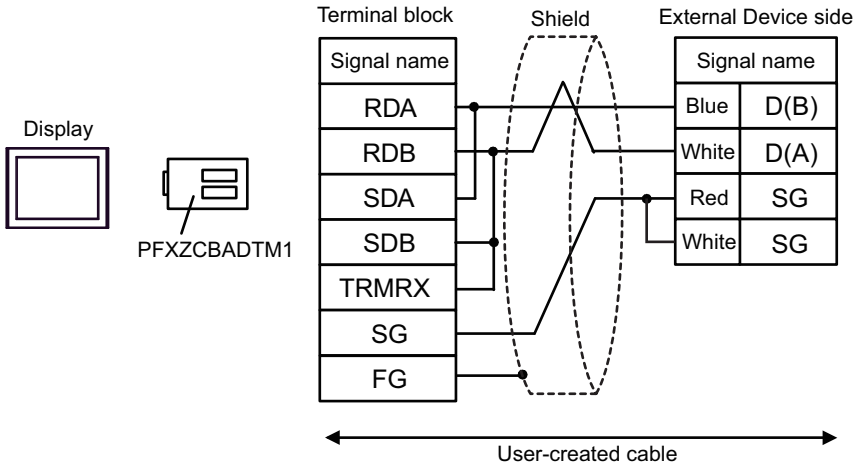
NOTE

- In COM on the GP-4107, the SG and FG terminals are isolated.
- The cable length must be 10m or less.*1

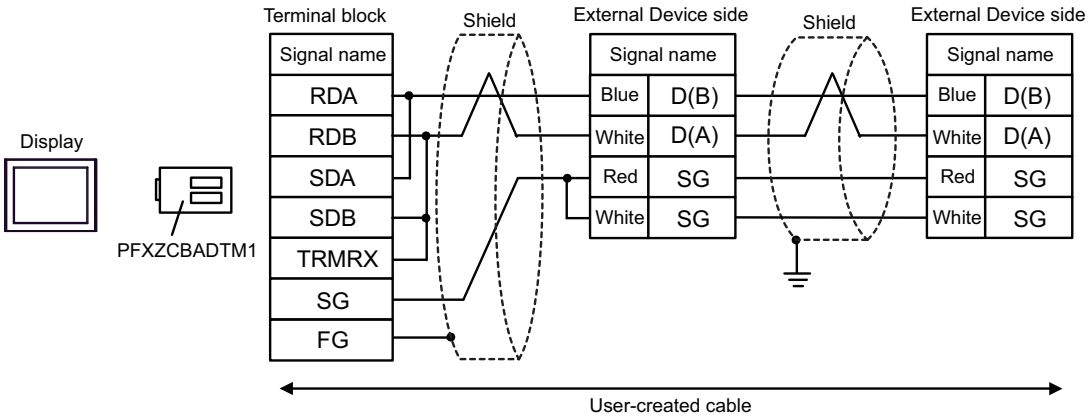
*1 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 1000m or less.

3l)

- 1:1 Connection



- 1:n Connection



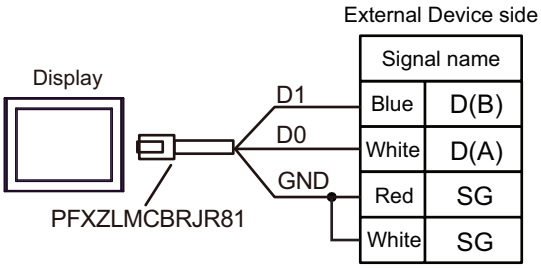
NOTE

- The cable length must be 10m or less.*1

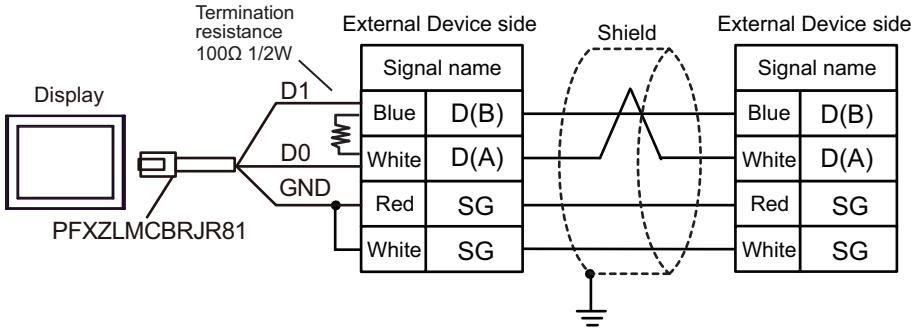
*1 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 1000m or less.

3J)

- 1:1 Connection



- 1:n Connection



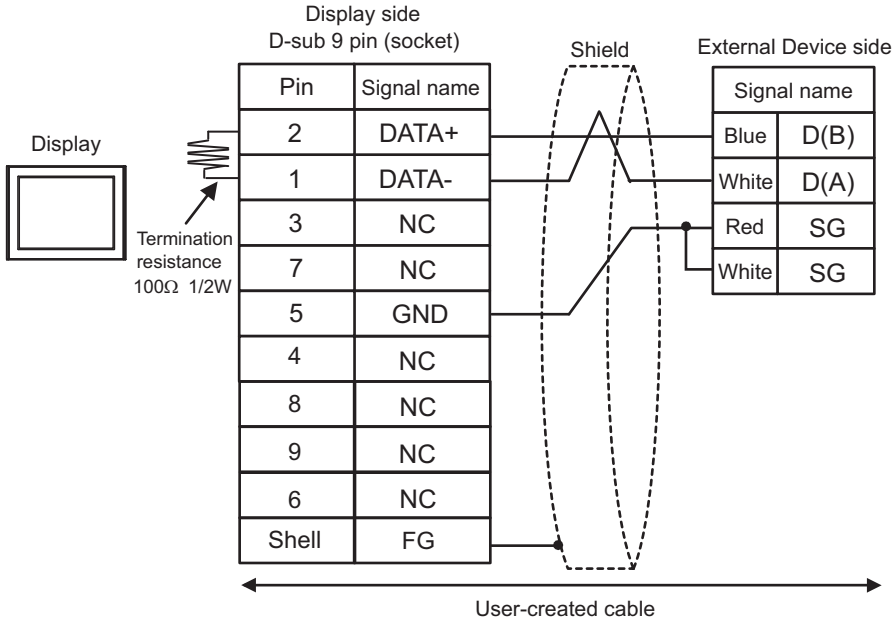
NOTE

- The cable length must be 5m or less.*1

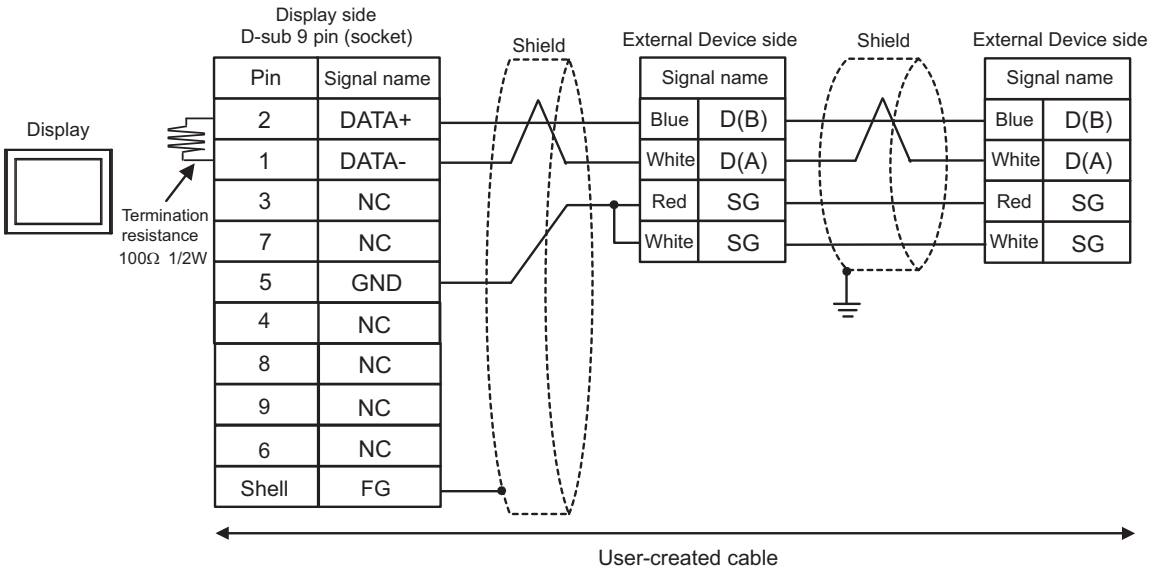
*1 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 195 or less.

3K)

- 1:1 Connection



- 1:n Connection



NOTE

- The cable length must be 10m or less.*1

*1 Max length between the Display and the "Accessory Box connected to Display". Total cable length between accessory boxes must be 1000m or less.

5.4 Cable Diagram 4

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) GP6000 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	4A	User-created cable + RS 232 D tap link cable by Schneider Electric TSX SCP CC 1030 (3m) + PCMCIA card for RS232C by Schneider Electric TSX SCP 111	The cable length must be 15m or less.*4
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	4B	User-created cable + RS 232 D tap link cable by Schneider Electric TSX SCP CC 1030 (3m) + PCMCIA card for RS232C by Schneider Electric TSX SCP 111	The cable length must be 15m or less.*4
LT-4*01TM (COM1) LT-Rear Module (COM1)	4C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21 + RS 232 D tap link cable by Schneider Electric TSX SCP CC 1030 (3m) + PCMCIA card for RS232C by Schneider Electric TSX SCP 111	The cable length must be 8m or less.

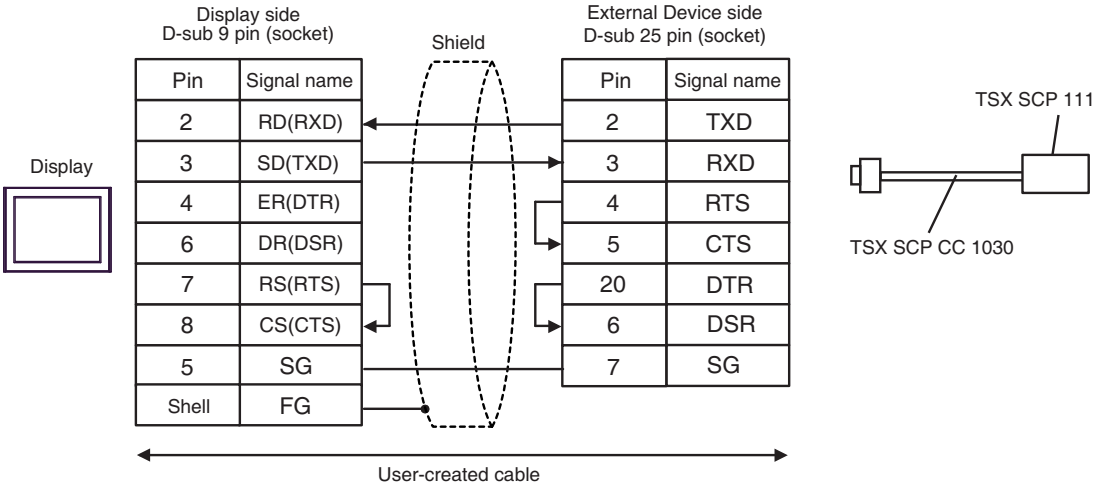
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

*3 Only the COM port which can communicate by RS-232C can be used.
■ IPC COM Port (page 8)

*4 Total length for TSX SCP CC 1030 and User-created cable.

4A)

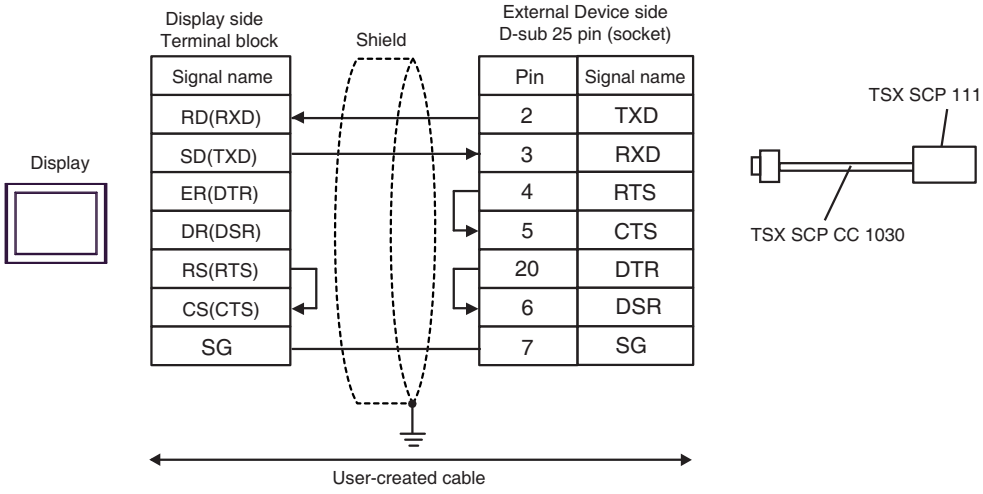


NOTE

- The cable length must be 15m or less. *1

*1 Total length for TSX SCP CC 1030 and User-created cable.

4B)

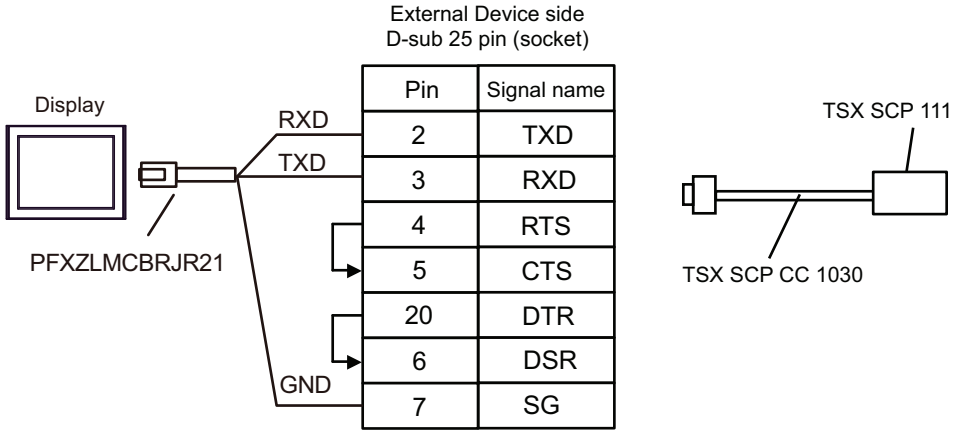


NOTE

- The cable length must be 15m or less. *1

*1 Total length for TSX SCP CC 1030 and User-created cable.

4C)



NOTE

- The cable length must be 8m or less. *1

*1 Total length for TSX SCP CC 1030 and User-created cable.

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)	5A	COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	
	5B	User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	
GP3000[*3] (COM2)	5C	Online Adapter by Pro-face CA4-ADPONL-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	
	5D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	

Display (Connection Port)	Cable		Notes
IPC*4	5E	COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	
	5F	User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	
GP-4106 (COM1) GP-4116T (COM1)	5G	User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	
GP-4107 (COM1) GP-4*03T*5 (COM2) GP-4203T (COM1)	5H	User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	
GP4000*6 (COM2) GP-4201T (COM1) GP6000 (COM2) 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)	5I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 *10 + User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	
	5B	User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	

Display (Connection Port)	Cable		Notes
LT-4*01TM (COM1) LT-Rear Module (COM1)	5J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81 + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	
PE-4000B*11 PS5000*11 PS6000 (Optional Interface)*11	5K	User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) + PCMCIA card for RS485 by Schneider Electric Industries TSX SCP 114	

*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)

■ IPC COM Port (page 8)

*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

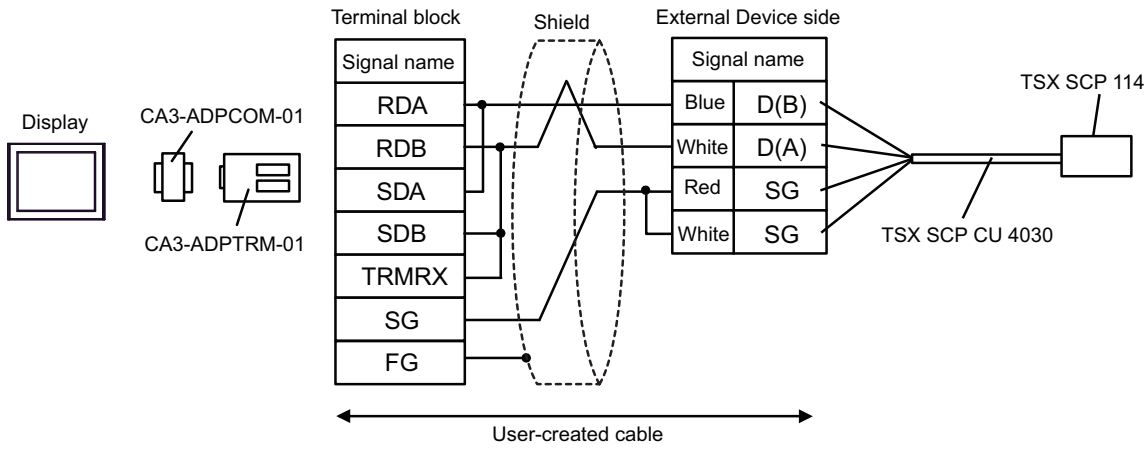
*9 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

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

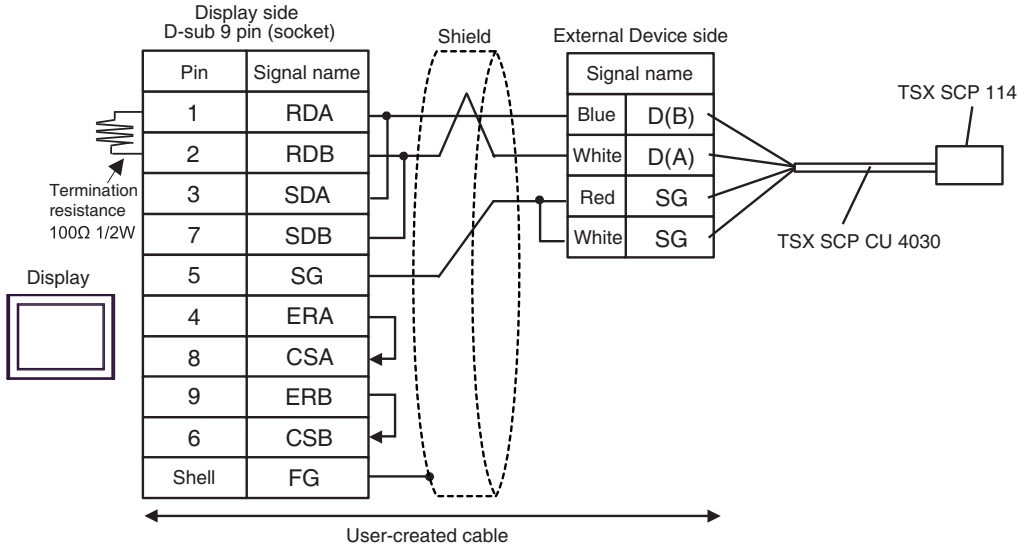
*11 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.

■ IPC COM Port (page 8)

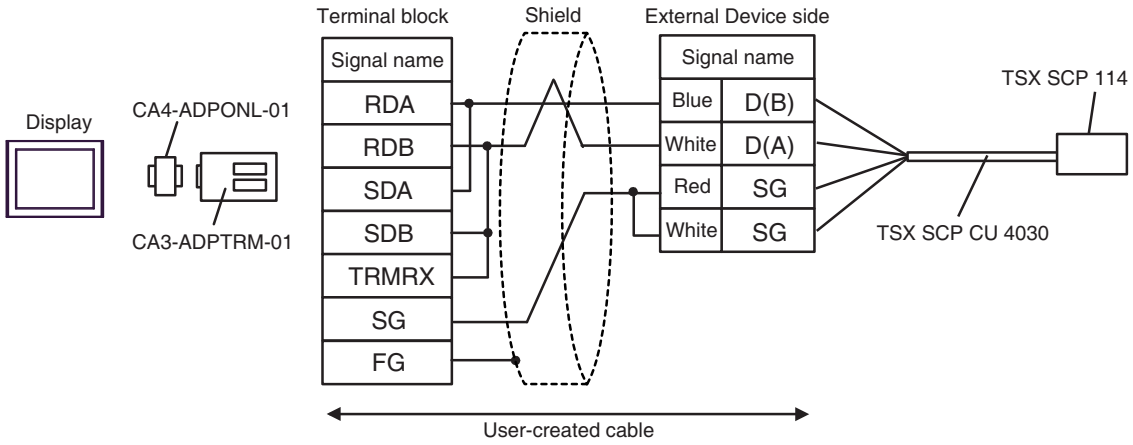
5A)



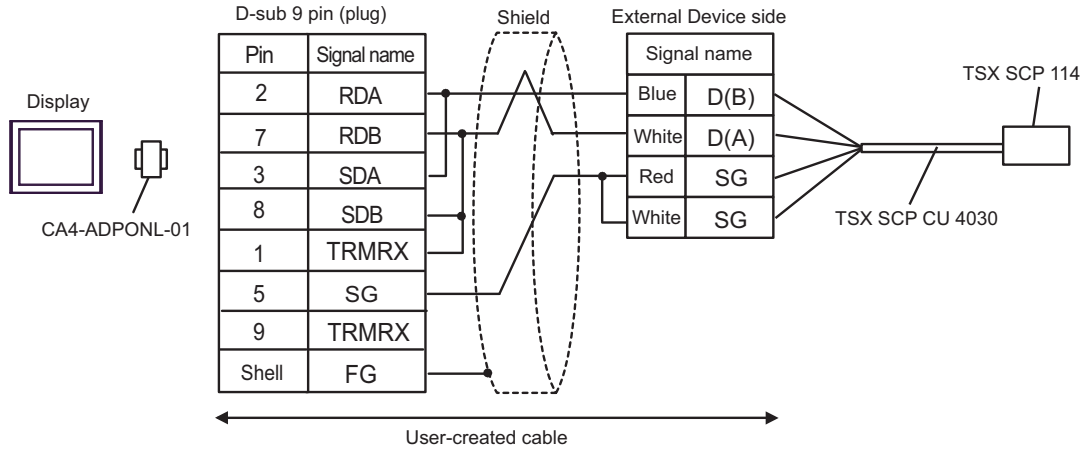
5B)


Display side
D-sub 9 pin (socket)
Shield
External Device side
Pin
Signal name
1 RDA
2 RDB
3 SDA
7 SDB
5 SG
4 ERA
8 CSA
9 ERB
6 CSB
Shell FG
Signal name
Blue D(B)
White D(A)
Red SG
White SG
TSX SCP 114
TSX SCP CU 4030
Termination resistance 100Ω 1/2W
Display
User-created cable

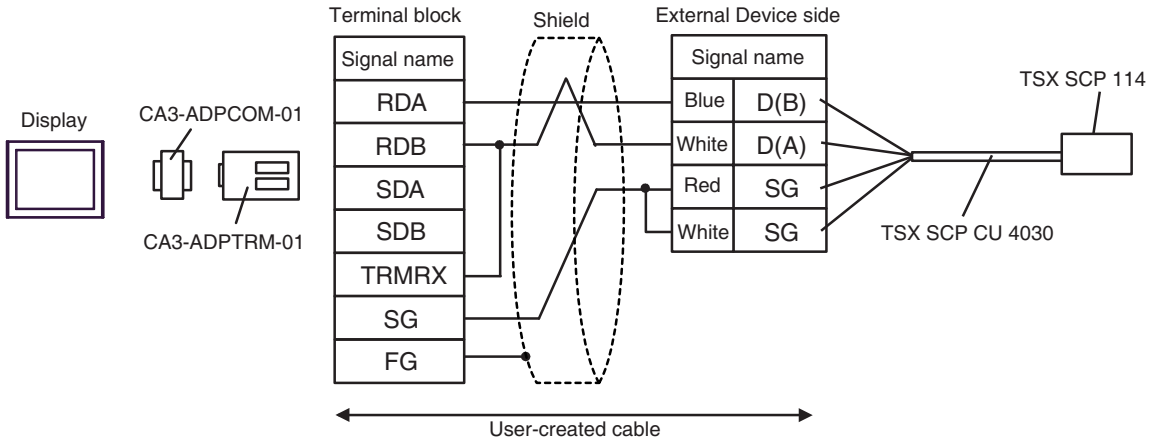
5C)


Terminal block
Shield
External Device side
Signal name
RDA
RDB
SDA
SDB
TRMRX
SG
FG
Signal name
Blue D(B)
White D(A)
Red SG
White SG
TSX SCP 114
TSX SCP CU 4030
Display
CA4-ADPONL-01
CA3-ADPTRM-01
User-created cable

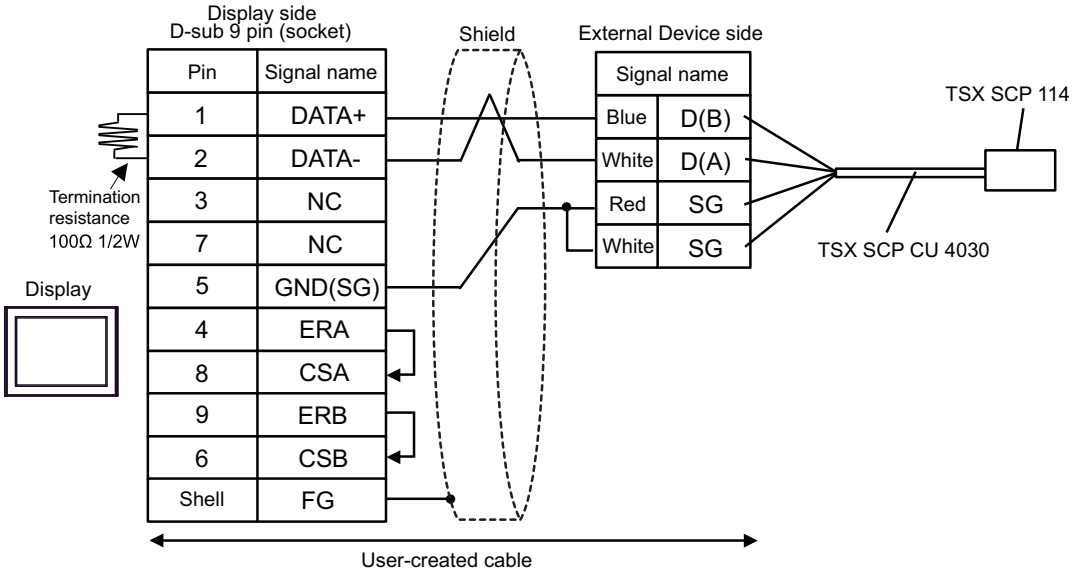
5D)


D-sub 9 pin (plug)
Shield
External Device side
Pin
Signal name
2
RDA
7
RDB
3
SDA
8
SDB
1
TRMRX
5
SG
9
TRMRX
Shell
FG
Signal name
Blue
D(B)
White
D(A)
Red
SG
White
SG
Display
CA4-ADPONL-01
TSX SCP 114
TSX SCP CU 4030
User-created cable

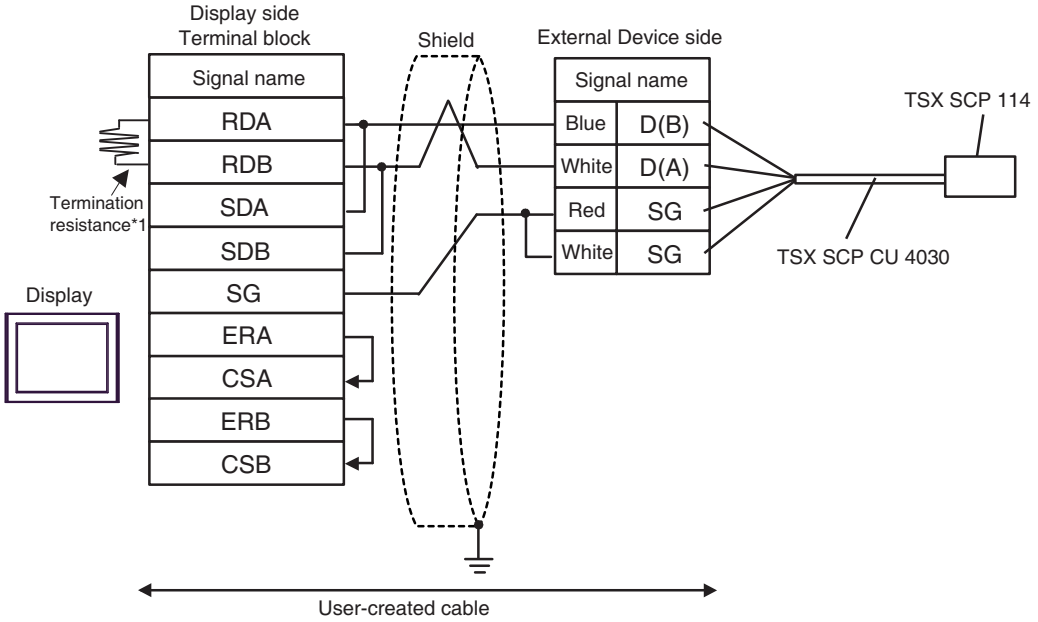
5E)


Terminal block
Shield
External Device side
Signal name
RDA
RDB
SDA
SDB
TRMRX
SG
FG
Signal name
Blue
D(B)
White
D(A)
Red
SG
White
SG
Display
CA3-ADPCOM-01
CA3-ADPTRM-01
TSX SCP 114
TSX SCP CU 4030
User-created cable

5F)


Display side
D-sub 9 pin (socket)
Shield
External Device side
Pin
Signal name
1
DATA+
2
DATA-
3
NC
7
NC
5
GND(SG)
4
ERA
8
CSA
9
ERB
6
CSB
Shell
FG
Signal name
Blue
D(B)
White
D(A)
Red
SG
White
SG
TSX SCP 114
TSX SCP CU 4030
Termination
resistance
100Ω 1/2W
Display
User-created cable

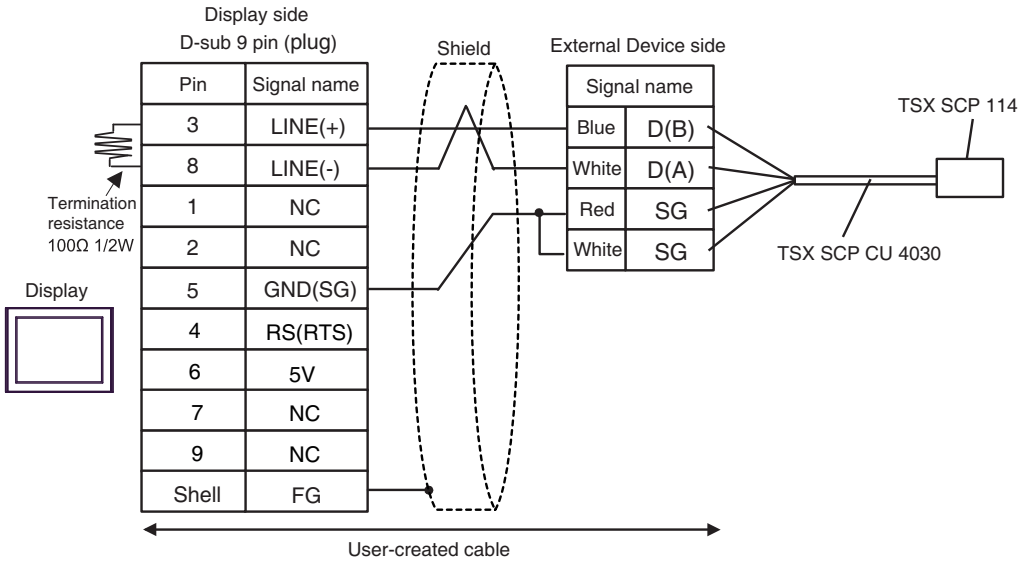
5G)



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

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

5H)



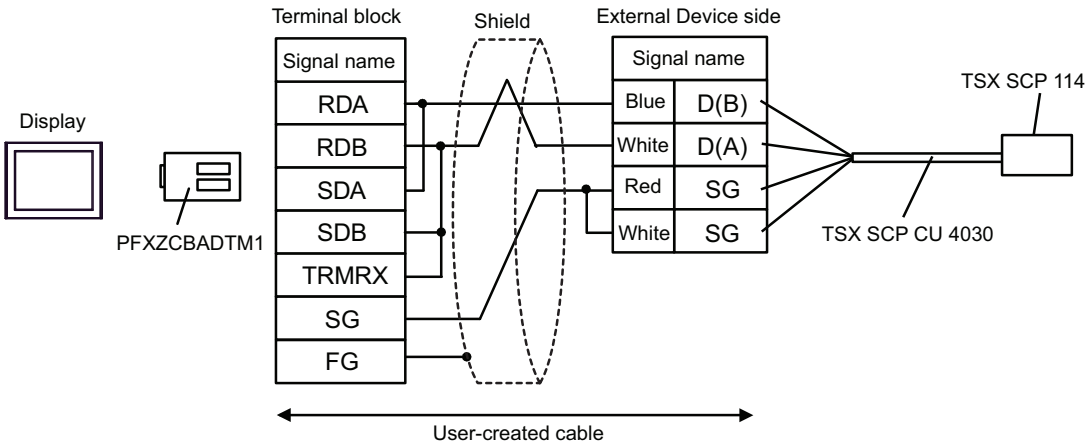
IMPORTANT

- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

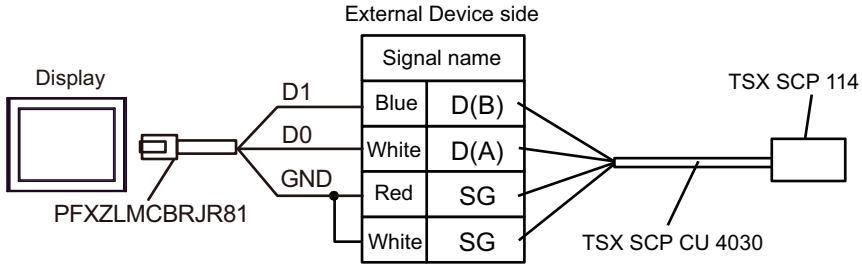
NOTE

- In COM on the GP-4107, the SG and FG terminals are isolated.

