Hitachi Industrial Equipment Systems Co.,Ltd.

HIE_HSIO_29

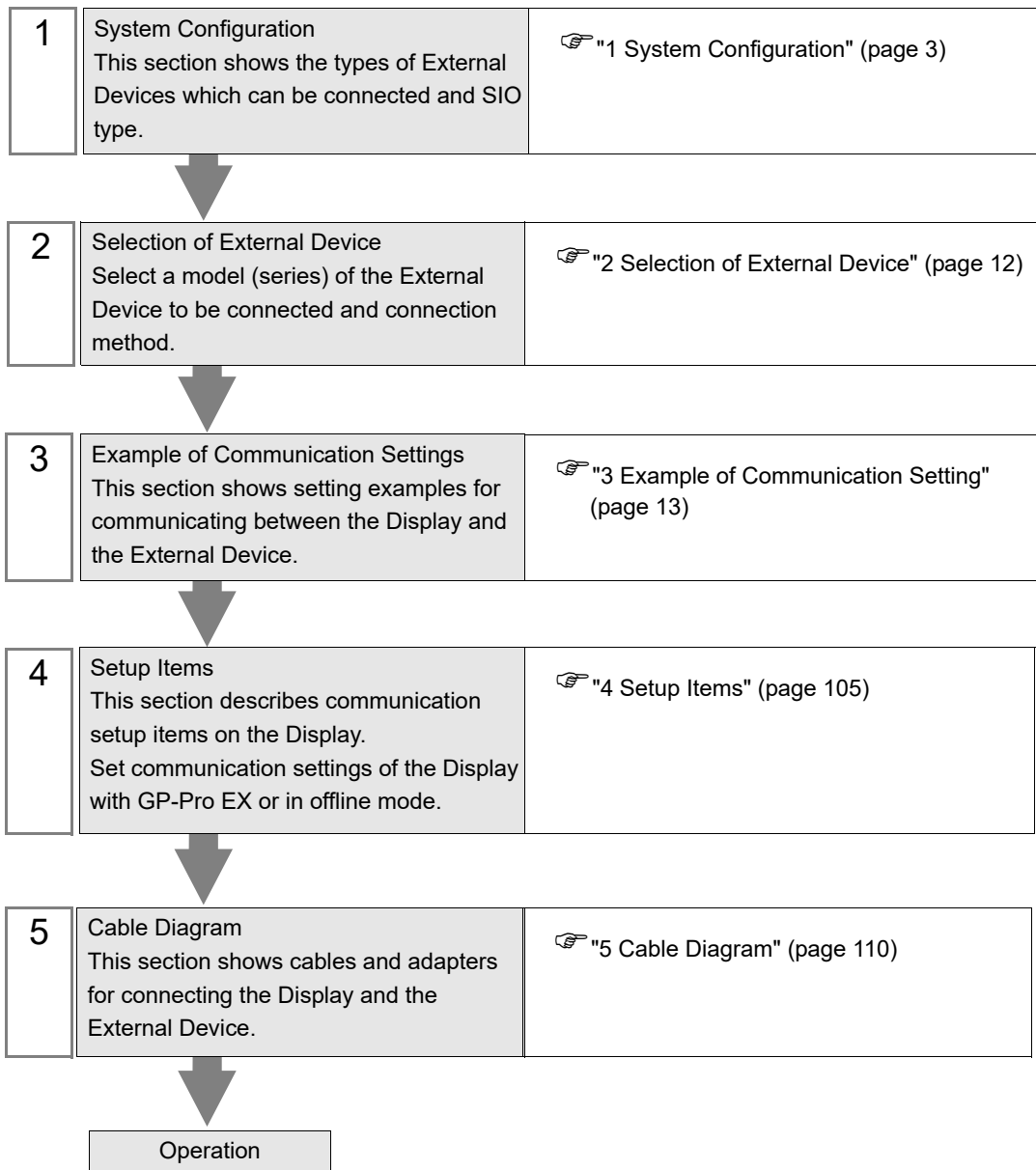3/2025

H Series SIO Driver

IMPORTANT

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

Introduction

This manual describes how to connect the Display and the External Device.

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

| 1 | System Configuration
This section shows the types of External Devices which can be connected and SIO type. | ☞ "1 System Configuration" (page 3) |

| 2 | Selection of External Device
Select a model (series) of the External Device to be connected and connection method. | ☞ "2 Selection of External Device" (page 12) |

| 3 | Example of Communication Settings
This section shows setting examples for communicating between the Display and the External Device. | ☞ "3 Example of Communication Setting" (page 13) |

| 4 | Setup Items
This section describes communication setup items on the Display.
Set communication settings of the Display with GP-Pro EX or in offline mode. | ☞ "4 Setup Items" (page 105) |

| 5 | Cable Diagram
This section shows cables and adapters for connecting the Display and the External Device. | ☞ "5 Cable Diagram" (page 110) |

Operation

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
H (Procedure 1)	H-20, H-28, H-40, H-64	Port on the CPU unit	RS232C	Setting Example 1 (page 13)	Cable Diagram 1 (page 110)
	H-200(CPU-02H)[*1] H-250(CPU21-02H)[*1] H-252B(CPU22-02HB)[*1]	Port on the CPU unit	RS232C	Setting Example 1 (page 13)	Cable Diagram 1 (page 110)
	H-252C(CPU22-02HC)[*1] [*2]	Port on the CPU unit	RS232C	Setting Example 1 (page 13)	Cable Diagram 1 (page 110)
	H-300(CPU-03Ha)[*1] H-700(CPU-07Ha)[*1] H-2000(CPU-20Ha)[*1] H-2002(CPU2-20H)[*1]	Port on the CPU unit	RS232C	Setting Example 1 (page 13)	Cable Diagram 1 (page 110)
		COMM-H COMM-2H	RS232C	Setting Example 2 (page 15)	Cable Diagram 1 (page 110)
			RS422/485 (4wire)	Setting Example 3 (page 17)	Cable Diagram 2 (page 114)
	H-302(CPU2-03H)[*1] H-702(CPU2-07H)[*1] H-4010(CPU3-40H)[*1] H-1002(CPU2-10H)[*1]	Port on the CPU unit	RS232C	Setting Example 1 (page 13)	Cable Diagram 1 (page 110)
		COMM-2H	RS232C	Setting Example 2 (page 15)	Cable Diagram 1 (page 110)
			RS422/485 (4wire)	Setting Example 3 (page 17)	Cable Diagram 2 (page 114)
H (Procedure 2)	H-300(CPU-03Ha) H-700(CPU-07Ha) H-2000(CPU-20Ha) H-302(CPU2-03H) H-702(CPU2-07H) H-2002(CPU2-20H) H-4010(CPU3-40H) H-1002(CPU2-10H)	COMM-2H	RS232C	Setting Example 4 (page 19)	Cable Diagram 1 (page 110)
			RS422/485 (4wire)	Setting Example 5 (page 21)	Cable Diagram 2 (page 114)

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
EH-150 (Procedure 1)	EH-150(EH-CPU104) EH-150(EH-CPU104A) EH-150(EH-CPU208) EH-150(EH-CPU208A) EH-150(EH-CPU308) EH-150(EH-CPU316)	Serial port 1 on the CPU unit Serial port 2 on the CPU unit	RS232C	Setting Example 6 (page 23)	Cable Diagram 3 (page 123)
	EH-150(EH-CPU308A) EH-150(EH-CPU316A) EH-150(EH-CPU448) EH-150(EH-CPU448A) EH-150(EH-CPU516) EH-150(EH-CPU548)	Serial port 1 on the CPU unit	RS232C	Setting Example 6 (page 23)	Cable Diagram 3 (page 123)
			RS422/485 (4wire)	Setting Example 7 (page 25)	Cable Diagram 4 (page 127)
			RS422/485 (2wire)	Setting Example 8 (page 27)	Cable Diagram 5 (page 136)
		Serial port 2 on the CPU unit	RS232C	Setting Example 6 (page 23)	Cable Diagram 3 (page 123)
	EH-150(EH-CPU516) EH-150(EH-CPU548)	Port1 on the EH-SIO unit[*3]	RS232C	Setting Example 9 (page 29)	Cable Diagram 12 (page 215)
		Port2 on the EH-SIO unit[*3]	RS232C[*4]	Setting Example 10 (page 31)	Cable Diagram 12 (page 215)
			RS422/485 (4wire)[*4]	Setting Example 11 (page 33)	Cable Diagram 6 (page 149)
			RS422/485 (2wire)[*4]	Setting Example 12 (page 35)	Cable Diagram 7 (page 158)

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
EH-150 (Procedure 2)	EH-150(EH-CPU104A) EH-150(EH-CPU208A)	Serial port 1 on the CPU unit	RS232C	Setting Example 13 (page 37)	Cable Diagram 3 (page 123)
	EH-150(EH-CPU308A) EH-150(EH-CPU316A) EH-150(EH-CPU448) EH-150(EH-CPU448A) EH-150(EH-CPU516) EH-150(EH-CPU548)	Serial port 1 on the CPU unit	RS232C	Setting Example 13 (page 37)	Cable Diagram 3 (page 123)
			RS422/485 (4wire)	Setting Example 14 (page 39)	Cable Diagram 4 (page 127)
			RS422/485 (2wire)	Setting Example 15 (page 41)	Cable Diagram 5 (page 136)
	EH-150(EH-CPU516) EH-150(EH-CPU548)	Port1 on the EH-SIO unit[*3]	RS232C	Setting Example 16 (page 43)	Cable Diagram 12 (page 215)
		Port2 on the EH-SIO unit[*3]	RS232C[*4]	Setting Example 17 (page 45)	Cable Diagram 12 (page 215)
			RS422/485 (4wire)[*4]	Setting Example 18 (page 47)	Cable Diagram 6 (page 149)
			RS422/485 (2wire)[*4]	Setting Example 19 (page 49)	Cable Diagram 7 (page 158)
MICRO-EH (Procedure 1)	MICRO-EH(EH-D10□□□)[*5] MICRO-EH(EH-A14□□□)[*5] MICRO-EH(EH-D14□□□)[*5]	Port 1 on the CPU unit	RS232C	Setting Example 20 (page 51)	Cable Diagram 3 (page 123)
	MICRO-EH(EH-A23□□□)[*5] MICRO-EH(EH-D23□□□)[*5] MICRO-EH(EH-A28□□□)[*5] MICRO-EH(EH-D28□□□)[*5]	Port 1 on the CPU unit	RS232C	Setting Example 20 (page 51)	Cable Diagram 3 (page 123)
		Port 2 on the CPU unit	RS422/485 (4wire)	Setting Example 21 (page 53)	Cable Diagram 8 (page 171)
			RS422/485 (2wire)	Setting Example 22 (page 55)	Cable Diagram 9 (page 180)
	MICRO-EH(EH-A64□□)[*5] MICRO-EH(EH-D64□□)[*5] MICRO-EH(EH-A40□□)[*5] MICRO-EH(EH-D40□□)[*5] MICRO-EH(EH-A20□□)[*5] MICRO-EH(EH-D20□□)[*5]	Port on the CPU unit	RS232C	Setting Example 20 (page 51)	Cable Diagram 3 (page 123)
		EH-OB232[*6]	RS232C	Setting Example 23 (page 57)	Cable Diagram 3 (page 123)
		EH-OB485[*7]	RS422/485 (4wire)	Setting Example 24 (page 59)	Cable Diagram 10 (page 193)
			RS422/485 (2wire)	Setting Example 25 (page 61)	Cable Diagram 11 (page 202)

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
MICRO-EH (Procedure 2)	MICRO-EH(EH-D10□□□)[*5] MICRO-EH(EH-A14□□□)[*5] MICRO-EH(EH-D14□□□)[*5]	Port 1 on the CPU unit	RS232C	Setting Example 26 (page 63)	Cable Diagram 3 (page 123)
	MICRO-EH(EH-A23□□□)[*5] MICRO-EH(EH-D23□□□)[*5] MICRO-EH(EH-A28□□□)[*5] MICRO-EH(EH-D28□□□)[*5]	Port 1 on the CPU unit	RS232C	Setting Example 26 (page 63)	Cable Diagram 3 (page 123)
		Port 2 on the CPU unit	RS422/485 (4wire)	Setting Example 27 (page 65)	Cable Diagram 8 (page 171)
			RS422/485 (2wire)	Setting Example 28 (page 67)	Cable Diagram 9 (page 180)
	MICRO-EH(EH-A64□□)[*5] MICRO-EH(EH-D64□□)[*5] MICRO-EH(EH-A40□□)[*5] MICRO-EH(EH-D40□□)[*5] MICRO-EH(EH-A20□□)[*5] MICRO-EH(EH-D20□□)[*5]	Port on the CPU unit	RS232C	Setting Example 26 (page 63)	Cable Diagram 3 (page 123)
		EH-OB232[*6]	RS232C	Setting Example 29 (page 69)	Cable Diagram 3 (page 123)
		EH-OB485[*7]	RS422/485 (4wire)	Setting Example 30 (page 71)	Cable Diagram 10 (page 193)
			RS422/485 (2wire)	Setting Example 31 (page 73)	Cable Diagram 11 (page 202)
Web controller (Procedure 1 and 2)	EH-WD10DR	Serial port on the CPU unit	RS232C	Setting Example 32 (page 75)	Cable Diagram 3 (page 123)
	EH-WA23DR	Serial port on the CPU unit	RS232C	Setting Example 40 (page 91)	Cable Diagram 3 (page 123)
			RS422/485 (4wire)	Setting Example 41 (page 93)	Cable Diagram 13 (page 217)
			RS422/485 (2wire)	Setting Example 42 (page 95)	Cable Diagram 14 (page 226)

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
EHV (Procedure 1 and 2)	EHV-CPU128 EHV-CPU64 EHV-CPU32 EHV-CPU16	Serial port on the CPU unit	RS232C	Setting Example 33 (page 77)	Cable Diagram 3 (page 123)
			RS422/485 (4wire)	Setting Example 34 (page 79)	Cable Diagram 4 (page 127)
			R422/S485 (2wire)	Setting Example 35 (page 81)	Cable Diagram 5 (page 136)
		Port 1 on the EH-SIO unit[8]	RS232C	Setting Example 36 (page 83)	Cable Diagram 12 (page 215)
		Port 2 on the EH-SIO unit[8]	RS232C	Setting Example 37 (page 85)	Cable Diagram 12 (page 215)
			RS422/485 (4wire)	Setting Example 38 (page 87)	Cable Diagram 6 (page 149)
			RS422/485 (2wire)	Setting Example 39 (page 89)	Cable Diagram 7 (page 158)
MICRO-EHV (Procedure 1	MVH-A64□□ MVH-D64□□ MVH-A40□□ MVH-D40□□ MVL-A64□□ MVL-D64□□ MVL-A40□□ MVL-D40□□	Standard serial communication port on the Basic UNIT	RS232C	Setting Example 43 (page 97)	Cable Diagram 3 (page 123)
		Communication port on the OBV-NES	RS422/485 (2wire)	Setting Example 44 (page 99)	Cable Diagram 15 (page 239)
MICRO-EHV (Procedure 2	MVH-A64□□ MVH-D64□□ MVH-A40□□ MVH-D40□□ MVL-A64□□ MVL-D64□□ MVL-A40□□ MVL-D40□□	Standard serial communication port on the Basic UNIT	RS232C	Setting Example 45 (page 101)	Cable Diagram 3 (page 123)
		Communication port on the OBV-NES	RS422/485 (2wire)	Setting Example 46 (page 103)	Cable Diagram 15 (page 239)

*1   Connect to the peripheral port on the CPU module.

*2   When using peripheral port 2 on the CPU unit, connect the CNCOM-05 conversion cable (Hitachi IES Co., Ltd) between the 8-pin and D-sub 15-pin connectors.

*3   Version 2.0 or later of the EH-SIO software supports Procedure 1; version 2.1 or later supports Procedure 2. Furthermore, only EH-CPU548(Ver.E402 or later)/EH-CPU516(Ver.E202 or later) can use EH-SIO.

*4   Bit8 is used for interface selection of Port2 (RS232C or RS422/485).

*5   Model No. of the External Device "□" differs depending on the specification of each External Device.

*6   Communication board (RS232C).Can be used in the CPU of which version is Ver.0101 or later.

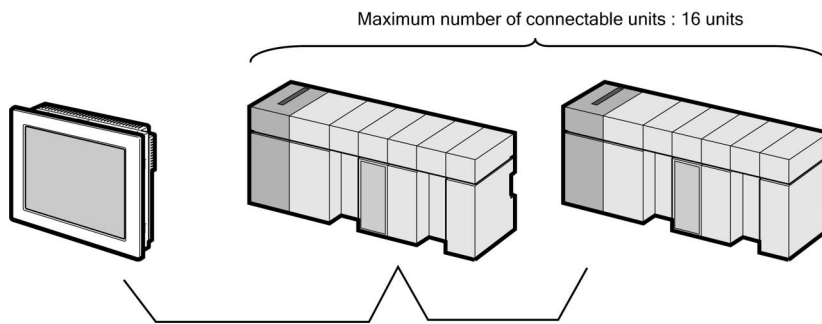*7   Communication board (RS422/RS485).Can be used in the CPU of which version is Ver.0100 or later.

*8   Version 2.0 or later of the EH-SIO software supports Procedure 1; version 2.1 or later supports Procedure 2.

■ Connection Configuration

• 1:1 Connection

• 1:n Connection

Maximum number of connectable units : 16 units
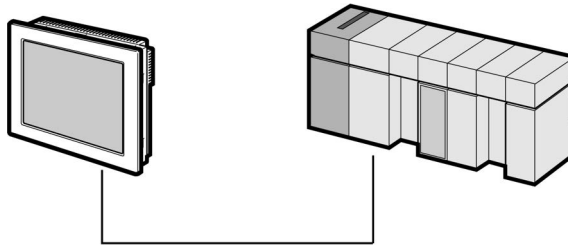
■ IPC COM Port

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

Usable port

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

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

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

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

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

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

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

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

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

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

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

*10   Install the optional interface in the expansion slot.

DIP Switch settings (PL3000 / PS3000 Series)

RS-232C

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

*1   When using PS-3450A, PS-3451A, PS3000-BA and PS3001-BD, turn ON the set value.
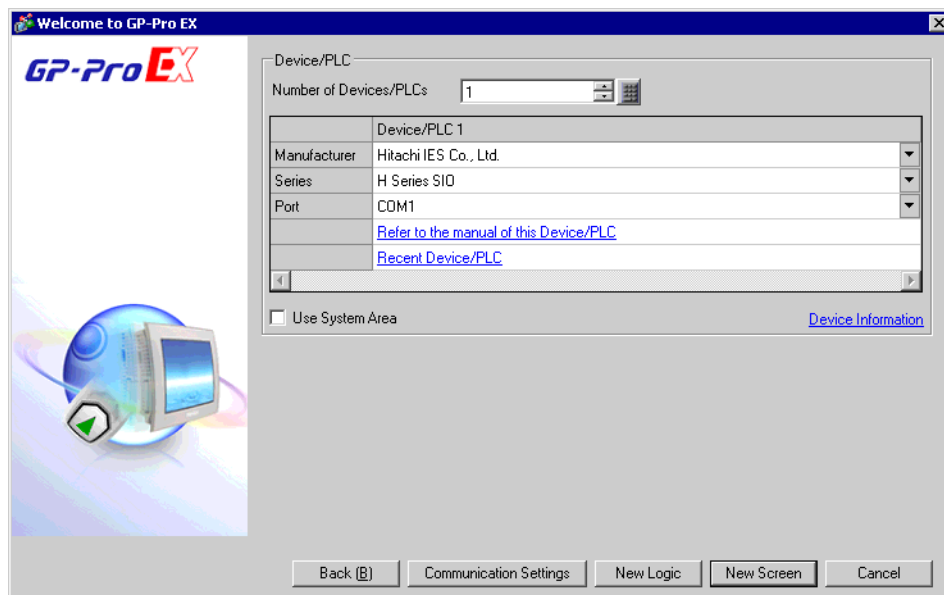
RS-422/485 (4 wire)

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

RS-422/485 (2 wire)

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

2 Selection of External Device

Select the External Device to be connected to the Display.

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

3 Example of Communication Setting

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

3.1 Setting Example 1

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Port on the CPU unit: H-4010 only)

Use the switch on the CPU unit for communication settings. After communication settings, turn ON the power of the External Device again to enable the setting. Please refer to the manual of the External Device for more details.

◆ Mode Setting Switch

• DIPSW1

DIP Switch	Settings	Description
SW03	OFF	Port 1 Transmission Speed: 19,200 bps
SW04	OFF	Port 2 Transmission Speed: 19,200 bps

NOTE • Other transmission speed settings are shown below.

DIP Switch	Settings	Description
SW03	ON	Port 1 Transmission Speed: 38,400 bps
SW04	ON	Port 2 Transmission Speed: 38,400 bps

3.2 Setting Example 2

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device(COMM-H, COMM-2H)

Use the switch on the I/F unit for communication settings. After communication settings, turn ON the power of the External Device again to enable the setting. Please refer to the manual of the External Device for more details.

◆ Communication Setting Switch

DIP Switch	Settings	Description
01	OFF	Bit Length: 7 bits
02	ON	
03	ON	Baud Rate Transmission Speed: 19,200bps
04	ON	
05	ON	Parity Enable/Disable: Enable
06	ON	Parity Even/Odd: Even
07	OFF	Stop Bit Length: 1 bit
08	ON	Sum Check: Enable

◆ Station Setting Rotary Switch

Rotary Switch	Settings	Description
x10	0	Station No. of External Device (tenth digit)
x1	0	Station No. of External Device (first digit)

◆ Mode Setting Rotary Switch

Rotary Switch	Settings	Description
MODE	2	Procedure: Procedure 1

3.3　　Setting Example 3

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (COMM-H, COMM-2H)

Use the switch on the I/F unit for communication settings. After communication settings, turn ON the power of the External Device again to enable the setting. Please refer to the manual of the External Device for more details.

◆ Communication Setting Switch

DIP Switch	Settings	Description
01	OFF	Bit Length: 7 bits
02	ON	
03	ON	Baud Rate Transmission Speed: 19,200bps
04	ON	
05	ON	Parity Enable/Disable: Enable
06	ON	Parity Even/Odd: Even
07	OFF	Stop Bit Length: 1 bit
08	ON	Sum Check: Enable

◆ Station Setting Rotary Switch

Rotary Switch	Settings	Description
x10	0	Station No. of External Device (tenth digit)
x1	0	Station No. of External Device (first digit)

◆ Mode Setting Rotary Switch

Rotary Switch	Settings	Description
MODE	2	Procedure: Procedure 1

3.4 Setting Example 4

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (COMM-2H)

Use the switch on the I/F unit for communication settings. After communication settings, turn ON the power of the External Device again to enable the setting. Please refer to the manual of the External Device for more details.

◆ Communication Setting Switch

DIP Switch	Settings	Description
01	OFF	Bit Length: 7 bits
02	ON	
03	ON	Baud Rate Transmission Speed: 19,200bps
04	ON	
05	ON	Parity Enable/Disable: Enable
06	ON	Parity Even/Odd: Even
07	OFF	Stop Bit Length: 1 bit
08	ON	Sum Check: Enable

◆ Station Setting Rotary Switch

Rotary Switch	Settings	Description
x10	0	Station No. of External Device (tenth digit)
x1	0	Station No. of External Device (first digit)

◆ Mode Setting Rotary Switch

Rotary Switch	Settings	Description
MODE	9	Procedure: Procedure 2

3.5 Setting Example 5

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ 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] ![icon].

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

■ Settings of External Device (COMM-2H)

Use the switch on the I/F unit for communication settings. After communication settings, turn ON the power of the External Device again to enable the setting. Please refer to the manual of the External Device for more details.

◆ Communication Setting Switch

DIP Switch	Settings	Description
01	OFF	Bit Length: 7 bits
02	ON	
03	ON	Baud Rate Transmission Speed: 19,200bps
04	ON	
05	ON	Parity Enable/Disable: Enable
06	ON	Parity Even/Odd: Even
07	OFF	Stop Bit Length: 1 bit
08	ON	Sum Check: Enable

◆ Station Setting Rotary Switch

Rotary Switch	Settings	Description
x10	0	Station No. of External Device (tenth digit)
x1	0	Station No. of External Device (first digit)

◆ Mode Setting Rotary Switch

Rotary Switch	Settings	Description
MODE	9	Procedure: Procedure 2

3.6　　Setting Example 6

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details. • If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Serial port on the CPU unit)

Use the switch on the CPU unit for communication settings. SIO type will be set to RS232C (Procedure 1) by entering 8000(H) in the address WRF037 with the ladder software (LADDER EDITOR for Windows). After communication settings, turn ON the power of the External Device again to enable the setting. Please refer to the manual of the External Device for more details.

◆ Mode Setting Switch

DIP Switch	Settings	Description
SW03	ON	Port 1 Transmission Speed: 19,200 bps
SW04	OFF	
SW05	ON	Port 1 Operation: Specified port
SW06	OFF	Port 2 Transmission Speed[*1] : 4,800 bps or 19,200 bps

*1   When setting the transmission speed of Port 2 to 19,200 bps or 38,400 bps, set the port change switch to High(ON).

Transmission speed of Port 2 will be set with SW06 and PHL switches.

◆ Port Change Switch

PHL Switch	Settings	Description
PHL Switch	ON	Port 2 Operation

NOTE
- When the change switch is ON, PHL signal becomes High(ON).
- Other transmission speed settings are shown below.

< Port 1 >

SW03	SW04	SW05	Transmission Speed
ON	ON	ON	4,800 bps
OFF	ON	ON	9,600 bps
OFF	OFF	ON	38,400 bps

< Port 2 >

SW06	PHL	Speed Speed
OFF	OFF	4,800 bps
ON	OFF	9,600 bps
ON	ON	38,400 bps

3.7 Setting Example 7

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1

Summary   Change Device/PLC

Manufacturer | Hitachi IES Co., Ltd.   Series | H Series SIO   Port | COM1

Text Data Mode   1   Change

Communication Settings

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

Speed   19200 ▼

Data Length   ● 7   ○ 8

Parity   ○ NONE   ● EVEN   ○ ODD

Stop Bit   ● 1   ○ 2

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

Timeout   3 ⏷ (sec)

Retry   2 ⏷

Wait To Send   0 ⏷ (ms)

Procedure   Procedure 1 ▼

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   Add Device
of Devices/PLCs   16   Add Indirect
                                                            Device
No. Device Name   Settings
 1   PLC1   Series=H Series,Station No.=0

| NOTE | • Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details. |
| | • If you do not set up sufficient Wait To Send time, a communication error may occur. |

◆ Device Setting

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

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

■ Settings of External Device (Serial port on the CPU unit)

Use the switch on the CPU unit for communication settings. SIO type will be set to RS422/RS485 (Procedure 1) by entering A100(H)[*1] in the address WRF037 with the ladder software (LADDER EDITOR for Windows). After communication settings, turn ON the power of the External Device again to enable the setting. Please refer to the manual of the External Device for more details.

*1   To enable the termination resistance, enter B100(H). In addition, enter the Station No. set on the Display in lower 2 digits of A100 (or B100)

◆ Mode Setting Switch

DIP Switch	Settings	Description
SW03	ON	Port 1 Transmission Speed: 19,200 bps
SW04	OFF	
SW05	ON	Port 1 Operation: Specified port

NOTE   • Other transmission speed settings are shown below.

SW03	SW04	SW05	Speed Speed
ON	ON	ON	4,800 bps
OFF	ON	ON	9,600 bps
OFF	OFF	ON	38,400 bps

3.8　　　Setting Example 8

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Serial port on the CPU unit)

Use the switch on the CPU unit for communication settings. SIO type will be set to RS422/RS485 (Procedure 1) by entering A200(H)[*1] in the address WRF037 with the ladder software (LADDER EDITOR for Windows). After communication settings, turn ON the power of the External Device again to enable the setting. Please refer to the manual of the External Device for more details.

*1　To enable the termination resistance, enter B200(H). In addition, enter the Station No. set on the Display in lower 2 digits of A200 (or B200)

◆ Mode Setting Switch

DIP Switch	Settings	Description
SW03	ON	Port 1 Transmission Speed: 19,200 bps
SW04	OFF	
SW05	ON	Port 1 Operation: Specified port

NOTE　• Other transmission speed settings are shown below.

SW03	SW04	SW05	Speed Speed
ON	ON	ON	4,800 bps
OFF	ON	ON	9,600 bps
OFF	OFF	ON	38,400 bps

3.9 Setting Example 9

■ Settings of GP-Pro EX

◆ Communication Settings

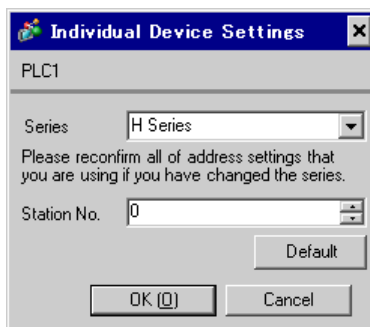To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting.Use the ladder software (LADDER EDITOR for Windows) for the I/O assignment.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch on the EH-SIO for communication settings.

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
02	ON	
03	ON	
04	ON	

05	OFF	Transmission character configuration settings
		    Data Length: 7 bits
		    Stop Bit: 1 bit
		    Parity: Even

06	ON	
07	OFF	
08	OFF	Always OFF

2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.10 Setting Example 10

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting.Use the ladder software (LADDER EDITOR for Windows) for the I/O assignment.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch on the EH-SIO for communication settings.

Communication Setting Switch 2 (for Port 2)

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
02	ON	
03	ON	
04	ON	
05	OFF	Transmission character configuration settings 　　　Data Length: 7 bits 　　　Stop Bit: 1 bit 　　　Parity: Even
06	ON	
07	OFF	
08	OFF	Interface Type: RS232C

2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.11 Setting Example 11

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting.Use the ladder software (LADDER EDITOR for Windows) for the I/O assignment.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch on the EH-SIO for communication settings.

Communication Setting Switch 2 (for Port 2)

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
02	ON	
03	ON	
04	ON	

05	OFF	Transmission character configuration settings
		    Data Length: 7 bits
		    Stop Bit: 1 bit
		    Parity: Even

06	ON	
07	OFF	
08	ON	Interface Type: RS422/RS485

2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.12 Setting Example 12

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1			
Summary			Change Device/PLC
Manufacturer	Hitachi IES Co., Ltd.	Series	H Series SIO	Port	COM1
Text Data Mode	1	Change	

Communication Settings

SIO Type	○ RS232C	⊙ RS422/485(2wire)	○ RS422/485(4wire)
Speed	19200		
Data Length	⊙ 7	○ 8	
Parity	○ NONE	⊙ EVEN	○ ODD
Stop Bit	⊙ 1	○ 2	
Flow Control	○ NONE	⊙ ER(DTR/CTS)	○ XON/XOFF
Timeout	3 (sec)		
Retry	2		
Wait To Send	0 (ms)		
Procedure	Procedure 1		

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   Add Device
of Devices/PLCs   16

Add Indirect Device

No.	Device Name	Settings
1	PLC1	Series=H Series,Station No.=0

NOTE • Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.

• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting.Use the ladder software (LADDER EDITOR for Windows) for the I/O assignment.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch on the EH-SIO for communication settings.

Communication Setting Switch 2 (for Port 2)

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
02	ON	
03	ON	
04	ON	
05	OFF	Transmission character configuration settings 　　　Data Length: 7 bits 　　　Stop Bit: 1 bit 　　　Parity: Even
06	ON	
07	OFF	
08	ON	Interface Type: RS422/RS485

2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.13 Setting Example 13

■ Settings of GP-Pro EX

◆ Communication Settings

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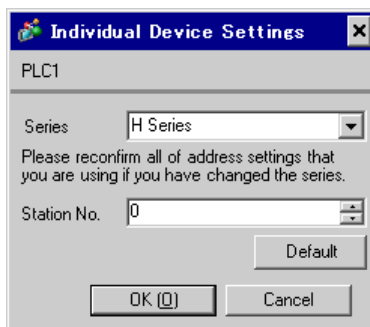

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Serial port on the CPU unit)

Use the switch on the CPU unit for communication settings. SIO type will be set to RS232C (Procedure 2) by entering C000(H) in the address WRF037 with the ladder software (LADDER EDITOR for Windows). After communication settings, turn ON the power of the External Device again to enable the setting. Please refer to the manual of the External Device for more details.

◆ Mode Setting Switch

DIP Switch	Settings	Description
SW03	ON	Port 1 Transmission Speed: 19,200 bps
SW04	OFF	
SW05	ON	Port 1 Operation: Specified port

NOTE • Other transmission speed settings are shown below.

SW03	SW04	SW05	Speed Speed
ON	ON	ON	4,800 bps
OFF	ON	ON	9,600 bps
OFF	OFF	ON	38,400 bps

3.14   Setting Example 14

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Serial port on the CPU unit)

Use the switch on the CPU unit for communication settings. SIO type will be set to RS422/RS485 (Procedure 2) by entering E100(H)[*1] in the address WRF037 with the ladder software (LADDER EDITOR for Windows). After communication settings, turn ON the power of the External Device again to enable the setting. Please refer to the manual of the External Device for more details.

*1   To enable the termination resistance, enter F100(H). In addition, enter the Station No. set on the Display in lower 2 digits of E100 (or F100)

◆ Mode Setting Switch

DIP Switch	Settings	Description
SW03	ON	Port 1 Transmission Speed: 19,200 bps
SW04	OFF	
SW05	ON	Port 1 Operation: Specified port

NOTE • Other transmission speed settings are shown below.

SW03	SW04	SW05	Speed Speed
ON	ON	ON	4,800 bps
OFF	ON	ON	9,600 bps
OFF	OFF	ON	38,400 bps

3.15 Setting Example 15

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Serial port on the CPU unit)

Use the switch on the CPU unit for communication settings. SIO type will be set to RS422/RS485 (Procedure 2) by entering E200(H)[*1] in the address WRF037 with the ladder software (LADDER EDITOR for Windows). After communication settings, turn ON the power of the External Device again to enable the setting. Please refer to the manual of the External Device for more details.

*1   To enable the termination resistance, enter F200(H). In addition, enter the Station No. set on the Display in lower 2 digits of E200 (or F200)

◆ Mode Setting Switch

DIP Switch	Settings	Description
SW03	ON	Port 1 Transmission Speed: 19,200 bps
SW04	OFF	
SW05	ON	Port 1 Operation: Specified port

NOTE   • Other transmission speed settings are shown below.

SW03	SW04	SW05	Speed Speed
ON	ON	ON	4,800 bps
OFF	ON	ON	9,600 bps
OFF	OFF	ON	38,400 bps

3.16 Setting Example 16

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting.Use the ladder software (LADDER EDITOR for Windows) for the I/O assignment.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch on the EH-SIO for communication settings.

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
02	ON	
03	ON	
04	ON	
05	OFF	Transmission character configuration settings Data Length: 7 bits Stop Bit: 1 bit Parity: Even
06	ON	
07	OFF	
08	OFF	Always OFF

2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.17 Setting Example 17

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1

Summary   Change Device/PLC

Manufacturer Hitachi IES Co., Ltd.   Series H Series SIO   Port COM1

Text Data Mode   1   Change

Communication Settings

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

Speed   19200

Data Length   ⊙ 7   ○ 8

Parity   ○ NONE   ⊙ EVEN   ○ ODD

Stop Bit   ⊙ 1   ○ 2

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

Timeout   3   (sec)

Retry   2

Wait To Send   0   (ms)

Procedure   Procedure 2

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   Add Device
of Devices/PLCs   16
                                                                    Add Indirect
No. Device Name   Settings   Device
 1   PLC1   Series=H Series

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting.Use the ladder software (LADDER EDITOR for Windows) for the I/O assignment.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch on the EH-SIO for communication settings.

Communication Setting Switch 2 (for Port 2)

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
02	ON	
03	ON	
04	ON	

05	OFF	Transmission character configuration settings
		    Data Length: 7 bits
		    Stop Bit: 1 bit
		    Parity: Even

06	ON	
07	OFF	
08	OFF	Interface Type: RS232C

2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.18 Setting Example 18

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1			
Summary			Change Device/PLC
Manufacturer	Hitachi IES Co., Ltd.	Series	H Series SIO	Port	COM1
Text Data Mode	1	Change	

Communication Settings

SIO Type	○ RS232C	○ RS422/485(2wire)	⊙ RS422/485(4wire)
Speed	19200		
Data Length	⊙ 7	○ 8	
Parity	○ NONE	⊙ EVEN	○ ODD
Stop Bit	⊙ 1	○ 2	
Flow Control	○ NONE	⊙ ER(DTR/CTS)	○ XON/XOFF
Timeout	3	(sec)	
Retry	2		
Wait To Send	0	(ms)	
Procedure	Procedure 2		

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

Add Indirect Device

No.	Device Name	Settings
1	PLC1	Series=H Series,Station No.=0

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting.Use the ladder software (LADDER EDITOR for Windows) for the I/O assignment.

Please refer to the manual of the External Device for more details.

