



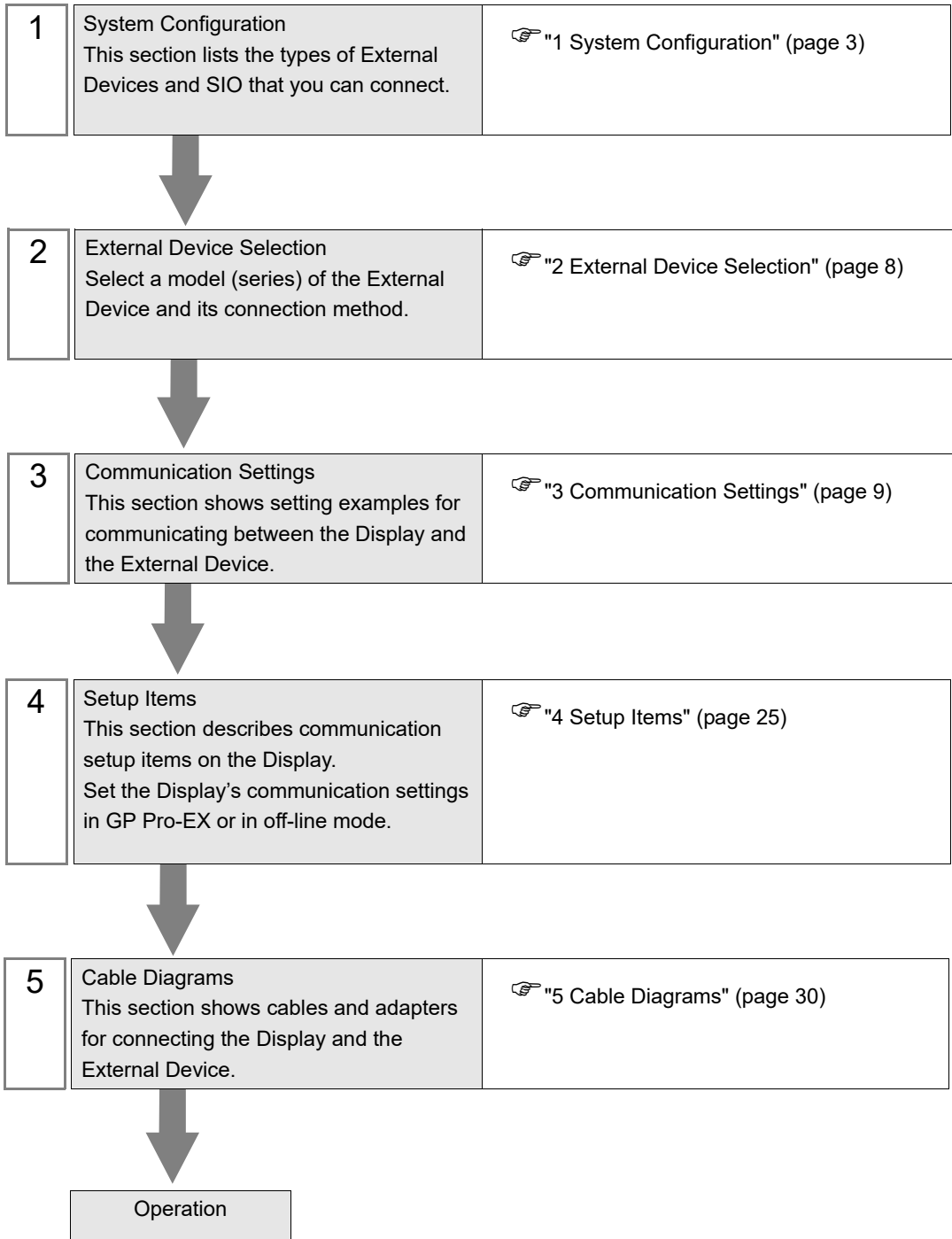
Temperature Controller MODBUS SIO Driver

| | | |
|---|-----------------------------------|----|
| 1 | System Configuration..... | 3 |
| 2 | External Device Selection | 8 |
| 3 | Communication Settings | 9 |
| 4 | Setup Items | 25 |
| 5 | Cable Diagrams | 30 |
| 6 | Supported Devices..... | 71 |
| 7 | Device Code and Address Code..... | 76 |
| 8 | Error Messages..... | 77 |

Introduction

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

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



1 System Configuration

The following table lists system configurations for connecting Fuji Electric Co.,Ltd. External Devices and the Display.

| Series | CPU | Link I/F | SIO Type | Setting Example | Cable Diagram |
|---------------------|---|----------------------------|------------------------|----------------------------------|---------------------------------|
| PXH | PXH□□□□□□-□□■□□□*1 | PC Loader Port on CPU Unit | RS-232C | "Setting Example 1" (page 9) | " Cable Diagram 1" (page 30) |
| | | Port on CPU Unit | RS-422/485 (2 wire) | "Setting Example 2" (page 11) | " Cable Diagram 2" (page 32) |
| PXG | PXG4□□□■□-□□□□□□-□*2 PXG5□□□■□-□□□□□□-□*2 PXG9□□□■□-□□□□□□-□*2 | PC Loader Port on CPU Unit | RS-232C | "Setting Example 3" (page 13) | " Cable Diagram 1" (page 30) |
| | | Port on CPU Unit | RS-422/485 (2 wire) | "Setting Example 4" (page 15) | " Cable Diagram 3" (page 45) |
| PXR (AutoFIX) | PXR3□□□□-□□■□□□-□*3 PXR4□□□□-□□■□□□*3*4*5 PXR5□□□□-□□■□□□*3 PXR7□□□□-□□■□□□*3 PXR9□□□□-□□■□□□*3 | Port on CPU Unit | RS-422/485 (2 wire) | "Setting Example 5" (page 17) | " Cable Diagram 3" (page 45) |
| PXR (NoAuto-FIX) | PXR4□□□□-□□■□□□*3*4*6 | Port on CPU Unit | RS-422/485 (2 wire) | "Setting Example 6" (page 19) | " Cable Diagram 3" (page 45) |
| PUM | PUMA□□□□-□□□□□□ PUMB□□□□-□□□□□□ PUME□□□□-□□ PUMV□□□□-□□□□□□ PUMN□□□□-□□□□□□ PUMT□□□□-□□□□□□ | PC Loader Port on CPU Unit | RS-232C | "Setting Example 7" (page 21) | " Cable Diagram 1" (page 30) |
| | | Port on CPU Unit | RS-422/485 (2 wire) | "Setting Example 8" (page 23) | " Cable Diagram 4" (page 58) |

*1 The CPU type can be connected with RS-422/485 (2 wire) when the ■ section includes the following code:
R (RS-485)

*2 The CPU type can be connected with RS-422/485 (2 wire) when the ■ section includes the following codes:
M (RS-485)
V (RS-485 + Digital input (No.1))
K (RS-485 + RSV1)
J (RS-485 + CT1)
F (RS-485 + Digital input (No.1) + RSV1)
U (RS-485 + Digital input (No.1, 2, 3))

*3 The CPU type can be connected with RS-422/485 (2 wire) when the ■ section includes the following codes:
M (RS-485 Modbus interface)
V (RS-485 Modbus interface + Digital input 1 point)

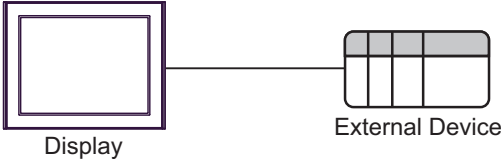
*4 PXR4 Socket type cannot be connected because it lacks a serial port option.

*5 CPU Unit released in July 2001 or later

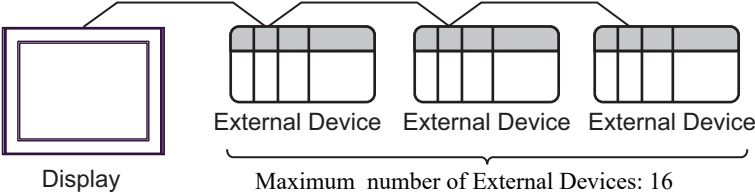
*6 CPU Unit released in June 2001 or earlier

■ Connection Configuration

- 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)

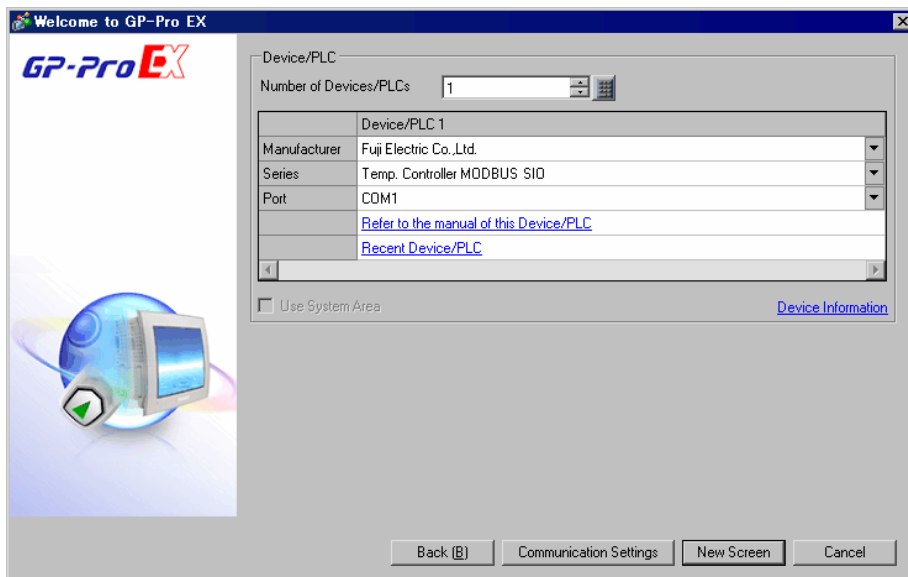
| DIP Switch | Setting | Description |
|------------|---------|---|
| 1 | OFF | Reserved (always OFF) |
| 2 | ON | SIO type: RS-422/485 |
| 3 | ON | |
| 4 | OFF | Output mode of SD (TXD) data: Always output |
| 5 | OFF | Terminal resistance (220Ω) insertion to SD (TXD): None |
| 6 | OFF | Terminal resistance (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 External Device Selection

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 "Fuji Electric Co.,Ltd.". |
| Series | Select the External Device model (series) and the connection method. Select "Temp. Controller MODBUS SIO". In System configuration, make sure the External Device you are connecting is supported by "Temp. Controller MODBUS SIO". ☞ "1 System Configuration" (page 3) |
| Port | Select the Display port to be connected to the External Device. |
| Use System Area | Not available for this driver. |

3 Communication Settings

This section provides examples of communication settings recommended by Pro-face for the Display and the External Device.

3.1 Setting Example 1

■ GP-Pro EX Settings

◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

SIO Type RS232C RS422/485(2wire) RS422/485(4wire)

Speed

Data Length 7 8

Parity NONE EVEN ODD

Stop Bit 1 2

Flow Control NONE ER(DTR/CTS) XON/XOFF

Timeout (sec)

Retry

Wait To Send (ms)

RI / VCC RI VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

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

| No. | Device Name | Settings |
|----------------------------------|-----------------------------------|--|
| <input type="button" value="1"/> | <input type="text" value="PLC1"/> | <input type="text" value="Series=PXH Series,Station No.=1"/> |

◆ 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.

Individual Device Settings

PLC1

Series

If you change the series, please reconfirm all address settings.

Station No.

■ External Device Settings

For External Device communication settings, use the SEL key, UP key, DOWN key, Digit selection key, or DISP key located in the operation area on the front of the controller.

Refer to your External Device manual for details.

- 1 Press SEL key.
- 2 Press UP key or DOWN key to display [COM].
- 3 Press SEL key.
- 4 Press UP key or DOWN key to display the setting parameter.
- 5 Press SEL key to switch to setting mode.
- 6 Press UP key, DOWN key or Digit selection key to display the setting value.
- 7 Press SEL key.
- 8 Press DISP key twice.
- 9 Reboot the External Device.

◆ Setting Value

| Setting Parameter | Setting Value | Setup Description |
|-------------------|---------------|-----------------------------|
| SPD2 | 384 | RS-232C communication speed |
| BIT2 | 8o | RS-232C bit format |


3.2 Setting Example 2

■ GP-Pro EX Settings

◆ Communication Settings

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

◆ Device 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.

■ External Device Settings

For External Device communication settings, use the SEL key, UP key, DOWN key, Digit selection key, or DISP key located in the operation area on the front of the controller.

Refer to your External Device manual for details.

- 1 Press SEL key.
- 2 Press UP key or DOWN key to display [COM].
- 3 Press SEL key.
- 4 Press UP key or DOWN key to display the setting parameter.
- 5 Press SEL key to switch to setting mode.
- 6 Press UP key, DOWN key or Digit selection key to display the setting value.
- 7 Press SEL key.
- 8 Press DISP key twice.
- 9 Reboot the External Device.

◆ Setting Value

| Setting Parameter | Setting Value | Setup Description |
|-------------------|---------------|----------------------------|
| STN4 | 1 | RS-485 station No. |
| SPD4 | 384 | RS-485 communication speed |
| BIT4 | 8o | RS-485 bit format |


3.3 Setting Example 3

■ GP-Pro EX Settings

◆ 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.

■ External Device Settings

External Device communication settings are fixed as indicated below.

| Setting Items | Setting Value |
|---------------------|---------------|
| Communication speed | 9600 |
| Data length | 8 |
| Stop bit | 1 |
| Parity | None |


3.4 Setting Example 4

■ GP-Pro EX Settings

◆ 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.

■ External Device Settings

For External Device communication settings, use the SEL key, UP key, DOWN key, or USER key, located in the operation area on the front of the controller.

Refer to your External Device manual for details.

- 1 Press and hold SEL key to switch to Monitor Mode.
- 2 Press and hold SEL key to switch to Setup Mode.
- 3 Press UP key or DOWN key to display [CoM Ch 9].
- 4 Press and hold SEL key.
- 5 Press UP key or DOWN key to display setting parameter.
- 6 Press SEL key.
- 7 Press UP key or DOWN key to display setting value.
- 8 Press SEL key.
- 9 Press USER key.
- 10 Reboot the External Device.

◆ Setting Value

| Setting Parameter | Setting Value | Setup Description |
|-------------------|---------------|----------------------------------|
| STno | 1 | ST No. setting |
| CoM | 960d | RS-485 Baud rate/Parity settings |
| SCC | rW | RS-485 Communication permissions |

3.5 Setting Example 5

■ GP-Pro EX Settings

◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer: Series: Port:

Text Data Mode: [Change](#)

Communication Settings

SI0 Type: RS232C RS422/485(2wire) RS422/485(4wire)

Speed:

Data Length: 7 8

Parity: NONE EVEN ODD

Stop Bit: 1 2

Flow Control: NONE ER(DTR/CTS) XON/XOFF

Timeout: (sec)

Retry:

Wait To Send: (ms)

RI / VCC: RI VCC


In the case of RS232C, you can select the 9th pin to RI (Input or VCC (5V Power Supply)). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

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

| No. | Device Name | Settings |
|----------------------------------|-----------------------------------|--|
| <input type="button" value="1"/> | <input type="text" value="PLC1"/> | <input type="text" value="[Series=PXR Series(AutoFix), Station No.=1]"/> |

◆ 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.

Individual Device Settings

PLC1

Series:

If you change the series, please reconfirm all address settings.

Station No.:

■ External Device Settings

For External Device communication settings, use the SEL key, UP key, or DOWN key located in the operation area on the front of the controller.

Refer to your External Device manual for details.

- 1 Press and hold SEL key to display the 3rd block parameter.
- 2 Press UP key or DOWN key to display setting parameter.
- 3 Press SEL key.
- 4 Press UP key or DOWN key to display setting value.
- 5 Press SEL key.
- 6 Press and hold SEL key.

◆ Setting Value

| Setting Parameter | Setting Value | Setup Description |
|-------------------|---------------|------------------------|
| STno | 1 | Station No. |
| CoM | 0 | Parity setting |
| PCoL | 1 | Communication protocol |


3.6 Setting Example 6

■ GP-Pro EX Settings

◆ 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.

■ External Device Settings

For External Device communication settings, use the SEL key, UP key, or DOWN key located in the operation area on the front of the controller.

Refer to your External Device manual for details.

- 1 Press and hold SEL key to display the 3rd block parameter.
- 2 Press UP key or DOWN key to display setting parameter.
- 3 Press SEL key.
- 4 Press UP key or DOWN key to display setting value.
- 5 Press SEL key.
- 6 Press and hold SEL key.

◆ Setting Value

| Setting Parameter | Setting Value | Setup Description |
|-------------------|---------------|------------------------|
| STno | 1 | Station No. |
| CoM | 0 | Parity setting |
| PCoL | 1 | Communication protocol |


3.7 Setting Example 7

■ GP-Pro EX Settings

◆ 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.

■ External Device Settings

For External Device communication settings, use the Station No. Configuration switch on the front of the controller.

Refer to your External Device manual for details.

- 1 Set "0" to Station No. Configuration switch.

NOTE

- The Station Number is generated by adding 1 (one) to the value set by the Station No. Configuration switch.

Other communication settings are fixed as below.

| Setting Items | Setting Value |
|---------------------|---------------|
| Communication speed | 19200 |
| Data length | 8 |
| Stop bit | 1 |
| Parity | None |

3.8 Setting Example 8

■ GP-Pro EX Settings

◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

SIO Type RS232C RS422/485(2wire) RS422/485(4wire)

Speed

Data Length 7 8

Parity NONE EVEN ODD

Stop Bit 1 2

Flow Control NONE ER(DTR/CTS) XON/XOFF

Timeout (sec)

Retry

Wait To Send (ms)

RI / VCC RI VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

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

| No. | Device Name | Settings |
|------------------------------------|-----------------------------------|---|
| <input type="button" value="↓"/> 1 | <input type="text" value="PLC1"/> | <input type="text" value="Series=PUM Series, Station No.=1"/> |

◆ 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.

Individual Device Settings

PLC1

Series

If you change the series, please reconfirm all address settings.

Station No.

■ External Device Settings

For External Device communication settings, use the Station No. Configuration switch on the front of the controller and Parameter Loader software (PUM Loader).