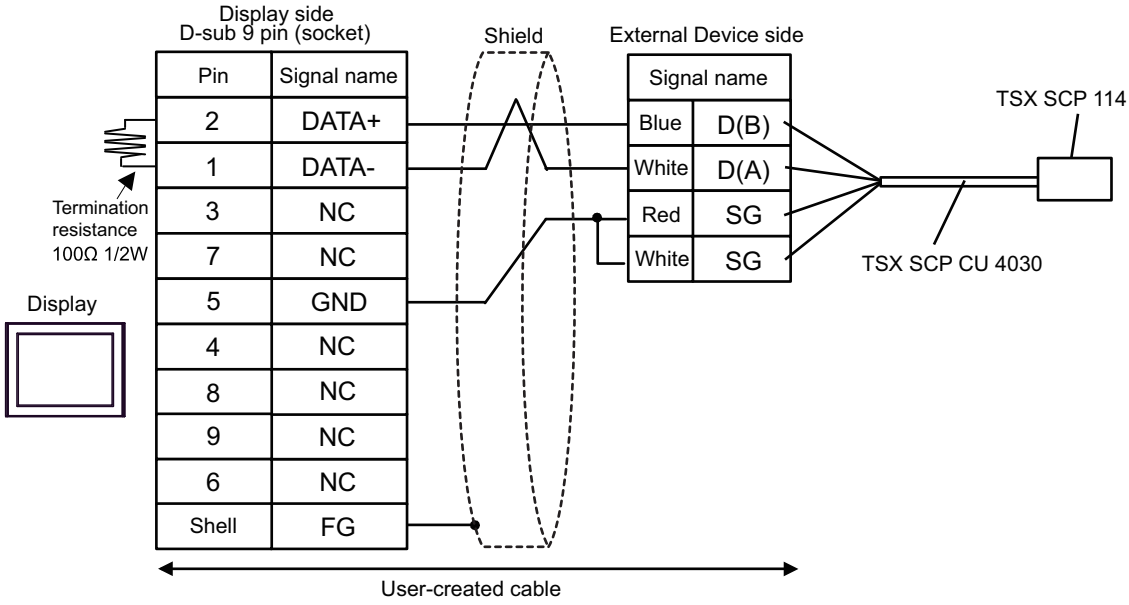
5I)



5J)


External Device side
Signal name
Display
D1
D0
GND
Blue
White
Red
White
D(B)
D(A)
SG
SG
TSX SCP 114
PFXZLMCBRJR81
TSX SCP CU 4030

5K)


Display side
D-sub 9 pin (socket)
Shield
External Device side
Pin
Signal name
2 DATA+
1 DATA-
3 NC
7 NC
5 GND
4 NC
8 NC
9 NC
6 NC
Shell FG
Signal name
Blue D(B)
White D(A)
Red SG
White SG
TSX SCP 114
TSX SCP CU 4030
Termination resistance 100Ω 1/2W
Display
User-created cable

5.6 Cable Diagram 6

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) GP6000 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	6A	User-created cable	The cable length must be 15m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	6B	User-created cable	The cable length must be 15m or less.
LT-4*01TM (COM1) LT-Rear Module (COM1)	6C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	The cable length must be 5m or less.

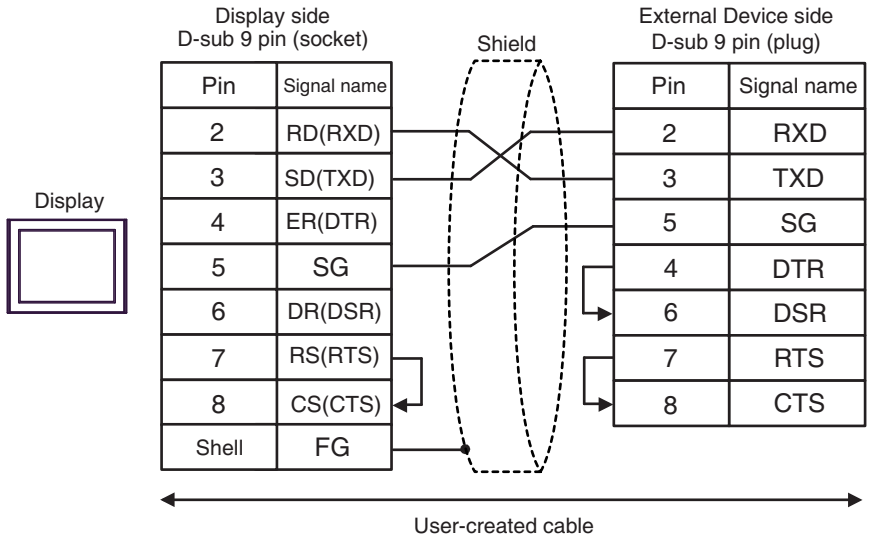
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

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

■ IPC COM Port (page 8)

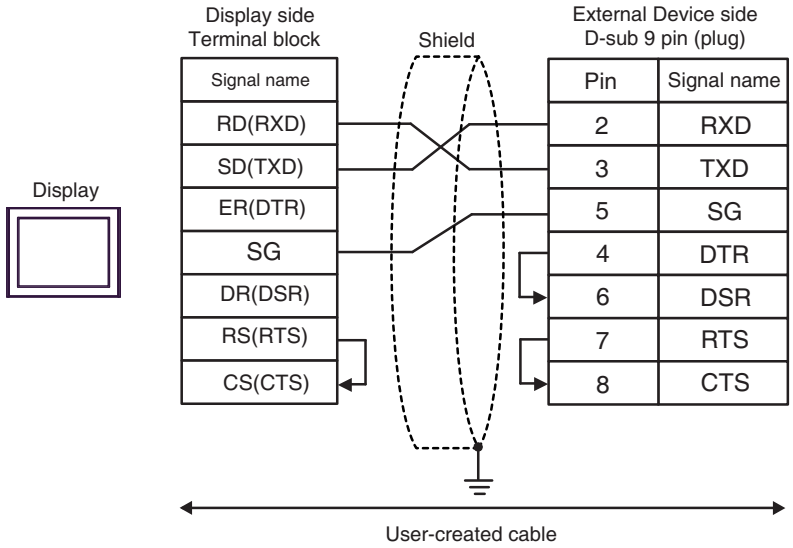
6A)



NOTE

- The cable length must be 15m or less.

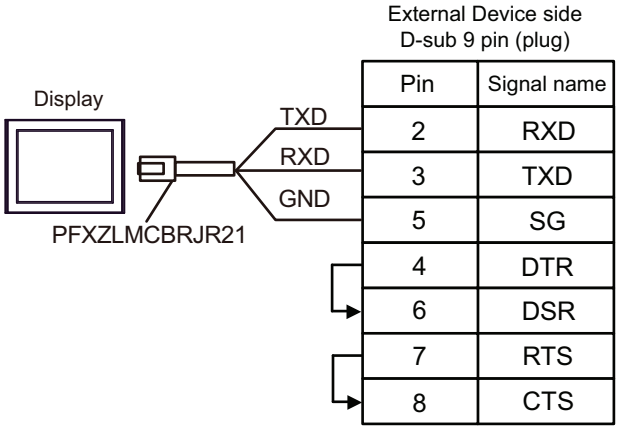
6B)



NOTE

- The cable length must be 15m or less.

6C)



NOTE

- The cable length must be 5m or less.

5.7 Cable Diagram 7

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) GP6000 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	7A	D-Shell adapter by Schneider Electric 110 XCA 203 00 + RS232 communication cable RJ45 to RJ45 by Schneider Electric 110 XCA 282 01(1m), 110 XCA 282 02(3m) or 110 XCA 282 03(6m)	The cable length must be 9.5m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	7B	User-created cable + D-Shell adapter by Schneider Electric 110 XCA 203 00 + RS232 communication cable RJ45 to RJ45 by Schneider Electric 110 XCA 282 01(1m), 110 XCA 282 02(3m) or 110 XCA 282 03(6m)	The cable length must be 9.5m or less.

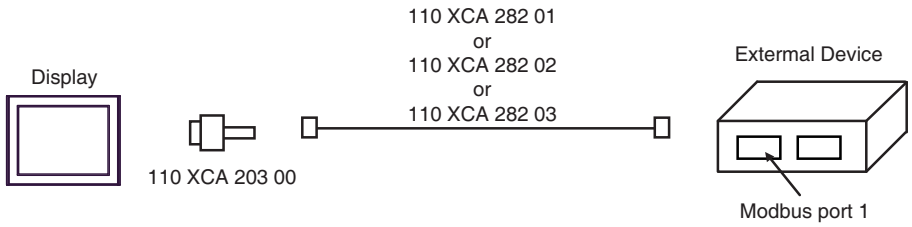
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

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

■ IPC COM Port (page 8)

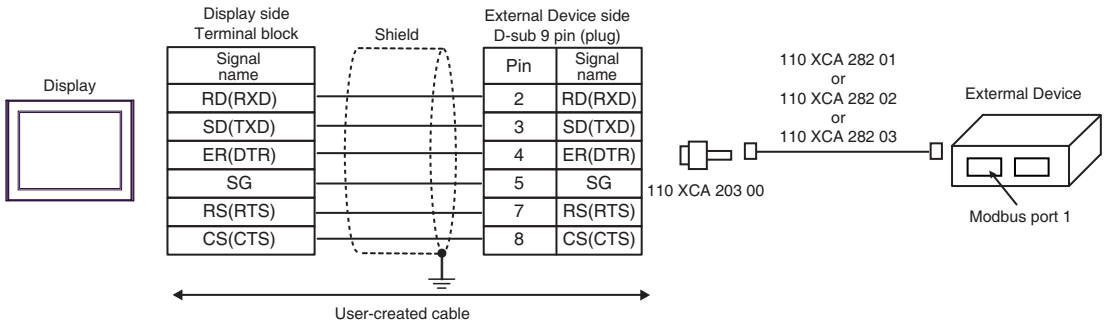
7A)



NOTE

- The cable length must be 9.5m or less.

7B)



NOTE

- The cable length must be 9.5m or less.

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) IPC[*3]	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[*4] (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	
GP-4106 (COM1) GP-4116T (COM1)	8E	User-created cable	The cable length must be 500m or less.
GP4000[*5] (COM2) GP-4201T (COM1) GP6000 (COM2) 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)	8F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*9] + User-created cable	The cable length must be 500m or less.
	8B	User-created cable	
PE-4000B[*10] PS5000[*10] PS6000 (Optional Interface)[*10]	8G	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 8)

*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

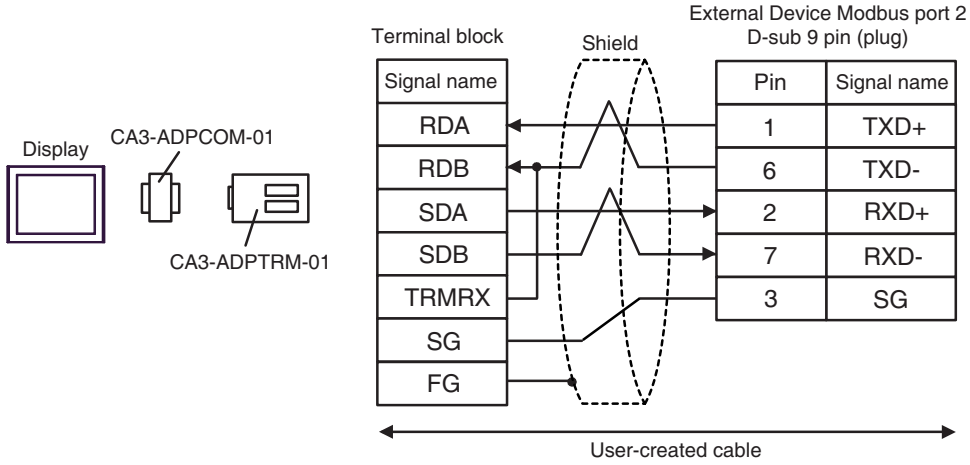
*8 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

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

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

■ IPC COM Port (page 8)

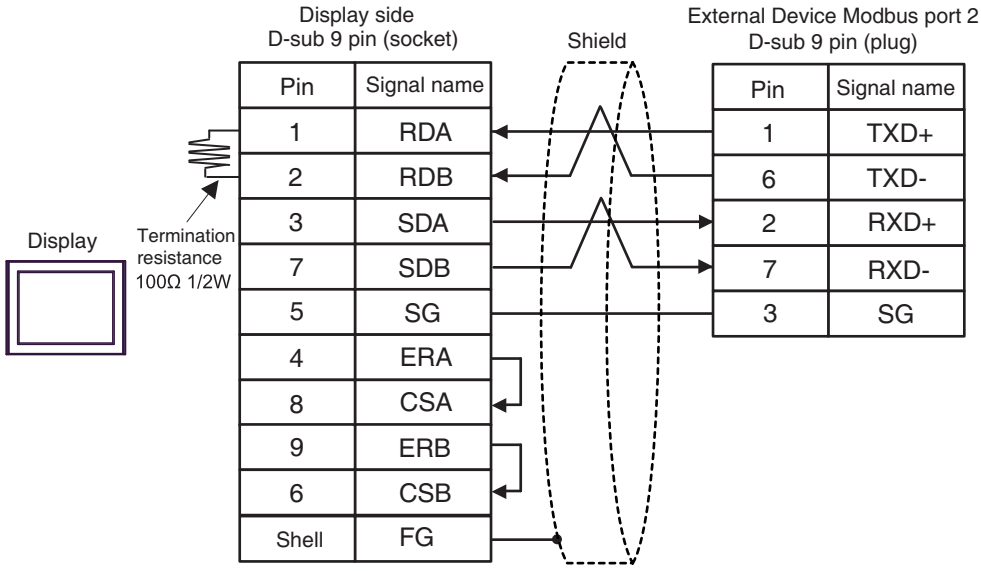
8A)



NOTE

- The cable length must be 500m or less.

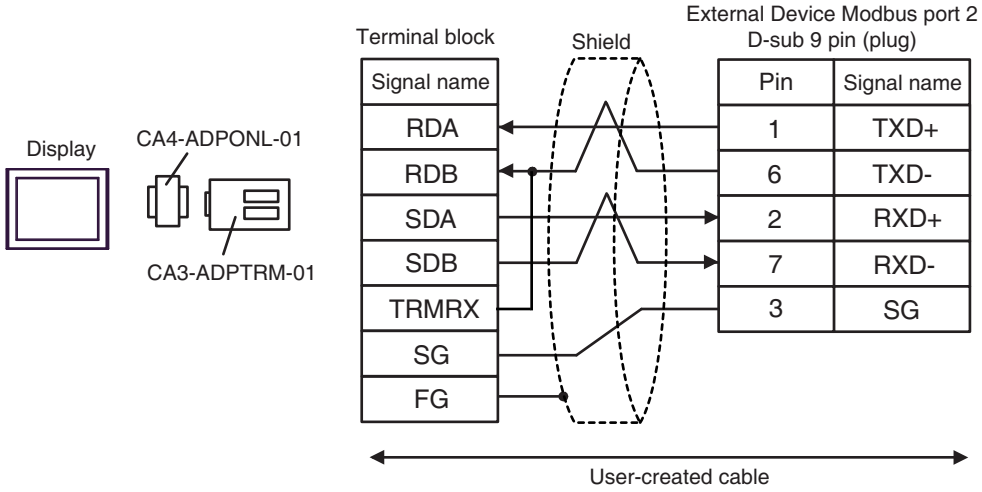
8B)



NOTE

- The cable length must be 500m or less.

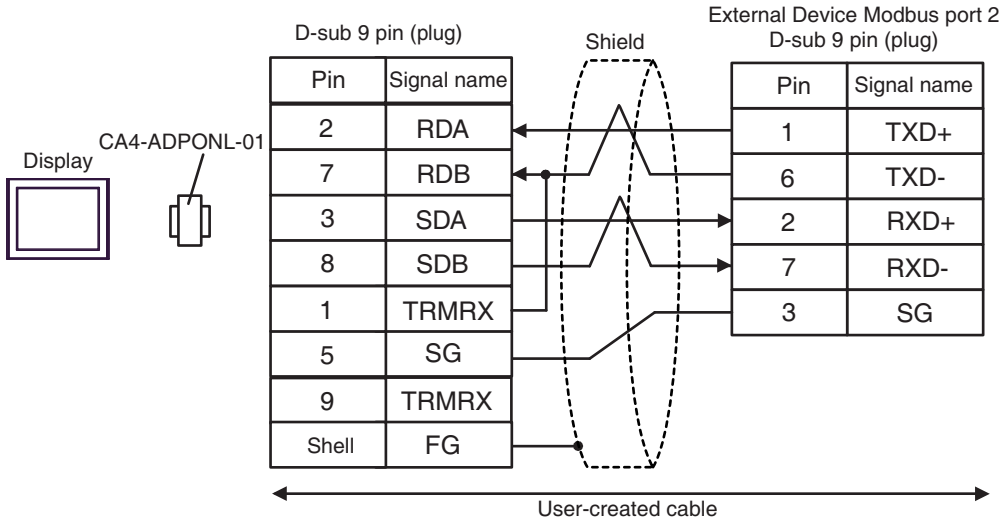
8C)



NOTE

- The cable length must be 500m or less.

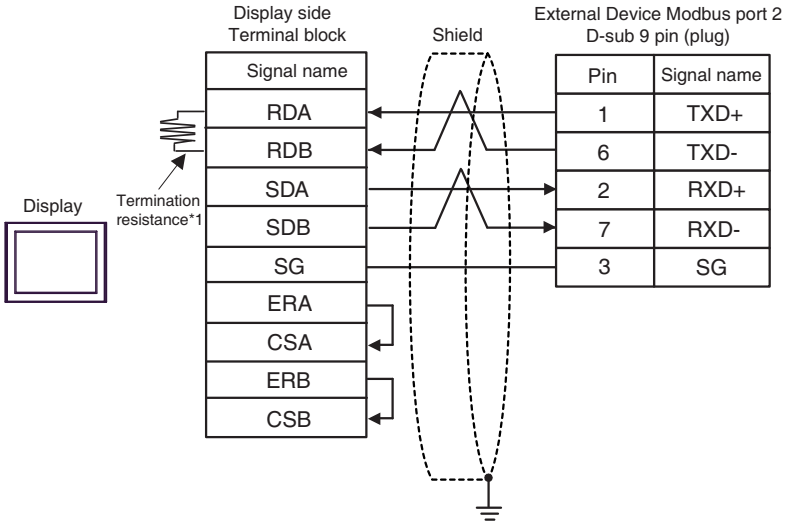
8D)



NOTE

- The cable length must be 500m or less.

8E)



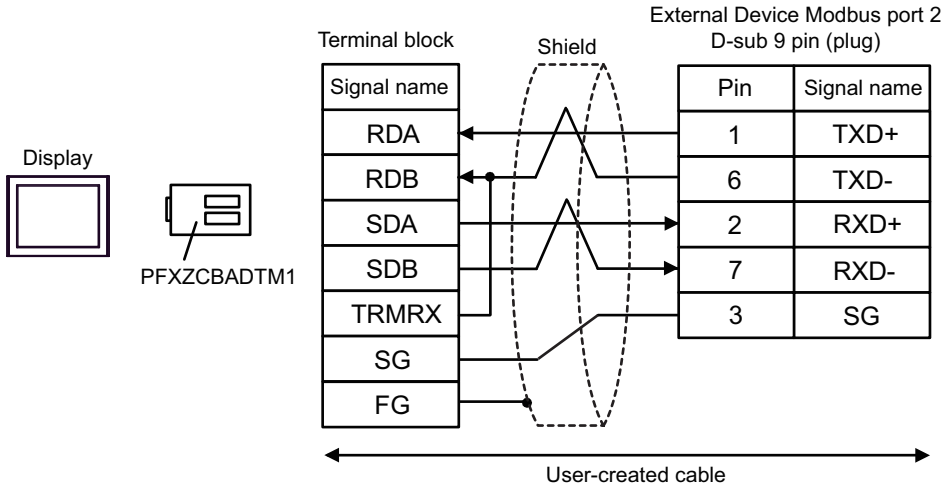
NOTE

- The cable length must be 500m or less.

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

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

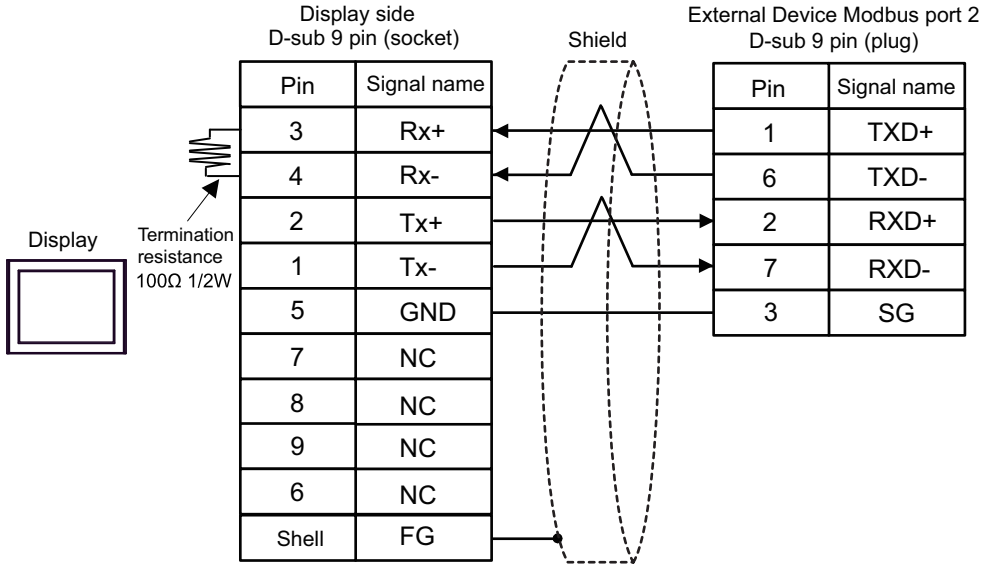
8F)



NOTE

- The cable length must be 500m or less.

8G)



NOTE

- The cable length must be 500m or less.

5.9 Cable Diagram 9

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) GP6000 (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.

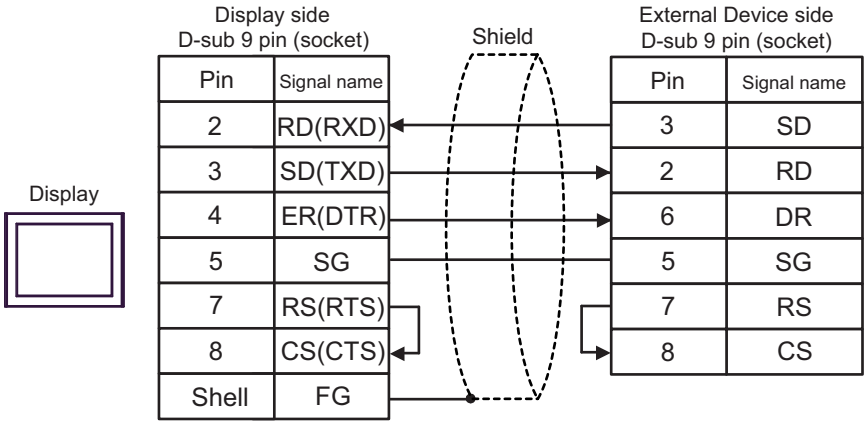
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

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

■ IPC COM Port (page 8)

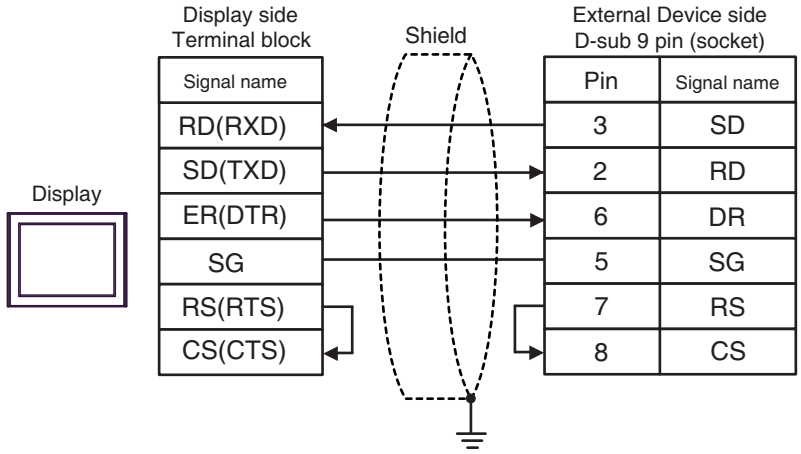
9A)



NOTE

- The cable length must be 15m or less.

9B)



NOTE

- The cable length must be 15m or less.

5.10 Cable Diagram 10

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) GP6000 (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.

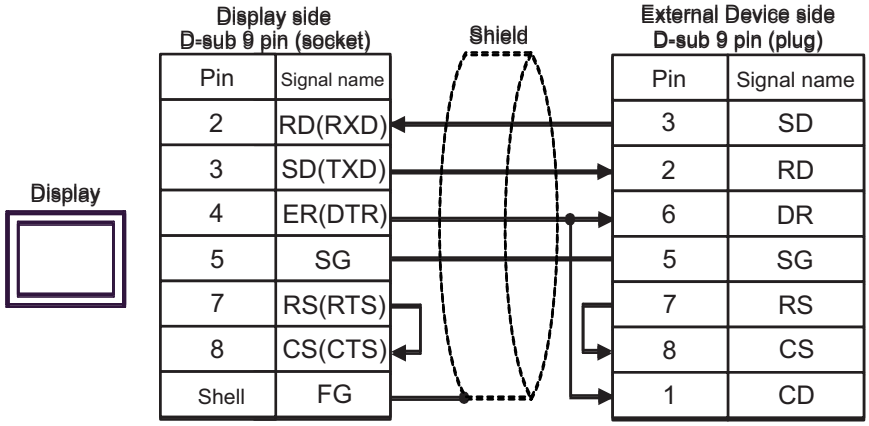
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

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

■ IPC COM Port (page 8)

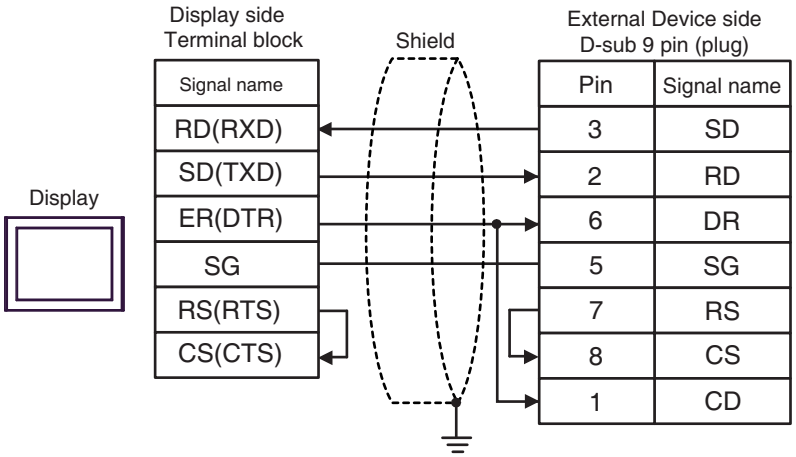
10A)



NOTE

- The cable length must be 15m or less.