◆ Procedure

1.   Use the DIP switch on the EH-SIO for communication settings.

Communication Setting Switch 2 (for Port 2)

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
02	ON	
03	ON	
04	ON	

05	OFF	Transmission character configuration settings
		     Data Length: 7 bits
		     Stop Bit: 1 bit
		     Parity: Even

06	ON	
07	OFF	
08	ON	Interface Type: RS422/RS485

2.   Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.19 Setting Example 19

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ 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      │H Series            ▼│      │
│ Please reconfirm all of address settings that │
│ you are using if you have changed the series. │
│                                          │
│ Station No.  │0              │  ▲▼       │
│                                          │
│                        │ Default │       │
│                                          │
│     │ OK (O) │       │ Cancel │          │
└─────────────────────────────────────────┘
```

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting.Use the ladder software (LADDER EDITOR for Windows) for the I/O assignment.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch on the EH-SIO for communication settings.

Communication Setting Switch 2 (for Port 2)

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
02	ON	
03	ON	
04	ON	
05	OFF	Transmission character configuration settings Data Length: 7 bits Stop Bit: 1 bit Parity: Even
06	ON	
07	OFF	
08	ON	Interface Type: RS422/RS485

2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.20 Setting Example 20

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Port on the CPU unit)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch inside the front cover of the External Device to enable the communication with the ladder software.

    Set as the following table.

DIP Switch	Settings	Description
SW01	ON	Transmission Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
SW02	OFF	
SW03	OFF	
SW04	OFF	

2. Set 0000(H) in I/O No.WRF01A and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

• WRF01A

Limit Bit	Settings	Description
15	0	Procedure 1

• R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

3. Turn ON the power of the External Device again.

3.21 Setting Example 21

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Port on the CPU unit)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Set the following communication settings in I/O No.WRF03D and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

   • WRF03D

Limit Bit	Settings	Description
15	1[*1]	Setting Change Request
14	0	Procedure 1
13	1	Station No.: Enable
11 to 8	0010(H)	Transmission speed: 19,200bps Please refer to the manual of the External Device for more details about other transmission speed settings.
7 to 0	0	Station No.[*2]

   *1   For communication settings, set "1". It will be changed to "0" when turning the power of the External Device again.

   *2   Set the Station No. with BCD 2 digits. Bit position of 7 to 4 corresponds to the digit of 10, and of 3 to 0 corresponds to the digit of 1.

   • R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

2. Turn ON the power of the External Device again.

3.22 Setting Example 22

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ 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] ![icon].

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

■ Settings of External Device (Port on the CPU unit)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Set the following communication settings in I/O No.WRF03D and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

   • WRF03D

Limit Bit	Settings	Description
15	1[*1]	Setting Change Request
14	0	Procedure 1
13	1	Station No.: Enable
11 to 8	0010(H)	Transmission speed: 19,200bps Please refer to the manual of the External Device for more details about other transmission speed settings.
7 to 0	0	Station No.[*2]

*1 For communication settings, set "1". It will be changed to "0" when turning the power of the External Device again.

*2 Set the Station No. with BCD 2 digits. Bit position of 7 to 4 corresponds to the digit of 10, and of 3 to 0 corresponds to the digit of 1.

   • R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

2. Turn ON the power of the External Device again.

3.23 Setting Example 23

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-OB232)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Set the following communication settings in I/O No.WRF03D and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

    • WRF03D

Limit Bit	Settings	Description
15	1[*1]	Setting Change Request
14	0	Procedure 1
13	0	Station No.: Disable
11 to 8	0010(H)	Transmission speed: 19,200bps Please refer to the manual of the External Device for more details about other transmission speed settings.

*1   For communication settings, set "1". It will be changed to "0" when turning the power of the External Device again.

    • R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

2. Turn ON the power of the External Device again.

3.24 Setting Example 24

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-OB485)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Set the following communication settings in I/O No.WRF03D and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

   • WRF03D

Limit Bit	Settings	Description
15	1[*1]	Setting Change Request
14	0	Procedure 1
13	1	Station No.: Enable
11 to 8	0010(H)	Transmission speed: 19,200bps Please refer to the manual of the External Device for more details about other transmission speed settings.
7 to 0	0	Station No.[*2]

*1 For communication settings, set "1". It will be changed to "0" when turning the power of the External Device again.

*2 Set the Station No. with BCD 2 digits. Bit position of 7 to 4 corresponds to the digit of 10, and of 3 to 0 corresponds to the digit of 1.

   • R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

2. Turn ON the power of the External Device again.

3.25 Setting Example 25

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE
- Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
- If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-OB485)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Set the following communication settings in I/O No.WRF03D and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

• WRF03D

Limit Bit	Settings	Description
15	1[*1]	Setting Change Request
14	0	Procedure 1
13	1	Station No.: Enable
11 to 8	0010(H)	Transmission speed: 19,200bps Please refer to the manual of the External Device for more details about other transmission speed settings.
7 to 0	0	Station No. [*2]

*1   For communication settings, set "1". It will be changed to "0" when turning the power of the External Device again.

*2   Set the Station No. with BCD 2 digits. Bit position of 7 to 4 corresponds to the digit of 10, and of 3 to 0 corresponds to the digit of 1.

• R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

2. Turn ON the power of the External Device again.

3.26 Setting Example 26

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] ⬚ .
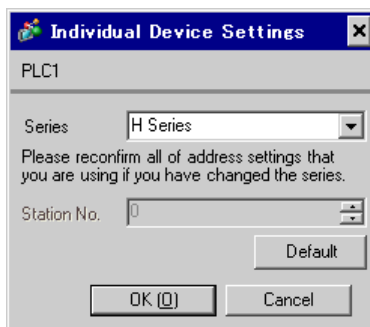
To connect multiple External Devices, from [Device-Specific Settings] in the [Device/PLC] window, click [Add Device] to add another External Device.

■ Settings of External Device (Port on the CPU unit)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1.   Use the DIP switch inside the front cover of the External Device to enable the communication with the ladder software.

Set as the following table.

DIP Switch	Settings	Description
SW01	ON	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
SW02	OFF	
SW03	OFF	
SW04	OFF	

2.   Set 8000(H) in I/O No.WRF01A and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

•   WRF01A

Limit Bit	Settings	Description
15	1	Procedure 2

•   R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

3.   Turn ON the power of the External Device again.

3.27 Setting Example 27

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1			
Summary			Change Device/PLC
Manufacturer	Hitachi IES Co., Ltd.	Series	H Series SIO	Port	COM1
Text Data Mode	1	Change	

Communication Settings

SIO Type	○ RS232C	○ RS422/485(2wire)	● RS422/485(4wire)
Speed	19200		
Data Length	● 7	○ 8	
Parity	○ NONE	● EVEN	○ ODD
Stop Bit	● 1	○ 2	
Flow Control	○ NONE	● ER(DTR/CTS)	○ XON/XOFF
Timeout	3	(sec)	
Retry	2		
Wait To Send	0	(ms)	
Procedure	Procedure 2		

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

Add Indirect Device

No.	Device Name	Settings
1	PLC1	Series=H Series,Station No.=0

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Port on the CPU unit)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Set the following communication settings in I/O No.WRF03D and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

   • WRF03D

Limit Bit	Settings	Description
15	1[*1]	Setting Change Request
14	1	Procedure 2
13	1	Station No.: Enable
11 to 8	0010(H)	Transmission speed: 19,200bps Please refer to the manual of the External Device for more details about other transmission speed settings.
7 to 0	0	Station No. [*2]

*1 For communication settings, set "1". It will be changed to "0" when turning the power of the External Device again.

*2 Set the Station No. with BCD 2 digits. Bit position of 7 to 4 corresponds to the digit of 10, and of 3 to 0 corresponds to the digit of 1.

   • R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

2. Turn ON the power of the External Device again.

3.28 Setting Example 28

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details. • If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ 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] ![icon] .

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

■ Settings of External Device (Port on the CPU unit)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Set the following communication settings in I/O No.WRF03D and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

   • WRF03D

Limit Bit	Settings	Description
15	1*1	Setting Change Request
14	1	Procedure 2
13	1	Station No.: Enable
11 to 8	0010(H)	Transmission speed: 19,200bps Please refer to the manual of the External Device for more details about other transmission speed settings.
7 to 0	0	Station No.*2

*1 For communication settings, set "1". It will be changed to "0" when turning the power of the External Device again.

*2 Set the Station No. with BCD 2 digits. Bit position of 7 to 4 corresponds to the digit of 10, and of 3 to 0 corresponds to the digit of 1.

   • R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

2. Turn ON the power of the External Device again.

3.29 Setting Example 29

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE
- Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
- If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-OB232)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Set the following communication settings in I/O No.WRF03D and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

   • WRF03D

Limit Bit	Settings	Description
15	1[*1]	Setting Change Request
14	1	Procedure 2
13	0	Station No.: Disable
11 to 8	0010(H)	Transmission speed: 19,200bps Please refer to the manual of the External Device for more details about other transmission speed settings.

*1 For communication settings, set "1". It will be changed to "0" when turning the power of the External Device again.

   • R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

2. Turn ON the power of the External Device again.

3.30 Setting Example 30

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1		
Summary		Change Device/PLC
Manufacturer	Hitachi IES Co., Ltd.	Series	H Series SIO	Port	COM1
Text Data Mode	1 Change	

Communication Settings

SIO Type	○ RS232C ○ RS422/485(2wire) ● RS422/485(4wire)
Speed	19200
Data Length	● 7 ○ 8
Parity	○ NONE ● EVEN ○ ODD
Stop Bit	● 1 ○ 2
Flow Control	○ NONE ● ER(DTR/CTS) ○ XON/XOFF
Timeout	3 (sec)
Retry	2
Wait To Send	0 (ms)
Procedure	Procedure 2

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   Add Device
of Devices/PLCs   16

Add Indirect Device

No.	Device Name	Settings
1	PLC1	Series=H Series,Station No.=0

NOTE
• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-OB485)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Set the following communication settings in I/O No.WRF03D and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

   • WRF03D

Limit Bit	Settings	Description
15	1[*1]	Setting Change Request
14	1	Procedure 2
13	1	Station No.: Enable
11 to 8	0010(H)	Transmission speed: 19,200bps Please refer to the manual of the External Device for more details about other transmission speed settings.
7 to 0	0	Station No.[*2]

*1 For communication settings, set "1". It will be changed to "0" when turning the power of the External Device again.

*2 Set the Station No. with BCD 2 digits. Bit position of 7 to 4 corresponds to the digit of 10, and of 3 to 0 corresponds to the digit of 1.

   • R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

2. Turn ON the power of the External Device again.

3.31　　Setting Example 31

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1		

Summary　　　　　　　　　　　　　　　　　　　Change Device/PLC

Manufacturer | Hitachi IES Co., Ltd.　　Series | H Series SIO　　Port | COM1

Text Data Mode　　[1]　Change

Communication Settings

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

Speed　　　　[19200 ▼]

Data Length　◉ 7　　○ 8

Parity　　　　○ NONE　　◉ EVEN　　○ ODD

Stop Bit　　　◉ 1　　○ 2

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

Timeout　　　[3] (sec)

Retry　　　　[2]

Wait To Send　[0] (ms)

Procedure　　[Procedure 2 ▼]

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　　Add Indirect Device

No. | Device Name | Settings

1 | PLC1 | Series=H Series,Station No.=0

NOTE
- Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
- If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-OB485)

Use the ladder software (LADDER EDITOR for Windows) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Set the following communication settings in I/O No.WRF03D and turn I/O No.R7F6 ON to write the settings in the FLASH memory in the External Device.

• WRF03D

Limit Bit	Settings	Description
15	1[*1]	Setting Change Request
14	1	Procedure 2
13	1	Station No.: Enable
11 to 8	0010(H)	Transmission speed: 19,200bps Please refer to the manual of the External Device for more details about other transmission speed settings.
7 to 0	0	Station No.[*2]

*1   For communication settings, set "1". It will be changed to "0" when turning the power of the External Device again.

*2   Set the Station No. with BCD 2 digits. Bit position of 7 to 4 corresponds to the digit of 10, and of 3 to 0 corresponds to the digit of 1.

• R7F6

Limit Bit	Settings	Description
-	1	Writing in FLASH memory

2. Turn ON the power of the External Device again.

3.32   Setting Example 32

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1

Summary   Change Device/PLC

Manufacturer Hitachi IES Co., Ltd.   Series   H Series SIO   Port COM1

Text Data Mode   1   Change

Communication Settings

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

Speed   19200

Data Length   ⊙ 7   ○ 8

Parity   ○ NONE   ⊙ EVEN   ○ ODD

Stop Bit   ⊙ 1   ○ 2

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

Timeout   3   (sec)

Retry   2

Wait To Send   0   (ms)

Procedure   Procedure 1

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   Add Device
of Devices/PLCs   16   Add Indirect
                                                                Device
No. Device Name   Settings
  1 PLC1   Series=Web Controller Series

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Web controller)

Use the Web Browser to access the External Device for communication setting. Please refer to the manual of the External Device for more details.

◆ Procedure

Please refer to the manual of the Web controller for more details.

1. If you set the operation mode setting switch of the External Device as follows, the temporary IP address of the Ethernet port will be set to 192.168.0.1.

   <Operation Mode Setting Switch>

   •Set the rotary switch to "2"

2. Use the LAN cable to connect the Ethernet port of PC to the Ethernet port of the Web controller.(connect via HUB or with the cross cable directly.)

3. Enter "http://192.168.0.1/mwconfig.cgi" in the address input box of the Web Browser to access the External Device.

   To access, you need to set the upper 3 bytes of PC's IP address to 192.168.0.. (ex. 192.168.0.10)

4. Login in the displayed System Configuration Login screen.

5. Select [Serial Protocol]-[Passive HIProtocol] from [System Configuration] on the displayed screen for communication settings. After settings, click [SET] to confirm the setting values.

   Serial-Passive HIProtocol

Setup Items	Setting Value
Interface Type	RS232C
Transmission Control Procedure	Procedure1 1:1[*1]
Transmission Speed	19.2 kbps
Station No.	0

   *1   To use Procedure 2, select [Procedure2 1:1].

6. Set the operation mode setting switch of the External Device and turn ON the power again.

   <Operation Mode Setting Switch>

   •Set the rotary switch to "0"

3.33 Setting Example 33

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1

Summary   Change Device/PLC

Manufacturer Hitachi IES Co., Ltd.   Series H Series SIO   Port COM1

Text Data Mode   1   Change

Communication Settings

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

Speed   19200

Data Length   ○ 7   ○ 8

Parity   ○ NONE   ○ EVEN   ○ ODD

Stop Bit   ○ 1   ○ 2

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

Timeout   3   (sec)

Retry   2

Wait To Send   0   (ms)

Procedure   Procedure 1

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   Add Device
of Devices/PLCs   16

No. Device Name   Settings   Add Indirect
                                                                    Device
  1   PLC1   Series=EHV Series

NOTE
- Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
- If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Serial port on the CPU unit)

Use the programming software (Control Editor) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Start the programming software and create the project. The project is displayed in the offline mode.
2. Select [Editor Communication Setting] from the [Tool] menu to display the communication setting dialog box.
3. Select either "USB" or "Serial" for the communication method to transfer the communication setting to the External Device and click [Setting].
4. Use the USB cable or serial cable (by Hitachi IES Co., Ltd.) to connect PC to the External Device.
5. Select [Mode Change] - [Online] from the [Online] menu to move to the online mode.
6. Select [CPU Settings] - [Serial Communication Settings] from the [Tool] menu to perform the communication settings.
   • CPU Communication Settings (Serial Communication Settings)

Setup Items	Settings
Serial Communication Settings	Specified
Port Type	RS232C
Speed	19.2 kbps
Communication Procedure	Procedure 1 (1:1)[*1]

*1   To use Procedure 2 for communication, select [Procedure 2 (1:1)].

7. Turn ON the power of the External Device again.

3.34 Setting Example 34

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details. • If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Serial port on the CPU unit)

Use the programming software (Control Editor) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Start the programming software and create the project. The project is displayed in the offline mode.

2. Select [Editor Communication Setting] from the [Tool] menu to display the communication setting dialog box.

3. Select either "USB" or "Serial" for the communication method to transfer the communication setting to the External Device and click [Setting].

4. Use the USB cable or serial cable (by Hitachi IES Co., Ltd.) to connect PC to the External Device.

5. Select [Mode Change] - [Online] from the [Online] menu to move to the online mode.

6. Select [CPU Settings] - [Serial Communication Settings] from the [Tool] menu to perform the communication settings.

   • CPU Communication Settings (Serial Communication Settings)

Setup Items	Settings
Serial Communication Settings	Specified
Port Type	RS422/RS485
Speed	19.2 kbps
Communication Procedure	Procedure 1 (1:n)[*1]
Station No.	Enter the Station No. set on the display.[*2]

*1   To use Procedure 2 for communication, select [Procedure 2 (1:n)].

*2   If you set the Station No. to "None", communication is not available.

7. Turn ON the power of the External Device again.

3.35 Setting Example 35

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Serial port on the CPU unit)

Use the programming software (Control Editor) for communication settings. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Start the programming software and create the project. The project is displayed in the offline mode.
2. Select [Editor Communication Setting] from the [Tool] menu to display the communication setting dialog box.
3. Select either "USB" or "Serial" for the communication method to transfer the communication setting to the External Device and click [Setting].
4. Use the USB cable or serial cable (by Hitachi IES Co., Ltd.) to connect PC to the External Device.
5. Select [Mode Change] - [Online] from the [Online] menu to move to the online mode.
6. Select [CPU Settings] - [Serial Communication Settings] from the [Tool] menu to perform the communication settings.

   • CPU Communication Settings (Serial Communication Settings)

Setup Items	Settings
Serial Communication Settings	Specified
Port Type	RS422/RS485
Speed	19.2 kbps
Communication Procedure	Procedure 1 (1:n)[*1]
Station No.	Enter the Station No. set on the display.[*2]

   *1   To use Procedure 2 for communication, select [Procedure 2 (1:n)].

   *2   If you set the Station No. to "None", communication is not available.

7. Turn ON the power of the External Device again.

3.36 Setting Example 36

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1

Summary   Change Device/PLC

Manufacturer Hitachi IES Co., Ltd.   Series   H Series SIO   Port COM1

Text Data Mode   1   Change

Communication Settings

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

Speed   19200

Data Length   ● 7   ○ 8

Parity   ○ NONE   ● EVEN   ○ ODD

Stop Bit   ● 1   ○ 2

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

Timeout   3   (sec)

Retry   2

Wait To Send   0   (ms)

Procedure   Procedure 1

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   Add Device
of Devices/PLCs   16   Add Indirect
                                                                             Device
No. Device Name   Settings
1   PLC1   Series=EHV Series

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting. Use the ladder software (Control Editor) for the I/O assignment.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch on the EH-SIO for communication settings.
   - Communication Setting Switch 1 (for Port 1)

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps
02	ON	Please refer to the manual of the External Device for more details about other
03	ON	transmission speed settings.
04	ON	
05	OFF	Transmission character configuration settings
06	ON	Data Length: 7 bits
07	OFF	Stop Bit: 1 bit Parity: Even
08	OFF	Always OFF

2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.37 Setting Example 37

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting.Use the ladder software (Control Editor) for the I/O assignment.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch on the EH-SIO for communication settings.

• Communication Setting Switch 2 (for Port 2)

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
02	ON	
03	ON	
04	ON	
05	OFF	Transmission character configuration settings Data Length: 7 bits Stop Bit: 1 bit Parity: Even
06	ON	
07	OFF	
08	OFF	Interface Type: RS232C

2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.38 Setting Example 38

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting.Use the ladder software (Control Editor) for the I/O assignment.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch on the EH-SIO for communication settings.
   • Communication Setting Switch 2 (for Port 2)

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
02	ON	
03	ON	
04	ON	

05	OFF	Transmission character configuration settings
		    Data Length: 7 bits
		    Stop Bit: 1 bit
		    Parity: Even

06	ON	
07	OFF	
08	ON	Interface Type: RS422/RS485

2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.39 Setting Example 39

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (EH-SIO)

Use the switch on the EH-SIO for communication settings. After setting, assign I/O, and turn ON the power of the External Device again to enable the setting.Use the ladder software (Control Editor) for the I/O assignment. Please refer to the manual of the External Device for more details.

◆ Procedure

1. Use the DIP switch on the EH-SIO for communication settings.

• Communication Setting Switch 2 (for Port 2)

DIP Switch	Settings	Description
01	OFF	Speed: 19,200 bps Please refer to the manual of the External Device for more details about other transmission speed settings.
02	ON	
03	ON	
04	ON	
05	OFF	Transmission character configuration settings
06	ON	Data Length: 7 bits
07	OFF	Stop Bit: 1 bit Parity: Even
08	ON	Interface Type: RS422/RS485

2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.40 Setting Example 40

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

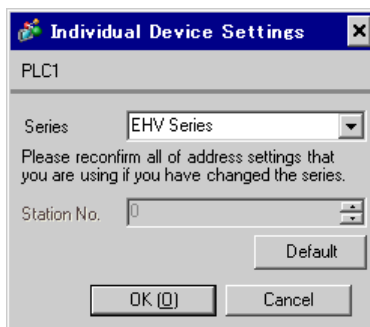To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] ⚏ .

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

■ Settings of External Device (Web controller)

Use the Web Browser to access the External Device for communication setting. Please refer to the manual of the External Device for more details.

◆ Procedure

Please refer to the manual of the Web controller for more details.

1. If you set the operation mode setting switch of the External Device as follows, the temporary IP address of the Ethernet port will be set to 192.168.0.1.

    <Operation Mode Setting Switch>

    •Set only the DIP switch4 to ON

2. Use the LAN cable to connect the Ethernet port of PC to the Ethernet port of the Web controller.(connect via HUB or with the cross cable directly.)

3. Enter "http://192.168.0.1/mwconfig.cgi" in the address input box of the Web Browser to access the External Device.

    To access, you need to set the upper 3 bytes of PC's IP address to 192.168.0.. (ex. 192.168.0.10)

4. Login in the displayed System Configuration Login screen.

5. Select [Serial Protocol]-[Passive HIProtocol] from [System Configuration] on the displayed screen for communication settings. After settings, click [SET] to confirm the setting values.

    Serial-Passive HIProtocol

Setup Items	Setting Value
Interface Type	RS232C
Transmission Control Procedure	Procedure1 1:1[*1]
Transmission Speed	19.2 kbps
Station No.	0

    *1   To use Procedure 2, select [Procedure2 1:1].

6. Set the operation mode setting switch of the External Device and turn ON the power again.

    <Operation Mode Setting Switch>

    •Set all the DIP switch to OFF

3.41　　Setting Example 41

■ Settings of GP-Pro EX

◆ Communication Settings

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

```
Device/PLC 1

Summary                                                    Change Device/PLC

Manufacturer  Hitachi IES Co., Ltd.    Series  H Series SIO    Port  COM1

Text Data Mode      1    Change

Communication Settings

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

  Speed           19200

  Data Length     ● 7           ○ 8

  Parity          ○ NONE        ● EVEN               ○ ODD

  Stop Bit        ● 1           ○ 2

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

  Timeout         3      (sec)

  Retry           2

  Wait To Send    0      (ms)

  Procedure       Procedure 1

  ┌ 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      Add Device
  of Devices/PLCs    16                                Add Indirect
                                                        Device
  No.  Device Name      Settings
   1   PLC1          Series=Web Controller Series,Station No.=0        
```

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Web controller)

Use the Web Browser to access the External Device for communication setting. Please refer to the manual of the External Device for more details.

◆ Procedure

Please refer to the manual of the Web controller for more details.

1. If you set the operation mode setting switch of the External Device as follows, the temporary IP address of the Ethernet port will be set to 192.168.0.1.
    <Operation Mode Setting Switch>
    •Set only the DIP switch4 to ON

2. Use the LAN cable to connect the Ethernet port of PC to the Ethernet port of the Web controller.(connect via HUB or with the cross cable directly.)

3. Enter "http://192.168.0.1/mwconfig.cgi" in the address input box of the Web Browser to access the External Device.
    To access, you need to set the upper 3 bytes of PC's IP address to 192.168.0.. (ex. 192.168.0.10)

4. Login in the displayed System Configuration Login screen.

5. Select [Serial Protocol]-[Passive HIProtocol] from [System Configuration] on the displayed screen for communication settings. After settings, click [SET] to confirm the setting values.

    Serial-Passive HIProtocol

Setup Items	Setting Value
Interface Type	RS-422/485
Transmission Control Procedure	Procedure1 1:1[*1]
Transmission Speed	19.2 kbps
Station No.	0

    *1   To use Procedure 2, select [Procedure2 1:1].

6. Set the operation mode setting switch of the External Device and turn ON the power again.
    <Operation Mode Setting Switch>
    •Set all the DIP switch to OFF

3.42   Setting Example 42

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ Device Setting

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

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

■ Settings of External Device (Web controller)

Use the Web Browser to access the External Device for communication setting. Please refer to the manual of the External Device for more details.

◆ Procedure

Please refer to the manual of the Web controller for more details.

1. If you set the operation mode setting switch of the External Device as follows, the temporary IP address of the Ethernet port will be set to 192.168.0.1.

   <Operation Mode Setting Switch>

   • Set only the DIP switch4 to ON

2. Use the LAN cable to connect the Ethernet port of PC to the Ethernet port of the Web controller.(connect via HUB or with the cross cable directly.)

3. Enter "http://192.168.0.1/mwconfig.cgi" in the address input box of the Web Browser to access the External Device.

   To access, you need to set the upper 3 bytes of PC's IP address to 192.168.0.. (ex. 192.168.0.10)

4. Login in the displayed System Configuration Login screen.

5. Select [Serial Protocol]-[Passive HIProtocol] from [System Configuration] on the displayed screen for communication settings. After settings, click [SET] to confirm the setting values.

   Serial-Passive HIProtocol

Setup Items	Setting Value
Interface Type	RS-422/485
Transmission Control Procedure	Procedure1 1:1[*1]
Transmission Speed	19.2 kbps
Station No.	0

   *1   To use Procedure 2, select [Procedure2 1:1].

6. Set the operation mode setting switch of the External Device and turn ON the power again.

   <Operation Mode Setting Switch>

   •Set all the DIP switch to OFF

3.43 Setting Example 43

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ 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. Select [EHV Series] from [Series].

■ Settings of External Device (Standard serial communication port on the basic unit)

Use the programming software (Control Editor) for communication settings.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Start the programming software and create the project. The project appears in offline mode.
2. In the tree view, from [CPU parameters] double-click [CPU settings]-[Serial communication]. The [CPU Communication Setting (Serial Port)] dialog box will appear.
3. Set the items as follows and click [Set].

Setup Items	Setting	Remarks
Purpose	Dedicated	
Port type	RS-232C	Fixed
Baudrate	38.4kbps	Select the communication speed from one of the following: 4.8kbps, 9.6kbps, 19.2kbps, 38.4kbps, 57.6kbps, 115.2kbps
Protocol	Procedure 1(1:1)	
Data length	7-bit	Fixed
Parity	Even	Fixed
Start bit	1-bit	Fixed
Stop bit	1-bit	Fixed

4. Enter online mode, and transfer the configured settings to the External Device.
5. Restart the External Device.

3.44   Setting Example 44

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1		
Summary		Change Device/PLC
Manufacturer	Hitachi IES Co., Ltd. Series H Series SIO	Port COM1
Text Data Mode	1 Change	

Communication Settings

SIO Type	○ RS232C	● RS422/485(2wire)	○ RS422/485(4wire)
Speed	38400		
Data Length	● 7	○ 8	
Parity	○ NONE	● EVEN	○ ODD
Stop Bit	● 1	○ 2	
Flow Control	○ NONE	● ER(DTR/CTS)	○ XON/XOFF
Timeout	3 (sec)		
Retry	2		
Wait To Send	0 (ms)		
Procedure	Procedure 1		

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	Add Indirect Device

No.	Device Name	Settings
1	PLC1	Series=EHV Series

NOTE
- Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
- If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ 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. Select [EHV Series] from [Series].

■ Settings of External Device (Communication port on the OBV-NES)

Use the programming software (Control Editor) for communication settings.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Start the programming software and create the project. The project appears in offline mode.
2. In the tree view, from [CPU parameters] double-click [Option board settings]. The [Option board settings] dialog box will appear.
3. Set the items as follows and click [OK].

Setup Items	Setting	Remarks
Purpose	Dedicated	
Baudrate	38.4kbps	Select the communication speed from one of the following: 4.8kbps, 9.6kbps, 19.2kbps, 38.4kbps, 57.6kbps, 115.2kbps
Protocol	Procedure 1(1:n)	Select "Procedure 1(1:n)".
Station No.	0	
Format	7-E-1	Data length: 7-bit, Even parity, Stop bit: 1-bit
Analog input filter	1	

4. Enter online mode, and transfer the configured settings to the External Device.
5. Restart the External Device.

3.45   Setting Example 45

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ 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. Select [EHV Series] from [Series].

■ Settings of External Device (Standard serial communication port on the basic unit)

Use the programming software (Control Editor) for communication settings.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Start the programming software and create the project. The project appears in offline mode.

2. In the tree view, from [CPU parameters] double-click [CPU settings]-[Serial communication]. The [CPU Communication Setting (Serial Port)] dialog box will appear.

3. Set the items as follows and click [Set].

Setup Items	Setting	Remarks
Purpose	Dedicated	
Port type	RS-232C	Fixed
Baudrate	38.4kbps	Select the communication speed from one of the following: 4.8kbps, 9.6kbps, 19.2kbps, 38.4kbps, 57.6kbps, 115.2kbps
Protocol	Procedure 2(1:1)	
Data length	7-bit	Fixed
Parity	Even	Fixed
Start bit	1-bit	Fixed
Stop bit	1-bit	Fixed

4. Enter online mode, and transfer the configured settings to the External Device.

5. Restart the External Device.

3.46 Setting Example 46

■ Settings of GP-Pro EX

◆ Communication Settings

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

NOTE	• Setting value for Wait To Send differs depending on the External Device. Please refer to the manual of the External Device for more details.
	• If you do not set up sufficient Wait To Send time, a communication error may occur.

◆ 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. Select [EHV Series] from [Series].

■ Settings of External Device (Communication port on the OBV-NES)

Use the programming software (Control Editor) for communication settings.

Please refer to the manual of the External Device for more details.

◆ Procedure

1. Start the programming software and create the project. The project appears in offline mode.

2. In the tree view, from [CPU parameters] double-click [Option board settings]. The [Option board settings] dialog box will appear.

3. Set the items as follows and click [OK].

Setup Items	Setting	Remarks
Purpose	Dedicated	
Baudrate	38.4kbps	Select the communication speed from one of the following: 4.8kbps, 9.6kbps, 19.2kbps, 38.4kbps, 57.6kbps, 115.2kbps
Protocol	Procedure 2(1:n)	Select "Procedure 2(1:n)".
Station No.	0	
Format	7-E-1	Data length: 7-bit, Even parity, Stop bit: 1-bit
Analog input filter	1	

4. Enter online mode, and transfer the configured settings to the External Device.

5. Restart the External Device.

4   Setup Items

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

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

☞ "3 Example of Communication Setting" (page 13)

4.1   Setup Items in GP-Pro EX

■ Communication Settings

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

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

Setup Items	Setup Description
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
Wait To Send	Use an integer from "0 to 255" to enter standby time (ms) for the Display from receiving packets to transmitting next commands.
Procedure	Select the transmission control procedure on the External Device.
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	Selects a model of the External Device.
Station No.	Enter the unit No. of the External Device.

4.2 Settings 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 Equipment Settings] in the offline mode. Touch the External Device you want to set from the displayed list.

Comm.	Device	Option		

H Series SIO   [COM1]   Page 1/1

```
        SIO Type          RS232C          ▼
        Speed             19200           ▼
        Data Length       ● 7      ○ 8
        Parity            ○ NONE   ● EVEN   ○ ODD
        Stop Bit          ● 1      ○ 2
        Flow Control      ER(DTR/CTS)      ▼