Refer to your External Device manual for details.

- 1 Set "0" to Station No. Configuration switch.

NOTE

- The Station Number is generated by adding 1 (one) to the value set by the Station No. Configuration switch.

- 2 Start up the Parameter Loader software.
- 3 Select [Control/Event/Analog Module] in the [Module type selection] dialog box.
- 4 Click [OK].
- 5 Select the any mode in the [Startup mode] dialog box.
- 6 Click [OK].
- 7 Select [Control module]-[Parameter]-[Communication] in the tree view of the main window.
- 8 Click the setting item to display the selection dialog box of the setting value.
- 9 Select the setting value.
- 10 Click [OK].
- 11 Transfer the communication settings to External Device.


◆ Setting Value

| Setting Items | Setting Value |
|---|---------------|
| RS-485 Parity setting | None |
| RS-485 Communication speed | 19.2Kbps |
| RS-485 Communication permission | 1 |
| RS-485 Response interval time | 1 |
| Enhanced comm. module (PUMC) connection | 0 |

4 Setup Items

Set up the Display's communication settings in GP Pro-EX or in the Display's off-line mode.

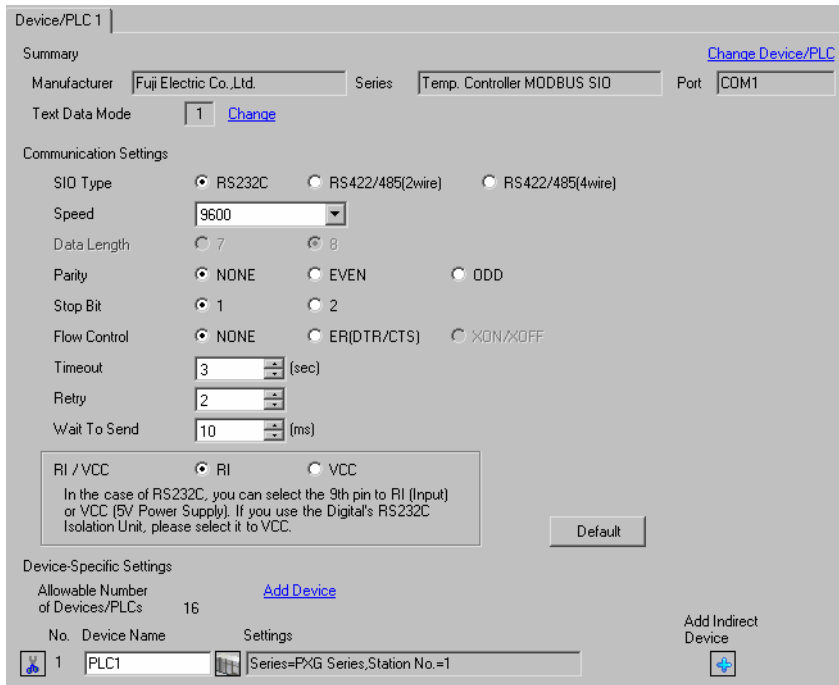
The setting of each parameter must match that of the External Device.

 "3 Communication Settings" (page 9)

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 | <p>Select the SIO type to communicate with the External Device.</p> <p>IMPORTANT</p> <p>In the communication setting, confirm the serial interface specifications of the Display and set [SIO Type] correctly.</p> <p>If you select an SIO type the serial interface does not support, we cannot guarantee the operation.</p> <p>Please refer to the manual of the Display for more detail on the serial interface specifications.</p> |
| Speed | Select communication speed between the External Device and the Display. |
| Data Length | Display data length. |
| Parity | Select how to check parity. |
| Stop Bit | Select stop bit length. |

Continues to the next page.


| Setup Items | Setup Description |
|--------------|---|
| 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. |
| Wait To Send | Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands. |
| RI/VCC | You can switch RI/VCC of the 9th pin when you select RS232C for SIO type. It is necessary to change RI/5V by changeover switch of IPC when connect with IPC. Please refer to the manual of the IPC for more detail. |

NOTE

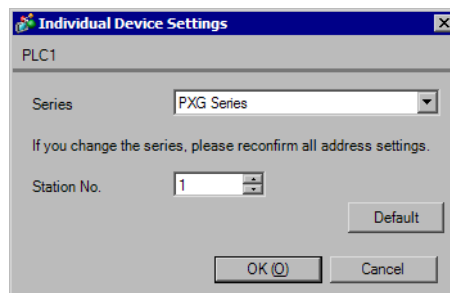
- Refer to the GP-Pro EX Reference Manual for Indirect Device.

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

■ Device Setting

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

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



| Setup Items | Setup Description |
|-------------|--|
| Series | Select the series of the External Device. |
| Station No. | Use an integer from 1 to 255 to enter the Station number of the External Device. |

4.2 Setup Items in Off-line Mode

NOTE

- Refer to the Maintenance/Troubleshooting manual for information on how to enter off-line mode or about the operation.
Cf. Maintenance/Troubleshooting Manual "Off-line Mode"
- The number of the setup items to be displayed for 1 page in the off-line 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 Equipment Settings] in off-line mode. Touch the External Device you want to set from the displayed list.

| Comm. | Device | Option | | |
|-----------------------------|--|--------|----------|------------------------|
| Temp. Controller MODBUS SIO | | [COM1] | Page 1/1 | |
| SIO Type | RS422/485(2wire) ▼ | | | |
| Speed | 9600 ▼ | | | |
| Data Length | 8 | | | |
| Parity | <input type="radio"/> NONE <input type="radio"/> EVEN <input checked="" type="radio"/> ODD | | | |
| Stop Bit | <input checked="" type="radio"/> 1 <input type="radio"/> 2 | | | |
| Flow Control | NONE ▼ | | | |
| Timeout(s) | 3 ▼ ▲ | | | |
| Retry | 2 ▼ ▲ | | | |
| Wait To Send(ms) | 10 ▼ ▲ | | | |
| Exit | | Back | | 2008/12/22 15:12:18 |

| Setup Items | Setup Description |
|-------------|--|
| SIO Type | Select the SIO type to communicate with the External Device. IMPORTANT In the communication setting, confirm the serial interface specifications of the Display and set [SIO Type] correctly. If you select an SIO type the serial interface does not support, we cannot guarantee the operation. Please refer to the manual of the Display for more detail on the serial interface specifications. |
| Speed | Select the communication speed between the External Device and the Display. |
| Data Length | Display data length. |
| Parity | Select how to check parity. |
| Stop Bit | Select stop bit length. |

Continues to the next page.

| Setup Items | Setup Description |
|--------------|--|
| 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. |
| Wait To Send | Use an integer from "0 to 255" to enter standby time (ms) for the Display from receiving packets to transmitting next commands. |

■ Device Setting

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

| Comm. | Device | Option | | |
|-----------------------------|--------|---------------------|----------|------------------------|
| | | | | |
| Temp. Controller MODBUS SIO | | [COM1] | Page 1/1 | |
| Device/PLC Name | | PLC1 | | |
| Series | | PXR Series(AutoFIX) | | |
| Station No. | | 1 | | |
| Exit | | Back | | 2008/12/22 15:12:22 |

| Setup Items | Setup Description |
|-----------------|---|
| Device/PLC Name | Select the External Device to set. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1]) |
| Series | Display the series of the External Device. |
| Station No. | Use an integer from 1 to 255 to enter the Station number of the External Device. |

■ Option

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

| Comm. | Device | Option | | |
|--|------------|--------|----------|------------------------|
| Temp. Controller | MODBUS SIO | [COM1] | Page 1/1 | |
| RI / VCC <input checked="" type="radio"/> RI <input type="radio"/> VCC In the case of RS232C, you can select the 9th pin to RI(Input) or VCC(5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC. | | | | |
| | Exit | | Back | 2008/12/22 18:12:55 |

| 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 Diagrams

The following cable diagrams may be different from cable diagrams recommended by Fuji Electric Co.,Ltd. Please be assured there is no operational problem in applying the cable diagrams shown in this manual.

- The FG pin of the External Device body must be D-class grounded. Refer to your External Device manual for more details.
- The SG and FG are connected inside the Display. When connecting the External Device to the 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.

Cable Diagram 1

| Display (Connection Port) | Cable | | Notes |
|--|-------|---|-------|
| GP3000 (COM1) GP4000* ¹ (COM1) SP5000* ² (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) LT3000 (COM1) IPC* ³ PC/AT | 1A | Loader connecting cable by Fuji Electric Systems Co., Ltd.* ⁴ | |
| GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1) | 1B | User-created cable + Loader connecting cable by Fuji Electric Systems Co., Ltd.* ⁴ | |

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

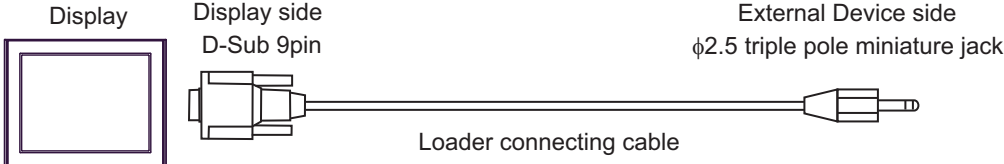
*2 Except SP-5B00

*3 Only the COM port which can communicate by RS-232C can be used.
☞ "■ IPC COM Port" (page 5)

*4 The loader connecting cable differs, depending on the series.

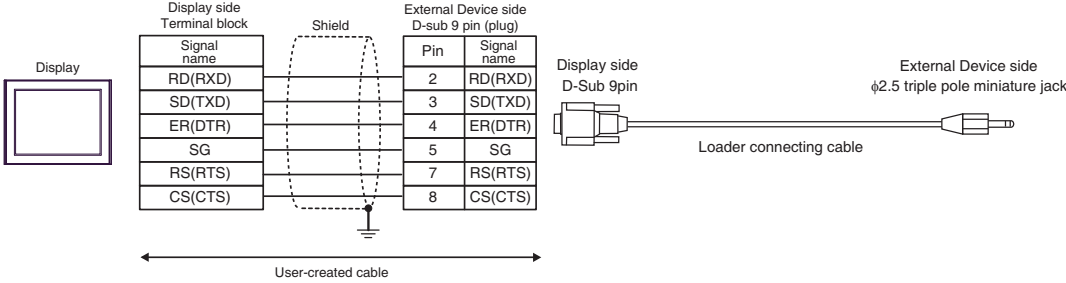
| Series | Loader connecting cable type |
|--------|------------------------------|
| PXH | ZZPPXH1*TK4H4563 |
| PUM | PUMZ*L01 |

1A)



NOTE • Connect the loader connecting cable to the PC loader port of the External Device.

1B)



NOTE • Connect the loader connecting cable to the PC loader port of the External Device.

Cable Diagram 2

| Display (Connection Port) | Cable | | Notes |
|--|-------|--|-------------------------------|
| GP3000* ¹ (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST* ² (COM2) LT3000 (COM1) | 2A | COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | Cable length: 500m or less |
| | 2B | User-created cable | |
| GP3000* ³ (COM2) | 2C | Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | Cable length: 500m or less |
| | 2D | Online adapter by Pro-face CA4-ADPONL-01 + User-created cable | |
| IPC* ⁴ | 2E | COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | Cable length: 500m or less |
| | 2F | User-created cable | |
| GP-4106 (COM1) GP-4116T (COM1) | 2G | User-created cable | Cable length: 500m or less |
| GP-4107 (COM1) GP-4*03T* ⁵ (COM2) GP-4203T (COM1) | 2H | User-created cable | Cable length: 500m or less |
| GP4000* ⁶ (COM2) GP-4201T (COM1) SP5000* ⁷ (COM1/2) SP-5B00 (COM2) ST6000* ⁸ (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) PS6000 (Basic Box) (COM1/2) | 2I | RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1* ⁹ + User-created cable | Cable length: 500m or less |
| | 2B | User-created cable | |
| LT-4*01TM (COM1) LT-Rear Module (COM1) | 2J | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81 | Cable length: 200m or less |

| Display (Connection Port) | Cable | | Notes |
|---|-------|--------------------|-------------------------------|
| PE-4000B ^{*10} PS5000 ^{*10} PS6000 (Optional Interface) ^{*10} | 2K | User-created cable | Cable length: 500m or less |

*1 All GP3000 models except AGP-3302B

*2 All ST models 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 5)

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

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

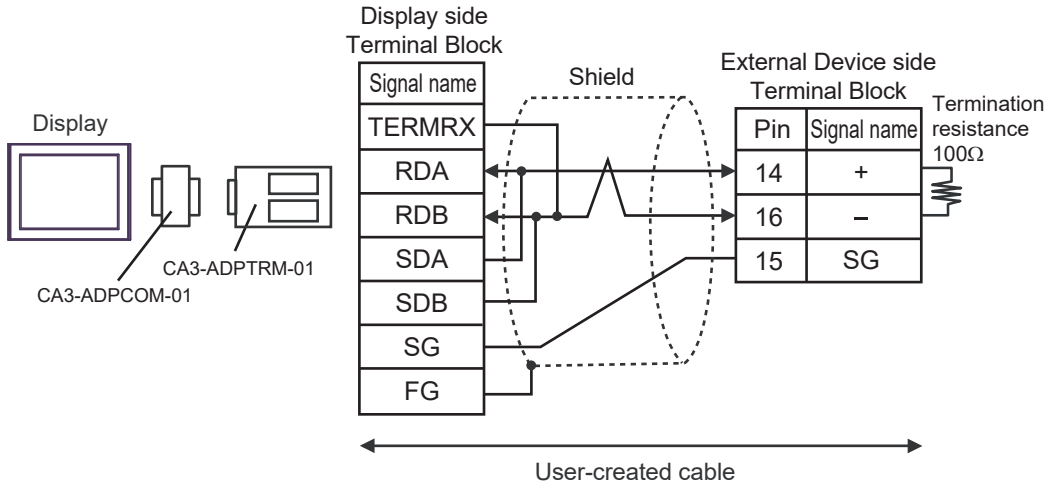
 "■ IPC COM Port" (page 5)

IMPORTANT

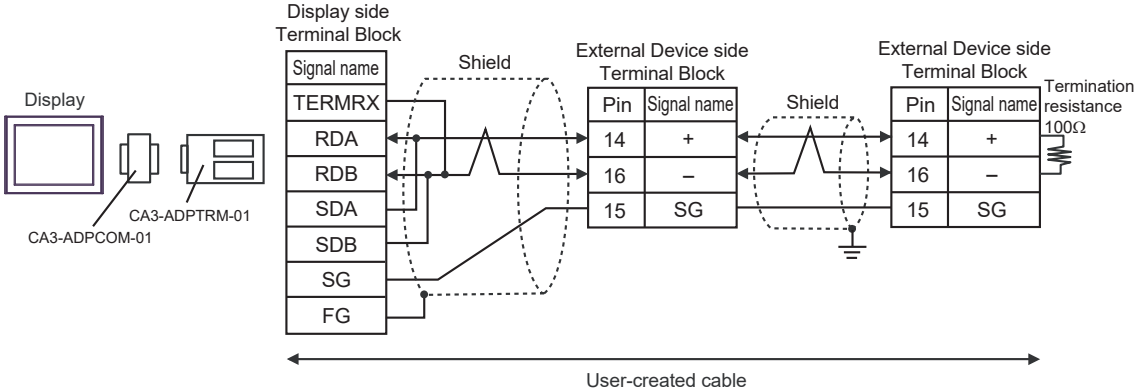
- Implement Type D installment to the shield connected to the FG.
-

2A)

- 1:1 Connection

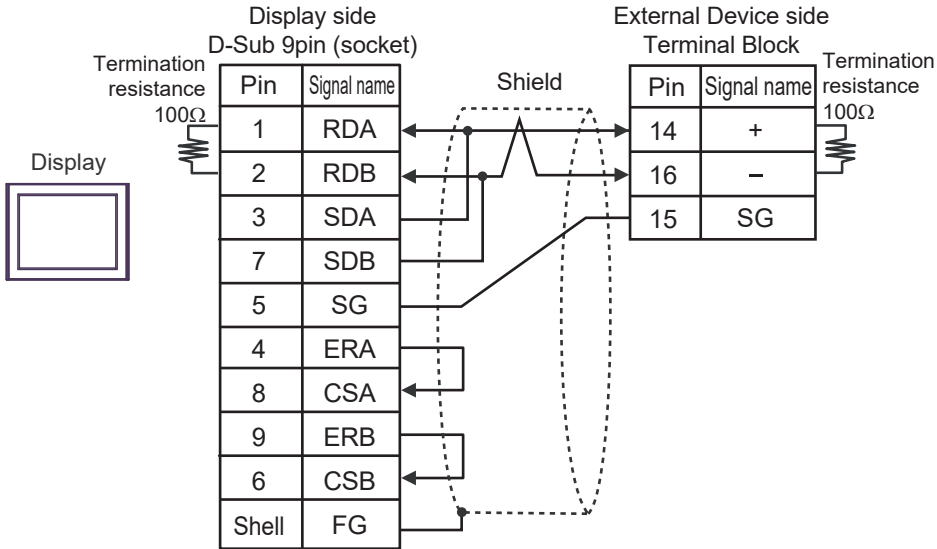


- 1:n Connection

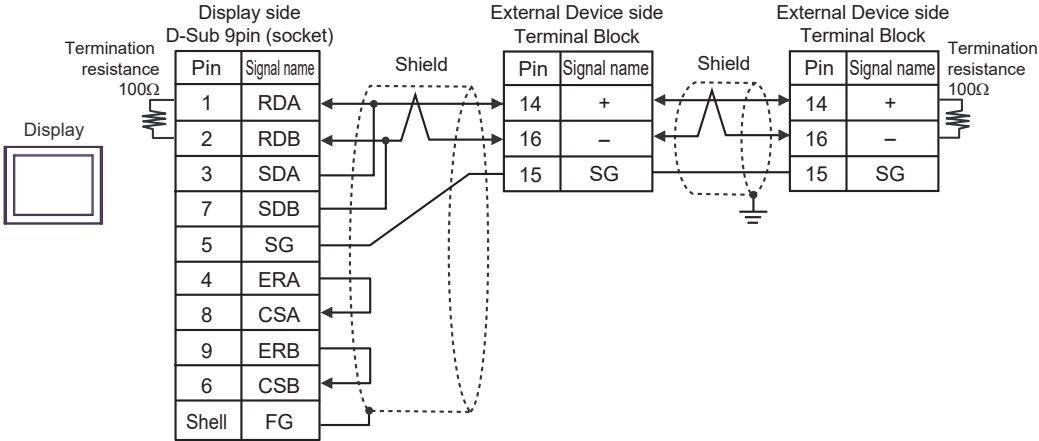


2B)