10B)



NOTE

- The cable length must be 15m or less.

5.11 Cable Diagram 11

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	11A	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 1000m or less.
	11B	User-created cable	
GP3000*4 (COM2)	11C	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 1000m or less.
	11D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	11E	User-created cable	The cable length must be 1000m or less.
GP4000*5 (COM2) GP-4201T (COM1) GP6000 (COM2) 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)	11F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 *9 + User-created cable	The cable length must be 1000m or less.
	11B	User-created cable	
PE-4000B*10 PS5000*10 PS6000 (Optional Interface)*10	11G	User-created cable	The cable length must be 1000m 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 8)

*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.

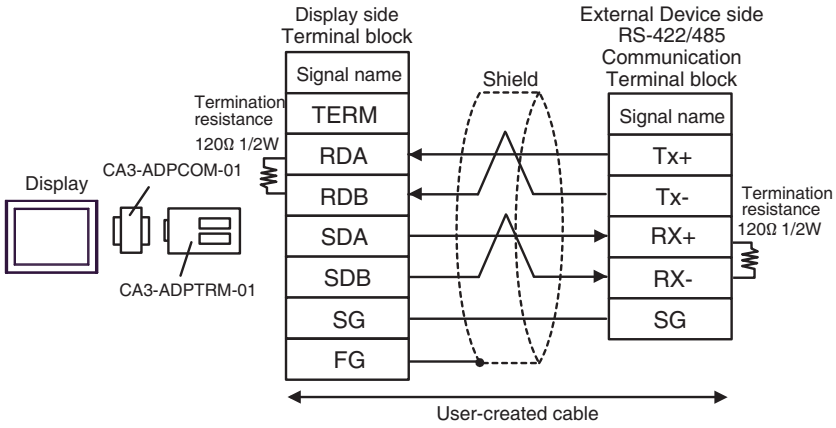
*9 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 11A.

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

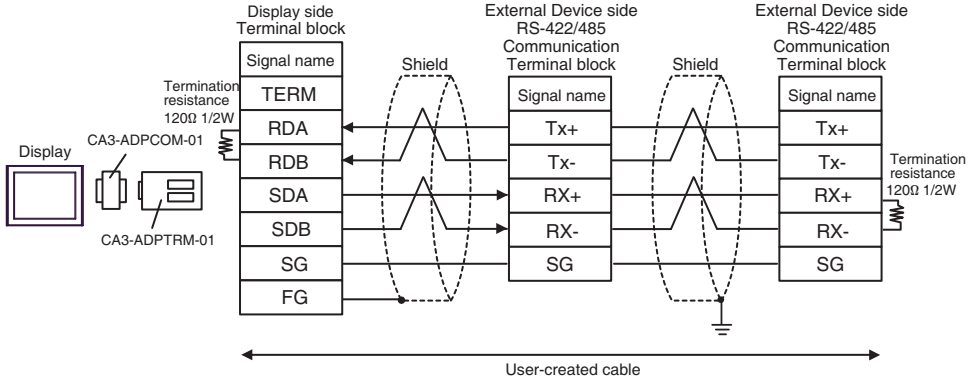
■ IPC COM Port (page 8)

11A)

- 1:1 Connection



- 1:n Connection

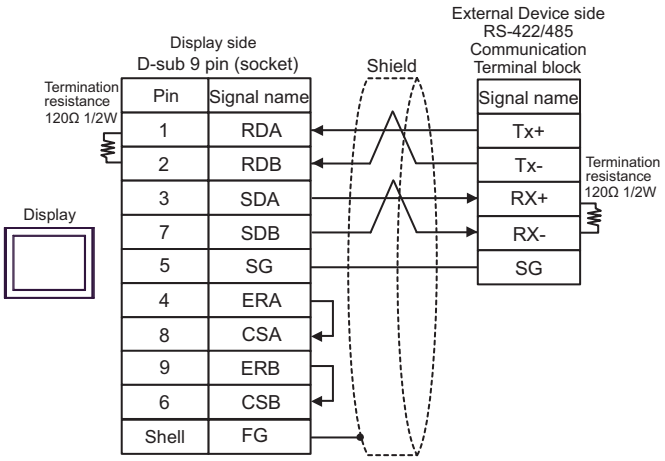


NOTE

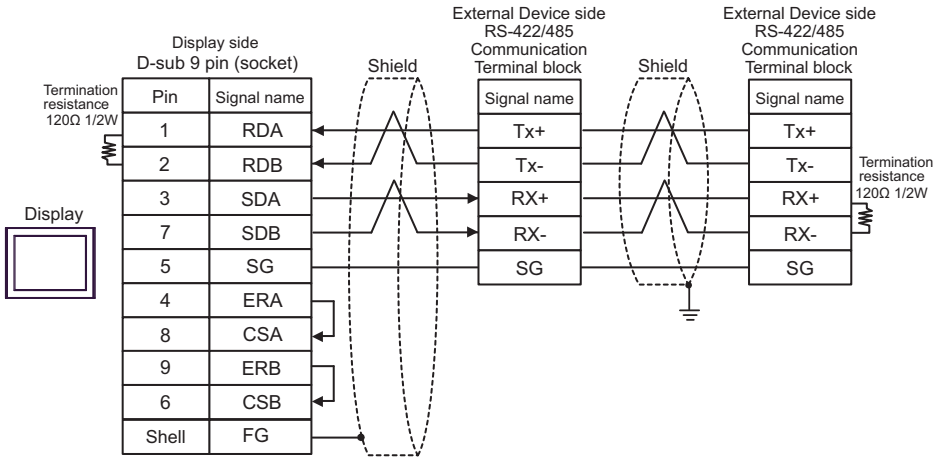
- The cable length must be 1000m or less.

11B)

- 1:1 Connection



- 1:n Connection

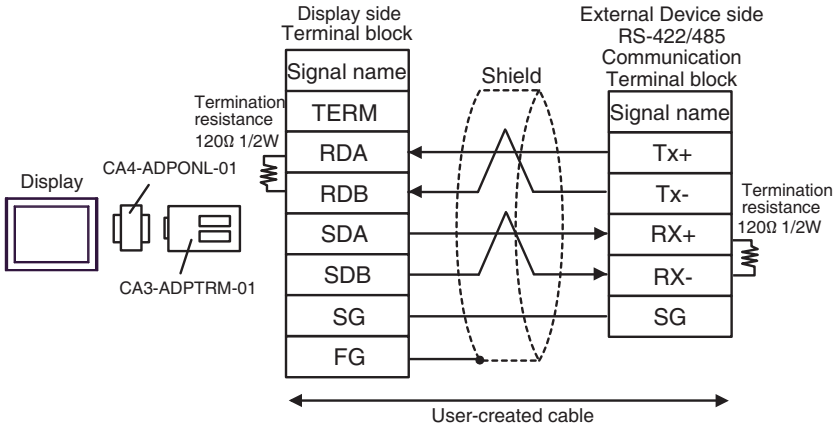


NOTE

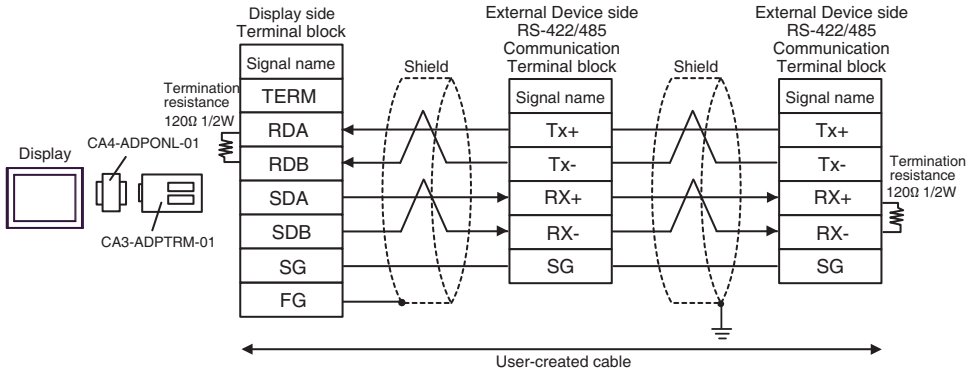
- The cable length must be 1000m or less.

11C)

- 1:1 Connection



- 1:n Connection

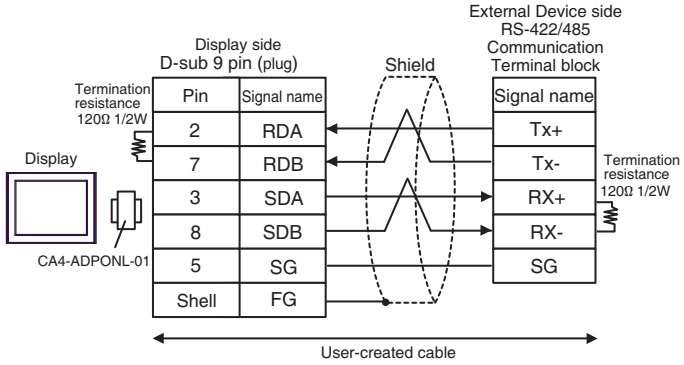


NOTE

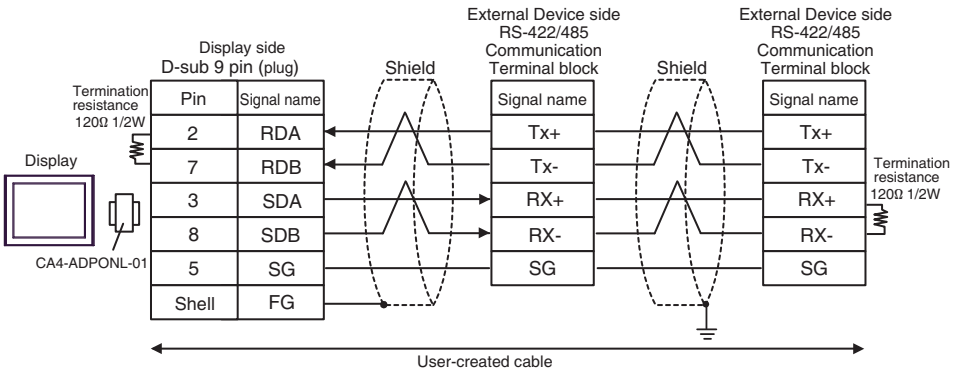
- The cable length must be 1000m or less.

11D)

- 1:1 Connection



- 1:n Connection

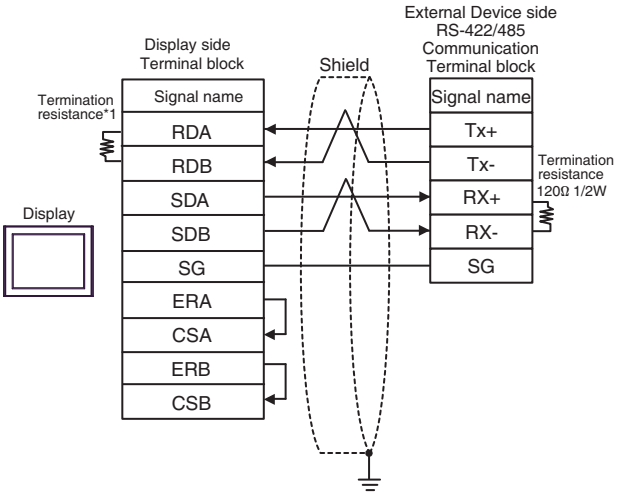


NOTE

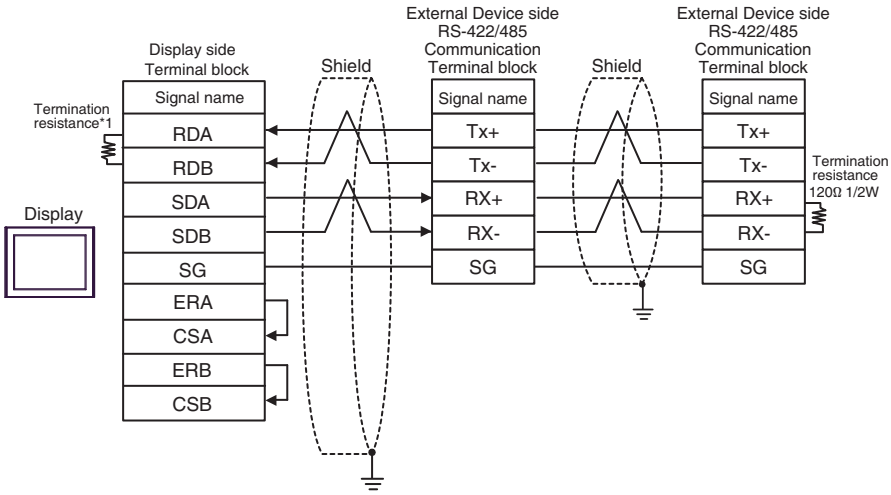
- The cable length must be 1000m or less.

11E)

- 1:1 Connection



- 1:n Connection



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

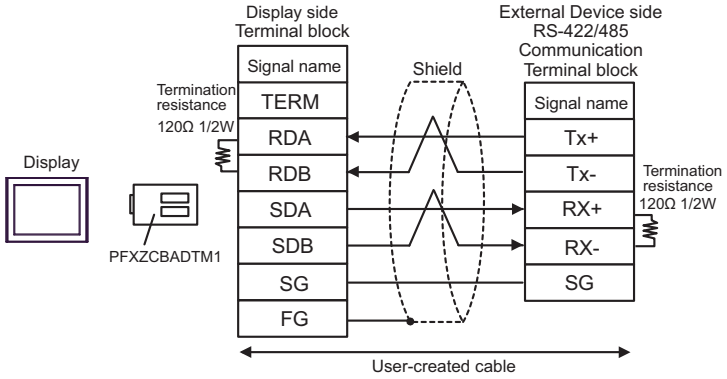
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

NOTE

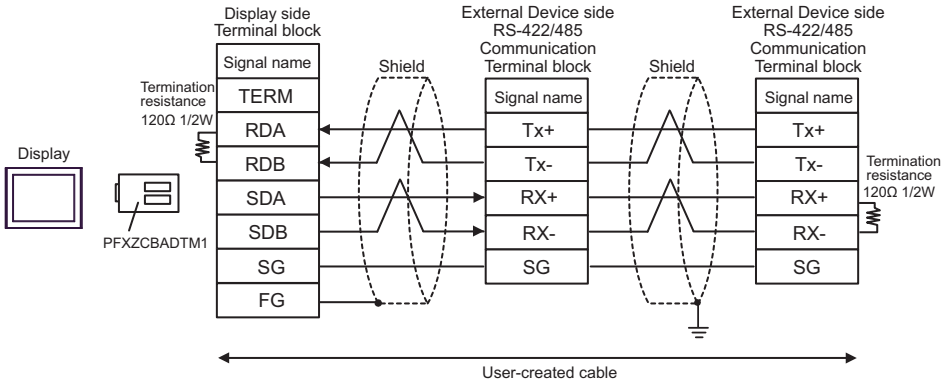
- The cable length must be 1000m or less.

11F)

- 1:1 Connection



- 1:n Connection

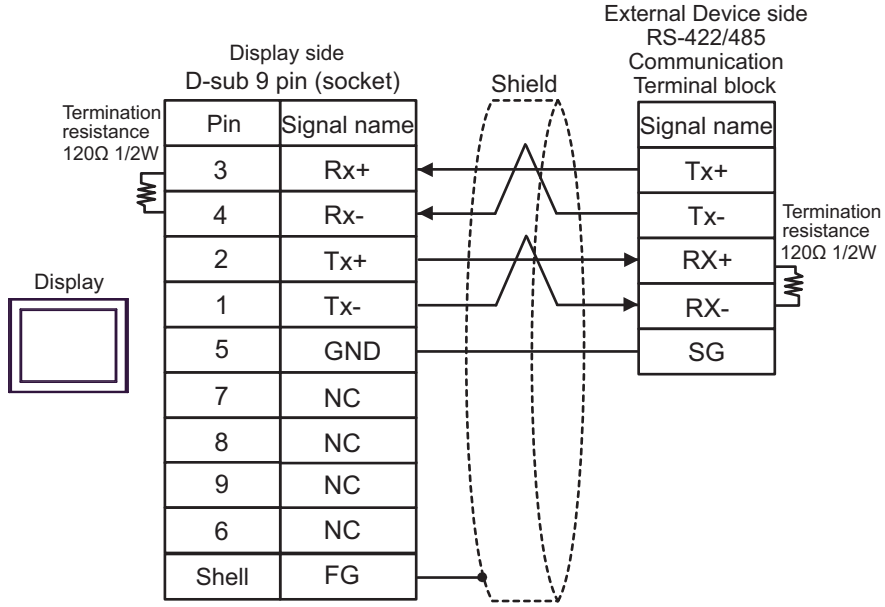


NOTE

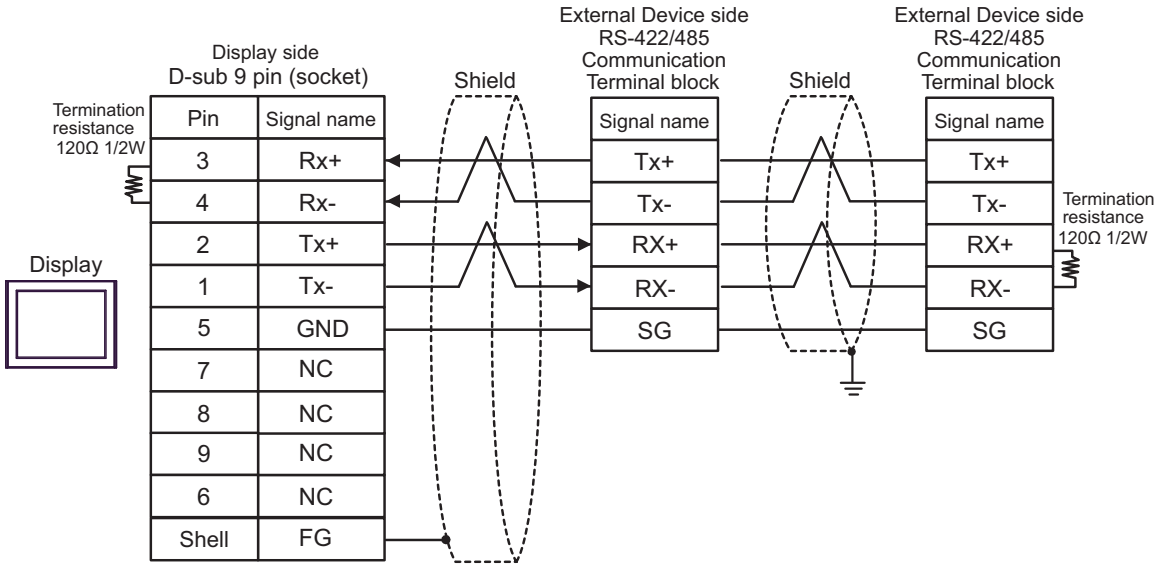
- The cable length must be 1000m or less.

11G)

- 1:1 Connection



- 1:n Connection



NOTE

- The cable length must be 1000m or less.

5.12 Cable Diagram 12

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	12A	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 1000m or less.
	12B	User-created cable	
GP3000[*3] (COM2)	12C	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 1000m or less.
	12D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	12E	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 1000m or less.
	12F	User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	12G	User-created cable	The cable length must be 1000m or less.
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	12H	User-created cable	The cable length must be 1000m or less.
GP4000[*6] (COM2) GP-4201T (COM1) GP6000 (COM2) 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)	12I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 [*10] + User-created cable	The cable length must be 1000m or less.
	12B	User-created cable	

Display (Connection Port)	Cable		Notes
LT-4*01TM (COM1) LT-Rear Module (COM1)	12J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	The cable length must be 200m or less.
PE-4000B*11 PS5000*11 PS6000 (Optional Interface)*11	12K	User-created cable	The cable length must be 1000m 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)

■ IPC COM Port (page 8)

*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.

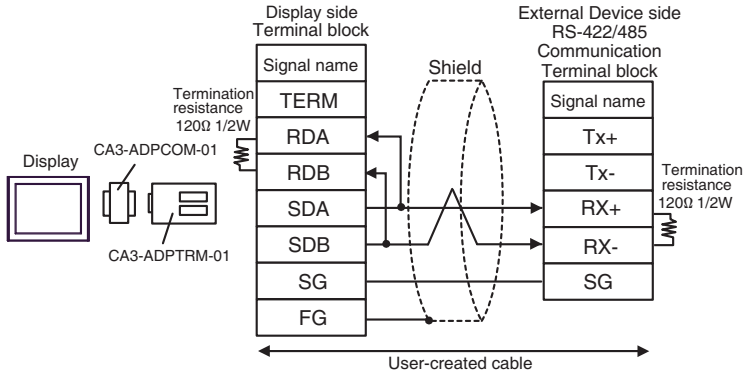
*10 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 12A.

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

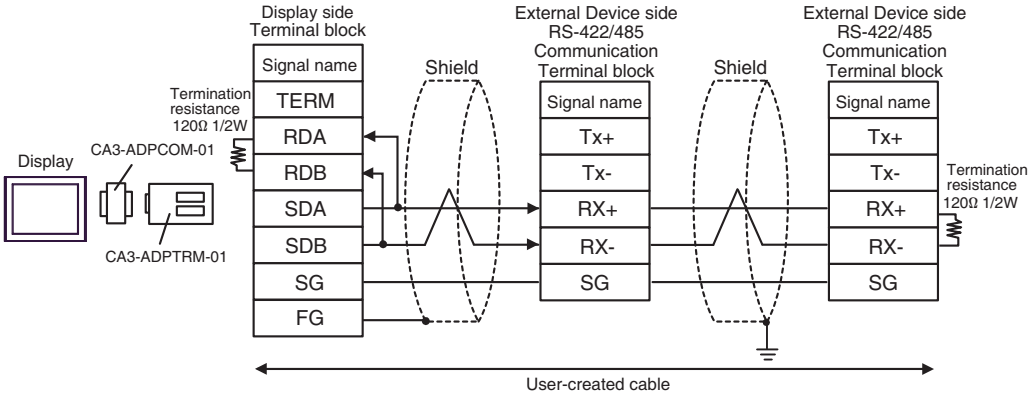
■ IPC COM Port (page 8)

12A)

- 1:1 Connection



- 1:n Connection

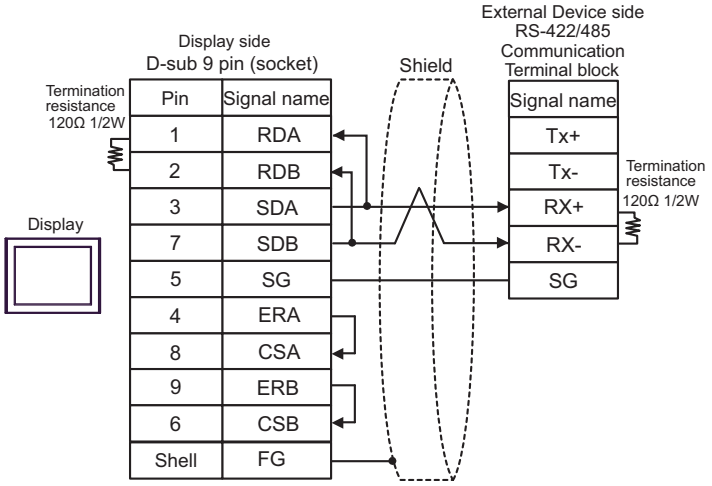


NOTE

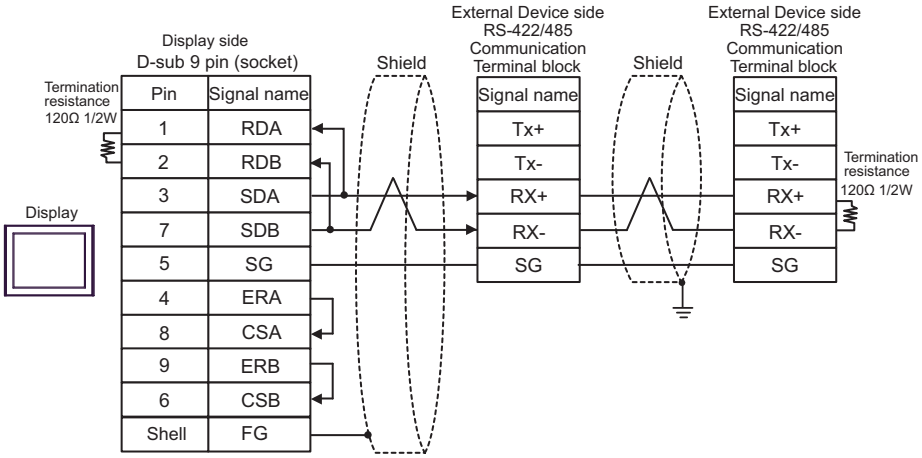
- The cable length must be 1000m or less.

12B)

- 1:1 Connection



- 1:n Connection

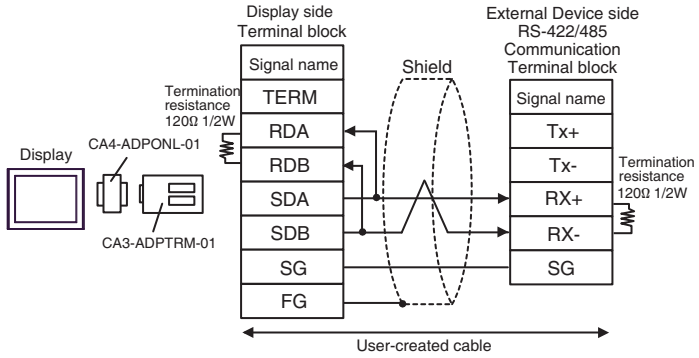


NOTE

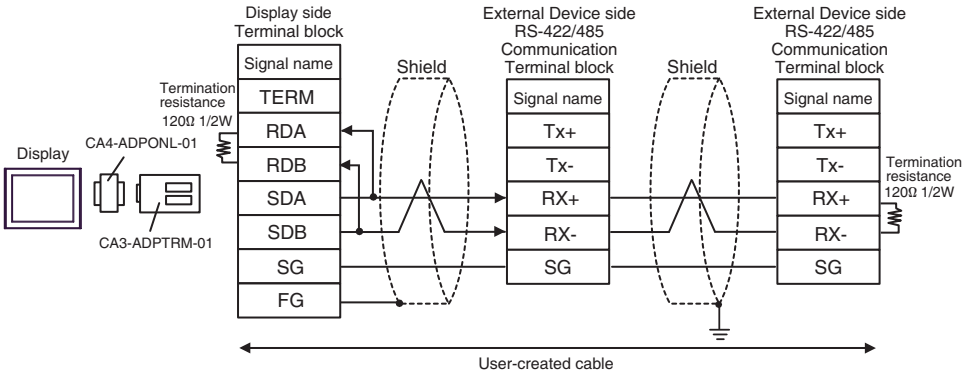
- The cable length must be 1000m or less.

12C)

- 1:1 Connection



- 1:n Connection

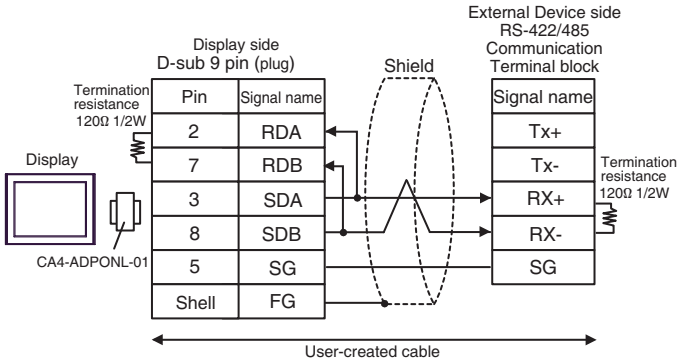


NOTE

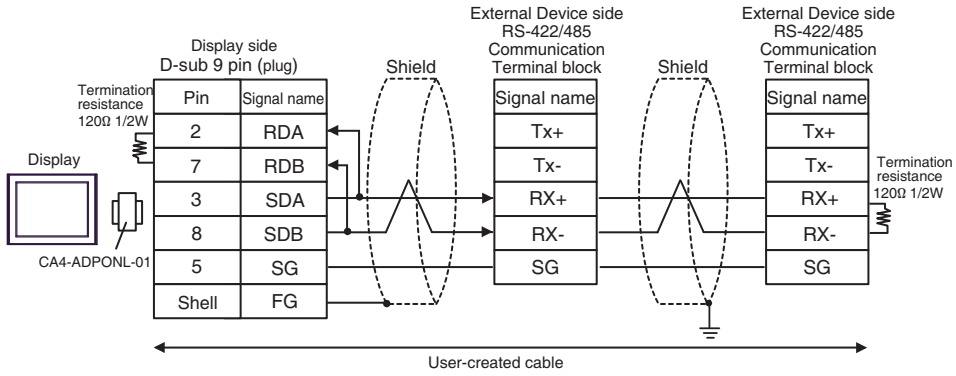
- The cable length must be 1000m or less.

