



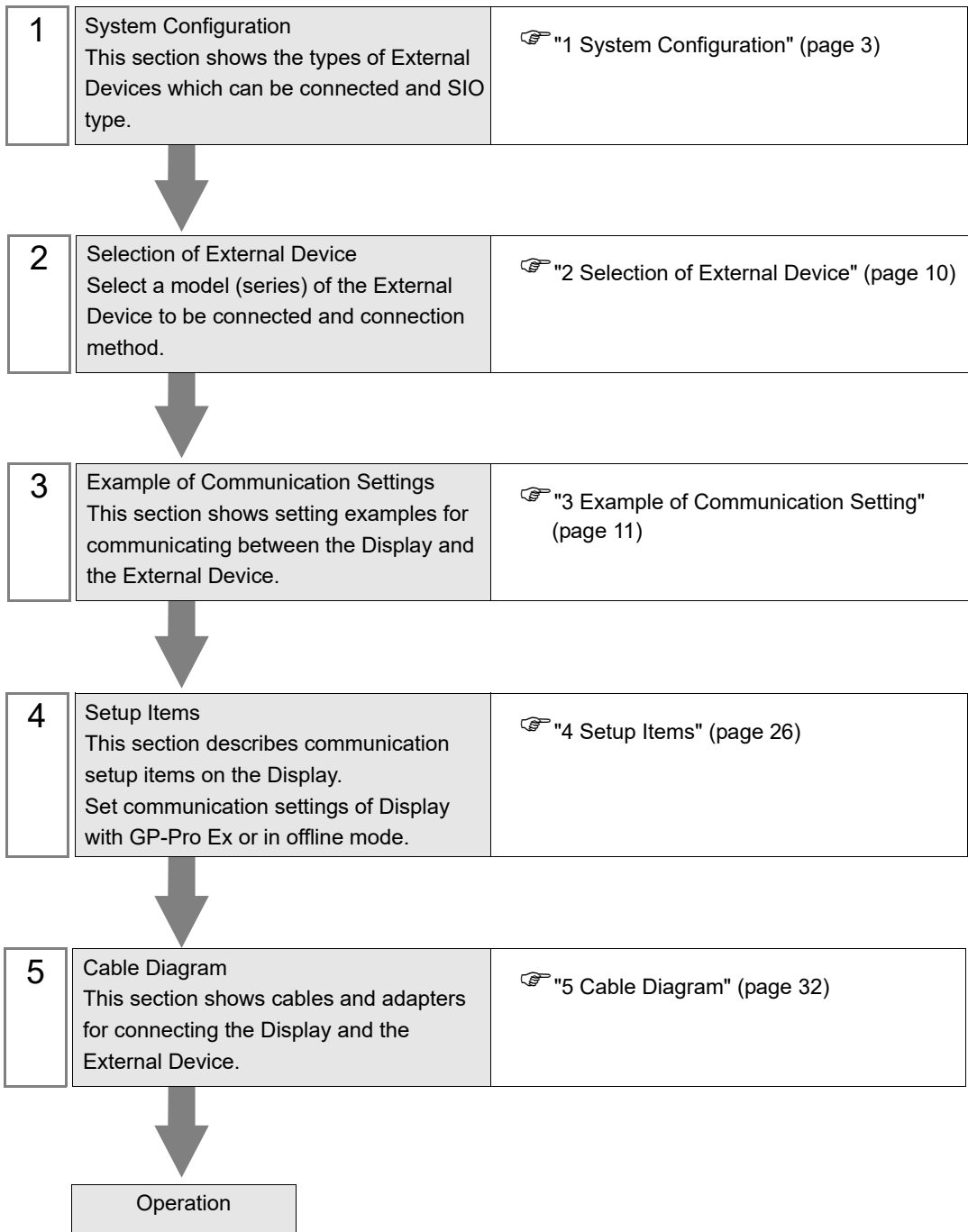
Uni-Telway Driver

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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

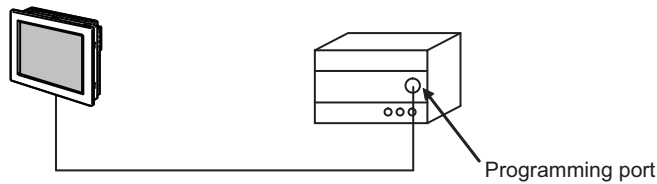
The system configuration in the case when the External Device and the Display are connected is shown.

| Series | CPU | Link I/F | SIO Type | Setting Example | Cable Diagram | |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------|-----------------------------|---------------------------|
| Nano | TSX 07 3L □ □ 28 TSX 07 30 10 □ □ TSX 07 31 16 □ □ TSX 07 31 24 □ □ TSX 07 32 □ □ 28 TSX 07 33 □ □ 28 | Programming port on CPU | RS232C | Setting Example 1 (page 11) | Cable Diagram 1 (page 32) | |
| | | | RS422/485 (2wire) | Setting Example 2 (page 14) | Cable Diagram 2 (page 34) | |
| | | Accessory box AUX or TER port on TSX P ACC 01 | RS422/485 (2wire) | Setting Example 2 (page 14) | Cable Diagram 2 (page 34) | |
| | | | Accessory box TSX SCA 62 | RS422/485 (2wire) | Setting Example 2 (page 14) | Cable Diagram 3 (page 43) |
| 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 TSX 37 21 101 TSX 37 22 101 TSX 37 21 001 TSX 37 22 001 | TER port on CPU | RS232C | Setting Example 3 (page 17) | Cable Diagram 1 (page 32) | |
| | | | RS422/485 (2wire) | Setting Example 4 (page 20) | Cable Diagram 2 (page 34) | |
| | | Accessory box AUX or TER port on TSX P ACC 01 | RS422/485 (2wire) | Setting Example 4 (page 20) | Cable Diagram 2 (page 34) | |
| | | | Accessory box TSX SCA 62 | RS422/485 (2wire) | Setting Example 4 (page 20) | Cable Diagram 3 (page 43) |
| | PCMCIA card TSX SCP 114 for RS485 | RS422/485 (2wire) | Setting Example 5 (page 23) | Cable Diagram 4 (page 52) | | |
| | | RS422/485 (2wire) | Setting Example 4 (page 20) | Cable Diagram 2 (page 34) | | |
| | Premium | TSX P57 103M TSX P57 153M TSX P57 203M TSX P57 253M TSX P57 303M TSX P57 353M TSX P57 453M | TER port on CPU | RS232C | Setting Example 3 (page 17) | Cable Diagram 1 (page 32) |
| | | | | RS422/485 (2wire) | Setting Example 4 (page 20) | Cable Diagram 2 (page 34) |
| Accessory box AUX or TER port on TSX P ACC 01 | | | RS422/485 (2wire) | Setting Example 4 (page 20) | Cable Diagram 2 (page 34) | |
| | | | Accessory box TSX SCA 62 | RS422/485 (2wire) | Setting Example 4 (page 20) | Cable Diagram 3 (page 43) |
| PCMCIA card TSX SCP 114 for RS485 | | | RS422/485 (2wire) | Setting Example 5 (page 23) | Cable Diagram 4 (page 52) | |
| Communication Module TSX SCY 21601 for RS485 | | | RS422/485 (2wire) | Setting Example 4 (page 20) | Cable Diagram 5 (page 67) | |

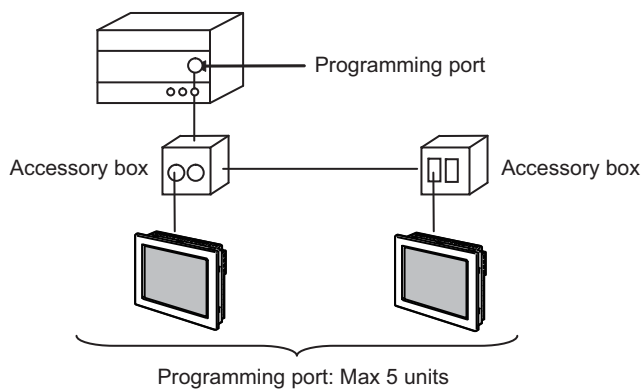
■ Connection Configuration

◆ Nano Series

- 1:1 Connection



- n:1 Connection



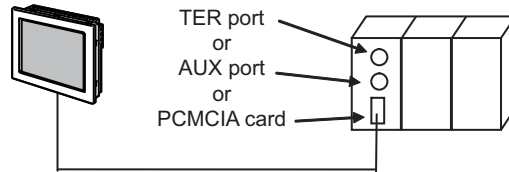
NOTE

- When LT-4*01TM/LT-Rear Module is included in the connection configuration, Polarization resistance of the LT-4*01TM/LT-Rear Module is set to stabilize a signal level in the communication line. (Polarization resistance is different from terminal resistance.)
 - When one LT-4*01TM/LT-Rear Module is used, set "560" (default).
 - When two or more LT-4*01TM/LT-Rear Modules are used, set "560" (default) for one of the LT-4*01TM/LT-Rear Module and set "None" for the other.
- Polarization resistance can be set in offline mode only. To display the setup screen, touch [Device/PLC Adjust] of the [Peripheral Settings] tab in the offline mode.

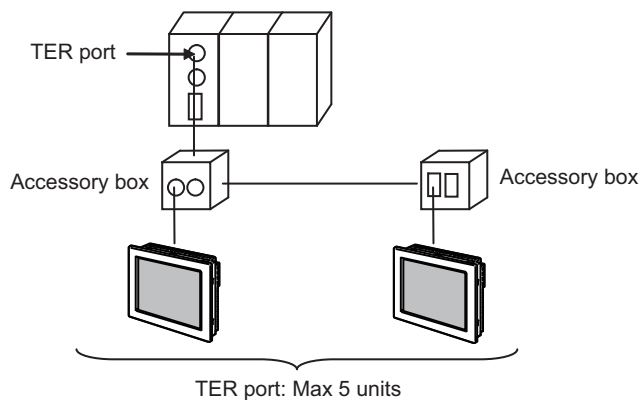
◆ Micro Series

- 1:1 Connection

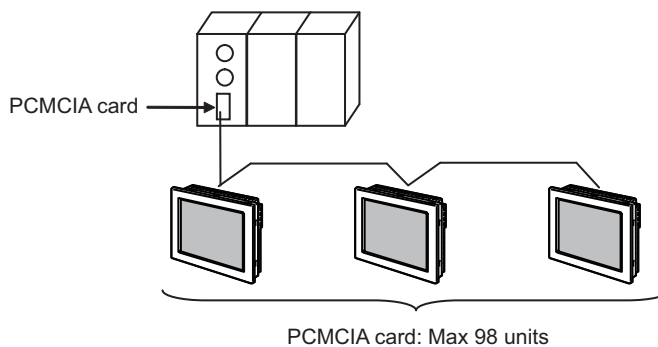
You can connect the Display to TER port, AUX port or PCMCIA card. Simultaneous connection is also available. However, depending on the connected cable, communication at the same time may not be possible. Refer to your External Device manual for details.



- n:1 Connection (when using accessory box)



- n:1 Connection (when using PCMCIA card for RS485)



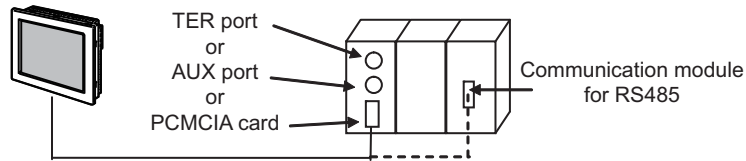
NOTE

- When LT-4*01TM/LT-Rear Module is included in the connection configuration, Polarization resistance of the LT-4*01TM/LT-Rear Module is set to stabilize a signal level in the communication line. (Polarization resistance is different from terminal resistance.)
 - When one LT-4*01TM/LT-Rear Module is used, set "560" (default).
 - When two or more LT-4*01TM/LT-Rear Modules are used, set "560" (default) for one of the LT-4*01TM/LT-Rear Module and set "None" for the other.
- Polarization resistance can be set in offline mode only. To display the setup screen, touch [Device/PLC Adjust] of the [Peripheral Settings] tab in the offline mode.

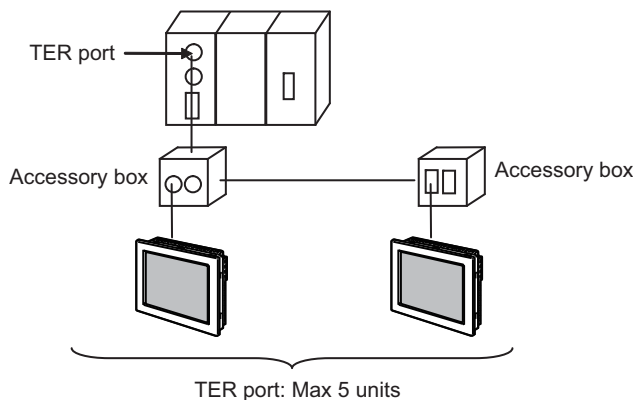
◆ Premium Series

• 1:1 Connection

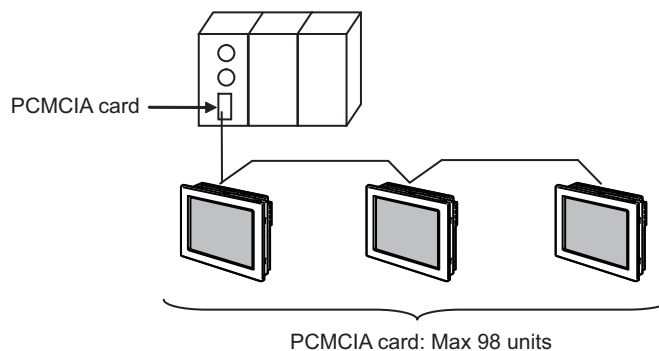
You can connect the Display to TER port, AUX port, PCMCIA card or communication module. Simultaneous connection is also available. However, depending on the connected cable, communication at the same time may not be possible. Refer to your External Device manual for details.



• n:1 Connection (when using accessory box)



• n:1 Connection (when using PCMCIA card for RS485)



NOTE

- When LT-4*01TM/LT-Rear Module is included in the connection configuration, Polarization resistance of the LT-4*01TM/LT-Rear Module is set to stabilize a signal level in the communication line. (Polarization resistance is different from terminal resistance.)
 - When one LT-4*01TM/LT-Rear Module is used, set "560" (default).
 - When two or more LT-4*01TM/LT-Rear Modules are used, set "560" (default) for one of the LT-4*01TM/LT-Rear Module and set "None" for the other.
- Polarization resistance can be set in offline mode only. To display the setup screen, touch [Device/PLC Adjust] of the [Peripheral Settings] tab in the offline mode.

■ IPC COM Port

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

Usable port

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

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

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

- *3 When making communication between an External Device and COM port on the Expansion slot, only RS-232C is supported. However, ER (DTR/CTS) control cannot be executed because of the specification of COM port.
For connection with External Device, use user-created cables and disable Pin Nos. 1, 4, 6 and 9. Please refer to the IPC manual for details of pin layout.
- *4 Set up the SIO type with the BIOS. Please refer to the IPC manual for details of BIOS.
- *5 When setting up communication between an External Device and the RS-232C/422/485 interface module, use the IPC (RS-232C) or PS5000 (RS-422/485) cable diagrams. However, when using PFXZPBMPR42P2 in a RS-422/485 (4-wire) configuration with no flow control, connect 7.RTS+ and 8.CTS+, and connect 6.RTS- and 9.CTS-.
When using RS-422/485 communication with External Devices, you may need to reduce the transmission speed and increase the TX Wait time.
- *6 To use RS-422/485 communication on the RS-232C/422/485 interface module, the DIP Switch setting is required. Please refer to "Knowledge Base" (FAQs) on the support site. (<http://www.pro-face.com/trans/en/manual/1001.html>)

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

- *7 Set up the SIO type with the DIP Switch. Please refer to the IPC manual for details of DIP Switch. The BOX Atom has not a switch to set the RS-232C, RS-422/485 mode. Use the BIOS for the setting.
- *8 For the connection with the External Device, on the user-created cable read as if the connector on the Display-side is a M12 A-coding 8 pin socket. The pin assignment is the same as described in the cable diagram. For the M12 A-coding connector, use PFXZPSCNM122.
- *9 In addition to COM1, you can also use the COM port on the optional interface.
- *10 Install the optional interface in the expansion slot.

DIP Switch settings (PL3000 / PS3000 Series)

RS-232C

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

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

RS-422/485 (4 wire)

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

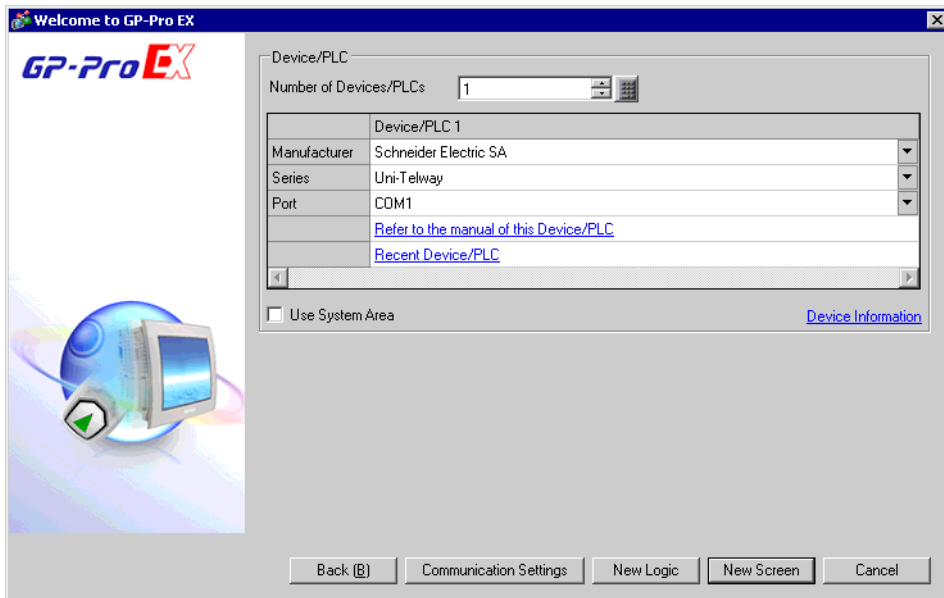
*1 When the connection configuration is a n:l connection, turn ON the set value.

RS-422/485 (2 wire)

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

2 Selection of External Device

Select the External Device to be connected to the Display.