        Timeout(s)                  3  ▼ ▲
        Retry                       2  ▼ ▲
        Wait To Send(ms)            0  ▼ ▲
        Procedure         Procedure 1      ▼
```

	Exit		Back	2006/05/15 11:31:09

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

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.
Procedure	Select the transmission control procedure on the External Device.

■ 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 Settings].

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	Displays a model of the External Device.
Station No.	Enter the unit No. 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		

H Series SIO   [COM1]   Page 1/1

            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.

	Exit		Back	2006/05/15 11:31:14

Setup Items	Setup Description
RI/VCC	Switches RI/VCC of the 9th pin. 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[1]	Remarks
GP3000 (COM1) GP4000[2] (COM1)	1A	By Hitachi IES Co., Ltd. WVCB02H	Cable length: 15m or less
GP6000 (COM1) SP5000[3] (COM1/2)	1B	User-created cable1	
SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC[4] PC/AT	1C	User-created cable2	
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	1D	User-created cable1	Cable length: 15m or less
	1E	User-created cable2	

*1 You need to change the wiring depending on the speed.

		H-200 H-250 H-252B		H-252C		H-300/H-302 H-700/H-702 H-2000/H-2002		H-4010	
		Speed	Wiring	Speed	Wiring	Speed	Wiring	Speed	Wiring
Peripheral Port 1		2400bps 4800bps 9600bps	1B 1D	2400bps 4800bps 9600bps 19200bps	1A 1B 1C 1D 1E	4800bps	1B 1D	4800bps	1B 1D
		19200bps	1A 1C 1E			19200bps	1A 1C 1E	19200bps	1A, 1C,1E
								38400bps	1A,1B,1C 1D,1E
Peripheral Port 2		-	-	4800bps	1B,1D	-	-	4800bps	1B,1D
				19200bps	1A 1C 1E			19200bps	1A, 1C,1E
								38400bps	1A,1B,1C 1D,1E

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

*3 Except SP-5B00

*4   Only the COM port which can communicate by RS-232C can be used.
      ■ IPC COM Port (page 9)

1A)

Display   WVCB02H   External Device
                                                      D-sub 15 pin

| NOTE | • Cable length: 15m or less |

1B)

D-Sub 9 pin (socket)			External Device D-Sub 15 pin	
Pin	Signal name	Shield	Pin	Signal name
2	RD(RXD)		2	SD
3	SD(TXD)		3	RD
6	DR(DSR)		5	CS
4	ER(DTR)		7	DR
5	SG		9	SG
7	RS(RTS)		8	PHL
8	CS(CTS)		4	RS
Shell	FG		14	PV12

Display

| NOTE | • Cable length: 15m or less |

1C)

D-Sub 9 pin (socket)			External Device D-Sub 15 pin	
Pin	Signal name		Pin	Signal name
2	RD(RXD)		2	SD
3	SD(TXD)		3	RD
6	DR(DSR)		5	CS
4	ER(DTR)		7	DR
5	SG		9	SG
7	RS(RTS)		8	PHL
8	CS(CTS)		4	RS
Shell	FG		14	PV12

NOTE	• Cable length: 15m or less

1D)

Display side Terminal block		External Device D-Sub 15 pin	
Signal name		Pin	Signal name
RD(RXD)		2	SD
SD(TXD)		3	RD
DR(DSR)		5	CS
ER(DTR)		7	DR
SG		9	SG
RS(RTS)		8	PHL
CS(CTS)		4	RS
		14	PV12

NOTE	• Cable length: 15m or less

1E)

Display side Terminal block		Shield	External Device D-Sub 15 pin	
Signal name			Pin	Signal name
RD(RXD)	←		2	SD
SD(TXD)	→		3	RD
DR(DSR)			5	CS
ER(DTR)	→		7	DR
SG			9	SG
RS(RTS)			8	PHL
CS(CTS)	←		4	RS
			14	PV12

Display

NOTE   • Cable length: 15m or less

5.2 Cable Diagram 2

Display (Connection Port)		Cable		Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1) IPC[*3]	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable		Cable length: 250m or less
	2B	User-created cable		
GP3000[*4] (COM2)	2C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable		Cable length: 250m or less
	2D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable		
GP-4106 (COM1) GP-4116T (COM1)	2E	User-created cable		Cable length: 250m or less
GP4000[*5] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*6] (COM1/2) SP-5B00 (COM2) ST6000[*7] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*8] (COM2) PS6000 (Basic Box) (COM1/2)	2F	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*9] + User-created cable		Cable length: 250m or less
	2B	User-created cable		
PE-4000B[*10] PS5000[*10] PS6000 (Optional Interface)[*10]	2G	User-created cable		Cable length: 250m or less

*1 All GP3000 models except AGP-3302B

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

*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used. (Except PE-4000B, PS5000, and PS6000)
   ■ IPC COM Port (page 9)

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

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

*6   Except SP-5B00

*7   Except ST-6200

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

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

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

2A)

- 1:1 Connection
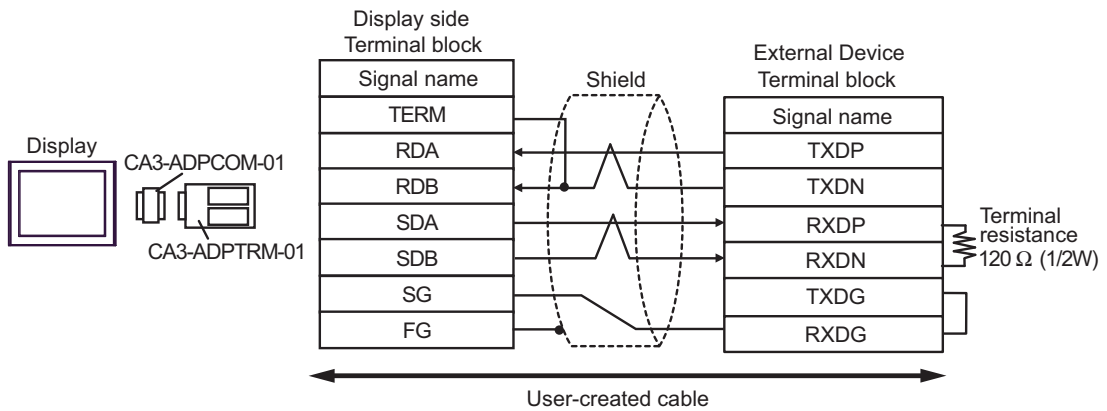
- 1:n Connection
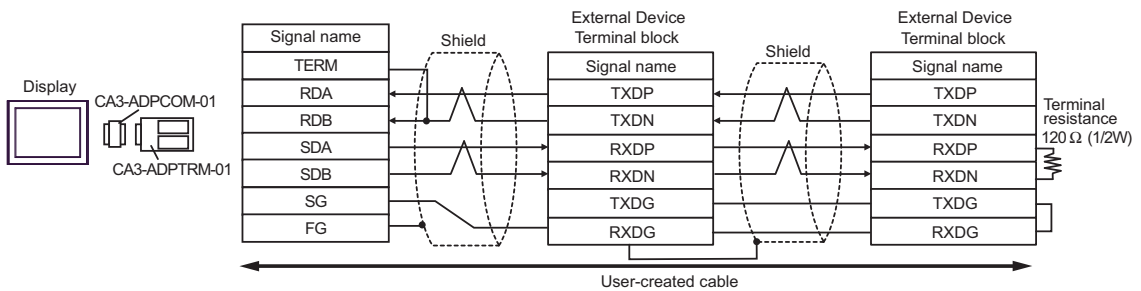
| NOTE | • Cable length: 250m or less |

2B)

- 1:1 Connection
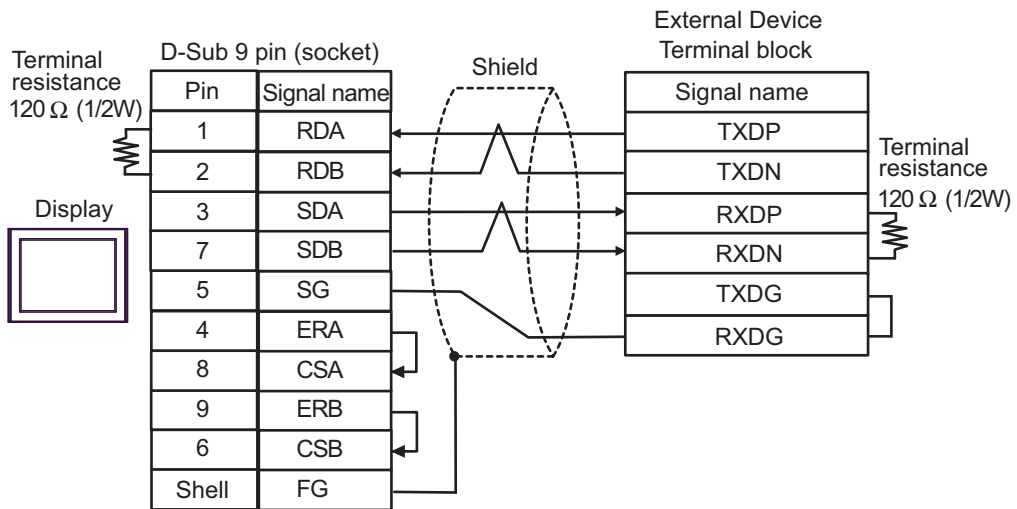
- 1:n Connection
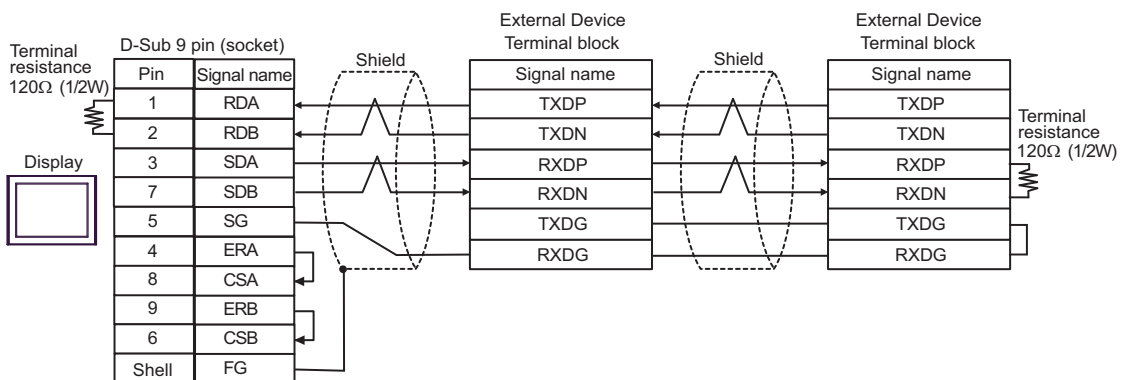
| NOTE | • Cable length: 250m or less |

2C)

- • 1:1 Connection
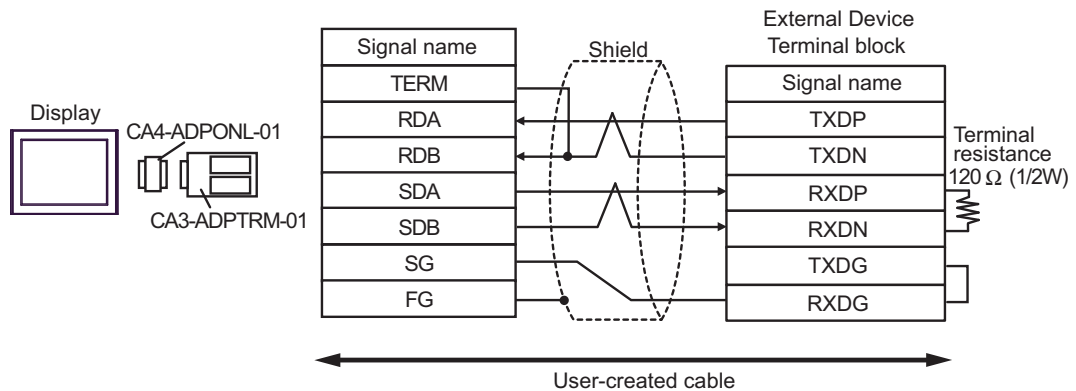
- • 1:n Connection
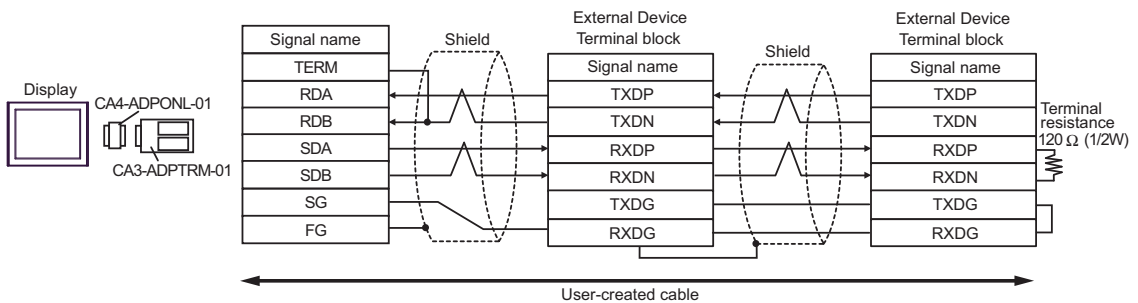
| NOTE | • Cable length: 250m or less |

2D)

- 1:1 Connection

D-Sub 9 pin (plug)

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

External Device Terminal block

Signal name
TXDP
TXDN
RXDP
RXDN
TXDG
RXDG

Terminal resistance 120 Ω (1/2W)

CA4-ADPONL-01
Display

Shield

User-created cable

- 1:n Connection

D-Sub 9 pin (plug)

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

External Device Terminal block

Signal name
TXDP
TXDN
RXDP
RXDN
TXDG
RXDG

External Device Terminal block

Signal name
TXDP
TXDN
RXDP
RXDN
TXDG
RXDG

Terminal resistance 120 Ω (1/2W)

CA4-ADPONL-01
Display

Shield   Shield

User-created cable

NOTE

- Cable length: 250m or less

2E)

• 1:1 Connection
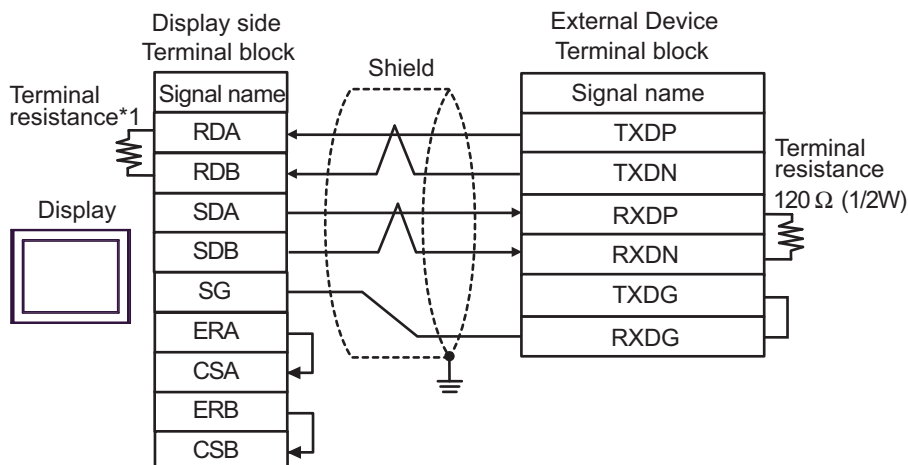
• 1:n Connection
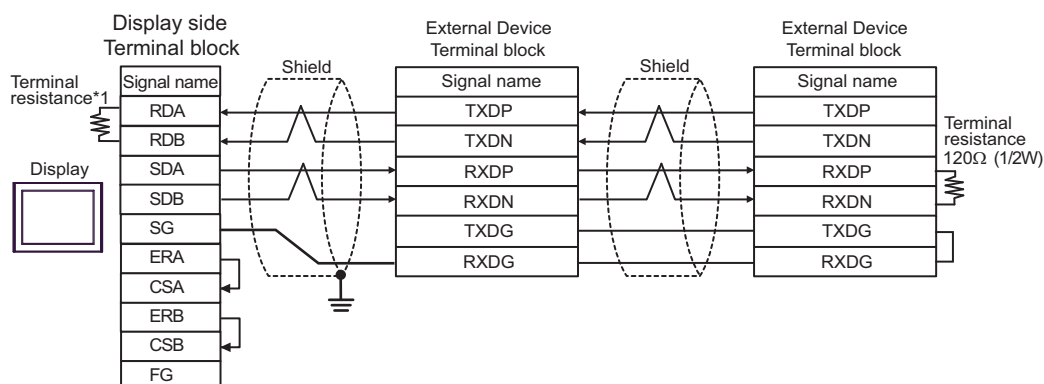
| NOTE | • Cable length: 250m or less |

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

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

2F)

- 1:1 Connection
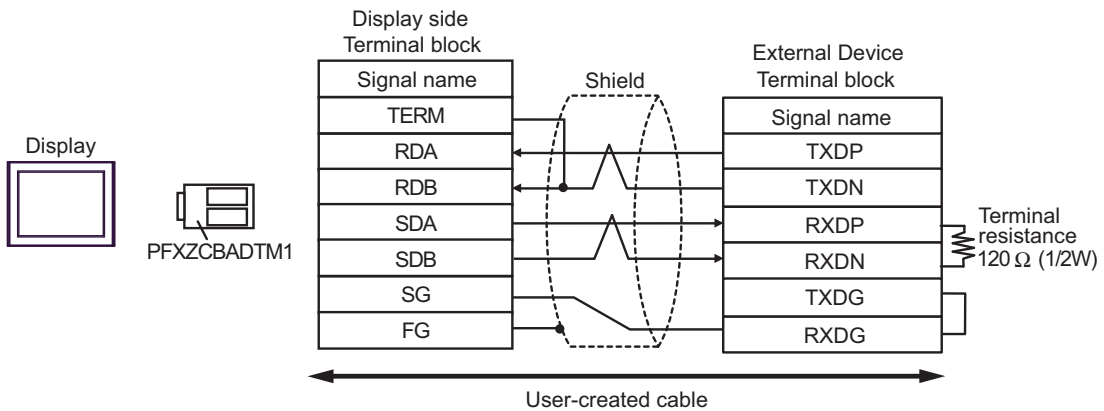
- 1:n Connection
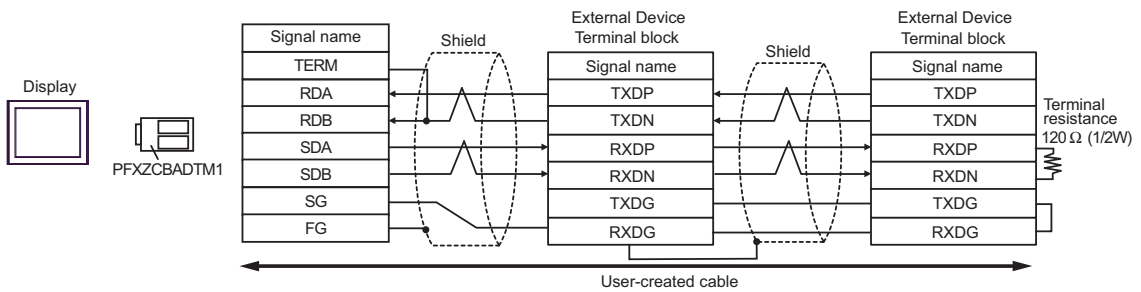
| NOTE | • Cable length: 250m or less |

2G)

- 1:1 Connection

Pin	Signal name
3	Rx+
4	Rx-
2	Tx+
1	Tx-
5	GND
7	NC
8	NC
9	NC
6	NC
Shell	FG

Signal name
TXDP
TXDN
RXDP
RXDN
TXDG
RXDG

- 1:n Connection

Pin	Signal name
3	Rx+
4	Rx-
2	Tx+
1	Tx-
5	GND
7	NC
8	NC
9	NC
6	NC
Shell	FG

Signal name
TXDP
TXDN
RXDP
RXDN
TXDG
RXDG

Signal name
TXDP
TXDN
RXDP
RXDN
TXDG
RXDG
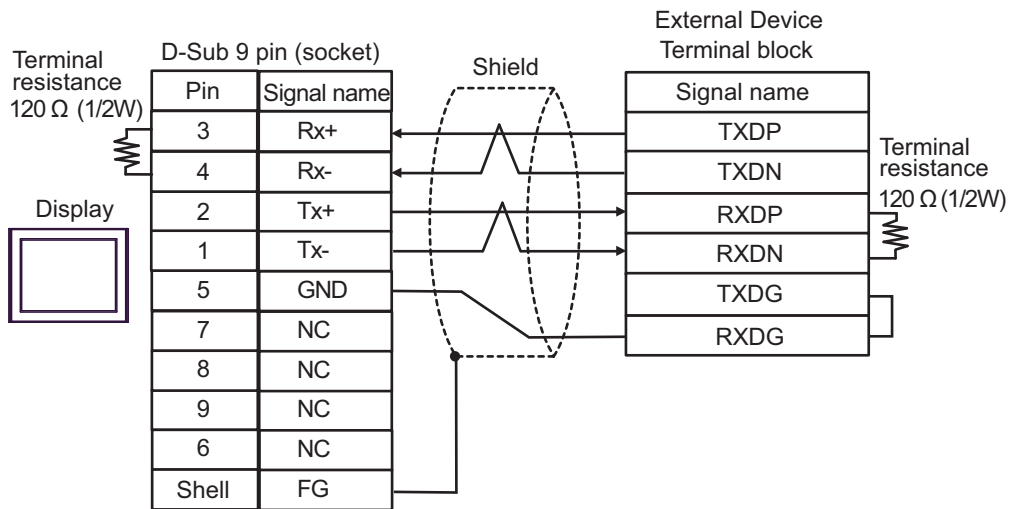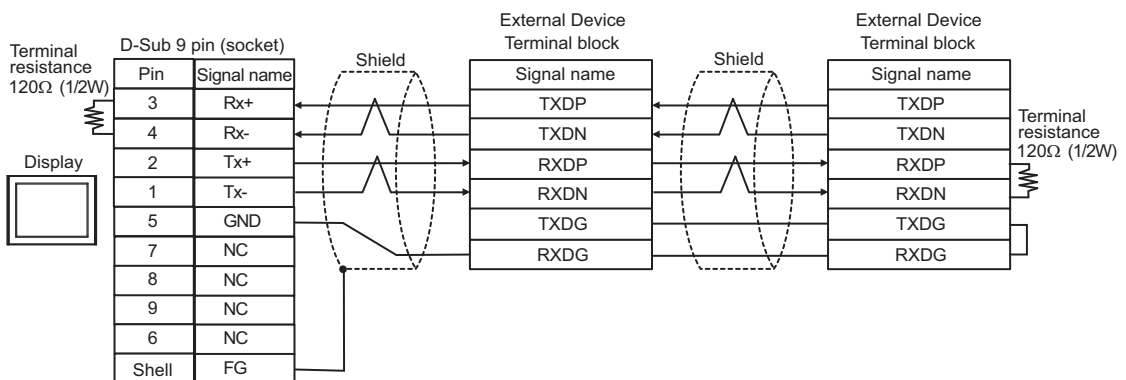
NOTE

- Cable length: 250m or less

5.3 Cable Diagram 3

Display (Connection Port)		Cable[1]	Remarks
GP3000 (COM1) GP4000[2] (COM1) GP6000 (COM1) SP5000[3] (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC[4] PC/AT	3A	By Hitachi IES Co., Ltd. EH-VCB02(2m)	Cable length: 15m or less
	3B	By Hitachi IES Co., Ltd. WVCB02H(2m) + Conversion cable by Hitachi IES Co., Ltd. EH-RS05(0.5m)	
	3C	User-created cable 1 + Conversion cable by Hitachi IES Co., Ltd. EH-RS05(0.5m)	
	3D	User-created cable 2 + Conversion cable by Hitachi IES Co., Ltd. EH-RS05(0.5m)	
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	3E	User-created cable + By Hitachi IES Co., Ltd. EH-VCB02(2m)	Cable length: 15m or less
	3F	User-created cable 1 + Conversion cable by Hitachi IES Co., Ltd. EH-RS05(0.5m)	
	3G	User-created cable 2 + Conversion cable by Hitachi IES Co., Ltd. EH-RS05(0.5m)	

*1 You need to change the wiring depending on the speed.

	EH-150	
	Speed	Wiring
Peripheral Port 1 or Serial Port 1	4800bps 9600bps 19200bps 38400bps	3A, 3B 3C, 3D 3E, 3F 3G
Peripheral Port 2 or Serial Port 2	4800bps 9600bps	3A, 3C 3E, 3F
	19200bps 38400bps	3B, 3D 3G

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

*3 Except SP-5B00

*4 Only the COM port which can communicate by RS-232C can be used.
   ■ IPC COM Port (page 9)

3A)

Display   EH-VCB02   External Device
RJ-45 connector

NOTE   • Cable length: 15m or less

3B)

Display   WVCB02H   EH-RS05   External Device
RJ-45 connector

NOTE   • Cable length: 15m or less

3C)

Display

D-Sub 9 pin (socket)

External Device
D-Sub 15 pin (plug)

EH-RS05   External Device
RJ-45 conncetor

Pin	Signal name		Pin	Signal name
2	RD(RXD)		2	SD
3	SD(TXD)		3	RD
6	DR(DSR)		5	CS
4	ER(DTR)		7	DR
5	SG		9	SG
7	RS(RTS)		8	PHL
8	CS(CTS)		4	RS
Shell	FG		14	PV12

Shield

User-created cable

NOTE   • Cable length: 15m or less

3D)

D-Sub 9 pin (socket)			External Device D-Sub 15 pin (plug)	
Pin	Signal name	Shield	Pin	Signal name
2	RD(RXD)		2	SD
3	SD(TXD)		3	RD
6	DR(DSR)		5	CS
4	ER(DTR)		7	DR
5	SG		9	SG
7	RS(RTS)		8	PHL
8	CS(CTS)		4	RS
Shell	FG		14	PV12

Display

EH-RS05

External Device RJ-45 conncetor

User-created cable

NOTE • Cable length: 15m or less

3E)

Display side Terminal block		Shield	External Device side D-sub 9 pin (plug)	
Signal name			Pin	Signal name
RD(RXD)			2	RD(RXD)
SD(TXD)			3	SD(TXD)
ER(DTR)			4	ER(DTR)
SG			5	SG
RS(RTS)			7	RS(RTS)
CS(CTS)			8	CS(CTS)

Display

EH-VCB02

External Device RJ-45 connector

User-created cable

NOTE • Cable length: 15m or less

3F)

Display side Terminal block			External Device D-Sub 15 pin (plug)	
Signal name	Shield		Pin	Signal name
RD(RXD)			2	SD
SD(TXD)			3	RD
DR(DSR)			5	CS
ER(DTR)			7	DR
SG			9	SG
RS(RTS)			8	PHL
CS(CTS)			4	RS
			14	PV12

User-created cable

EH-RS05

External Device RJ-45 conncetor

NOTE	• Cable length: 15m or less

3G)

Display side Terminal block			External Device D-Sub 15 pin (plug)	
Signal name	Shield		Pin	Signal name
RD(RXD)			2	SD
SD(TXD)			3	RD
DR(DSR)			5	CS
ER(DTR)			7	DR
SG			9	SG
RS(RTS)			8	PHL
CS(CTS)			4	RS
			14	PV12

User-created cable

EH-RS05

External Device RJ-45 conncetor

NOTE	• Cable length: 15m or less

5.4 Cable Diagram 4

Display (Connection Port)		Cable	Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1) IPC[*3]	4A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less
	4B	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	
GP3000[*4] (COM2)	4C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less
	4D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	
GP-4106 (COM1) GP-4116T (COM1)	4E	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less
GP4000[*5] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*6] (COM1/2) SP-5B00 (COM2) ST6000[*7] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*8] (COM2) PS6000 (Basic Box) (COM1/2)	4F	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*9] + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less
	4B	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	