- 1:1 Connection

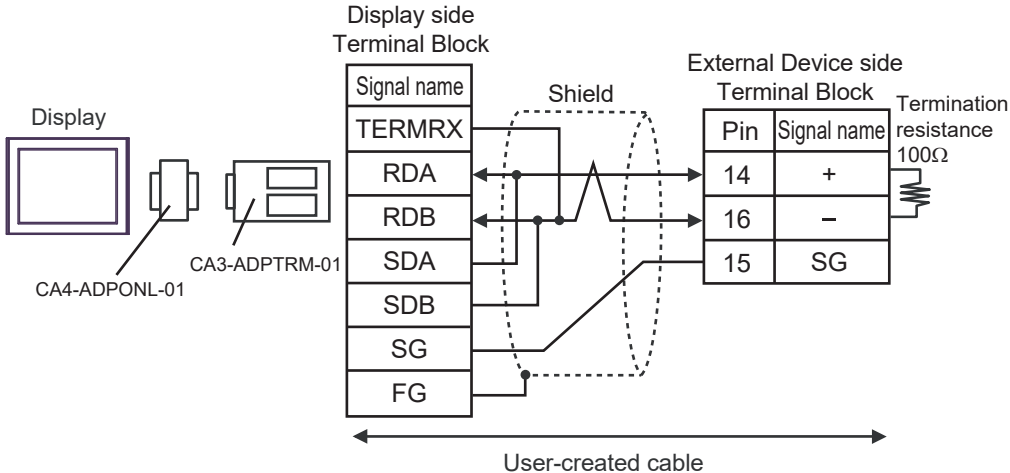


- 1:n Connection

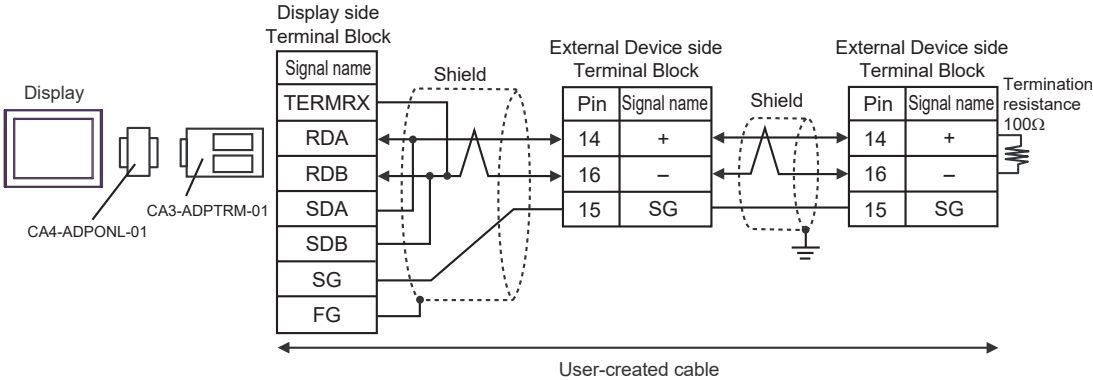


2C)

- 1:1 Connection

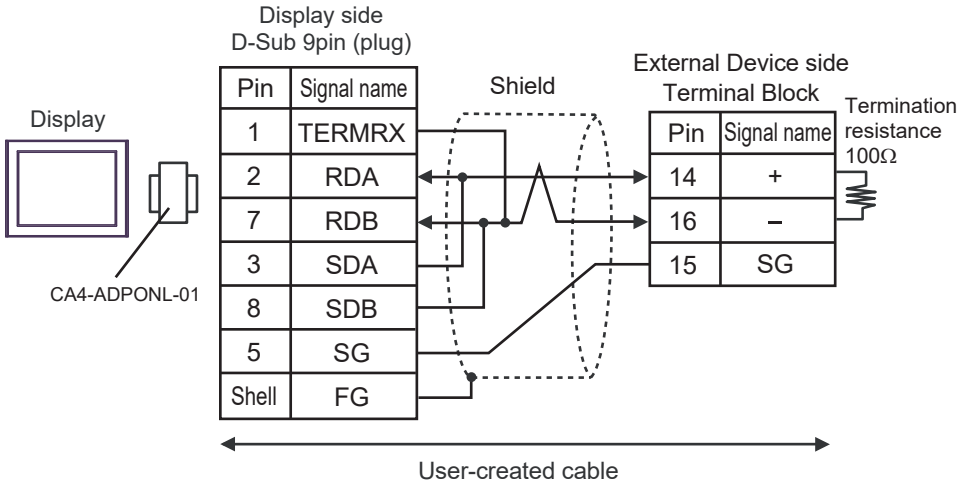


- 1:n Connection

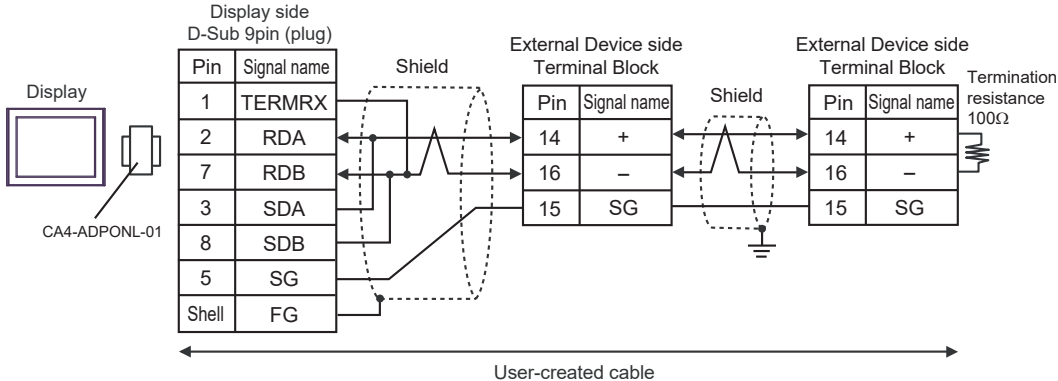


2D)

- 1:1 Connection

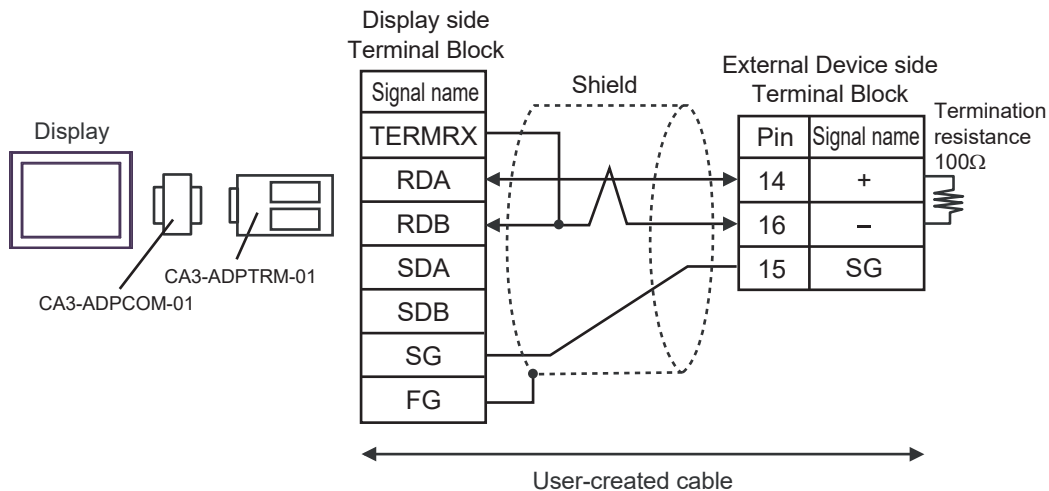


- 1:n Connection

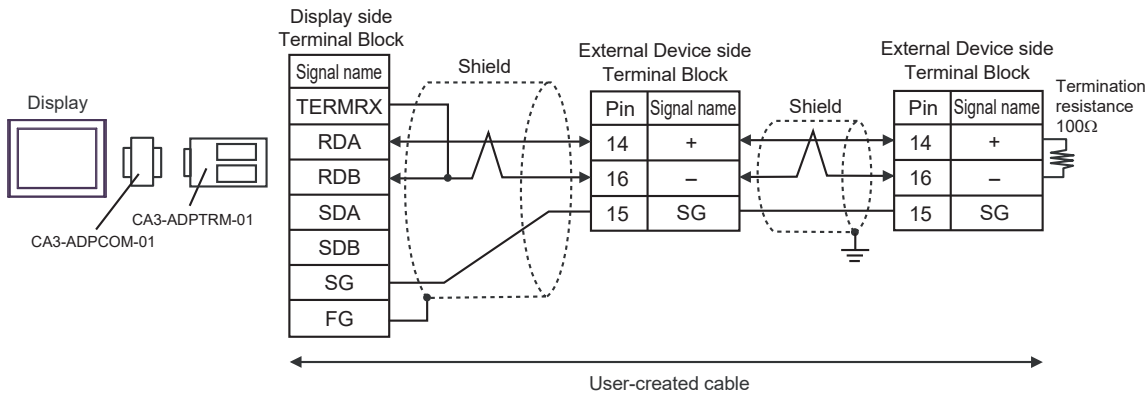


2E)

- 1:1 Connection

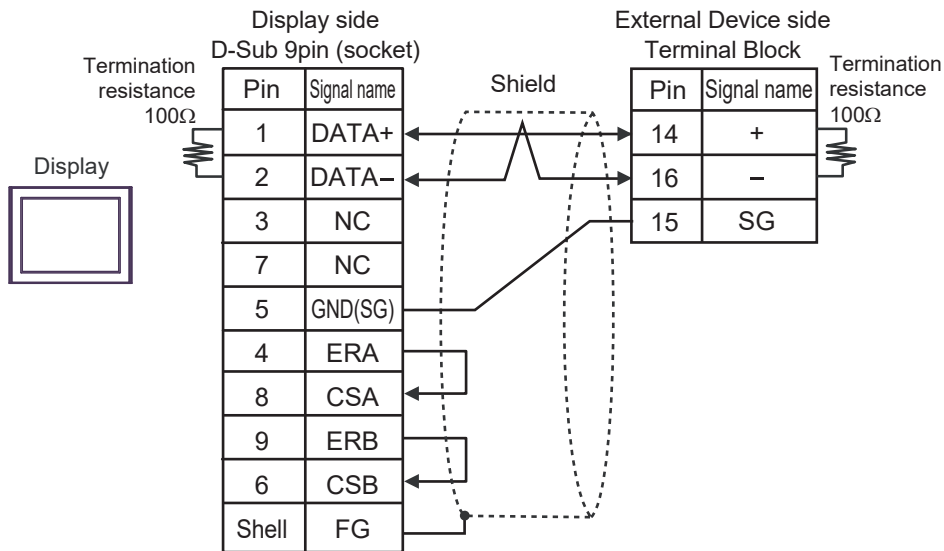


- 1:n Connection

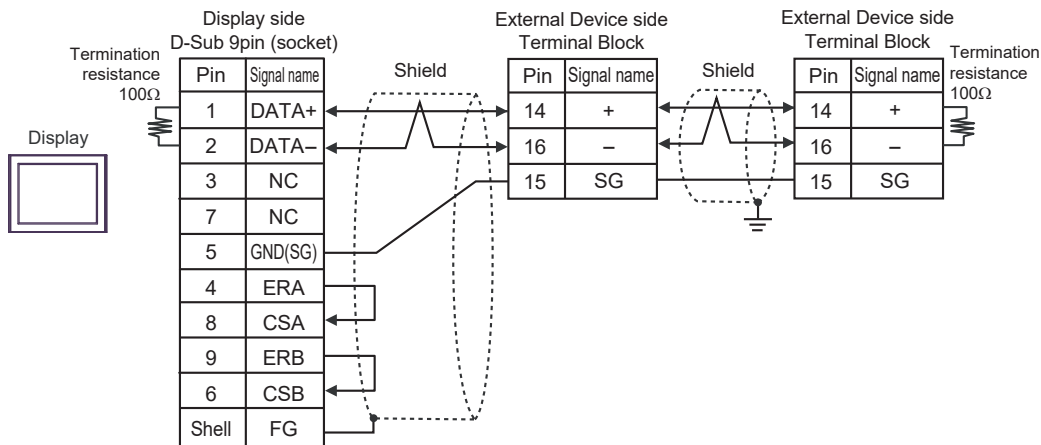


2F)

- 1:1 Connection

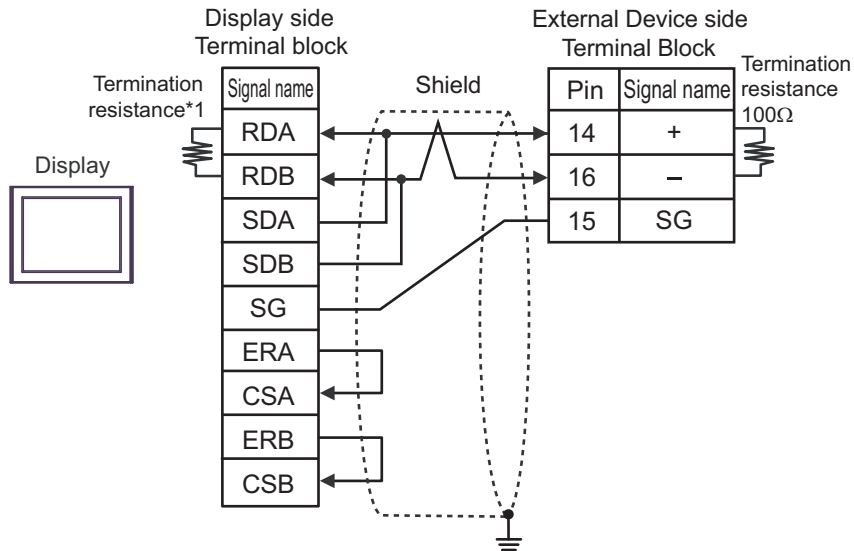


- 1:n Connection

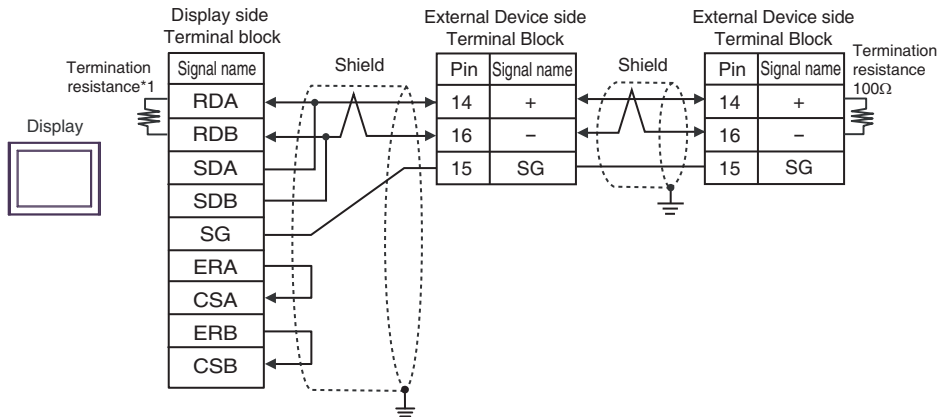


2G)

- 1:1 Connection



- 1:n Connection

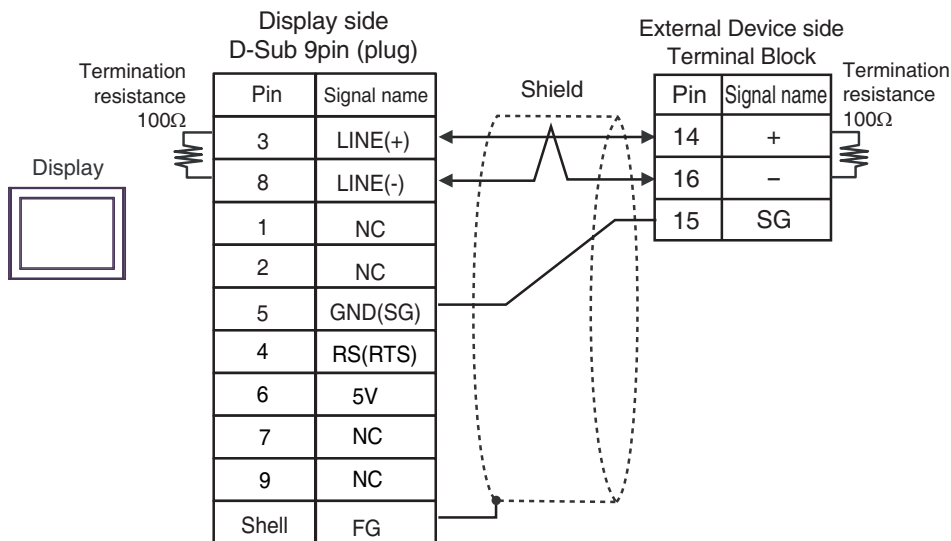


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

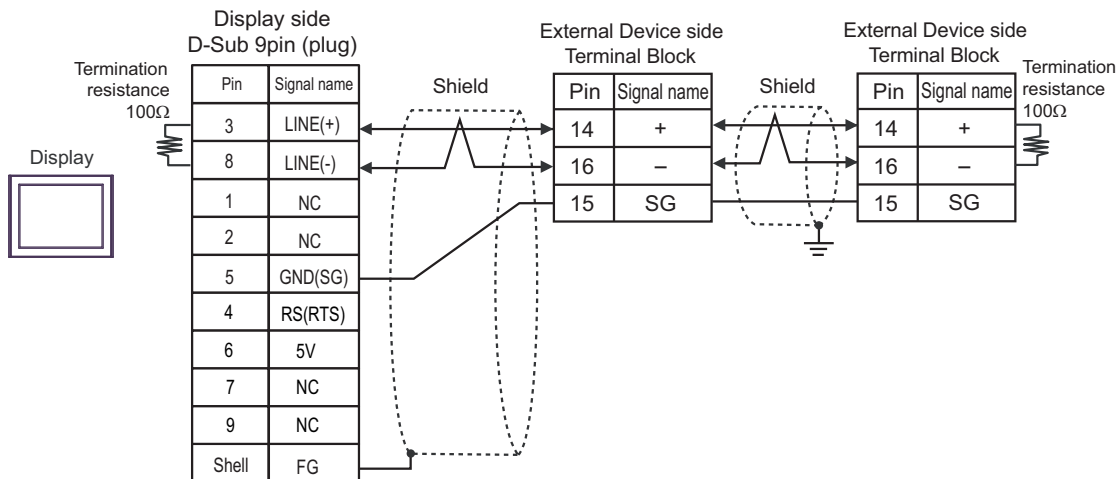
| DIP Switch No. | Set Value |
|----------------|-----------|
| 1 | OFF |
| 2 | OFF |
| 3 | ON |
| 4 | ON |