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

3 Example of Communication Setting

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

3.1 Setting Example 1

■ Setting of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

SID 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)

Client Address

No. of Consecutive Address

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

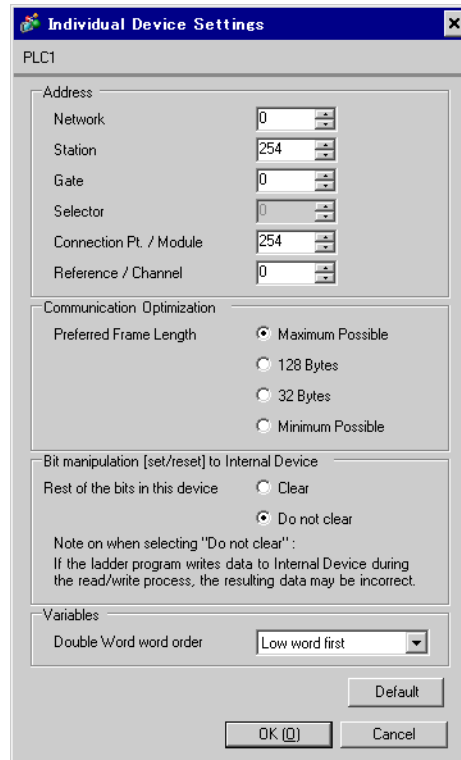
Allowable Number of Devices/PLCs 16 [Add Device](#)

| No. | Device Name | Settings |
|-----|-------------|---------------------------------------------------|
| 1 | PLC1 | Network=0,Station=254,Gate=0,Selector=0,Connectio |

◆ 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.



The dialog box is titled "Individual Device Settings" and contains the following sections:

- PLC1**
- Address**: Network (0), Station (254), Gate (0), Selector (0), Connection Pt. / Module (254), Reference / Channel (0).
- Communication Optimization**: Preferred Frame Length (Maximum Possible, 128 Bytes, 32 Bytes, Minimum Possible).
- Bit manipulation [set/reset] to Internal Device**: Rest of the bits in this device (Clear, Do not clear).
Note on when selecting "Do not clear": If the ladder program writes data to Internal Device during the read/write process, the resulting data may be incorrect.
- Variables**: Double Word word order (Low word first).

Buttons: Default, OK (O), Cancel.

■ Setting of External Device

Use the ladder software "PL7-07" for communication settings on External Device.

Select [Programming Port] from [Configuration] in PL7-07 and perform the communication settings as below.

| Setup Items | Setup Description |
|------------------|-------------------|
| Type | UNI-TELWAY Master |
| Bit/sec | 19200 |
| DateBits | 8 bits |
| ParityOdd | Odd |
| Stop Bits | 1 bit |
| Number of Slaves | 8 |

◆ Notes

- Do not set the address which exceeds "Number of Slaves" on External Device in Server Address and Clients Address. If you set the address which exceeds "Number of Slaves" in Server Address and Clients Address, timeout error will occur, which disables the communication with the External Device. In addition, when you connect many client devices (Display/External Device) on the same serial network, set the longer timeout on the Display.

3.2 Setting Example 2

■ Setting of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

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)

Client Address

No. of Consecutive Address

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.


[Default](#)

Device-Specific Settings

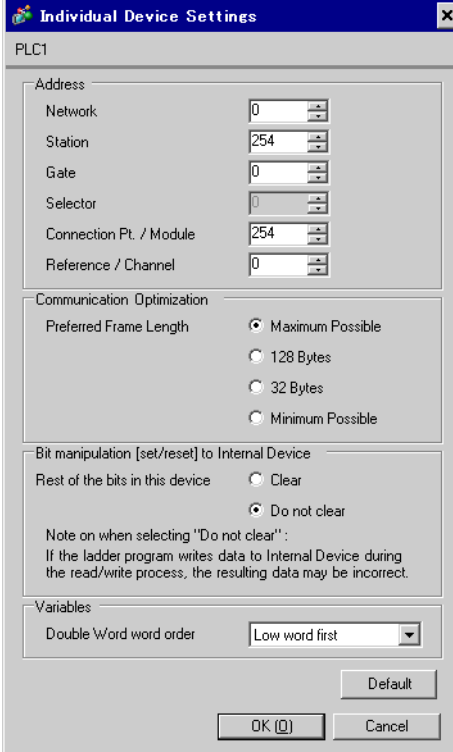
Allowable Number of Devices/PLCs [Add Device](#)

| No. | Device Name | Settings | Add Indirect Device |
|-----|-------------|---------------------------------------------------|---------------------|
| 1 | PLC1 | Network=0,Station=254,Gate=0,Selector=0,Connectio | + |

◆ 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.



The dialog box is titled "Individual Device Settings" and contains the following sections:

- PLC1**
- Address**: Network (0), Station (254), Gate (0), Selector (0), Connection Pt. / Module (254), Reference / Channel (0).
- Communication Optimization**: Preferred Frame Length (Maximum Possible, 128 Bytes, 32 Bytes, Minimum Possible).
- Bit manipulation [set/reset] to Internal Device**: Rest of the bits in this device (Clear, Do not clear).
Note on when selecting "Do not clear": If the ladder program writes data to Internal Device during the read/write process, the resulting data may be incorrect.
- Variables**: Double Word word order (Low word first).
- Buttons: Default, OK (O), Cancel.

■ Setting of External Device

Use the ladder software "PL7-07" for communication settings on External Device.

Select [Programming Port] from [Configuration] in PL7-07 and perform the communication settings as below.

| Setup Items | Setup Description |
|------------------|-------------------|
| Type | UNI-TELWAY Master |
| Bit/sec | 19200 |
| DateBits | 8 bits |
| ParityOdd | Odd |
| Stop Bits | 1 bit |
| Number of Slaves | 8 |

◆ Notes

- Do not set the address which exceeds "Number of Slaves" on External Device in Server Address and Clients Address. If you set the address which exceeds "Number of Slaves" in Server Address and Clients Address, timeout error will occur, which disables the communication with the External Device. In addition, when you connect many client devices (Display/External Device) on the same serial network, set the longer timeout on the Display.

3.3 Setting Example 3

■ Setting of GP-Pro EX

◆ Communication Settings

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

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

Summary

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

SID 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)

Client Address

No. of Consecutive Address

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.


[Default](#)

Device-Specific Settings

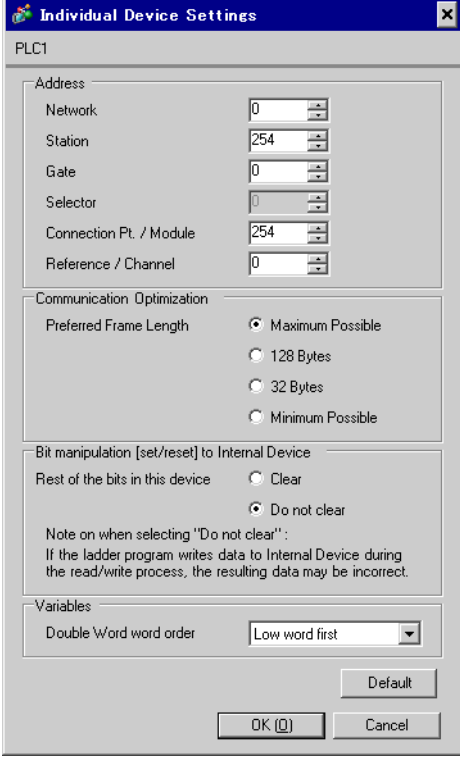
Allowable Number of Devices/PLCs 16 [Add Device](#)

| No. | Device Name | Settings | Add Indirect Device |
|-----|-------------|---------------------------------------------------|---------------------|
| 1 | PLC1 | Network=0,Station=254,Gate=0,Selector=0,Connectio | + |

◆ 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.



The dialog box is titled "Individual Device Settings" and contains the following sections:

- PLC1**
- Address**: A group box containing six spinners: Network (0), Station (254), Gate (0), Selector (0), Connection Pt. / Module (254), and Reference / Channel (0).
- Communication Optimization**: A group box containing a radio button selection for Preferred Frame Length:
 - Maximum Possible
 - 128 Bytes
 - 32 Bytes
 - Minimum Possible
- Bit manipulation [set/reset] to Internal Device**: A group box containing a radio button selection for Rest of the bits in this device:
 - Clear
 - Do not clear

Note on when selecting "Do not clear":
If the ladder program writes data to Internal Device during the read/write process, the resulting data may be incorrect.
- Variables**: A group box containing a dropdown menu for Double Word word order, currently set to "Low word first".
- Buttons**: "Default", "OK (O)", and "Cancel".

■ Setting of External Device

Use the ladder software "PL7-07" for communication settings on External Device.

Go to [Configuration] in [Application Browser], [Hardware Configuration] and [Comm] in this order in "PL7-07", and perform the communication settings as below.

| Setup Items | Setup Description |
|-------------------|-------------------|
| CHANNEL | CHANNEL 0 |
| | UNI-TELWAY LINK |
| Type | Master |
| Trasmission Speed | 19200 |
| Data | 8 bits |
| Parity | Odd |
| Stop | 1 bit |
| Number of Slaves | 8 |

◆ Notes

- Do not set the address which exceeds "Number of Slaves" on External Device in Server Address and Clients Address. If you set the address which exceeds "Number of Slaves" in Server Address and Clients Address, timeout error will occur, which disables the communication with the External Device. In addition, when you connect many client devices (Display/External Device) on the same serial network, set the longer timeout on the Display.

3.4 Setting Example 4

■ Setting of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

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)

Client Address

No. of Consecutive Address

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.


[Default](#)

Device-Specific Settings

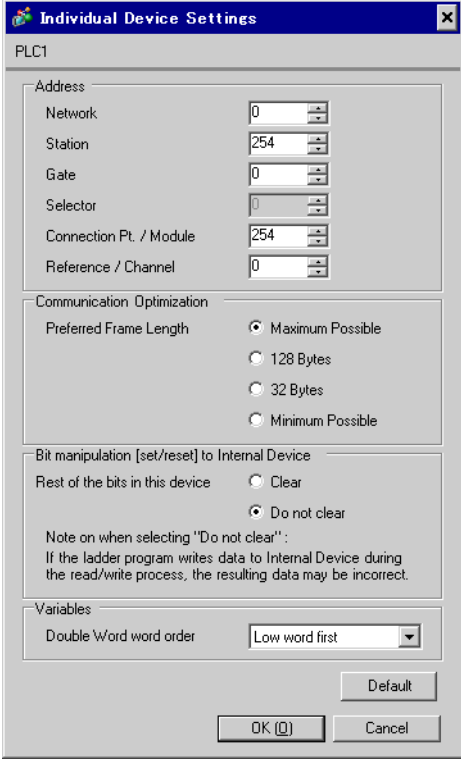
Allowable Number of Devices/PLCs [Add Device](#)

| No. | Device Name | Settings | Add Indirect Device |
|-----|-------------|---------------------------------------------------|---------------------|
| 1 | PLC1 | Network=0,Station=254,Gate=0,Selector=0,Connectio | + |

◆ 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.



The dialog box is titled "Individual Device Settings" and is for "PLC1". It contains the following sections:

- Address:** A group box containing six spinners: Network (0), Station (254), Gate (0), Selector (0), Connection Pt. / Module (254), and Reference / Channel (0).
- Communication Optimization:** A group box with a radio button selection for Preferred Frame Length:
 - Maximum Possible
 - 128 Bytes
 - 32 Bytes
 - Minimum Possible
- Bit manipulation [set/reset] to Internal Device:** A group box with a radio button selection for Rest of the bits in this device:
 - Clear
 - Do not clear

Note on when selecting "Do not clear":
If the ladder program writes data to Internal Device during the read/write process, the resulting data may be incorrect.
- Variables:** A group box with a dropdown menu for Double Word word order, currently set to "Low word first".

At the bottom right, there are three buttons: "Default", "OK (O)", and "Cancel".

■ Setting of External Device

Use the ladder software "PL7-07" for communication settings on External Device.

Go to [Configuration] in [Application Browser], [Hardware Configuration] and [Comm] in this order in "PL7-07", and perform the communication settings as below.

| Setup Items | Setup Description |
|-------------------|-------------------|
| CHANNEL | CHANNEL 0 |
| | UNI-TELWAY LINK |
| Type | Master |
| Trasmission Speed | 19200 |
| Data | 8 bits |
| Parity | Odd |
| Stop | 1 bit |
| Number of Slaves | 8 |

◆ Notes

- Do not set the address which exceeds "Number of Slaves" on External Device in Server Address and Clients Address. If you set the address which exceeds "Number of Slaves" in Server Address and Clients Address, timeout error will occur, which disables the communication with the External Device. In addition, when you connect many client devices (Display/External Device) on the same serial network, set the longer timeout on the Display.

3.5 Setting Example 5

■ Setting of GP-Pro EX

◆ Communication Settings

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

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

Summary

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

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)

Client Address

No. of Consecutive Address

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

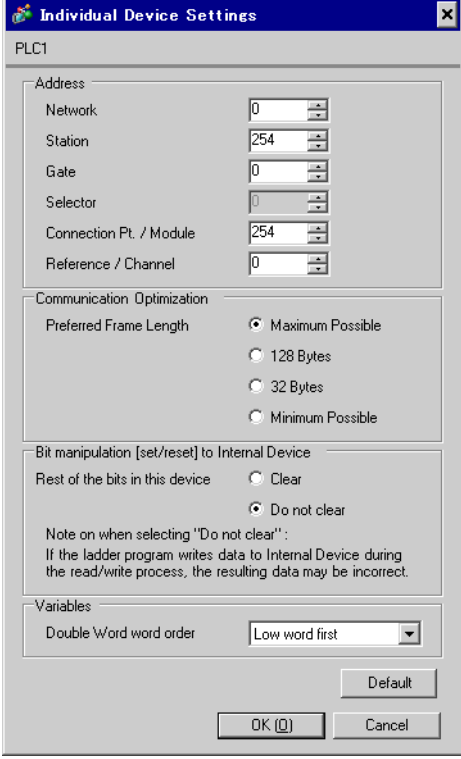
Allowable Number of Devices/PLCs [Add Device](#)

| No. | Device Name | Settings | Add Indirect Device |
|-----|-------------|---------------------------------------------------|----------------------------------|
| 1 | PLC1 | Network=0,Station=254,Gate=0,Selector=0,Connectio | <input type="button" value="+"/> |

◆ 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.



The dialog box is titled "Individual Device Settings" and contains the following sections:

- PLC1**
- Address**: Network (0), Station (254), Gate (0), Selector (0), Connection Pt. / Module (254), Reference / Channel (0).
- Communication Optimization**: Preferred Frame Length (Maximum Possible, 128 Bytes, 32 Bytes, Minimum Possible).
- Bit manipulation [set/reset] to Internal Device**: Rest of the bits in this device (Clear, Do not clear).
Note on when selecting "Do not clear": If the ladder program writes data to Internal Device during the read/write process, the resulting data may be incorrect.
- Variables**: Double Word word order (Low word first).

Buttons: Default, OK (O), Cancel.

■ Setting of External Device

Use the ladder software "PL7-07" for communication settings on External Device.

Go to [Configuration] in [Application Browser], [Hardware Configuration] and [Comm] in this order in "PL7-07", and perform the communication settings as below.

| Setup Items | Setup Description |
|-------------------|----------------------------------|
| CHANNEL | CHANNEL 1 |
| | TSX SCP 114 RS485 MP PCMCIA CARD |
| | UNI-TELWAY LINK |
| Type | Master |
| Trasmission Speed | 19200 |
| Data | 8 bits |
| Parity | Odd |
| Stop | 1 bit |
| Number of Slaves | 8 |


◆ Notes

- Do not set the address which exceeds "Number of Slaves" on External Device in Server Address and Clients Address. If you set the address which exceeds "Number of Slaves" in Server Address and Clients Address, timeout error will occur, which disables the communication with the External Device. In addition, when you connect many client devices (Display/External Device) on the same serial network, set the longer timeout on the Display.

4 Setup Items

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

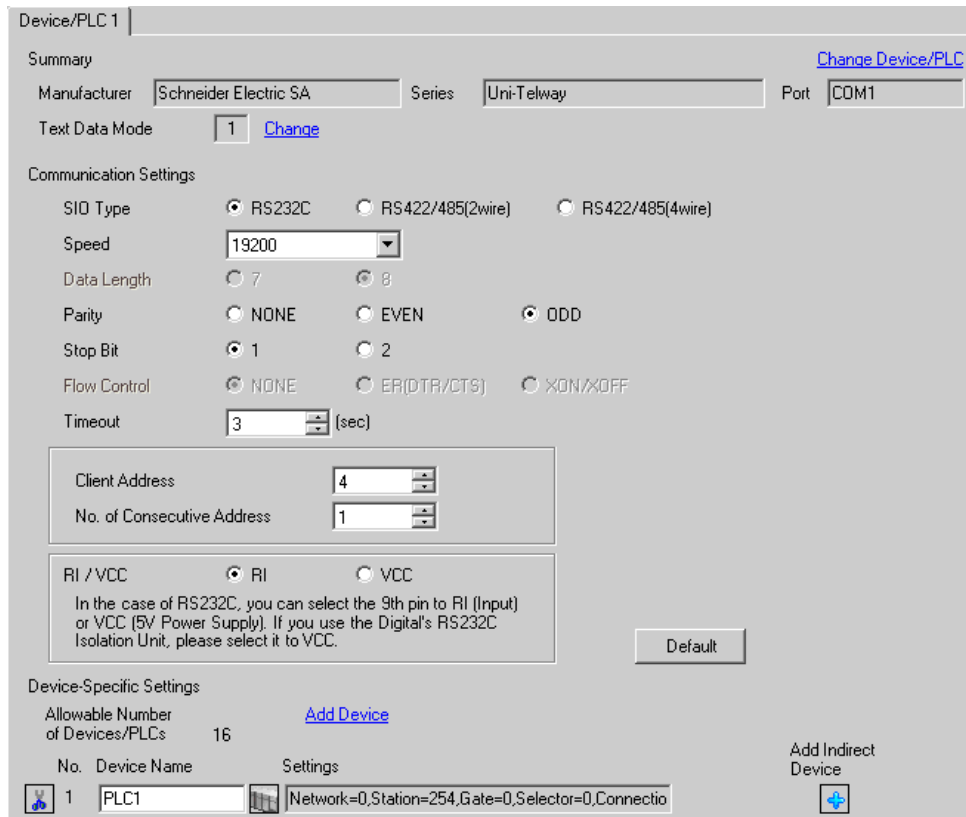
The setting of each parameter must be identical to that of External Device.

 "3 Example of Communication Setting" (page 11)

4.1 Setup Items in GP-Pro EX

■ Communication Settings

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



Device/PLC 1

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/DS) XON/XOFF

Timeout (sec)

Client Address

No. of Consecutive Address

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 |
|-----|-------------|-------------------------------------------------------|
| 1 | PLC1 | Network=0, Station=254, Gate=0, Selector=0, Connectio |

| 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 | Display data length. |
| Parity | Select how to check parity. |
| Stop Bit | Select stop bit length. |
| Flow Control | Display 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. |
| Client Address | Use an integer from 1 to 98 to enter the client address (source address). |


| Setup Items | Setup Description |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No. of Consecutive Address ^{*1} | Use an integer 1 to 5 to enter the No. of consecutive address. |
| 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. |

*1 Set the value of "Client address + Consecutive address number - 1" to 98 or less. Address which exceeds 98 is not used because it is not polled from the master.