PE-4000B[*10] PS5000[*10] PS6000 (Optional Interface)[*10]	4G	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less

*1 All GP3000 models except AGP-3302B

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

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

■ IPC COM Port (page 9)

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

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

*6 Except SP-5B00

*7 Except ST-6200

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

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

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

■ IPC COM Port (page 9)

4A)

- 1:1 Connection
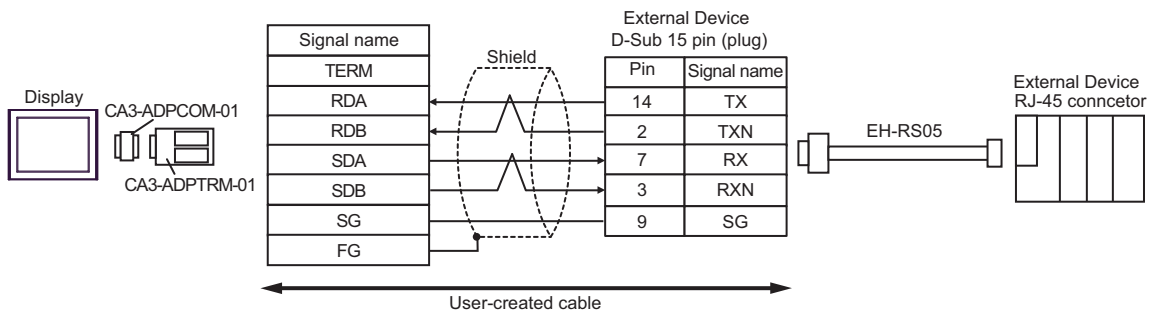
- 1:n Connection
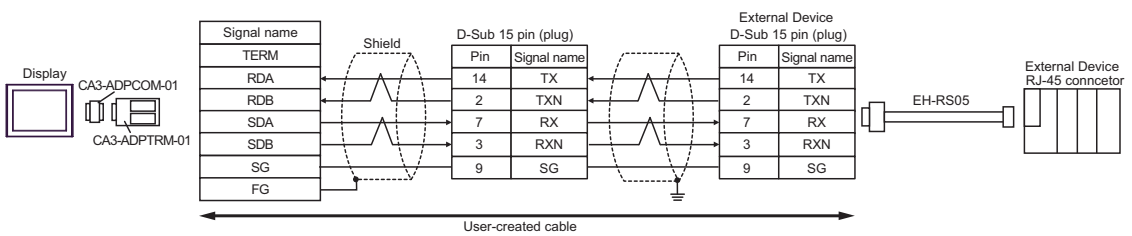
| NOTE | • Cable length: 500m or less |

*For more information about the termination resistance, contact Hitachi IES Co., Ltd.

4B)

• 1:1 Connection

D-Sub 9 pin (socket)

Pin	Signal name
1	RDA
2	RDB
3	SDA
7	SDB
5	SG
4	ERA
8	CSA
9	ERB
6	CSB
Shell	FG

External Device
D-Sub 15 pin (plug)

Pin	Signal name
14	TX
2	TXN
7	RX
3	RXN
9	SG

Shield

Display

EH-RS05

External Device
RJ-45 conncetor

• 1:n Connection

D-Sub 9 pin (socket)

Pin	Signal name
1	RDA
2	RDB
3	SDA
7	SDB
5	SG
4	ERA
8	CSA
9	ERB
6	CSB
Shell	FG

External Device
D-Sub 15 pin (plug)

Pin	Signal name
14	TX
2	TXN
7	RX
3	RXN
9	SG

External Device
D-Sub 15 pin (plug)

Pin	Signal name
14	TX
2	TXN
7	RX
3	RXN
9	SG

Shield

Shield

Display

EH-RS05

External Device
RJ-45 conncetor

> **NOTE**
> • Cable length: 500m or less

*For more information about the termination resistance, contact Hitachi IES Co., Ltd.

4C)

- 1:1 Connection

Signal name		Shield	External Device D-Sub 15 pin (plug)	
TERM			Pin	Signal name
RDA			14	TX
RDB			2	TXN
SDA			7	RX
SDB			3	RXN
SG			9	SG
FG				

Display — CA4-ADPONL-01 — CA3-ADPTRM-01

EH-RS05

External Device RJ-45 conncetor

User-created cable

- 1:n Connection

Signal name	Shield	External Device D-Sub 15 pin (plug)		Shield	External Device D-Sub 15 pin (plug)	
TERM		Pin	Signal name		Pin	Signal name
RDA		14	TX		14	TX
RDB		2	TXN		2	TXN
SDA		7	RX		7	RX
SDB		3	RXN		3	RXN
SG		9	SG		9	SG
FG						

Display — CA4-ADPONL-01 — CA3-ADPTRM-01

EH-RS05

External Device RJ-45 conncetor

User-created cable

NOTE
- Cable length: 500m or less

*For more information about the termination resistance, contact Hitachi IES Co., Ltd.

4D)

- 1:1 Connection
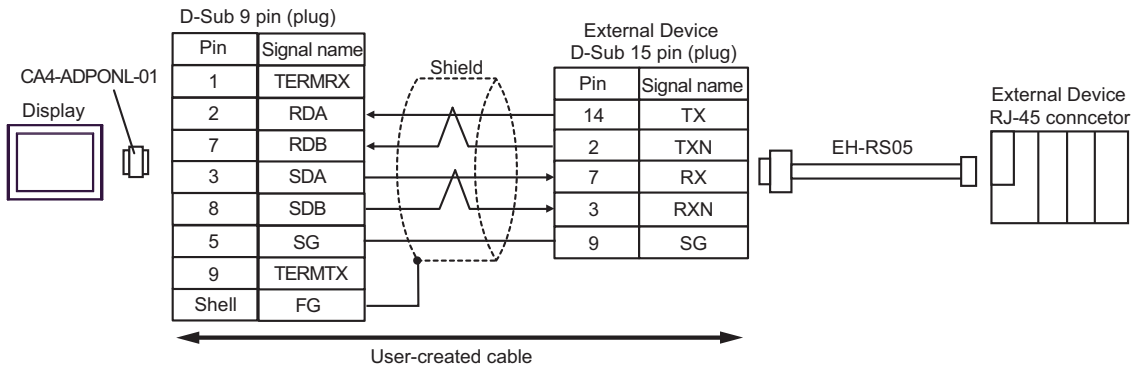
- 1:n Connection
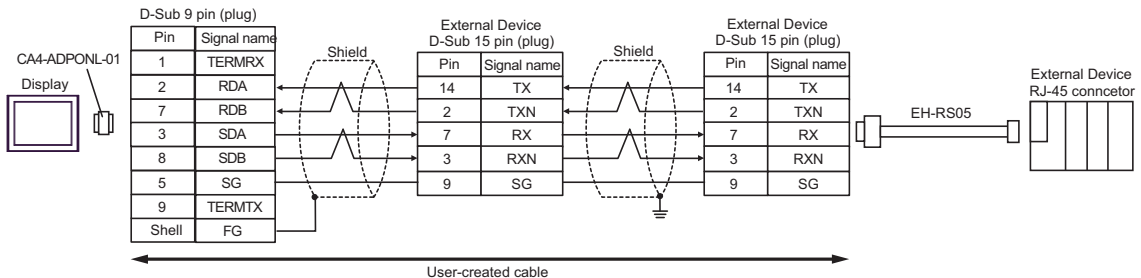
| NOTE | • Cable length: 500m or less |

*For more information about the termination resistance, contact Hitachi IES Co., Ltd.

4E)

- 1:1 Connection
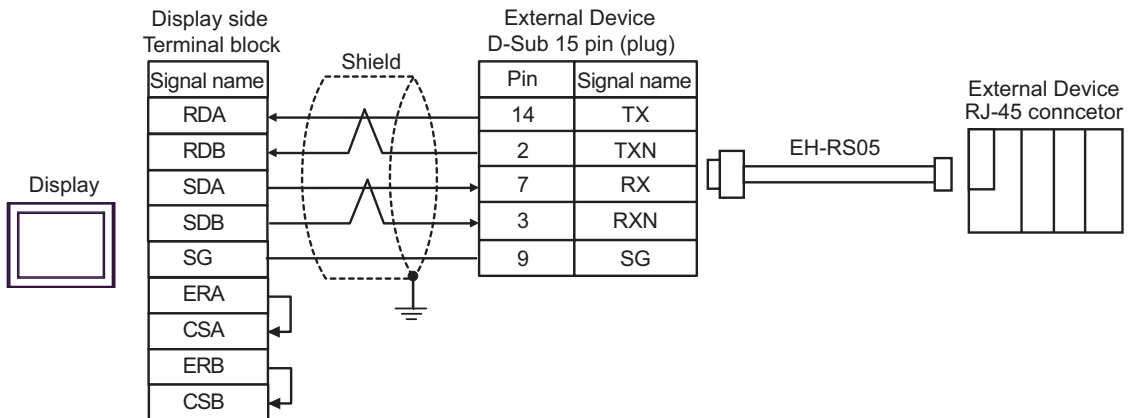
- 1:n Connection
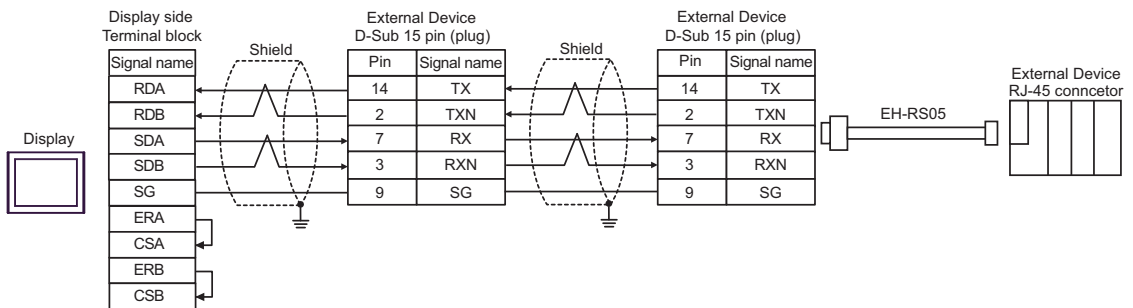
| NOTE | • Cable length: 500m or less |

*For more information about the termination resistance, contact Hitachi IES Co., Ltd.

4F)

- 1:1 Connection
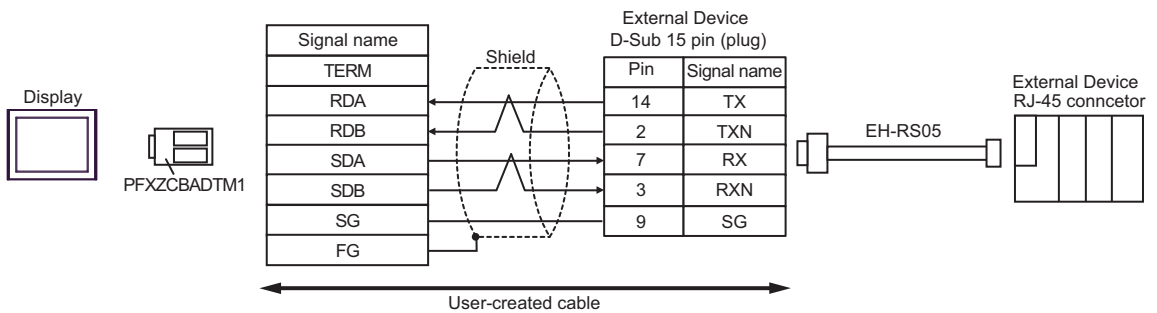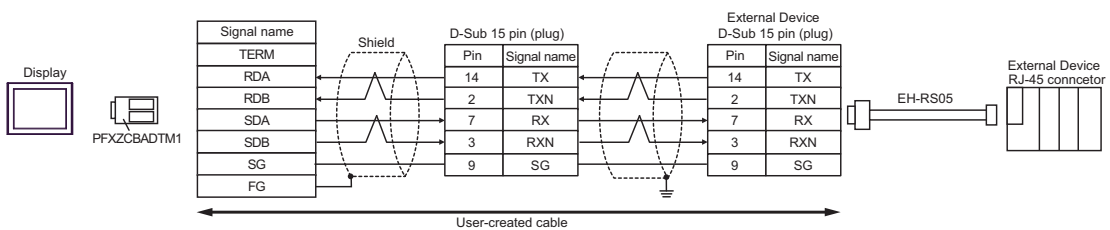
Signal name		Shield	External Device D-Sub 15 pin (plug)			
			Pin	Signal name		
TERM						
RDA			14	TX		
RDB			2	TXN	EH-RS05	External Device RJ-45 conncetor
SDA			7	RX		
SDB			3	RXN		
SG			9	SG		
FG						

Display — PFXZCBADTM1

User-created cable

- 1:n Connection

Signal name	Shield	D-Sub 15 pin (plug)			External Device D-Sub 15 pin (plug)			
		Pin	Signal name		Pin	Signal name		
TERM								
RDA		14	TX		14	TX		
RDB		2	TXN		2	TXN	EH-RS05	External Device RJ-45 conncetor
SDA		7	RX		7	RX		
SDB		3	RXN		3	RXN		
SG		9	SG		9	SG		
FG								

Display — PFXZCBADTM1

User-created cable

NOTE	• Cable length: 500m or less

*For more information about the termination resistance, contact Hitachi IES Co., Ltd.

4G)

- 1:1 Connection
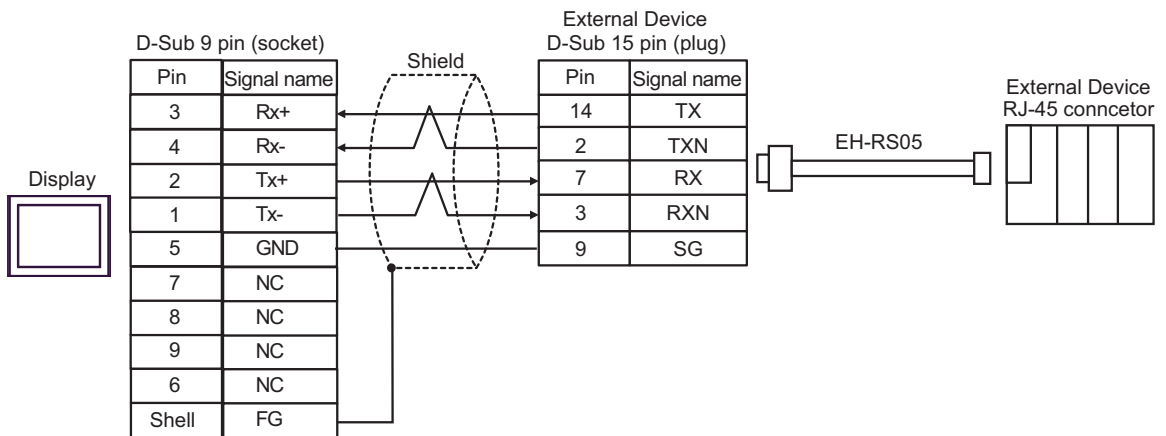
- 1:n Connection
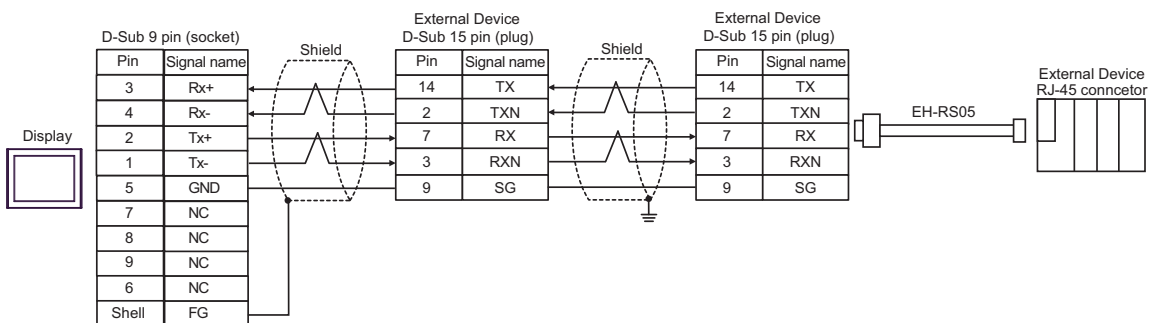
| NOTE | • Cable length: 500m or less |

*For more information about the termination resistance, contact Hitachi IES Co., Ltd.

5.5 Cable Diagram 5

Display (Connection Port)		Cable	Remarks
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 + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less
	5B	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	
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 + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less
	5D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	
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 + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less
	5F	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	
GP-4106 (COM1) GP-4116T (COM1)	5G	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less

Display (Connection Port)		Cable	Remarks
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	5H	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less
GP4000[*6] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*7] (COM1/2) SP-5B00 (COM2) ST6000[*8] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*9] (COM2) PS6000 (Basic Box) (COM1/2)	5I	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*10] + User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less
	5B	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	
LT-4*01TM (COM1) LT-Rear Module (COM1)	5J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81 + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 200m or less
PE-4000B[*11] PS5000[*11] PS6000 (Optional Interface)[*11]	5K	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	Cable length: 500m or less

*1   All GP3000 models except AGP-3302B

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

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

*4   Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B, PS5000, and PS6000)
   ■ IPC COM Port (page 9)

*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 9)

5A)

- 1:1 Connection
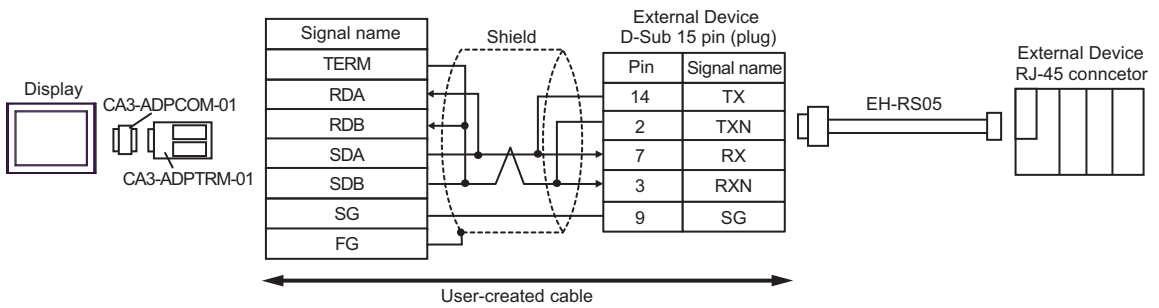
- 1:n Connection
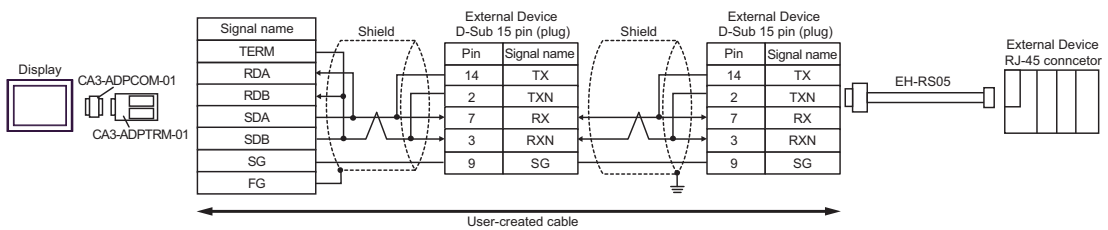
NOTE	• Cable length: 500m or less

5B)

- 1:1 Connection
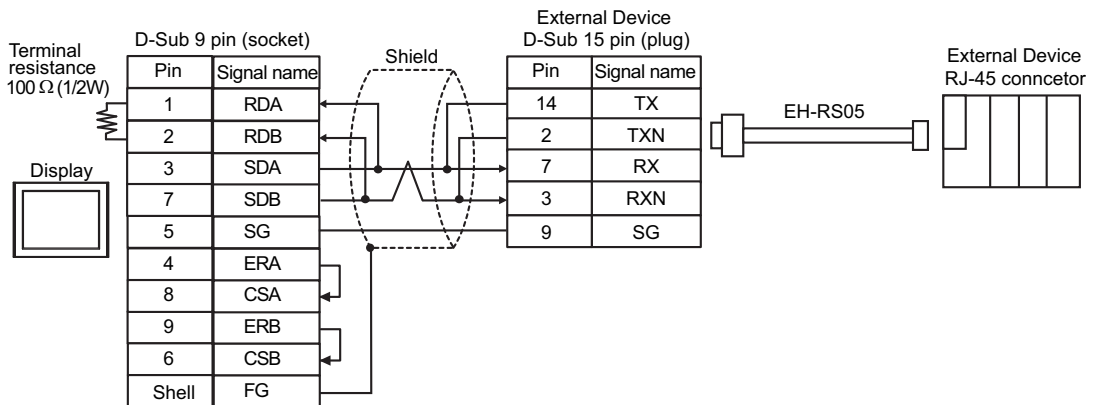
- 1:n Connection
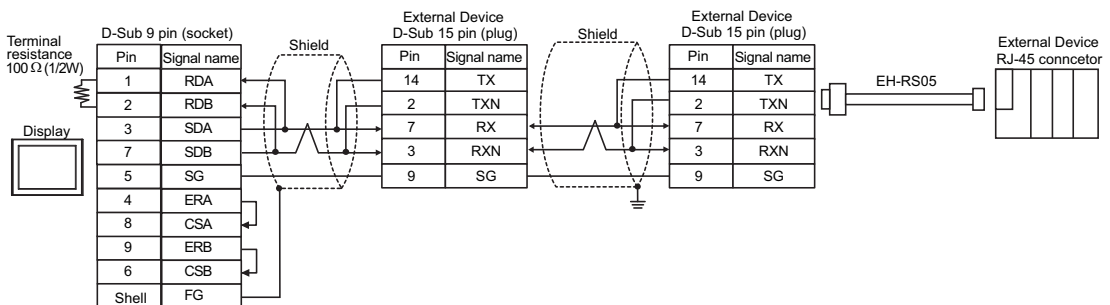
| NOTE | • Cable length: 500m or less |

5C)

- 1:1 Connection

Signal name		Shield	External Device D-Sub 15 pin (plug)	
	TERM		Pin	Signal name
	RDA		14	TX
	RDB		2	TXN
	SDA		7	RX
	SDB		3	RXN
	SG		9	SG
	FG			

Display, CA4-ADPONL-01, CA3-ADPTRM-01

EH-RS05

External Device RJ-45 conncetor

User-created cable

- 1:n Connection

Signal name	Shield	External Device D-Sub 15 pin (plug)		Shield	External Device D-Sub 15 pin (plug)	
TERM		Pin	Signal name		Pin	Signal name
RDA		14	TX		14	TX
RDB		2	TXN		2	TXN
SDA		7	RX		7	RX
SDB		3	RXN		3	RXN
SG		9	SG		9	SG
FG						

Display, CA4-ADPONL-01, CA3-ADPTRM-01

EH-RS05

External Device RJ-45 conncetor

User-created cable

NOTE	• Cable length: 500m or less

5D)

- 1:1 Connection

User-created cable

- 1:n Connection

User-created cable
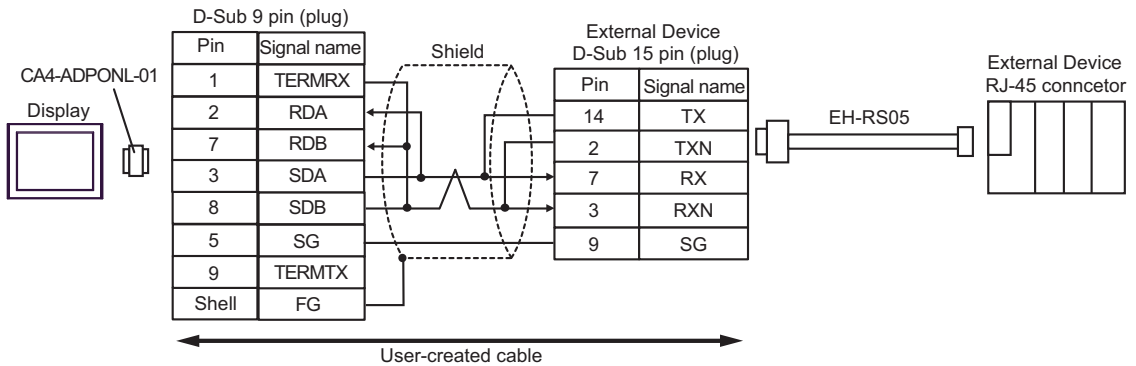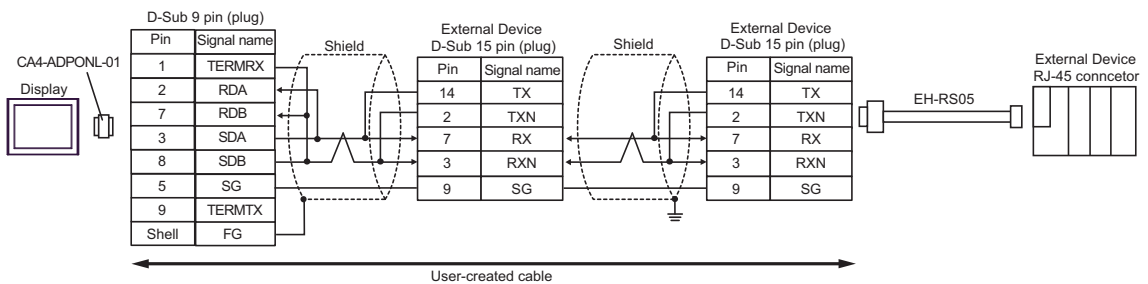
| NOTE | • Cable length: 500m or less |

5E)

- 1:1 Connection

User-created cable

- 1:n Connection

User-created cable
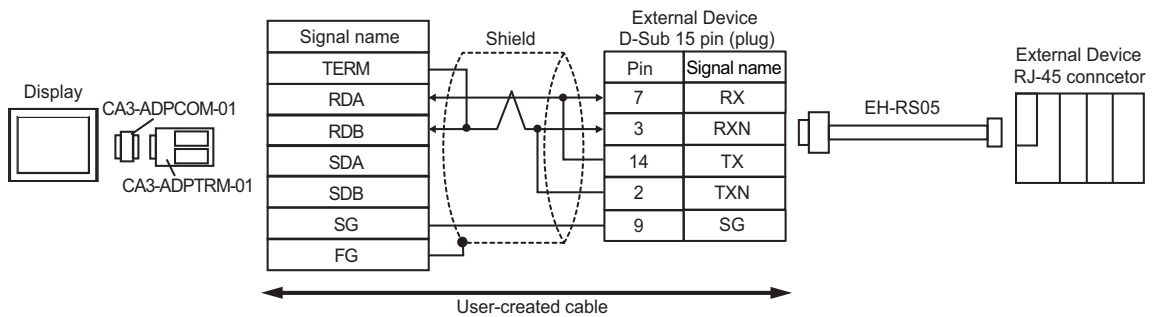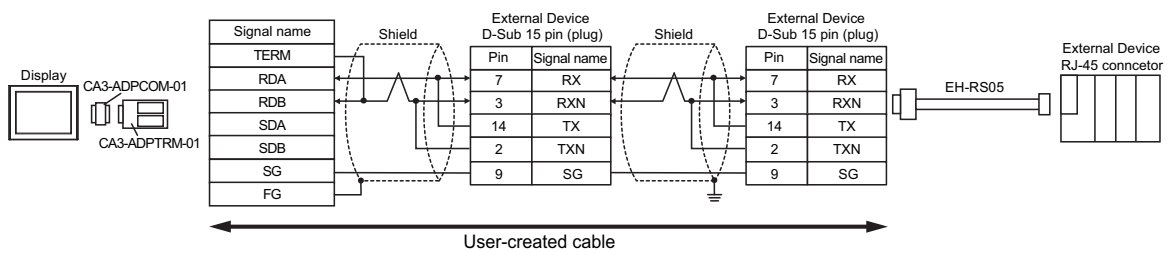
| NOTE | • Cable length: 500m or less |

5F)

- 1:1 Connection
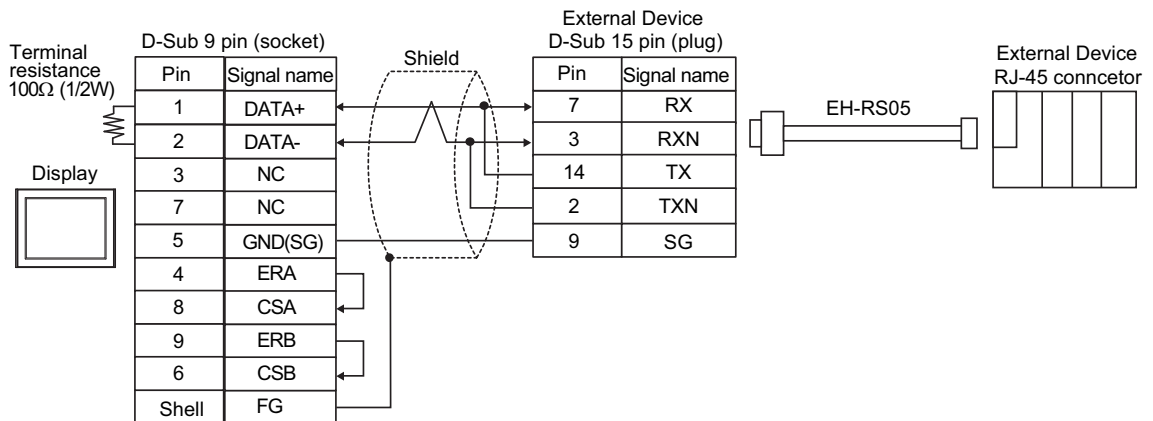
- 1:n Connection
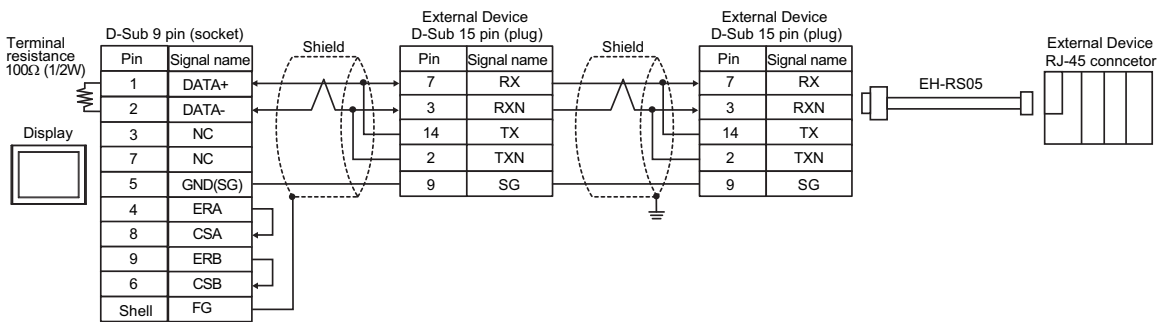
| NOTE | • Cable length: 500m or less |

5G)

• 1:1 Connection
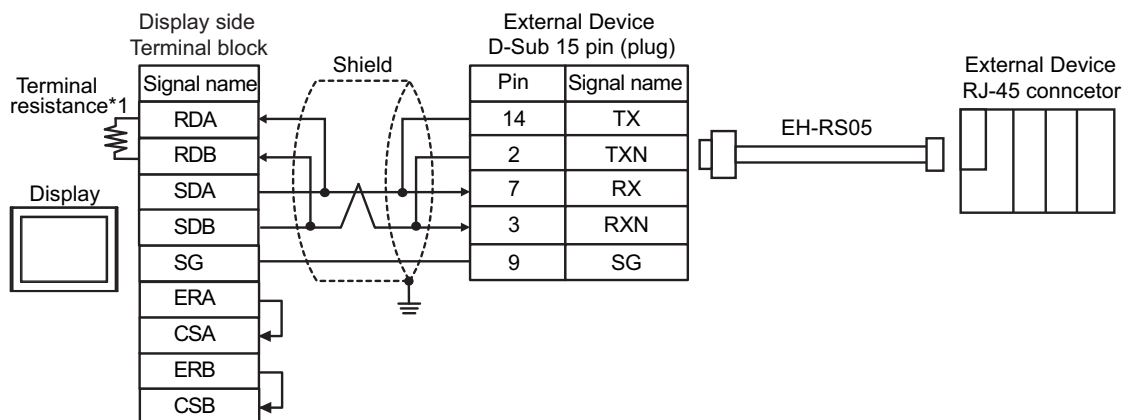
• 1:n Connection
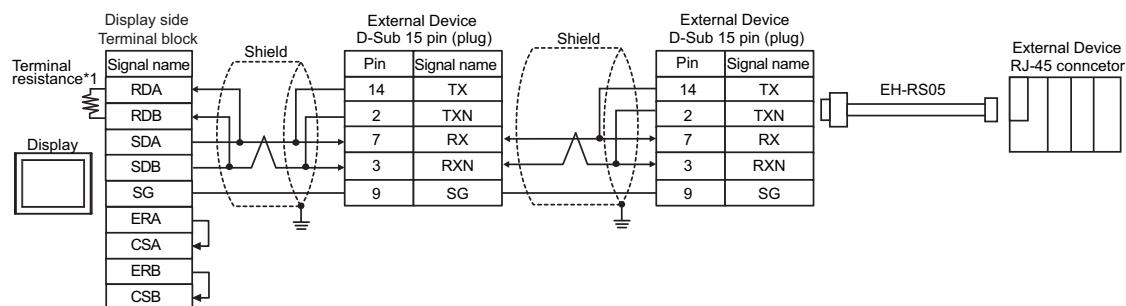
| NOTE | • Cable length: 500m or less |

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

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

5H)

- 1:1 Connection
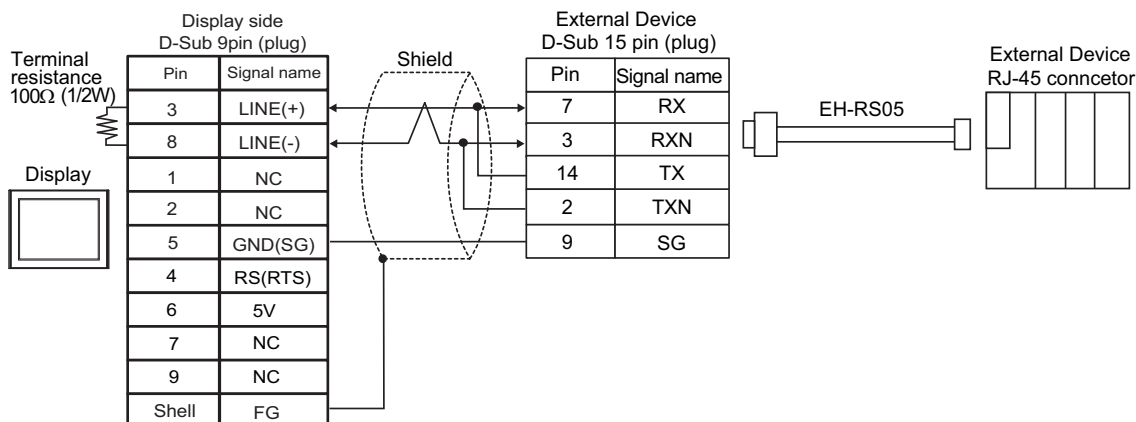
- 1:n Connection
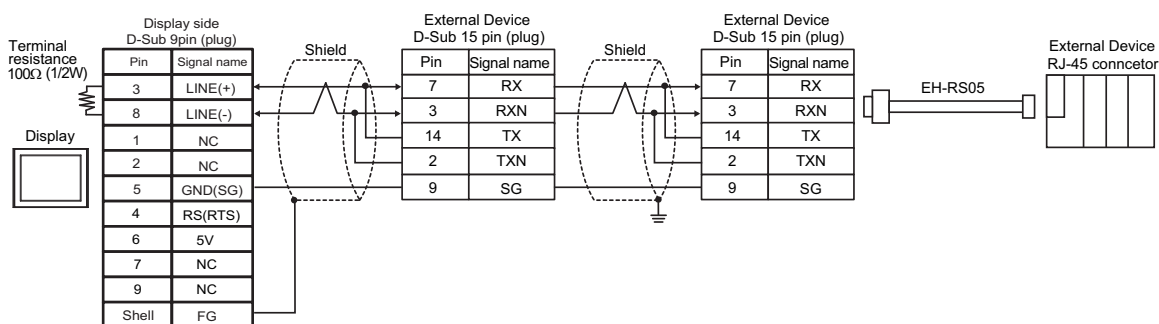
IMPORTANT	• The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE	• In COM on the GP-4107, the SG and FG terminals are isolated. • Cable length: 500m or less

5I)

- 1:1 Connection
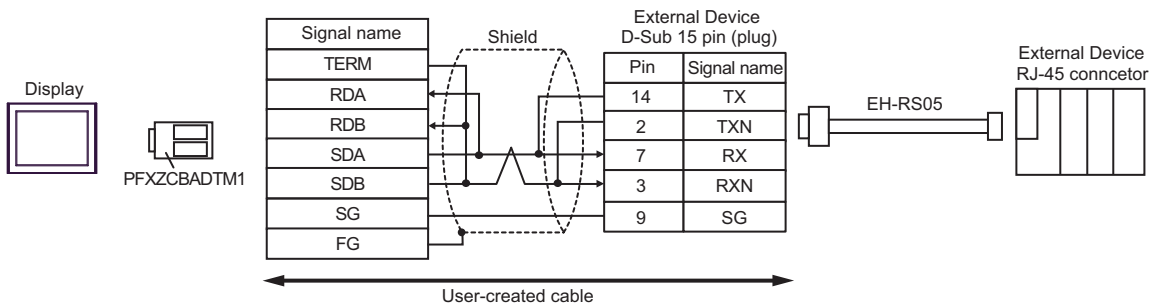
- 1:n Connection
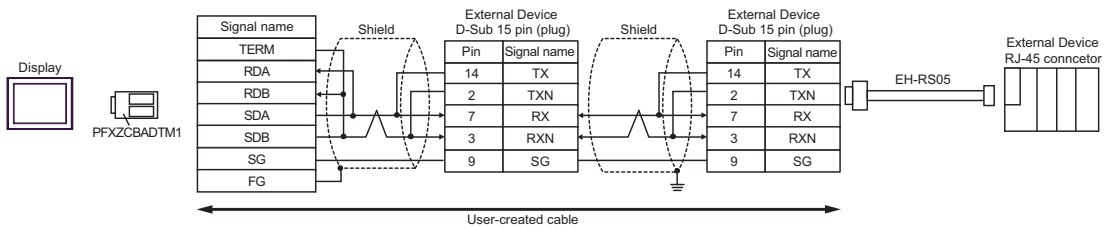
| NOTE | • Cable length: 500m or less |

5J)

• 1:1 Connection
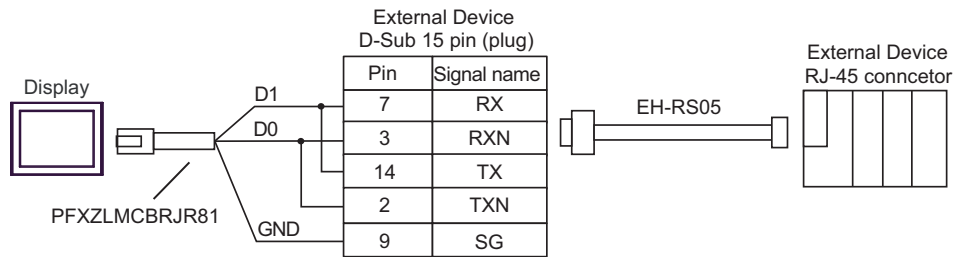
• 1:n Connection
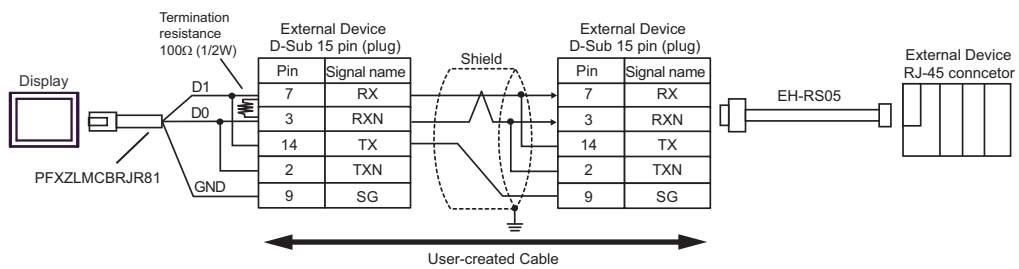
5K)

• 1:1 Connection
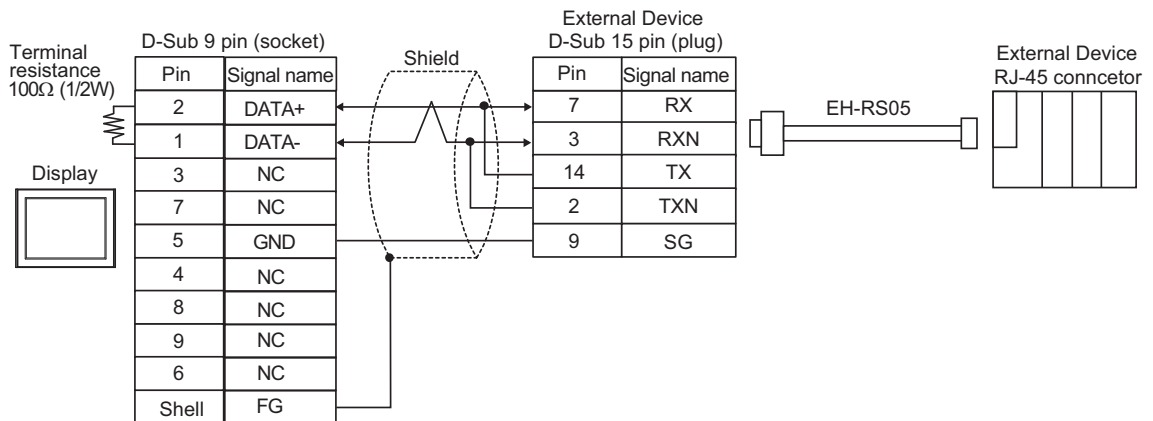
• 1:n Connection
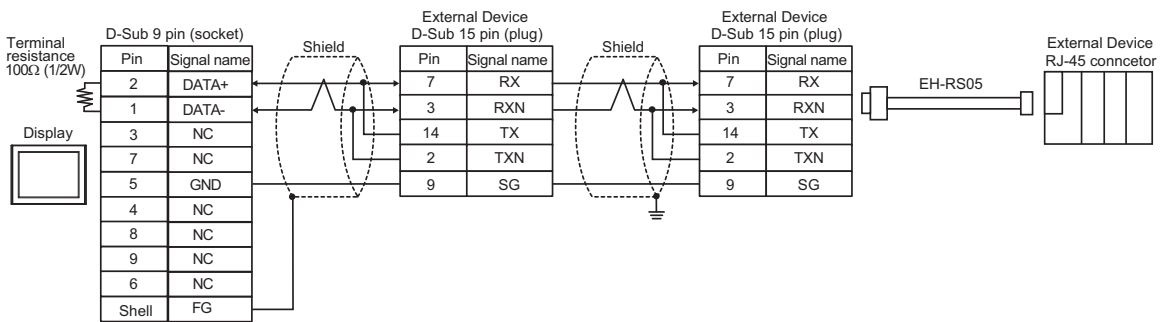
NOTE	• Cable length: 500m or less

5.6   Cable Diagram 6

Display (Connection Port)		Cable	Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1) IPC[*3]	6A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	6B	User-created cable	
GP3000[*4] (COM2)	6C	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
	6D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	6E	User-created cable	Cable length: 500m or less
GP4000[*5] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*6] (COM1/2) SP-5B00 (COM2) ST6000[*7] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*8] (COM2) PS6000 (Basic Box) (COM1/2)	6F	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*9] + User-created cable	Cable length: 500m or less
	6B	User-created cable	
PE-4000B[*10] PS5000[*10] PS6000 (Optional Interface)[*10]	6G	User-created cable	Cable length: 500m or less

*1   All GP3000 models except AGP-3302B

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

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

   ■ IPC COM Port (page 9)

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

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

*6   Except SP-5B00

*7   Except ST-6200

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

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

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

6A)

• 1:1 Connection

Signal name		External Device	
TERM		Pin	Signal name
RDA		1	SD+
RDB		2	SD-
SDA		3	RD+
SDB		4	RD-
SG		6	SG
FG		5	TERM

Display
CA3-ADPCOM-01
CA3-ADPTRM-01

Shield

User-created cable

• 1:n Connection

Signal name		External Device			External Device	
TERM		Pin	Signal name		Pin	Signal name
RDA		1	SD+		1	SD+
RDB		2	SD-		2	SD-
SDA		3	RD+		3	RD+
SDB		4	RD-		4	RD-
SG		6	SG		6	SG
FG		5	TERM		5	TERM

Display
CA3-ADPCOM-01
CA3-ADPTRM-01

Shield   Shield

User-created cable
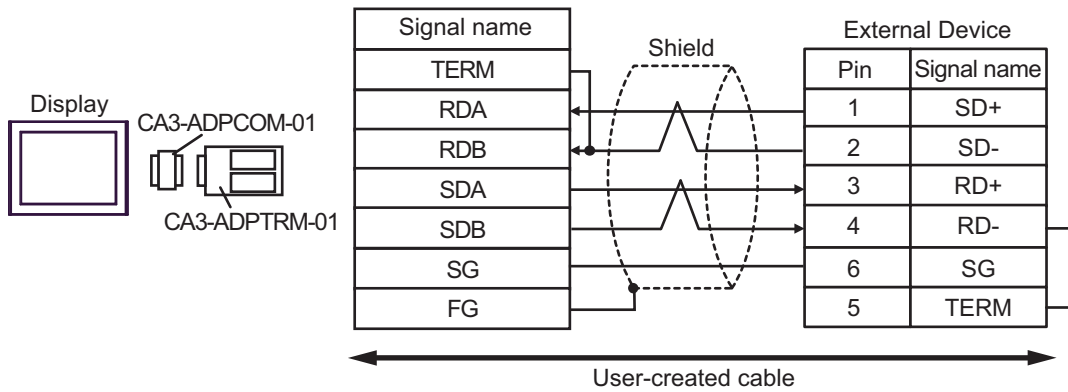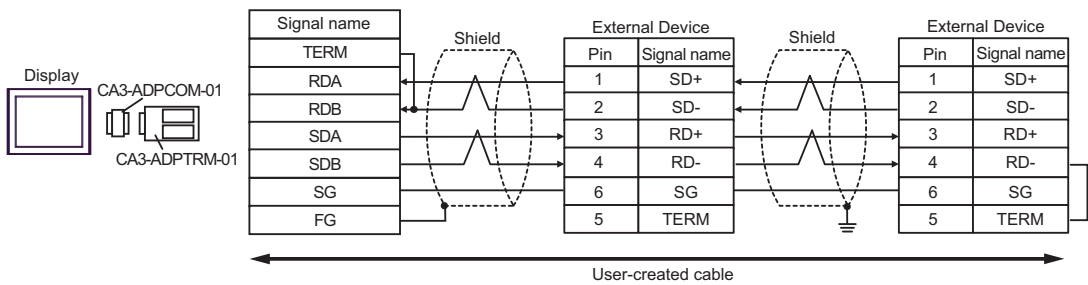
NOTE	• Cable length: 500m or less

6B)

- 1:1 Connection

Terminal resistance 100 Ω (1/2W)	D-Sub 9 pin (socket)		Shield	External Device	
	Pin	Signal name		Pin	Signal name
	1	RDA		1	SD+
	2	RDB		2	SD-
Display	3	SDA		3	RD+
	7	SDB		4	RD-
	5	SG		6	SG
	4	ERA		5	TERM
	8	CSA			
	9	ERB			
	6	CSB			
	Shell	FG			

- 1:n Connection

Terminal resistance 100 Ω (1/2W)	D-Sub 9 pin (socket)		Shield	External Device		Shield	External Device	
	Pin	Signal name		Pin	Signal name		Pin	Signal name