12D)

- 1:1 Connection



- 1:n Connection

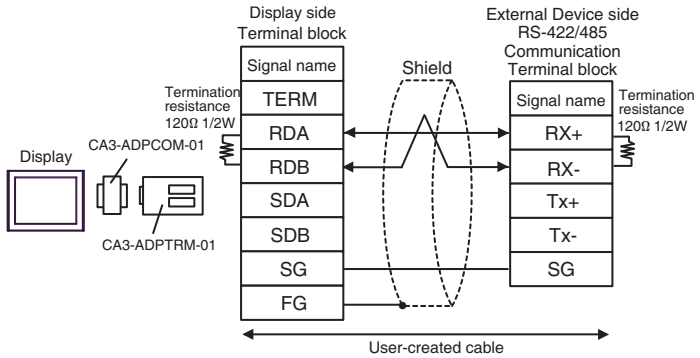


NOTE

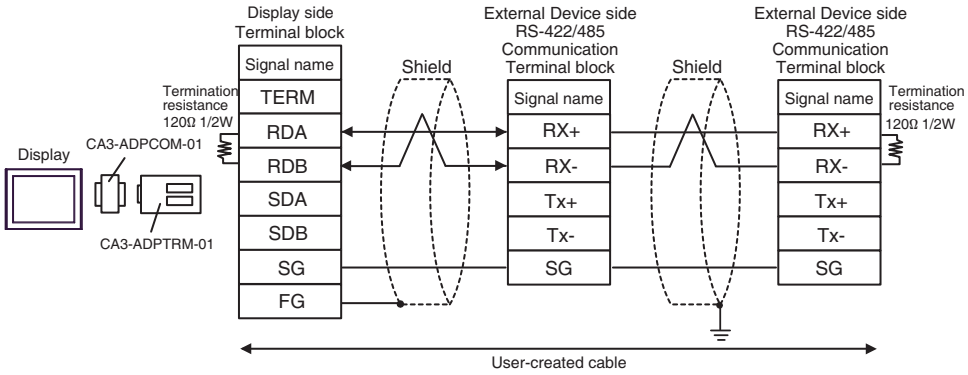
- The cable length must be 1000m or less.

12E)

- 1:1 Connection



- 1:n Connection

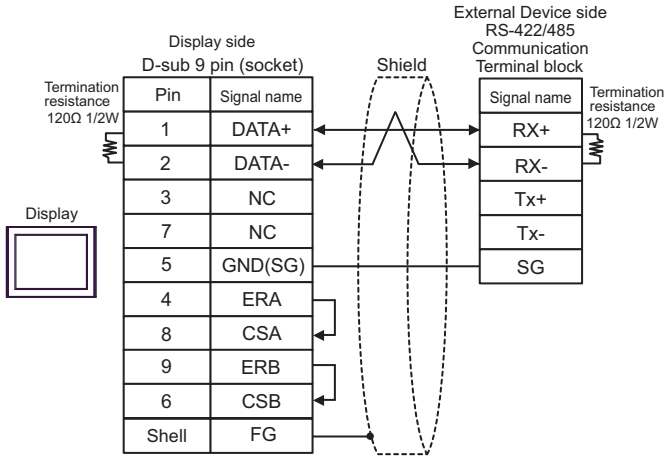


NOTE

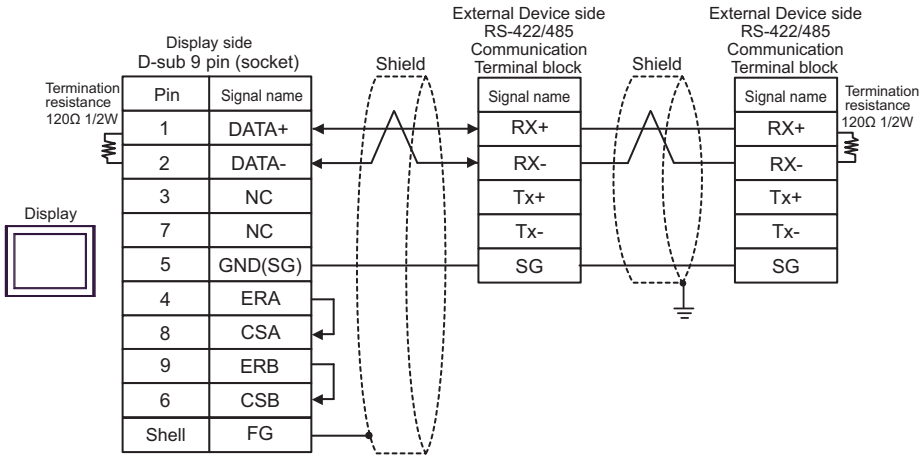
- The cable length must be 1000m or less.

12F)

- 1:1 Connection



- 1:n Connection

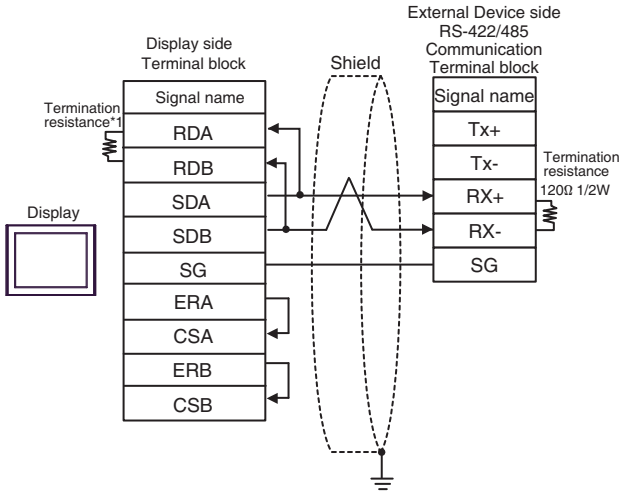


NOTE

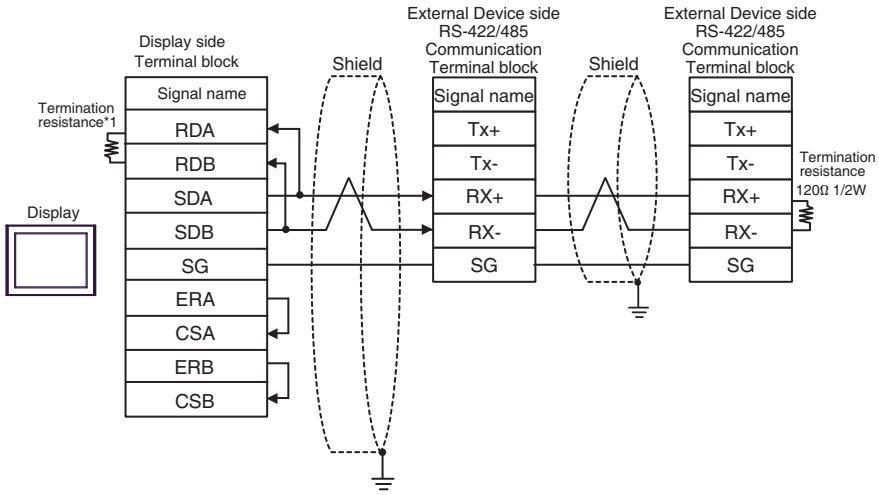
- The cable length must be 1000m or less.

12G)

- 1:1 Connection



- 1:n Connection



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

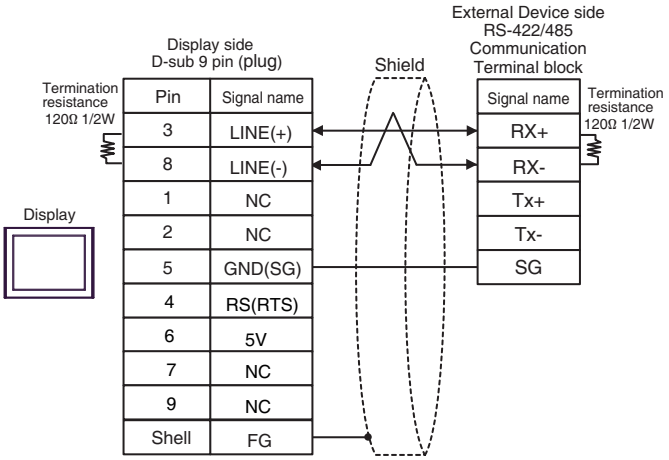
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

NOTE

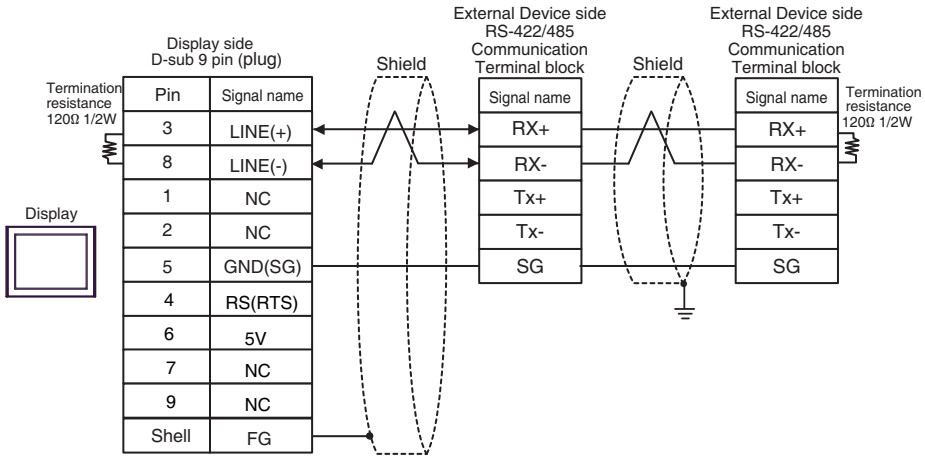
- The cable length must be 1000m or less.

12H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

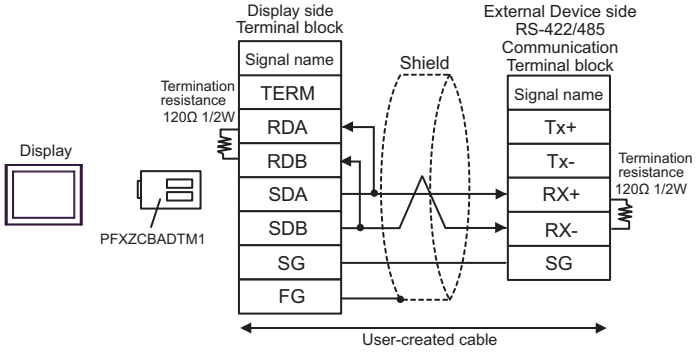
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

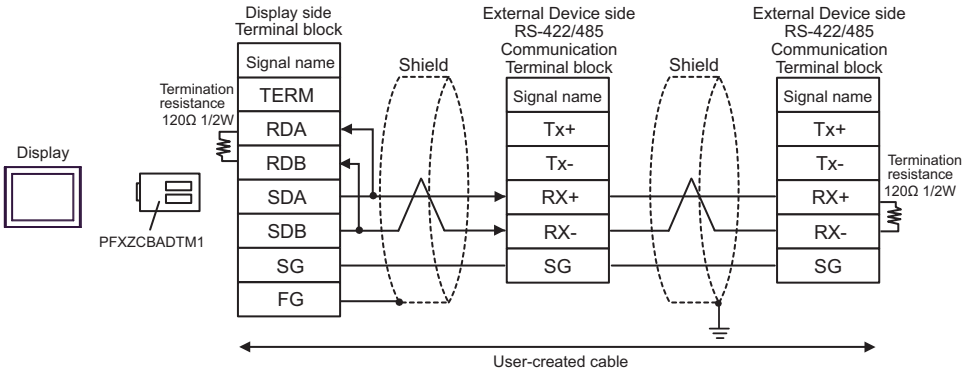
- In COM on the GP-4107, the SG and FG terminals are isolated.
- The cable length must be 1000m or less.

12l)

- 1:1 Connection



- 1:n Connection

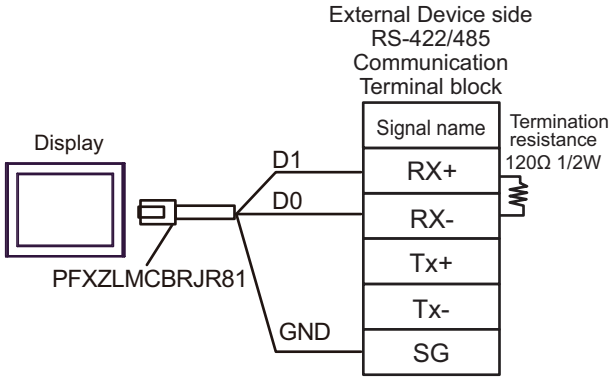


NOTE

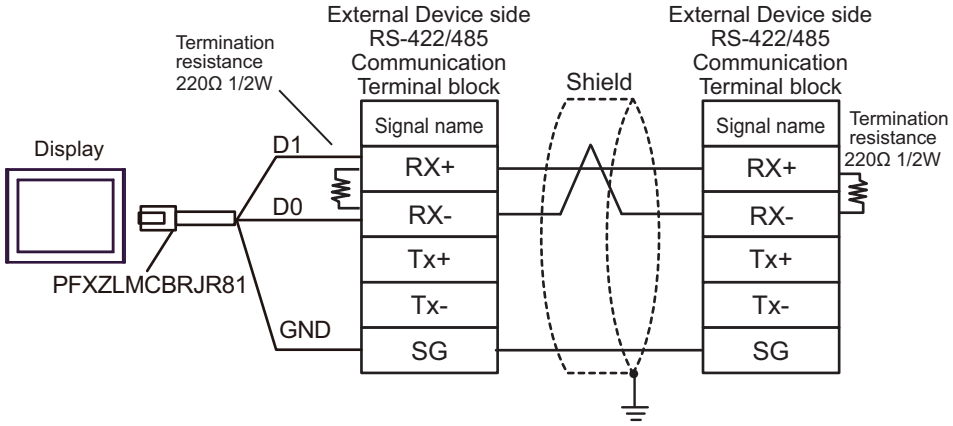
- The cable length must be 1000m or less.

12J)

- 1:1 Connection



- 1:n Connection

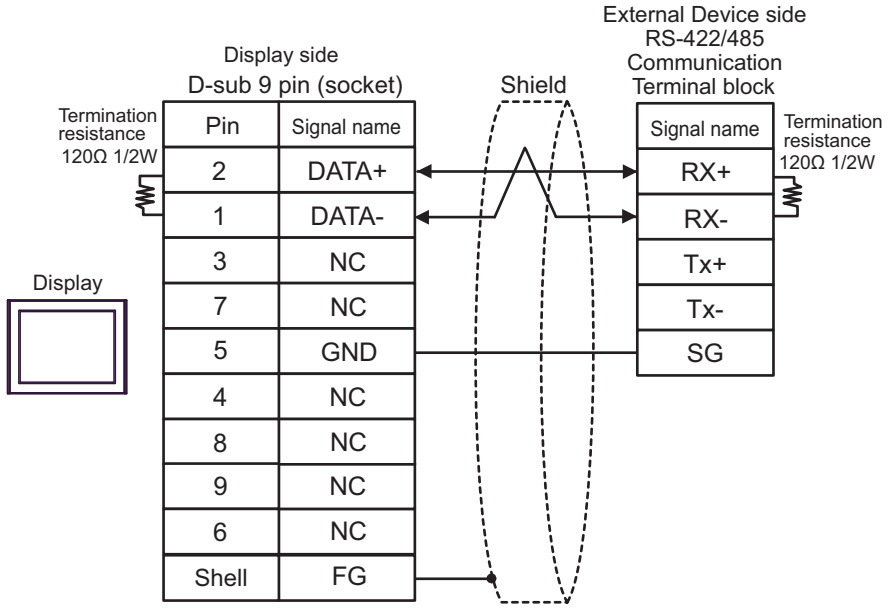


NOTE

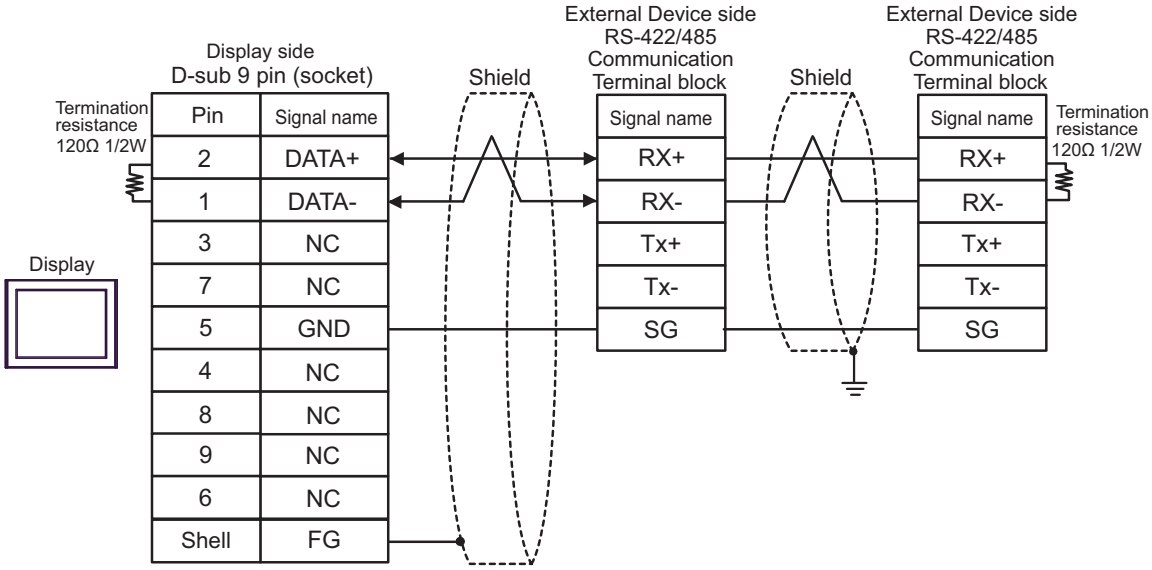
- The cable length must be 200m or less.

12K)

- 1:1 Connection



- 1:n Connection



NOTE

- The cable length must be 1000m or less.

5.13 Cable Diagram 13

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) GP6000 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	13A	User-created cable	The cable length must be 3m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	13B	User-created cable	The cable length must be 3m or less.
LT-4*01TM (COM1) LT-Rear Module (COM1)	13C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	The cable length must be 3m or less.

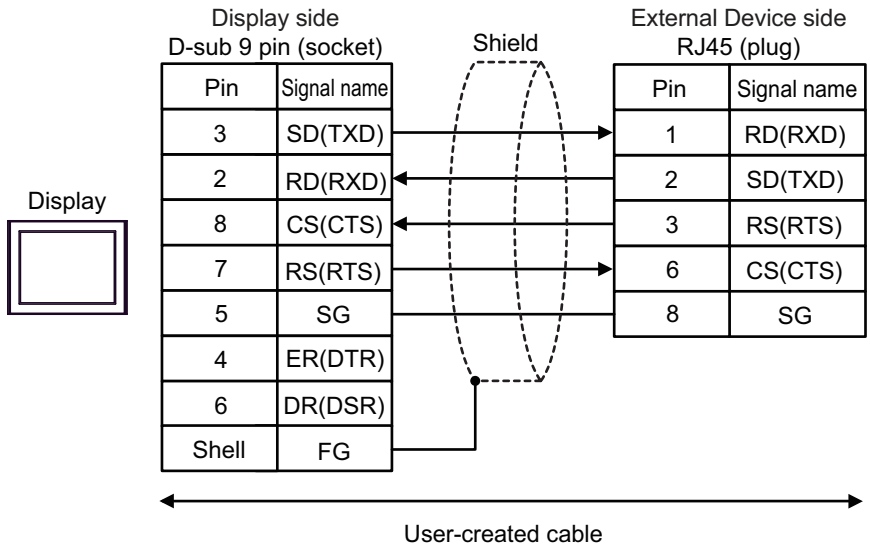
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

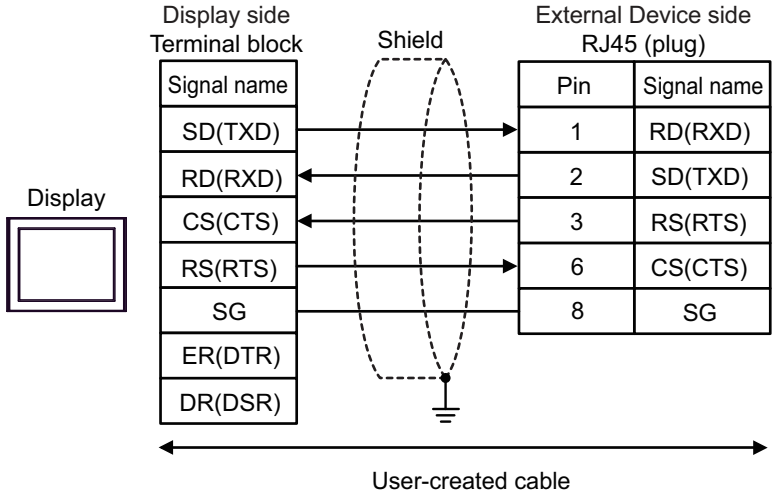
*3 Only the COM port which can communicate by RS-232C can be used.

■ IPC COM Port (page 8)

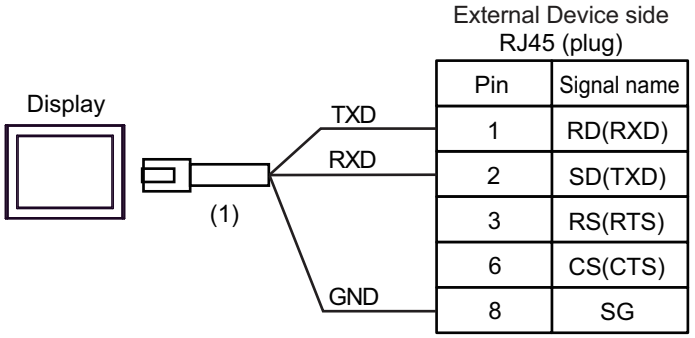
13A)



13B)



13C)



No.	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

IMPORTANT

- When using this connection, in the RS-232C communication settings set the [Flow Control] to [None].

5.14 Cable Diagram 14

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	14A	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 15m or less.
	14B	User-created cable	
GP3000[*3] (COM2)	14C	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 15m or less.
	14D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	14E	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 15m or less.
	14F	User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	14G	User-created cable	The cable length must be 15m or less.
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	14H	User-created cable	The cable length must be 15m or less.
GP4000[*6] (COM2) GP-4201T (COM1) GP6000 (COM2) 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)	14I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 [*10] + User-created cable	The cable length must be 15m or less.
	14B	User-created cable	

Display (Connection Port)	Cable		Notes
LT-4*01TM (COM1) LT-Rear Module (COM1)	14J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	The cable length must be 15m or less.
PE-4000B*11 PS5000*11 PS6000 (Optional Interface)*11	14K	User-created cable	The cable length must be 15m 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)

■ IPC COM Port (page 8)

*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.

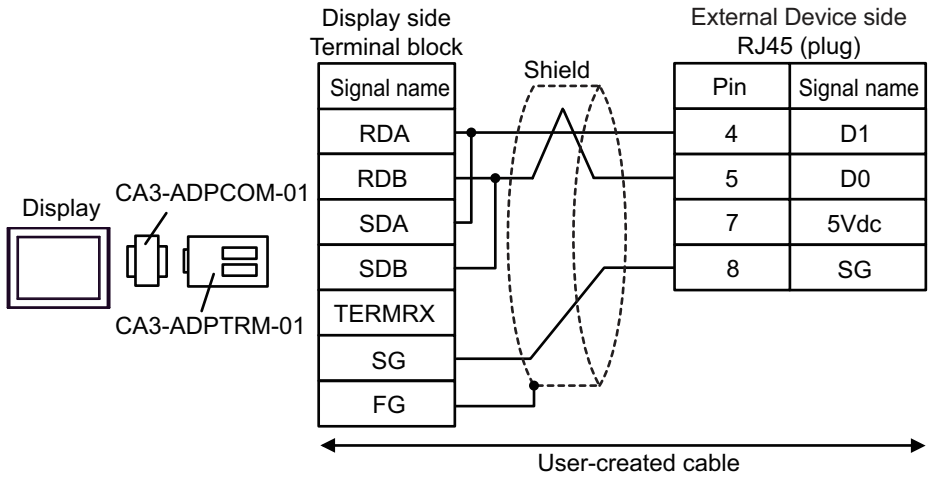
*10 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 14A.

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

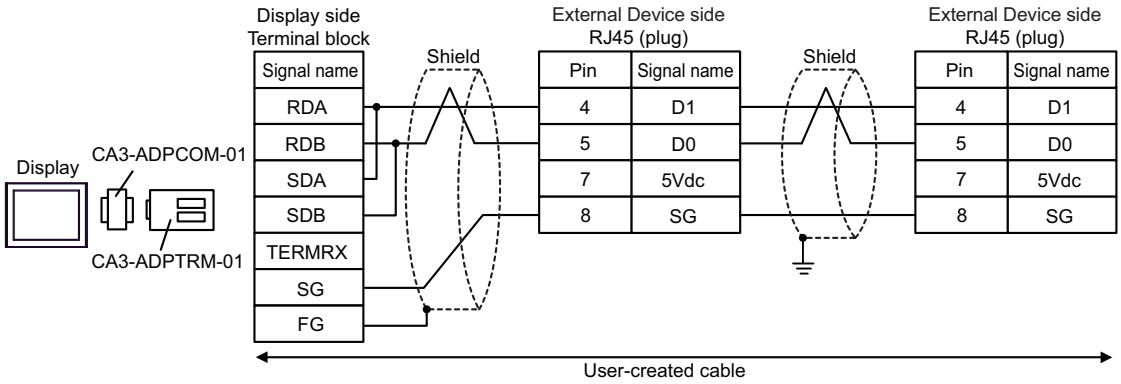
■ IPC COM Port (page 8)

14A)

- 1:1 Connection



- 1:n Connection

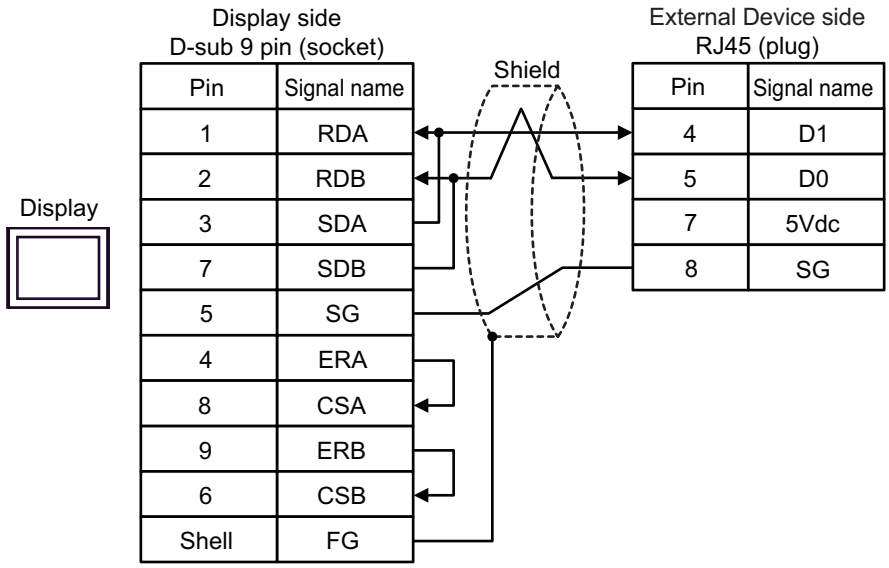


IMPORTANT

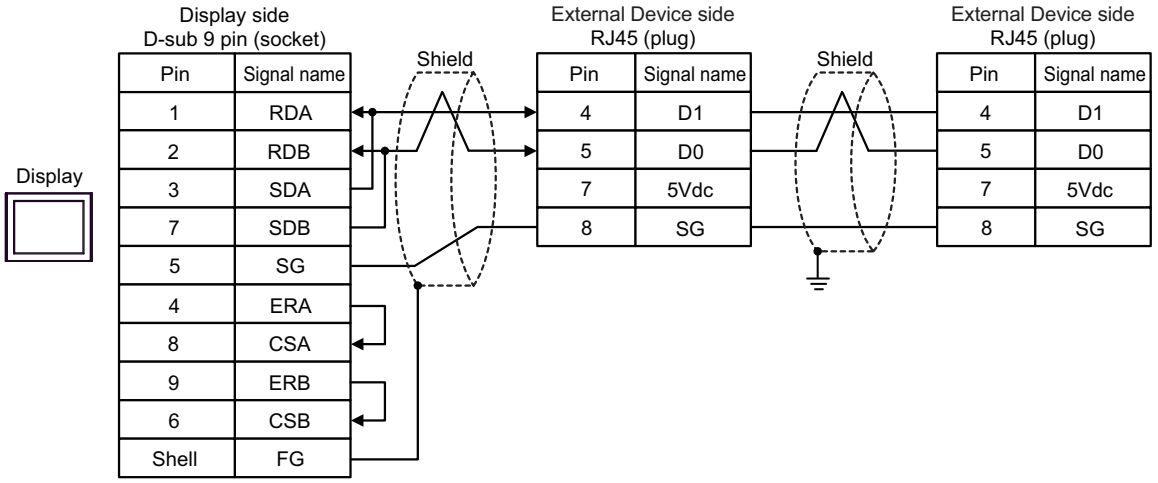
- Do not connect the cable to the 5 Vdc pin on the External Device.

14B)

- 1:1 Connection



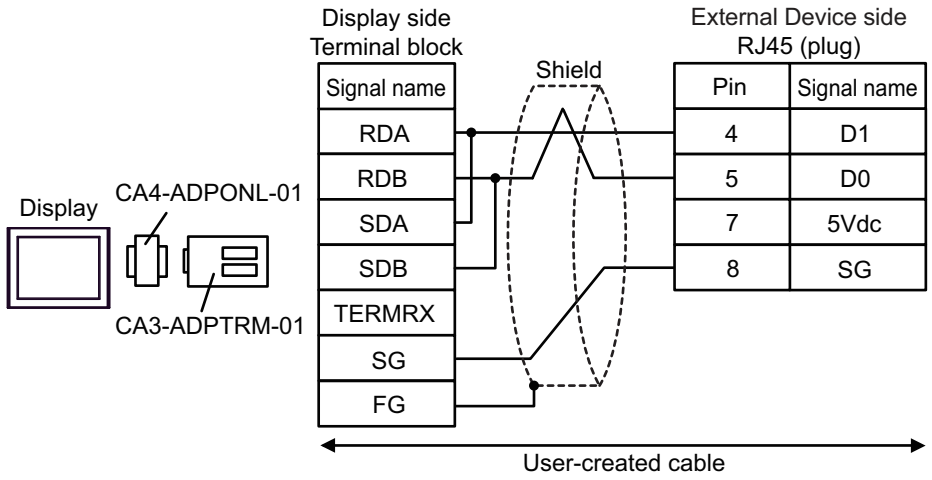
- 1:n Connection



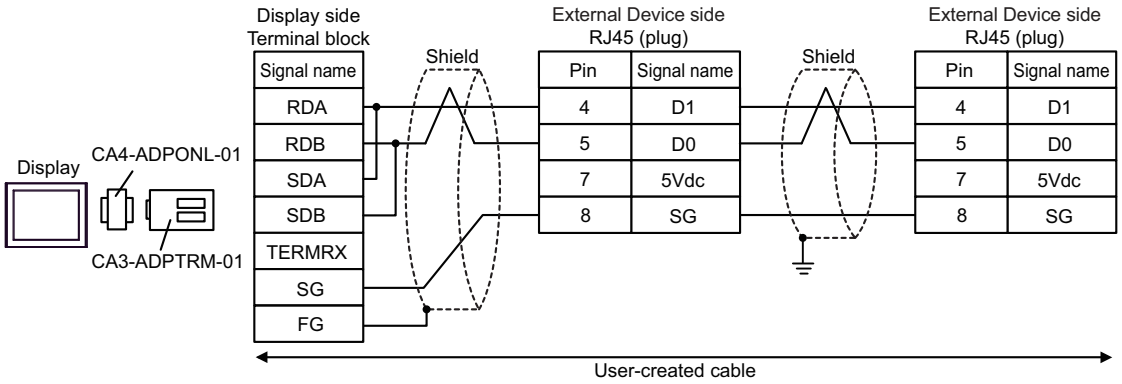
IMPORTANT • Do not connect the cable to the 5 Vdc pin on the External Device.