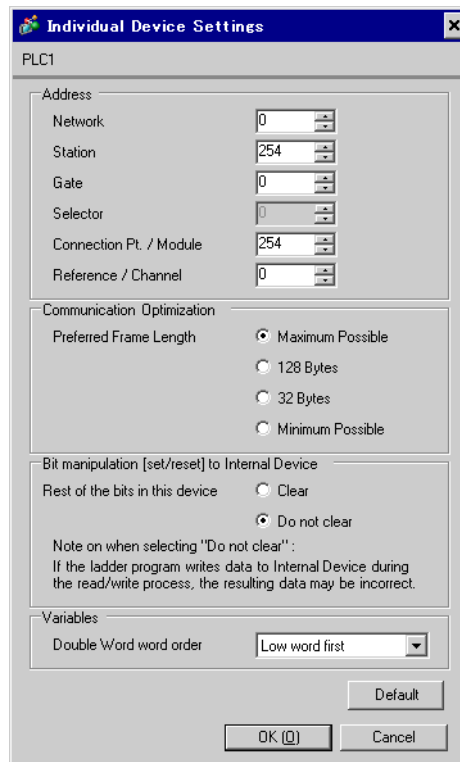
NOTE • Refer to the GP-Pro EX Reference Manual for Indirect Device.

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 |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network | Enter the Network No. of the destination External Device. |
| Station | Enter the station No. in the network. |
| Gate | Enter the gate No. in the network. |
| Selector | Enter the connected communication channel. This item becomes available only when the gate value is "8." |
| Connection Pt./Module | Enter the connection point in case of Level 6 Addressing, and enter the module number in case of Level 5 Addressing. |
| Reference/Channel | Enter the reference in case of Level 6 Addressing, and enter the channel in case of Level 5 Addressing. |
| Preferred Frame Length | Specify the frame length. |
| Rest of the bits in this device | From "Clear" or "Do not clear", select treatment of the rest of the bits in the same word when the bit manipulation to Internal Device is performed. |
| Double Word word order*1 | Specify the word order when displaying the 16-bit device in 32-bit. |

*1 When you change the word order, set all devices in the screen data again.

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.

| Comm. | Device | Option | | |
|--------------------|--------|--------------------------------------------------------------------------------------------|--------|------------------------|
| Uni-Telway | | | [COM1] | Page 1/1 |
| SIO Type | | RS232C | | |
| Speed | | 19200 | | |
| 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 | | |
| Client Address | | 4 | | |
| No. of Consecutive | | 1 | | |
| | Exit | | Back | 2006/04/12 14:53:43 |

| 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 | Display data length. |
| Parity | Select how to check parity. |
| Stop Bit | Select stop bit length. |
| Flow Control | Display 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. |
| Client Address | Use an integer from 1 to 98 to enter the client address (source address). |

| Setup Items | Setup Description |
|----------------------|----------------------------------------------------------------|
| No. of Consecutive*1 | Use an integer 1 to 5 to enter the No. of consecutive address. |

*1 Set the value of "Client address + Consecutive address number - 1" to 98 or less. Address which exceeds 98 is not used because it is not polled from the master.

■ Device Setting

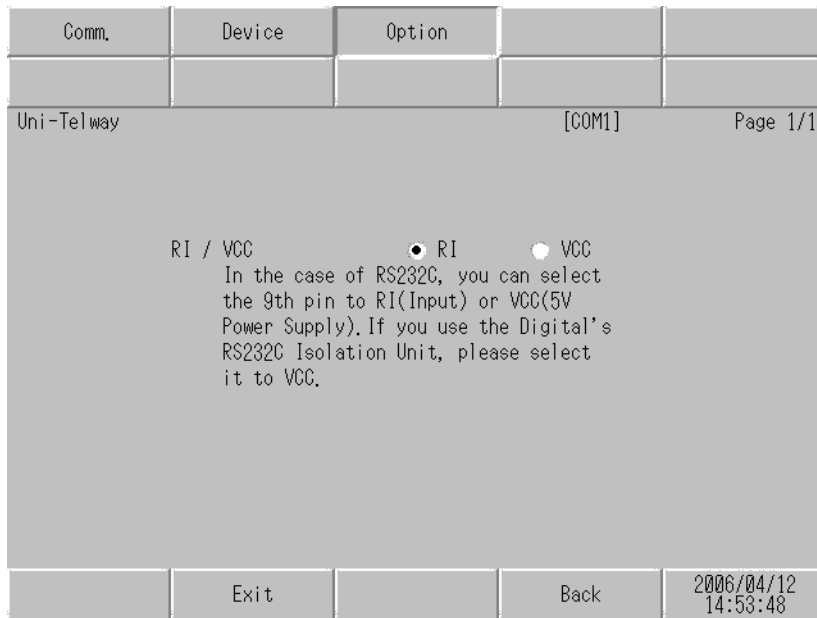
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings]. Touch the External Device you want to set from the displayed list, and touch [Device].

| Comm. | Device | Option | | |
|---------------------------------------------------|-----------------------------------------------|--------|--------|------------------------|
| Uni-Telway | | | [COM1] | Page 1/1 |
| Device/PLC Name <input type="text" value="PLC1"/> | | | | |
| Network | <input type="text" value="0"/> | ▼ ▲ | | |
| Station | <input type="text" value="254"/> | ▼ ▲ | | |
| Gate | <input type="text" value="0"/> | ▼ ▲ | | |
| Selector | <input type="text" value="0"/> | ▼ ▲ | | |
| Connection Pt./Module | <input type="text" value="254"/> | ▼ ▲ | | |
| Reference/Channel | <input type="text" value="0"/> | ▼ ▲ | | |
| Frame Length | <input type="text" value="Maximum Possible"/> | | | |
| Bit manipulation to Internal Device | Rest of bits in word are not cleared | | | |
| Double Word word order | Low word first | | | |
| | Exit | | Back | 2006/04/12 14:53:45 |

| 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]) |
| Network | Enter the Network No. of the destination External Device. |
| Station | Enter the station No. in the network. |
| Gate | Enter the gate No. in the network. |
| Selector | Enter the connected communication channel. This item becomes available only when the gate value is "8." |
| Connection Pt./Module | Enter the connection point in case of Level 6 Addressing, and enter the module number in case of Level 5 Addressing. |
| Reference/Channel | Enter the reference in case of Level 6 Addressing, and enter the channel in case of Level 5 Addressing. |
| Frame Length | Specify the frame length. |
| Bit manipulation to Internal Device | From "Rest of bits in word are cleared" or "Rest of bits in word are not cleared", display treatment of the rest of the bits in the same word when the bit manipulation to Internal Device is performed. (Not available to set in offline mode.) |
| Double Word word order | The word order when displaying the 16-bit device in 32-bit is displayed. You cannot change the word order in [Device Setting] 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 (COM1) GP4000* ¹ (COM1) SP5000* ² (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC* ³ PC/AT | 1A | Cable by Schneider Electric Industries TSX PCX 1031 (2.5m) | |
| GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1) | 1B | User-created cable + Cable by Schneider Electric Industries TSX PCX 1031 (2.5m) | |

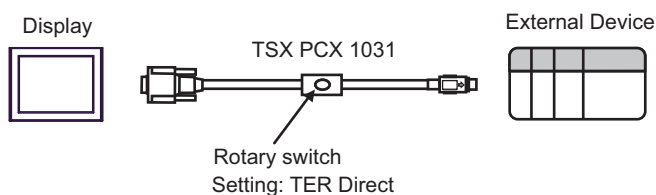
*1 All GP4000 models except GP-4100 series and GP-4203T

*2 Except SP-5B00

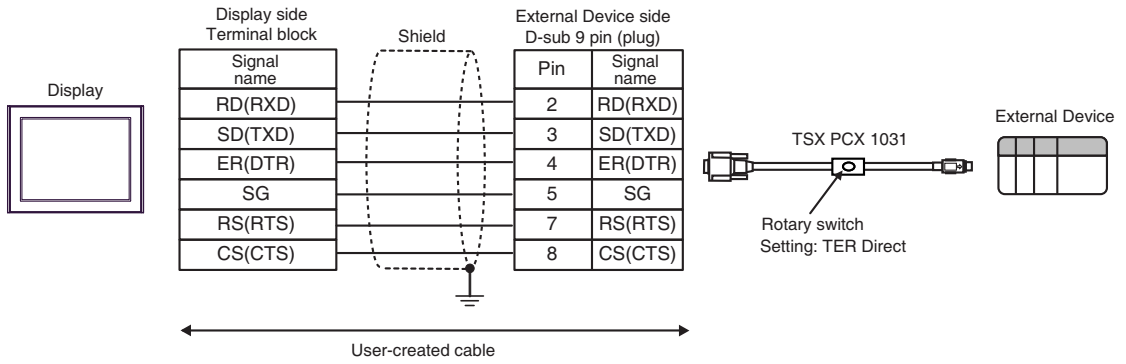
*3 Only the COM port which can communicate by RS-232C can be used.

■ IPC COM Port (page 7)

1A)



1B)



5.2 Cable Diagram 2

| Display (Connection Port) | Cable | | Notes |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000 ^{*2} (COM2) LT3000 (COM1) | 2A | COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable | The cable length must be 10m 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 | The cable length must be 10m 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 | The cable length must be 10m or less. |
| | 2F | User-created cable | |
| GP-4106 (COM1) GP-4116T (COM1) | 2G | User-created cable | The cable length must be 10m or less. |
| GP-4107 (COM1) GP-4*03T ^{*5} (COM2) GP-4203T (COM1) | 2H | User-created cable | The cable length must be 10m or less. |
| GP4000 ^{*6} (COM2) GP-4201T (COM1) SP5000 ^{*7} (COM1/2) SP-5B00 (COM2) ST6000 ^{*8} (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 ^{*9} (COM2) PS6000 (Basic Box) (COM1/2) | 2I | RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 ^{*10} + User-created cable Cable adaptor by Schneder Electric | The cable length must be 10m or less. |
| | 2B | User-created cable | |
| LT-4*01TM (COM1) LT-Rear Module (COM1) | 2J | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81 | The cable length must be 5m or less. |

| Display (Connection Port) | Cable | | Notes |
|------------------------------------------------------------------------------------------------|-------|--------------------|---------------------------------------|
| PE-4000B ^{*11} PS5000 ^{*11} PS6000 (Optional Interface) ^{*11} | 2K | User-created cable | The cable length must be 10m 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 7)

*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

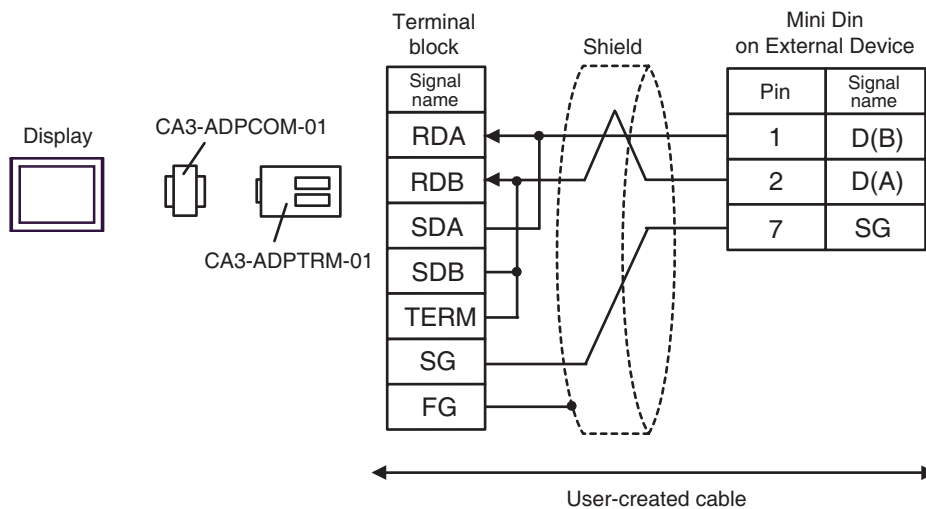
*9 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

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

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

■ IPC COM Port (page 7)

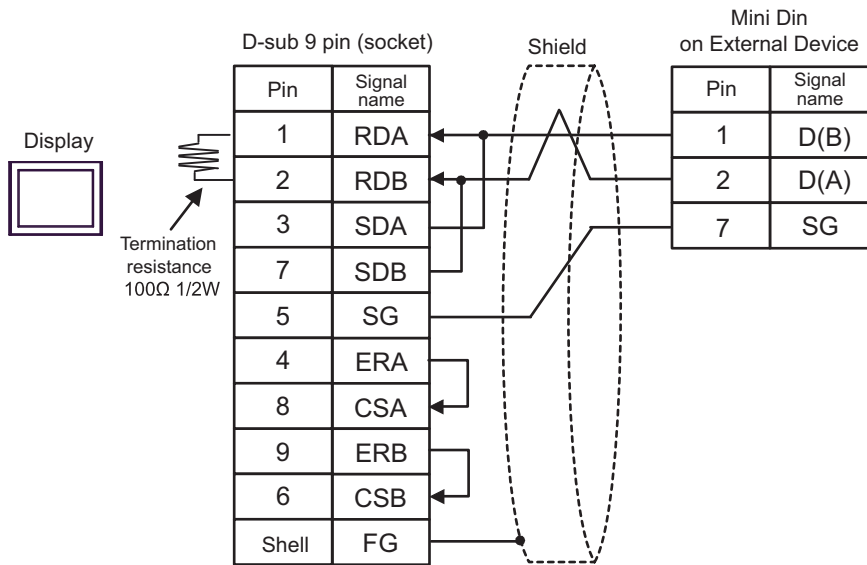
2A)



NOTE

- The cable length must be 10m or less.

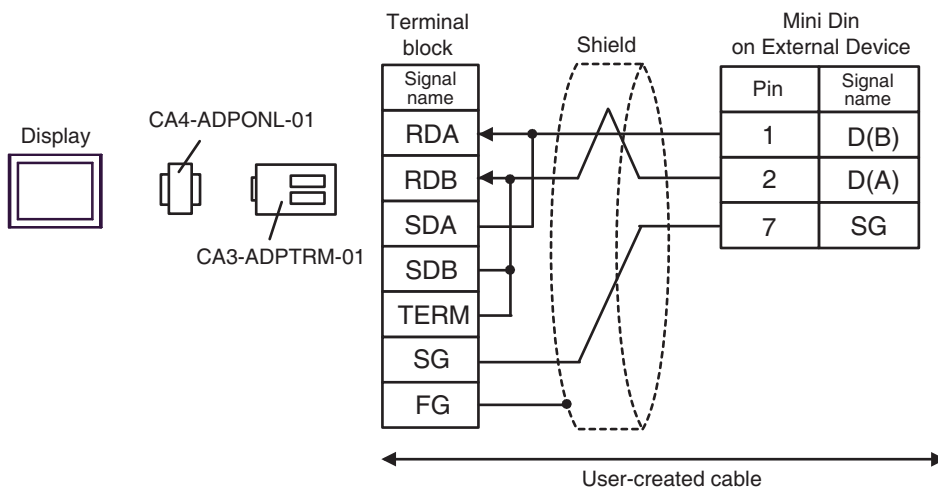
2B)



NOTE

- The cable length must be 10m or less.

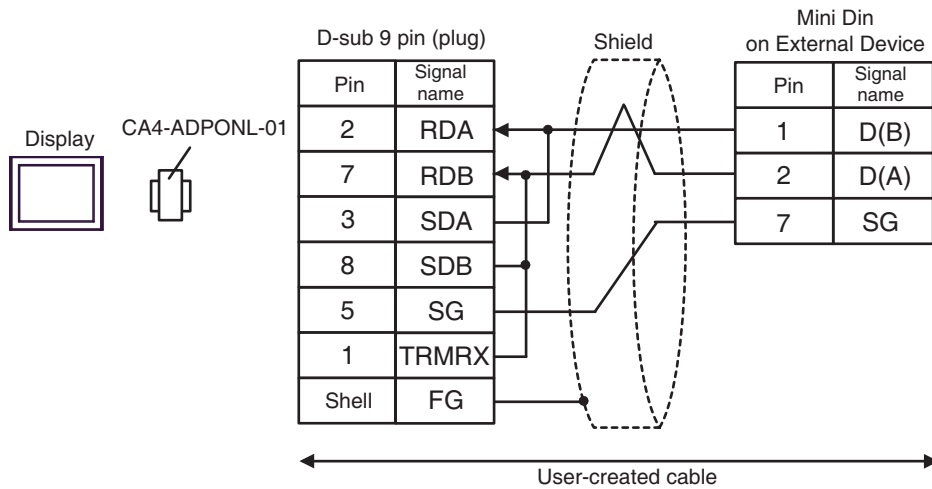
2C)



NOTE

- The cable length must be 10m or less.

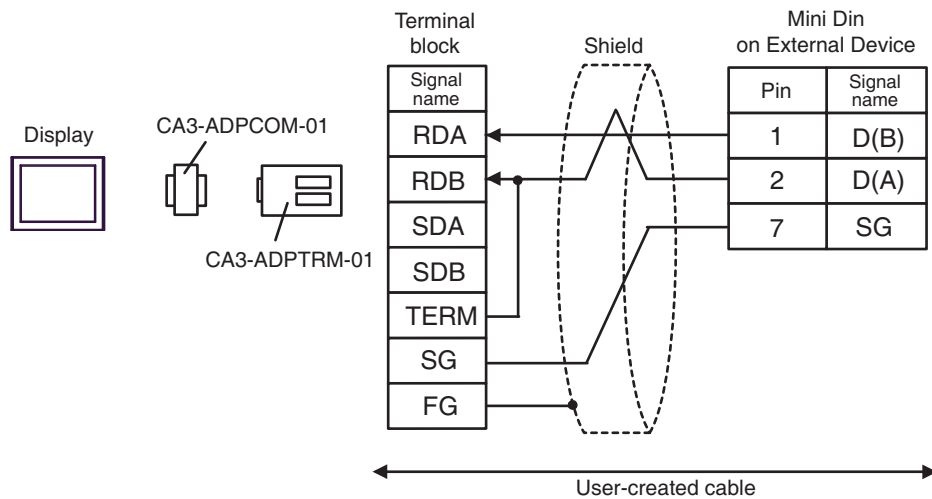
2D)



NOTE

- The cable length must be 10m or less.