	1	RDA		1	SD+		1	SD+
	2	RDB		2	SD-		2	SD-
Display	3	SDA		3	RD+		3	RD+
	7	SDB		4	RD-		4	RD-
	5	SG		6	SG		6	SG
	4	ERA		5	TERM		5	TERM
	8	CSA						
	9	ERB						
	6	CSB						
	Shell	FG						

NOTE	• Cable length: 500m or less

6C)

• 1:1 Connection
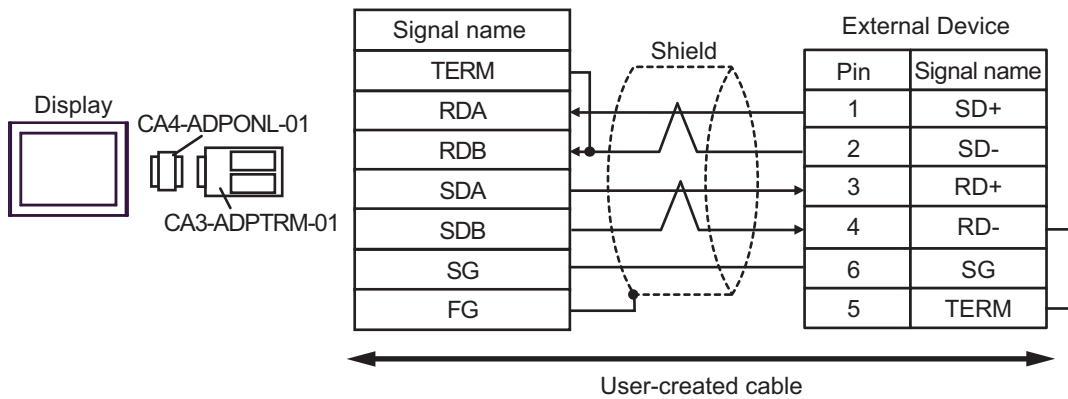
• 1:n Connection

| NOTE | • Cable length: 500m or less |

6D)

- 1:1 Connection
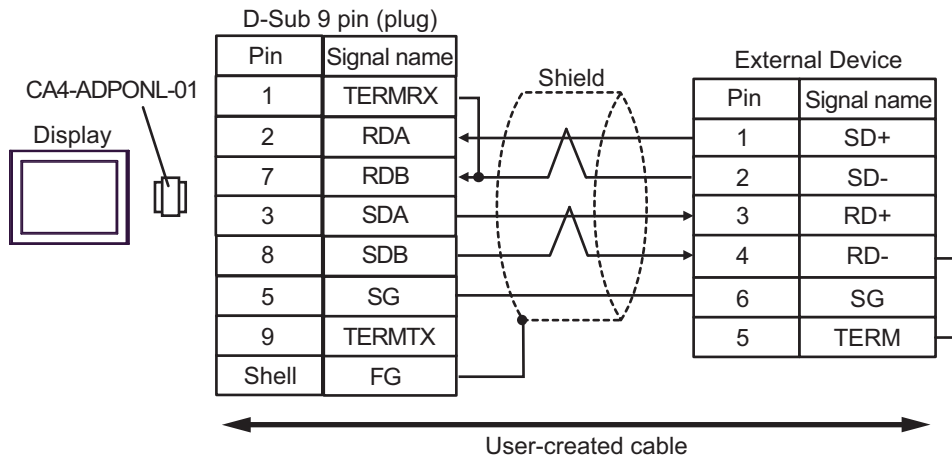
- 1:n Connection
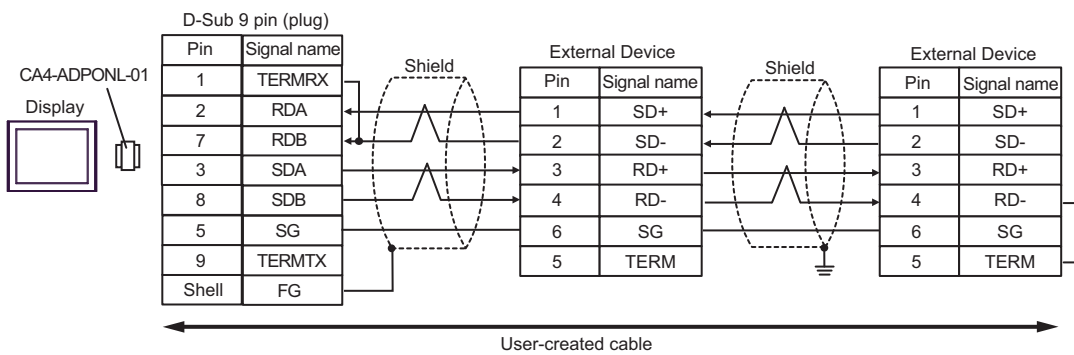
| NOTE | • Cable length: 500m or less |

6E)

- 1:1 Connection
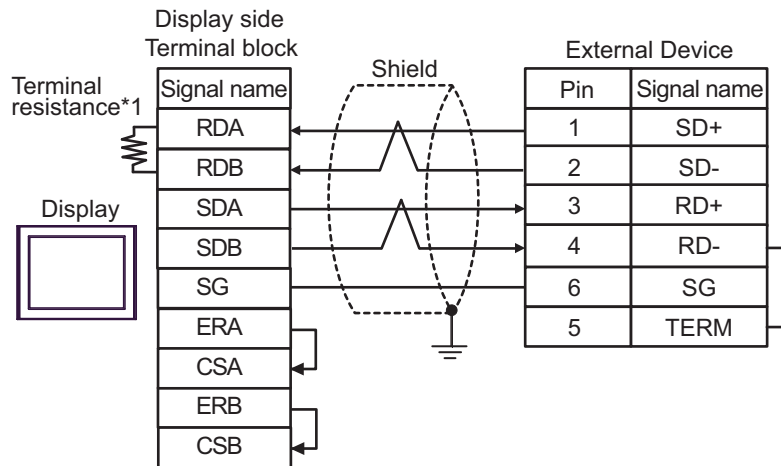
- 1:n Connection
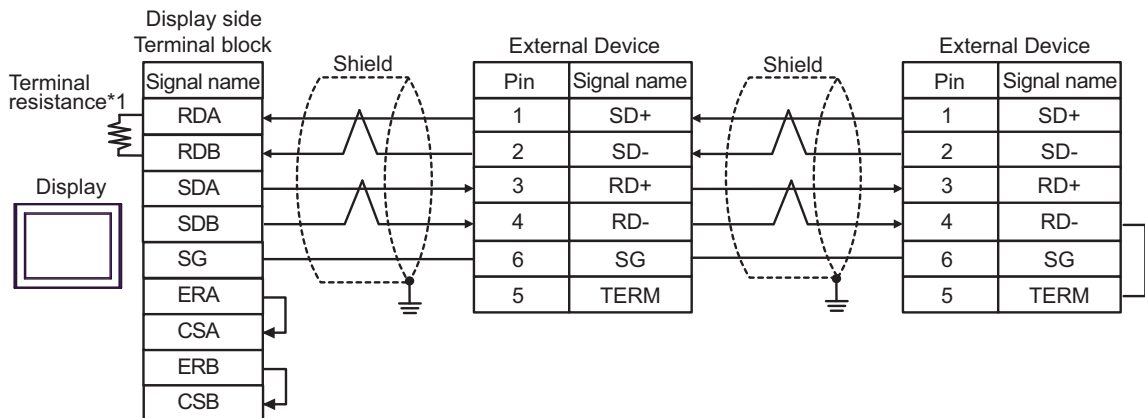
| NOTE | • Cable length: 500m or less |

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

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

6F)

- 1:1 Connection

Signal name		External Device	
TERM		Pin	Signal name
RDA		1	SD+
RDB		2	SD-
SDA		3	RD+
SDB		4	RD-
SG		6	SG
FG		5	TERM

Display

PFXZCBADTM1

Shield

User-created cable

- 1:n Connection

Signal name		External Device			External Device	
TERM		Pin	Signal name		Pin	Signal name
RDA		1	SD+		1	SD+
RDB		2	SD-		2	SD-
SDA		3	RD+		3	RD+
SDB		4	RD-		4	RD-
SG		6	SG		6	SG
FG		5	TERM		5	TERM

Display

PFXZCBADTM1

Shield   Shield

User-created cable
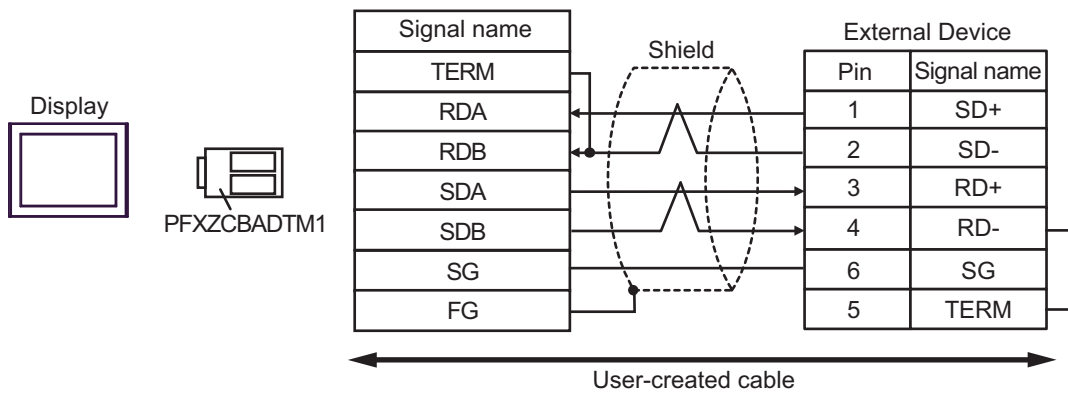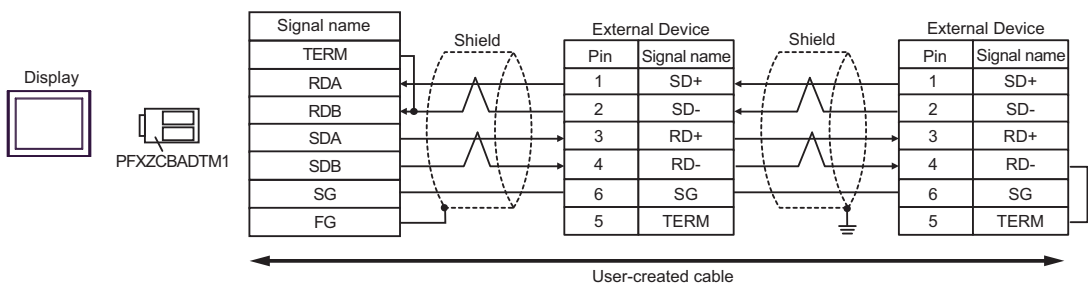
NOTE	• Cable length: 500m or less

6G)

- 1:1 Connection

D-Sub 9 pin (socket)	
Pin	Signal name
3	Rx+
4	Rx-
2	Tx+
1	Tx-
5	GND
7	NC
8	NC
9	NC
6	NC
Shell	FG

External Device	
Pin	Signal name
1	SD+
2	SD-
3	RD+
4	RD-
6	SG
5	TERM

Terminal resistance 100 Ω (1/2W)

Display

Shield

- 1:n Connection

Terminal resistance 100 Ω (1/2W)

Display

D-Sub 9 pin (socket)	
Pin	Signal name
3	Rx+
4	Rx-
2	Tx+
1	Tx-
5	GND
7	NC
8	NC
9	NC
6	NC
Shell	FG

Shield

External Device	
Pin	Signal name
1	SD+
2	SD-
3	RD+
4	RD-
6	SG
5	TERM

Shield

External Device	
Pin	Signal name
1	SD+
2	SD-
3	RD+
4	RD-
6	SG
5	TERM

NOTE	• Cable length: 500m or less

5.7 Cable Diagram 7

Display (Connection Port)		Cable	Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	7A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	7B	User-created cable	
GP3000[*3] (COM2)	7C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	7D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	7E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	7F	User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	7G	User-created cable	Cable length: 500m or less
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	7H	User-created cable	Cable length: 500m or less
GP4000[*6] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*7] (COM1/2) SP-5B00 (COM2) ST6000[*8] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*9] (COM2) PS6000 (Basic Box) (COM1/2)	7I	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*10] + User-created cable	Cable length: 500m or less
	7B	User-created cable	

Display (Connection Port)		Cable	Remarks
LT-4*01TM (COM1) LT-Rear Module (COM1)	7J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	Cable length: 200m or less
PE-4000B[*11] PS5000[*11] PS6000 (Optional Interface)[*11]	7K	User-created cable	Cable length: 500m or less

*1   All GP3000 models except AGP-3302B

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

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

*4   Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B, PS5000, and PS6000)
   ■ IPC COM Port (page 9)

*5   Except GP-4203T

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

*7   Except SP-5B00

*8   Except ST-6200

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

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

*11   Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
   ■ IPC COM Port (page 9)

7A)

- 1:1 Connection

Signal name		Shield	External Device	
TERM			Pin	Signal name
RDA			1	SD+
RDB			2	SD-
SDA			3	RD+
SDB			4	RD-
SG			6	SG
FG			5	TERM

User-created cable

Display
CA3-ADPCOM-01
CA3-ADPTRM-01

- 1:n Connection

Display
CA3-ADPCOM-01
CA3-ADPTRM-01

Signal name	Shield	External Device		Shield	External Device	
TERM		Pin	Signal name		Pin	Signal name
RDA		1	SD+		1	SD+
RDB		2	SD-		2	SD-
SDA		3	RD+		3	RD+
SDB		4	RD-		4	RD-
SG		6	SG		6	SG
FG		5	TERM		5	TERM

User-created cable

NOTE	• Cable length: 500m or less

7B)

• 1:1 Connection

• 1:n Connection

NOTE	• Cable length: 500m or less

7C)

- 1:1 Connection

Signal name		Shield	External Device	
TERM			Pin	Signal name
RDA			1	SD+
RDB			2	SD-
SDA			3	RD+
SDB			4	RD-
SG			6	SG
FG			5	TERM

Display
CA4-ADPONL-01
CA3-ADPTRM-01

User-created cable

- 1:n Connection

Signal name	Shield	External Device		Shield	External Device	
TERM		Pin	Signal name		Pin	Signal name
RDA		1	SD+		1	SD+
RDB		2	SD-		2	SD-
SDA		3	RD+		3	RD+
SDB		4	RD-		4	RD-
SG		6	SG		6	SG
FG		5	TERM		5	TERM

Display
CA4-ADPONL-01
CA3-ADPTRM-01

User-created cable
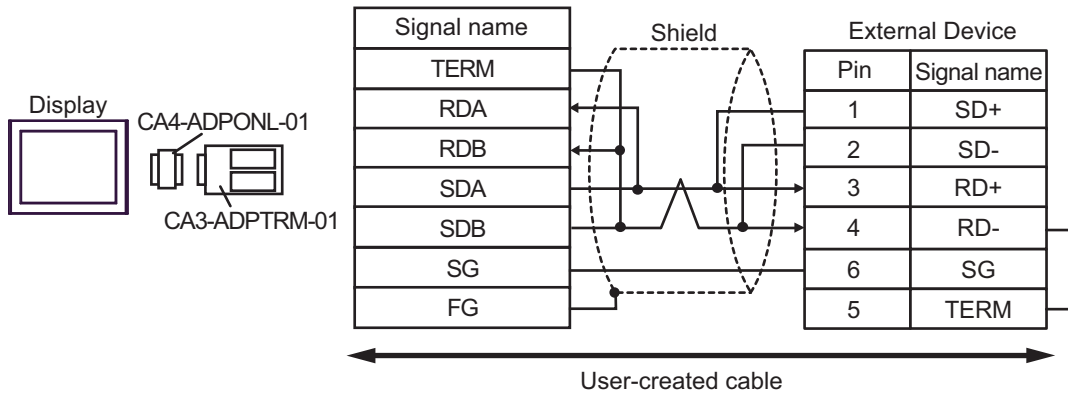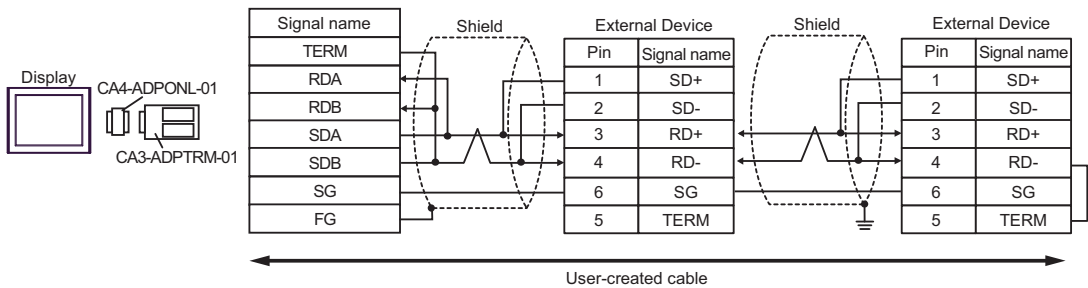
NOTE	• Cable length: 500m or less

7D)

- 1:1 Connection

D-Sub 9 pin (plug)

CA4-ADPONL-01

Display

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

Shield

External Device

Pin	Signal name
1	SD+
2	SD-
3	RD+
4	RD-
6	SG
5	TERM

User-created cable

- 1:n Connection

D-Sub 9 pin (plug)

CA4-ADPONL-01

Display

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

Shield

External Device

Pin	Signal name
1	SD+
2	SD-
3	RD+
4	RD-
6	SG
5	TERM

Shield

External Device

Pin	Signal name
1	SD+
2	SD-
3	RD+
4	RD-
6	SG
5	TERM

User-created cable

NOTE
- Cable length: 500m or less

7E)

- 1:1 Connection

User-created cable

- 1:n Connection

User-created cable
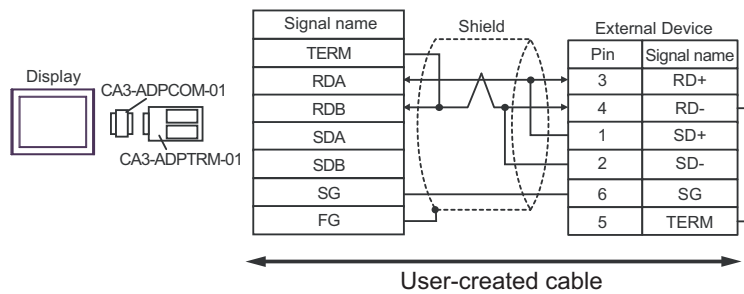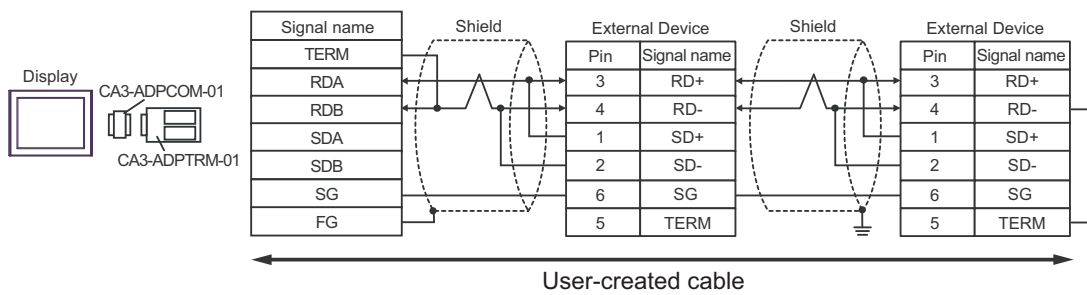
> **NOTE**
>
> - Cable length: 500m or less

7F)

• 1:1 Connection
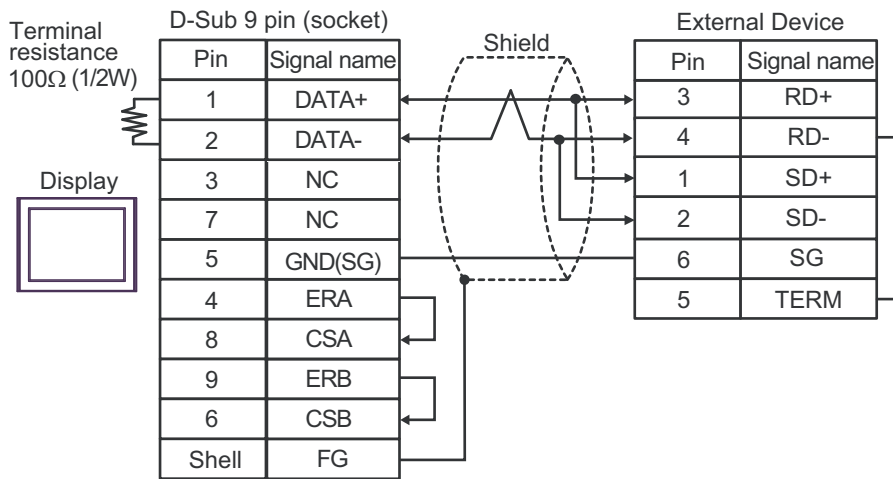
• 1:n Connection
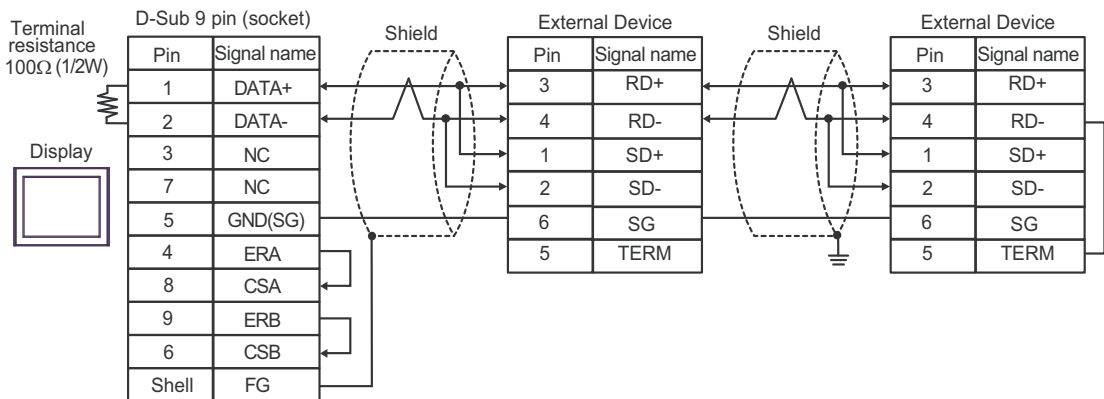
NOTE	• Cable length: 500m or less

7G)

- 1:1 Connection
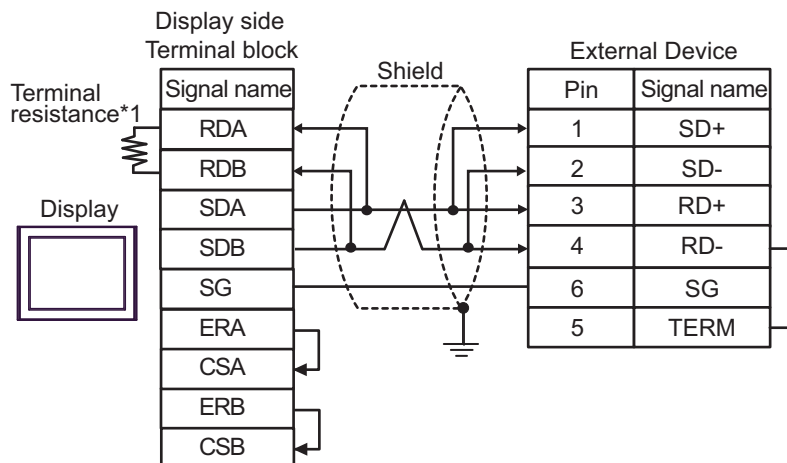
- 1:n Connection
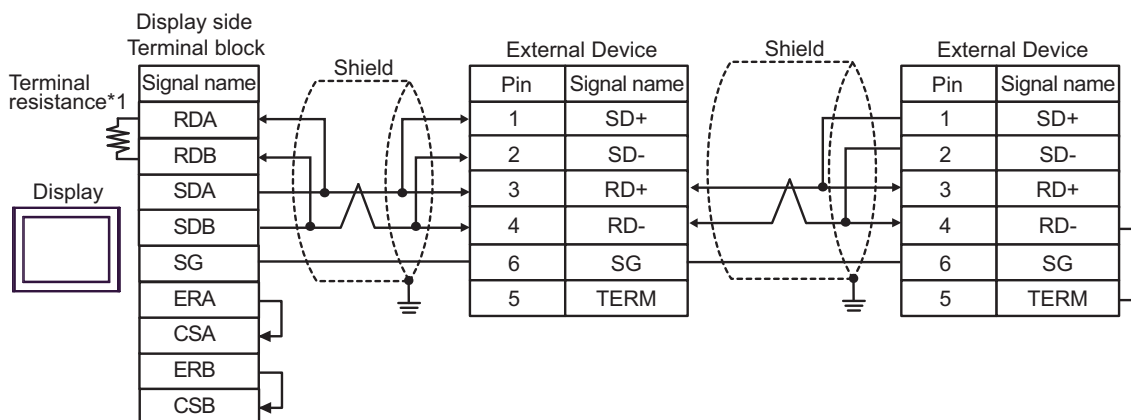
NOTE

- Cable length: 500m or less

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

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

7H)

• 1:1 Connection

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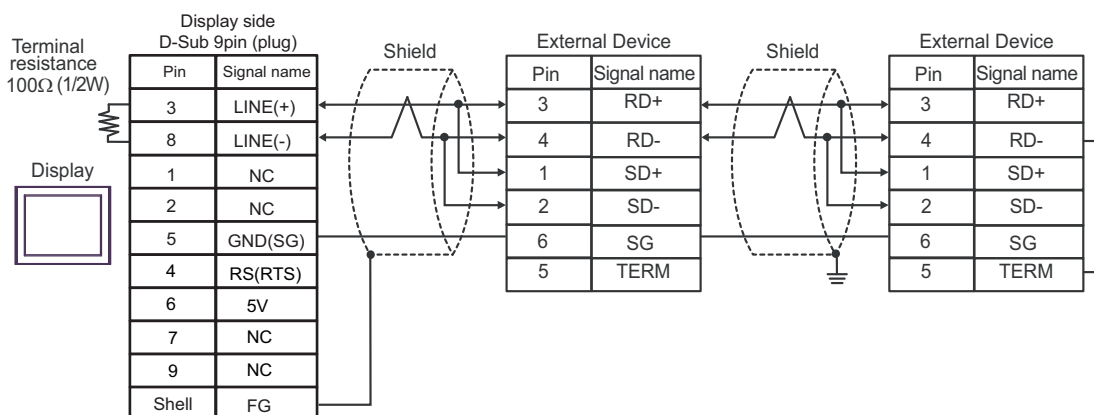
| IMPORTANT | • The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices. |

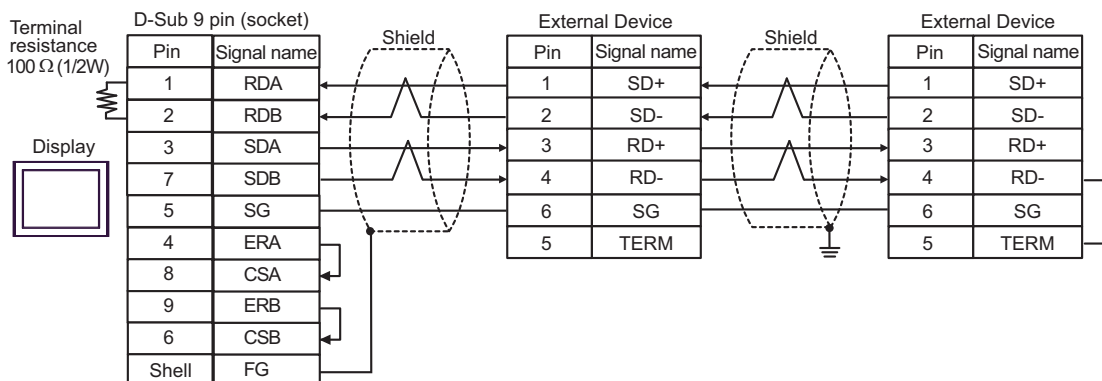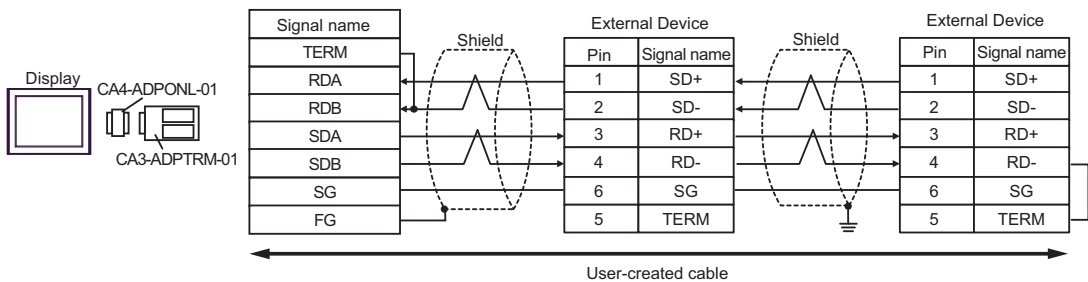| NOTE | • In COM on the GP-4107, the SG and FG terminals are isolated.
• Cable length: 500m or less |

7I)
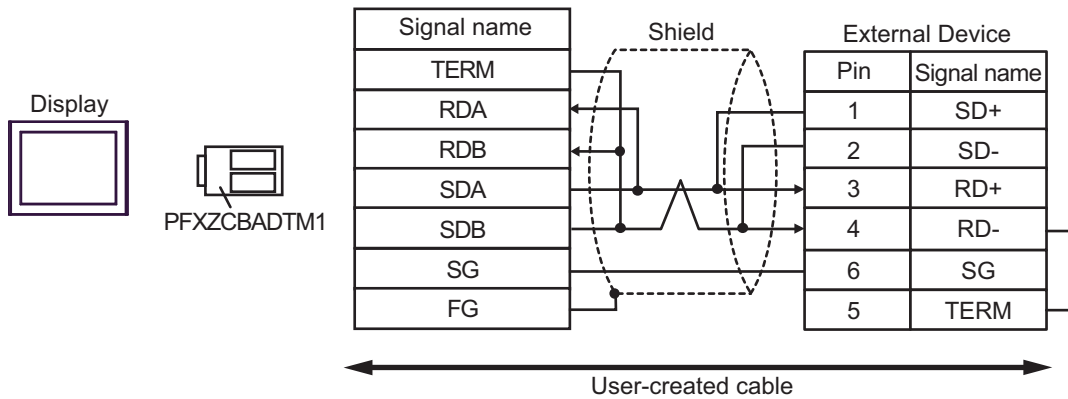
- 1:1 Connection
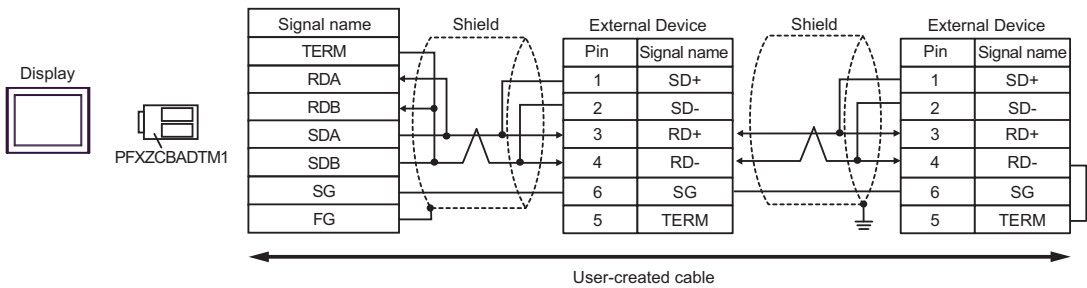
- 1:n Connection

| NOTE | • Cable length: 500m or less |

7J)

- 1:1 Connection

External Device

Pin	Signal name
3	RD+
4	RD-
1	SD+
2	SD-
6	SG
5	TERM

Display

D1
D0

GND

PFXZLMCBRJR81

- 1:n Connection

Terminal resistance 220Ω(1/4W)

External Device

Pin	Signal name
3	RD+
4	RD-
1	SD+
2	SD-
6	SG
5	TERM

Shield

External Device

Pin	Signal name
3	RD+
4	RD-
1	SD+
2	SD-
6	SG
5	TERM

Terminal resistance 220Ω(1/4W)

Display

D1
D0

GND

PFXZLMCBRJR81

User-created Cable

7K)

- 1:1 Connection

Terminal resistance 100Ω (1/2W)	D-Sub 9 pin (socket)		Shield	External Device	
	Pin	Signal name		Pin	Signal name
	2	DATA+		3	RD+
	1	DATA-		4	RD-
Display	3	NC		1	SD+
	7	NC		2	SD-
	5	GND		6	SG
	4	NC		5	TERM
	8	NC			
	9	NC			
	6	NC			
	Shell	FG			

- 1:n Connection

Terminal resistance 100Ω (1/2W)	D-Sub 9 pin (socket)		Shield	External Device		Shield	External Device	
	Pin	Signal name		Pin	Signal name		Pin	Signal name
	2	DATA+		3	RD+		3	RD+
	1	DATA-		4	RD-		4	RD-
Display	3	NC		1	SD+		1	SD+
	7	NC		2	SD-		2	SD-
	5	GND		6	SG		6	SG
	4	NC		5	TERM		5	TERM
	8	NC						
	9	NC						
	6	NC						
	Shell	FG						

NOTE	• Cable length: 500m or less

5.8　　　Cable Diagram 8

Display (Connection Port)		Cable	Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1) IPC[*3]	8A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 250m or less
	8B	User-created cable	
GP3000[*4] (COM2)	8C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 250m or less
	8D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	8E	User-created cable	Cable length: 250m or less
GP4000[*5] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*6] (COM1/2) SP-5B00 (COM2) ST6000[*7] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*8] (COM2) PS6000 (Basic Box) (COM1/2)	8F	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*9] + User-created cable	Cable length: 250m or less
	8B	User-created cable	
PE-4000B[*10] PS5000[*10] PS6000 (Optional Interface)[*10]	8G	User-created cable	Cable length: 250m or less

*1　All GP3000 models except AGP-3302B

*2　Except AST-3211A and AST-3302B

*3　Only the COM port which can communicate by RS-422/485 (4 wire) can be used. (Except PE-4000B, PS5000, and PS6000)
　　■ IPC COM Port (page 9)

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

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

*6   Except SP-5B00

*7   Except ST-6200

*8   Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.
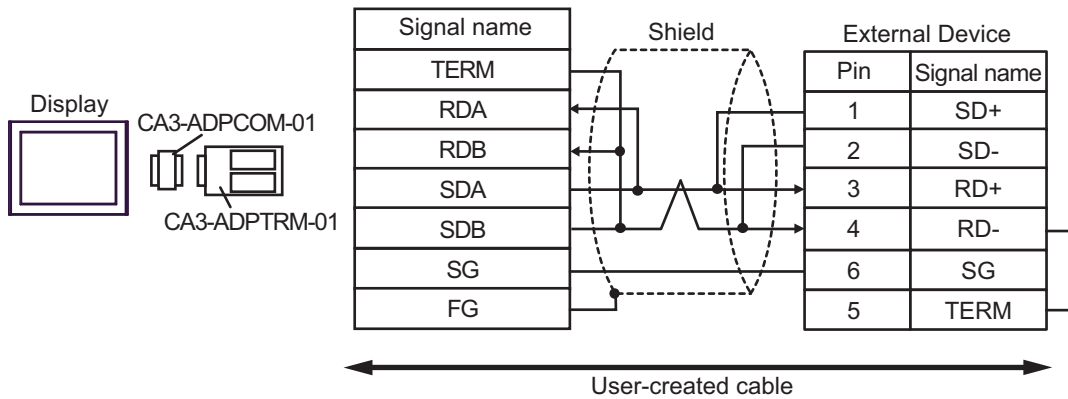
*9   When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 8A.

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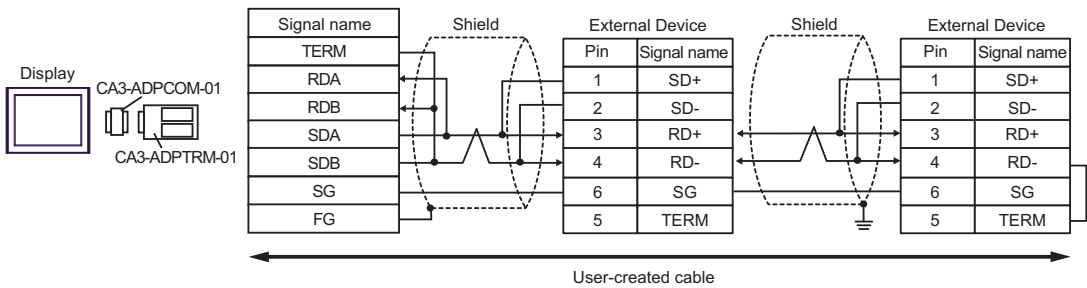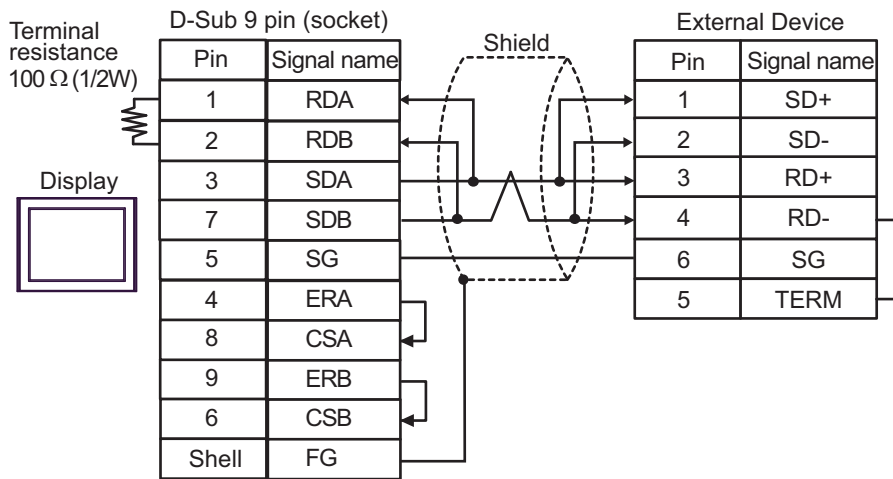
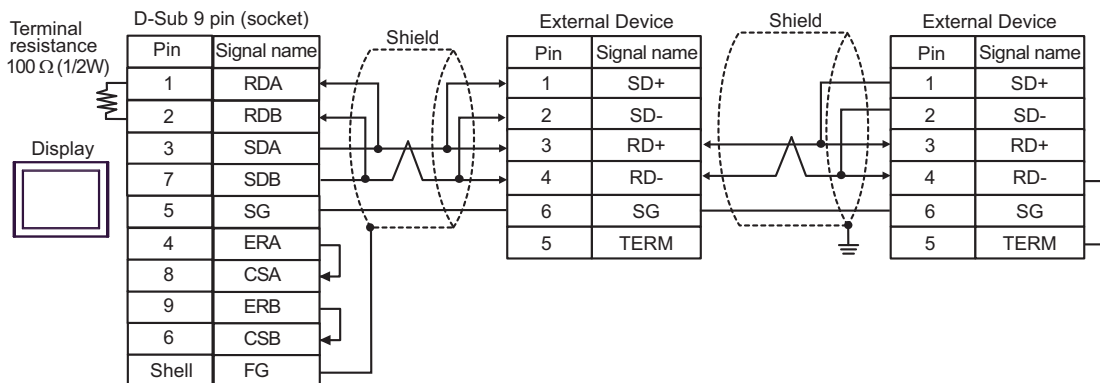   ■ IPC COM Port (page 9)

8A)

- 1:1 Connection

User-created cable

- 1:n Connection

User-created cable

NOTE | • Cable length: 250m or less

8B)

• 1:1 Connection

External Device
D-Sub 15 pin (plug)

Terminal
resistance
120 Ω (1/2W)

D-Sub 9 pin (socket)

Shield

Display

Pin	Signal name		Pin	Signal name
1	RDA		13	SDP
2	RDB		12	SDN
3	SDA		11	RDP
7	SDB		10	RDN
5	SG		7	SG
4	ERA		9	RT
8	CSA		14	RSP
9	ERB		15	CSN
6	CSB			
Shell	FG			

• 1:n Connection

Terminal
resistance
120 Ω (1/2W)

D-Sub 9 pin (socket)

Shield

External Device
D-Sub 15 pin (plug)

Shield

External Device
D-Sub 15 pin (plug)

Display

Pin	Signal name		Pin	Signal name		Pin	Signal name
1	RDA		13	SDP		13	SDP
2	RDB		12	SDN		12	SDN
3	SDA		11	RDP		11	RDP
7	SDB		10	RDN		10	RDN
5	SG		7	SG		7	SG
4	ERA		9	RT		9	RT
8	CSA		14	RSP		14	RSP
9	ERB		15	CSN		15	CSN
6	CSB						
Shell	FG						

NOTE • Cable length: 250m or less

8C)

• 1:1 Connection

User-created cable

• 1:n Connection

User-created cable
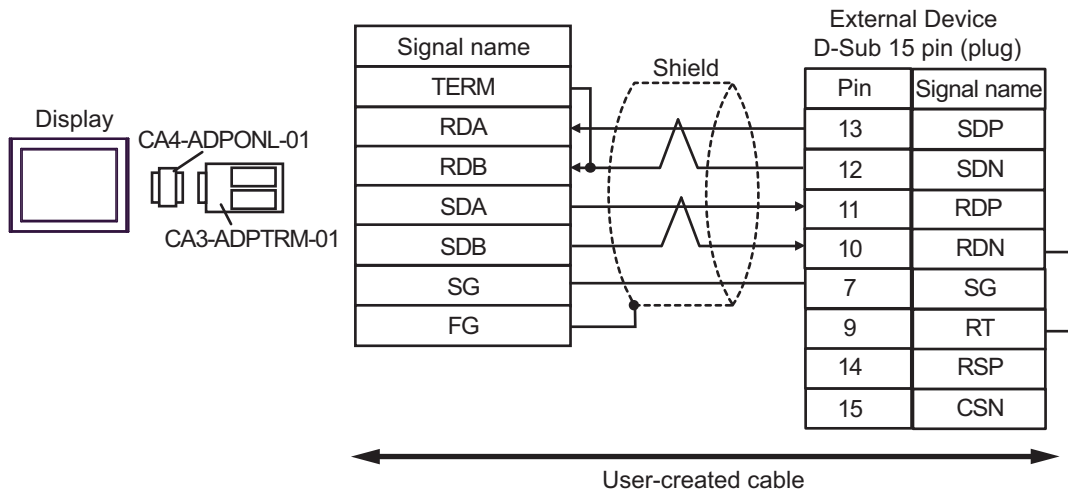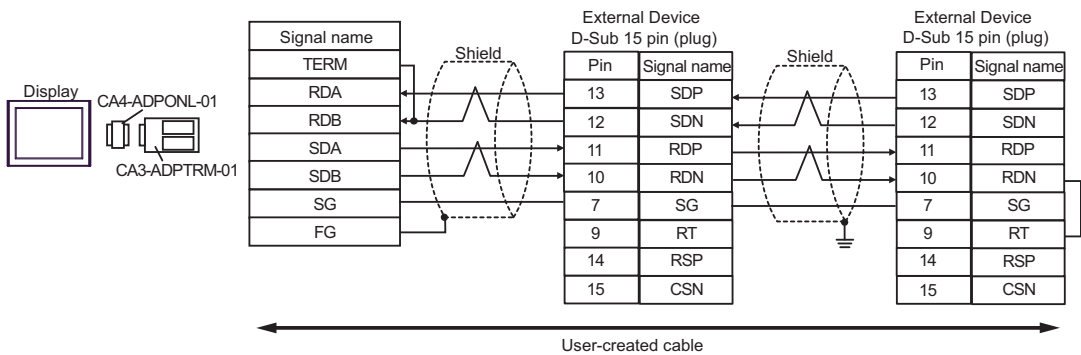
| NOTE | • Cable length: 250m or less |

8D)

• 1:1 Connection

D-Sub 9 pin (plug)

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

External Device
D-Sub 15 pin (plug)

Pin	Signal name
13	SDP
12	SDN
11	RDP
10	RDN
7	SG
9	RT
14	RSP
15	CSN

CA4-ADPONL-01

Display

Shield

User-created cable