14C)

- 1:1 Connection



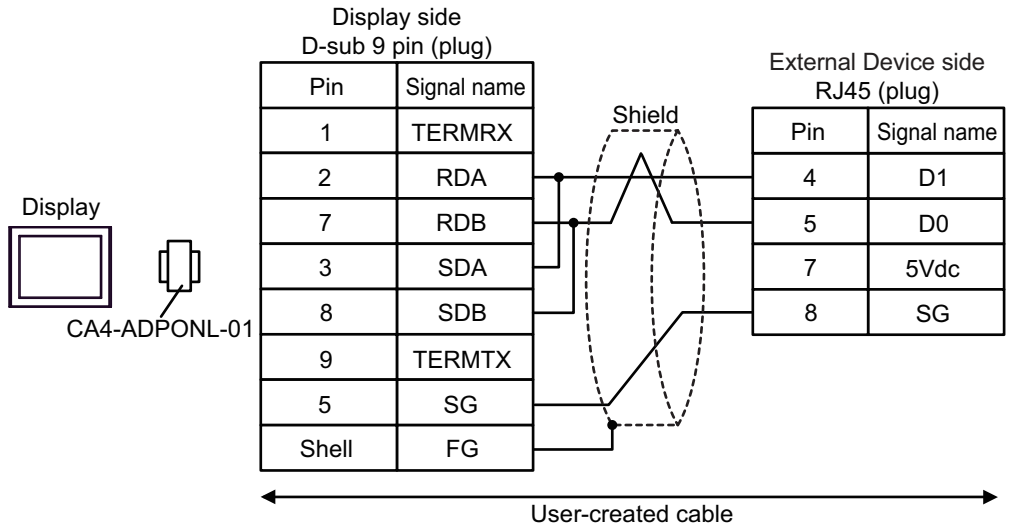
- 1:n Connection



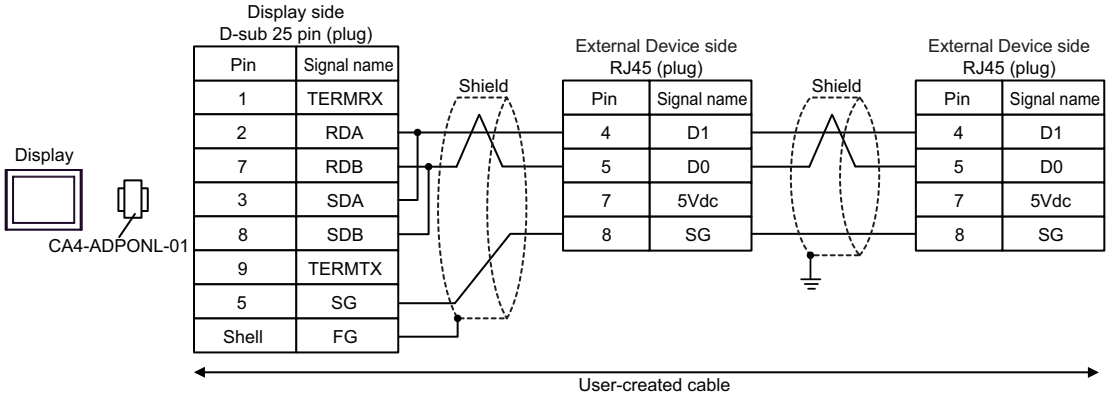
IMPORTANT • Do not connect the cable to the 5 Vdc pin on the External Device.

14D)

- 1:1 Connection



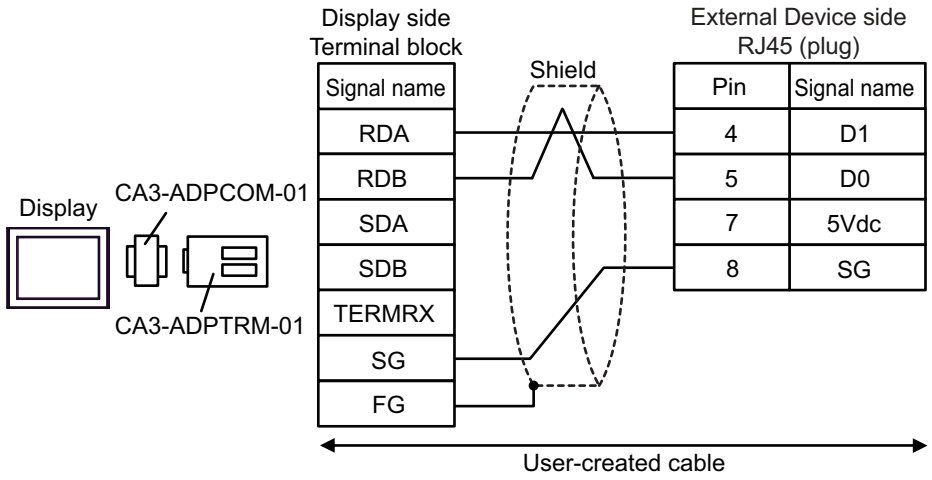
- 1:n Connection



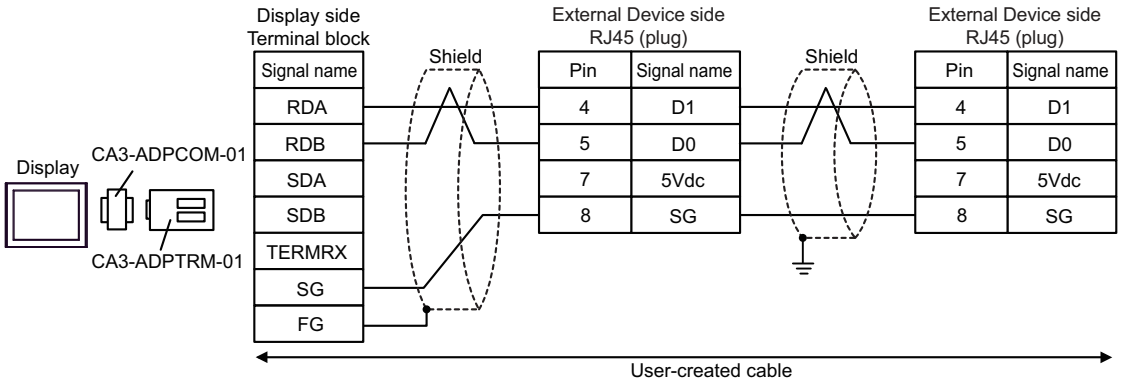
IMPORTANT • Do not connect the cable to the 5 Vdc pin on the External Device.

14E)

- 1:1 Connection



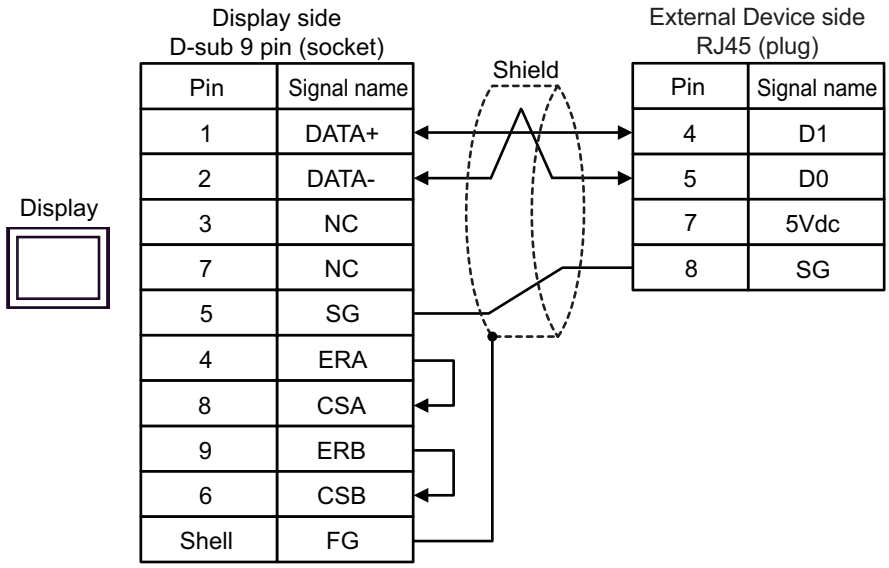
- 1:n Connection



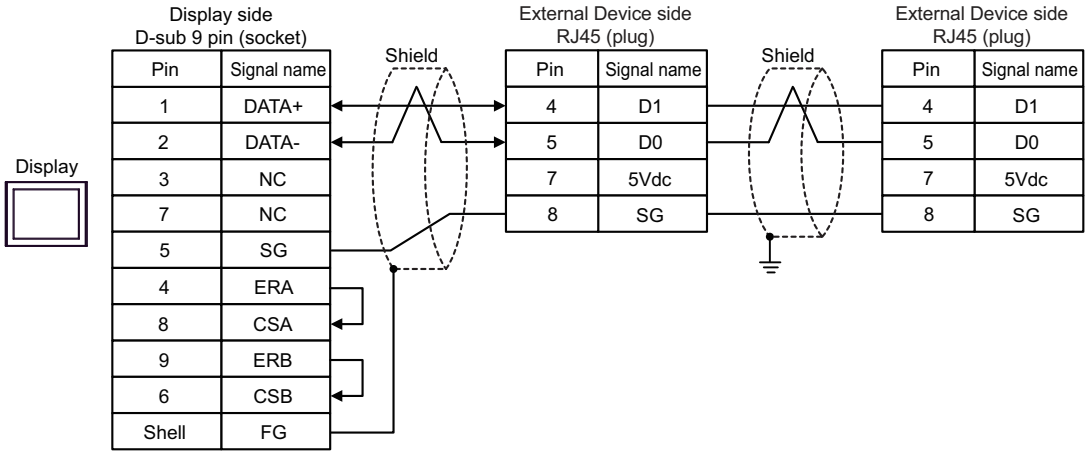
IMPORTANT • Do not connect the cable to the 5 Vdc pin on the External Device.

14F)

- 1:1 Connection



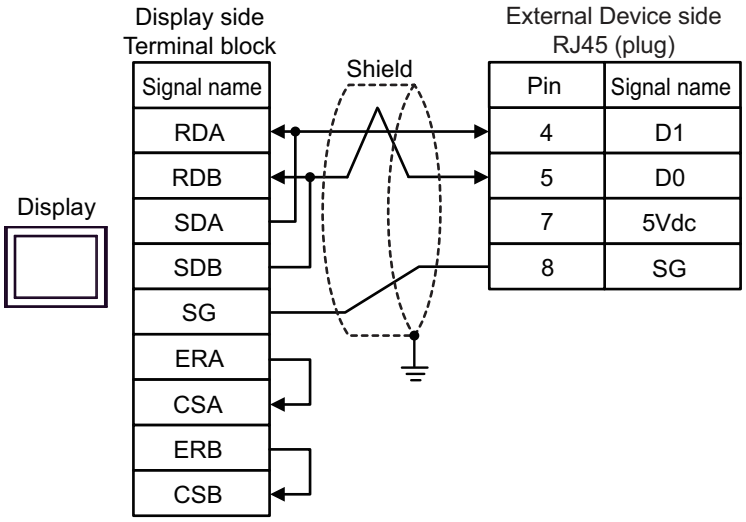
- 1:n Connection



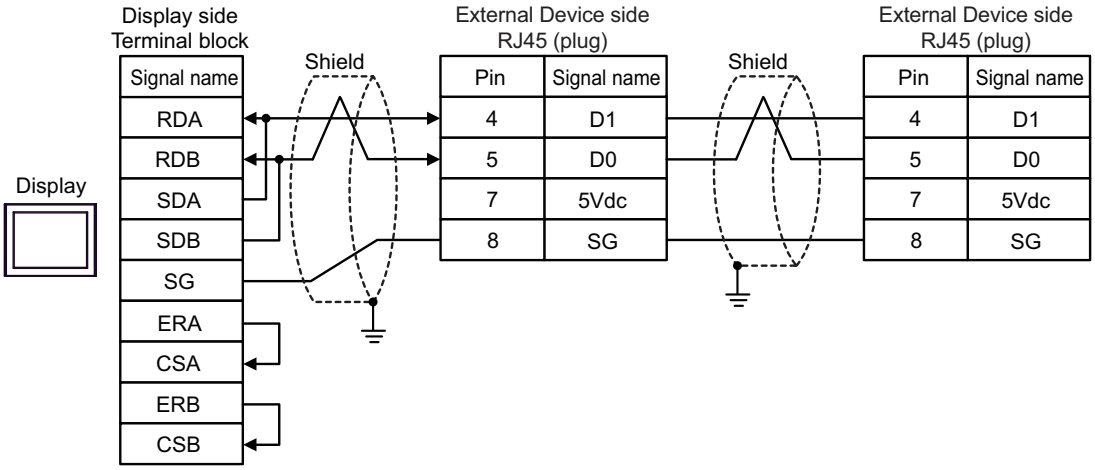
IMPORTANT • Do not connect the cable to the 5 Vdc pin on the External Device.

14G)

- 1:1 Connection



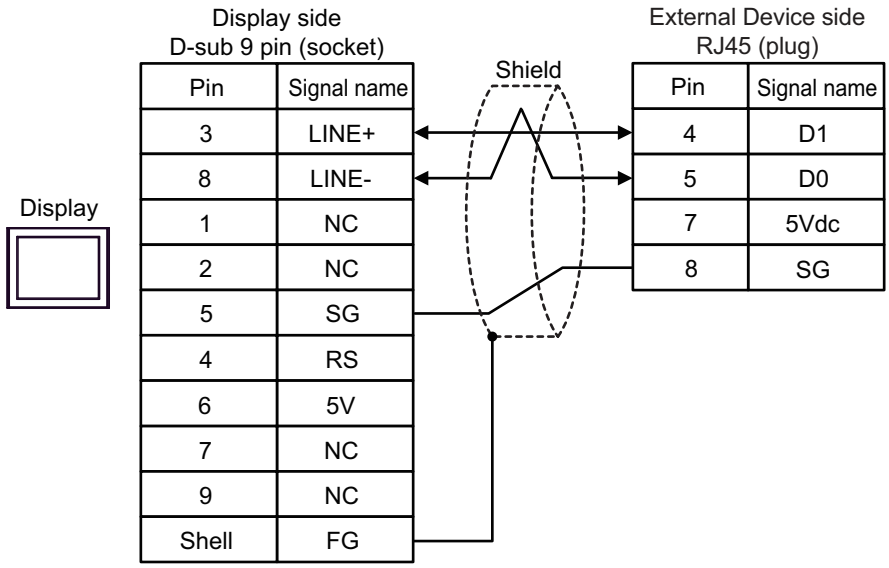
- 1:n Connection



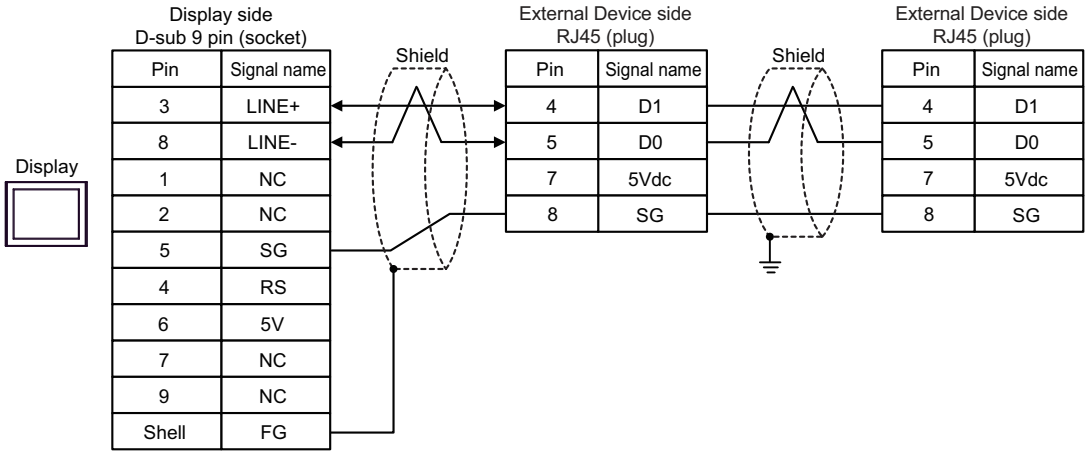
IMPORTANT • Do not connect the cable to the 5 Vdc pin on the External Device.

14H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

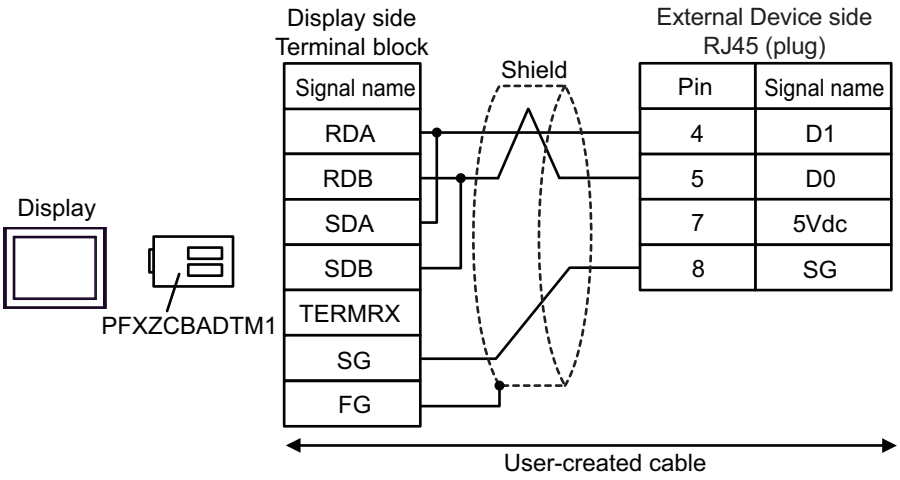
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.
- Do not connect the cable to the 5 Vdc pin on the External Device.

NOTE

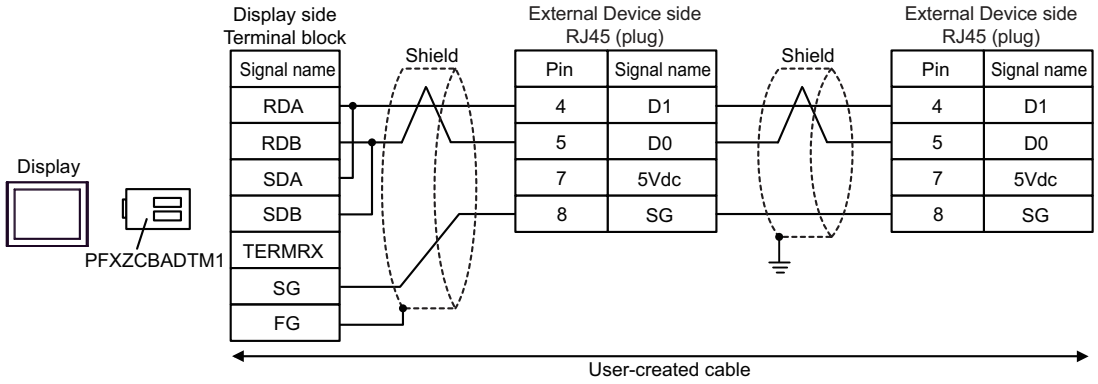
- In COM on the GP-4107, the SG and FG terminals are isolated.

14I)

- 1:1 Connection



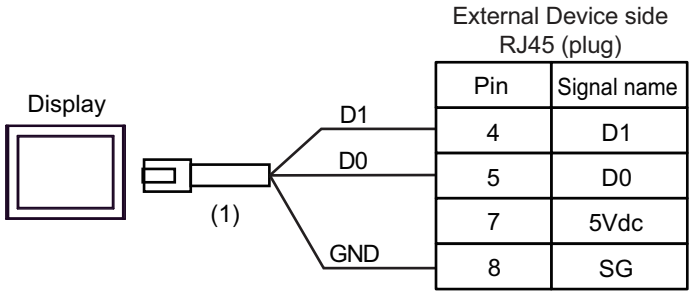
- 1:n Connection



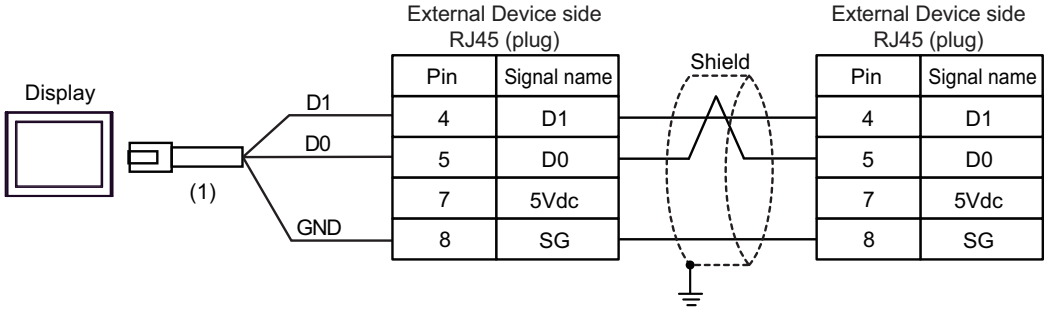
IMPORTANT • Do not connect the cable to the 5 Vdc pin on the External Device.

14J)

- 1:1 Connection



- 1:n Connection

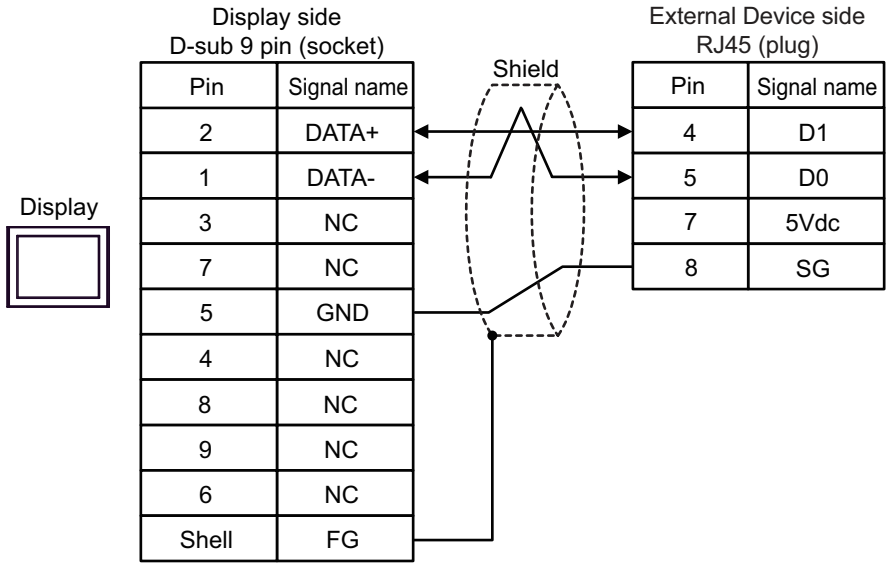


No.	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

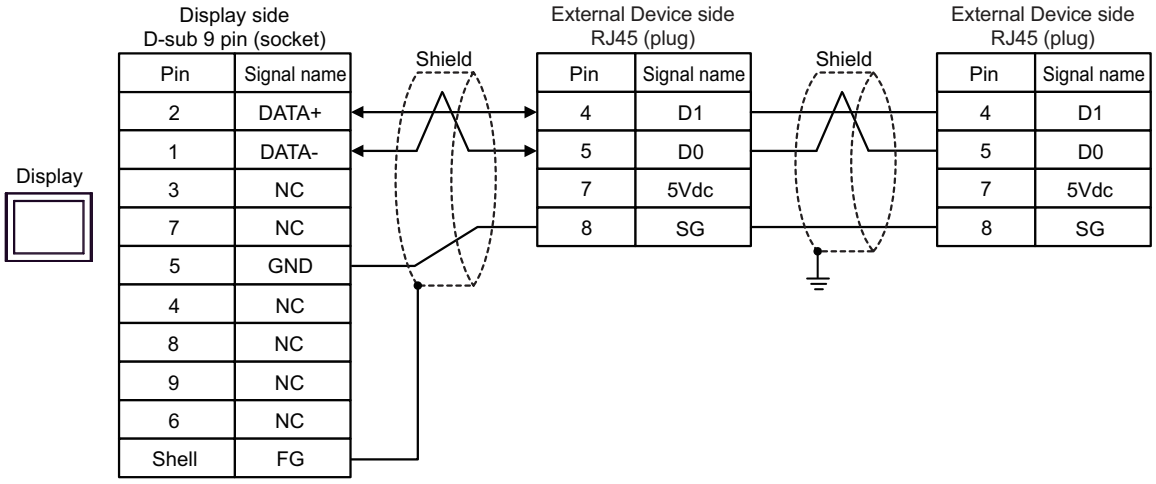
IMPORTANT • Do not connect the cable to the 5 Vdc pin on the External Device.

14K)

- 1:1 Connection



- 1:n Connection



IMPORTANT • Do not connect the cable to the 5 Vdc pin on the External Device.

5.15 Cable Diagram 15

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	15A	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 15m or less.
	15B	User-created cable	
GP3000[*3] (COM2)	15C	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 15m or less.
	15D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	15E	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 15m or less.
	15F	User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	15G	User-created cable	The cable length must be 15m or less.
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	15H	User-created cable	The cable length must be 15m or less.
GP4000[*6] (COM2) GP-4201T (COM1) GP6000 (COM2) 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)	15I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 [*10] + User-created cable	The cable length must be 15m or less.
	15B	User-created cable	

Display (Connection Port)	Cable		Notes
LT-4*01TM (COM1) LT-Rear Module (COM1)	15J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	The cable length must be 15m or less.
PE-4000B*11 PS5000*11 PS6000 (Optional Interface)*11	15K	User-created cable	The cable length must be 15m 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)

■ IPC COM Port (page 8)

*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.

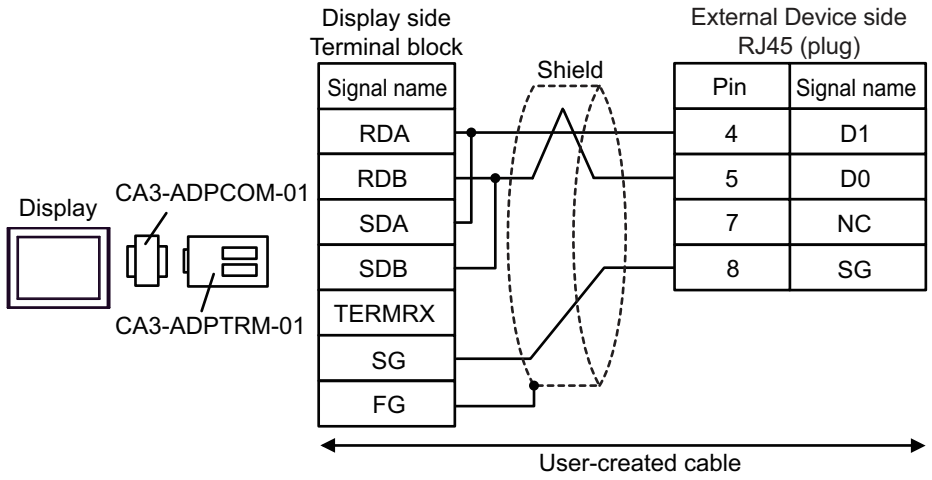
*10 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 15A.