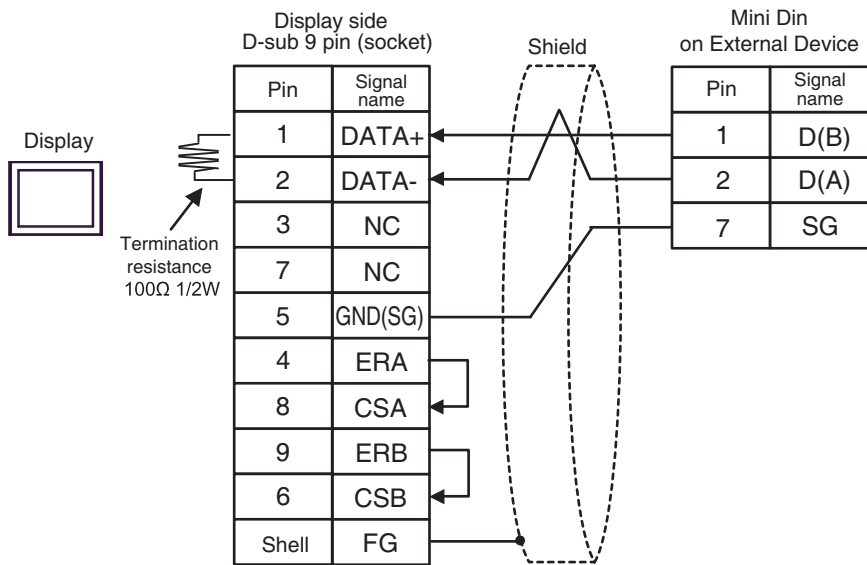
2E)



NOTE

- The cable length must be 10m or less.

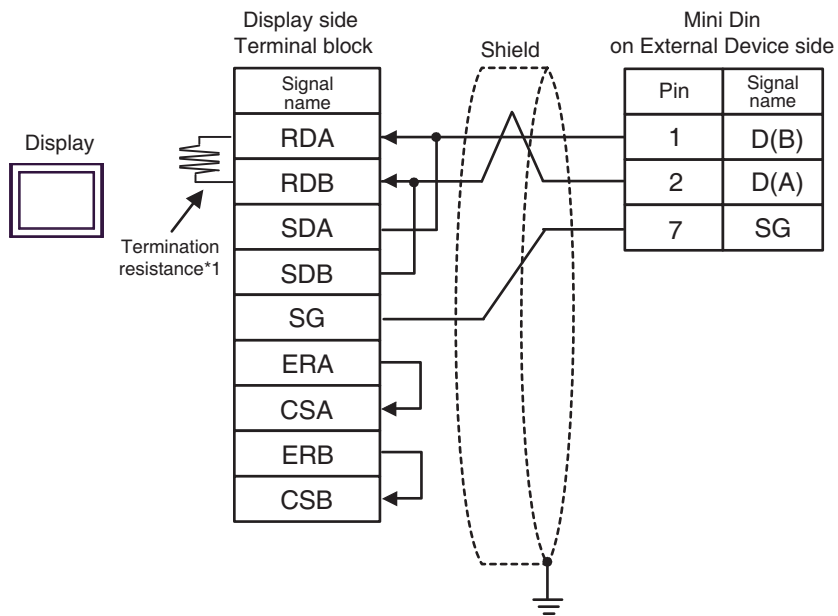
2F)



NOTE

- The cable length must be 10m or less.

2G)



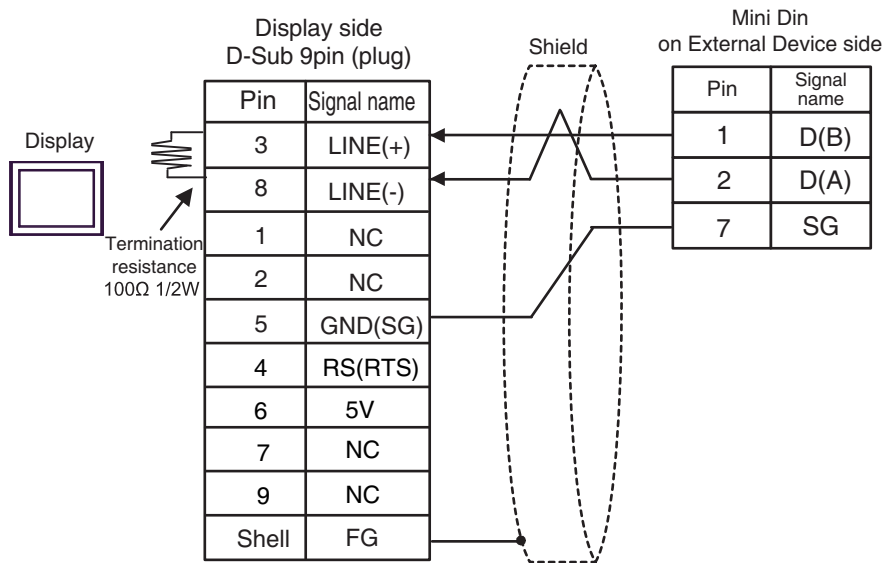
*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

NOTE

- The cable length must be 10m or less.

2H)

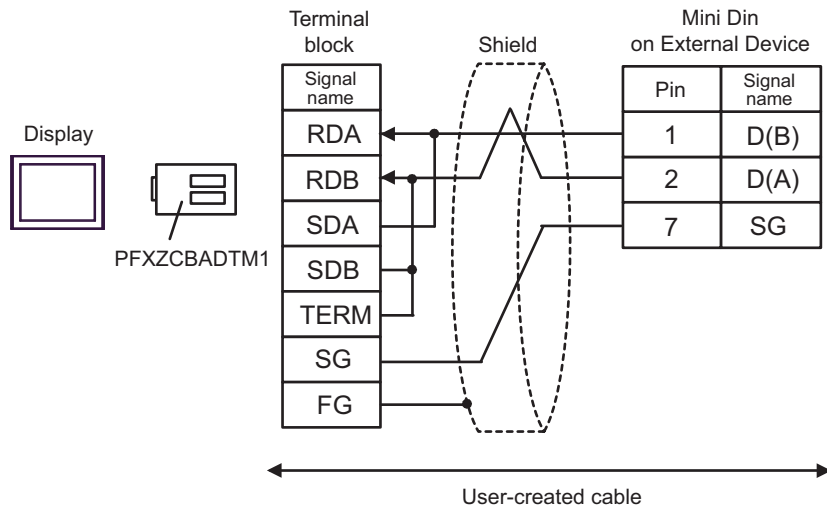
**IMPORTANT**

- 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.

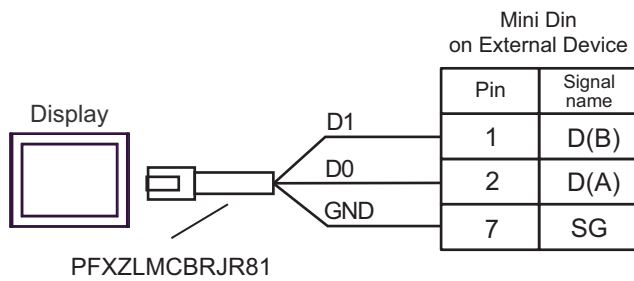
2I)



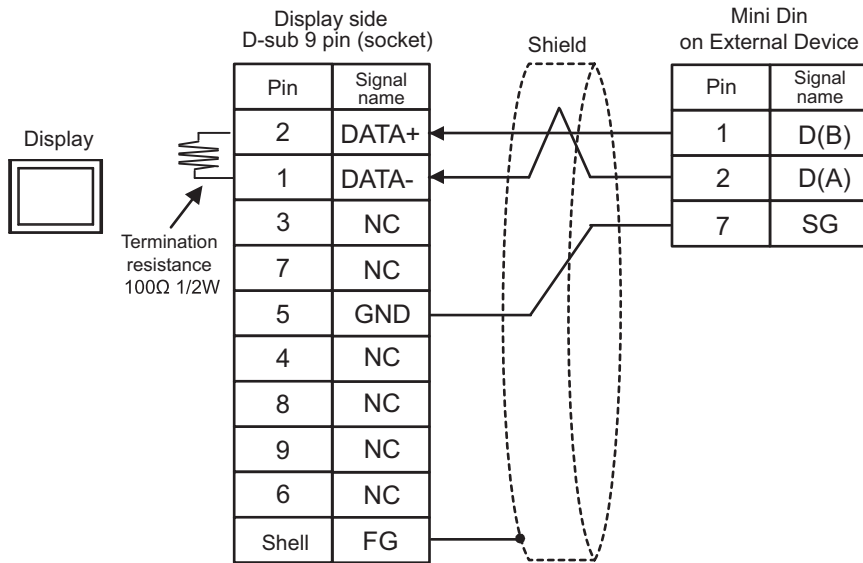
NOTE

- The cable length must be 10m or less.

2J)



2K)

**NOTE**

- The cable length must be 10m or less.

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 | The cable length must be 10m 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 | The cable length must be 10m 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 | The cable length must be 10m or less. |
| | 3F | User-created cable | |
| GP-4106 (COM1) GP-4116T (COM1) | 3G | User-created cable | The cable length must be 10m or less. |
| GP-4107 (COM1) GP-4*03T* ⁵ (COM2) GP-4203T (COM1) | 3H | User-created cable | The cable length must be 10m or less. |
| GP4000* ⁶ (COM2) GP-4201T (COM1) SP5000* ⁷ (COM1/2) SP-5B00 (COM2) ST6000* ⁸ (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000* ⁹ (COM2) PS6000 (Basic Box) (COM1/2) | 3I | RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 * ¹⁰ + User-created cable | The cable length must be 10m or less. |
| | 3B | User-created cable | |
| LT-4*01TM (COM1) LT-Rear Module (COM1) | 3J | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81 | The cable length must be 5m or less. |

| Display (Connection Port) | Cable | | Notes |
|------------------------------------------------------------------------------------------------|-------|--------------------|---------------------------------------|
| PE-4000B ^{*11} PS5000 ^{*11} PS6000 (Optional Interface) ^{*11} | 3K | User-created cable | The cable length must be 10m 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 7)

*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

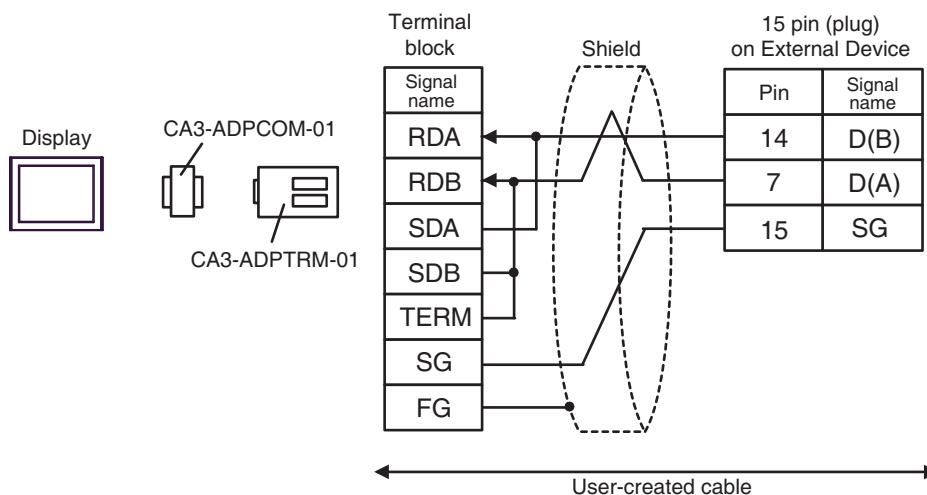
*9 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

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

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

■ IPC COM Port (page 7)

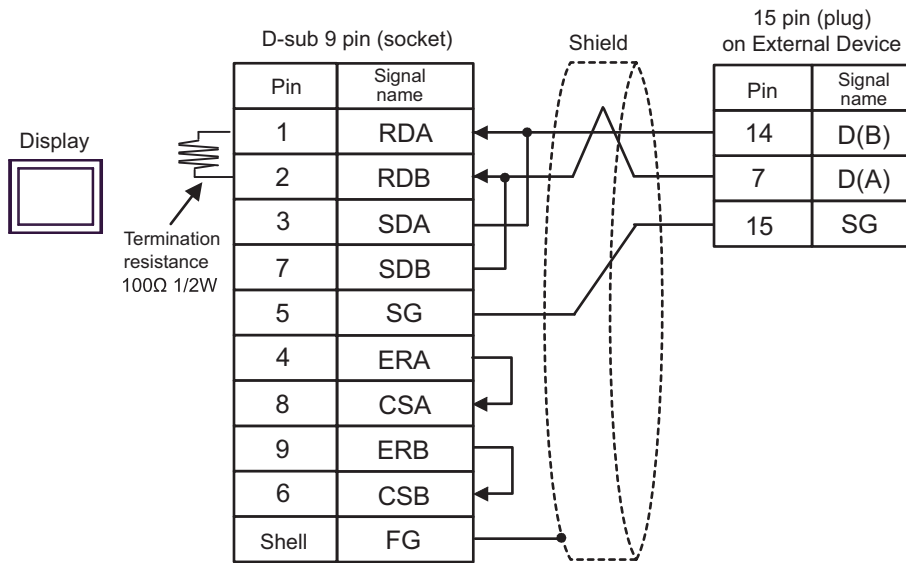
3A)



NOTE

- The cable length must be 10m or less.

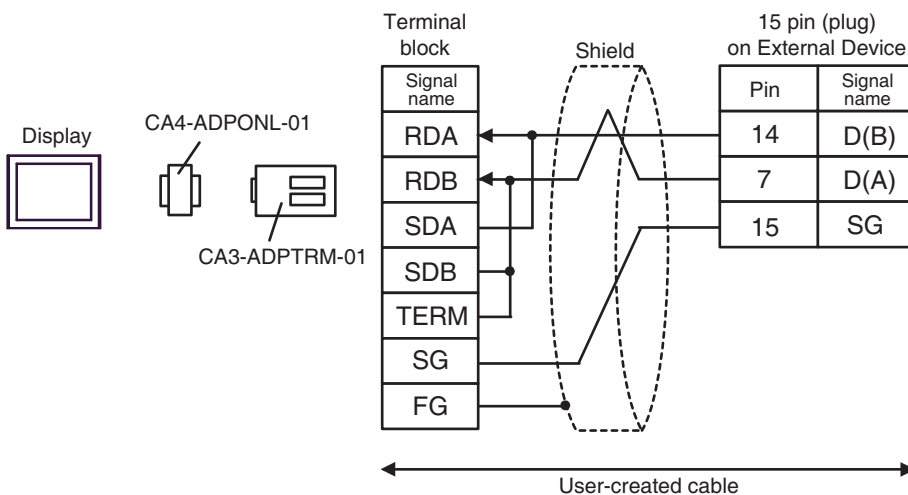
3B)



NOTE

- The cable length must be 10m or less.

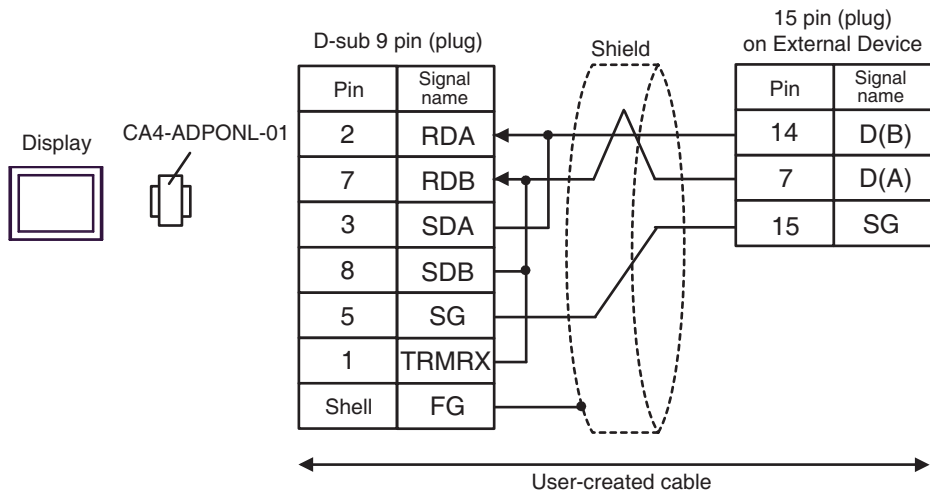
3C)



NOTE

- The cable length must be 10m or less.

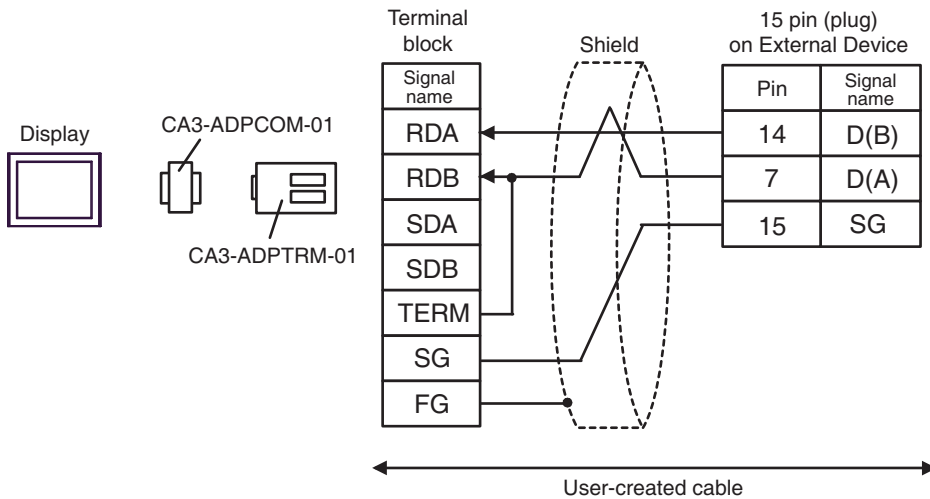
3D)



NOTE

- The cable length must be 10m or less.

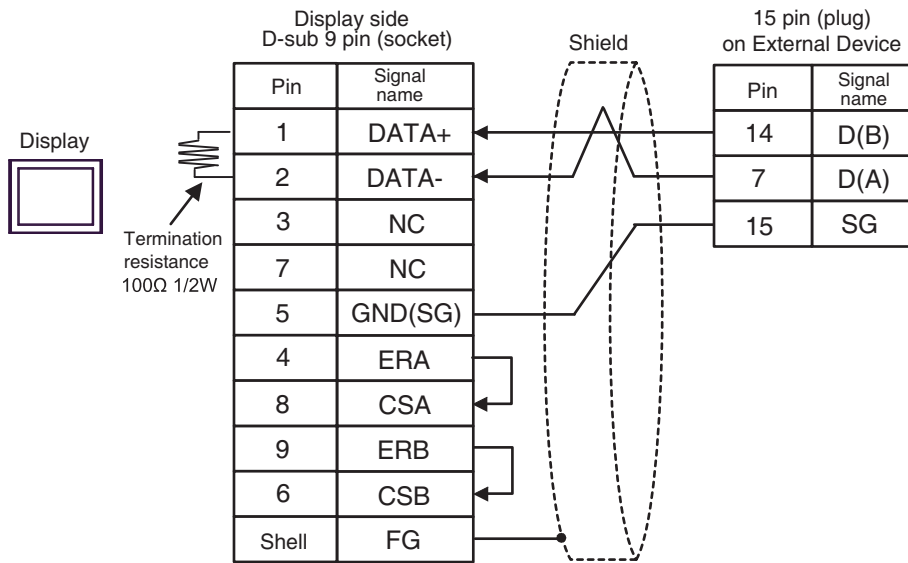
3E)



NOTE

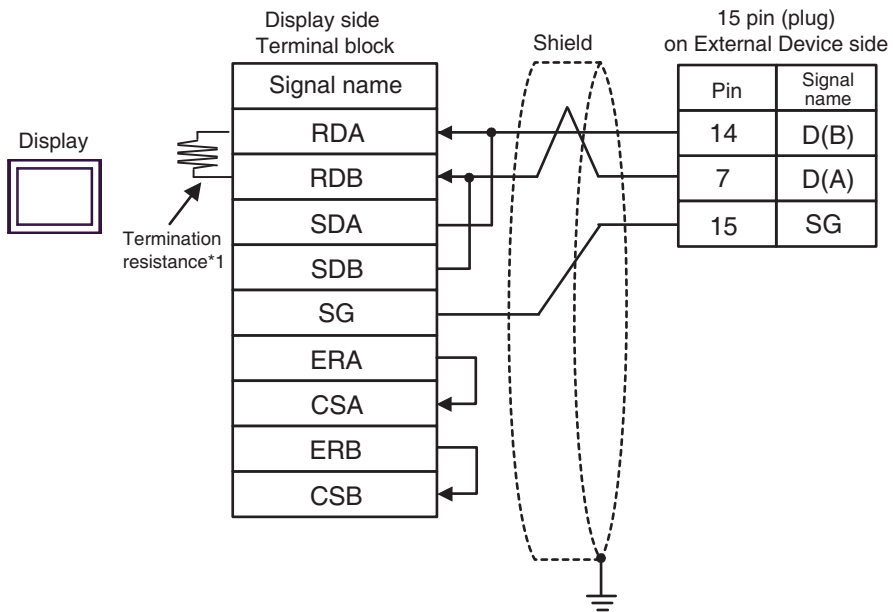
- The cable length must be 10m or less.