2H)

- 1:1 Connection



- 1:n Connection

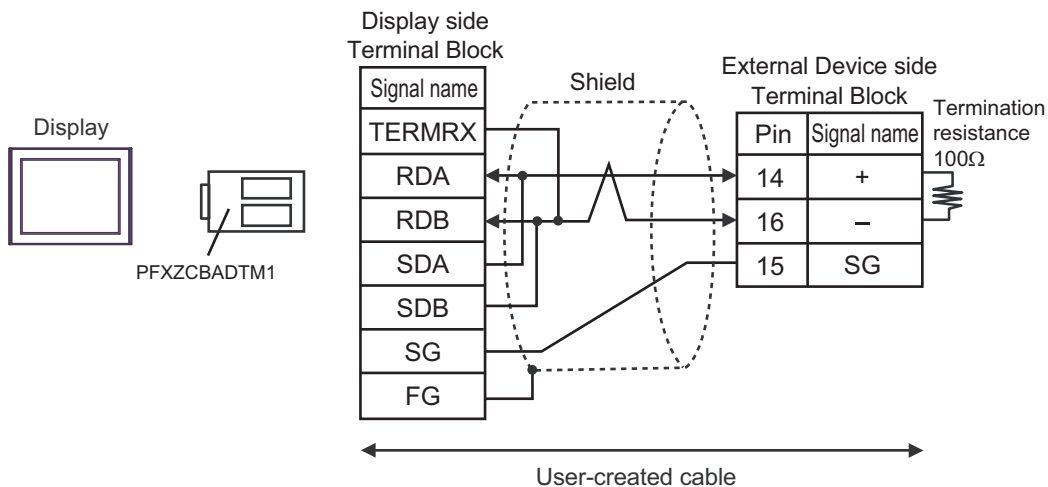


IMPORTANT • The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

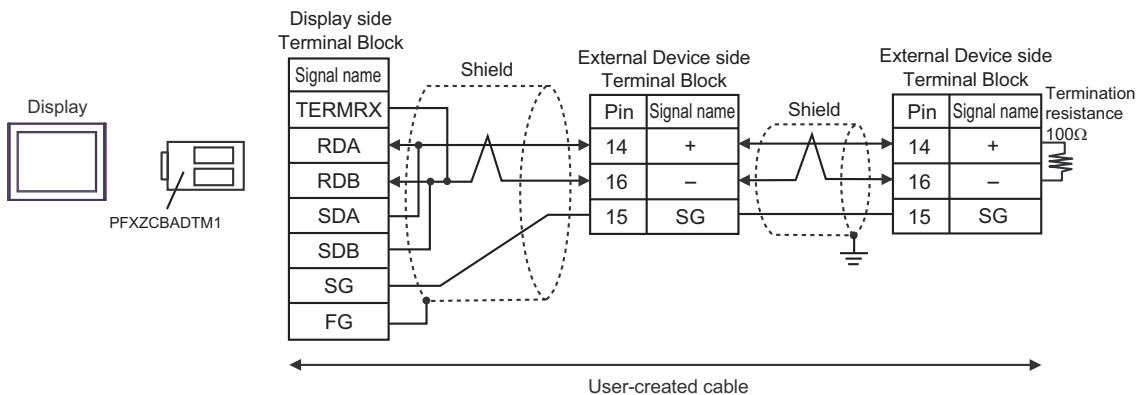
NOTE • In COM on the GP-4107, the SG and FG terminals are isolated.

2l)

- 1:1 Connection

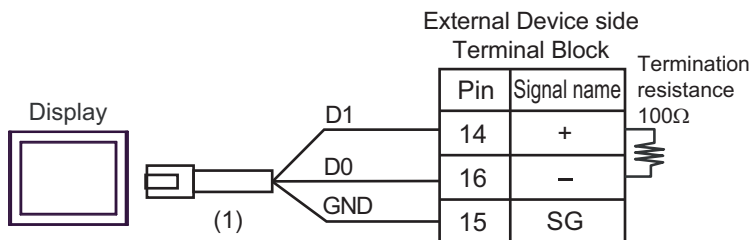


- 1:n Connection

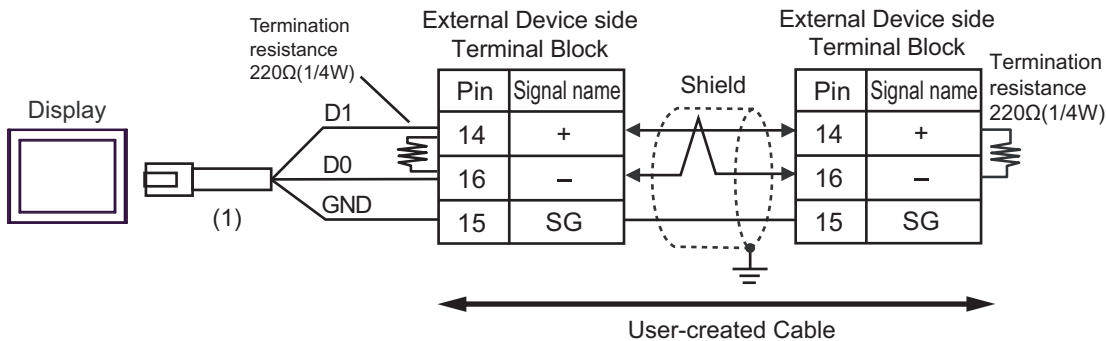


2J)

- 1:1 Connection



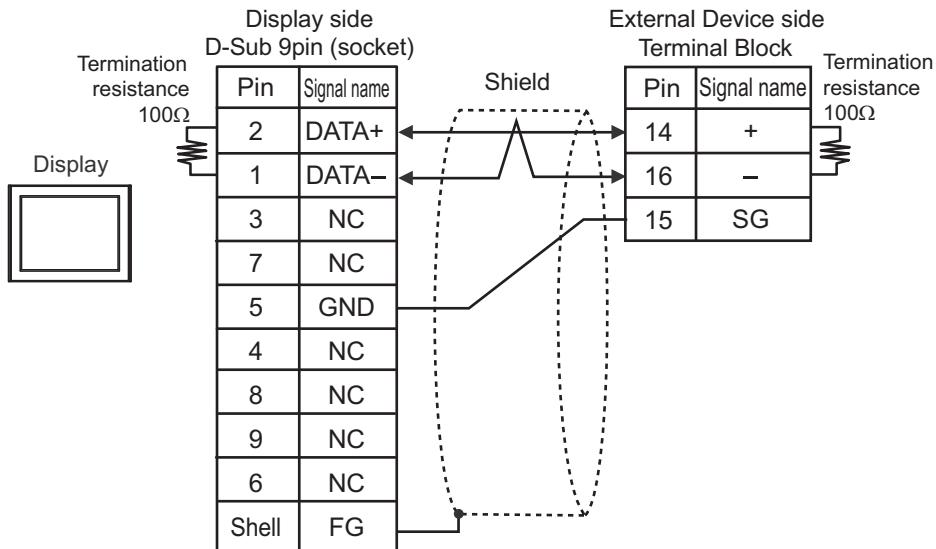
- 1:n Connection



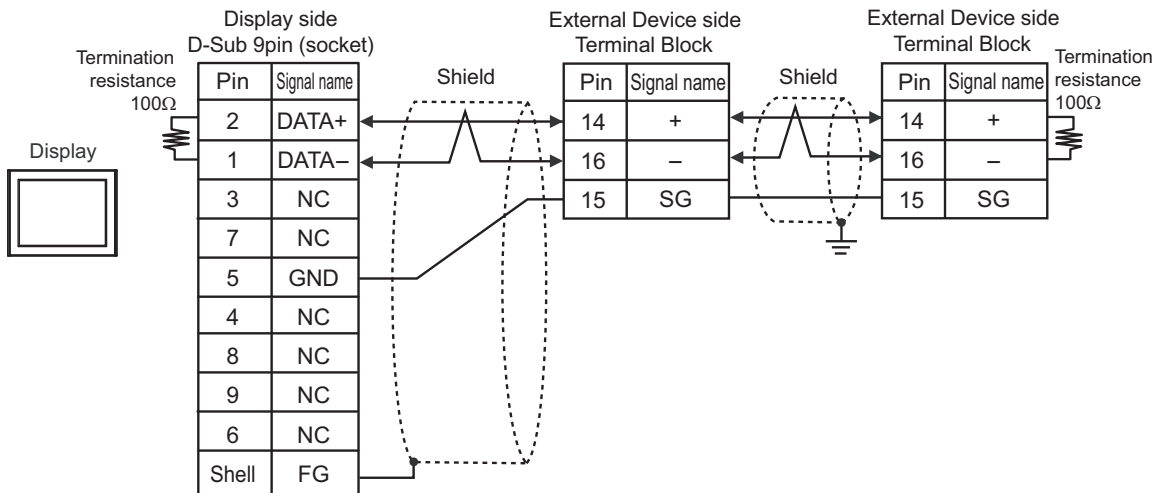
| Number | Name | Notes |
|--------|---|-------|
| (1) | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81 | |

2K)

- 1:1 Connection





- 1:n Connection



Cable Diagram 3

| Display (Connection Port) | Cable | | Notes |
|--|-------|--|-------------------------------|
| GP3000* ¹ (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST* 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 | Cable length: 500m or less |
| | 3B | User-created cable | |
| GP3000* ³ (COM2) | 3C | Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | Cable length: 500m or less |
| | 3D | Online adapter by Pro-face CA4-ADPONL-01 + User-created cable | |
| IPC* ⁴ | 3E | COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | Cable length: 500m or less |
| | 3F | User-created cable | |
| GP-4106 (COM1) GP-4116T (COM1) | 3G | User-created cable | Cable length: 500m or less |
| GP-4107 (COM1) GP-4*03T* ⁵ (COM2) GP-4203T (COM1) | 3H | User-created cable | Cable length: 500m or less |
| GP4000* ⁶ (COM2) GP-4201T (COM1) SP5000* ⁷ (COM1/2) SP-5B00 (COM2) ST6000* ⁸ (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) PS6000 (Basic Box) (COM1/2) | 3I | RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1* ⁹ + User-created cable | Cable length: 500m or less |
| | 3B | User-created cable | |
| LT-4*01TM (COM1) LT-Rear Module (COM1) | 3J | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81 | Cable length: 200m or less |

| Display (Connection Port) | Cable | | Notes |
|---|-------|--------------------|-------------------------------|
| PE-4000B*10 PS5000*10 PS6000 (Optional Interface)*10 | 3K | User-created cable | Cable length: 500m or less |

- *1 All GP3000 models except AGP-3302B
- *2 All ST models 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 5)
- *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 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 3A.
- *10 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
 "■ IPC COM Port" (page 5)

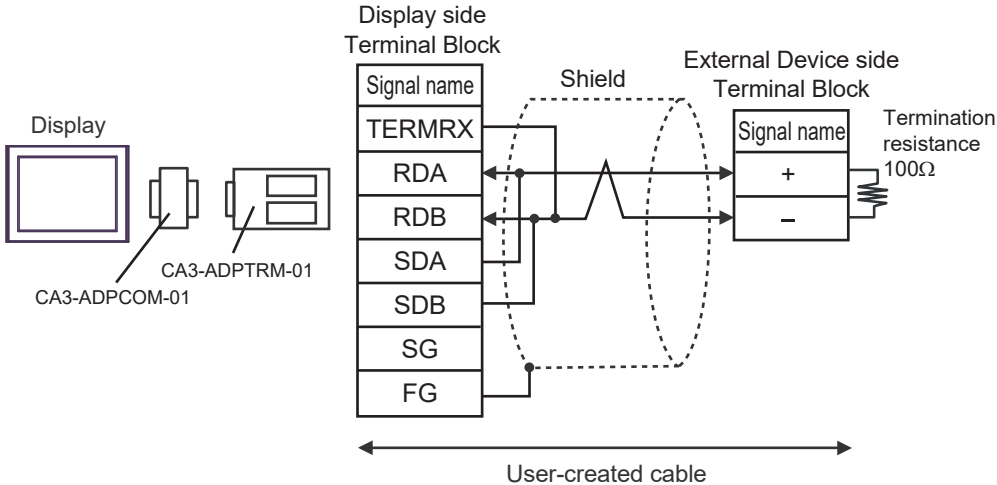
IMPORTANT

- Terminal number used for communication differs depending on the External Device series.
Terminal numbers corresponding to each series are shown below. SG terminals are not available for these series. Apply masking using insulation tape, etc. Implement Type D installment to the shield connected to the FG.

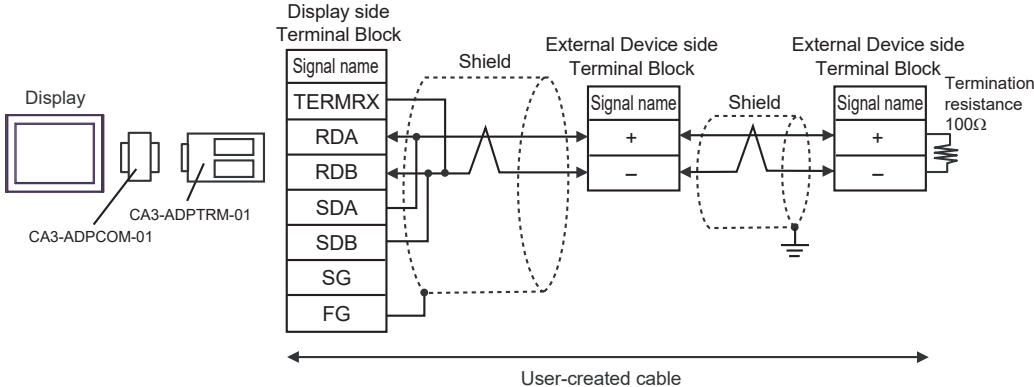
| Series | + | - |
|-----------|----|----|
| PXG4 | 7 | 8 |
| PXG5/PXG9 | 1 | 2 |
| PXR3 | 15 | 14 |
| PXR4/PXR7 | 7 | 8 |
| PYP5/PYP9 | 1 | 2 |

3A)

- 1:1 Connection

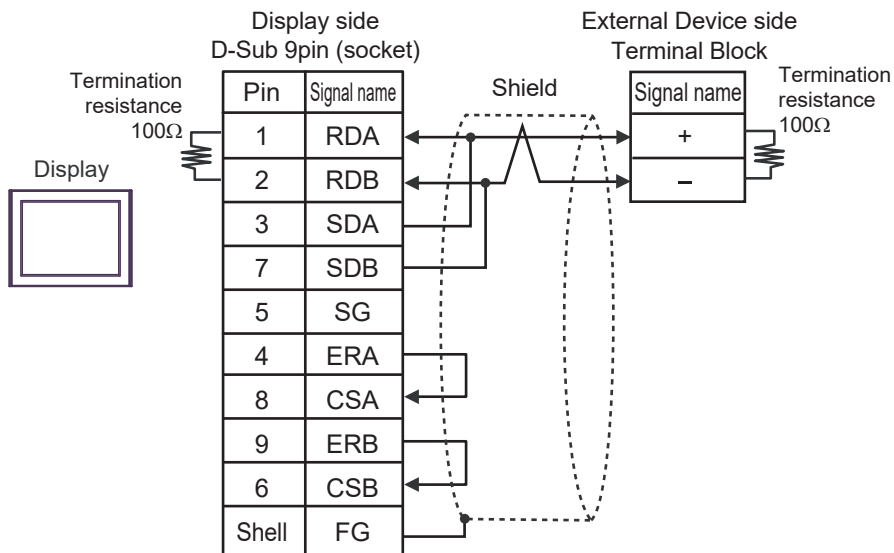


- 1:n Connection

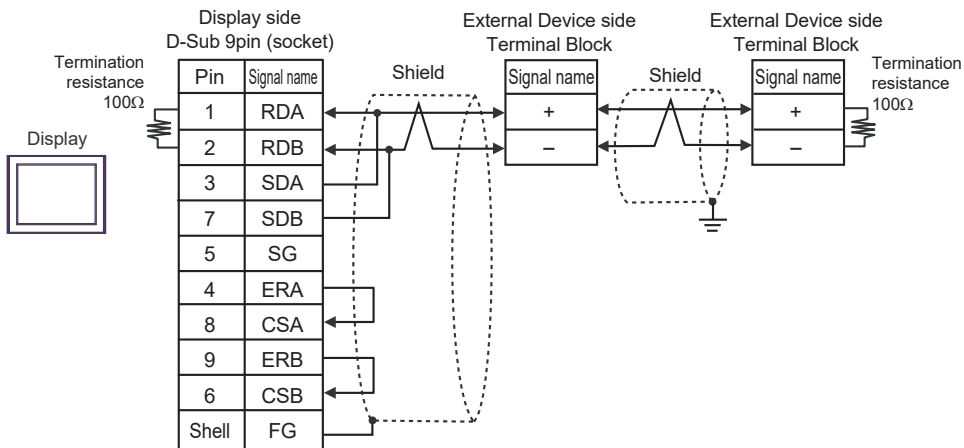


3B)