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

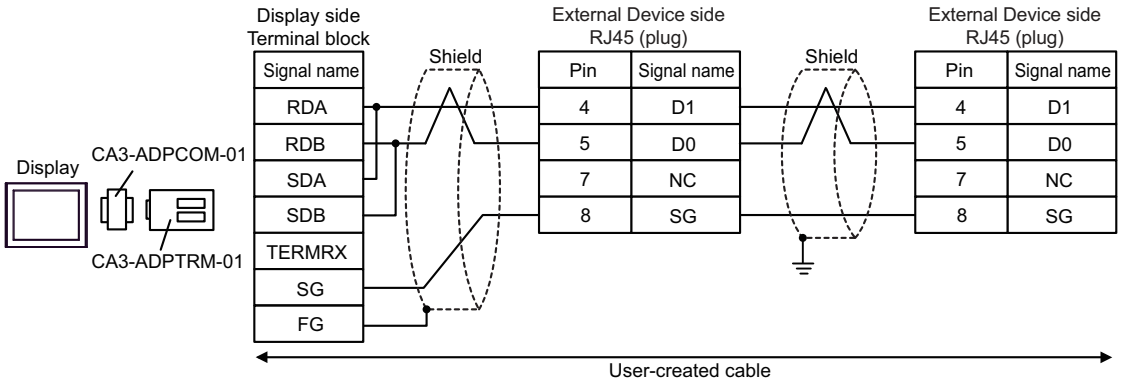
■ IPC COM Port (page 8)

15A)

- 1:1 Connection

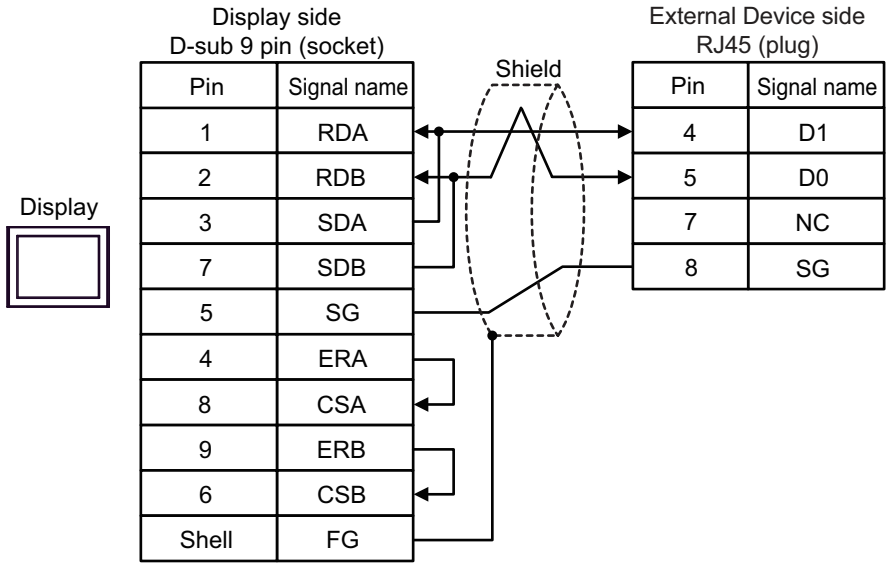


- 1:n Connection

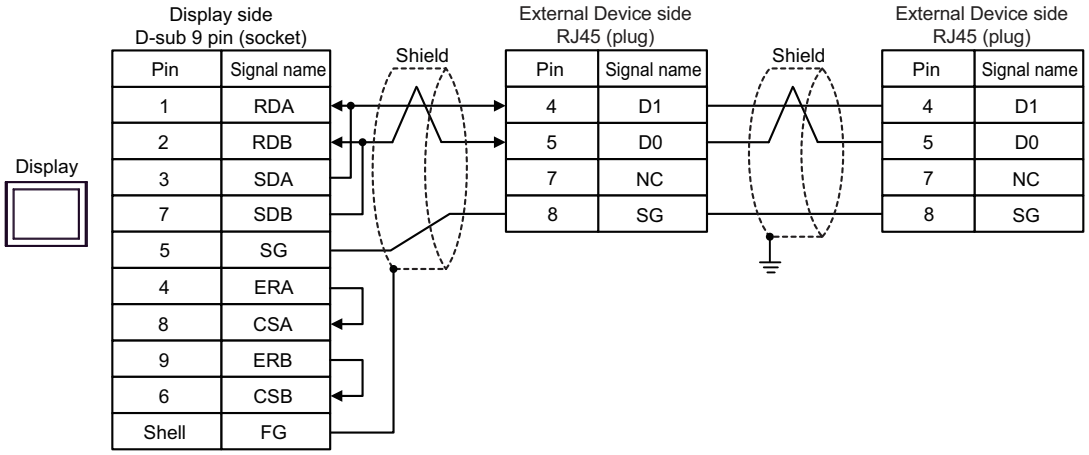


15B)

- 1:1 Connection

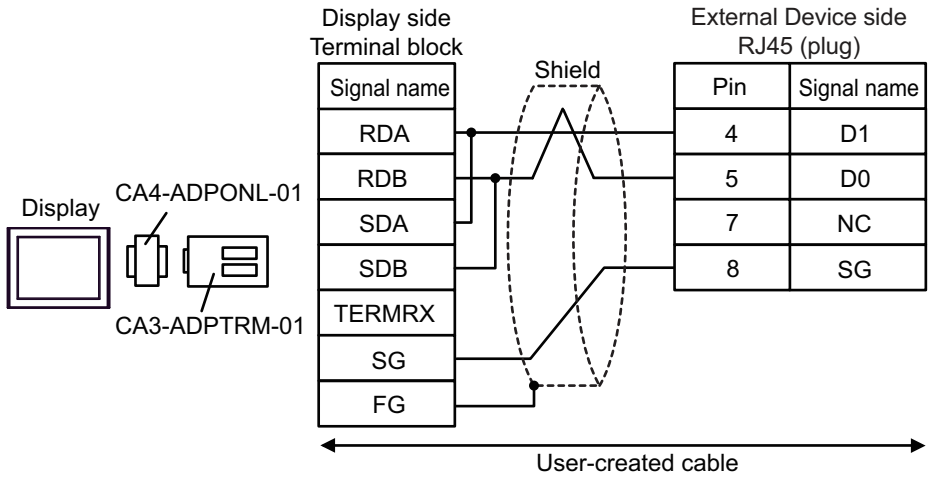


- 1:n Connection

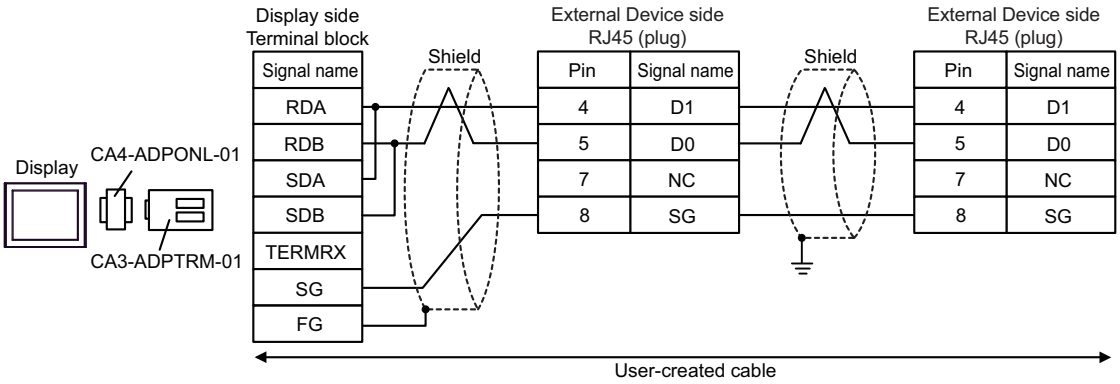


15C)

- 1:1 Connection

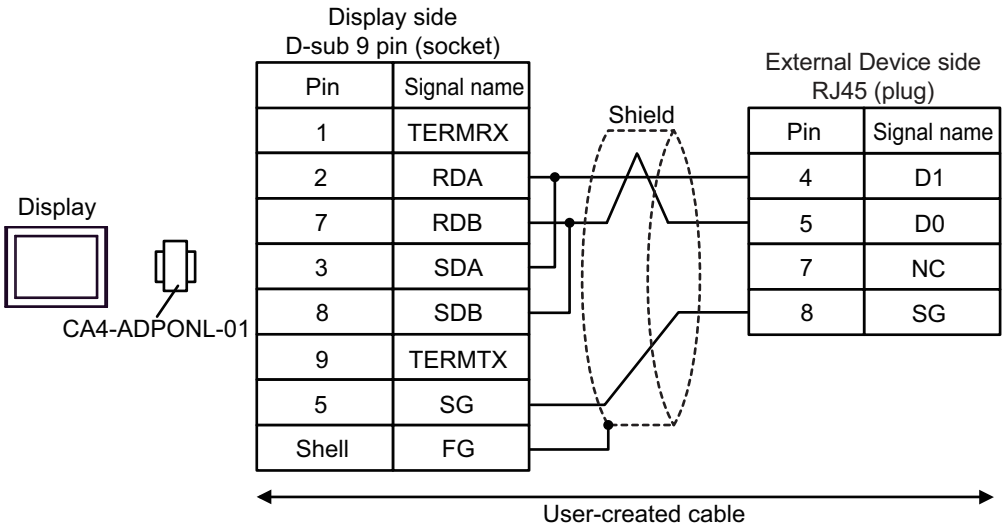


- 1:n Connection

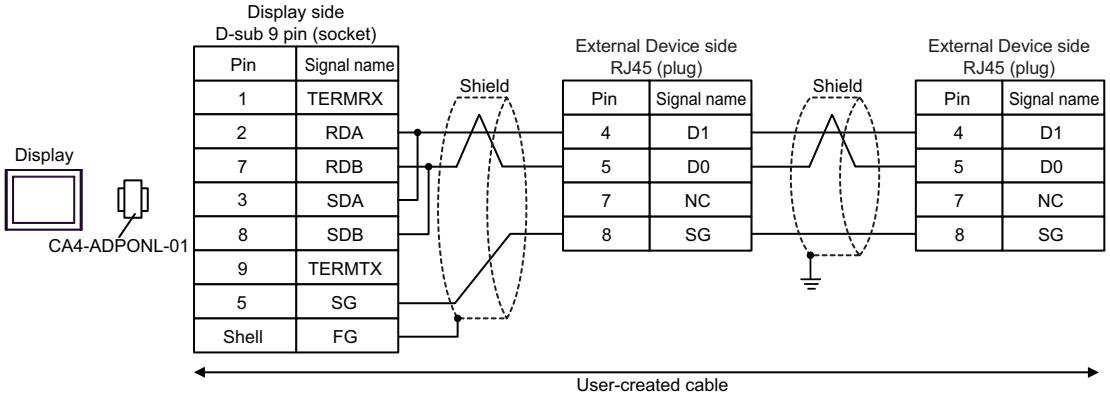


15D)

- 1:1 Connection

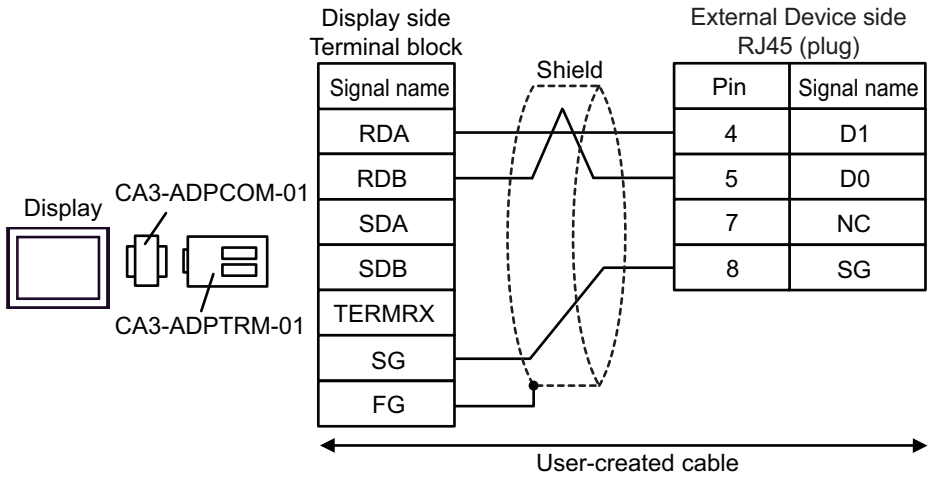


- 1:n Connection

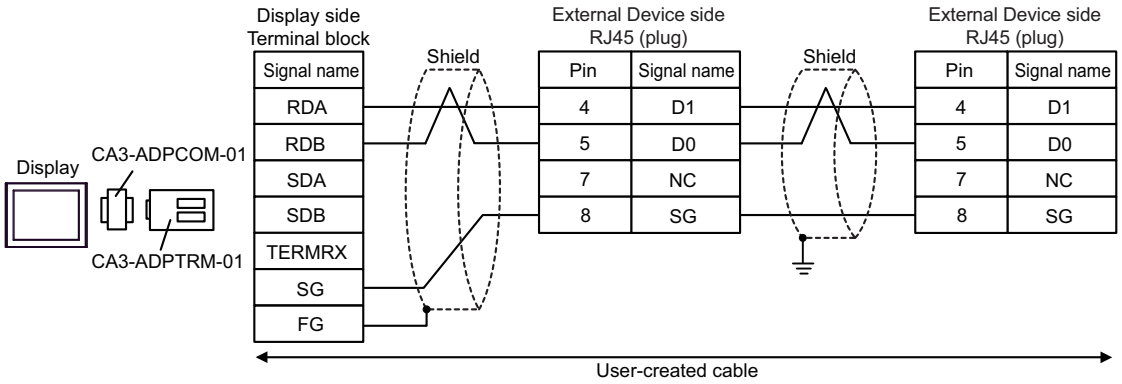


15E)

- 1:1 Connection

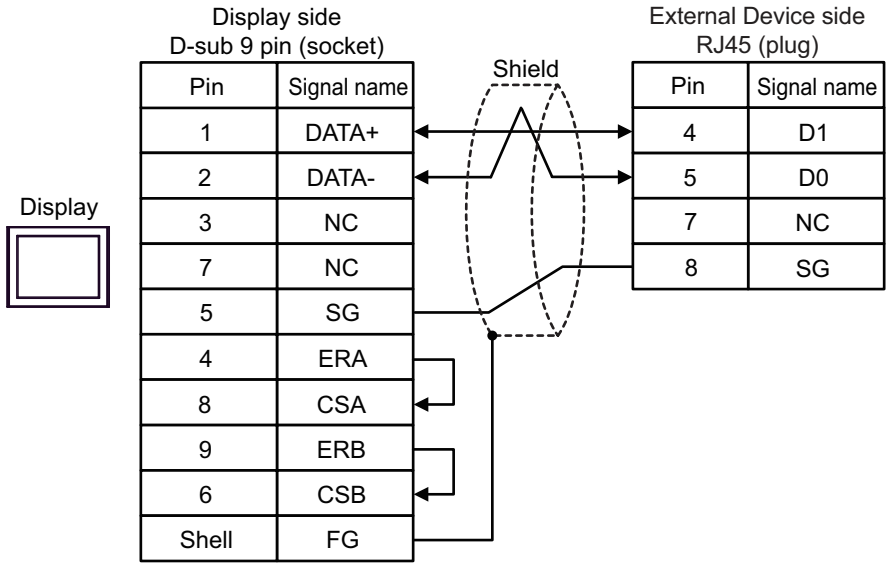


- 1:n Connection

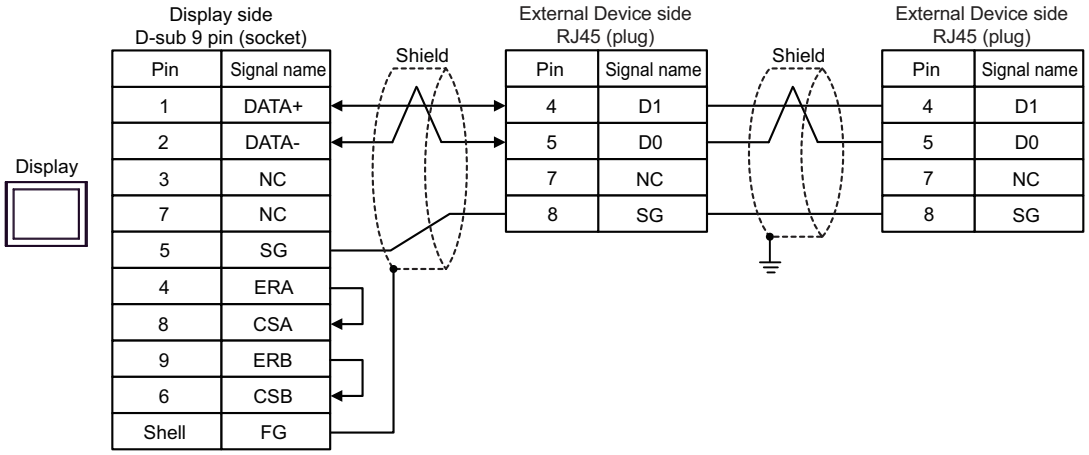


15F)

- 1:1 Connection

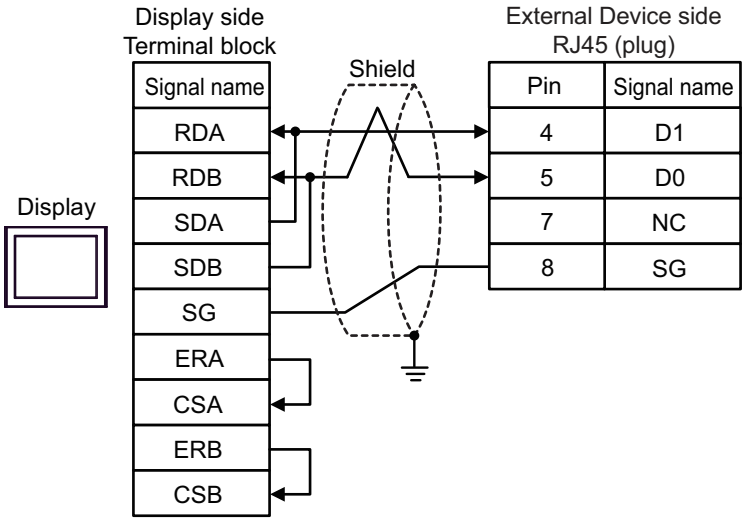


- 1:n Connection

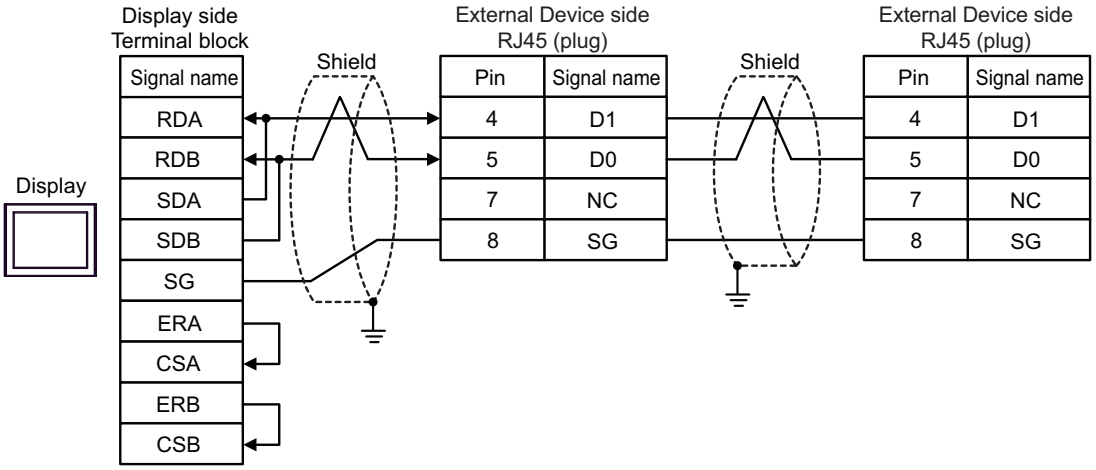


15G)

- 1:1 Connection

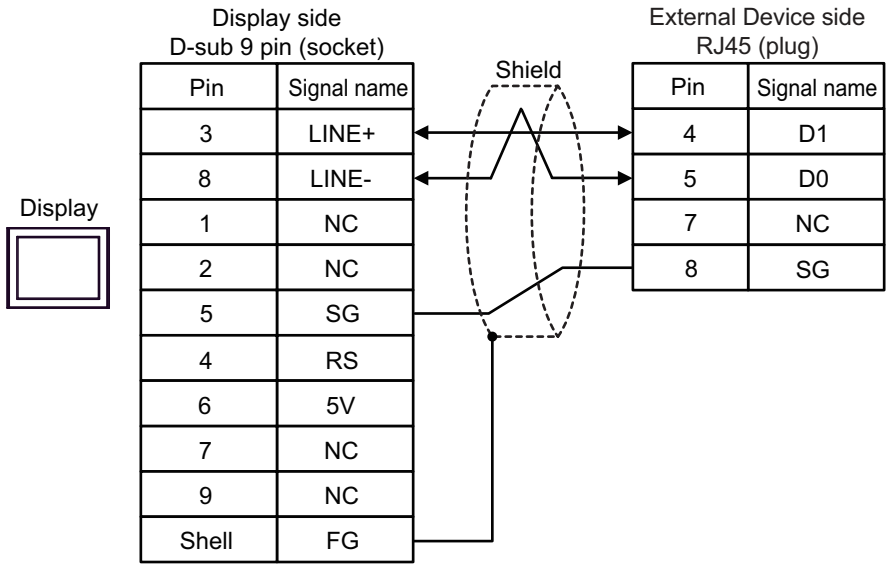


- 1:n Connection

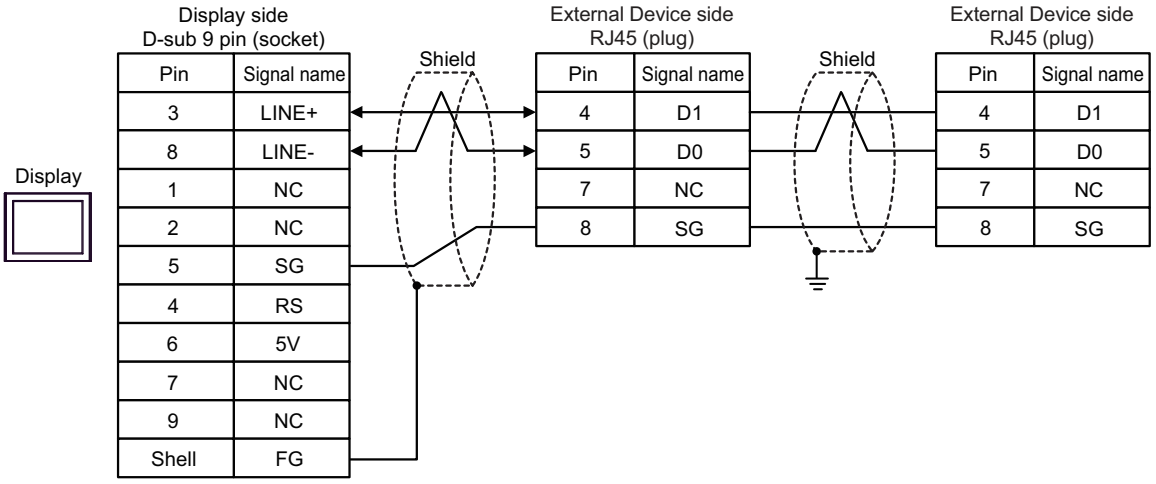


15H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

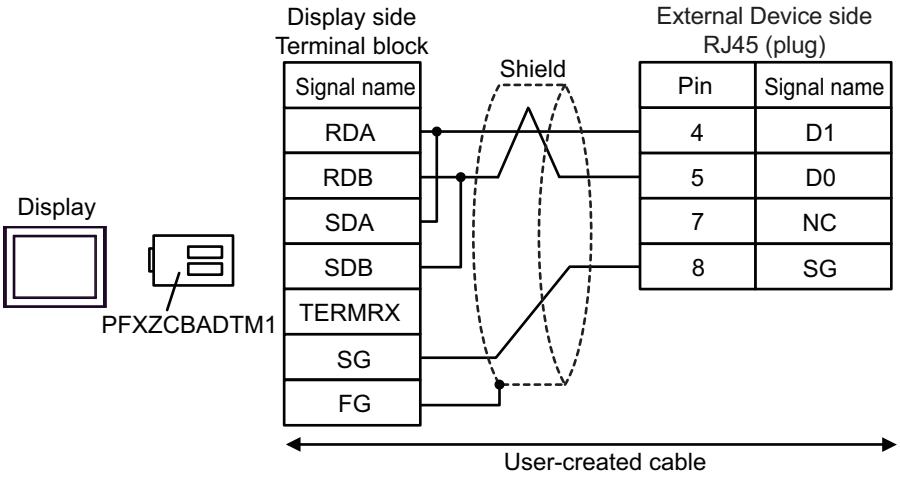
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

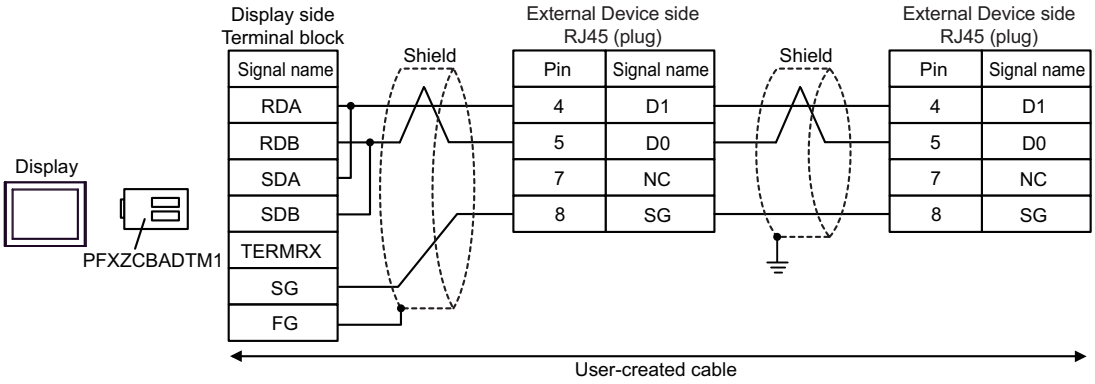
- In COM on the GP-4107, the SG and FG terminals are isolated.

15l)

- 1:1 Connection

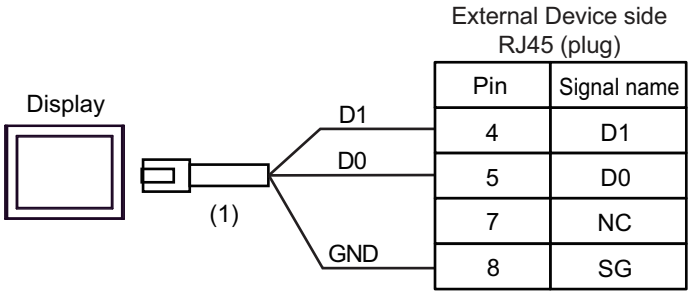


- 1:n Connection

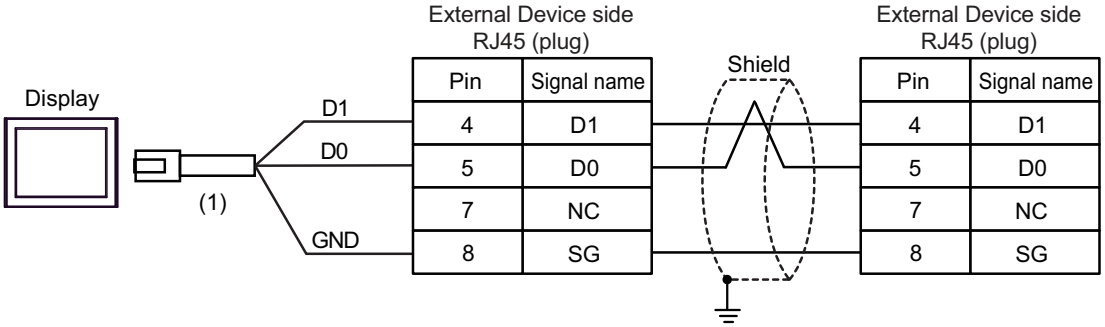


15J)

- 1:1 Connection



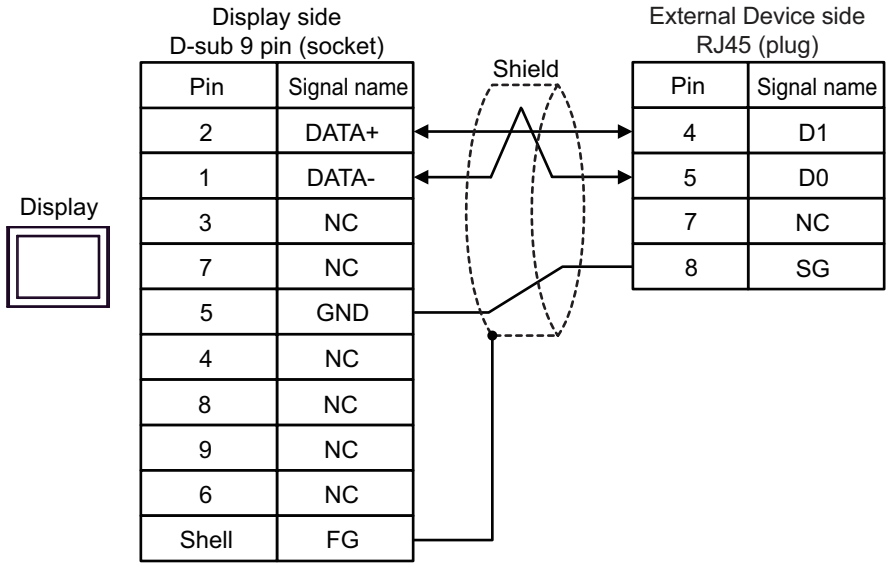
- 1:n Connection



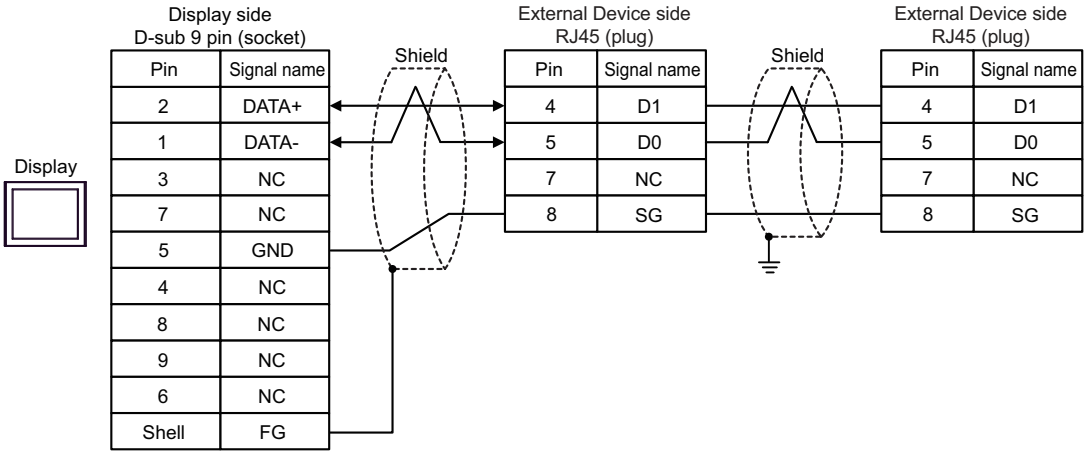
No.	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

15K)

- 1:1 Connection



- 1:n Connection



5.16 Cable Diagram 16

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) GP6000 (COM1) SP5000*2 (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC*3 PC/AT	16A	User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	The cable length must be 3m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	16B	User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	The cable length must be 3m or less.
LT-4*01TM (COM1) LT-Rear Module (COM1)	16C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21 + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	The cable length must be 3m or less.