3F)

**NOTE**

- The cable length must be 10m or less.

3G)



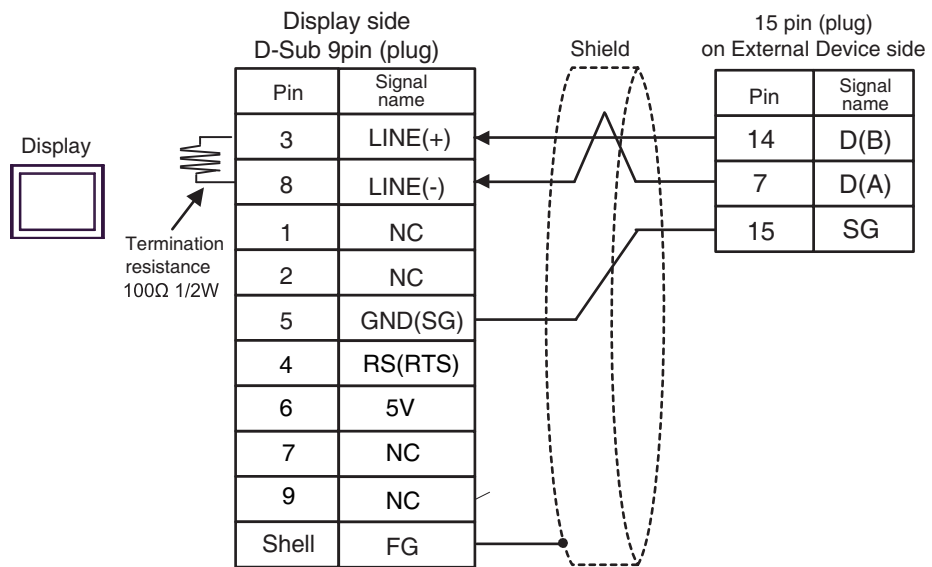
*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

NOTE

- The cable length must be 10m or less.

3H)

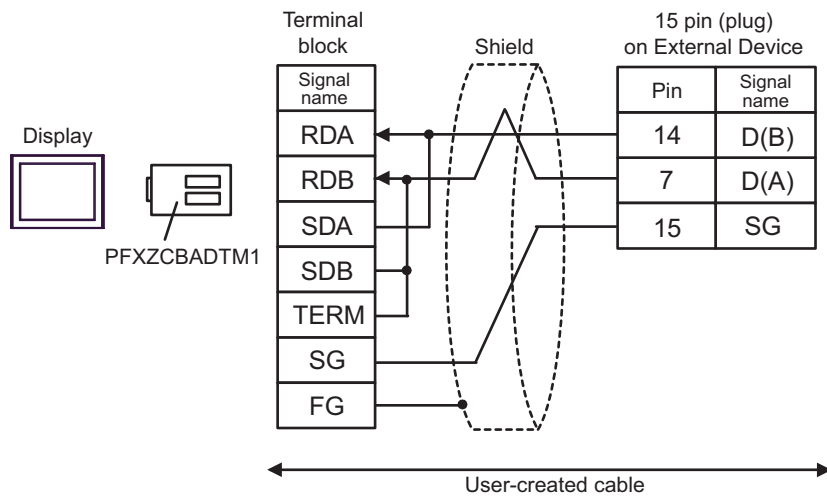
**IMPORTANT**

- 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.

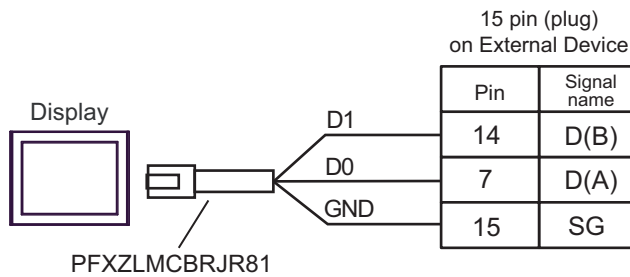
3I)



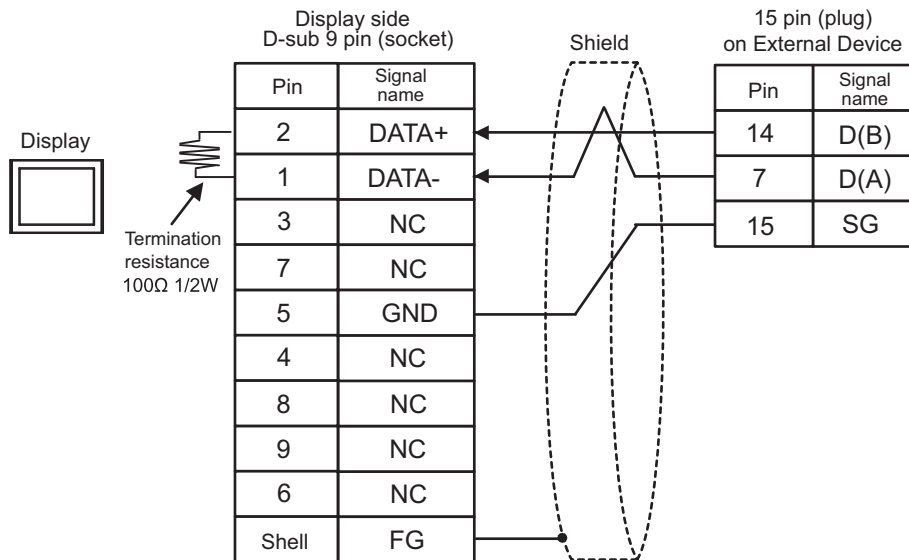
NOTE

- The cable length must be 10m or less.

3J)



3K)

**NOTE**

- The cable length must be 10m or less.

5.4 Cable Diagram 4

| Display (Connection Port) | Cable | | Notes |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| GP3000* ¹ (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000* 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 + Uni-Telway connection cable TSX SCP CU 4030 (3m) by Schneider Electric Industries | The cable length must be 10m or less. For n:1 connection, you need user- created cable for connection between the Displays. |
| | 4B | User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) | |
| GP3000* ³ (COM2) | 4C | Online Adapter by Pro-face CA4-ADPONL-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) | The cable length must be 10m or less. For n:1 connection, you need user- created cable for connection between the Displays. |
| | 4D | Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) | |
| IPC* ⁴ | 4E | COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + Uni-Telway connection cable TSX SCP CU 4030 (3m) by Schneider Electric Industries | The cable length must be 10m or less. For n:1 connection, you need user- created cable for connection between the Displays. |
| | 4F | User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) | |
| GP-4106 (COM1) GP-4116T (COM1) | 4G | User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) | The cable length must be 10m or less. For n:1 connection, you need user- created cable for connection between the Displays. |

| Display (Connection Port) | Cable | | Notes |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| GP-4107 (COM1) GP-4*03T* ⁵ (COM2) GP-4203T (COM1) | 4H | User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) | The cable length must be 10m or less. For n:1 connection, you need user-created cable for connection between the Displays. |
| GP4000* ⁶ (COM2) GP-4201T (COM1) SP5000* ⁷ (COM1/2) SP-5B00 (COM2) ST6000* ⁸ (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000* ⁹ (COM2) PS6000 (Basic Box) (COM1/2) | 4I | RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 * ¹⁰ + Uni-Telway connection cable TSX SCP CU 4030 (3m) by Schneider Electric Industries | The cable length must be 10m or less. For n:1 connection, you need user-created cable for connection between the Displays. |
| | 4B | User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) | |
| LT-4*01TM (COM1) LT-Rear Module (COM1) | 4J | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81 + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) | The cable length must be 10m or less. For n:1 connection, you need user-created cable for connection between the Displays. |
| PE-4000B* ¹¹ PS5000* ¹¹ PS6000 (Optional Interface)* ¹¹ | 4K | User-created cable + Uni-Telway cable by Schneider Electric Industries TSX SCP CU 4030 (3m) | The cable length must be 10m or less. For n:1 connection, you need user-created cable for connection between the Displays. |

*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 7)

*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

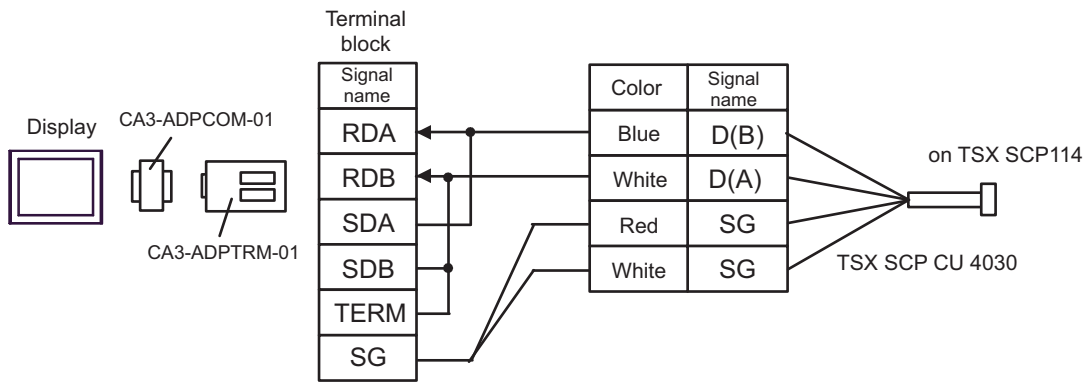
- *9 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.
- *10 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 4A.
- *11 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
 - IPC COM Port (page 7)

NOTE

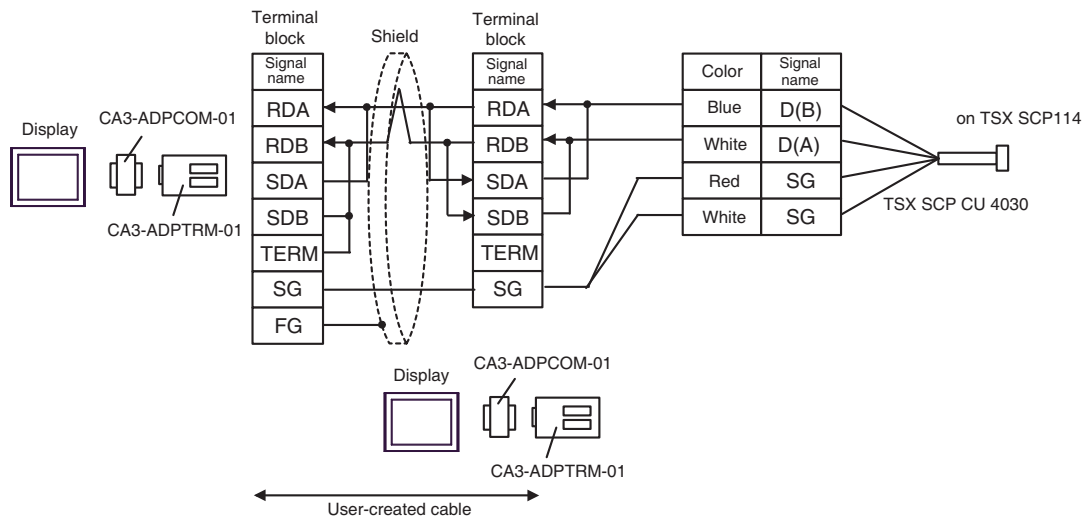
- Line color for both D (A) and SG is white. As SG (red) and SG (white) are twisted pair, as well as D (A) and D (B), you can judge which line is SG or D (A).
-

4A)

- 1:1 Connection



- n:1 Connection

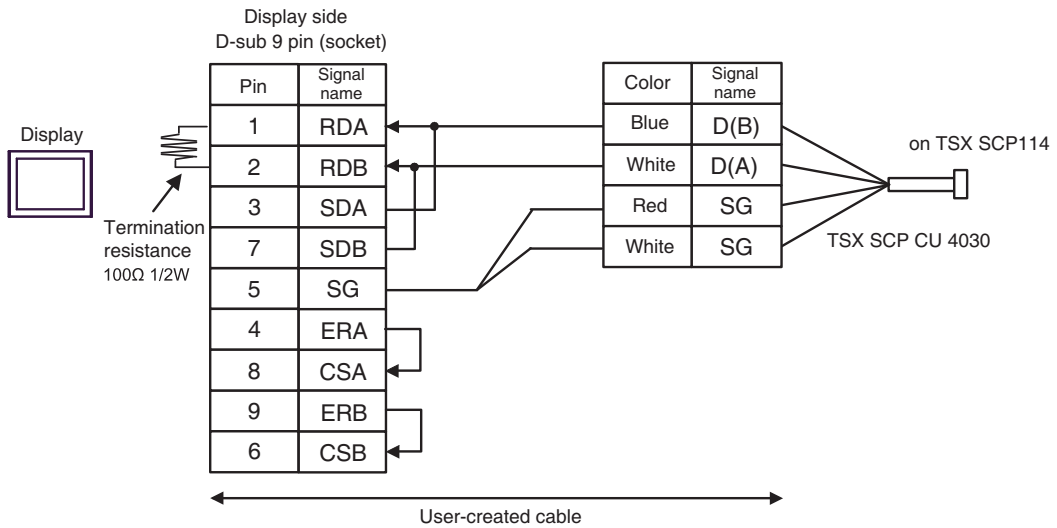


NOTE

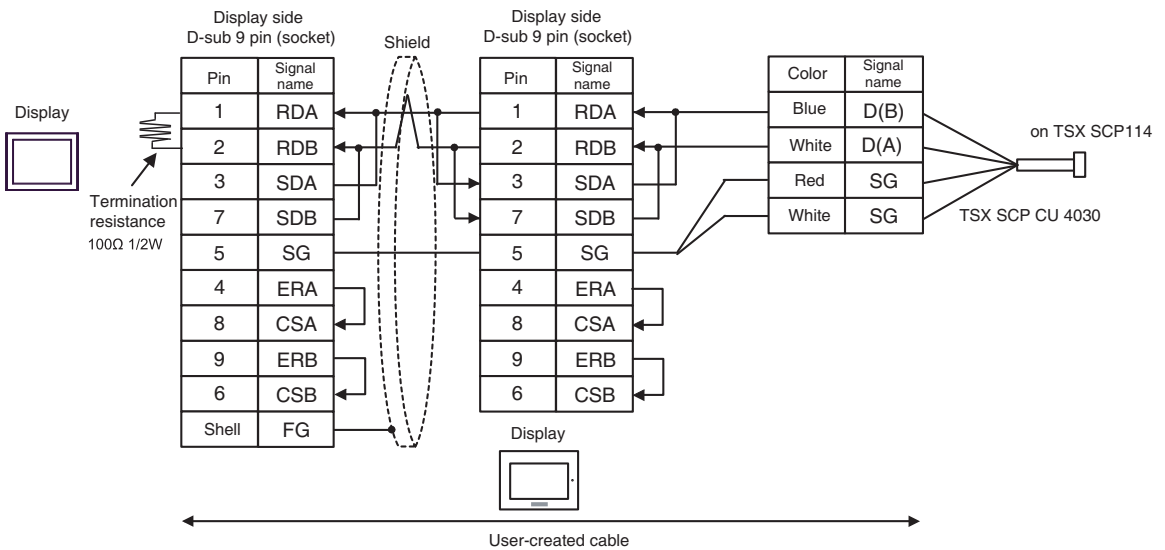
- The cable length must be 10m or less.

4B)

- 1:1 Connection



- n:1 Connection

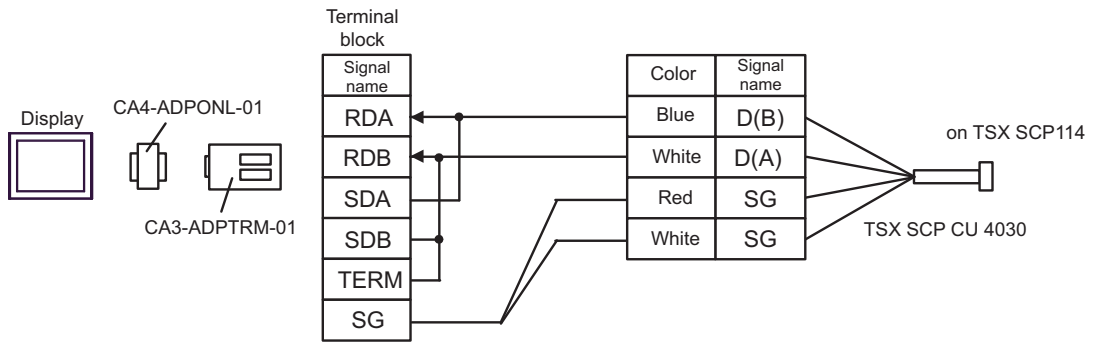


NOTE

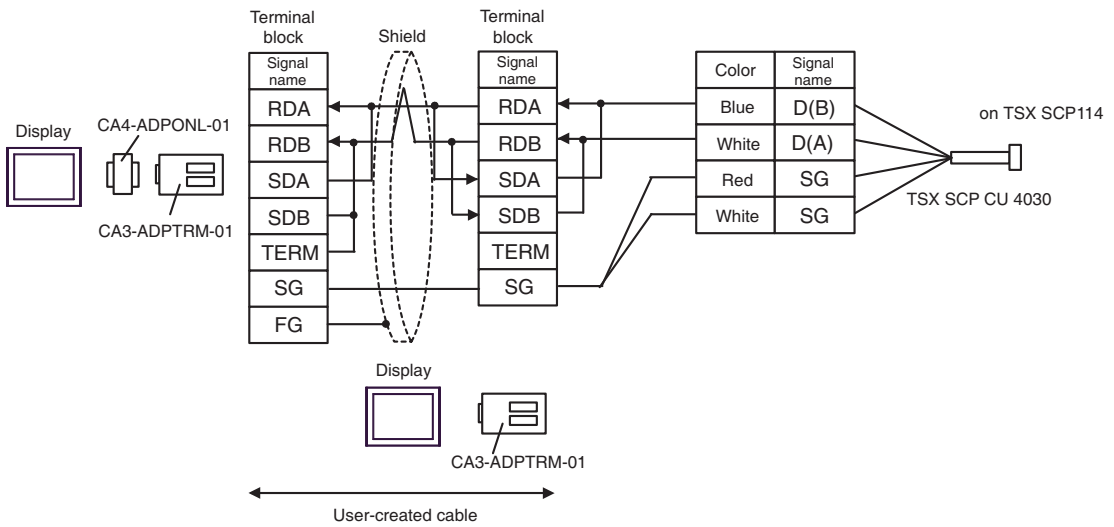
- The cable length must be 10m or less.