- 1:1 Connection

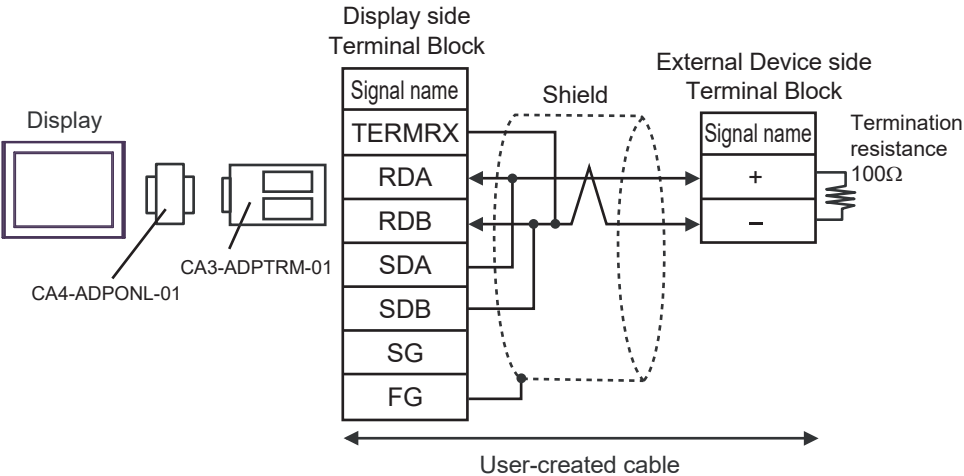


- 1:n Connection

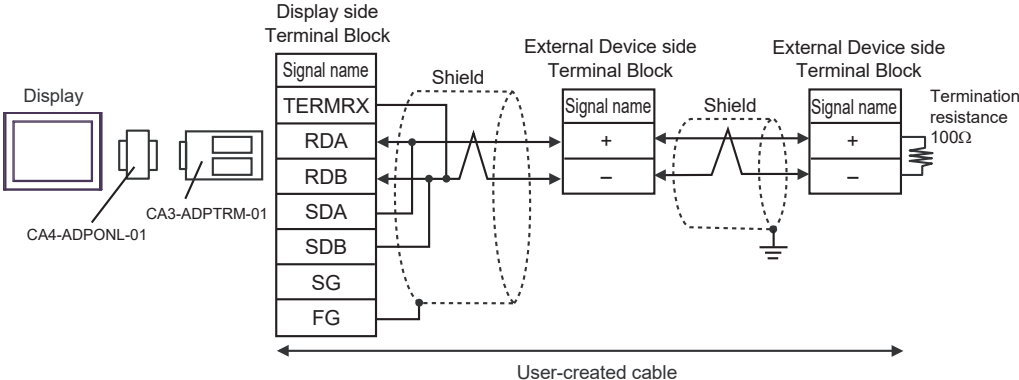


3C)

- 1:1 Connection

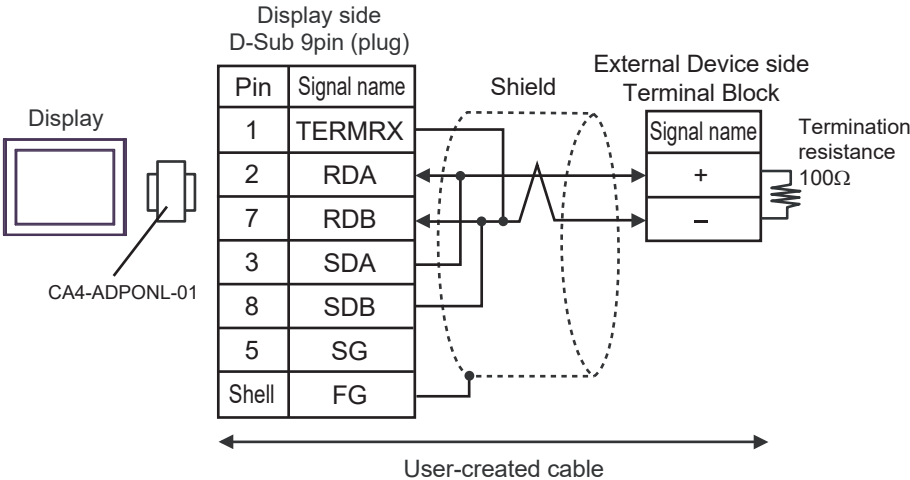


- 1:n Connection

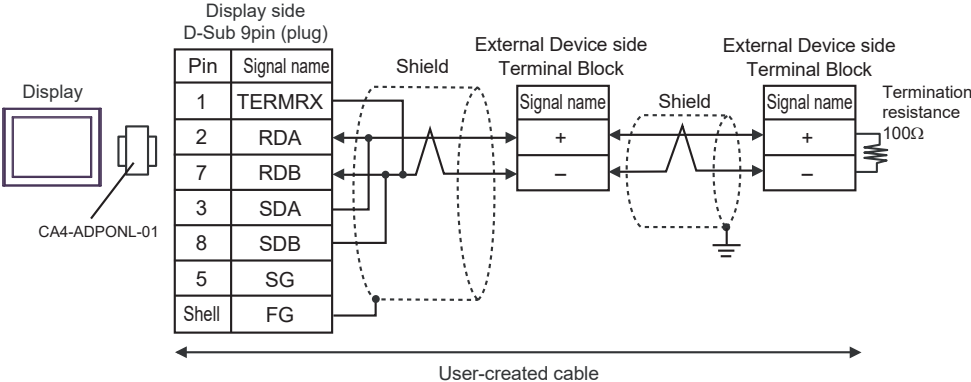


3D)

- 1:1 Connection

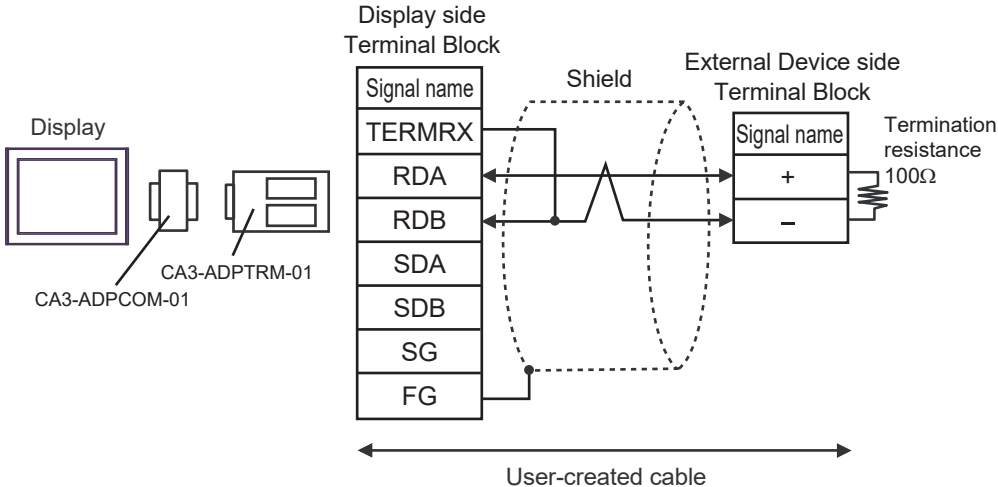


- 1:n Connection

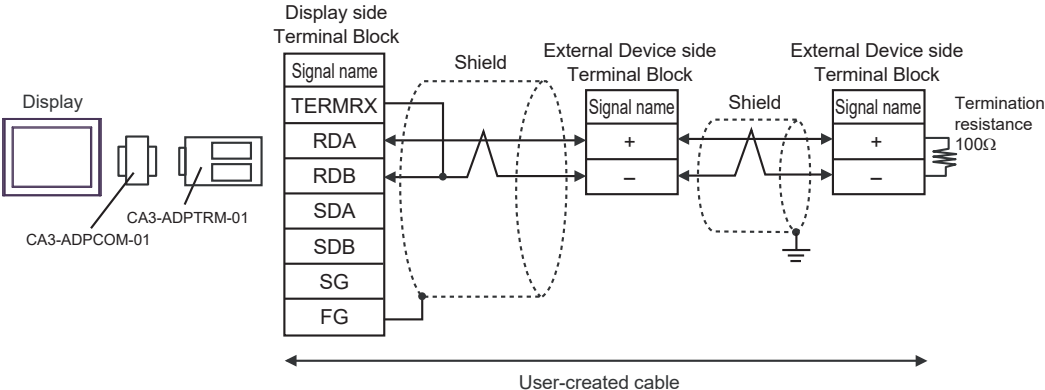


3E)

- 1:1 Connection

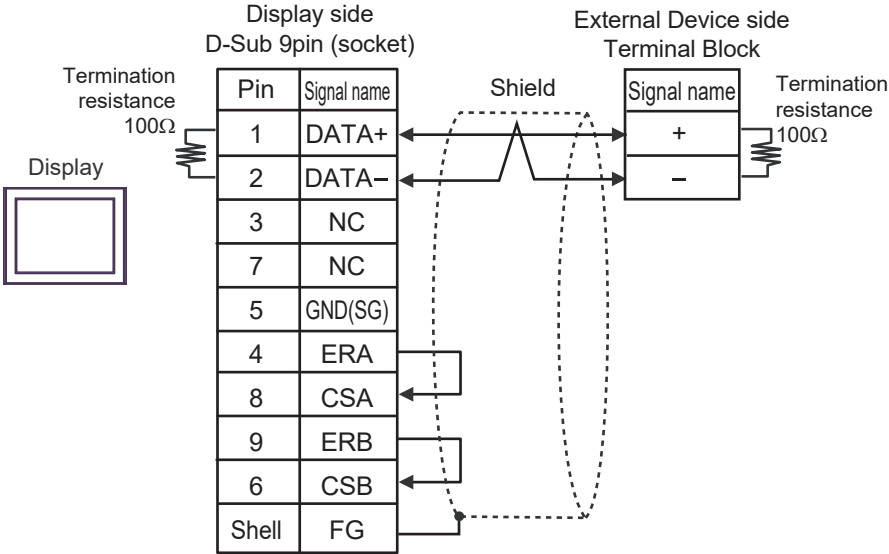


- 1:n Connection

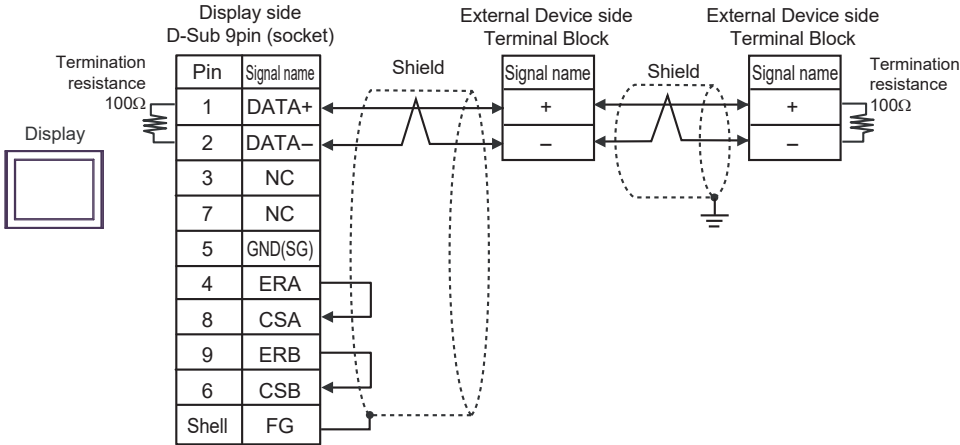


3F)

- 1:1 Connection

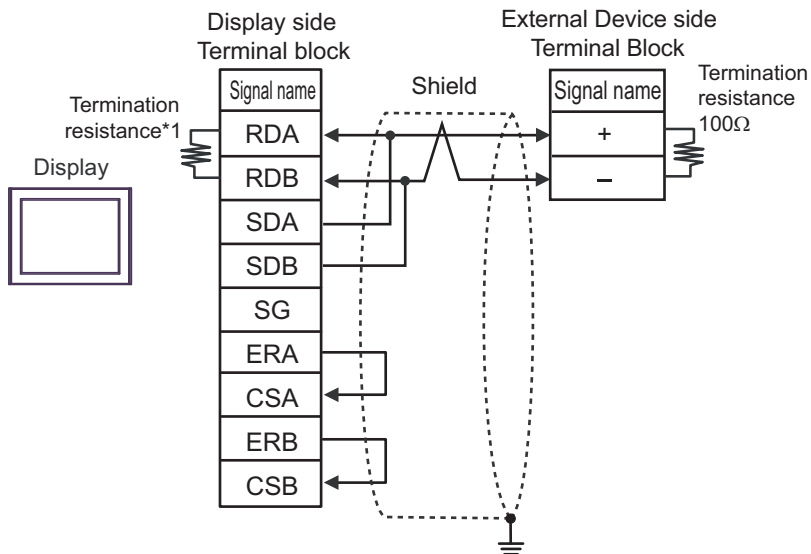


- 1:n Connection

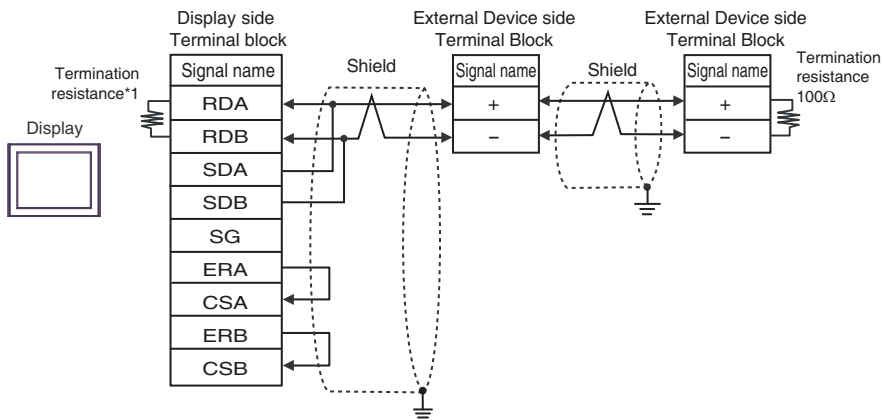


3G)

- 1:1 Connection



- 1:n Connection

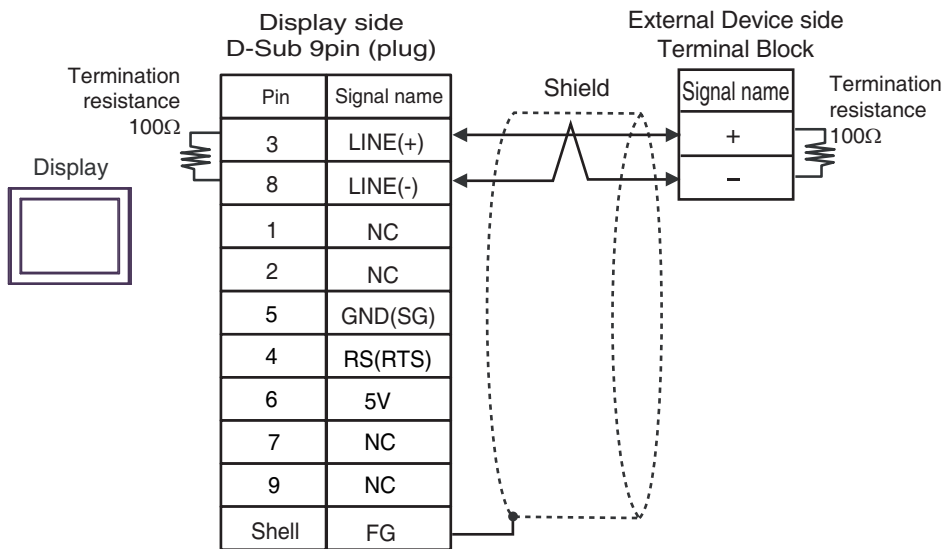


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

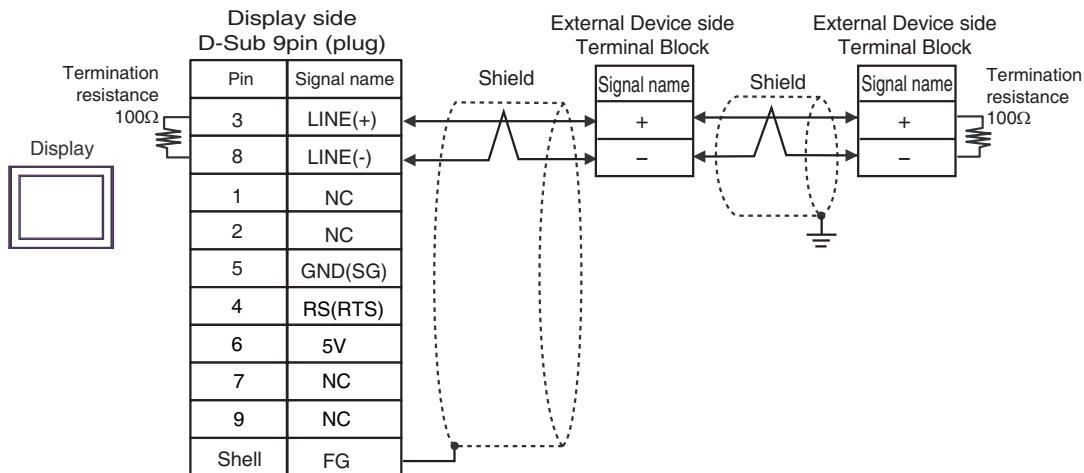
| DIP Switch No. | Set Value |
|----------------|-----------|
| 1 | OFF |
| 2 | OFF |
| 3 | ON |
| 4 | ON |

3H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

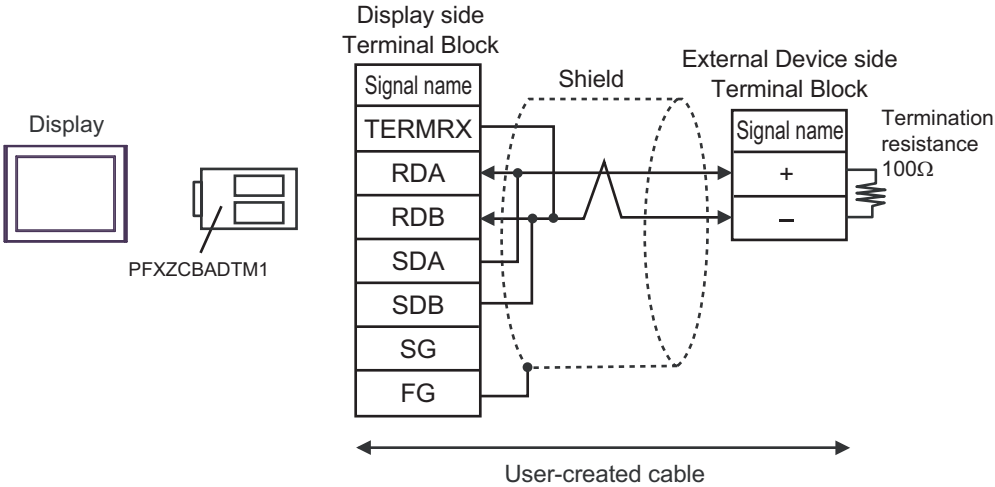
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

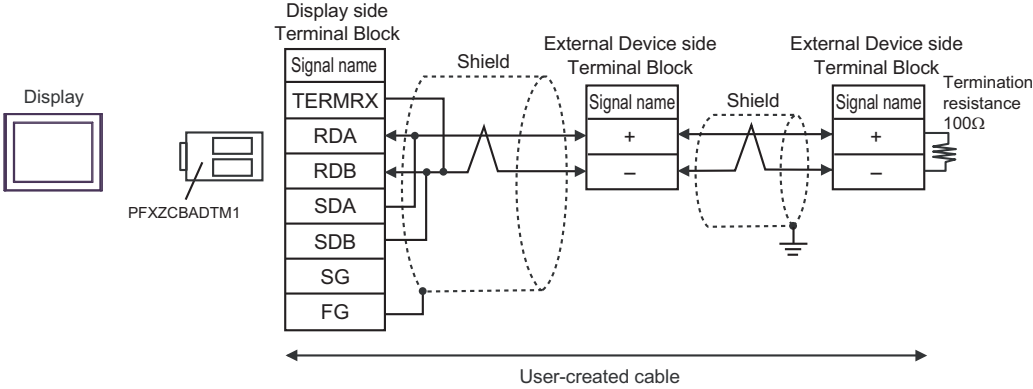
- In COM on the GP-4107, the SG and FG terminals are isolated.