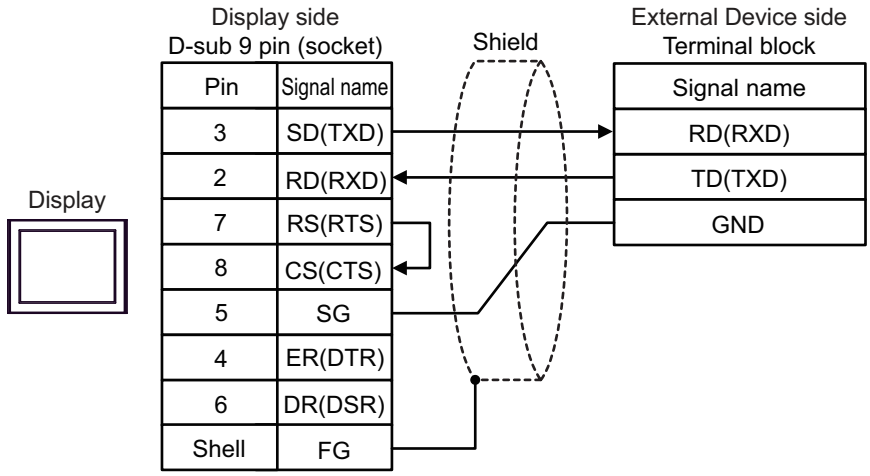
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

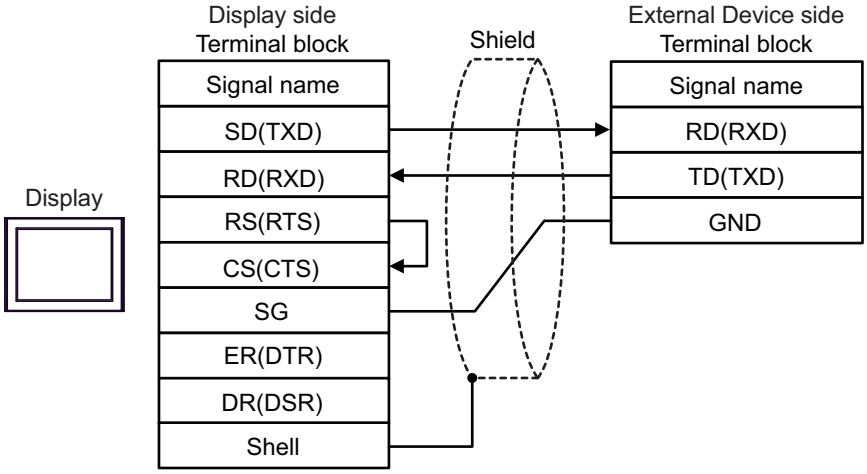
*3 Only the COM port which can communicate by RS-232C can be used.

■ IPC COM Port (page 8)

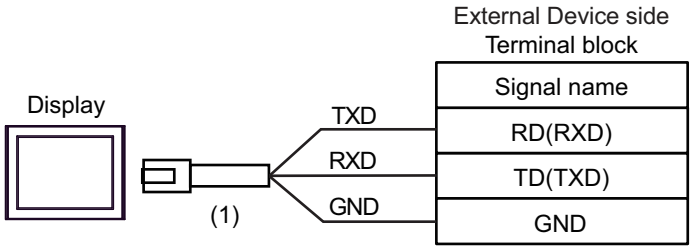
16A)



16B)



16C)



No.	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

IMPORTANT
- When using this connection, in the RS-232C communication settings set the [Flow Control] to [None].

5.17 Cable Diagram 17

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	17A	COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	The cable length must be 15m or less.
	17B	User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	
GP3000[*3] (COM2)	17C	Online Adapter by Pro-face CA4-ADPONL-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	The cable length must be 15m or less.
	17D	Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	
IPC[*4]	17E	COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	The cable length must be 15m or less.
	17F	User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	
GP-4106 (COM1) GP-4116T (COM1)	17G	User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	The cable length must be 15m or less.

Display (Connection Port)	Cable		Notes
GP-4107 (COM1) GP-4*03T*5 (COM2) GP-4203T (COM1)	17H	User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	The cable length must be 15m or less.
GP4000*6 (COM2) GP-4201T (COM1) GP6000 (COM2) 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)	17I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 *10 + User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	The cable length must be 15m or less.
	17B	User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	
LT-4*01TM (COM1) LT-Rear Module (COM1)	17J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81 + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	The cable length must be 15m or less.
PE-4000B*11 PS5000*11 PS6000 (Optional Interface)*11	17K	User-created cable + Cartridges TMC2SL1 or TMC2CONV01 by Schneider Electric	The cable length must be 15m 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)

■ IPC COM Port (page 8)

*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.

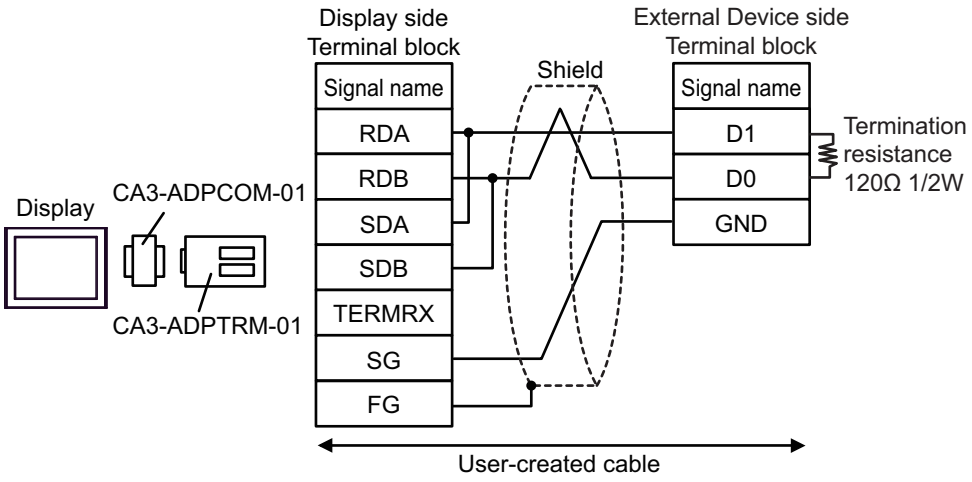
*10 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 17A.

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

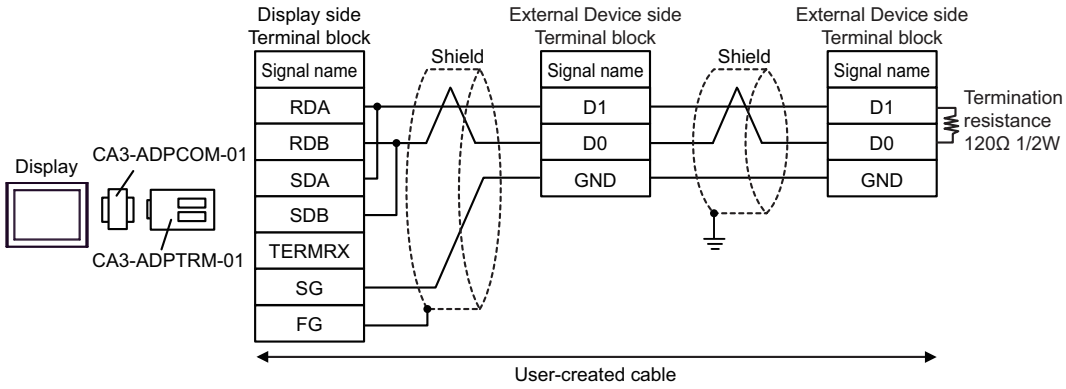
■ IPC COM Port (page 8)

17A)

- 1:1 Connection

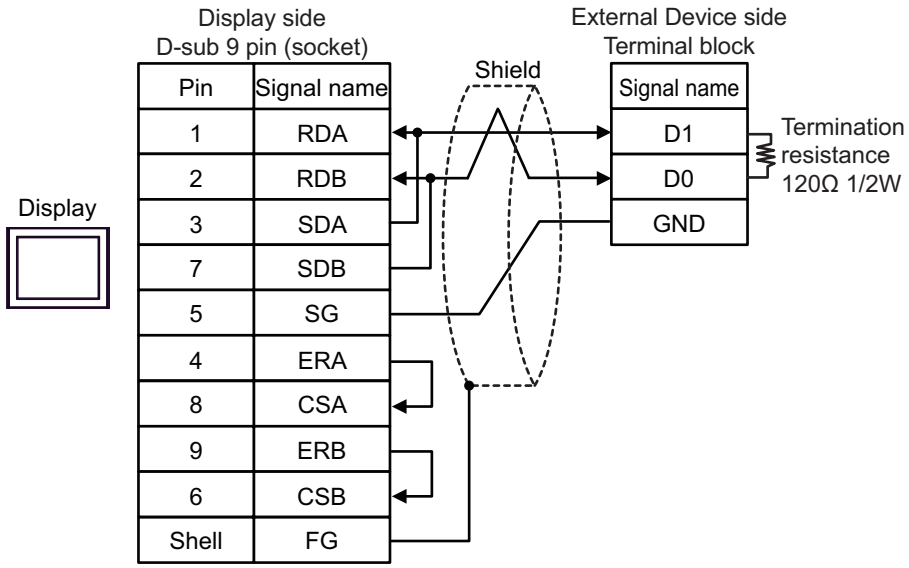


- 1:n Connection

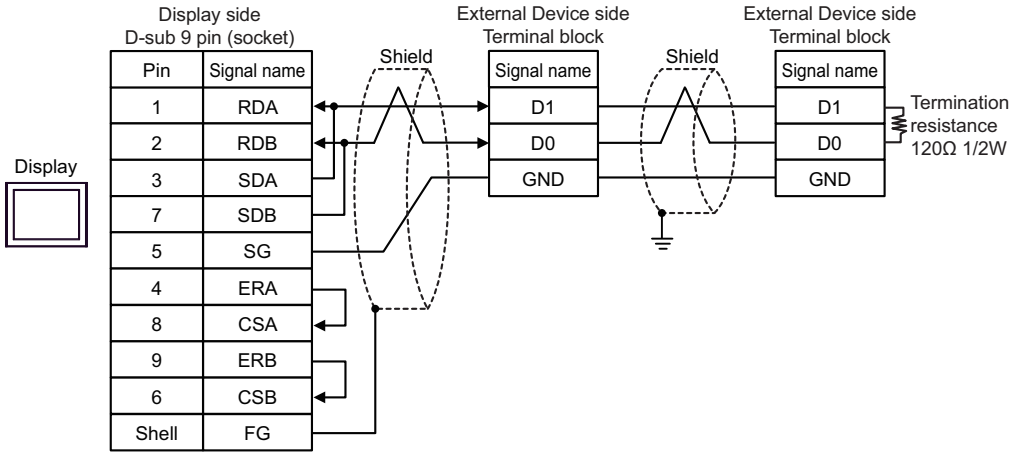


17B)

- 1:1 Connection

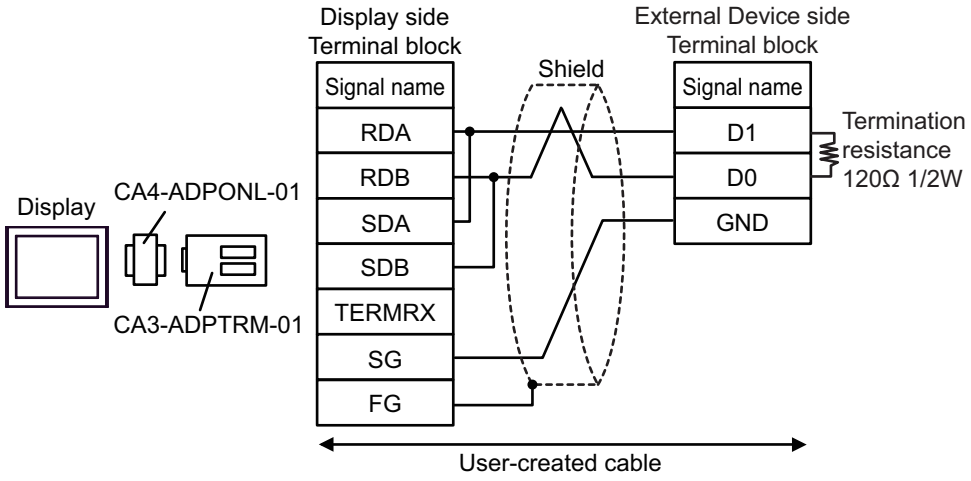


- 1:n Connection

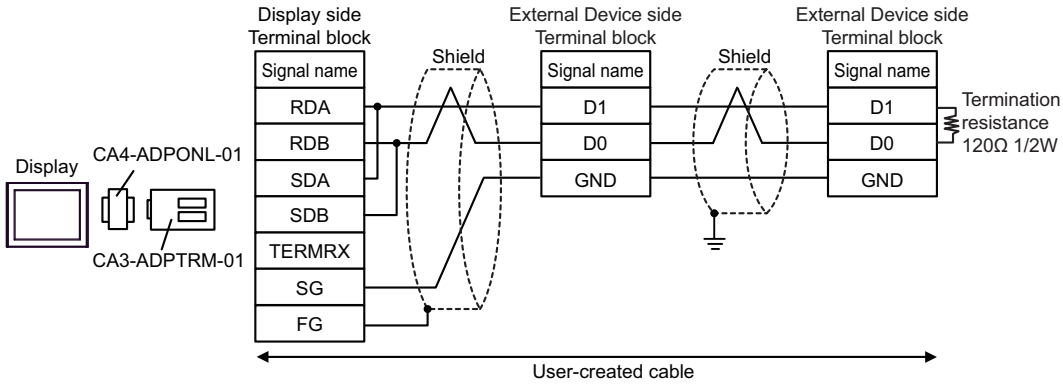


17C)

- 1:1 Connection

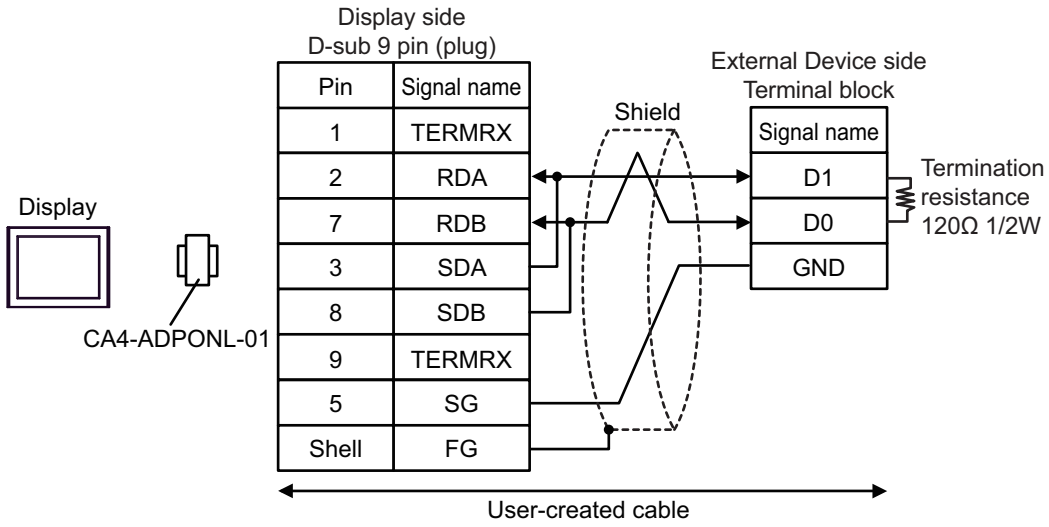


- 1:n Connection

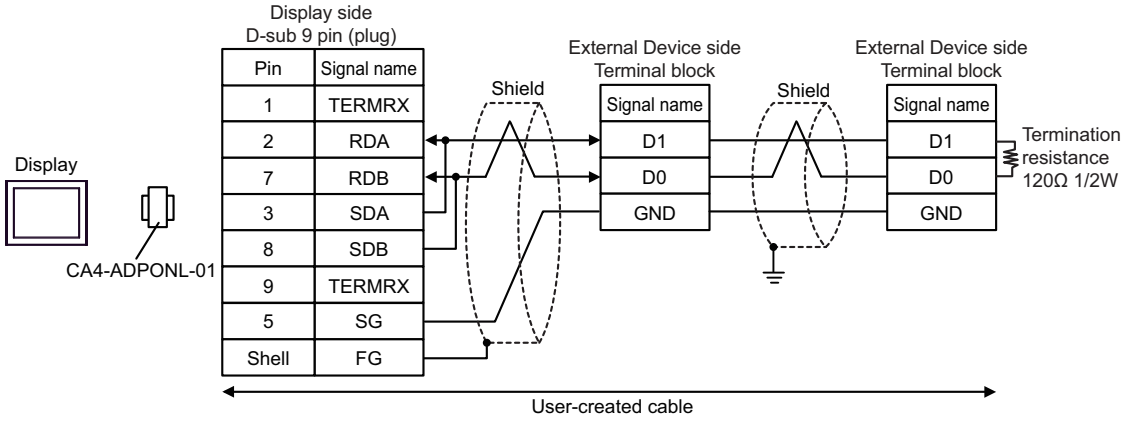


17D)

- 1:1 Connection

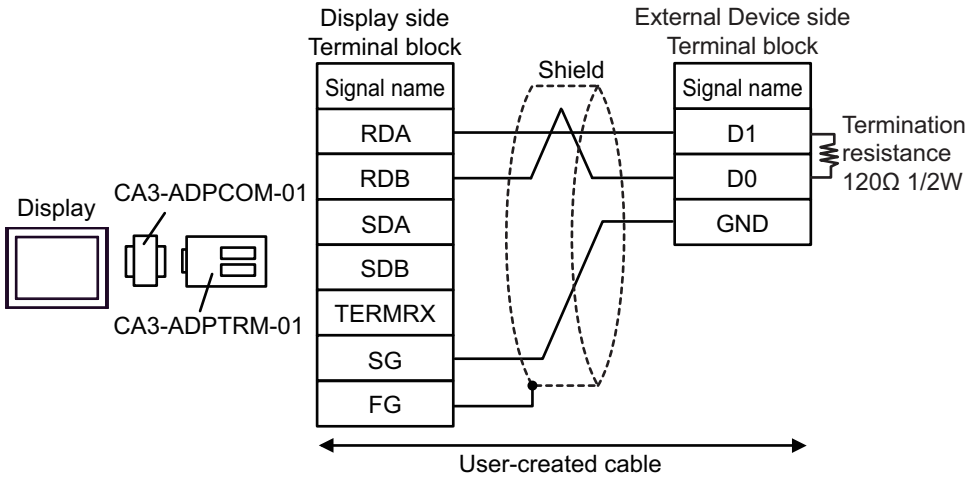


- 1:n Connection

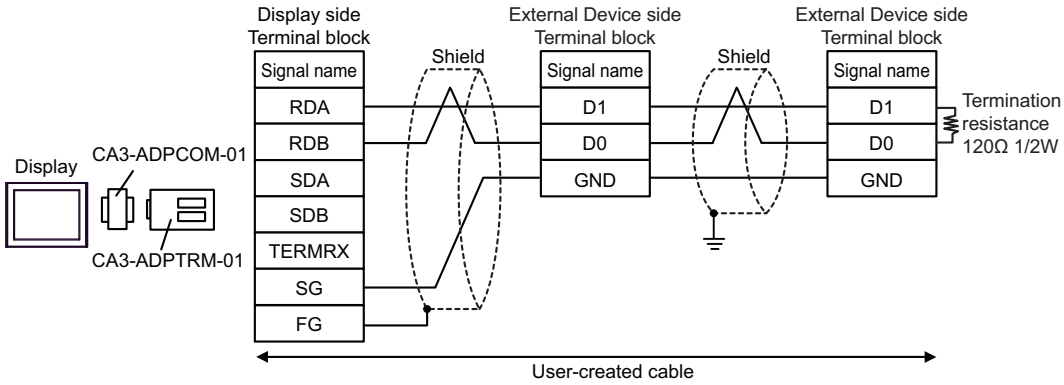


17E)

- 1:1 Connection

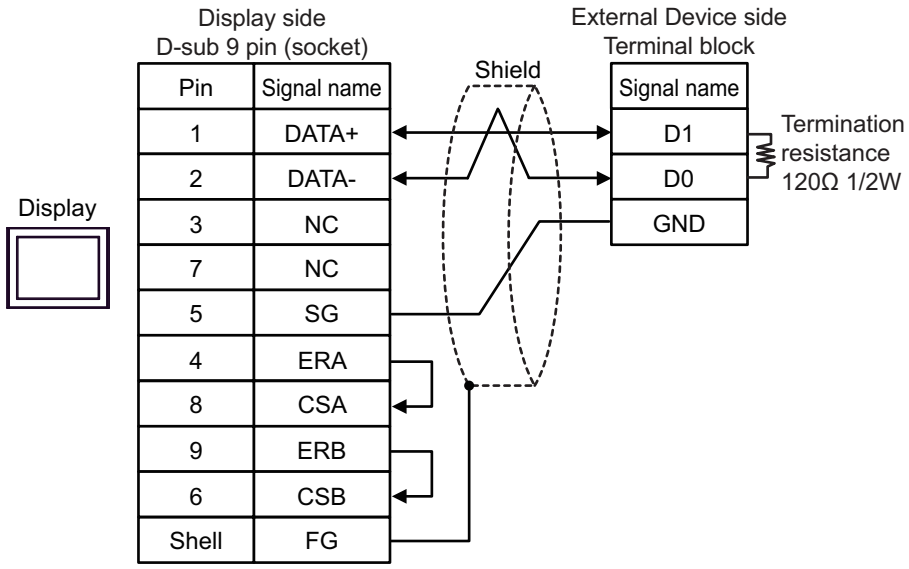


- 1:n Connection

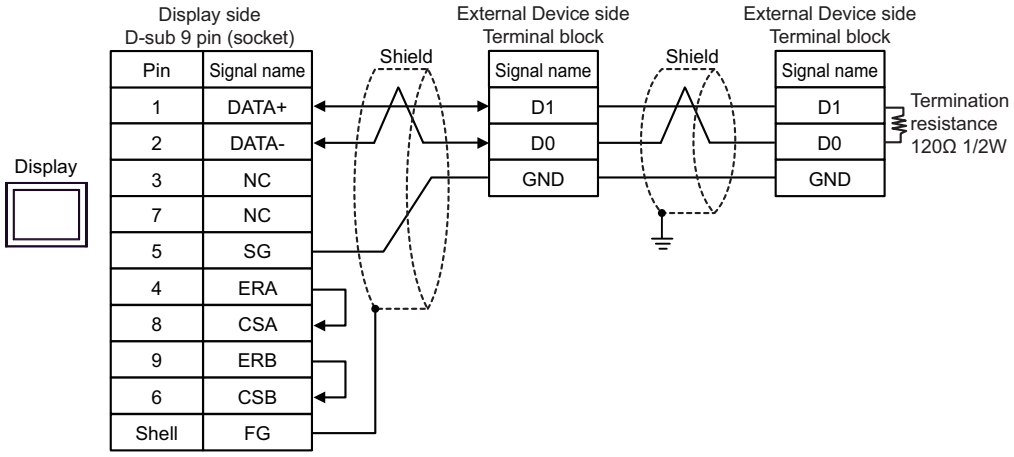


17F)

- 1:1 Connection

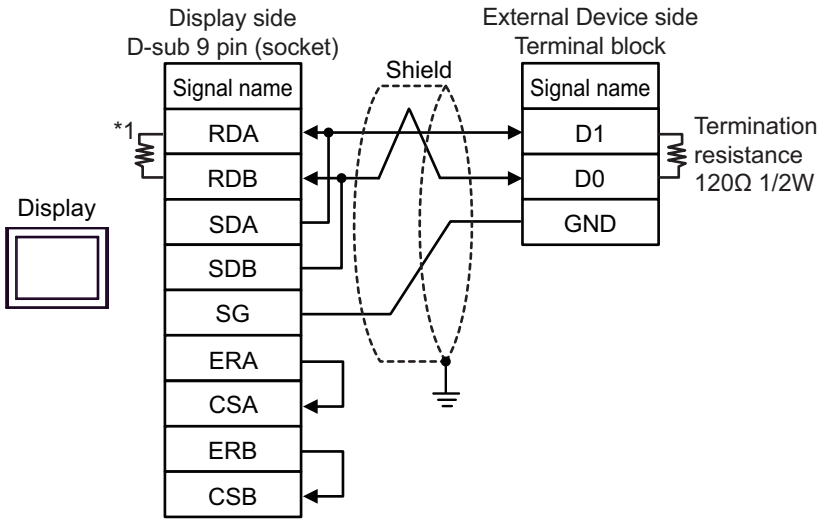


- 1:n Connection

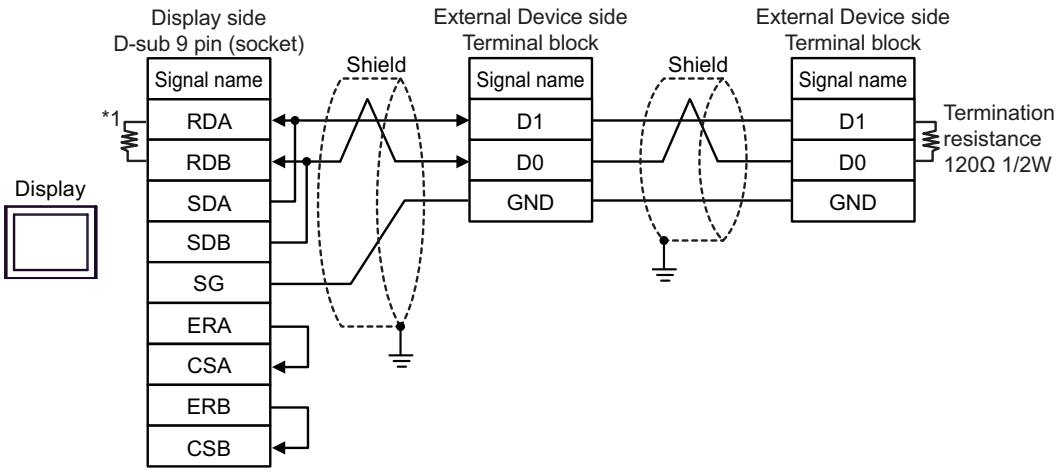


17G)

- 1:1 Connection



- 1:n Connection

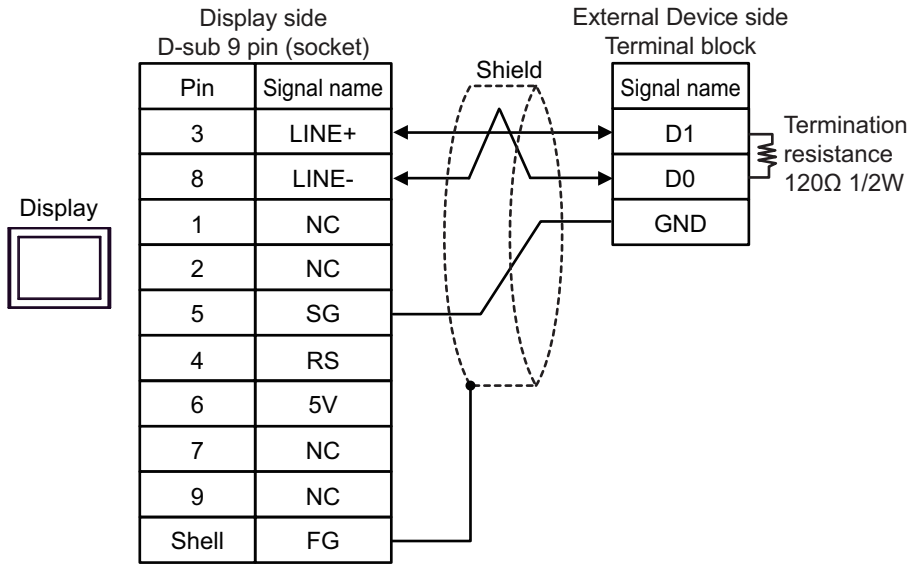


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

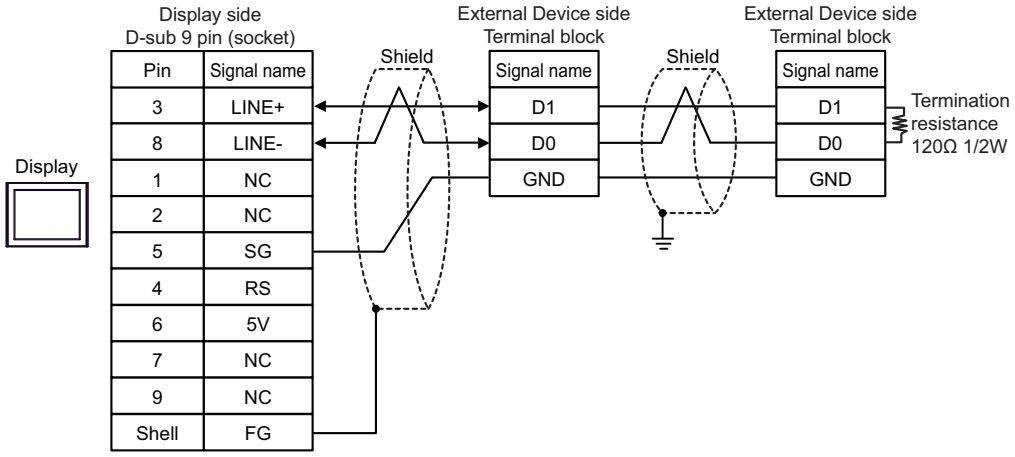
DIP Switch No.	Set Value
1	OFF
2	OFF
3	OFF
4	OFF

17H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

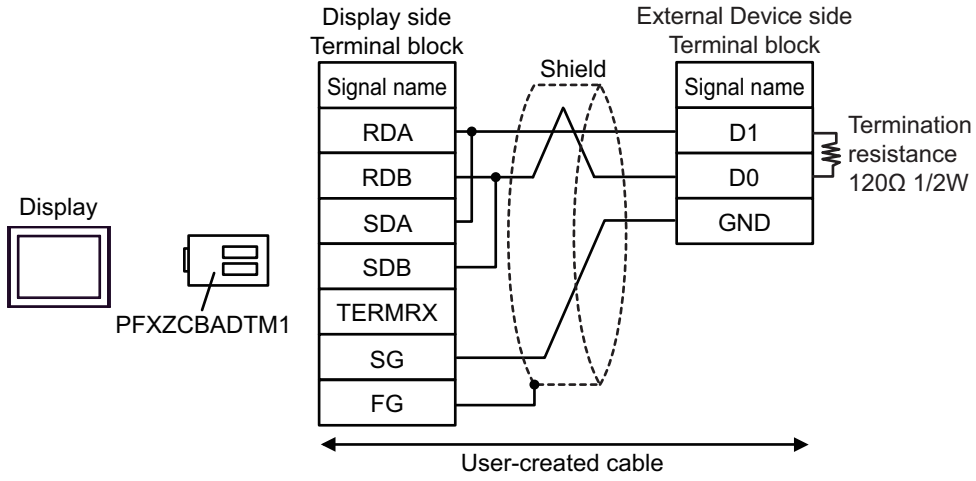
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

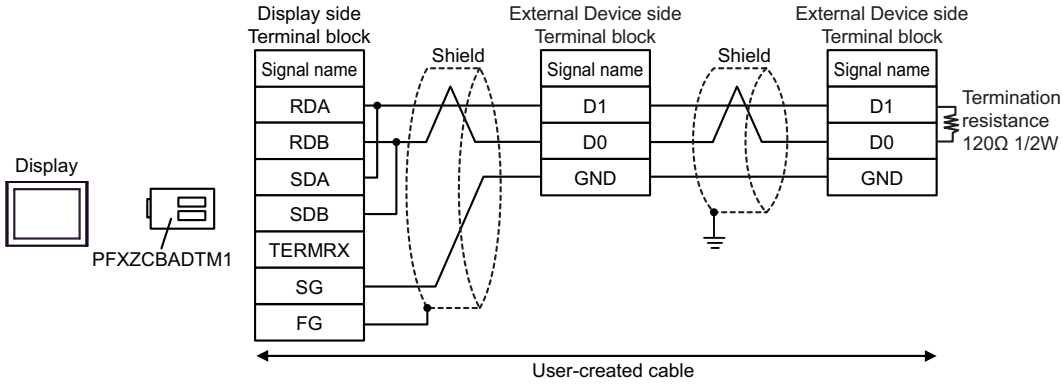
- In COM on the GP-4107, the SG and FG terminals are isolated.