• 1:n Connection

D-Sub 9 pin (plug)

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

External Device
D-Sub 15 pin (plug)

Pin	Signal name
13	SDP
12	SDN
11	RDP
10	RDN
7	SG
9	RT
14	RSP
15	CSN

External Device
D-Sub 15 pin (plug)

Pin	Signal name
13	SDP
12	SDN
11	RDP
10	RDN
7	SG
9	RT
14	RSP
15	CSN

CA4-ADPONL-01

Display

Shield

Shield

User-created cable

NOTE   • Cable length: 250m or less

8E)

- 1:1 Connection
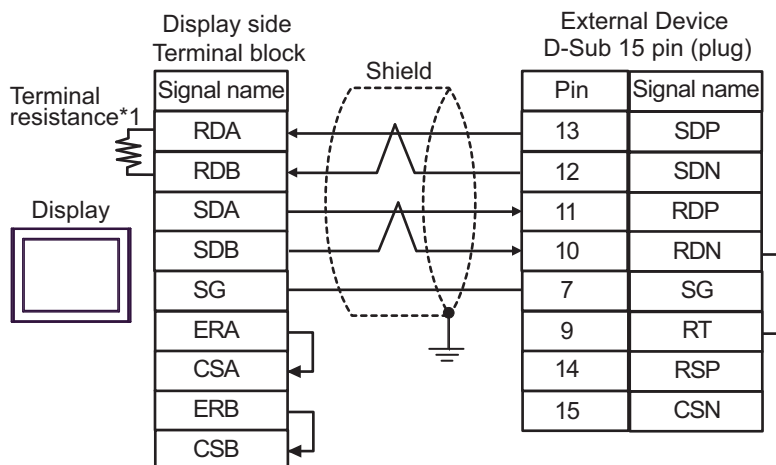
- 1:n Connection
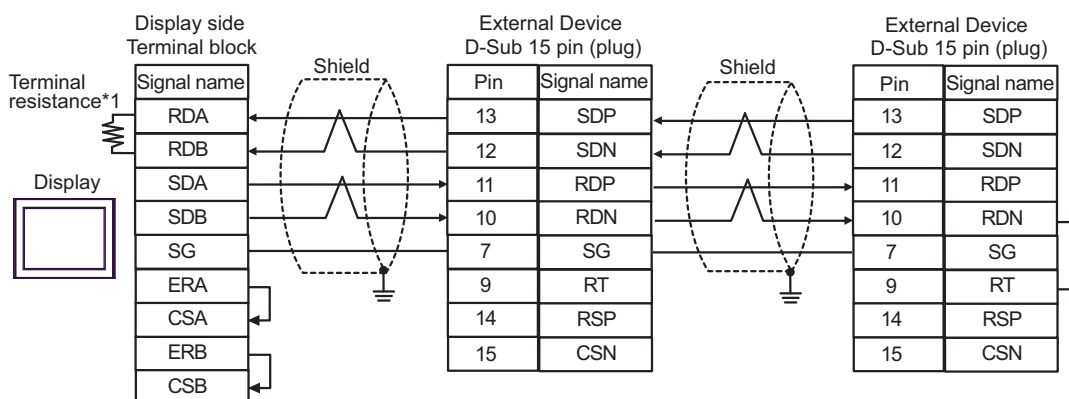
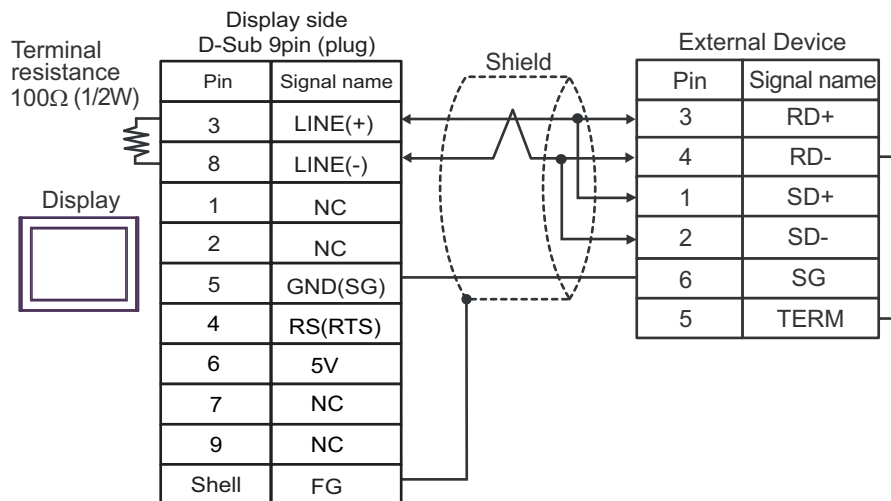| NOTE	• Cable length: 250m or less

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

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

8F)

- 1:1 Connection
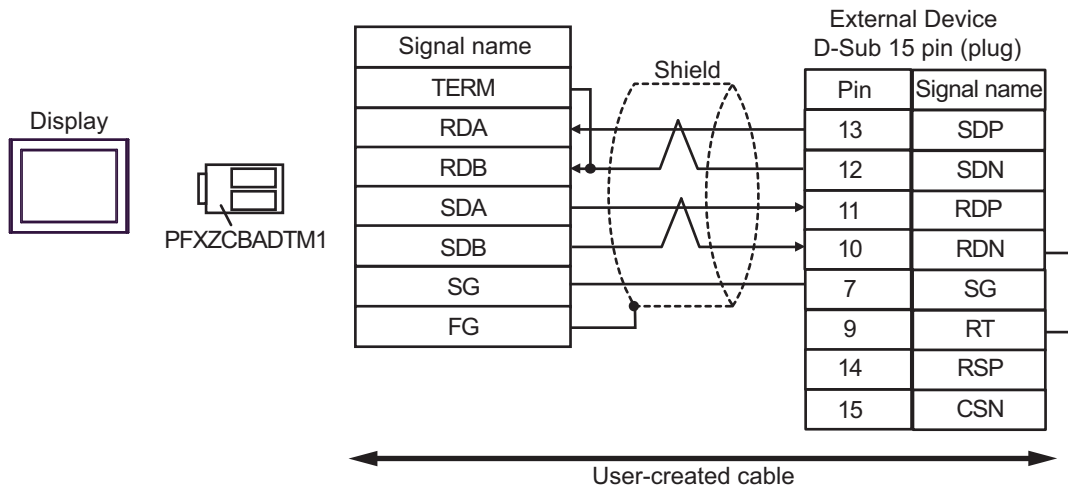
- 1:n Connection
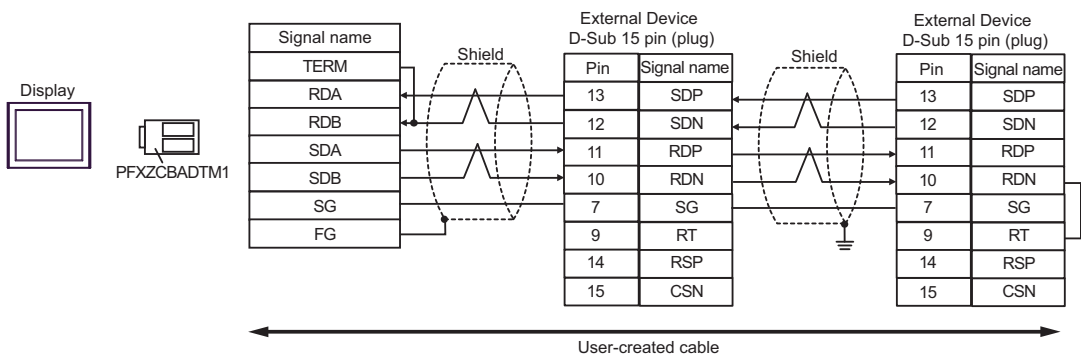
| NOTE | • Cable length: 250m or less |

8G)

• 1:1 Connection

External Device
D-Sub 15 pin (plug)

Terminal resistance 120 Ω (1/2W)	D-Sub 9 pin (socket)		Shield		
	Pin	Signal name		Pin	Signal name
	3	Rx+		13	SDP
	4	Rx-		12	SDN
Display	2	Tx+		11	RDP
	1	Tx-		10	RDN
	5	GND		7	SG
	7	NC		9	RT
	8	NC		14	RSP
	9	NC		15	CSN
	6	NC			
	Shell	FG			

• 1:n Connection

External Device
D-Sub 15 pin (plug)

External Device
D-Sub 15 pin (plug)

Terminal resistance 120 Ω (1/2W)	D-Sub 9 pin (socket)		Shield			Shield		
	Pin	Signal name		Pin	Signal name		Pin	Signal name
	3	Rx+		13	SDP		13	SDP
	4	Rx-		12	SDN		12	SDN
Display	2	Tx+		11	RDP		11	RDP
	1	Tx-		10	RDN		10	RDN
	5	GND		7	SG		7	SG
	7	NC		9	RT		9	RT
	8	NC		14	RSP		14	RSP
	9	NC		15	CSN		15	CSN
	6	NC						
	Shell	FG						

NOTE	• Cable length: 250m or less

5.9 Cable Diagram 9

Display (Connection Port)		Cable	Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	9A	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: 250m or less
	9B	User-created cable	
GP3000[*3] (COM2)	9C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 250m or less
	9D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	9E	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: 250m or less
	9F	User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	9G	User-created cable	Cable length: 250m or less
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	9H	User-created cable	Cable length: 250m or less
GP4000[*6] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*7] (COM1/2) SP-5B00 (COM2) ST6000[*8] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*9] (COM2) PS6000 (Basic Box) (COM1/2)	9I	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*10] + User-created cable	Cable length: 250m or less
	9B	User-created cable	

Display (Connection Port)		Cable		Remarks
LT-4*01TM (COM1) LT-Rear Module (COM1)	9J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81		Cable length: 200m or less
PE-4000B[*11] PS5000[*11] PS6000 (Optional Interface)[*11]	9K	User-created cable		Cable length: 250m 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)
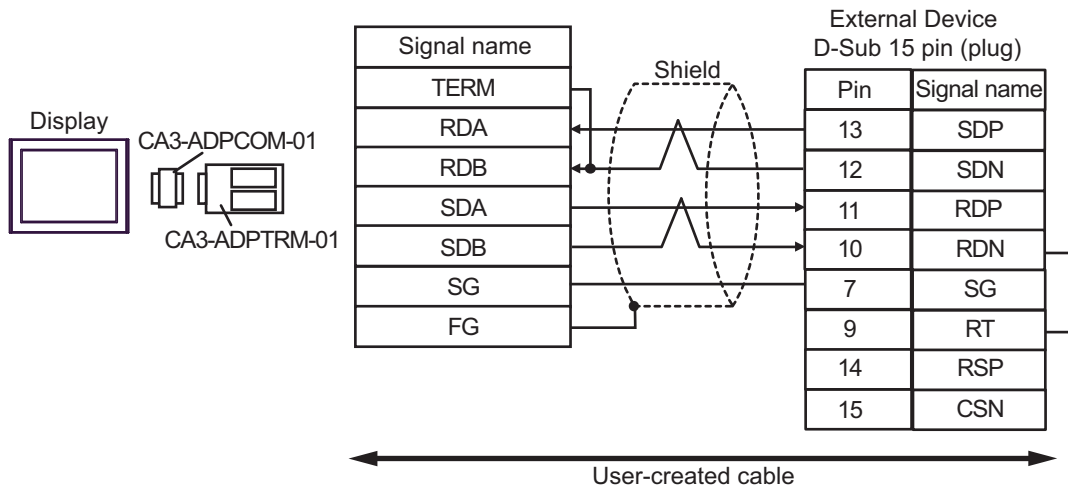   ■ IPC COM Port (page 9)

*5   Except GP-4203T

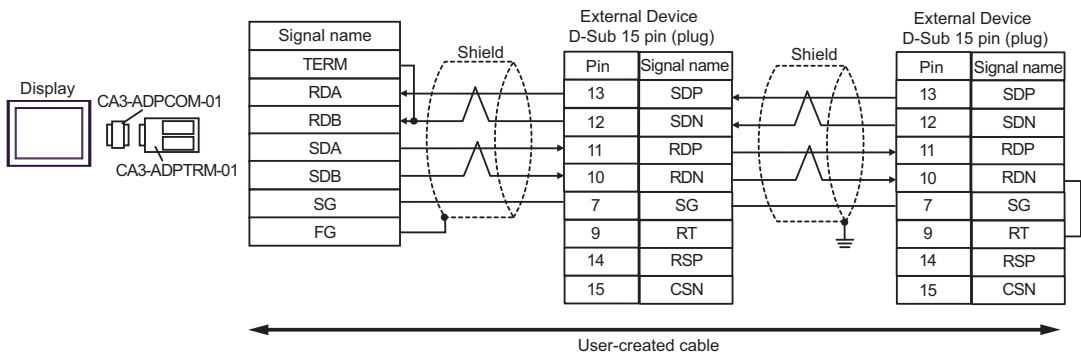*6   All GP4000 models except GP-4100 series, GP-4*01TM, GP-Rear Module, GP-4201T and GP-4*03T

*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 9A.

*11   Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
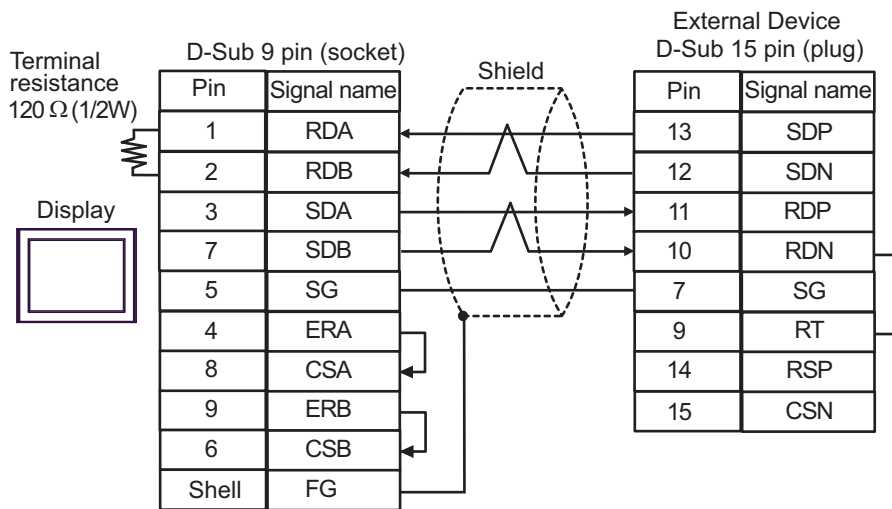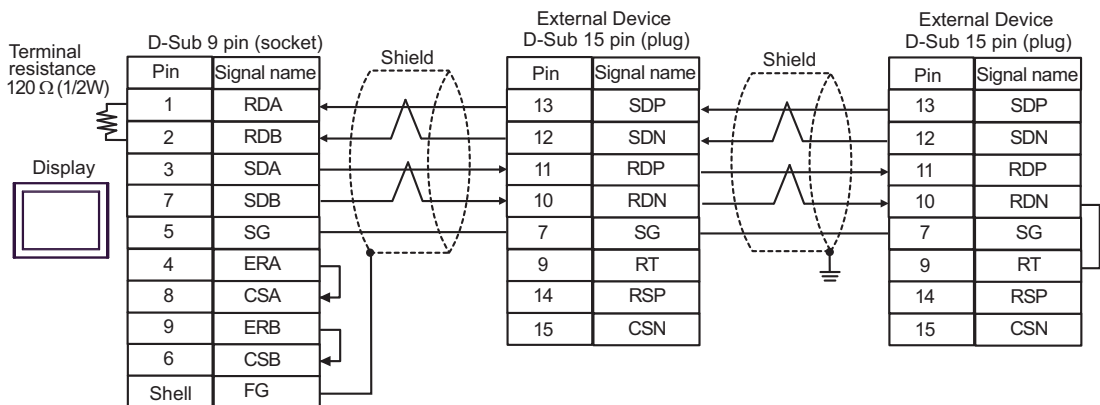   ■ IPC COM Port (page 9)

9A)

- 1:1 Connection

User-created cable

- 1:n Connection

User-created cable
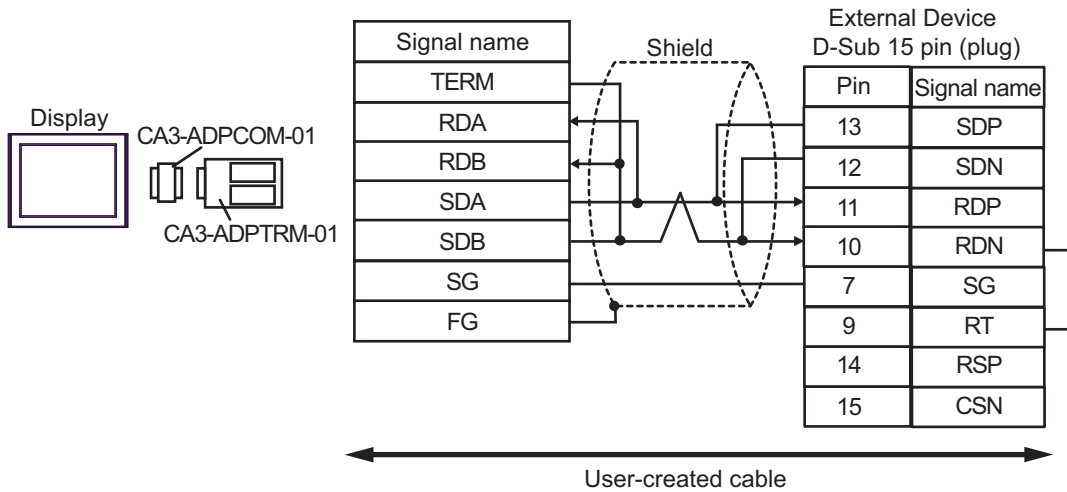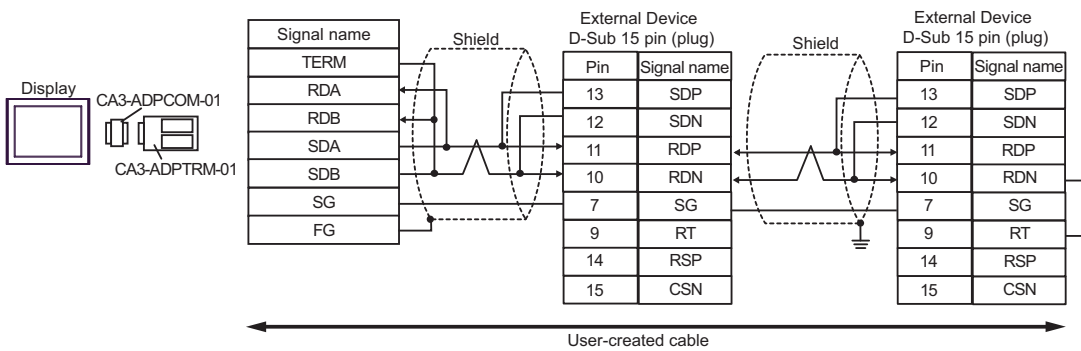
| NOTE | • Cable length: 250m or less |

9B)

- 1:1 Connection

Terminal resistance 120 Ω (1/2W)	D-Sub 9 pin (socket)		Shield	External Device D-Sub 15 pin (plug)	
	Pin	Signal name		Pin	Signal name
	1	RDA		13	SDP
	2	RDB		12	SDN
Display	3	SDA		11	RDP
	7	SDB		10	RDN
	5	SG		7	SG
	4	ERA		9	RT
	8	CSA		14	RSP
	9	ERB		15	CSN
	6	CSB			
	Shell	FG			

- 1:n Connection

Terminal resistance 120 Ω (1/2W)	D-Sub 9 pin (socket)		Shield	External Device D-Sub 15 pin (plug)		Shield	External Device D-Sub 15 pin (plug)	
	Pin	Signal name		Pin	Signal name		Pin	Signal name
	1	RDA		13	SDP		13	SDP
	2	RDB		12	SDN		12	SDN
Display	3	SDA		11	RDP		11	RDP
	7	SDB		10	RDN		10	RDN
	5	SG		7	SG		7	SG
	4	ERA		9	RT		9	RT
	8	CSA		14	RSP		14	RSP
	9	ERB		15	CSN		15	CSN
	6	CSB						
	Shell	FG						

NOTE	• Cable length: 250m or less

9C)

- 1:1 Connection

Signal name		Shield		External Device D-Sub 15 pin (plug)	
	TERM			Pin	Signal name
Display	RDA			13	SDP
CA4-ADPONL-01	RDB			12	SDN
	SDA			11	RDP
CA3-ADPTRM-01	SDB			10	RDN
	SG			7	SG
	FG			9	RT
				14	RSP
				15	CSN

User-created cable

- 1:n Connection

User-created cable
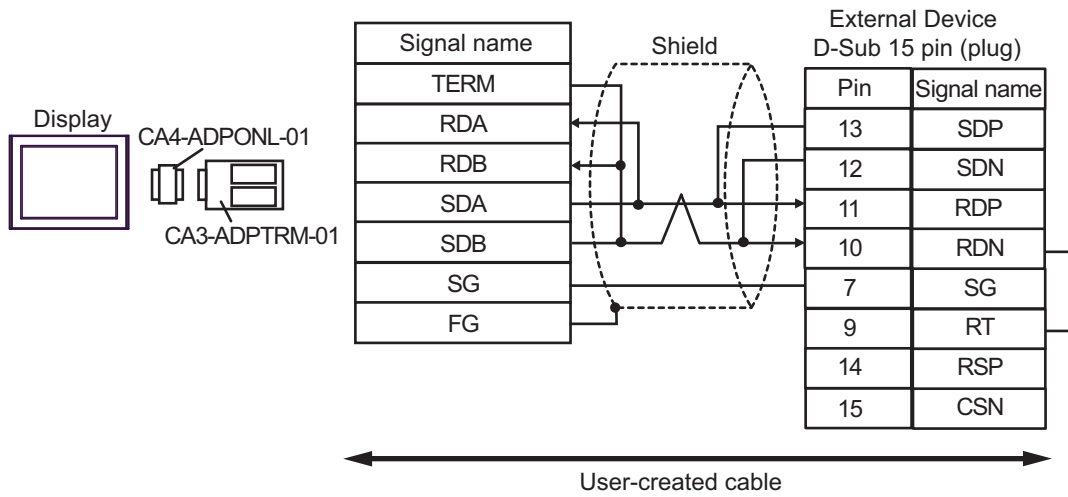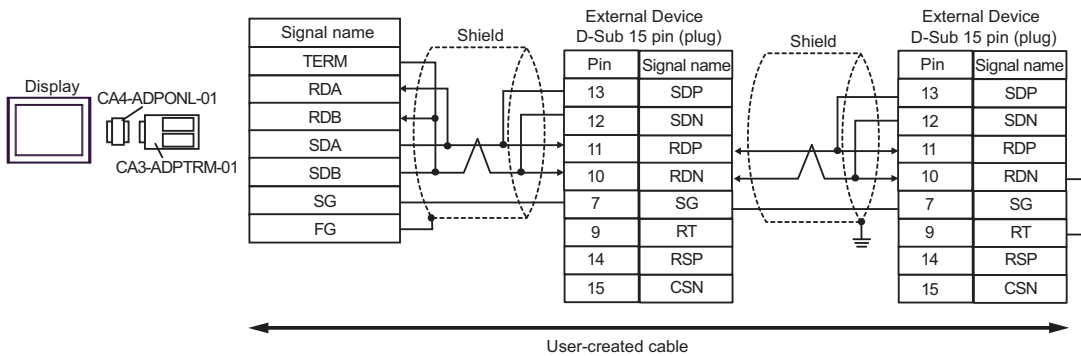
NOTE · Cable length: 250m or less

9D)

• 1:1 Connection

CA4-ADPONL-01
Display

D-Sub 9 pin (plug)

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

Shield

External Device
D-Sub 15 pin (plug)

Pin	Signal name
13	SDP
12	SDN
11	RDP
10	RDN
7	SG
9	RT
14	RSP
15	CSN

User-created cable

• 1:n Connection

CA4-ADPONL-01
Display

D-Sub 9 pin (plug)

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

Shield

External Device
D-Sub 15 pin (plug)

Pin	Signal name
13	SDP
12	SDN
11	RDP
10	RDN
7	SG
9	RT
14	RSP
15	CSN

Shield

External Device
D-Sub 15 pin (plug)

Pin	Signal name
13	SDP
12	SDN
11	RDP
10	RDN
7	SG
9	RT
14	RSP
15	CSN

User-created cable

NOTE

• Cable length: 250m or less

9E)

• 1:1 Connection

External Device
D-Sub 15 pin (plug)

Signal name		Shield
TERM		
RDA		
RDB		
SDA		
SDB		
SG		
FG		

Pin	Signal name
11	RDP
10	RDN
13	SDP
12	SDN
7	SG
9	RT
14	RSP
15	CSN

Display
CA3-ADPCOM-01
CA3-ADPTRM-01

User-created cable

• 1:n Connection

Display
CA3-ADPCOM-01
CA3-ADPTRM-01

User-created cable
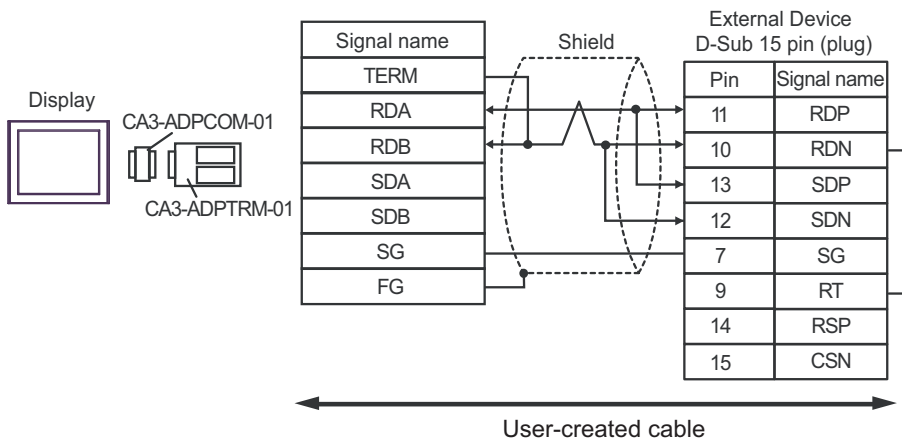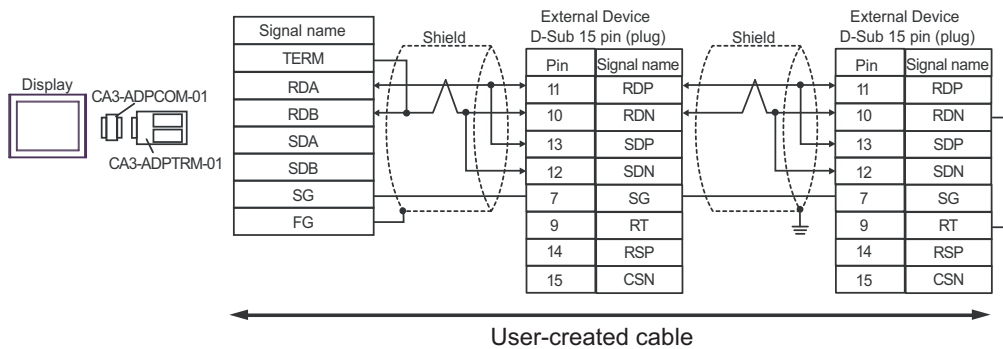
NOTE	• Cable length: 250m or less

9F)

- 1:1 Connection

- 1:n Connection

NOTE	• Cable length: 250m or less

187
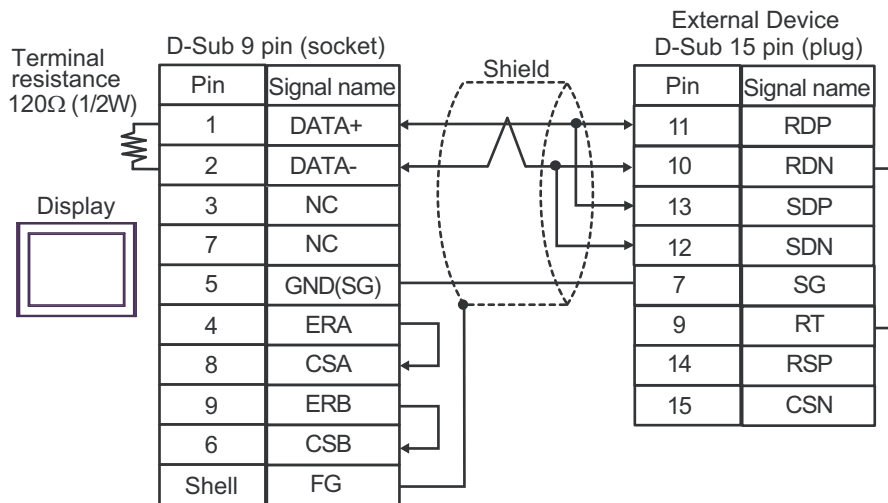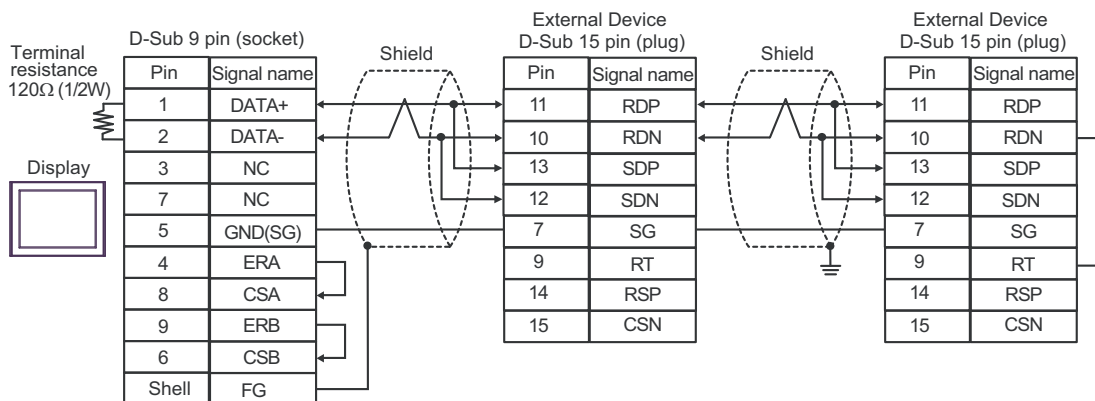
9G)

• 1:1 Connection

• 1:n Connection
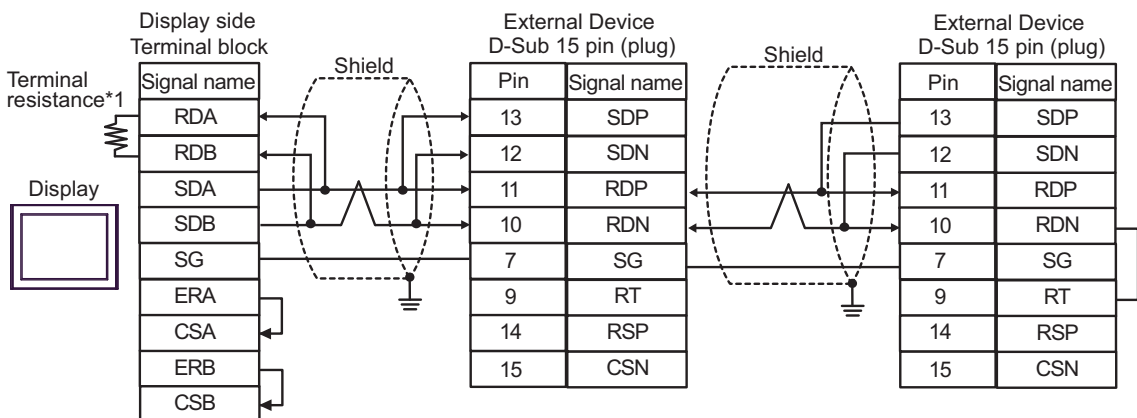
NOTE • Cable length: 250m or less

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

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

9H)

• 1:1 Connection
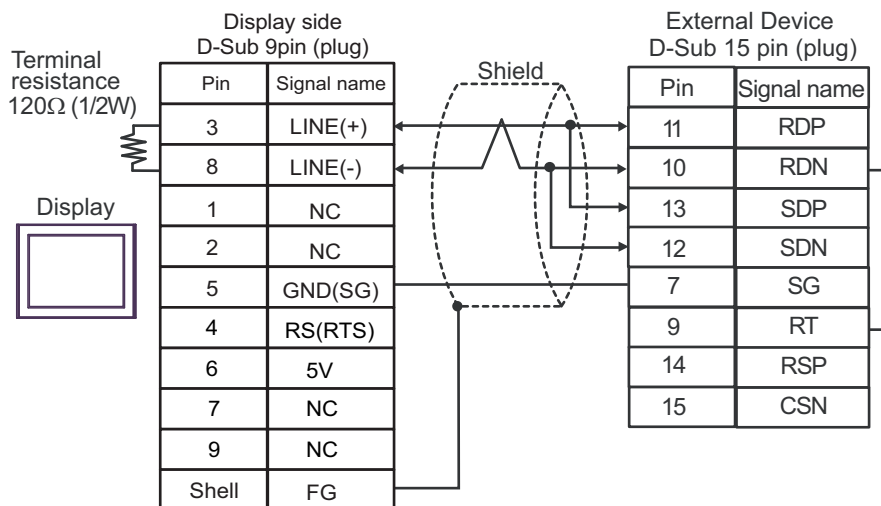
• 1:n Connection
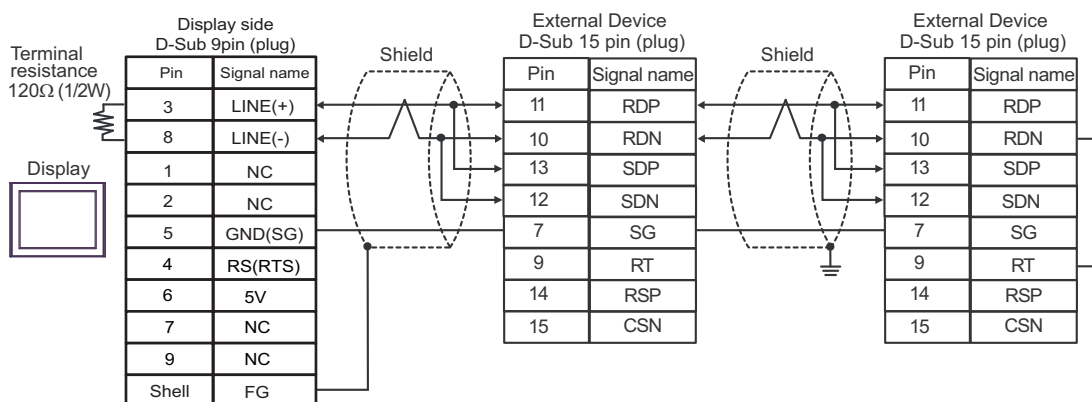
IMPORTANT	• The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE	• In COM on the GP-4107, the SG and FG terminals are isolated. • Cable length: 250m or less

9I)

• 1:1 Connection

User-created cable

• 1:n Connection

User-created cable
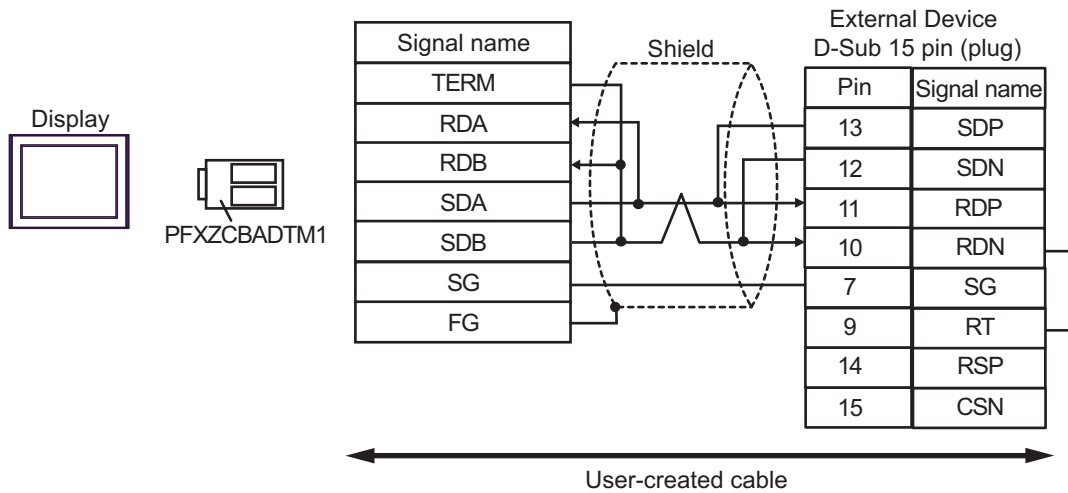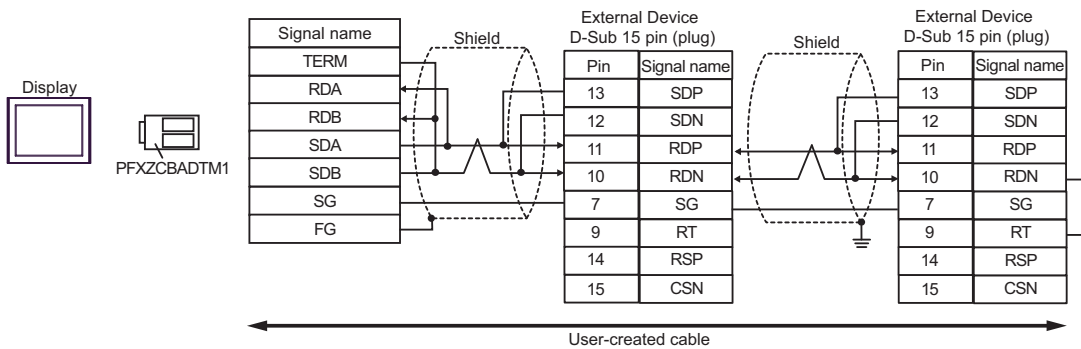
NOTE	• Cable length: 250m or less

9J)

• 1:1 Connection

External Device
D-Sub 15 pin (plug)

Display

PFXZLMCBRJR81

Pin	Signal name
11	RDP
10	RDN
13	SDP
12	SDN
7	SG
9	RT
14	RSP
15	CSN

D1
D0
GND

• 1:n Connection

External Device
D-Sub 15 pin (plug)

External Device
D-Sub 15 pin (plug)

Terminal resistance 220Ω(1/4W)

Terminal resistance 220Ω(1/4W)

Shield

Display

PFXZLMCBRJR81

D1
D0
GND

Pin	Signal name
11	RDP
10	RDN
13	SDP
12	SDN
7	SG
9	RT
14	RSP
15	CSN

Pin	Signal name
11	RDP
10	RDN
13	SDP
12	SDN
7	SG
9	RT
14	RSP
15	CSN

User-created Cable

9K)

- 1:1 Connection

Terminal resistance 120Ω (1/2W)	D-Sub 9 pin (socket)		Shield	External Device D-Sub 15 pin (plug)	
	Pin	Signal name		Pin	Signal name
	2	DATA+		11	RDP
	1	DATA-		10	RDN
Display	3	NC		13	SDP
	7	NC		12	SDN
	5	GND		7	SG
	4	NC		9	RT
	8	NC		14	RSP
	9	NC		15	CSN
	6	NC			
	Shell	FG			

- 1:n Connection

Terminal resistance 120Ω (1/2W)	D-Sub 9 pin (socket)		Shield	External Device D-Sub 15 pin (plug)		Shield	External Device D-Sub 15 pin (plug)	
	Pin	Signal name		Pin	Signal name		Pin	Signal name
	2	DATA+		11	RDP		11	RDP
	1	DATA-		10	RDN		10	RDN
Display	3	NC		13	SDP		13	SDP
	7	NC		12	SDN		12	SDN
	5	GND		7	SG		7	SG
	4	NC		9	RT		9	RT
	8	NC		14	RSP		14	RSP
	9	NC		15	CSN		15	CSN
	6	NC						
	Shell	FG						

NOTE	• Cable length: 250m or less

5.10   Cable Diagram 10

Display (Connection Port)		Cable	Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1) IPC[*3]	10A	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
	10B	User-created cable	
GP3000[*4] (COM2)	10C	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
	10D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	10E	User-created cable	Cable length: 500m or less
GP4000[*5] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*6] (COM1/2) SP-5B00 (COM2) ST6000[*7] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*8] (COM2) PS6000 (Basic Box) (COM1/2)	10F	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*9] + User-created cable	Cable length: 500m or less
	10B	User-created cable	
PE-4000B[*10] PS5000[*10] PS6000 (Optional Interface)[*10]	10G	User-created cable	Cable length: 500m or less

*1   All GP3000 models except AGP-3302B

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

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

   ■ IPC COM Port (page 9)

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

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

*6   Except SP-5B00

*7   Except ST-6200

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

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

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

■ IPC COM Port (page 9)

10A)

- 1:1 Connection

External Device RJ-45 conncetor

Signal name		Pin	Signal name
TERM			
RDA		4	SDP
RDB		5	SDN
SDA		7	RDP
SDB		6	RDN
SG		1	SG
FG		8	TERM

User-created cable

- 1:n Connection

User-created cable
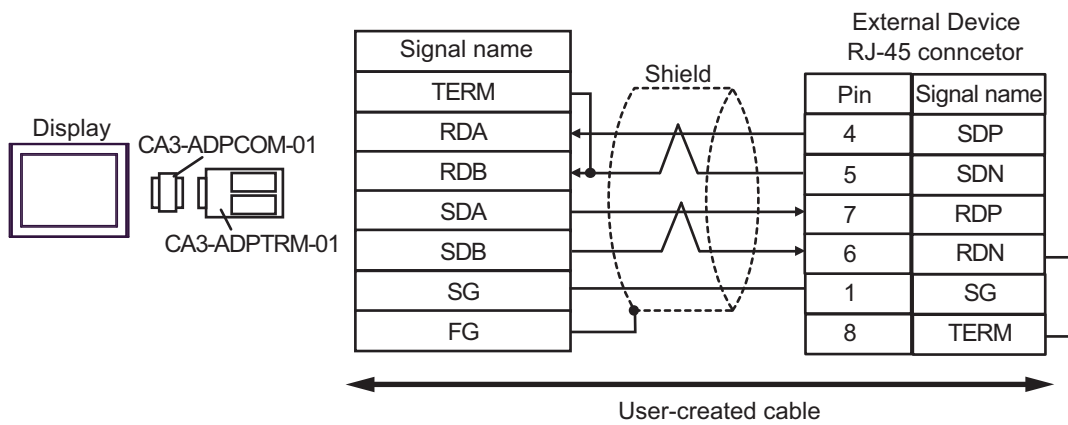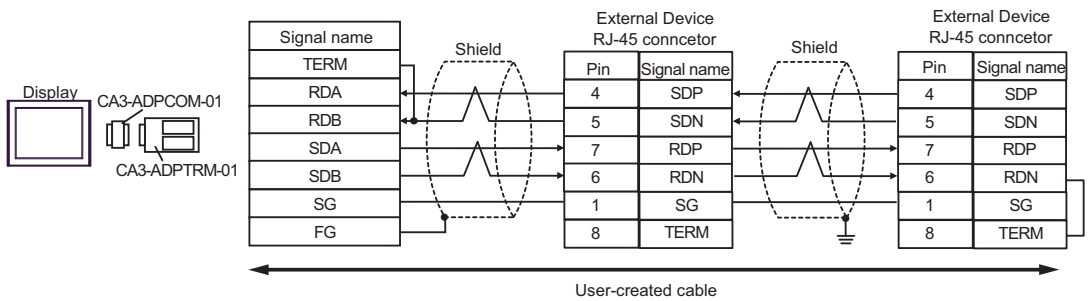
NOTE	• Cable length: 500m or less

10B)

• 1:1 Connection

External Device RJ-45 conncetor

Terminal resistance 120 Ω (1/2W)

D-Sub 9 pin (socket)

Shield

Display

Pin	Signal name
1	RDA
2	RDB
3	SDA
7	SDB
5	SG
4	ERA
8	CSA
9	ERB
6	CSB
Shell	FG

Pin	Signal name
4	SDP
5	SDN
7	RDP
6	RDN
1	SG
8	TERM

• 1:n Connection

Terminal resistance 120 Ω (1/2W)

D-Sub 9 pin (socket)

Shield

External Device RJ-45 conncetor

Shield

External Device RJ-45 conncetor

Display

Pin	Signal name
1	RDA
2	RDB
3	SDA
7	SDB
5	SG
4	ERA
8	CSA
9	ERB
6	CSB
Shell	FG

Pin	Signal name
4	SDP
5	SDN
7	RDP
6	RDN
1	SG
8	TERM

Pin	Signal name
4	SDP
5	SDN
7	RDP
6	RDN
1	SG
8	TERM

NOTE	• Cable length: 500m or less

10C)

- 1:1 Connection

External Device
RJ-45 conncetor

Signal name
TERM
RDA
RDB
SDA
SDB
SG
FG

Pin	Signal name
4	SDP
5	SDN
7	RDP
6	RDN
1	SG
8	TERM

User-created cable

- 1:n Connection

User-created cable
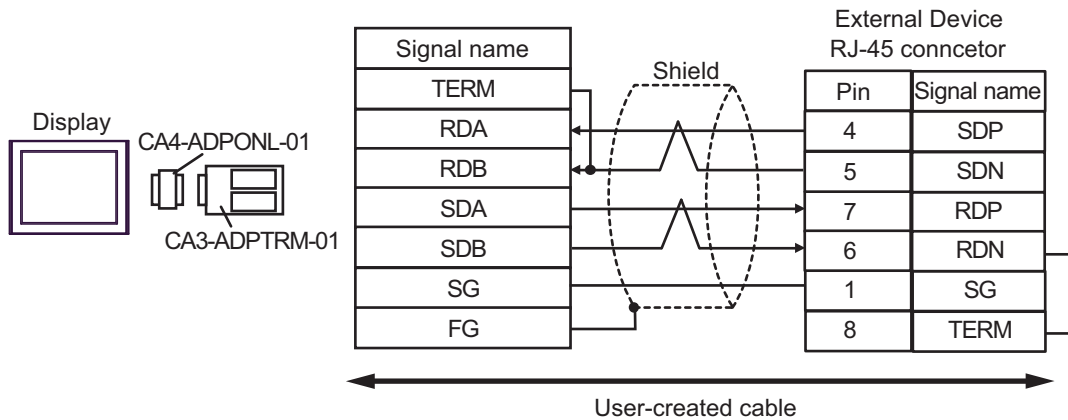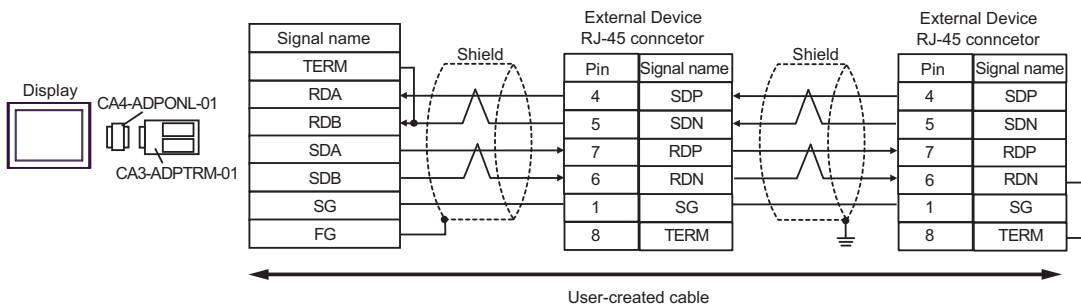