3l)

- 1:1 Connection

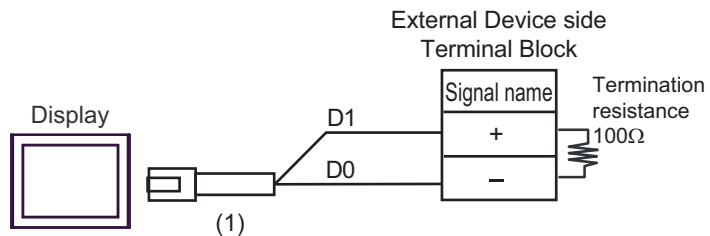


- 1:n Connection

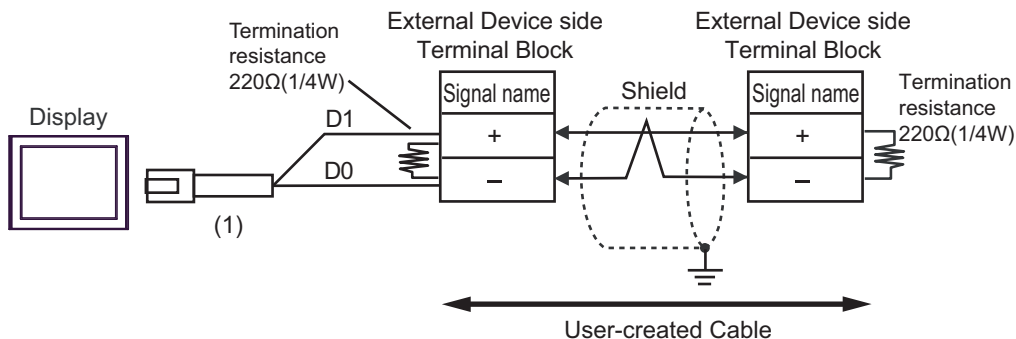


3J)

- 1:1 Connection



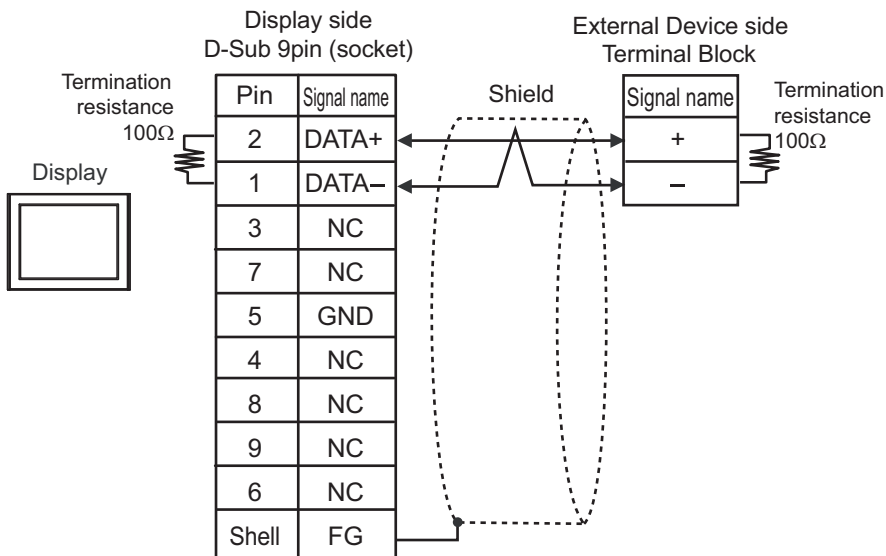
- 1:n Connection



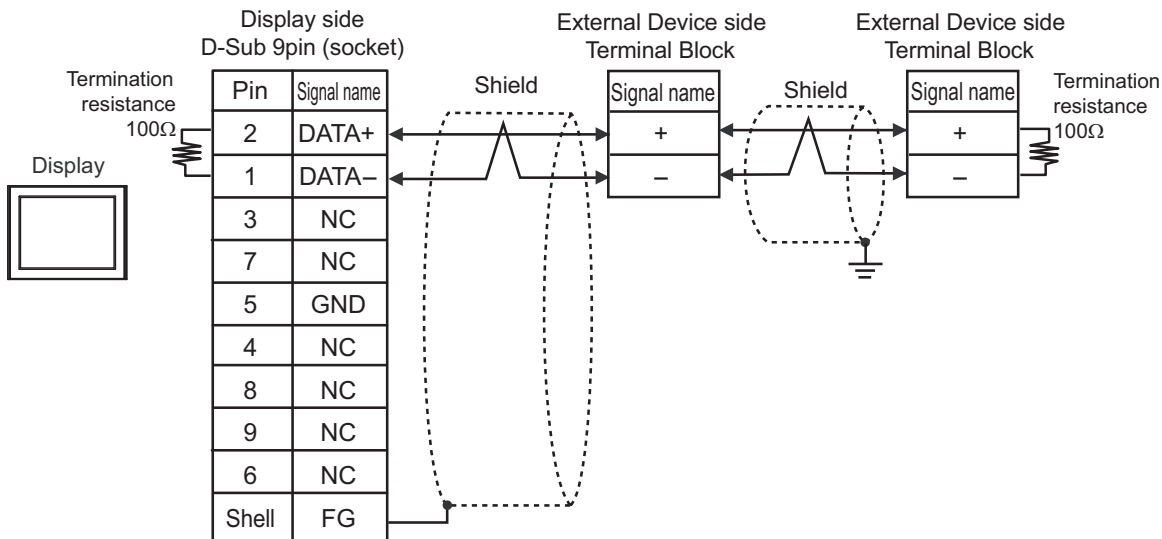
| Number | Name | Notes |
|--------|--|-------|
| (1) | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81 | |

3K)

- 1:1 Connection



- 1:n Connection



Cable Diagram 4

| Display (Connection Port) | Cable | | Notes |
|--|-------|--|-------------------------------|
| GP3000* ¹ (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST* ² (COM2) LT3000 (COM1) | 4A | COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | Cable length: 500m or less |
| | 4B | User-created cable | |
| GP3000* ³ (COM2) | 4C | Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | Cable length: 500m or less |
| | 4D | Online adapter by Pro-face CA4-ADPONL-01 + User-created cable | |
| IPC* ⁴ | 4E | COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | Cable length: 500m or less |
| | 4F | User-created cable | |
| GP-4106 (COM1) GP-4116T (COM1) | 4G | User-created cable | Cable length: 500m or less |
| GP-4107 (COM1) GP-4*03T* ⁵ (COM2) GP-4203T (COM1) | 4H | User-created cable | Cable length: 500m or less |
| GP4000* ⁶ (COM2) GP-4201T (COM1) SP5000* ⁷ (COM1/2) SP-5B00 (COM2) ST6000* ⁸ (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) PS6000 (Basic Box) (COM1/2) | 4I | RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1* ⁹ + User-created cable | Cable length: 500m or less |
| | 4B | User-created cable | |
| LT-4*01TM (COM1) LT-Rear Module (COM1) | 4J | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81 | Cable length: 200m or less |

| Display (Connection Port) | Cable | | Notes |
|---|-------|--------------------|-------------------------------|
| PE-4000B ^{*10} PS5000 ^{*10} PS6000 (Optional Interface) ^{*10} | 4K | User-created cable | Cable length: 500m or less |

*1 All GP3000 models except AGP-3302B

*2 All ST models 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 5)

*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

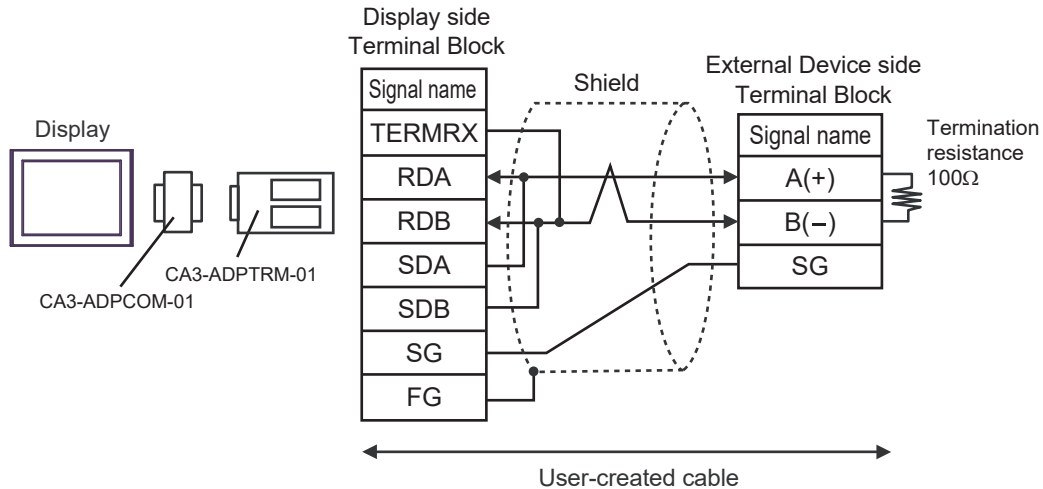
*9 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 4A.

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

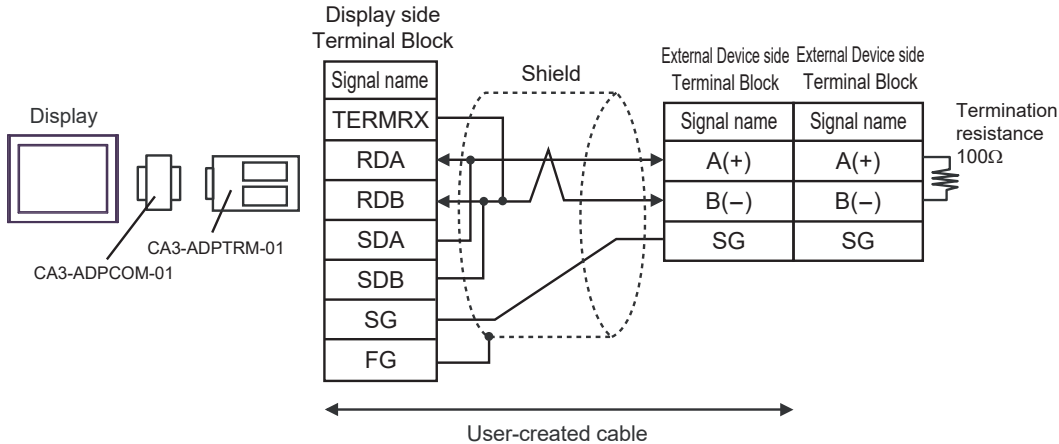
 "■ IPC PLC Port" (page 5)

4A)

- 1:1 Connection



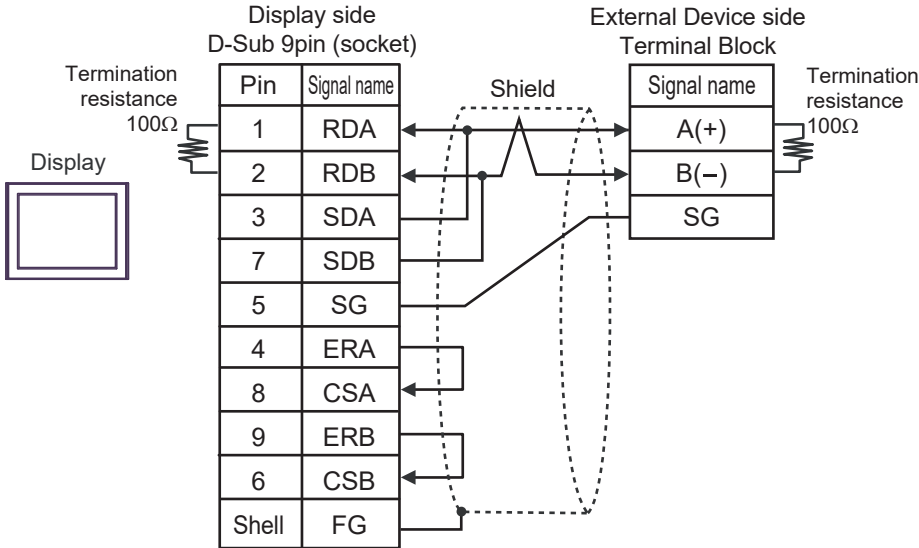
- 1:n Connection



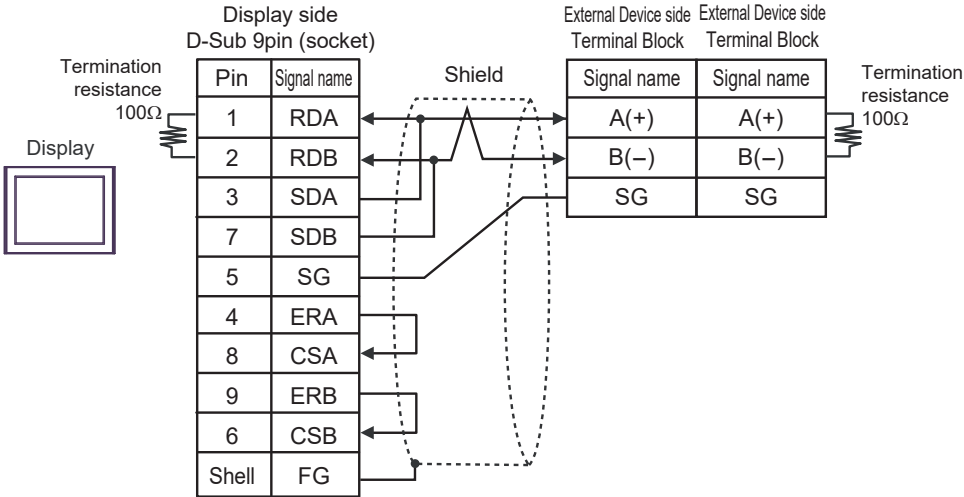
NOTE • Connect External Devices using side connectors.

4B)

- 1:1 Connection



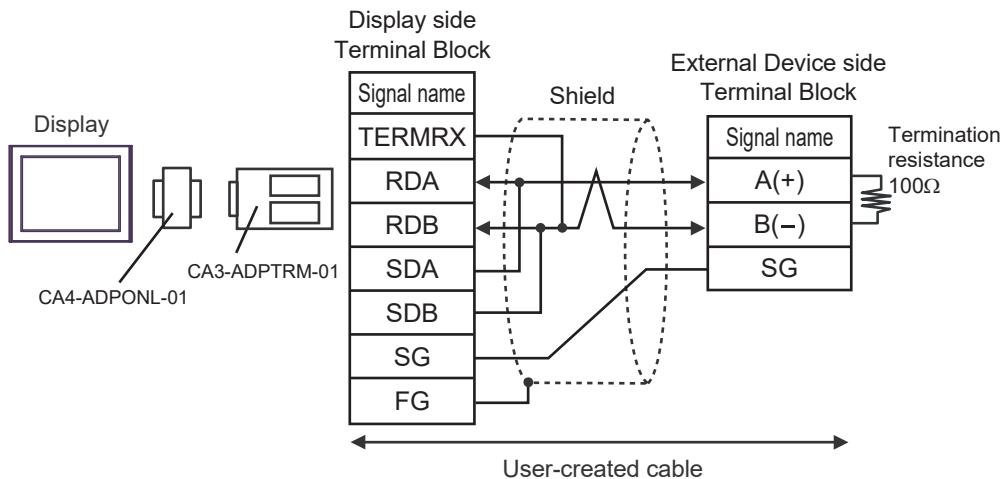
- 1:n Connection



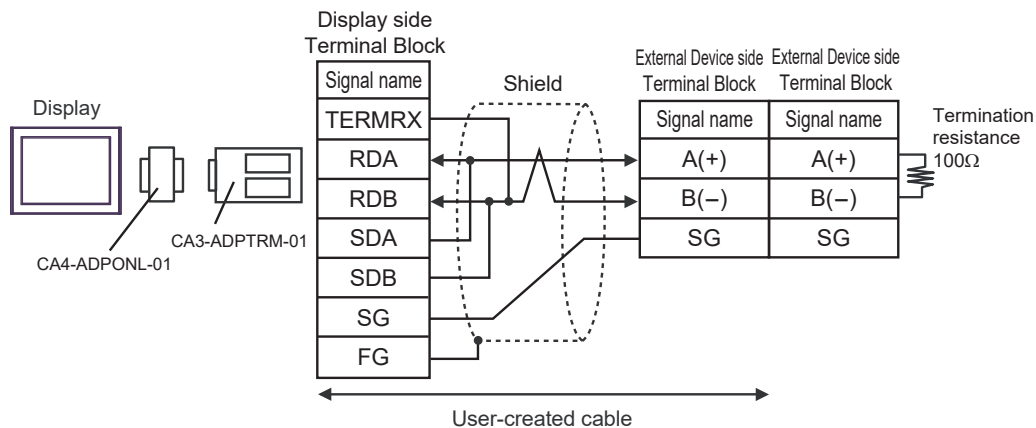
NOTE • Connect External Devices using side connectors.