4C)

- 1:1 Connection



- n:1 Connection

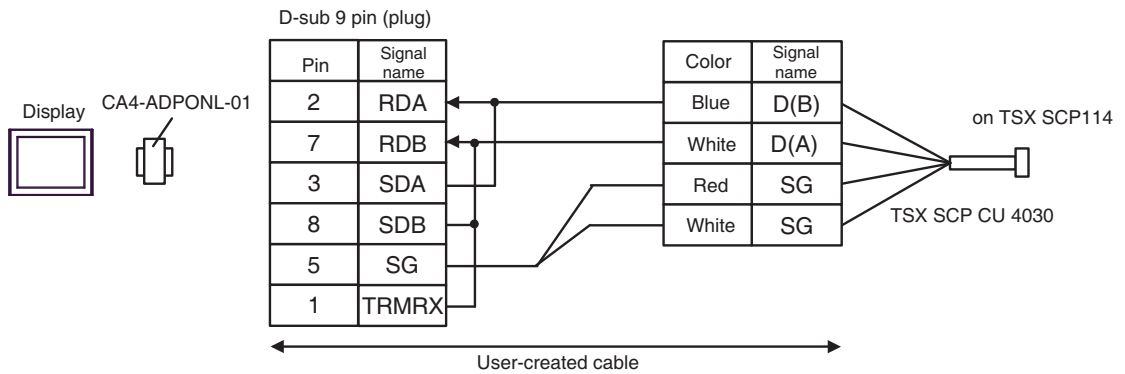


NOTE

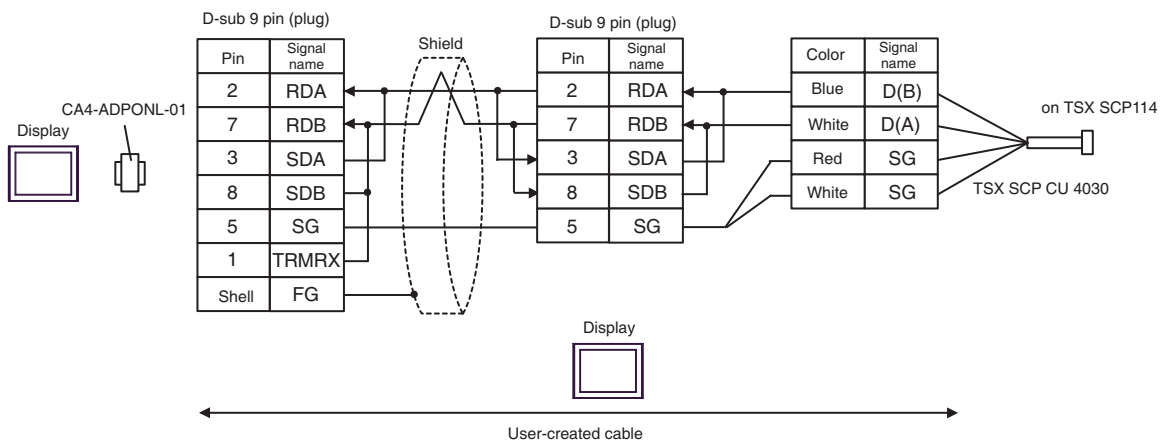
- The cable length must be 10m or less.

4D)

- 1:1 Connection



- n:1 Connection

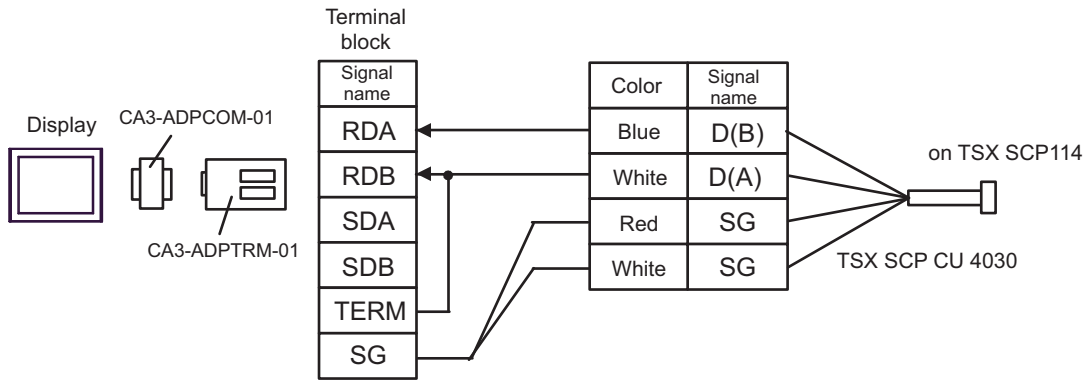


NOTE

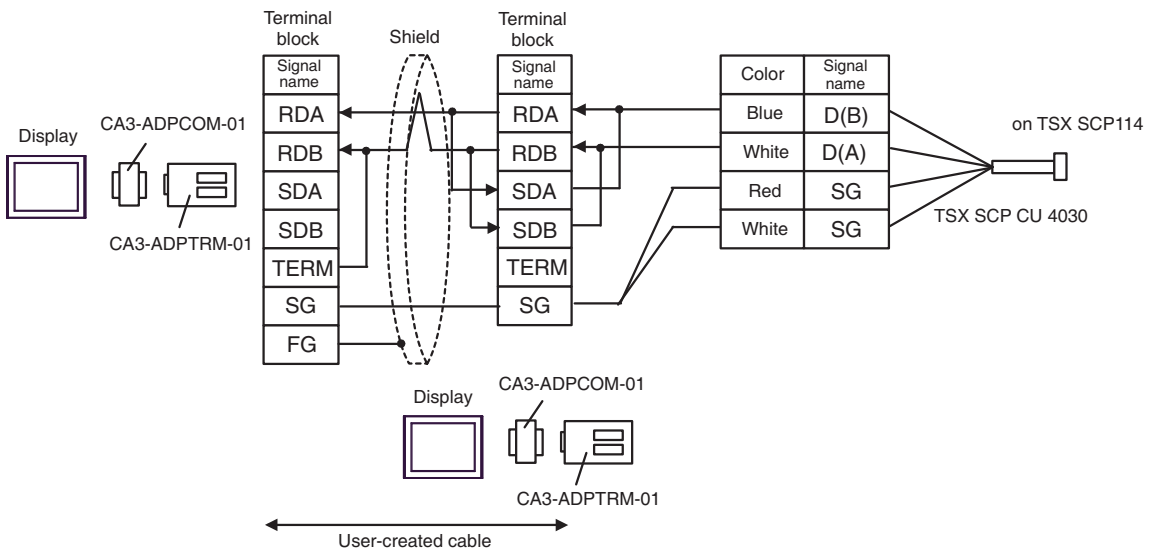
- The cable length must be 10m or less.

4E)

- 1:1 Connection



- n:1 Connection

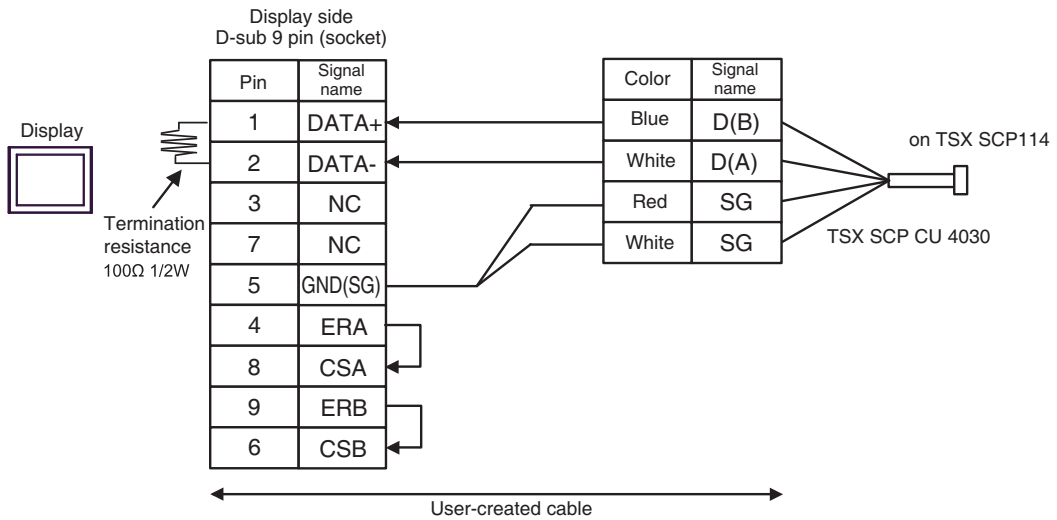


NOTE

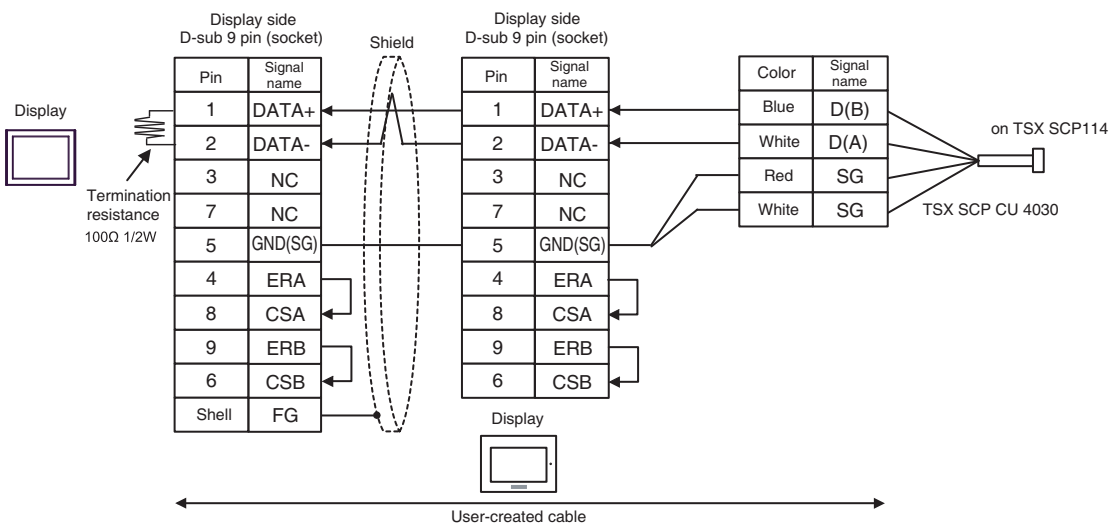
- The cable length must be 10m or less.

4F)

- 1:1 Connection



- n:1 Connection

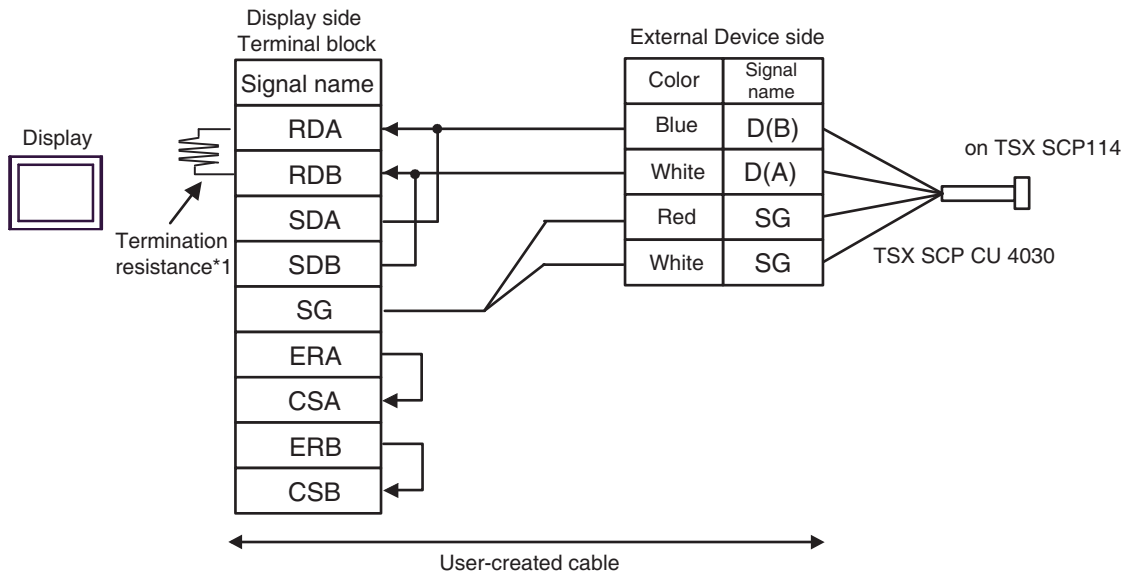


NOTE

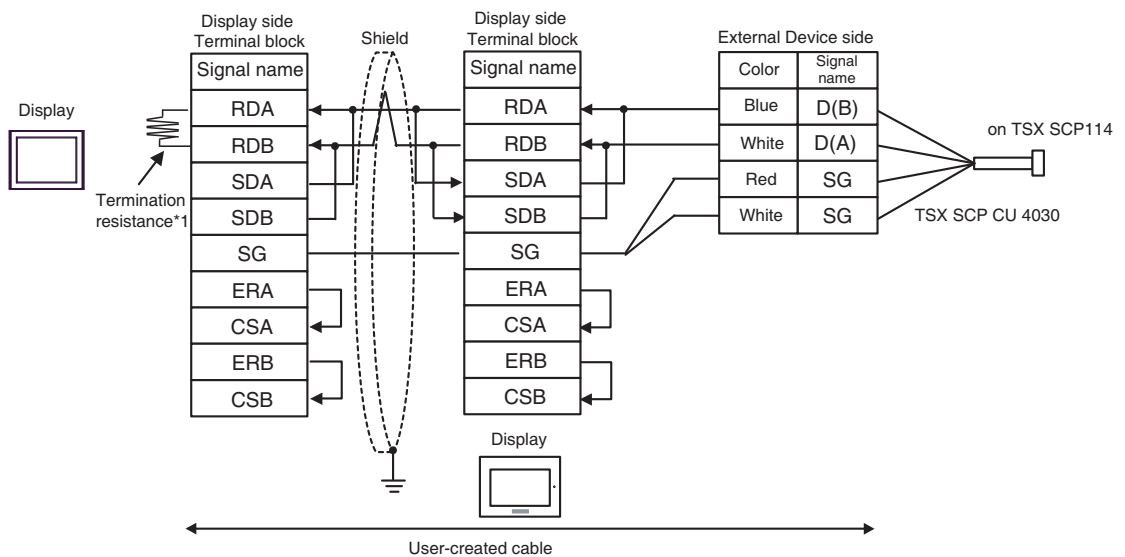
- The cable length must be 10m or less.

4G)

- 1:1 Connection



- n:1 Connection



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

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

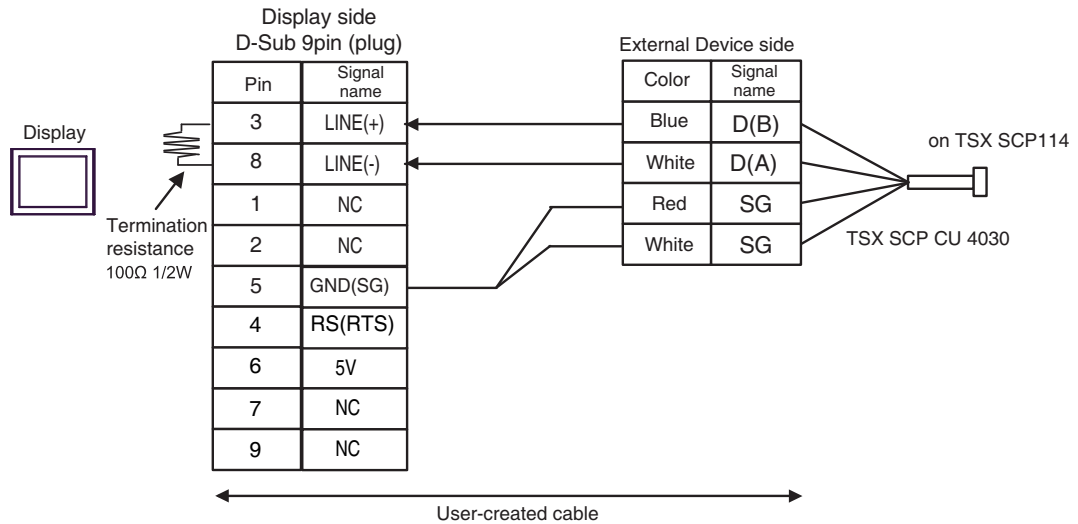
For the Displays other than that used as the terminal, set the DIP Switch 1-4 on the rear of the Display to OFF in the n:1 connection.

NOTE

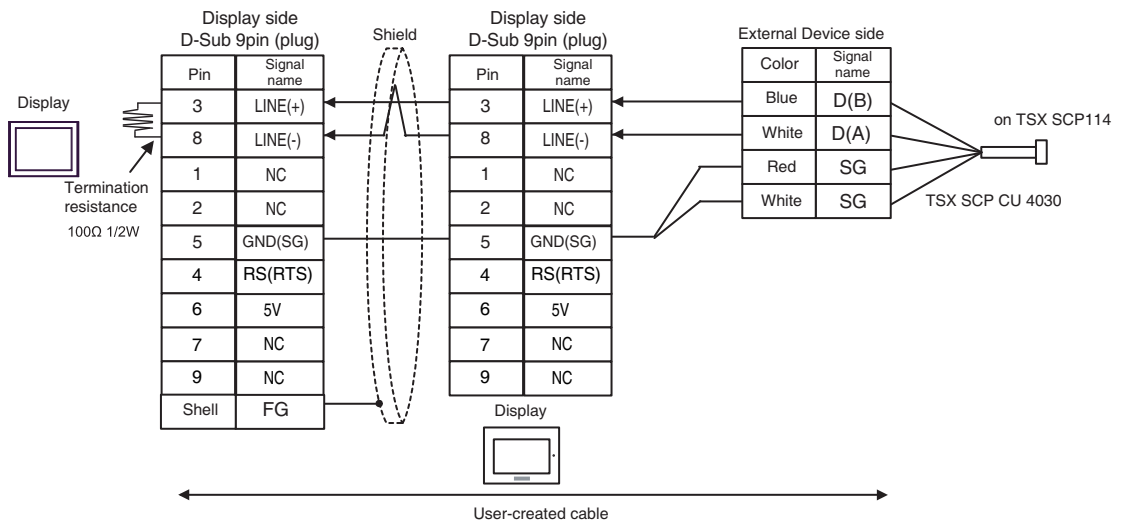
- The cable length must be 10m or less.