NOTE	• Cable length: 500m or less

10D)

• 1:1 Connection
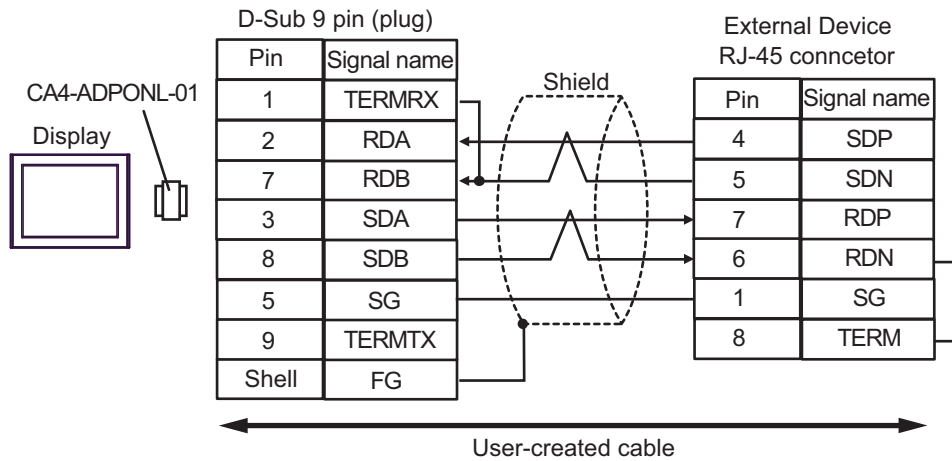
• 1:n Connection
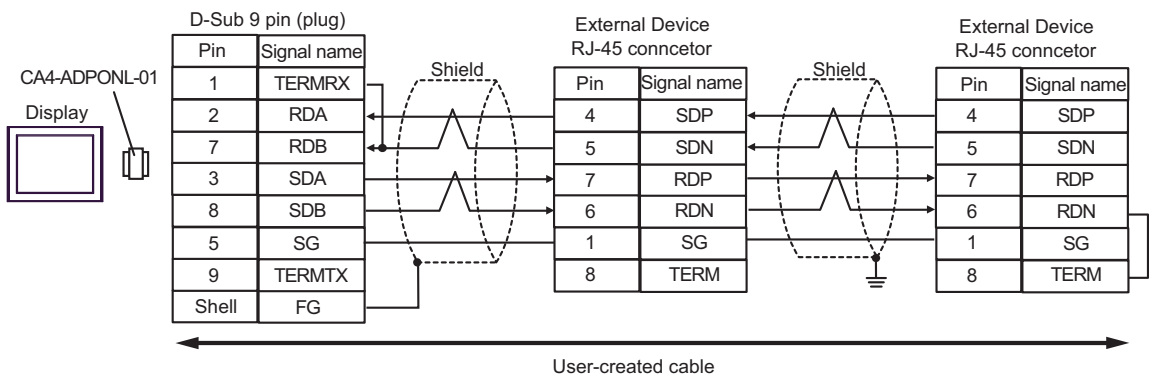
NOTE	• Cable length: 500m or less

10E)

- 1:1 Connection
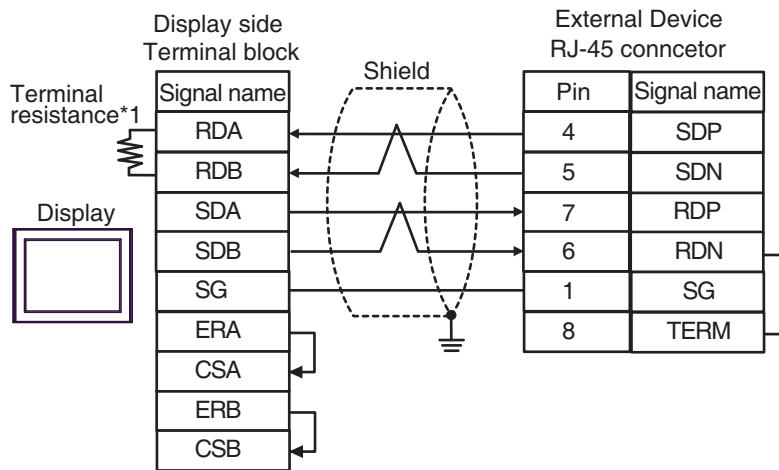
- 1:n Connection
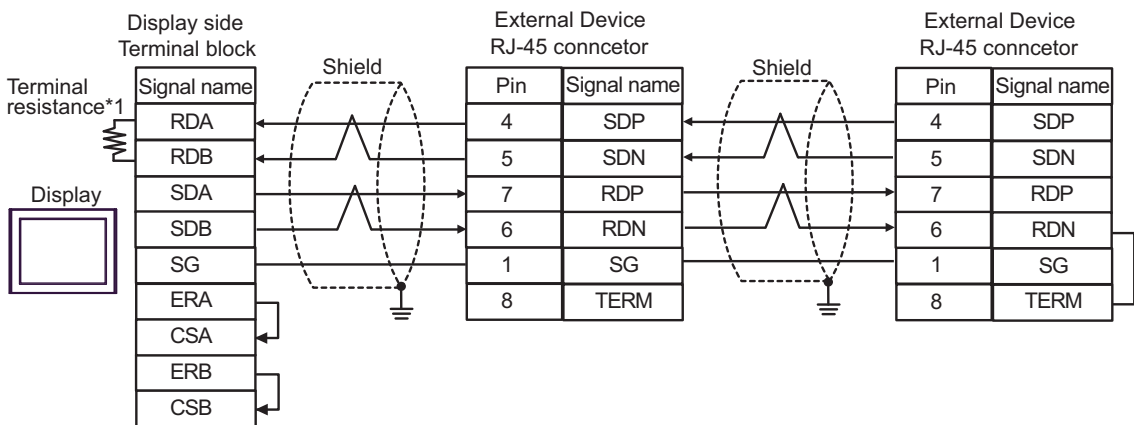
| NOTE | • Cable length: 500m or less |

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

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

10F)

• 1:1 Connection

External Device RJ-45 conncetor

Signal name		Pin	Signal name
TERM			
RDA		4	SDP
RDB		5	SDN
SDA		7	RDP
SDB		6	RDN
SG		1	SG
FG		8	TERM

User-created cable

• 1:n Connection

User-created cable
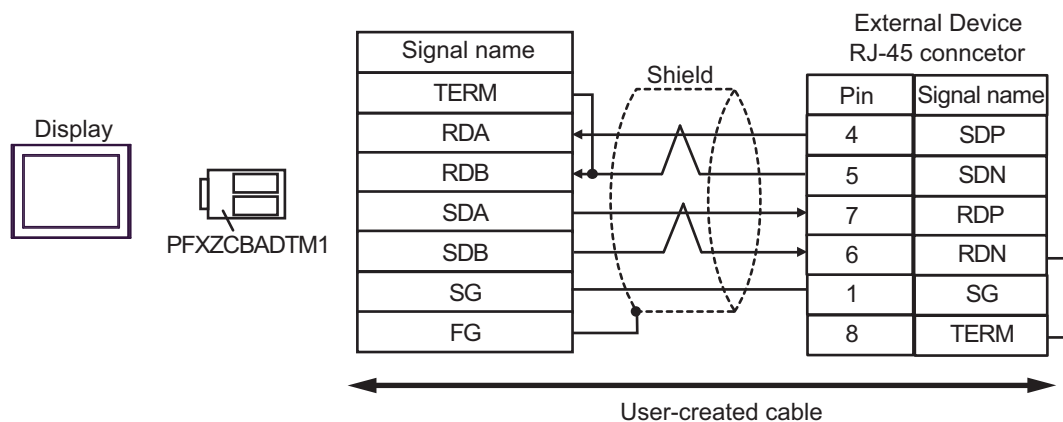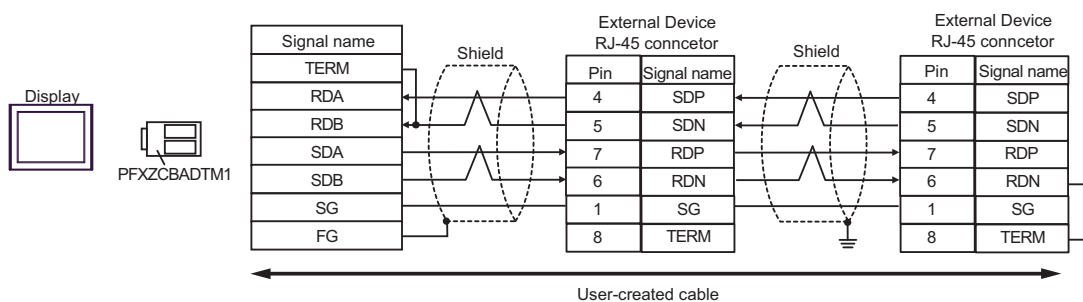
NOTE
• Cable length: 500m or less

10G)

- 1:1 Connection

	D-Sub 9 pin (socket)			External Device RJ-45 conncetor	
Terminal resistance 120 Ω (1/2W)	Pin	Signal name	Shield	Pin	Signal name
	3	Rx+		4	SDP
	4	Rx-		5	SDN
Display	2	Tx+		7	RDP
	1	Tx-		6	RDN
	5	GND		1	SG
	7	NC		8	TERM
	8	NC			
	9	NC			
	6	NC			
	Shell	FG			

- 1:n Connection

	D-Sub 9 pin (socket)		Shield	External Device RJ-45 conncetor		Shield	External Device RJ-45 conncetor	
Terminal resistance 120 Ω (1/2W)	Pin	Signal name		Pin	Signal name		Pin	Signal name
	3	Rx+		4	SDP		4	SDP
	4	Rx-		5	SDN		5	SDN
Display	2	Tx+		7	RDP		7	RDP
	1	Tx-		6	RDN		6	RDN
	5	GND		1	SG		1	SG
	7	NC		8	TERM		8	TERM
	8	NC						
	9	NC						
	6	NC						
	Shell	FG						

NOTE
- Cable length: 500m or less

5.11 Cable Diagram 11

Display (Connection Port)		Cable	Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	11A	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
	11B	User-created cable	
GP3000[*3] (COM2)	11C	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
	11D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	11E	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
	11F	User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	11G	User-created cable	Cable length: 500m or less
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	11H	User-created cable	Cable length: 500m or less
GP4000[*6] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*7] (COM1/2) SP-5B00 (COM2) ST6000[*8] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*9] (COM2) PS6000 (Basic Box) (COM1/2)	11I	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*10] + User-created cable	Cable length: 500m or less
	11B	User-created cable	

Display (Connection Port)		Cable	Remarks
LT-4*01TM (COM1) LT-Rear Module (COM1)	11J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	Cable length: 200m or less
PE-4000B[*11] PS5000[*11] PS6000 (Optional Interface)[*11]	11K	User-created cable	Cable length: 500m or less

*1   All GP3000 models except AGP-3302B

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

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

*4   Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B, PS5000, and PS6000)
■ IPC COM Port (page 9)

*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 11A.

*11 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
■ IPC COM Port (page 9)

11A)

- 1:1 Connection

Signal name		External Device RJ-45 conncetor	
TERM	Shield	Pin	Signal name
RDA		4	SDP
RDB		5	SDN
SDA		7	RDP
SDB		6	RDN
SG		1	SG
FG		8	TERM

Display
CA3-ADPCOM-01
CA3-ADPTRM-01

User-created cable

- 1:n Connection

Signal name		External Device RJ-45 conncetor			External Device RJ-45 conncetor	
TERM	Shield	Pin	Signal name	Shield	Pin	Signal name
RDA		4	SDP		4	SDP
RDB		5	SDN		5	SDN
SDA		7	RDP		7	RDP
SDB		6	RDN		6	RDN
SG		1	SG		1	SG
FG		8	TERM		8	TERM

Display
CA3-ADPCOM-01
CA3-ADPTRM-01

User-created cable

NOTE	• Cable length: 500m or less

11B)

- 1:1 Connection

	D-Sub 9 pin (socket)			External Device RJ-45 conncetor	
	Pin	Signal name		Pin	Signal name
	1	RDA		4	SDP
	2	RDB		5	SDN
	3	SDA		7	RDP
	7	SDB		6	RDN
	5	SG		1	SG
	4	ERA		8	TERM
	8	CSA			
	9	ERB			
	6	CSB			
	Shell	FG			

Terminal resistance 120 Ω (1/2W)

Display

Shield

- 1:n Connection

Terminal resistance 120 Ω (1/2W)

Display

D-Sub 9 pin (socket)		External Device RJ-45 conncetor		External Device RJ-45 conncetor	
Pin	Signal name	Pin	Signal name	Pin	Signal name
1	RDA	4	SDP	4	SDP
2	RDB	5	SDN	5	SDN
3	SDA	7	RDP	7	RDP
7	SDB	6	RDN	6	RDN
5	SG	1	SG	1	SG
4	ERA	8	TERM	8	TERM
8	CSA				
9	ERB				
6	CSB				
Shell	FG				

Shield

NOTE	• Cable length: 500m or less

11C)

- 1:1 Connection
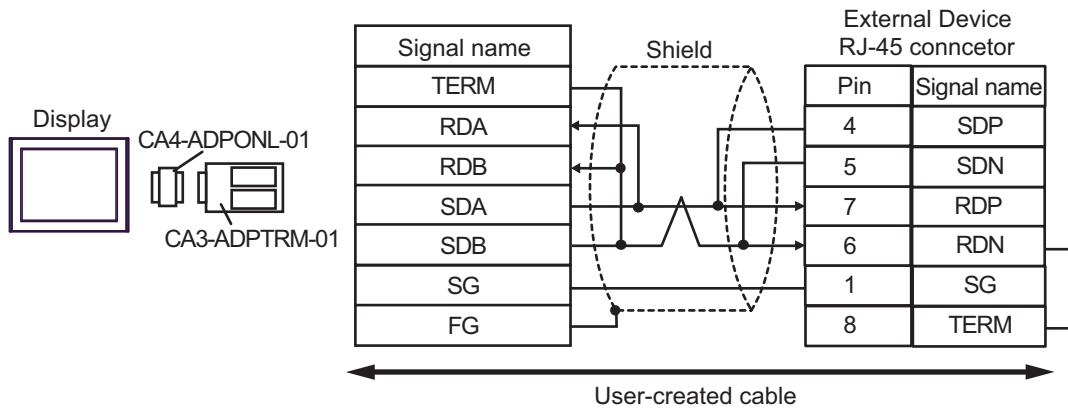
- 1:n Connection

NOTE	• Cable length: 500m or less

11D)

- 1:1 Connection

User-created cable

- 1:n Connection

User-created cable
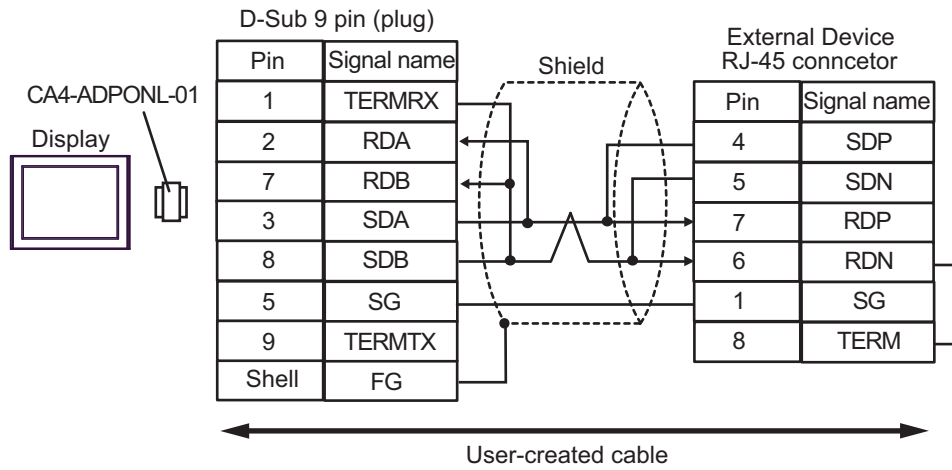
| NOTE | • Cable length: 500m or less |

11E)

• 1:1 Connection

Signal name		External Device RJ-45 conncetor	
	Shield	Pin	Signal name
TERM			
RDA		7	RDP
RDB		6	RDN
SDA		4	SDP
SDB		5	SDN
SG		1	SG
FG		8	TERM

Display
CA3-ADPCOM-01
CA3-ADPTRM-01

User-created cable

• 1:n Connection

Display
CA3-ADPCOM-01
CA3-ADPTRM-01

User-created cable
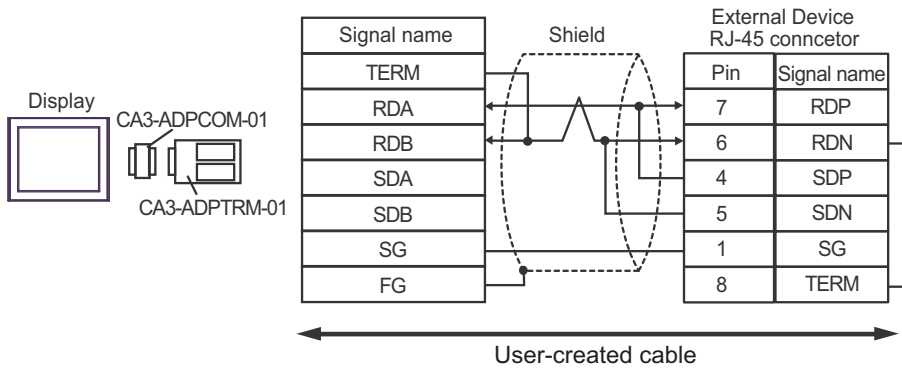
NOTE	• Cable length: 500m or less

11F)

• 1:1 Connection

External Device
RJ-45 conncetor

D-Sub 9 pin (socket)

Terminal
resistance
120Ω (1/2W)

Shield

Pin	Signal name
1	DATA+
2	DATA-
3	NC
7	NC
5	GND(SG)
4	ERA
8	CSA
9	ERB
6	CSB
Shell	FG

Display

Pin	Signal name
7	RDP
6	RDN
4	SDP
5	SDN
1	SG
8	TERM

• 1:n Connection

D-Sub 9 pin (socket)

Terminal
resistance
120Ω (1/2W)

Shield

External Device
RJ-45 conncetor

Shield

External Device
RJ-45 conncetor

Pin	Signal name
1	DATA+
2	DATA-
3	NC
7	NC
5	GND(SG)
4	ERA
8	CSA
9	ERB
6	CSB
Shell	FG

Display

Pin	Signal name
7	RDP
6	RDN
4	SDP
5	SDN
1	SG
8	TERM

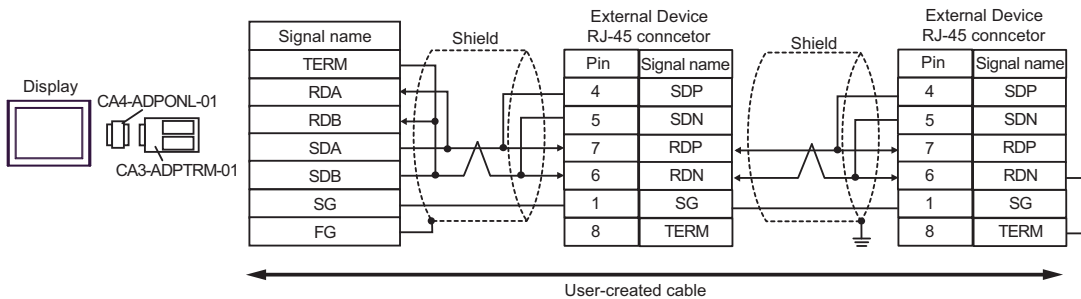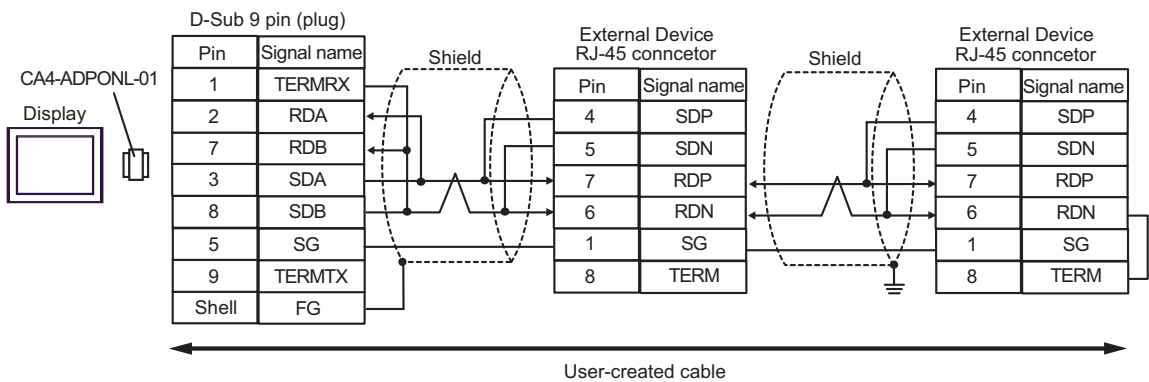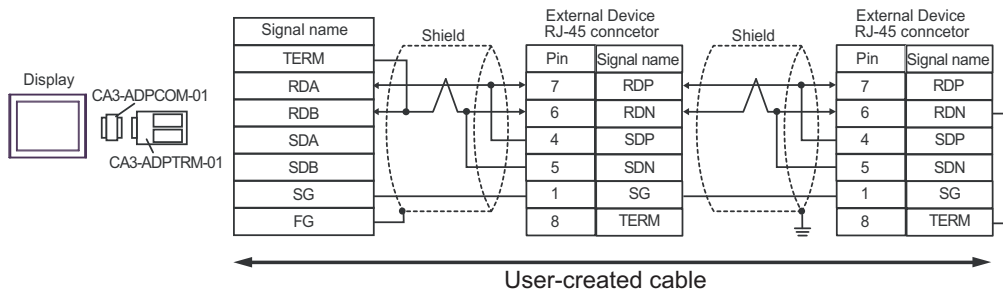| Pin	Signal name
7	RDP
6	RDN
4	SDP
5	SDN
1	SG
8	TERM

NOTE • Cable length: 500m or less

11G)

• 1:1 Connection
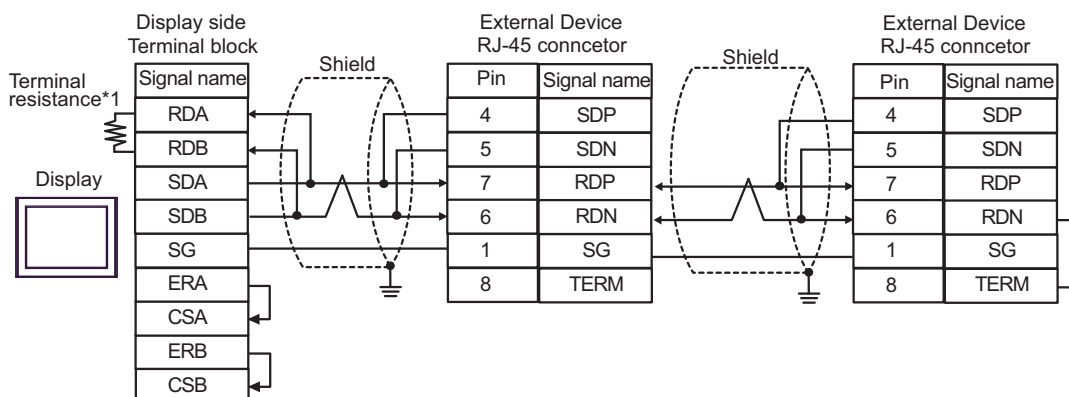
• 1:n Connection

NOTE
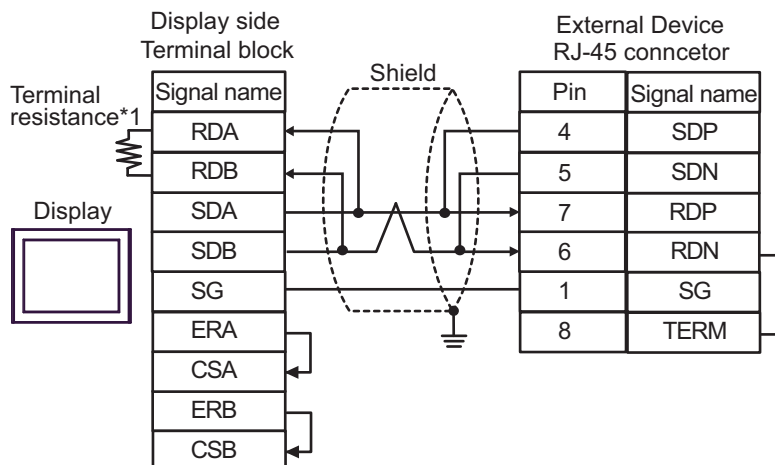• Cable length: 500m or less

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

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

11H)

• 1:1 Connection
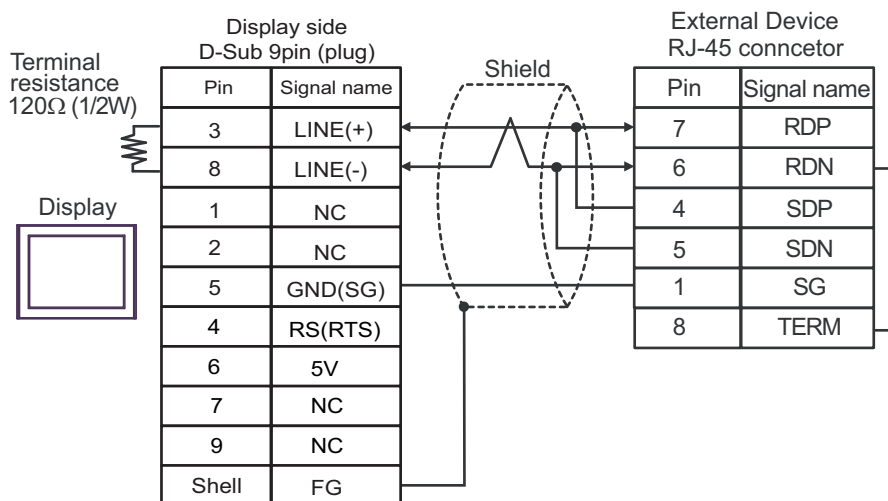
• 1:n Connection
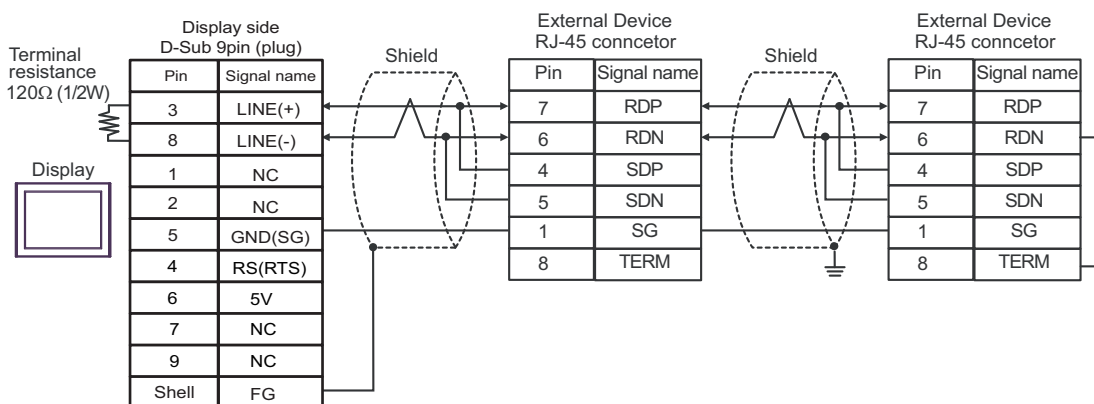
IMPORTANT • The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE • In COM on the GP-4107, the SG and FG terminals are isolated.
• Cable length: 500m or less

11I)

- 1:1 Connection

External Device RJ-45 conncetor

Signal name		Pin	Signal name
TERM			
RDA		4	SDP
RDB		5	SDN
SDA		7	RDP
SDB		6	RDN
SG		1	SG
FG		8	TERM

User-created cable

- 1:n Connection

Signal name		External Device RJ-45 conncetor			External Device RJ-45 conncetor	
		Pin	Signal name		Pin	Signal name
TERM						
RDA		4	SDP		4	SDP
RDB		5	SDN		5	SDN
SDA		7	RDP		7	RDP
SDB		6	RDN		6	RDN
SG		1	SG		1	SG
FG		8	TERM		8	TERM

User-created cable
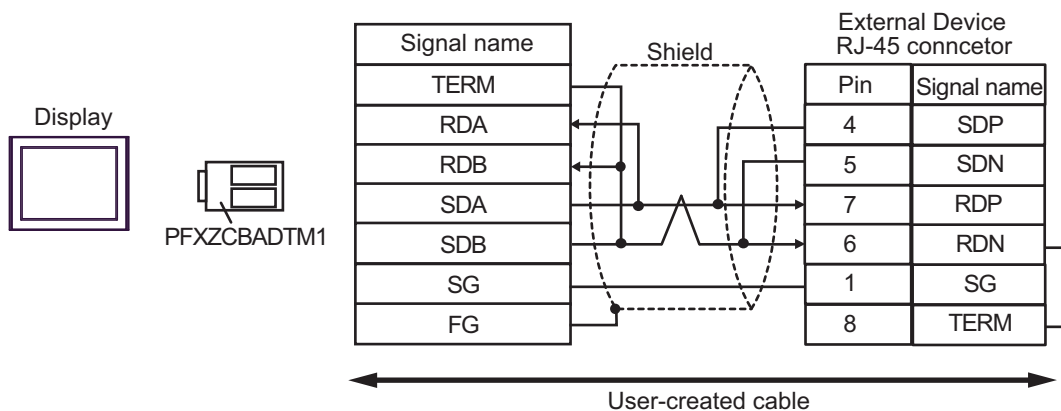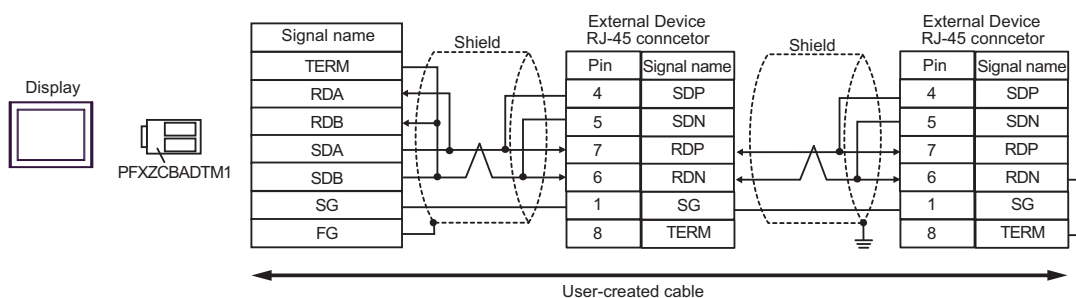
NOTE	• Cable length: 500m or less

11J)

• 1:1 Connection
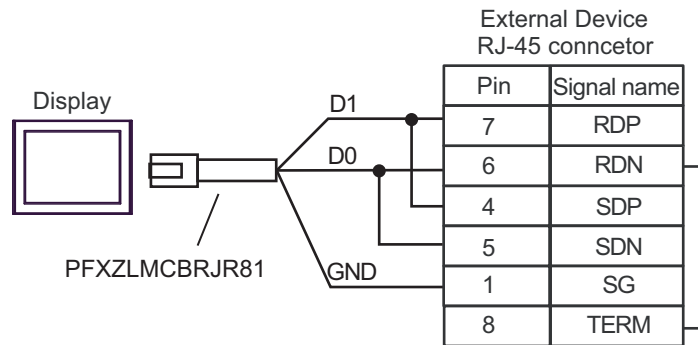
• 1:n Connection

11K)

• 1:1 Connection

External Device
RJ-45 conncetor

	D-Sub 9 pin (socket)		Shield			
Terminal resistance 120Ω (1/2W)	Pin	Signal name			Pin	Signal name
	2	DATA+			7	RDP
	1	DATA-			6	RDN
Display	3	NC			4	SDP
	7	NC			5	SDN
	5	GND			1	SG
	4	NC			8	TERM
	8	NC				
	9	NC				
	6	NC				
	Shell	FG				

• 1:n Connection

	D-Sub 9 pin (socket)		Shield	External Device RJ-45 conncetor		Shield	External Device RJ-45 conncetor	
Terminal resistance 120Ω (1/2W)	Pin	Signal name		Pin	Signal name		Pin	Signal name
	2	DATA+		7	RDP		7	RDP
	1	DATA-		6	RDN		6	RDN
Display	3	NC		4	SDP		4	SDP
	7	NC		5	SDN		5	SDN
	5	GND		1	SG		1	SG
	4	NC		8	TERM		8	TERM
	8	NC						
	9	NC						
	6	NC						
	Shell	FG						

NOTE	• Cable length: 500m or less

5.12 Cable Diagram 12

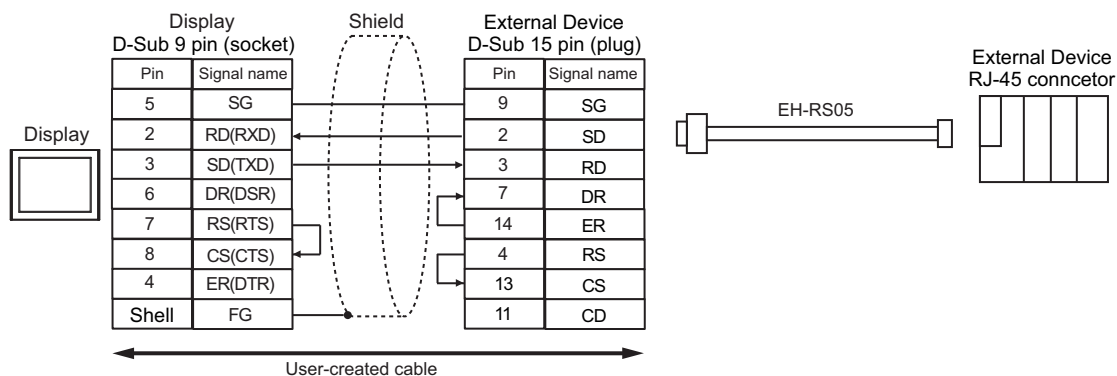| Display (Connection Port)	Cable		Remarks
GP3000 (COM1) GP4000[*1] (COM1) GP6000 (COM1) SP5000[*2] (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC[*3] PC/AT	12A	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05(0.5m)	Cable length: 15m or less
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	12B	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05(0.5m)	Cable length: 15m or less
LT-4*01TM (COM1) LT-Rear Module (COM1)	12C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21 + Conversion cable by Hitachi IES Co., Ltd. EH-RS05(0.5m)	Cable length: 15m or less

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

*2   Except SP-5B00

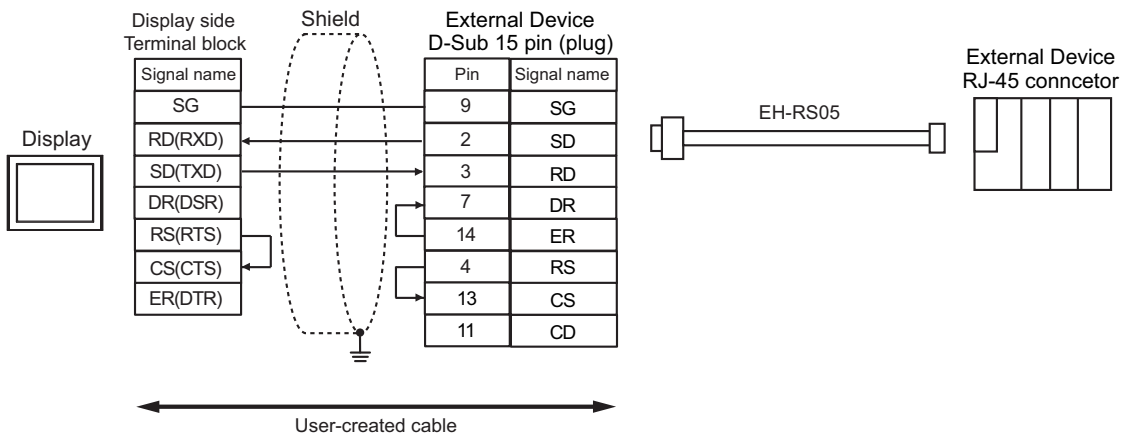*3   Only the COM port which can communicate by RS-232C can be used.
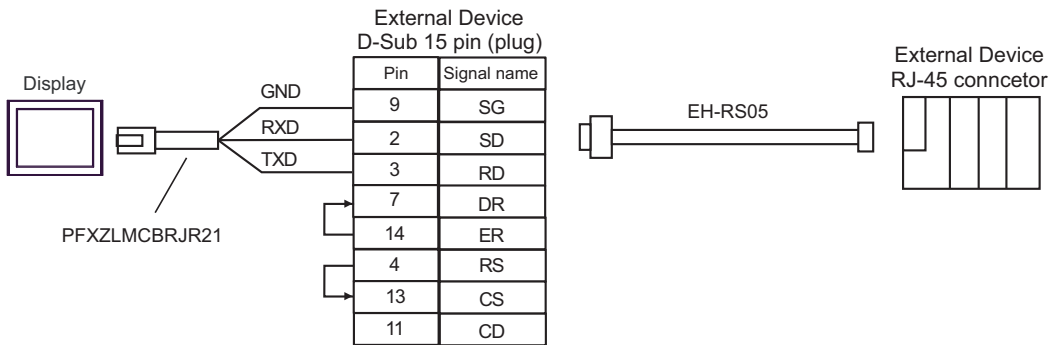■ IPC COM Port (page 9)

12A)

User-created cable

NOTE	• Cable length: 15m or less

12B)

Display side Terminal block / Shield / External Device D-Sub 15 pin (plug)

External Device RJ-45 conncetor

Signal name		Pin	Signal name
SG		9	SG
RD(RXD)		2	SD
SD(TXD)		3	RD
DR(DSR)		7	DR
RS(RTS)		14	ER
CS(CTS)		4	RS
ER(DTR)		13	CS
		11	CD

EH-RS05

User-created cable

NOTE • Cable length: 15m or less

12C)

External Device D-Sub 15 pin (plug)

External Device RJ-45 conncetor

	Pin	Signal name
GND	9	SG
RXD	2	SD
TXD	3	RD
	7	DR
	14	ER
	4	RS
	13	CS
	11	CD

EH-RS05

PFXZLMCBRJR21

NOTE • Cable length: 15m or less

5.13 Cable Diagram 13

Display (Connection Port)		Cable	Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1) IPC[*3]	13A	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
	13B	User-created cable	
GP3000[*4] (COM2)	13C	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
	13D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	13E	User-created cable	Cable length: 500m or less
GP4000[*5] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*6] (COM1/2) SP-5B00 (COM2) ST6000[*7] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*8] (COM2) PS6000 (Basic Box) (COM1/2)	13F	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*9] + User-created cable	Cable length: 500m or less
	13B	User-created cable	
PE-4000B[*10] PS5000[*10] PS6000 (Optional Interface)[*10]	13G	User-created cable	Cable length: 500m or less

*1   All GP3000 models except AGP-3302B

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

*3   Only the COM port which can communicate by RS-422/485 (4 wire) can be used. (Except PE-4000B, PS5000, and PS6000)
   ■ IPC COM Port (page 9)

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

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

*6   Except SP-5B00

*7   Except ST-6200

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

*9   When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 13A.

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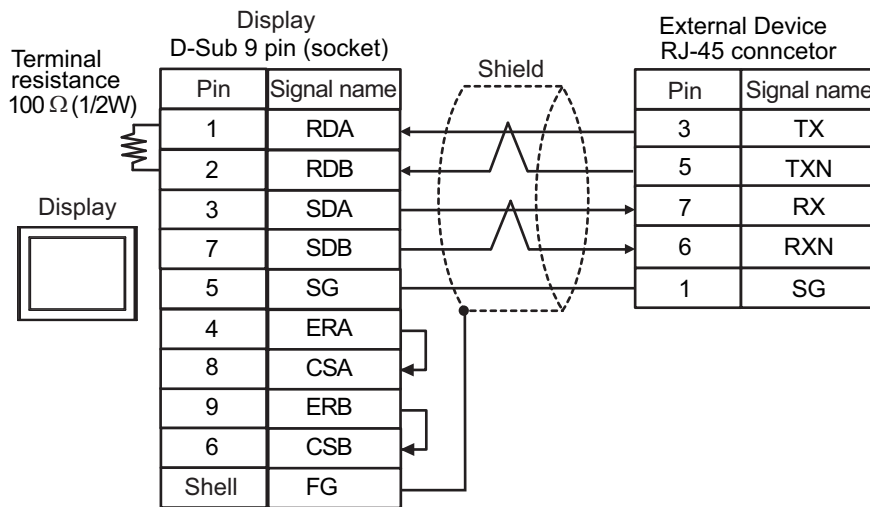