4C)

- 1:1 Connection



- 1:n Connection

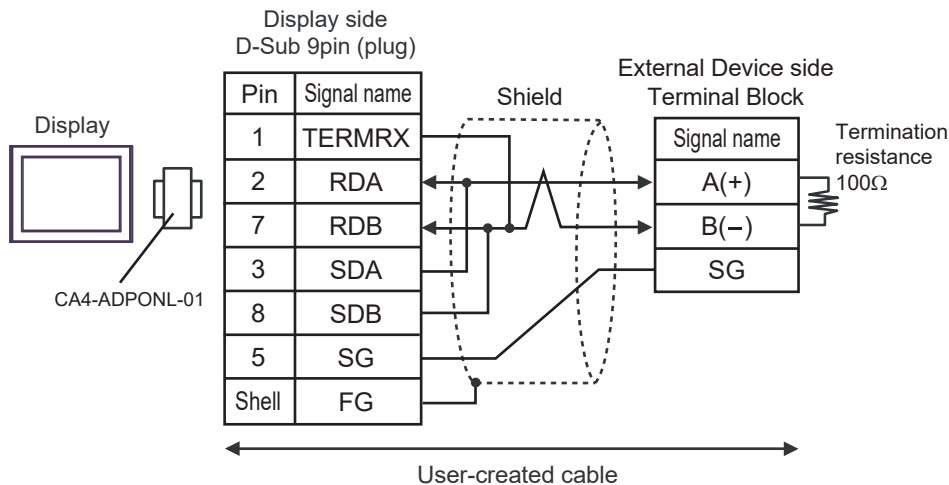


NOTE

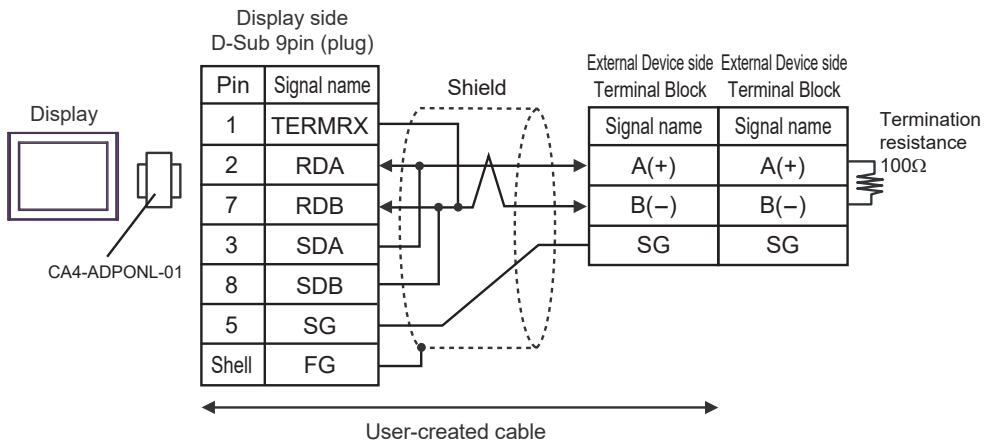
- Connect External Devices using side connectors.

4D)

- 1:1 Connection



- 1:n Connection

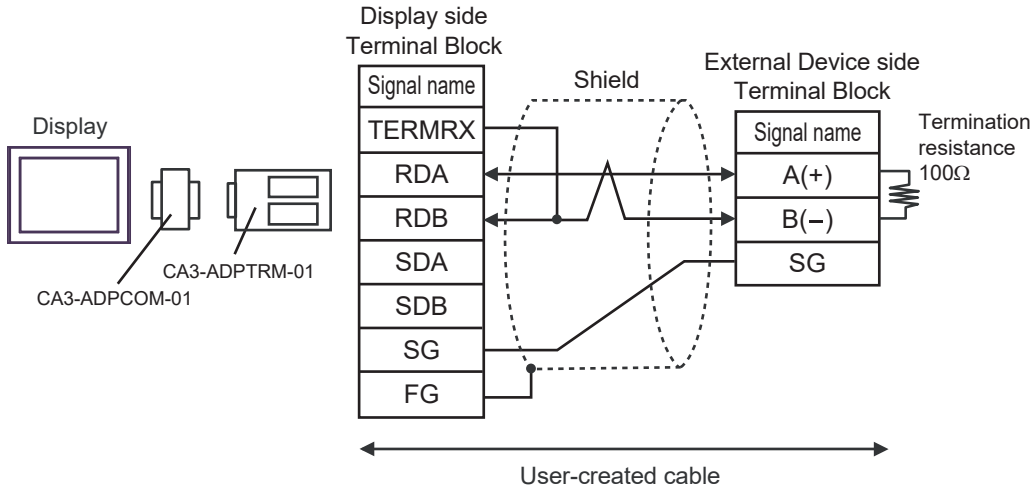


NOTE

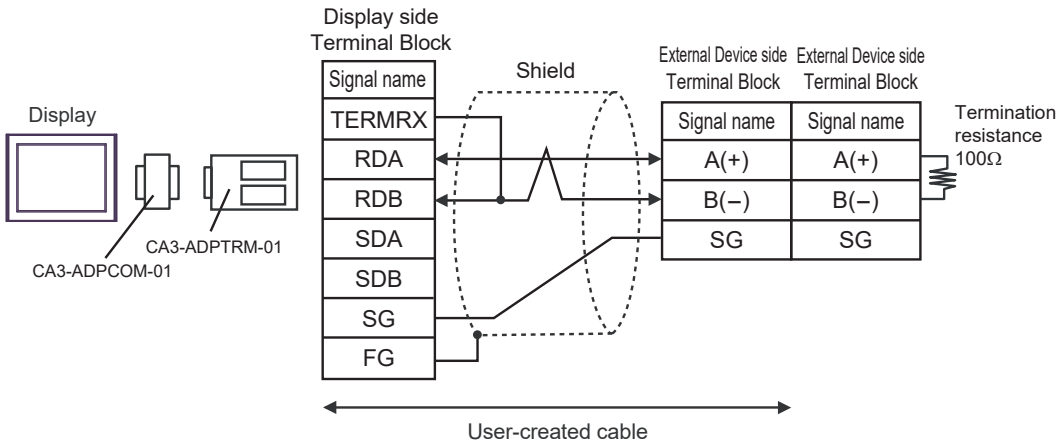
- Connect External Devices using side connectors.

4E)

- 1:1 Connection



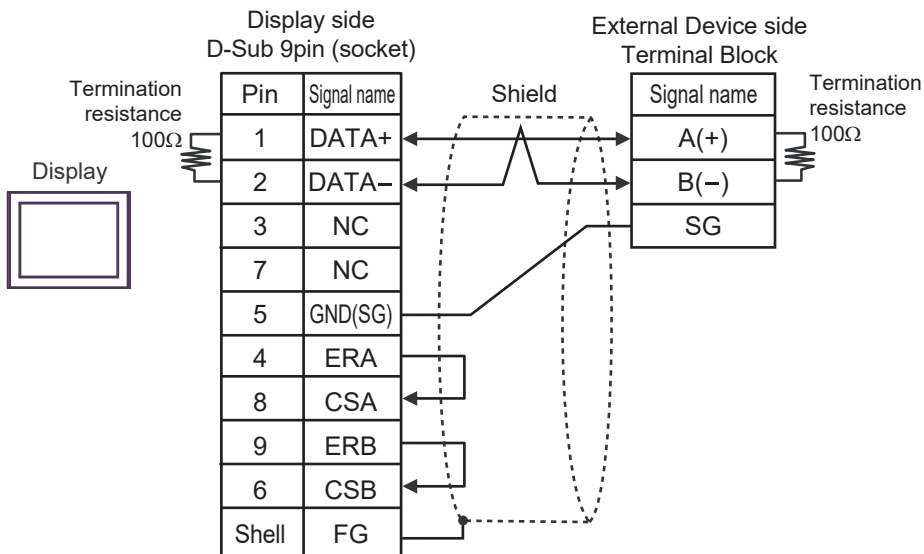
- 1:n Connection



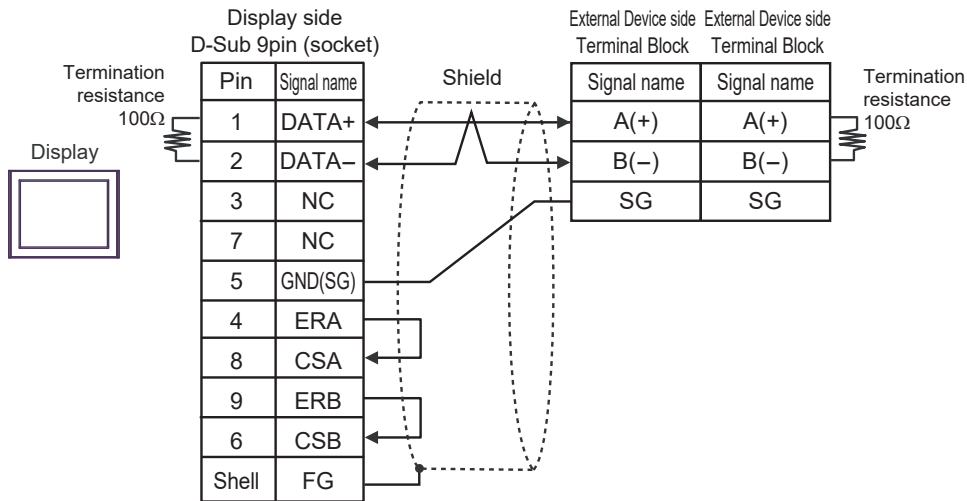
NOTE • Connect External Devices using side connectors.

4F)

- 1:1 Connection



- 1:n Connection

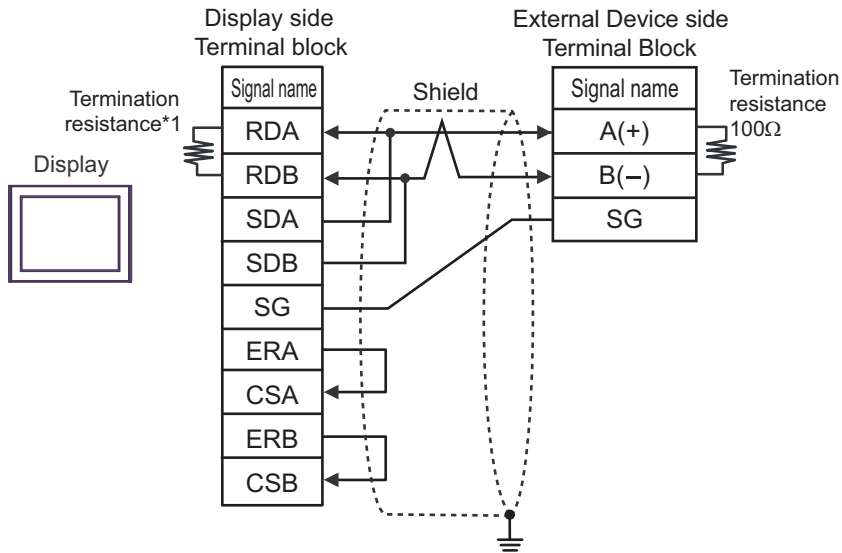


NOTE

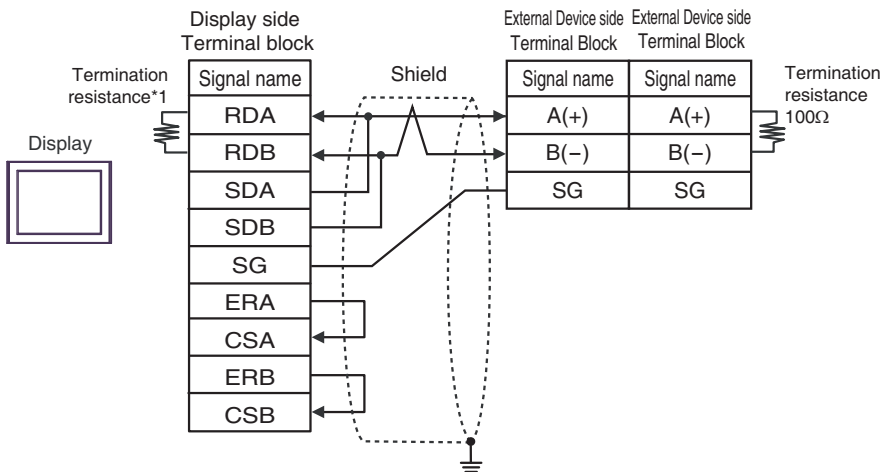
- Connect External Devices using side connectors.

4G)

- 1:1 Connection



- 1:n Connection



NOTE

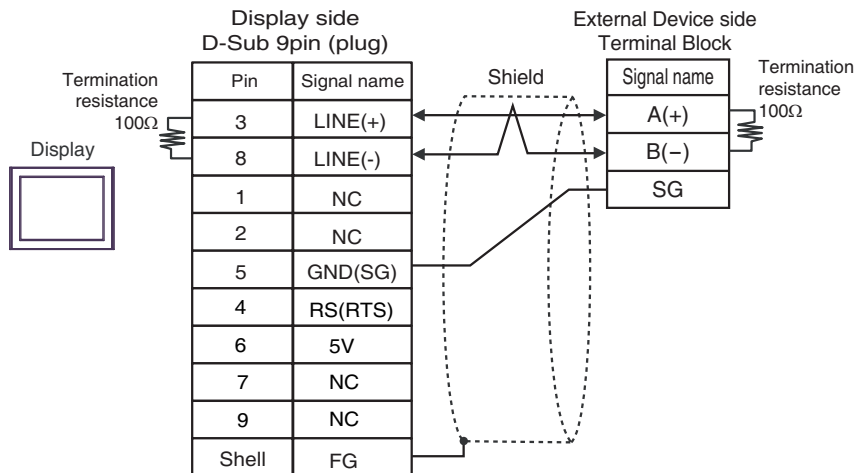
- Connect External Devices using side connectors.

*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.

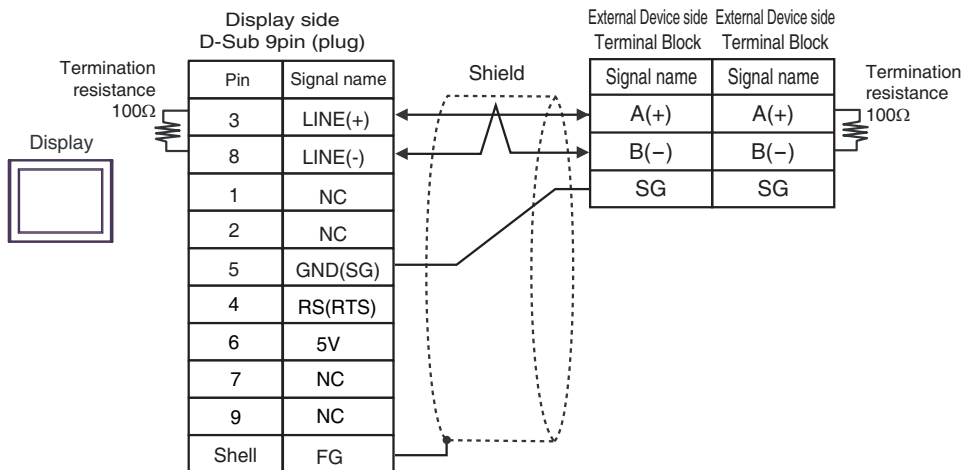
| DIP Switch No. | Set Value |
|----------------|-----------|
| 1 | OFF |
| 2 | OFF |
| 3 | ON |
| 4 | ON |

4H)

- 1:1 Connection



- 1:n Connection

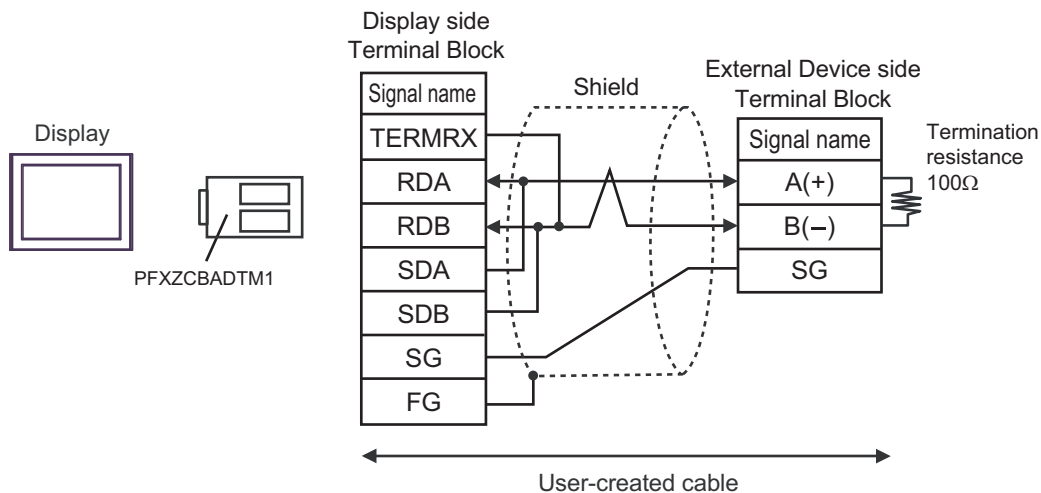


IMPORTANT • The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

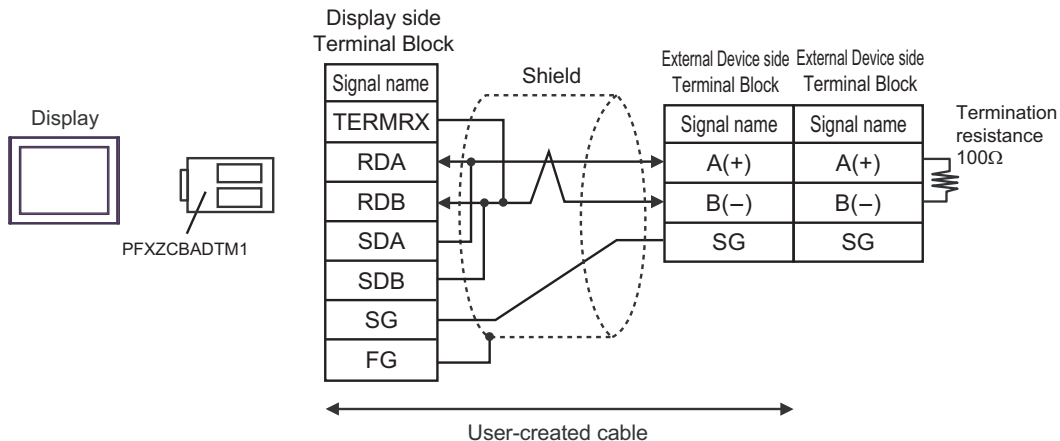
NOTE • Connect External Devices using side connectors.
 • In COM on the GP-4107, the SG and FG terminals are isolated.