4H)

- 1:1 Connection



- n:1 Connection


IMPORTANT

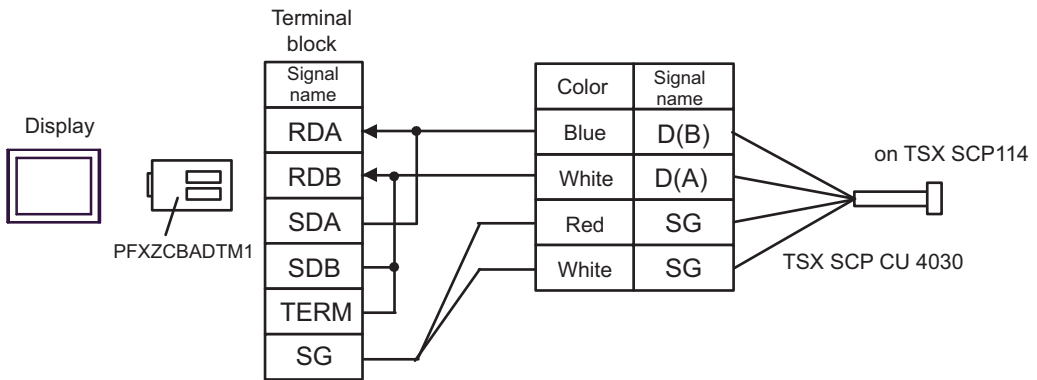
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

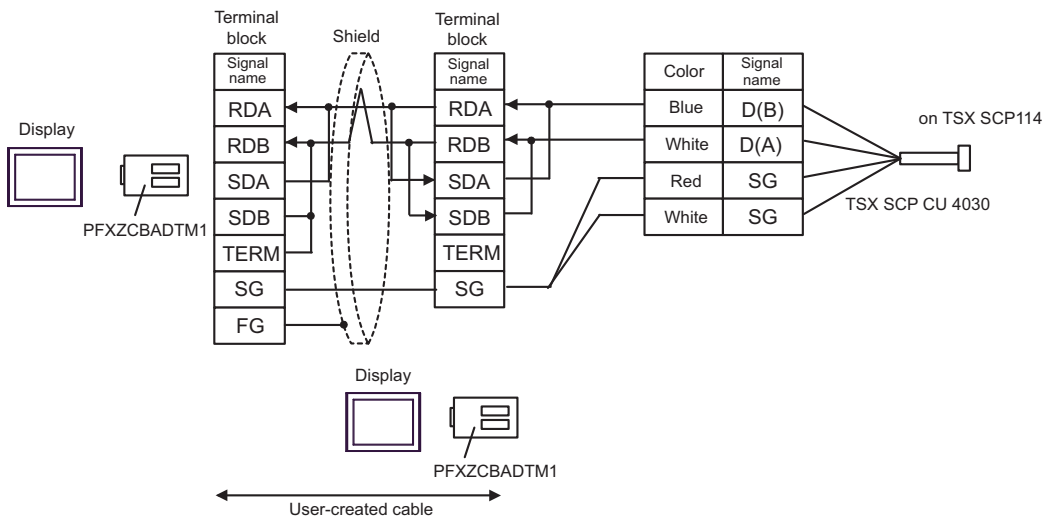
- In COM on the GP-4107, the SG and FG terminals are isolated.
- The cable length must be 10m or less.

4)

- 1:1 Connection



- n:1 Connection

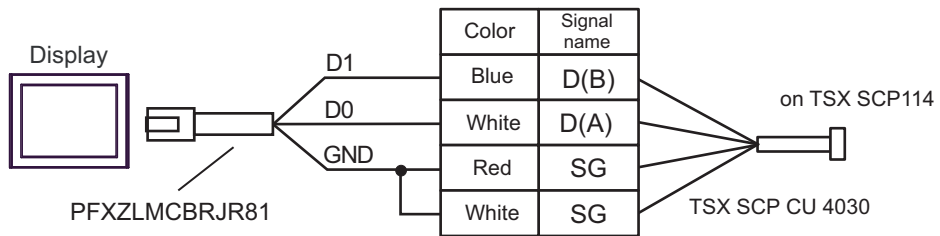


NOTE

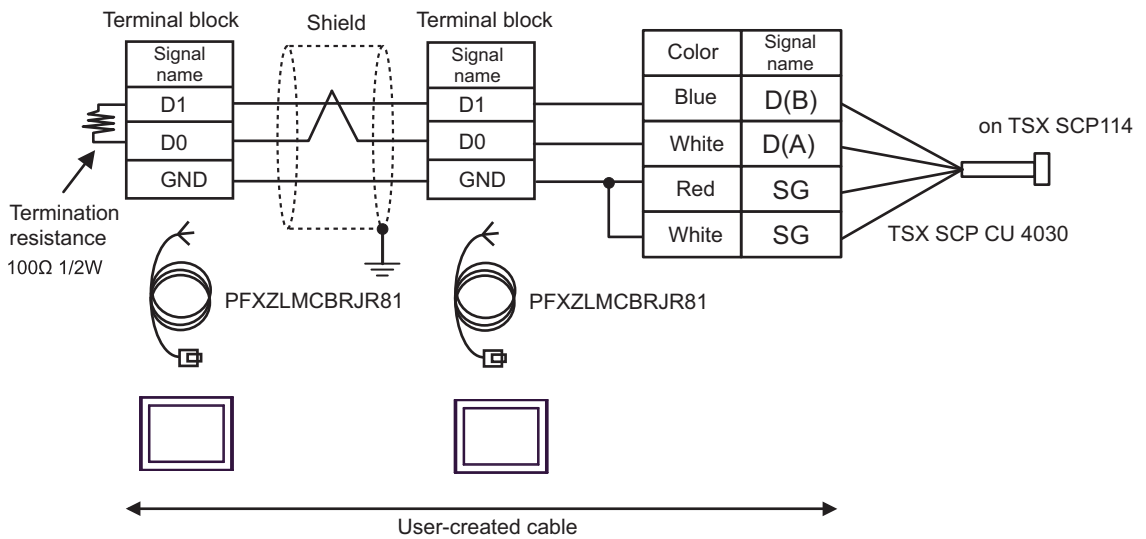
- The cable length must be 10m or less.

4J)

- 1:1 Connection



- n:1 Connection

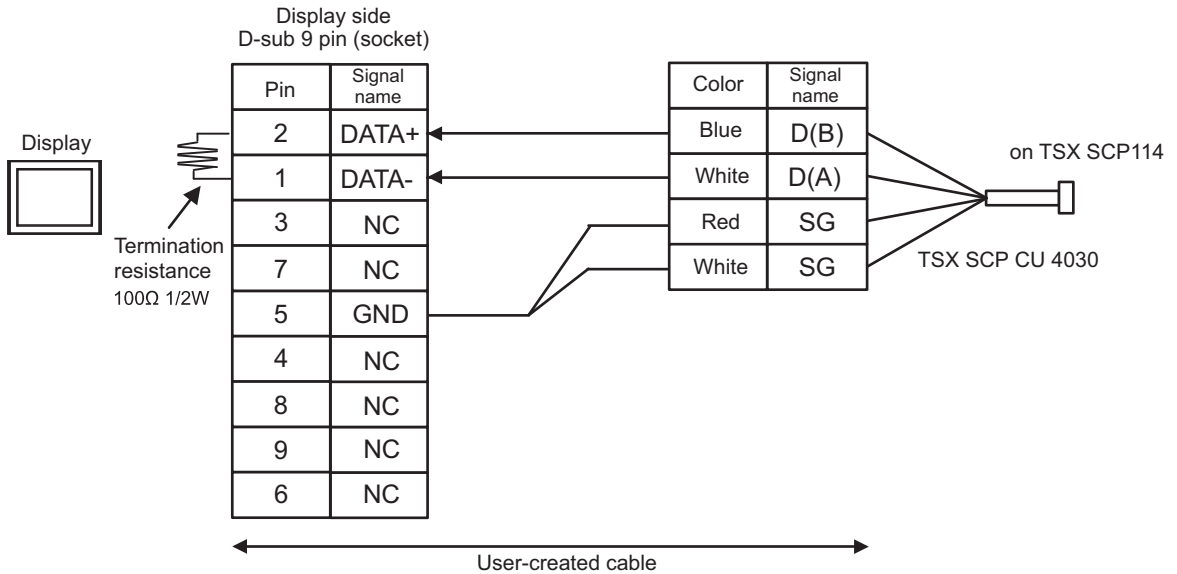


NOTE

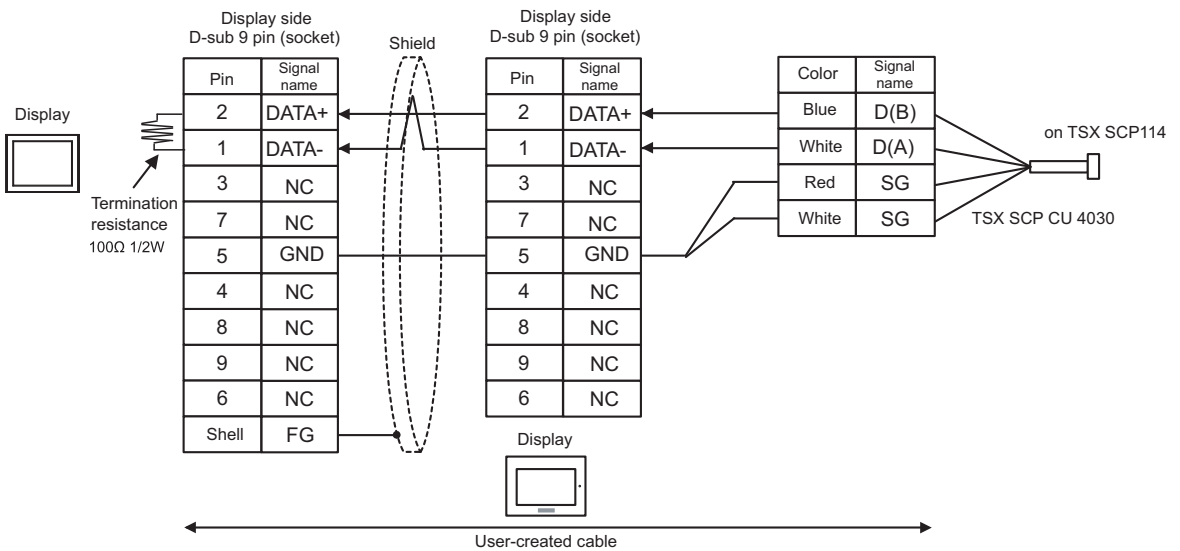
- The cable length must be 10m or less.

4K)

- 1:1 Connection



- n:1 Connection



NOTE

- The cable length must be 10m or less.

5.5 Cable Diagram 5

| Display (Connection Port) | Cable | | Notes |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| GP3000* ¹ (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000* ² (COM2) LT3000 (COM1) | 5A | COM Port Conversion Adapter by Pro-face CA3-ADPCOM-01 + Terminal Block Conversion Adapter by Pro-face CA3-ADPTRM-01 + User-created cable | The cable length must be 10m or less. |
| | 5B | User-created cable | |
| 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 | The cable length must be 10m or less. |
| | 5D | Online Adapter by Pro-face CA4-ADPONL-01 + User-created cable | |
| 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 | The cable length must be 10m or less. |
| | 5F | User-created cable | |
| GP-4106 (COM1) GP-4116T (COM1) | 5G | User-created cable | The cable length must be 10m or less. |
| GP-4107 (COM1) GP-4*03T* ⁵ (COM2) GP-4203T (COM1) | 5H | User-created cable | The cable length must be 10m or less. |
| GP4000* ⁶ (COM2) GP-4201T (COM1) SP5000* ⁷ (COM1/2) SP-5B00 (COM2) ST6000* ⁸ (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000* ⁹ (COM2) PS6000 (Basic Box) (COM1/2) | 5I | RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 * ¹⁰ + User-created cable | The cable length must be 10m or less. |
| | 5B | User-created cable | |
| LT-4*01TM (COM1) LT-Rear Module (COM1) | 5J | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81 | The cable length must be 5m or less. |

| Display (Connection Port) | Cable | | Notes |
|------------------------------------------------------------------------------------------------|-------|--------------------|---------------------------------------|
| PE-4000B* ¹¹ PS5000* ¹¹ PS6000 (Optional Interface)* ¹¹ | 5K | User-created cable | The cable length must be 10m 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 7)

*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

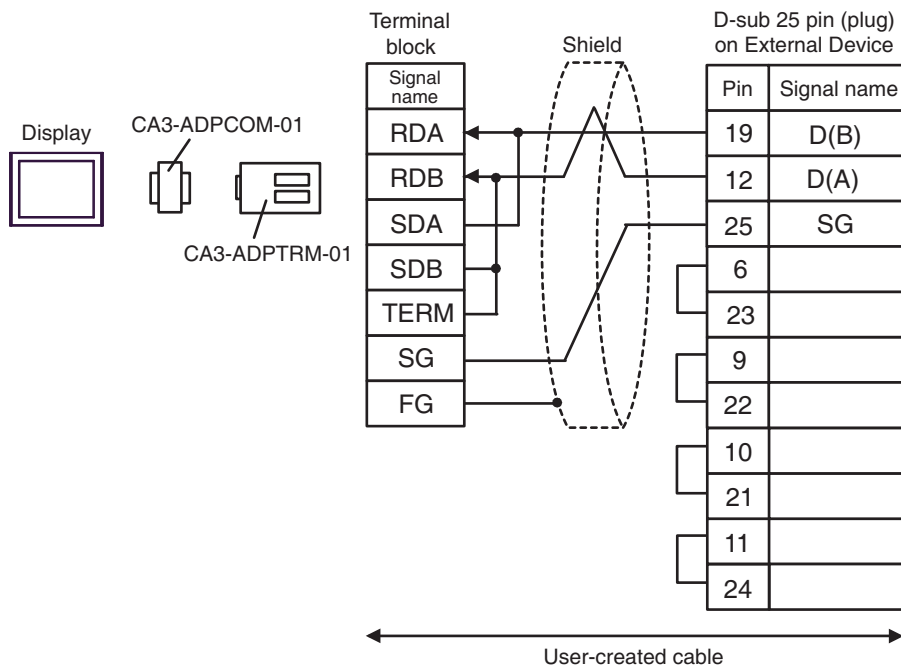
*9 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.

*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 7)

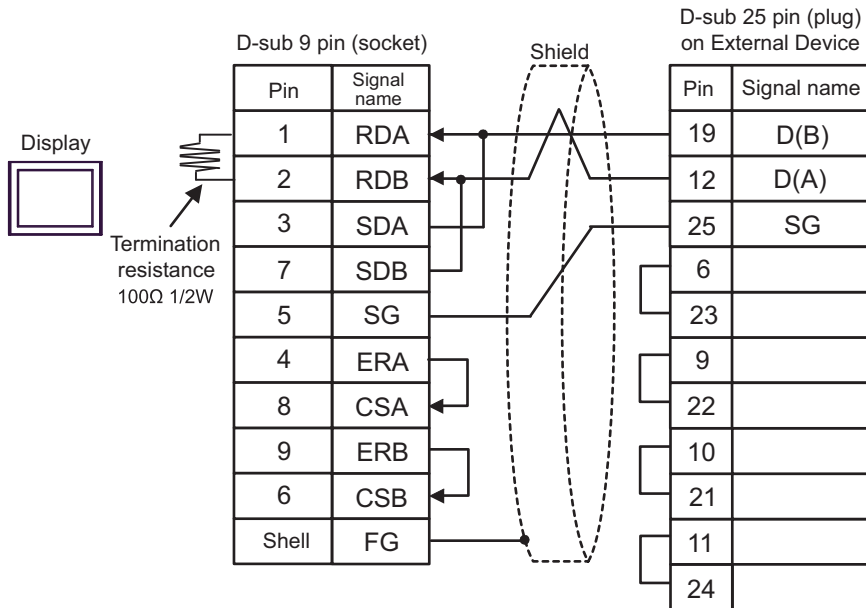
5A)



NOTE

- The cable length must be 10m or less.

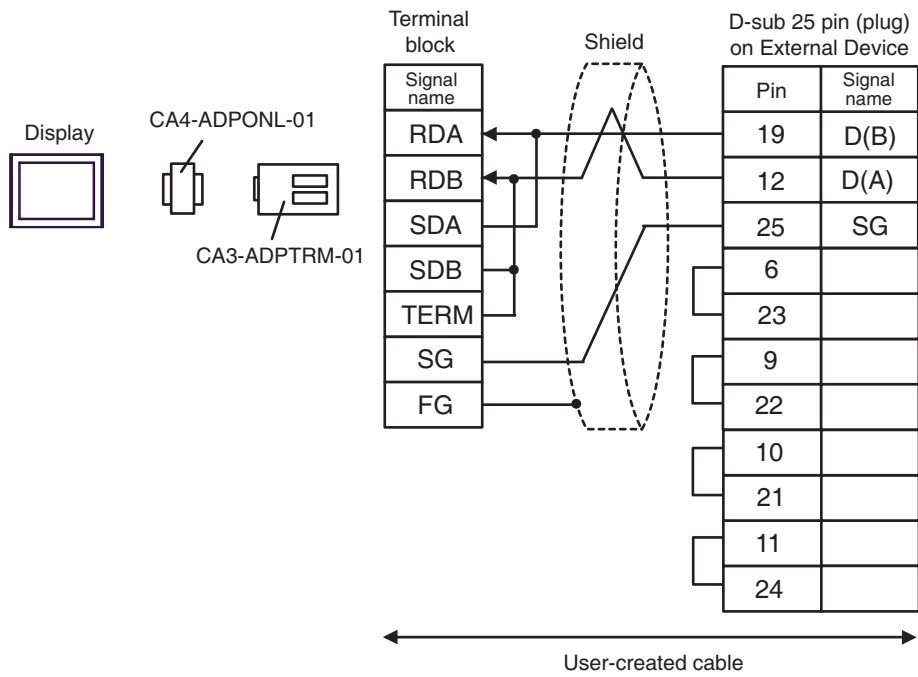
5B)



NOTE

- The cable length must be 10m or less.