17I)

- 1:1 Connection

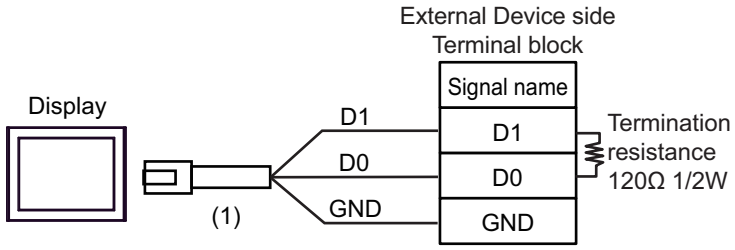


- 1:n Connection

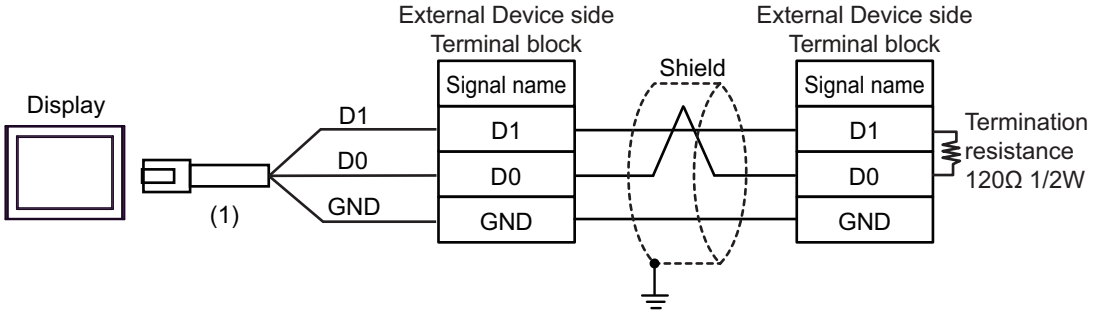


17J)

- 1:1 Connection



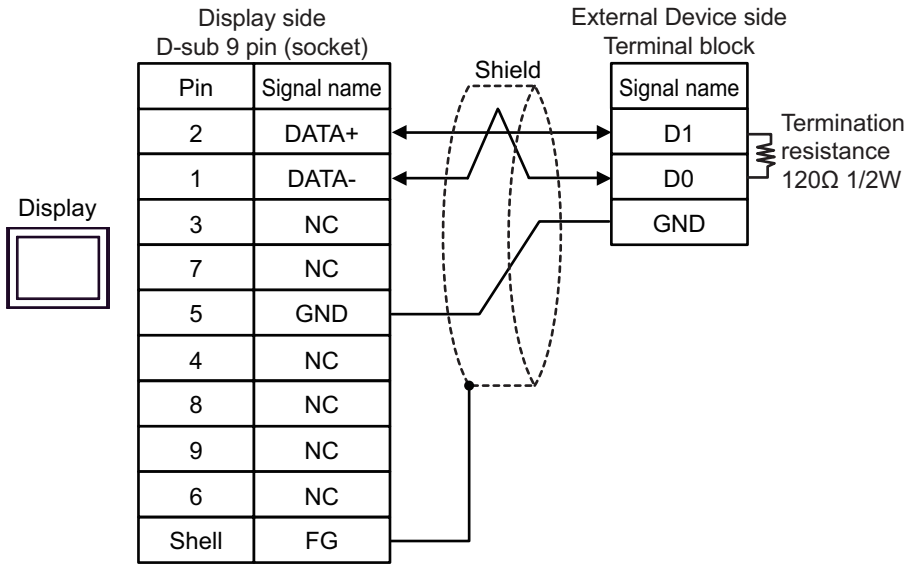
- 1:n Connection



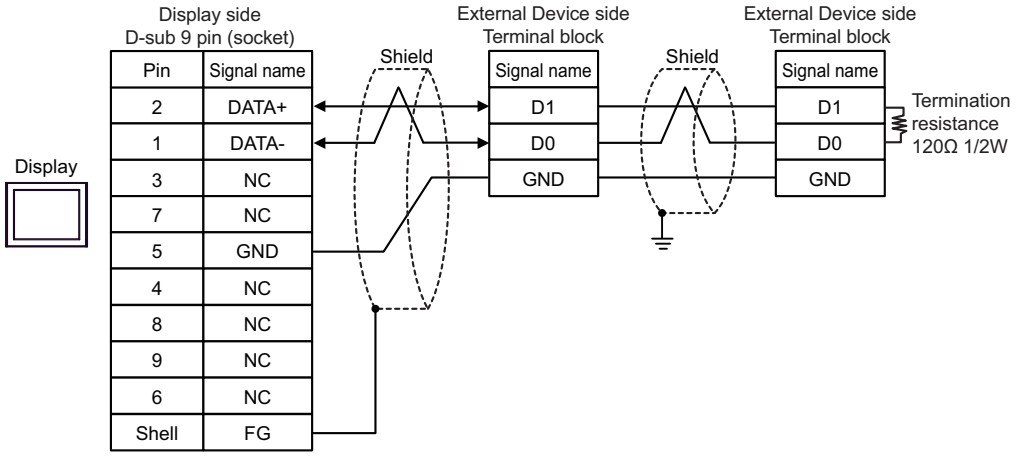
No.	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

17K)

- 1:1 Connection



- 1:n Connection



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 Micro/Premium/Twido/Quantum/Momentum/M221 Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Notes
Coil	000001 - 065536	000001 - 065521	L/H or H/L *1	16 bit
Discrete Input	100001 - 165536	100001 - 165521		16 bit *2
Input Register	-----	300001 - 365536		Bit 15 *2
Holding Register	400001,00 - 465536,15*3	400001 - 465536		Bit 15

*1 High and low relationship of the stored data is specified by the [Double Word word order] setting of [Device Setting].
☞"4.1 Setup Items in GP-Pro EX" (page 60)

*2 Write disabled

*3 An access method at the time of Bit Set varies depending on the [Rest of the bits in this word] setting of [Device Setting].

- Clear..... Bit 15
- Do not clear.....400001,00 - 465536,15

NOTE

- When the [Single Bit manipulation to Coil/Discrete Input] check box is selected in the [Individual Device Settings] dialog box, GP-Pro EX simulation does not synchronize the coil bit address and word address values.

6.2 FCN/FCJ Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Notes
Coil	000001 - 009984	000001 - 009969	L/H or H/L *1	16+1 *2
Discrete Input	100001 - 109984	100001 - 109969		16+1 *2 *3
Input Register	300001.00 - 309999.15	300001 - 309999		Bit 15 *3
Holding Register	400001.00 - 409999.15	400001 - 409999		Bit 15

*1 High and low relationship of the stored data is specified by the [Double Word word order] setting of [Device Setting].

☞"4.1 Setup Items in GP-Pro EX" (page 60)

*2 The device access range of the External Device is specified as 1 to 9999, that of the Display, however, as up to 9984, since the Display device is accessible in 16-bit units.

*3 Write disabled

NOTE

- When the [Single Bit manipulation to Coil/Discrete Input] check box is selected in the [Individual Device Settings] dialog box, GP-Pro EX simulation does not synchronize the coil bit address and word address values.

6.3 Supported Function Code

Below is the list of Supported Function Code.

Function Code (Hex)	Description
FC01 (0x01)	Reads the ON/OFF status of coils (0X references) in the slave.
FC02 (0x02)	Reads the ON/OFF status of discrete inputs (1X references) in the slave.
FC03 (0x03)	Reads the binary content of holding registers (4X references) in the slave.
FC04 (0x04)	Reads the binary content of input registers (3X references) in the slave.
FC05 (0x05)	Forces a single coil (0X references) to either ON or OFF
FC06 (0x06)	Presets a value into a single holding register (4X references).
FC15 (0x0F)	Forces each coil (0X references) in a sequence of coils to either ON or OFF.
FC16 (0x10)	Presets values into a sequence of holding registers (4X references).
FC90(0x5A)	Used when SoMachine Basic syntax is selected.

NOTE

- FC15 / FC16 will be used for writing. In case if the connected controller do not support these function codes, then FC05 / FC06 will be used.

6.4 IEC61131 address syntax

The following table gives the equivalences between the Modbus syntax and the IEC61131 syntax.

Device	Modbus address syntax			IEC61131syntax				
				Format	0-based		1-based	
	Format	Range	First element		Range	First element	Range	First element
Coil	000001+i	i=0 to 65535	000001	%Mi	i=0 to 65535	%M00000	i=1 to 65536	%M00001
Discrete Input	100001+i	i=0 to 65535	100001	-	-	-	-	-
Input register (word)	300001+i	i=0 to 65535	300001	-	-	-	-	-
Input register (word bit)	300001+i,j	i=0 to 65535 j=0 to15	300001,00	-	-	-	-	-
Holding register (word)	400001+i	i=0 to 65535	400001	%MWi	i=0 to 65535	%MW00000	i=1 to 65536	%MW00001
Holding register (word bit)	400001+i,j	i=0 to 65535 j=0 to15	400001,00	%MWi: Xj	i=0 to 65535 j=0 to 15	%MW00000: X00	i=1 to 65535 j=0 to15	%MW00001 :X00

NOTE

- The two areas 100000 and 300000 are not accessible with the IEC syntax.
- Once you change the project which you have setup Discrete Input Register to IEC 61131 Syntax, the address will be undefined.

6.5 SoMachine Basic syntax

SoMachine Basic syntax is available for M221 series only.

- TM221M16R•/TM221ME16R•/TM221M16T•/TM221ME16T•

Device	Bit Address	Word Address	32 bits	Notes
Memory bits	%M00000 - %M01023	-----		
Memory words	%MW00000.00 - %MW07999.15	%MW00000 - %MW07999		Bit 15 *2 *3
Constant words	%KW00000 - %KW00511.15	%KW00000 - %KW00511		*4 *5
Digital inputs	%I000.000 - %I000.007	-----		*5 *6
	%I001.000 - %I014.031	-----		*5 *6 *7
Digital outputs	%Q000.000 - %Q000.007	-----		*6
	%Q001.000 - %Q014.031	-----		*6 *7
Analog inputs	%IW000.000.00 - %IW000.001.15	%IW000.000 - %IW000.001	L / H or H / L *1	*5 *6
	%IW001.000.00 - %IW014.007.15	%IW001.000 - %IW014.007		*5 *6 *7
Analog outputs	%QW001.000.00 - %QW014.003.15	%QW001.000 - %QW014.003		*6 *7
System bits	%S00000 - %S00159	-----		
System words	%SW00000.00 - %SW00233.15	%SW00000 - %SW00233		Bit 15 *3
Input channel status	%IWS000.000.00 - %IWS000.001.15	%IWS000.000 - %IWS000.001		*5 *6
	%IWS001.000.00 - %IWS014.007.15	%IWS001.000 - %IWS014.007		*5 *6 *7
Output channel status	%QWS001.000.00 - %QWS014.003.15	%QWS001.000 - %QWS014.003		*5 *6 *7

*1 High and low relationship of the stored data is specified by the [Double Word word order] setting of [Device Setting].

☞"4.1 Setup Items in GP-Pro EX" (page 60)

*2 To use addresses %MD00000 - %MD07998 and %MF00000 - %MF07998 on the External Device, select addresses %MW00000 - %MW07998. Then, set the [Data type] to either [32bit Dec]/[32bit Hex](%MD) or [32bit Float](%MF).

*3 The access method for Bit Set varies depending on the [Rest of the bits in this word] setting in the [Individual Device Setting] dialog box.

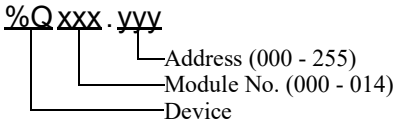
- Clear..... Bit 15
- Do not clear..... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address ON, and then returns the resulting word address to the External Device. Note that the resulting data may not be correct if you write to the word address from the External Device while the Display is reading from and writing to the External Device.

*4 To use addresses %KD00000 - %KD00510 and %KF00000 - %KF00510 on the External Device, select addresses %KW00000 - %KW00510. Then, set the [Data type] to either [32bit Dec]/[32bit Hex](%MD) or [32bit Float](%MF).

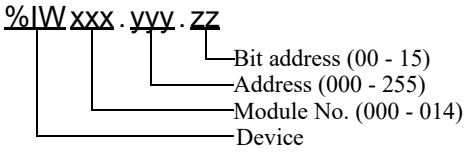
*5 Write disabled

*6 The device address structure is as follows.
The module number is mapped to the attached unit.

Bit device



Word device



*7 Available for use only when an I/O module is connected.

- TM221M32TK/TM221ME32TK

Device	Bit Address	Word Address	32 bits	Notes
Memory bits	%M00000 - %M01023	-----		
Memory words	%MW00000.00 - %MW07999.15	%MW00000 - %MW07999		Bit 15 *2 *3
Constant words	%KW00000 - %KW00511.15	%KW00000 - %KW00511		*4 *5
Digital inputs	%I000.000 - %I000.015	-----		*5 *6
	%I001.000 - %I014.031	-----		*5 *6 *7
Digital outputs	%Q000.000 - %Q000.015	-----		*6
	%Q001.000 - %Q014.031	-----		*6 *7
Analog inputs	%IW000.000.00 - %IW000.001.15	%IW000.000 - %IW000.001	L/H or H/L *1	*5 *6
	%IW001.000.00 - %IW014.007.15	%IW001.000 - %IW014.007		*5 *6 *7
Analog outputs	%QW001.000.00 - %QW014.003.15	%QW001.000 - %QW014.003		*6 *7
System bits	%S00000 - %S00159	-----		
System words	%SW00000.00 - %SW00233.15	%SW00000 - %SW00233		Bit 15 *3
Input channel status	%IWS000.000.00 - %IWS000.001.15	%IWS000.000 - %IWS000.001		*5 *6
	%IWS001.000.00 - %IWS014.007.15	%IWS001.000 - %IWS014.007		*5 *6 *7
Output channel status	%QWS001.000.00 - %QWS014.003.15	%QWS001.000 - %QWS014.003		*5 *6 *7

*1 High and low relationship of the stored data is specified by the [Double Word word order] setting of [Device Setting].

☞"4.1 Setup Items in GP-Pro EX" (page 60)

*2 To use addresses %MD00000 - %MD07998 and %MF00000 - %MF07998 on the External Device, select addresses %MW00000 - %MW07998. Then, set the [Data type] to either [32bit Dec]/[32bit Hex](%MD) or [32bit Float](%MF).

*3 The access method for Bit Set varies depending on the [Rest of the bits in this word] setting in the [Individual Device Setting] dialog box.

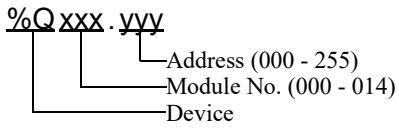
- Clear..... Bit 15
- Do not clear..... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address ON, and then returns the resulting word address to the External Device. Note that the resulting data may not be correct if you write to the word address from the External Device while the Display is reading from and writing to the External Device.

*4 To use addresses %KD00000 - %KD00510 and %KF00000 - %KF00510 on the External Device, select addresses %KW00000 - %KW00510. Then, set the [Data type] to either [32bit Dec]/[32bit Hex](%MD) or [32bit Float](%MF).

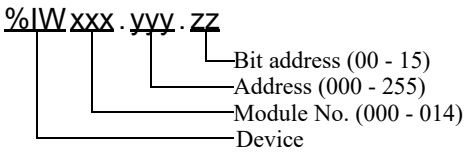
*5 Write disabled

*6 The device address structure is as follows.
The module number is mapped to the attached unit.

Bit device



Word device



*7 Available for use only when an I/O module is connected.

- TM221C16•/TM221CE16•

Device	Bit Address	Word Address	32 bits	Notes
Memory bits	%M00000 - %M01023	-----		
Memory words	%MW00000.00 - %MW07999.15	%MW00000 - %MW07999		Bit 15 *2 *3
Constant words	%KW00000 - %KW00511.15	%KW00000 - %KW00511		*4 *5
Digital inputs	%I000.000 - %I000.008	-----		*5 *6
	%I001.000 - %I014.031	-----		*5 *6 *7
Digital outputs	%Q000.000 - %Q000.006	-----		*6
	%Q001.000 - %Q014.031	-----		*6 *7
Analog inputs	%IW000.000.00 - %IW000.001.15	%IW000.000 - %IW000.001		*5 *6
	%IW001.000.00 - %IW014.007.15	%IW001.000 - %IW014.007		*5 *6 *7
	%IW000.100.00 - %IW000.101.15	%IW000.100 - %IW000.101	L / H or H / L *1	*5 *6 *8
Analog outputs	%QW001.000.00 - %QW014.003.15	%QW001.000 - %QW014.003		Bit 15 *3 *6 *7
	%QW000.100.00 - %QW000.101.15	%QW000.100 - %QW000.101		Bit 15 *3 *6 *9
System bits	%S00000 - %S00159	-----		
System words	%SW00000.00 - %SW00233.15	%SW00000 - %SW00233		Bit 15 *3
Input channel status	%IWS000.000.00 - %IWS000.001.15	%IWS000.000 - %IWS000.001		*5 *6
	%IWS001.000.00 - %IWS014.007.15	%IWS001.000 - %IWS014.007		*5 *6 *7
	%IWS000.100.00 - %IWS000.101.15	%IWS000.100 - %IWS000.101		*5 *6 *8
Output channel status	%QWS001.000.00 - %QWS014.003.15	%QWS001.000 - %QWS014.003		*5 *6 *7
	%QWS000.100.00 - %QWS000.101.15	%QWS000.100 - %QWS000.101		*5 *6 *9

*1 High and low relationship of the stored data is specified by the [Double Word word order] setting of [Device Setting].
☞"4.1 Setup Items in GP-Pro EX" (page 60)

*2 To use addresses %MD00000 - %MD07998 and %MF00000 - %MF07998 on the External Device, select addresses %MW00000 - %MW07998. Then, set the [Data type] to either [32bit Dec]/[32bit Hex](%MD) or [32bit Float](%MF).

*3 The access method for Bit Set varies depending on the [Rest of the bits in this word] setting in the [Individual Device Setting] dialog box.

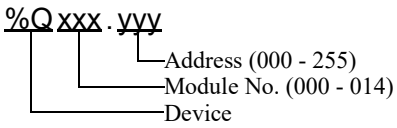
- Clear..... Bit 15
- Do not clear..... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address ON, and then returns the resulting word address to the External Device. Note that the resulting data may not be correct if you write to the word address from the External Device while the Display is reading from and writing to the External Device.

*4 To use addresses %KD00000 - %KD00510 and %KF00000 - %KF00510 on the External Device, select addresses %KW00000 - %KW00510. Then, set the [Data type] to either [32bit Dec]/[32bit Hex](%MD) or [32bit Float](%MF).

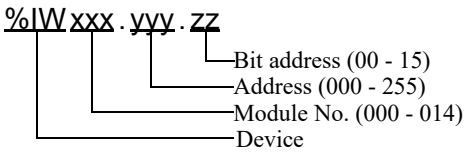
*5 Write disabled

*6 The device address structure is as follows.
The module number is mapped to the attached unit.

Bit device



Word device



*7 Available for use only when an I/O module is connected.

*8 Available for use only when TMC2AI2, TMC2HOIS01, TMC2PACK01 or TMC2TI2 is connected.

*9 Available for use only when TMC2AQ2V or TMC2AQ2C is connected.

- TM221C24•/TM221CE24•

Device	Bit Address	Word Address	32 bits	Notes
Memory bits	%M00000 - %M01023	-----		
Memory words	%MW00000.00 - %MW07999.15	%MW00000 - %MW07999		Bit 15 *2 *3
Constant words	%KW00000 - %KW00511.15	%KW00000 - %KW00511		*4 *5
Digital inputs	%I000.000 - %I000.013	-----		*5 *6
	%I001.000 - %I014.031	-----		*5 *6 *7
Digital outputs	%Q000.000 - %Q000.009	-----		*6
	%Q001.000 - %Q014.031	-----		*6 *7
Analog inputs	%IW000.000.00 - %IW000.001.15	%IW000.000 - %IW000.001		*5 *6
	%IW001.000.00 - %IW014.007.15	%IW001.000 - %IW014.007		*5 *6 *7
	%IW000.100.00 - %IW000.101.15	%IW000.100 - %IW000.101	L / H or H / L *1	*5 *6 *8
Analog outputs	%QW001.000.00 - %QW014.003.15	%QW001.000 - %QW014.003		Bit 15 *3 *6 *7
	%QW000.100.00 - %QW000.101.15	%QW000.100 - %QW000.101		Bit 15 *3 *6 *9
System bits	%S00000 - %S00159	-----		
System words	%SW00000.00 - %SW00233.15	%SW00000 - %SW00233		Bit 15 *3
Input channel status	%IWS000.000.00 - %IWS000.001.15	%IWS000.000 - %IWS000.001		*5*6
	%IWS001.000.00 - %IWS014.007.15	%IWS001.000 - %IWS014.007		*5 *6 *7
	%IWS000.100.00 - %IWS000.101.15	%IWS000.100 - %IWS000.101		*5 *6 *8
Output channel status	%QWS001.000.00 - %QWS014.003.15	%QWS001.000 - %QWS014.003		*5 *6 *7
	%QWS000.100.00 - %QWS000.101.15	%QWS000.100 - %QWS000.101		*5 *6 *9

*1 High and low relationship of the stored data is specified by the [Double Word word order] setting of [Device Setting].
☞"4.1 Setup Items in GP-Pro EX" (page 60)

*2 To use addresses %MD00000 - %MD07998 and %MF00000 - %MF07998 on the External Device, select addresses %MW00000 - %MW07998. Then, set the [Data type] to either [32bit Dec]/[32bit Hex](%MD) or [32bit Float](%MF).

*3 The access method for Bit Set varies depending on the [Rest of the bits in this word] setting in the [Individual Device Setting] dialog box.

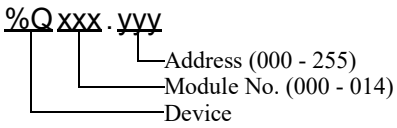
- Clear..... Bit 15
- Do not clear..... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address ON, and then returns the resulting word address to the External Device. Note that the resulting data may not be correct if you write to the word address from the External Device while the Display is reading from and writing to the External Device.

*4 To use addresses %KD00000 - %KD00510 and %KF00000 - %KF00510 on the External Device, select addresses %KW00000 - %KW00510. Then, set the [Data type] to either [32bit Dec]/[32bit Hex](%MD) or [32bit Float](%MF).

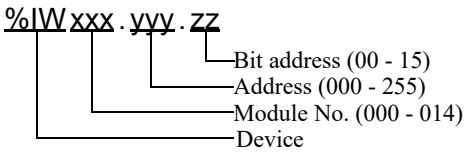
*5 Write disabled

*6 The device address structure is as follows.
The module number is mapped to the attached unit.

Bit device



Word device



*7 Available for use only when an I/O module is connected.

*8 Available for use only when TMC2AI2, TMC2HOIS01, TMC2PACK01 or TMC2TI2 is connected.

*9 Available for use only when TMC2AQ2V or TMC2AQ2C is connected.

- TM221C40•/TM221CE40•

Device	Bit Address	Word Address	32 bits	Notes
Memory bits	%M00000 - %M01023	-----		
Memory words	%MW00000.00 - %MW07999.15	%MW00000 - %MW07999		Bit 15 *2 *3
Constant words	%KW00000 - %KW00511.15	%KW00000 - %KW00511		*4 *5
Digital inputs	%I000.000 - %I000.023	-----		*5 *6
	%I001.000 - %I014.031	-----		*5 *6 *7
Digital outputs	%Q000.000 - %Q000.015	-----		*6
	%Q001.000 - %Q014.031	-----		*6 *7
Analog inputs	%IW000.000.00 - %IW000.001.15	%IW000.000 - %IW000.001		*5 *6
	%IW001.000.00 - %IW014.007.15	%IW001.000 - %IW014.007		*5 *6 *7
	%IW000.100.00 - %IW000.101.15 %IW000.200.00 - %IW000.201.15	%IW000.100 - %IW000.101 %IW000.200 - %IW000.201		*5 *6 *8
Analog outputs	%QW001.000.00 - %QW014.003.15	%QW001.000 - %QW014.003	L / H or H / L *1	Bit 15 *3 *6 *7
	%QW000.100.00 - %QW000.101.15 %QW000.200.00 - %QW000.201.15	%QW000.100 - %QW000.101 %QW000.200 - %QW000.201		Bit 15 *3 *6 *9
System bits	%S00000 - %S00159	-----		
System words	%SW00000.00 - %SW00233.15	%SW00000 - %SW00233		Bit 15 *3
Input channel status	%IWS000.000.00 - %IWS000.001.15	%IWS000.000 - %IWS000.001		*5 *6
	%IWS001.000.00 - %IWS014.007.15	%IWS001.000 - %IWS014.007		*5 *6 *7
	%IWS000.100.00 - %IWS000.101.15 %IWS000.200.00 - %IWS000.201.15	%IWS000.100 - %IWS000.101 %IWS000.200 - %IWS000.201		*5 *6 *8
Output channel status	%QWS001.000.00 - %QWS014.003.15	%QWS001.000 - %QWS014.003		*5 *6 *7
	%QWS000.100.00 - %QWS000.101.15 %QWS000.200.00 - %QWS000.201.15	%QWS000.100 - %QWS000.101 %QWS000.200 - %QWS000.201		*5 *6 *9

*1 High and low relationship of the stored data is specified by the [Double Word word order] setting of [Device Setting].
☞"4.1 Setup Items in GP-Pro EX" (page 60)

*2 To use addresses %MD00000 - %MD07998 and %MF00000 - %MF07998 on the External Device, select addresses %MW00000 - %MW07998. Then, set the [Data type] to either [32bit Dec]/[32bit Hex](%MD) or [32bit Float](%MF).

*3 The access method for Bit Set varies depending on the [Rest of the bits in this word] setting in the [Individual Device Setting] dialog box.

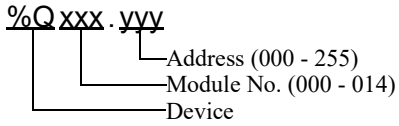
- Clear..... Bit 15
- Do not clear..... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address ON, and then returns the resulting word address to the External Device. Note that the resulting data may not be correct if you write to the word address from the External Device while the Display is reading from and writing to the External Device.

*4 To use addresses %KD00000 - %KD00510 and %KF00000 - %KF00510 on the External Device, select addresses %KW00000 - %KW00510. Then, set the [Data type] to either [32bit Dec]/[32bit Hex](%MD) or [32bit Float](%MF).

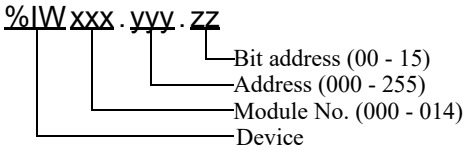
*5 Write disabled

*6 The device address structure is as follows.
The module number is mapped to the attached unit.

Bit device



Word device



*7 Available for use only when an I/O module is connected.

*8 Available for use only when TMC2AI2, TMC2HOIS01, TMC2PACK01 or TMC2TI2 is connected.

*9 Available for use only when TMC2AQ2V or TMC2AQ2C is connected.

NOTE

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

7 Device Code and Address Code

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

7.1 Micro/Premium/Twido/Quantum/Momentum/M221 Series

Device	Device Name	Device Code (HEX)	Address Code
Coil	0	0080	Value of (word address - 1) divided by 16
Discrete Input	1	0081	Value of (word address - 1) divided by 16
Input Register	3	0001	Value of word address from which 1 is deducted
Holding Register	4	0000	Value of word address from which 1 is deducted

7.2 FCN/FCJ Series

Device	Device Name	Device Code (HEX)	Address Code
Coil	0	0080	Value of (word address - 1) divided by 16
Discrete Input	1	0081	Value of (word address - 1) divided by 16
Input Register	3	0001	Value of word address from which 1 is deducted
Holding Register	4	0000	Value of word address from which 1 is deducted

7.3 SoMachine Basic Syntax

Device	Device Name	Device Code (HEX)	Address Code
Memory words	%MW	0000	Value of word address
Constant words	%KW	0002	Value of word address
Analog inputs	%IW	0008	Value of word address
Analog outputs	%QW	0009	Value of word address
System words	%SW	0004	Value of word address
Input channel status	%IWS	000A	Value of word address
Output channel status	%QWS	000B	Value of 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. Device name is a title of External Device set with GP-Pro EX. (Initial value [PLC1])
Error Message	Displays messages related to the error which occurs.
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 displayed such as "Address: Device address". • Received error codes are displayed such as "Decimal[Hex]".

Display Examples of Error Messages

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

NOTE

- Refer to your External Device manual for details on received error codes.
- Refer to "Display-related errors" in "Maintenance/Troubleshooting Guide" for details on the error messages common to the driver.