4l)

- 1:1 Connection

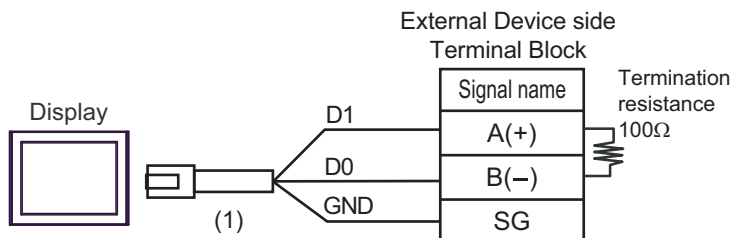


- 1:n Connection

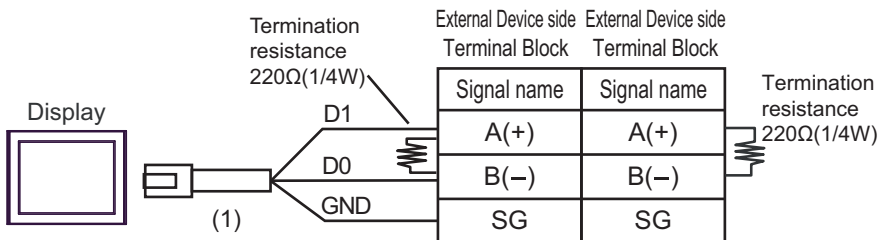


4J)

- 1:1 Connection



- 1:n Connection



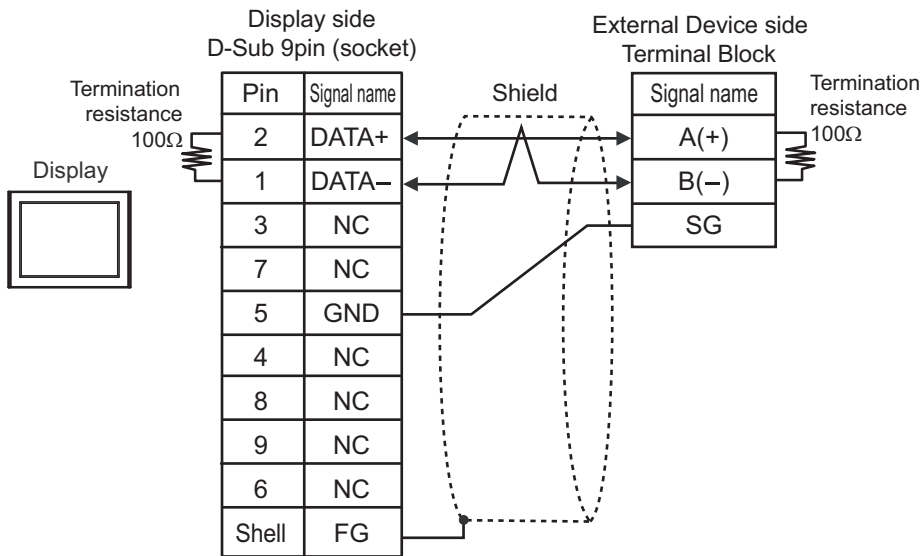
| Number | Name | Notes |
|--------|--|-------|
| (1) | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81 | |

NOTE

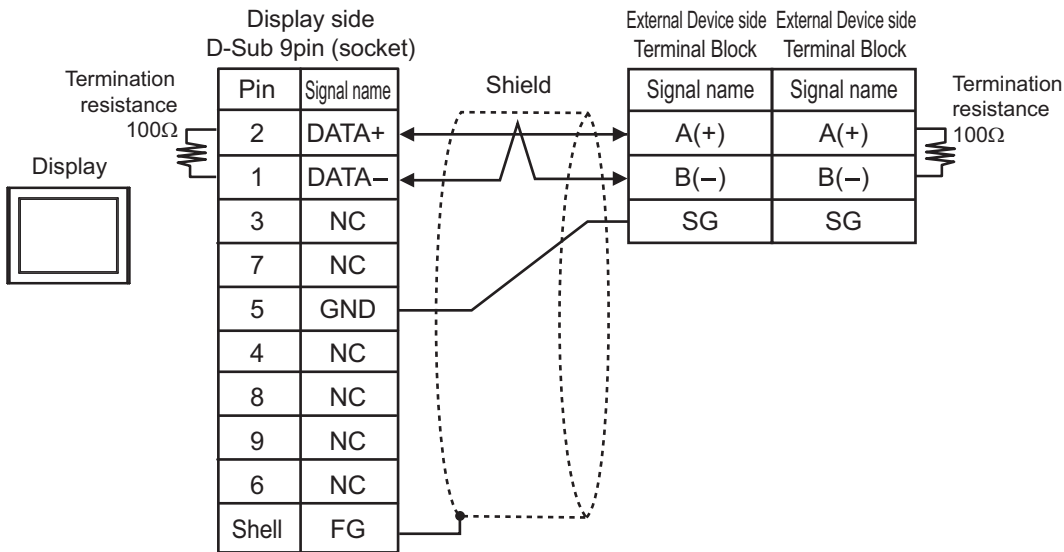
- Connect External Devices using side connectors.

4K)

- 1:1 Connection



- 1:n Connection

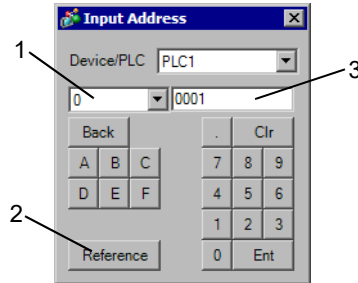


NOTE • Connect External Devices using side connectors.

6 Supported Devices

The following table shows the range of supported device addresses. 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.

Input address of external device in the dialog below.



1. Device Set Device.
2. Reference The list of available identifiers is displayed.
Click the identifier to use and press "Select," and the address is entered.
3. Address Set Address.
The combination of identifier and address differs depending on the external device.

■The following description explains the memory maps for each parameter.

<When using Bit Data>

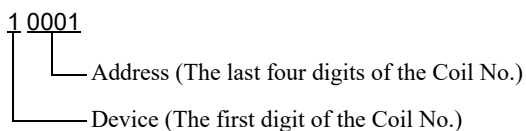
Bit Data (Read Only) : Function [02H]

| Relative Address | Coil No. *1 | Type | Memory Contents | Read-out Data |
|------------------|-------------|------|-----------------|-----------------------------|
| 0000H | 10001 | Bit | Alarm1 ON/OFF | 0: Alarm1 OFF, 1: Alarm1 ON |
| 0001H | 10002 | | (Reserved) | |
| 0002H | 10003 | | (Reserved) | |
| 0003H | 10004 | | (Reserved) | |
| 0004H | 10005 | Bit | Alarm2 ON/OFF | 0: Alarm2 OFF, 1: Alarm2 ON |
| 0005H | 10006 | | (Reserved) | |
| : | : | : | : | : |

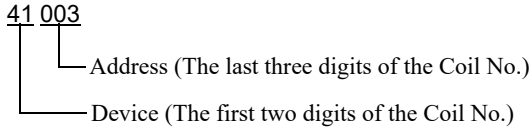
*1 Coil No. is the address that is assigned by the Display.

Example: For the parameter "Alarm1 ON/OFF" of Coil No. 10001, the Display's designated address is as follows.

Use the first digit of the Coil No. (00001 -, 10001 -) to designate the device.



Example: For the parameter "front surface control SV data" of Register No. 41003, the Display's designated address is as follows. Use the first two digits of the Register No.s (30001 -, 40001 -, 31001 - and 41001 -) to designate the device.



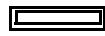
NOTE


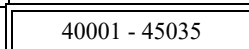

- The External Device's parameter data, when data transfer is performed, will have no decimal places. Thus, in the Display, processing must be performed to correct the data. For example, if a numeric display is used that includes decimal places, the "No. of Decimals" of the "Display" settings must be used. Also, when writing data to a External Device, it is necessary to write decimal values as integers.

Example: Register No. 41025's "Output 1 Lower Limit"
 External Device Display/Setting Value : 3.00%
 Display value/setting : 3000

Please refer to your External Device manual for details (with/without a decimal point) about data item setting value ranges.


6.1 PXH series

 This address can be specified as system data area.

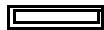
| Device | Bit Address | Word Address | 32bits | Notes |
|---------------------|---------------------|---|------------|--|
| Read Only Word Data | - | 30257 - 31407 | H/L |  *1*2 |
| Word Data | 40001.00 - 45035.31 |  40001 - 45035 | |  *2*3*4 |





- *1 Write disabled.
- *2 This device is 32 bits in length. Only odd addresses can be assigned.
- *3 When you write to the bit address, the Display reads the entire word, sets the defined bit, then returns the new word value to the External Device. If the ladder program writes data to this word address during the bit write process, the resulting data may be incorrect.
- *4 43153 is an address to order writing in the nonvolatile memory (FIX processing). Writing in the nonvolatile memory is performed by entering 1 (one) to the writing value.

NOTE

- You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size. Cf. GP Pro-EX Reference Manual "LS Area (Direct Access Method Area)"
 - Refer to the precautions on manual notation for icons in the table.
-  "Manual Symbols and Terminology"

6.2 PXG series

 This address can be specified as system data area.

| Device | Bit Address | Word Address | 32bits | Notes |
|--|---------------------|---------------|------------|--|
| Read Only Bit Data | 10001 - 10013 | - | H/L | *1 |
| Read Only Word Data (Internal) | - | 30001 - 30062 | |  *1 |
| Read Only Word Data (Engineering Unit) | - | 31001 - 31062 | |  *1 |
| Word Data (Internal) | 40002.00 - 40628.15 | 40002 - 40628 | |  *2 |
| Word Data (Engineering Unit) | 41002.00 - 41628.15 | 41002 - 41628 | |  *2 |

*1 Write disabled.


*2 When you write to the bit address, the Display reads the entire word, sets the defined bit, then returns the new word value to the External Device. If the ladder program writes data to this word address during the bit write process, the resulting data may be incorrect.




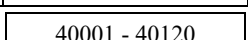

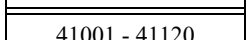

NOTE

- You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size.
Cf. GP Pro-EX Reference Manual "LS Area (Direct Access Method Area)"
- Refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"


6.3 PXR (AutoFIX) / PXR (NoAutoFIX) series

 This address can be specified as system data area.


| Device | Bit Address | Word Address | 32bits | Notes |
|--|---------------------|---|------------|--|
| Bit Data | 00001 | - | H/L | *1 |
| Read Only Bit Data | 10001 - 10016 | 10001 | |  *2 |
| Read Only Word Data (Internal) | - | 30001 - 30037 | |  *2 |
| Read Only Word Data (Engineering Unit) | - | 31001 - 31037 | |  *2 |
| Word Data (Internal) | 40001.00 - 40120.15 |  40001 - 40120 | |  *1*3 |
| Word Data (Engineering Unit) | 41001.00 - 41120.15 |  41001 - 41120 | |  *1*3 |


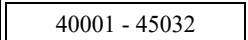

- *1 00001, 40001, and 41001 are addresses to order writing in the nonvolatile memory (FIX processing). Writing in the nonvolatile memory is performed by entering 1 (one) to the writing value.
- *2 Write disabled.
- *3 When you write to the bit address, the Display reads the entire word, sets the defined bit, then returns the new word value to the External Device. If the ladder program writes data to this word address during the bit write process, the resulting data may be incorrect.

NOTE

- You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size.
Cf. GP Pro-EX Reference Manual "LS Area (Direct Access Method Area)"
- Refer to the precautions on manual notation for icons in the table.
 "Manual Symbols and Terminology"


6.4 PUM series (PUMA / B)

 This address can be specified as system data area.

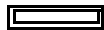
| Device | Bit Address | Word Address | 32bits | Notes |
|---------------------|---------------------|---|------------|--|
| Read Only Word Data | - | 30001 - 34061 | H/L |  *1 |
| Word Data | 40001.00 - 45032.15 |  40001 - 45032 | |  *2 |



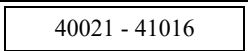

- *1 Write disabled.
- *2 When you write to the bit address, the Display reads the entire word, sets the defined bit, then returns the new word value to the External Device. If the ladder program writes data to this word address during the bit write process, the resulting data may be incorrect.

NOTE

- You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size.
Cf. GP Pro-EX Reference Manual "LS Area (Direct Access Method Area)"
- Refer to the precautions on manual notation for icons in the table.
 "Manual Symbols and Terminology"

6.5 PUM series (PUME)


 This address can be specified as system data area.

| Device | Bit Address | Word Address | 32bits | Notes |
|---------------------|---------------------|---|--|--|
| Read Only Word Data | - | 30064 - 31003 |  |  *1 |
| Word Data | 40021.00 - 41016.15 |  40021 - 41016 | |  *2 |


*1 Write disabled.



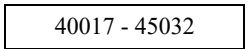

*2 When you write to the bit address, the Display reads the entire word, sets the defined bit, then returns the new word value to the External Device. If the ladder program writes data to this word address during the bit write process, the resulting data may be incorrect.

NOTE

- You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size.
Cf. GP Pro-EX Reference Manual "LS Area (Direct Access Method Area)"
- Refer to the precautions on manual notation for icons in the table.
 "Manual Symbols and Terminology"

6.6 PUM series (PUMV / N / T)


 This address can be specified as system data area.

| Device | Bit Address | Word Address | 32bits | Notes |
|---------------------|---------------------|---|--|--|
| Read Only Word Data | - | 30001 - 34061 |  |  *1 |
| Word Data | 40017.00 - 45032.15 |  40017 - 45032 | |  *2 |

*1 Write disabled.

*2 When you write to the bit address, the Display reads the entire word, sets the defined bit, then returns the new word value to the External Device. If the ladder program writes data to this word address during the bit write process, the resulting data may be incorrect.

NOTE

- You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size.
Cf. GP Pro-EX Reference Manual "LS Area (Direct Access Method Area)"
- Refer to the precautions on manual notation for icons in the table.
 "Manual Symbols and Terminology"

7 Device Code and Address Code

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

7.1 PXH series

| Device | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--|
| Read Only Word Data | 3 | 0001 | Value of (word address - 1) divided by 2 |
| Word Data | 4 | 0000 | Value of (word address - 1) divided by 2 |

7.2 PXG series

| Device | Device Name | Device Code (HEX) | Address Code |
|--|-------------|-------------------|-----------------------------|
| Read Only Word Data (Internal) | 30 | 0001 | Value of (word address - 1) |
| Read Only Word Data (Engineering Unit) | 31 | 0003 | Value of (word address - 1) |
| Word Data (Internal) | 40 | 0000 | Value of (word address - 1) |
| Word Data (Engineering Unit) | 41 | 0002 | Value of (word address - 1) |

7.3 PXR (AutoFIX) / PXR (NoAutoFIX) series

| Device | Device Name | Device Code (HEX) | Address Code |
|--|-------------|-------------------|-----------------------------|
| Read Only Word Data (Internal) | 30 | 0001 | Value of (word address - 1) |
| Read Only Word Data (Engineering Unit) | 31 | 0003 | Value of (word address - 1) |
| Word Data (Internal) | 40 | 0000 | Value of (word address - 1) |
| Word Data (Engineering Unit) | 41 | 0002 | Value of (word address - 1) |

7.4 PUM series

| Device | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|-----------------------------|
| Read Only Word Data | 3 | 0001 | Value of (word address - 1) |
| Word Data | 4 | 0000 | Value of (word address - 1) |

8 Error Messages

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

| Item | Description |
|-----------------------|---|
| No. | Error number |
| Device Name | Name of the External Device where an error has occurred. Device/PLC name is the title of the External Device set with GP Pro-EX. (Initial value [PLC1]) |
| Error Message | Displays messages related to an error that has occurred. |
| Error Occurrence Area | Displays the IP address or device address of the External Device where an error has occurred, or error codes received from the External Device. NOTE <ul style="list-style-type: none"> • IP address is displayed as "IP address (Decimal): MAC address (Hex)". • Device address is displayed as "Address: Device address". • Received error codes are displayed as "Decimal [Hex]". |

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 Manual" for details on the error messages common to the driver.

■ Error Codes Unique to External Device

| Error Code | Description |
|------------|-------------------------------------|
| 0x02 | Faulty address for coil or resistor |
| 0x06 | Busy condition |