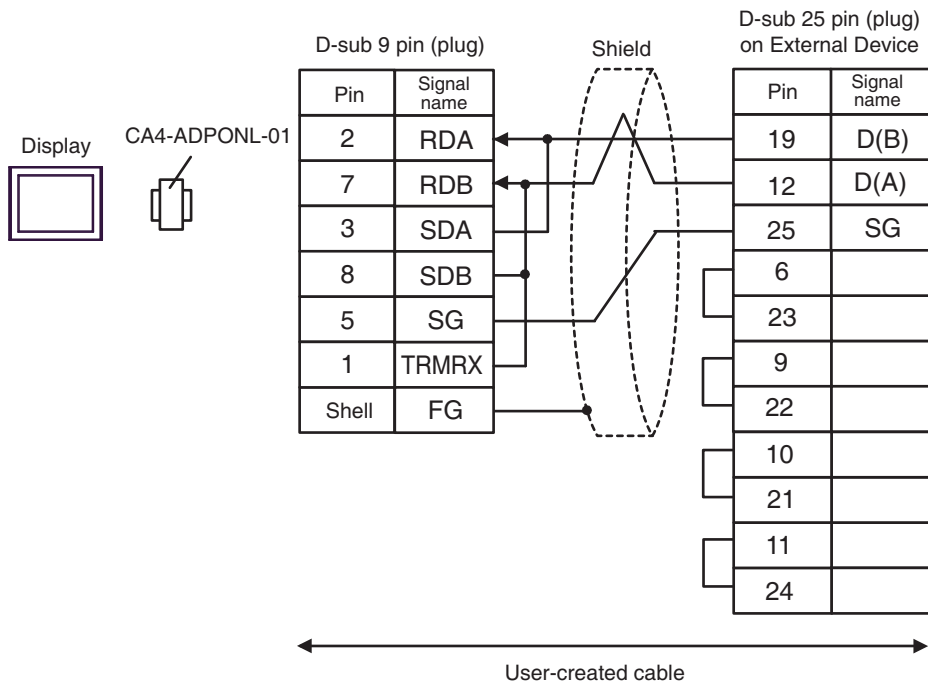
5C)



NOTE

- The cable length must be 10m or less.

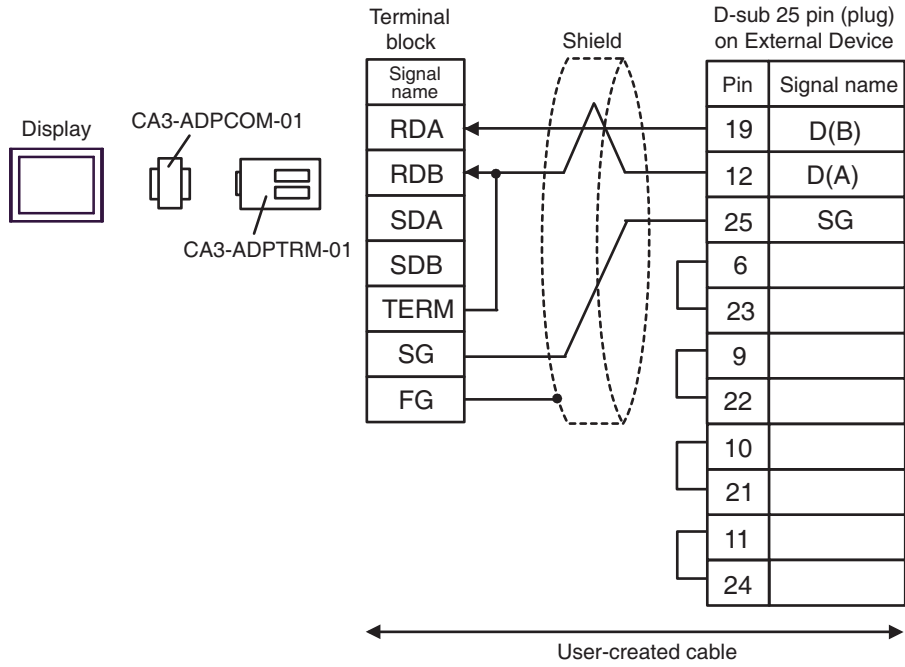
5D)



NOTE

- The cable length must be 10m or less.

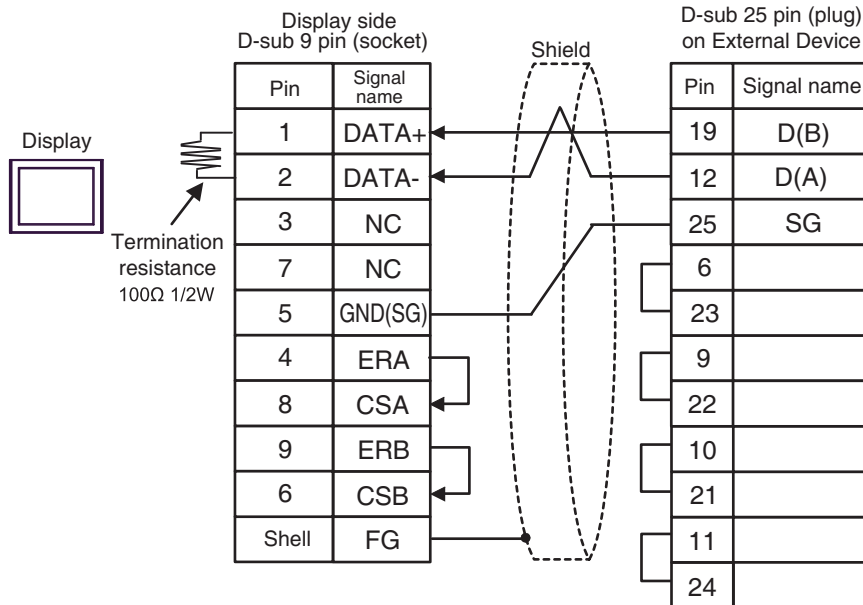
5E)



NOTE

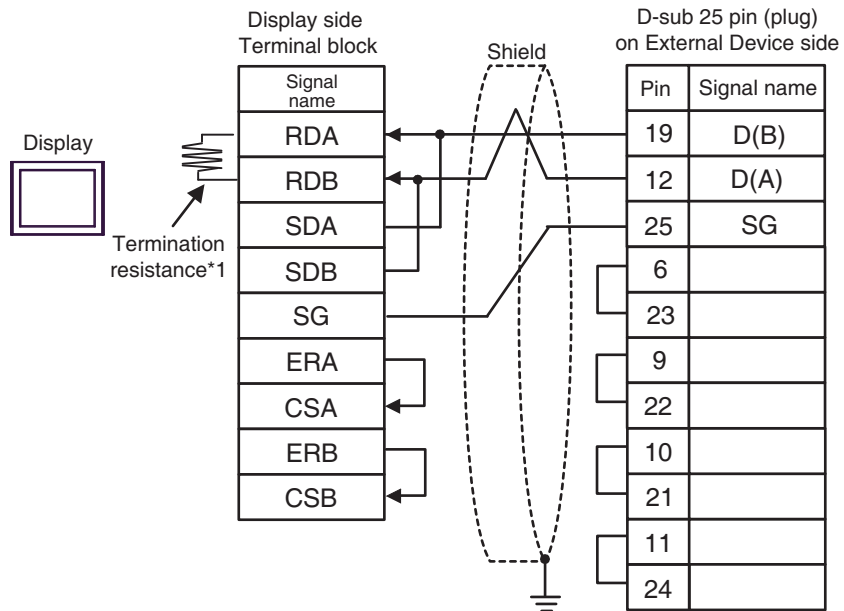
- The cable length must be 10m or less.

5F)


NOTE

- The cable length must be 10m or less.

5G)



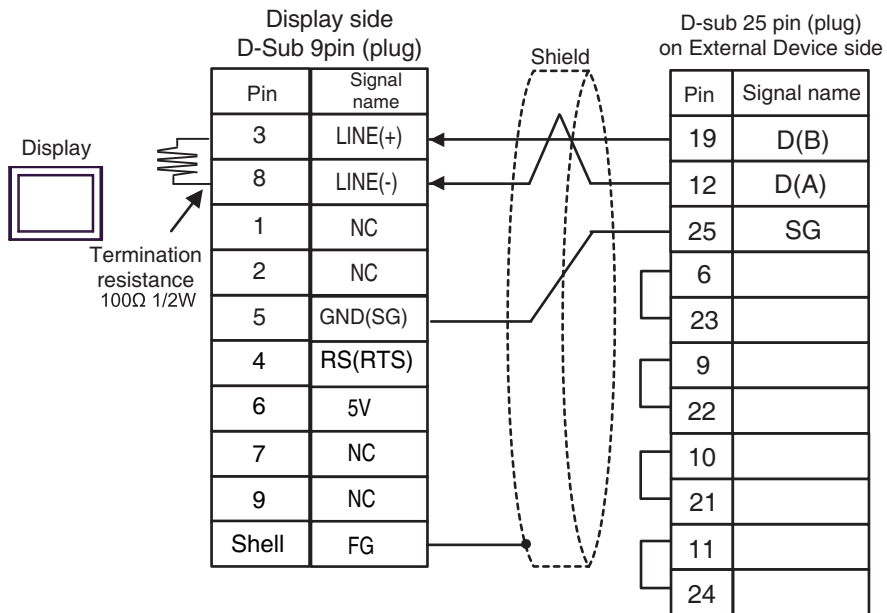
- *1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

NOTE

- The cable length must be 10m or less.

5H)

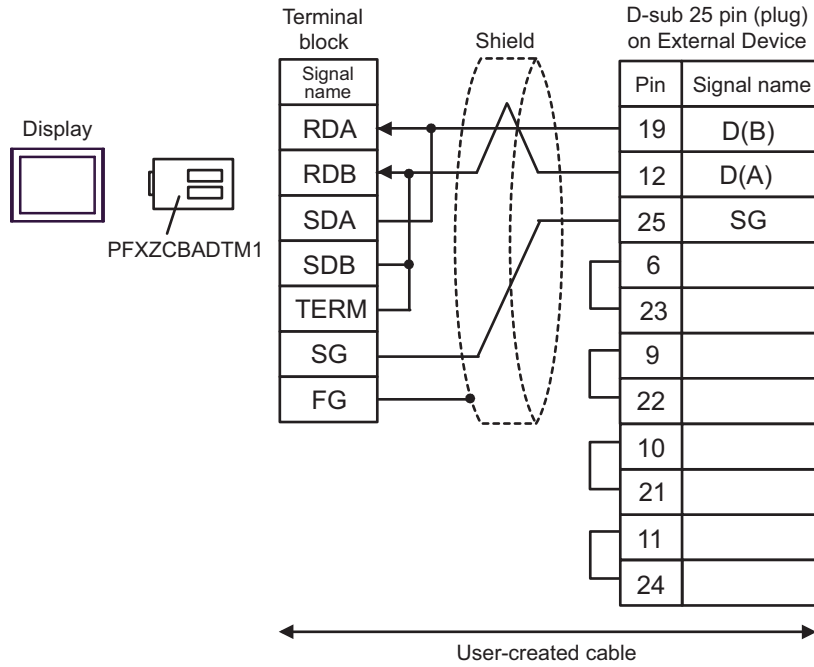

IMPORTANT

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

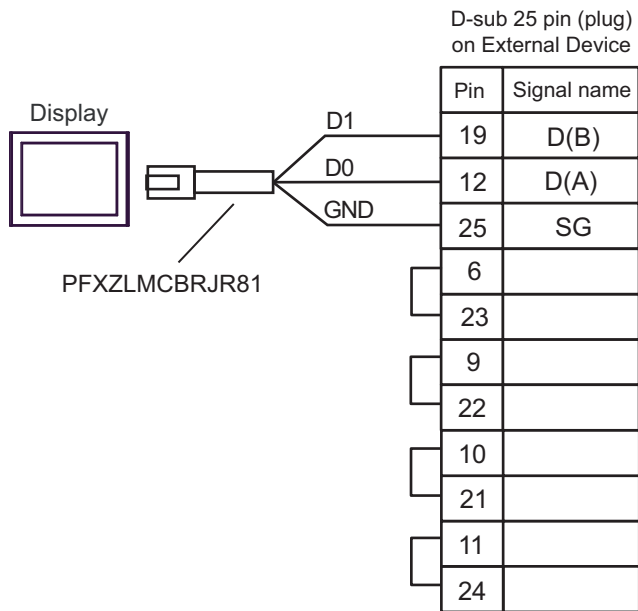
5l)



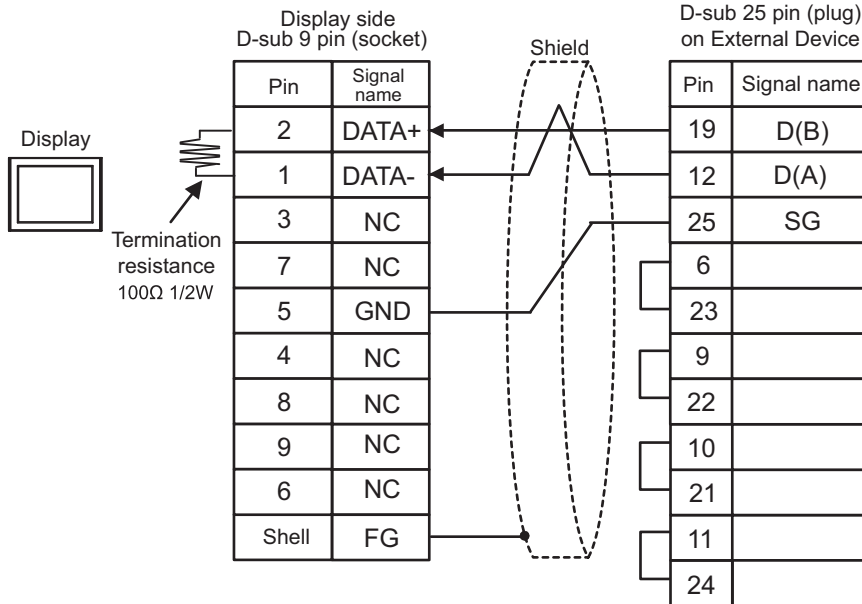
NOTE

- The cable length must be 10m or less.

5J)



5K)



NOTE

- The cable length must be 10m or less.

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.

As it also varies depending on the "Software Configuration" setting of the ladder software, please check accordingly.


6.1 Nano Series

 This address can be specified as system data area.


| Device | Bit Address | Word Address | 32bits | Notes |
|----------------------|-----------------------------|---------------------|----------------------|----------------------------|
| Internal Word | %MW00000:X00 - %MW00255:X15 | %MW00000 - %MW00255 | [L/H] or [H/L] *1 | *2 [Bit.15] |
| Internal Double Word | %MD00000:X00 - %MD00254:X31 | %MD00000 - %MD00254 | | *3 *4 [+ 2] [Bit.31] |
| Constant Word | --- | %KW00000 - %KW00063 | | *5 [Bit.15] |
| System Word | --- | %SW00000 - %SW00127 | | [Bit.15] |
| Internal Bit | %M00000 - %M00127 | --- | | |
| System Bit | %S00000 - %S00127 | --- | | |






- *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 ■ Device Setting" (page 28), "4.2 Setup Items in Offline Mode ■ Device Setting" (page 30)
- *2 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..... When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Then, it changes the target bit address among the word data once read and returns the word data to the External Device. Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and returns it to the External Device.
- *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.31]
- Do not clear..... When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Then, it changes the target bit address among the word data once read and returns the word data to the External Device. Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and returns it to the External Device.
- *4 Use in 32-bit specification. When you perform 16-bit or bit specification, use %MW device. They use the same area inside the External Device.
- *5 Write disable.



NOTE

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

6.2 Micro Series

 This address can be specified as system data area.

| Device | Bit Address | Word Address | 32bits | Notes |
|----------------------|--------------------------------|---------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Internal Word | %MW00000:X00 - %MW17543:X15 | %MW00000 - %MW17543 | [L/H] or [H/L] *1 | *2  |
| Internal Double Word | %MD00000:X00 - %MD17542:X31 | %MD00000 - %MD17542 | | *3 *4   |
| Constant Word | --- | %KW00000 - %KW13879 | | *5  |
| System Word | --- | %SW00000 - %SW00127 | |  |
| Internal Bit | %M00000 - %M00255 | --- | | |
| System Bit | %S00000 - %S00127 | --- | | |


- *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 ■ Device Setting" (page 28), "4.2 Setup Items in Offline Mode ■ Device Setting" (page 30)
- *2 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..... 
- Do not clear..... When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Then, it changes the target bit address among the word data once read and returns the word data to the External Device. Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and returns it to the External Device.
- *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..... 
- Do not clear..... When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Then, it changes the target bit address among the word data once read and returns the word data to the External Device. Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and returns it to the External Device.
- *4 Use in 32-bit specification. When you perform 16-bit or bit specification, use %MW device. They use the same area inside the External Device.
- *5 Write disable.






NOTE



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

 "Manual Symbols and Terminology"


6.3 Premium Series

 This address can be specified as system data area.

| Device | Bit Address | Word Address | 32bits | Notes |
|----------------------|--------------------------------|---------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Internal Word | %MW00000:X00 - %MW32463:X15 | %MW00000 - %MW32463 | [L/H] or [H/L] *1 | *2  |
| Internal Double Word | %MD00000:X00 - %MD32462:X31 | %MD00000 - %MD32462 | | *3 *4   |
| Constant Word | --- | %KW00000 - %KW32759 | | *5  |
| System Word | --- | %SW00000 - %SW00255 | |  |
| Internal Bit | %M00000 - %M32631 | --- | | |
| System Bit | %S00000 - %S00127 | --- | | |

- *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 ■ Device Setting" (page 28), "4.2 Setup Items in Offline Mode ■ Device Setting" (page 30)
- *2 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..... 
- Do not clear..... When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Then, it changes the target bit address among the word data once read and returns the word data to the External Device. Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and returns it to the External Device.
- *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..... 
- Do not clear..... When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Then, it changes the target bit address among the word data once read and returns the word data to the External Device. Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and returns it to the External Device.
- *4 Use in 32-bit specification. When you perform 16-bit or bit specification, use %MW device. They use the same area inside the External Device.
- *5 Write disable.

NOTE

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

| Device | Device Name | Device Code (HEX) | Address Code |
|----------------------|-------------|-------------------|------------------------------------|
| Internal word | %MW | 0000 | Word Address |
| Internal Double Word | %MD | 0002 | Value of word address divided by 2 |
| Constant Word | %KW | 0003 | Word Address |
| System Word | %SW | 0004 | Word Address |

8 Error Messages

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

| Item | Description |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No. | Error No. |
| Device Name | Name of External Device where error occurs. Name of External Device is a title of External Device set with GP-Pro EX. (Initial value [PLC1]) |
| Error Message | Displays messages related to the error which occurs. |
| Error Occurrence Area | Displays IP address or device address of External Device where error occurs, or error codes received from External Device. <div style="border: 1px solid black; padding: 2px; margin: 5px 0;">NOTE</div> <ul style="list-style-type: none"> • 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])"

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- 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.
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