    ■ IPC COM Port (page 9)

13A)

- 1:1 Connection
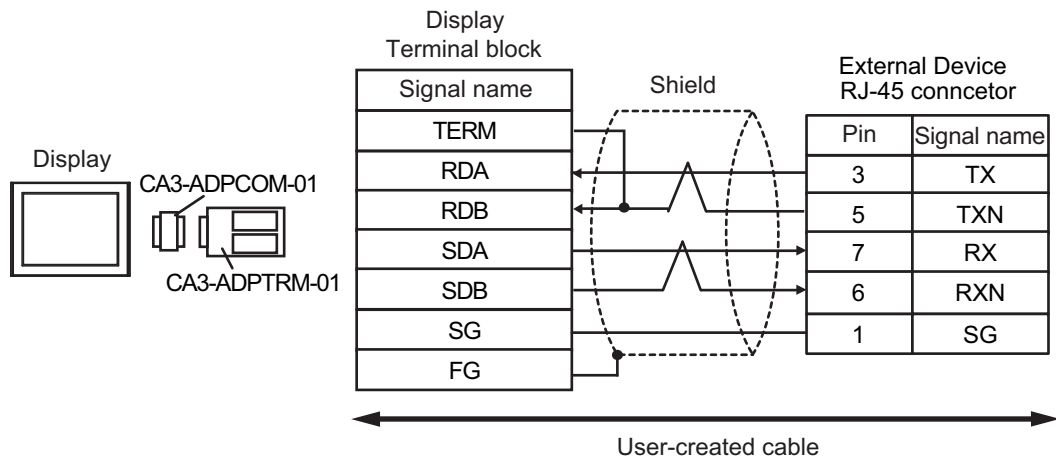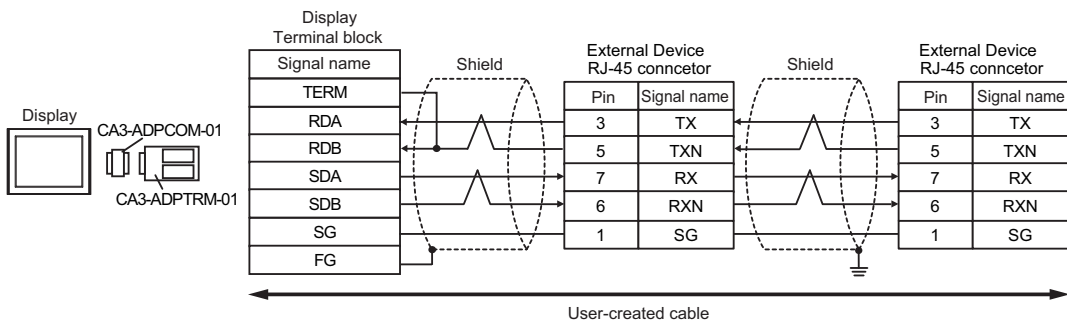
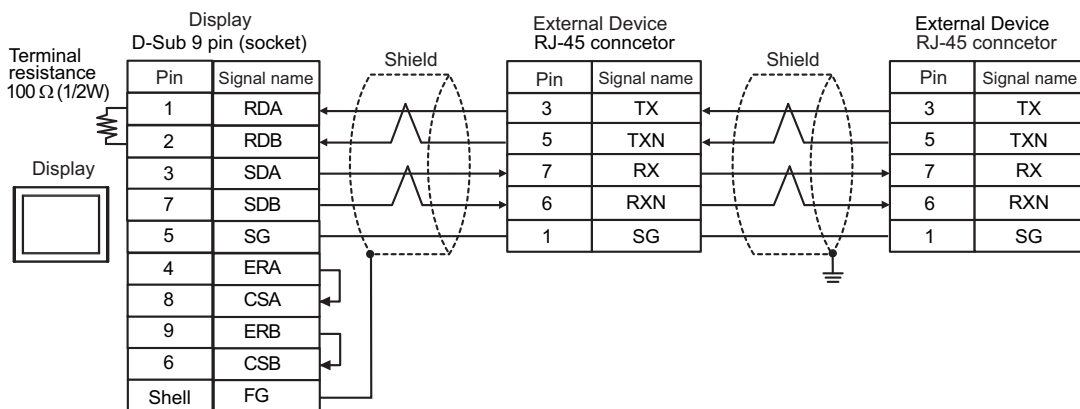User-created cable

- 1:n Connection

User-created cable

NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side. • Cable length: 500m or less

13B)

- 1:1 Connection

- 1:n Connection

NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
	• Cable length: 500m or less

13C)

- • 1:1 Connection

- • 1:n Connection

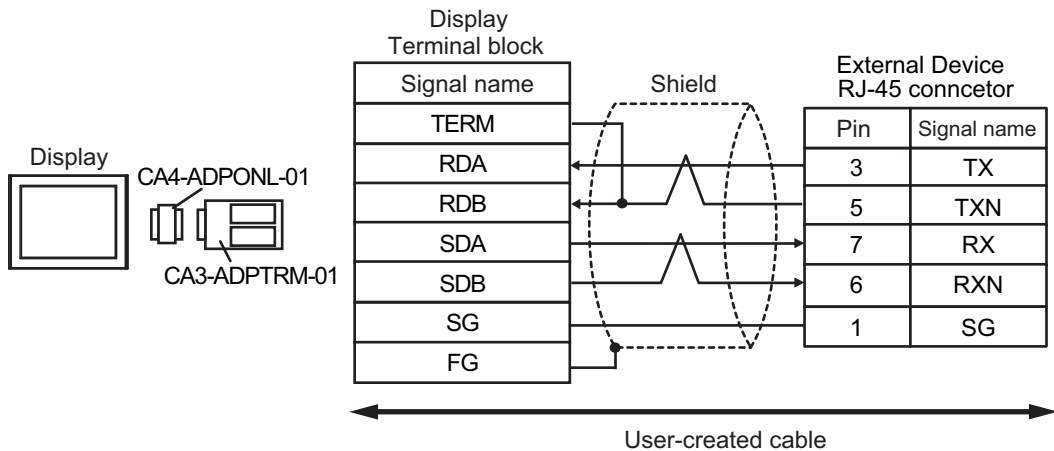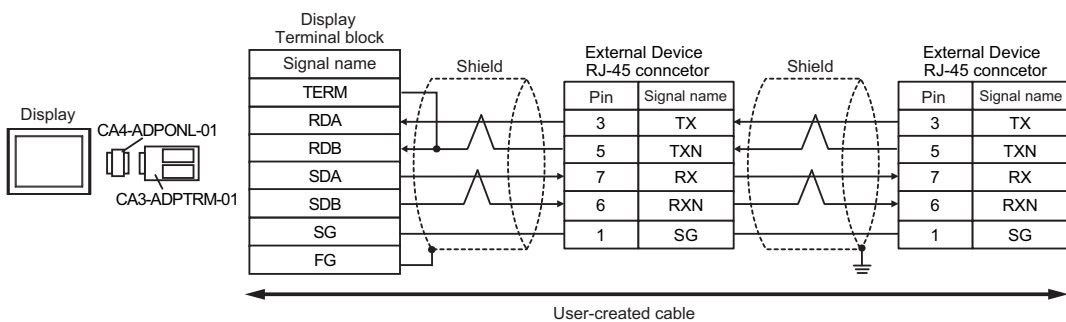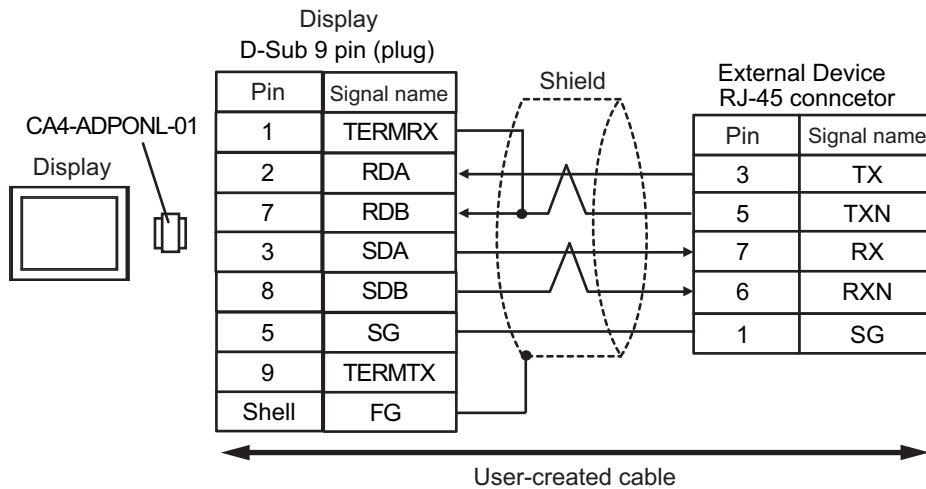| NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side. • Cable length: 500m or less

13D)

- 1:1 Connection

Display
D-Sub 9 pin (plug)

CA4-ADPONL-01

Display

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

Shield

External Device
RJ-45 conncetor

Pin	Signal name
3	TX
5	TXN
7	RX
6	RXN
1	SG

User-created cable

- 1:n Connection

Display
D-Sub 9 pin (plug)

CA4-ADPONL-01

Display

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

Shield

External Device
RJ-45 conncetor

Pin	Signal name
3	TX
5	TXN
7	RX
6	RXN
1	SG

Shield

External Device
RJ-45 conncetor

Pin	Signal name
3	TX
5	TXN
7	RX
6	RXN
1	SG

User-created cable

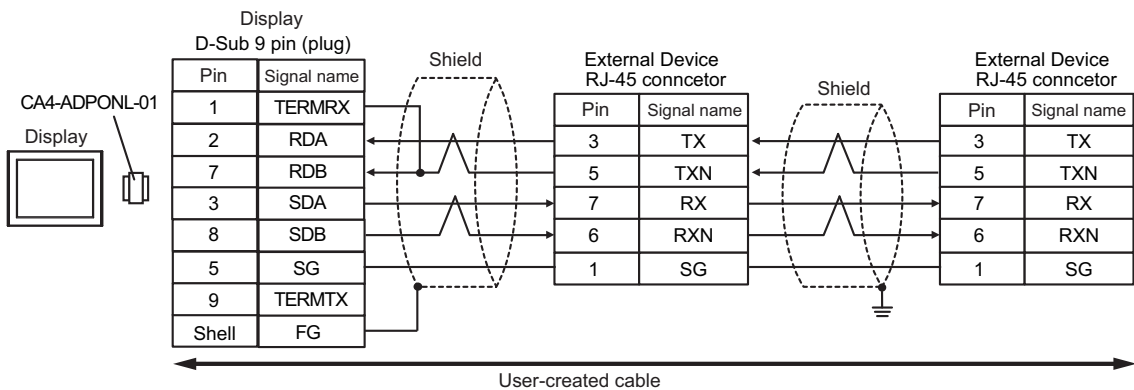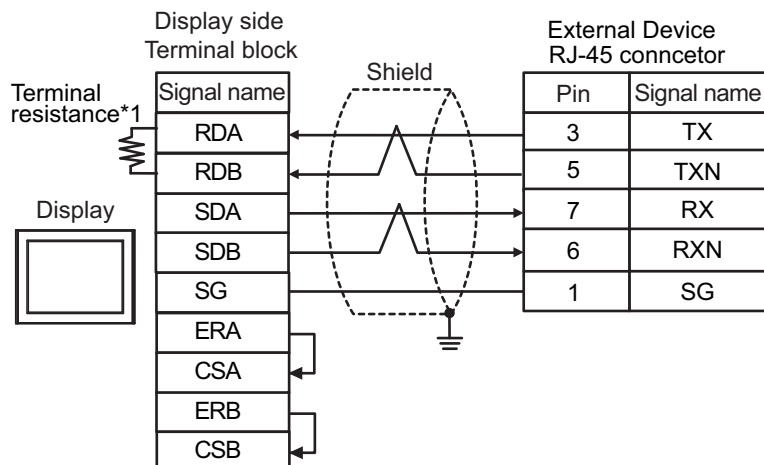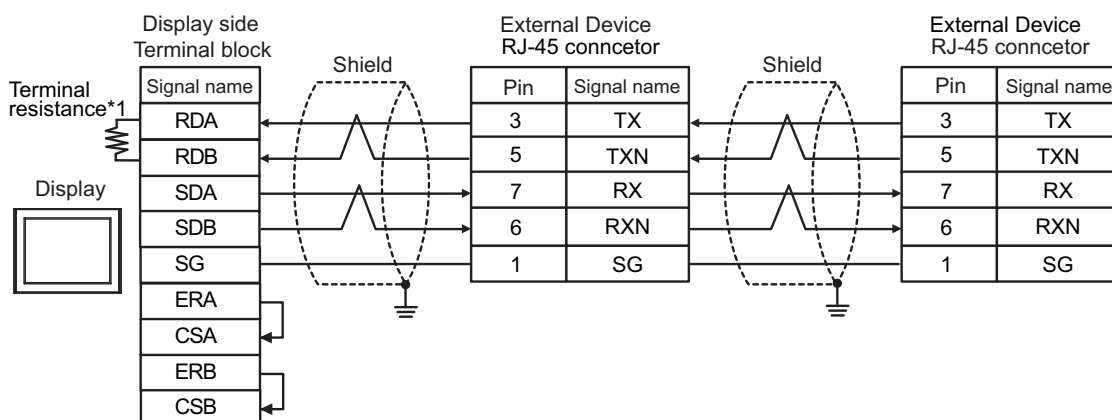| NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
	• Cable length: 500m or less

13E)

- 1:1 Connection
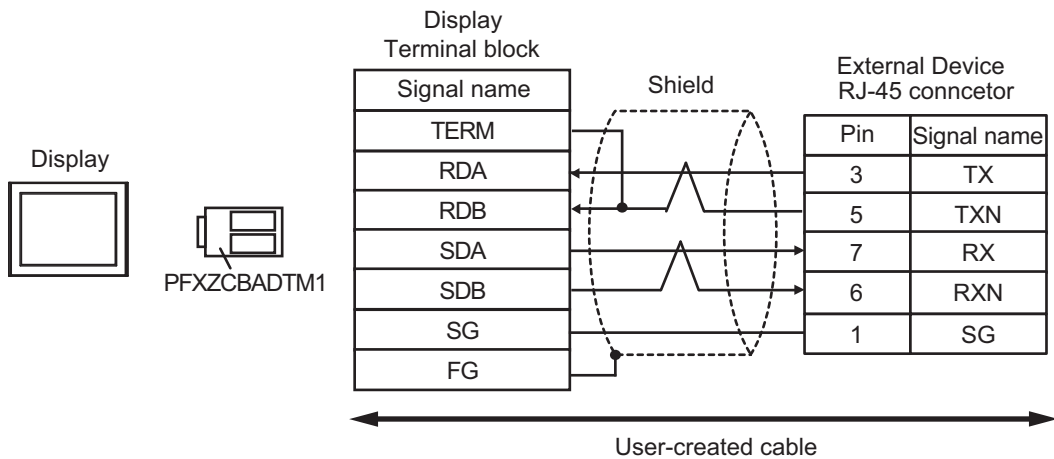

- 1:n Connection

| NOTE | • Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
• Cable length: 500m or less |

*1   The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.
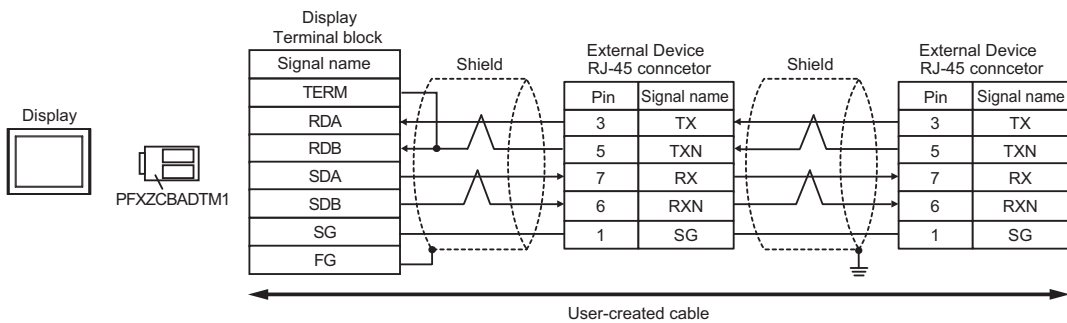
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

13F)

- 1:1 Connection

User-created cable

- 1:n Connection

User-created cable

| NOTE | • Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side. |
| | • Cable length: 500m or less |

13G)

- 1:1 Connection
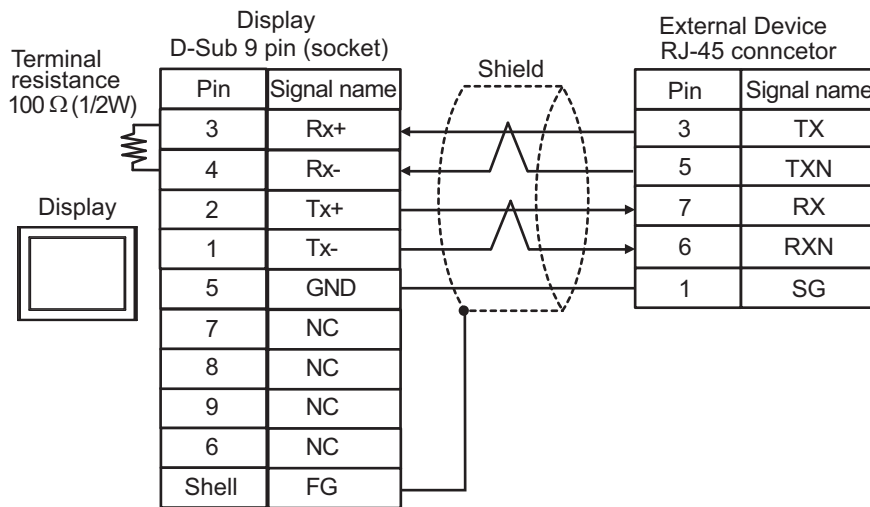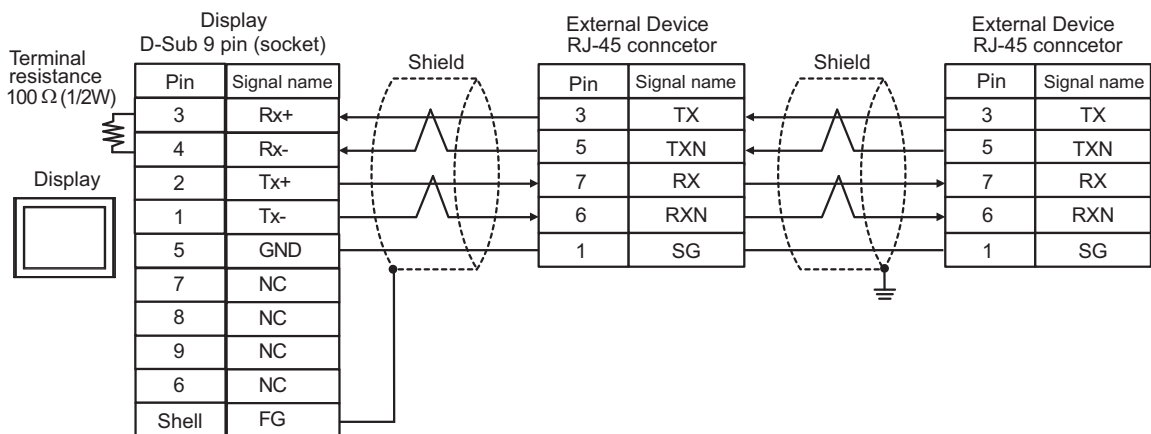

- 1:n Connection

NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
	• Cable length: 500m or less

5.14 Cable Diagram 14

Display (Connection Port)		Cable	Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	14A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	14B	User-created cable	
GP3000[*3] (COM2)	14C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	14D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	14E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	14F	User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	14G	User-created cable	Cable length: 500m or less
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	14H	User-created cable	Cable length: 500m or less
GP4000[*6] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*7] (COM1/2) SP-5B00 (COM2) ST6000[*8] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*9] (COM2) PS6000 (Basic Box) (COM1/2)	14I	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*10] + User-created cable	Cable length: 500m or less
	14B	User-created cable	

Display (Connection Port)		Cable	Remarks
LT-4*01TM (COM1) LT-Rear Module (COM1)	14J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	Cable length: 200m or less
PE-4000B[11] PS5000[11] PS6000 (Optional Interface)[11]	14K	User-created cable	Cable length: 500m or less

*1　　All GP3000 models except AGP-3302B

*2　　Except AST-3211A and AST-3302B

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

*4　　Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B, PS5000, and PS6000)
　　　■ IPC COM Port (page 9)

*5　　Except GP-4203T

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

*7　　Except SP-5B00

*8　　Except ST-6200

*9　　Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.
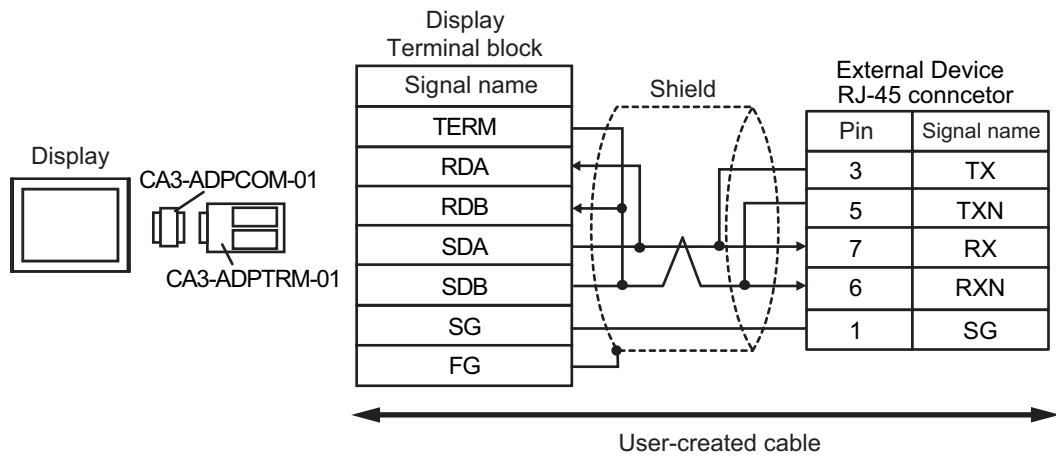
*10　When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 14A.

*11　Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
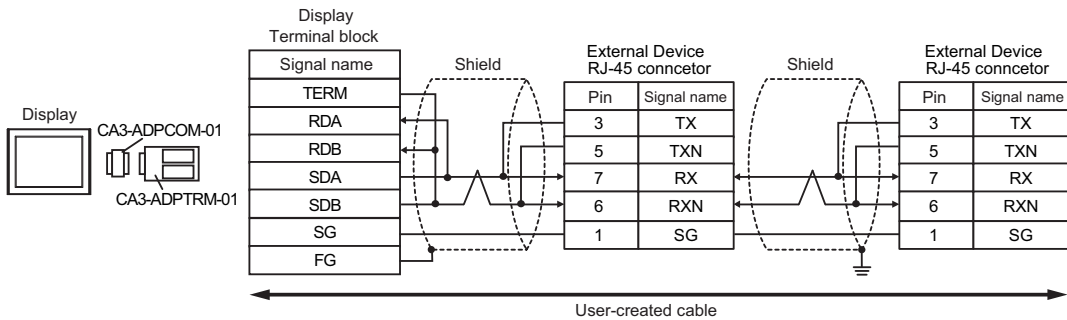　　　■ IPC COM Port (page 9)

14A)

• 1:1 Connection

• 1:n Connection

NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
	• Cable length: 500m or less

14B)

• 1:1 Connection

• 1:n Connection

| NOTE | • Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side. |
| | • Cable length: 500m or less |

14C)

- 1:1 Connection
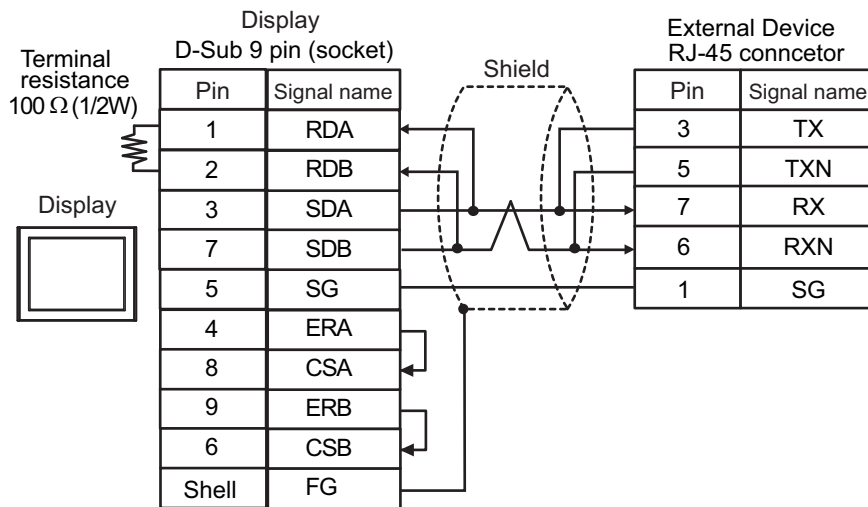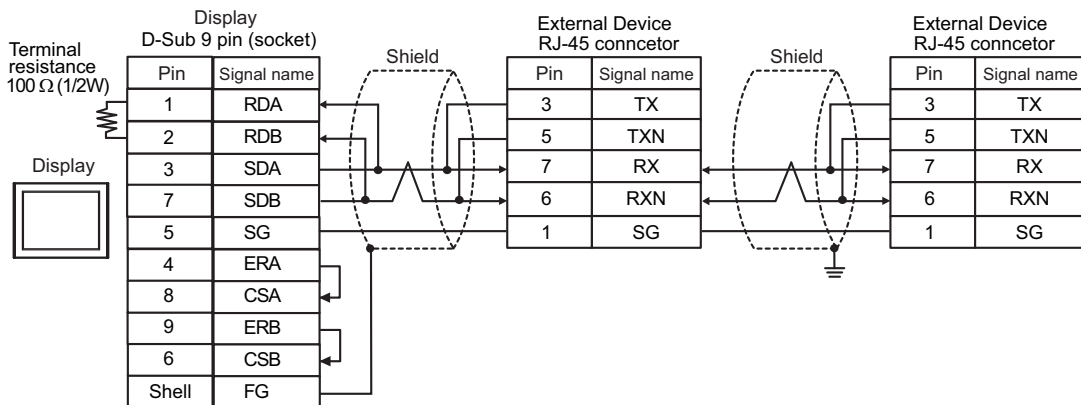

- 1:n Connection

NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
	• Cable length: 500m or less

14D)

- 1:1 Connection

Display
D-Sub 9 pin (plug)

CA4-ADPONL-01
Display

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

Shield

External Device
RJ-45 conncetor

Pin	Signal name
3	TX
5	TXN
7	RX
6	RXN
1	SG

User-created cable

- 1:n Connection

Display
D-Sub 9 pin (plug)

CA4-ADPONL-01
Display

Pin	Signal name
1	TERMRX
2	RDA
7	RDB
3	SDA
8	SDB
5	SG
9	TERMTX
Shell	FG

Shield

External Device
RJ-45 conncetor

Pin	Signal name
3	TX
5	TXN
7	RX
6	RXN
1	SG

Shield

External Device
RJ-45 conncetor

Pin	Signal name
3	TX
5	TXN
7	RX
6	RXN
1	SG

User-created cable

NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
	• Cable length: 500m or less

14E)

- 1:1 Connection

User-created cable

- 1:n Connection

User-created cable

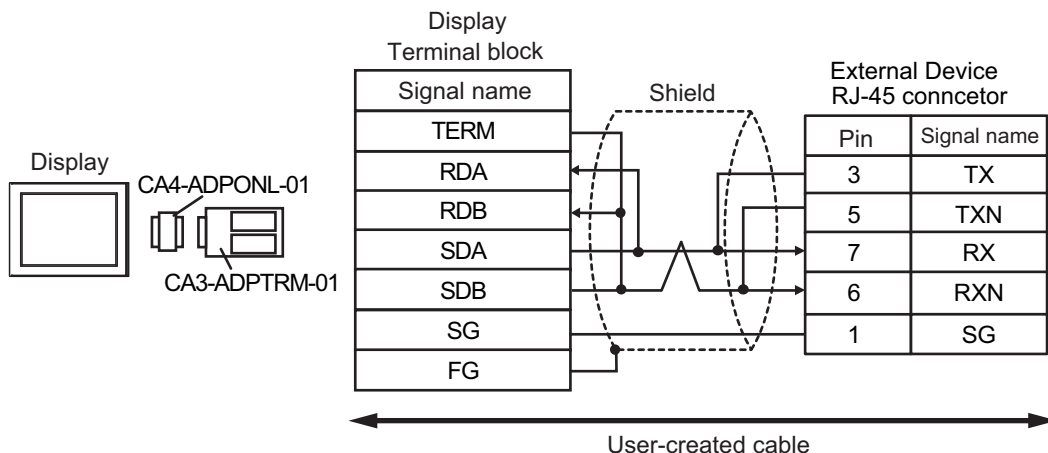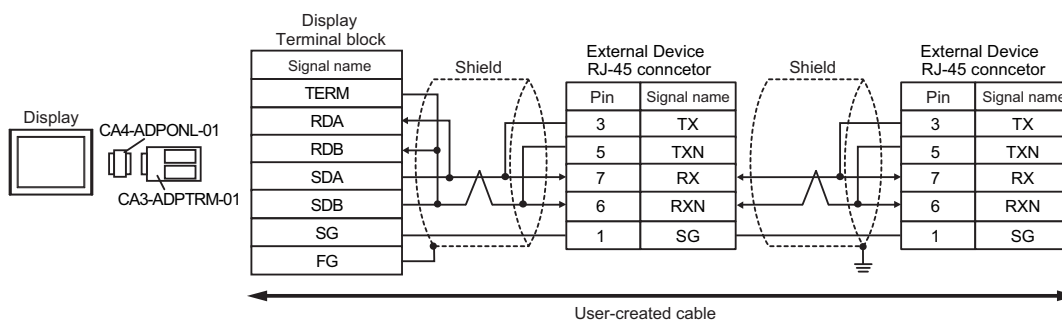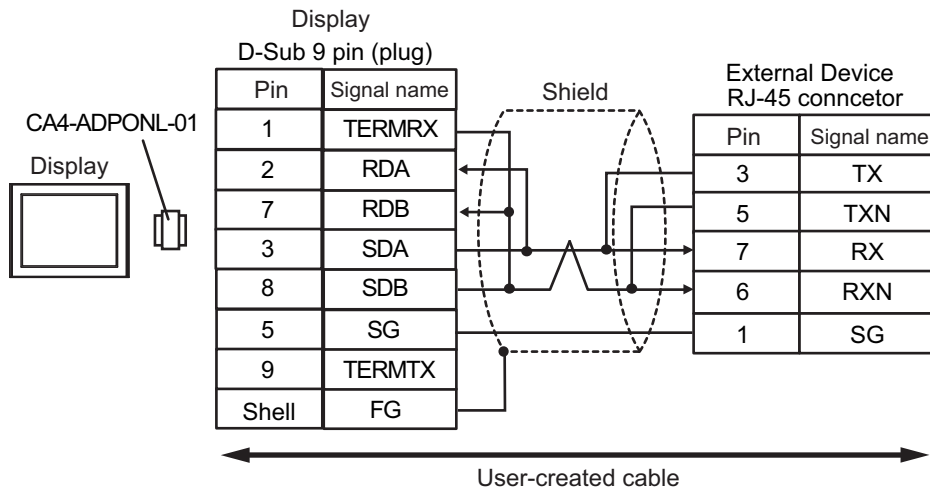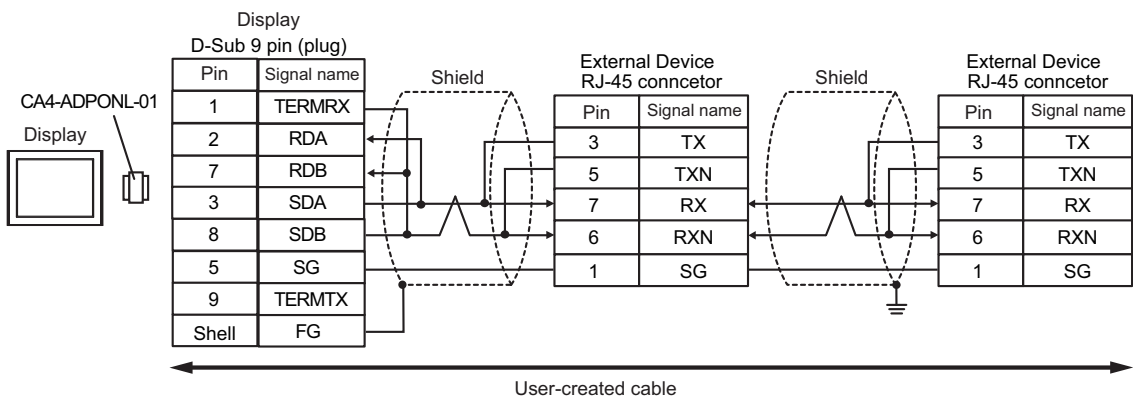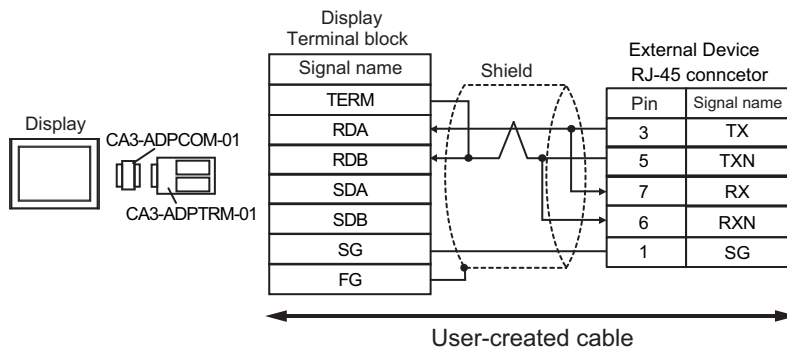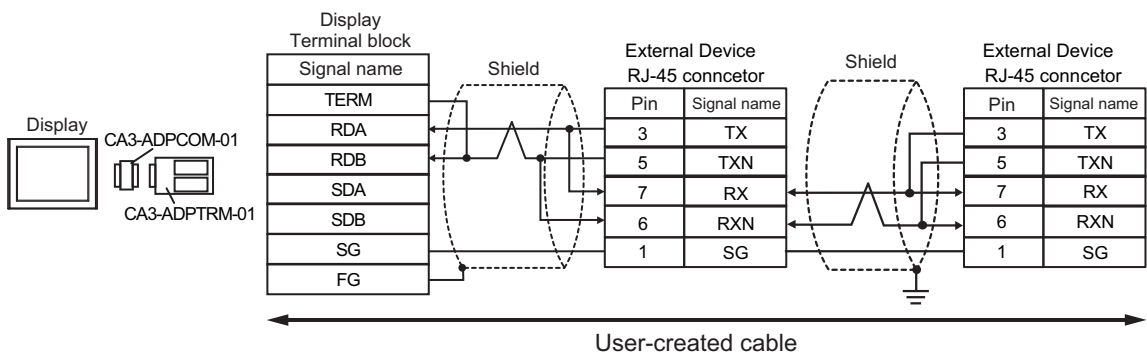| NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side. • Cable length: 500m or less

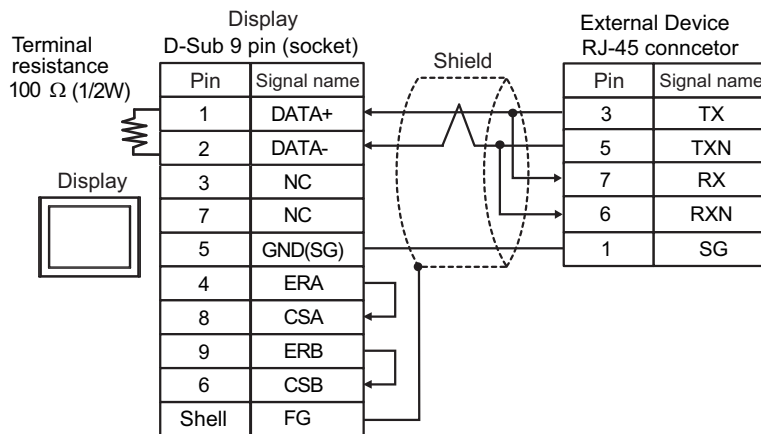14F)

• 1:1 Connection

• 1:n Connection
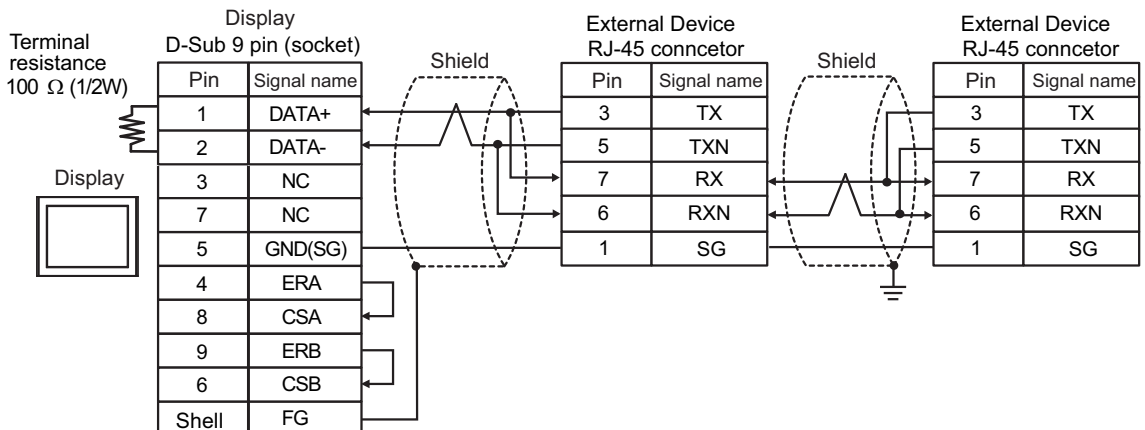
NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
	• Cable length: 500m or less

14G)

- 1:1 Connection

- 1:n Connection

NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
	• Cable length: 500m or less

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

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

14H)

- 1:1 Connection

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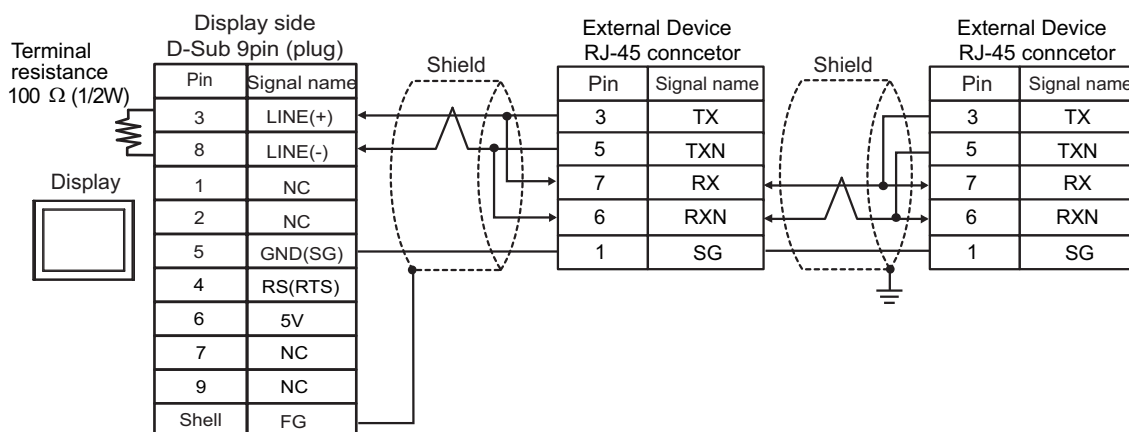
IMPORTANT
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE
- Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
- In COM on the GP-4107, the SG and FG terminals are isolated.
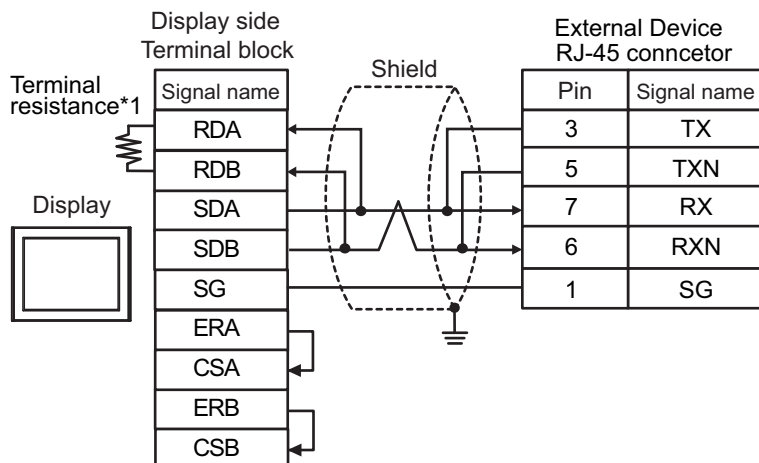- Cable length: 500m or less

14I)
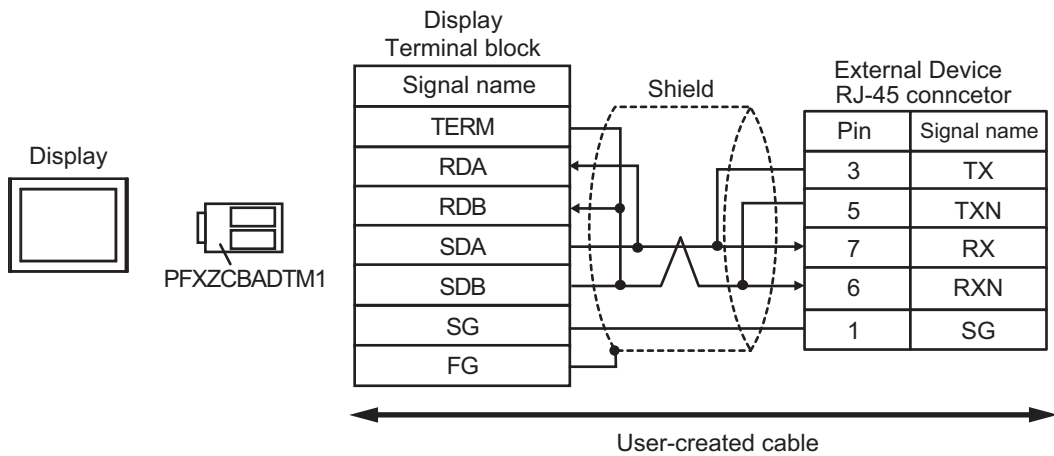
- 1:1 Connection
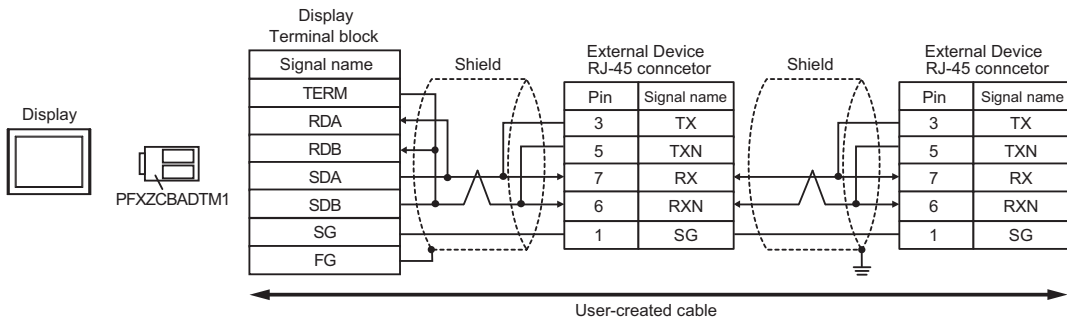
- 1:n Connection

NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
	• Cable length: 500m or less

14J)

- 1:1 Connection

- 1:n Connection

User-created Cable

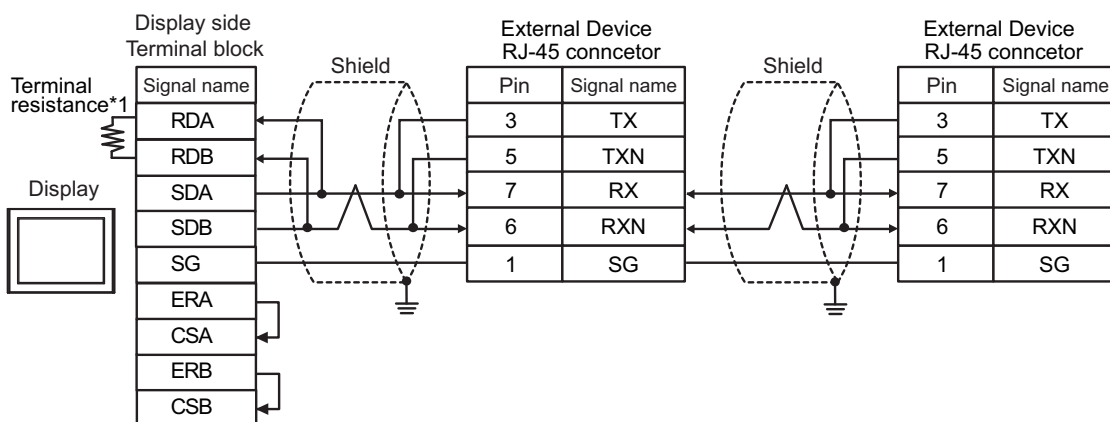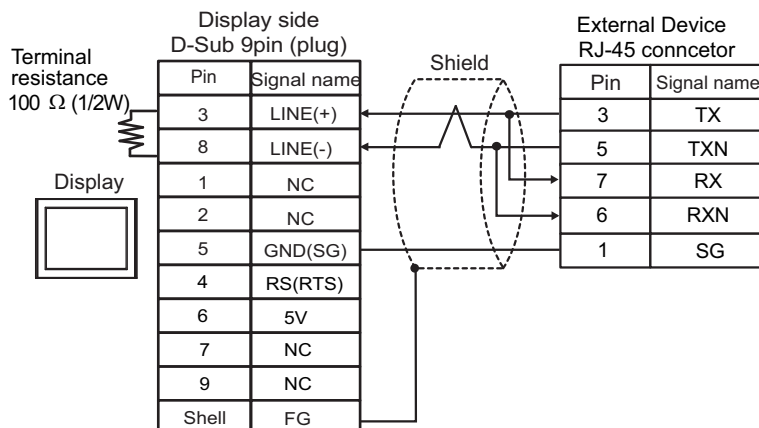| NOTE | • Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side. |

14K)

- 1:1 Connection
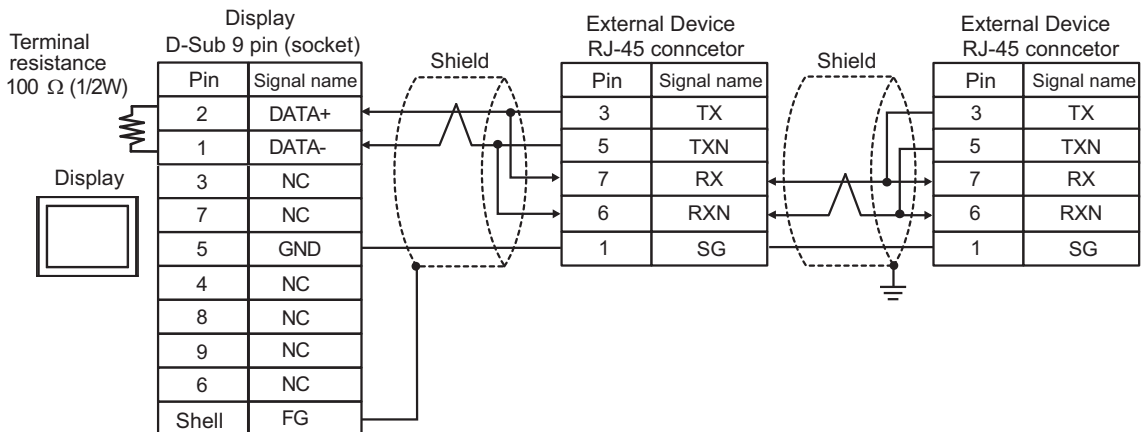
Display
D-Sub 9 pin (socket)

Terminal resistance 100 Ω (1/2W)		
	Pin	Signal name
	2	DATA+
	1	DATA-
	3	NC
	7	NC
	5	GND
	4	NC
	8	NC
	9	NC
	6	NC
	Shell	FG

External Device
RJ-45 conncetor

Pin	Signal name
3	TX
5	TXN
7	RX
6	RXN
1	SG

Shield

Display

- 1:n Connection

Display
D-Sub 9 pin (socket)

Terminal resistance 100 Ω (1/2W)		
	Pin	Signal name
	2	DATA+
	1	DATA-
	3	NC
	7	NC
	5	GND
	4	NC
	8	NC
	9	NC
	6	NC
	Shell	FG

External Device
RJ-45 conncetor

Pin	Signal name
3	TX
5	TXN
7	RX
6	RXN
1	SG

External Device
RJ-45 conncetor

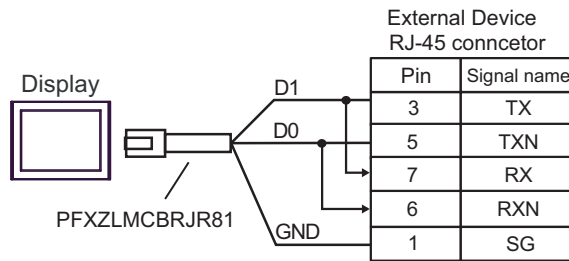| Pin	Signal name
3	TX
5	TXN
7	RX
6	RXN
1	SG

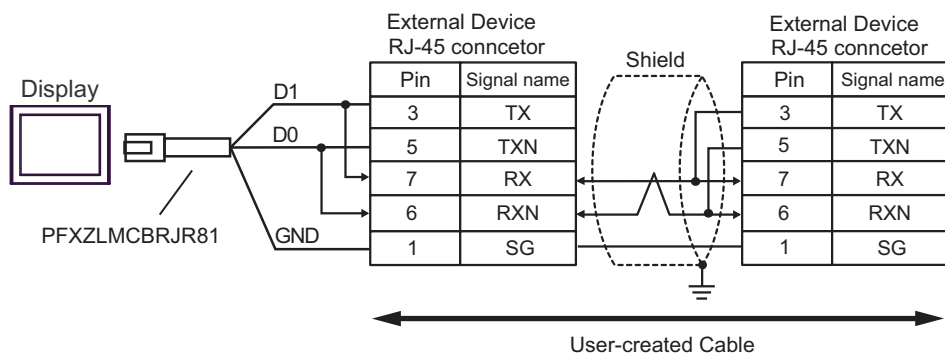Shield

Shield

Display

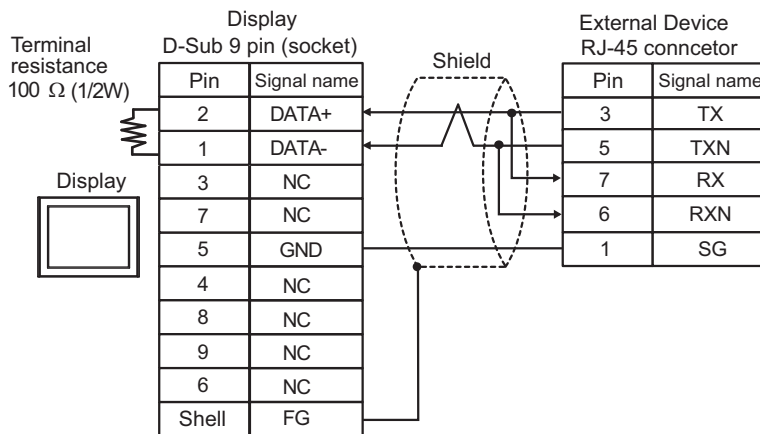| NOTE	• Please turn on the DIP Switch 1 to enable build-in resistance (100Ω) on the remotest External Device side.
	• Cable length: 500m or less

5.15   Cable Diagram 15

Display (Connection Port)		Cable		Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1)	15A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable		Cable length: 500m or less
	15B	User-created cable		
GP3000[*3] (COM2)	15C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable		Cable length: 500m or less
	15D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable		
IPC[*4]	15E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable		Cable length: 500m or less
	15F	User-created cable		
GP-4106 (COM1) GP-4116T (COM1)	15G	User-created cable		Cable length: 500m or less
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	15H	User-created cable		Cable length: 500m or less
GP4000[*6] (COM2) GP-4201T (COM1) GP6000 (COM2) SP5000[*7] (COM1/2) SP-5B00 (COM2) ST6000[*8] (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000[*9] (COM2) PS6000 (Basic Box) (COM1/2)	15I	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1[*10] + User-created cable		Cable length: 500m or less
	15B	User-created cable		

Display (Connection Port)		Cable	Remarks
LT-4*01TM (COM1) LT-Rear Module (COM1)	15J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	Cable length: 200m or less
PE-4000B[*11] PS5000[*11] PS6000 (Optional Interface)[*11]	15K	User-created cable	Cable length: 500m or less

*1   All GP3000 models except AGP-3302B

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

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

*4   Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B, PS5000, and PS6000)
   ■ IPC COM Port (page 9)

*5   Except GP-4203T

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

*7   Except SP-5B00

*8   Except ST-6200

*9   Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.
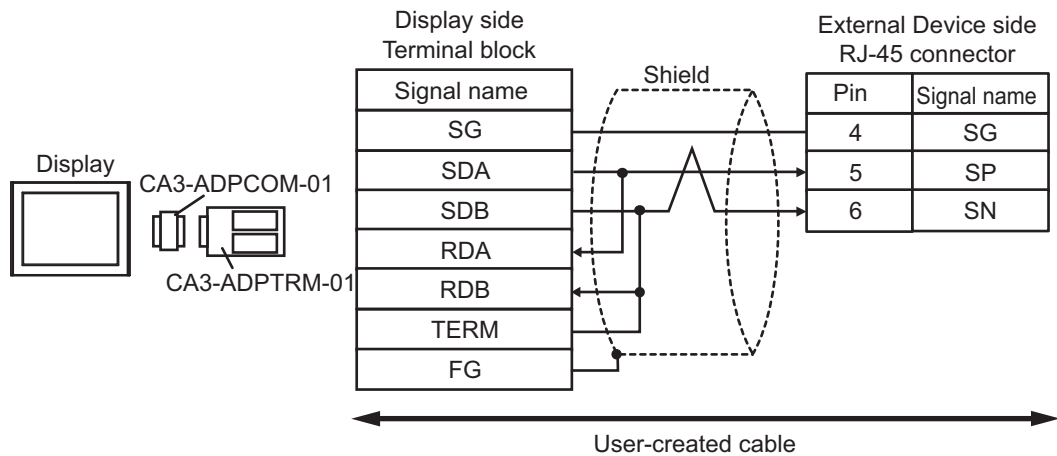
*10   When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 15A.

*11   Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
   ■ IPC COM Port (page 9)

15A)

- 1:1 Connection

Display side
Terminal block

External Device side
RJ-45 connector

Signal name
SG
SDA
SDB
RDA
RDB
TERM
FG

Pin	Signal name
4	SG
5	SP
6	SN

User-created cable

- 1:n Connection

Display side
Terminal block

External Device side
RJ-45 connector

External Device side
RJ-45 connector

Signal name
SG
SDA
SDB
RDA
RDB
TERM
FG

Pin	Signal name
4	SG
5	SP
6	SN

Pin	Signal name
4	SG
5	SP
6	SN

User-created cable

NOTE	• Please turn on the termination resistance switch to enable build-in resistance (120Ω) on the remotest External Device side.

15B)

- 1:1 Connection

- 1:n Connection

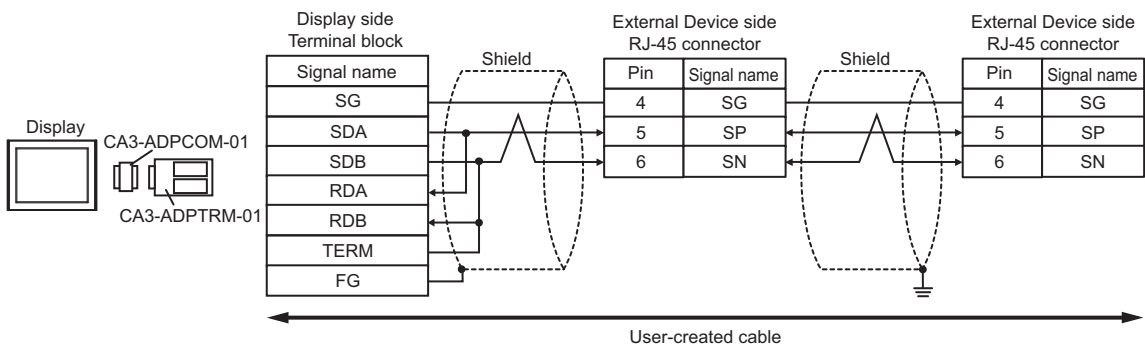| NOTE	• Please turn on the termination resistance switch to enable build-in resistance (120Ω) on the remotest External Device side.

15C)

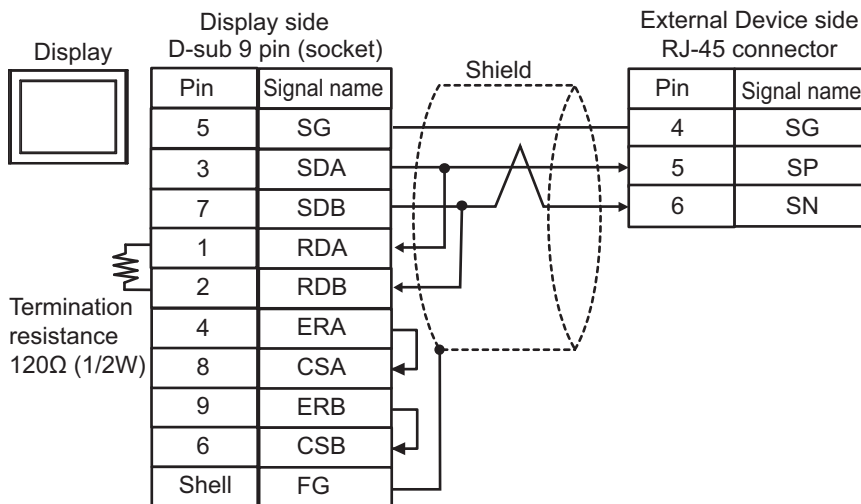• 1:1 Connection

• 1:n Connection

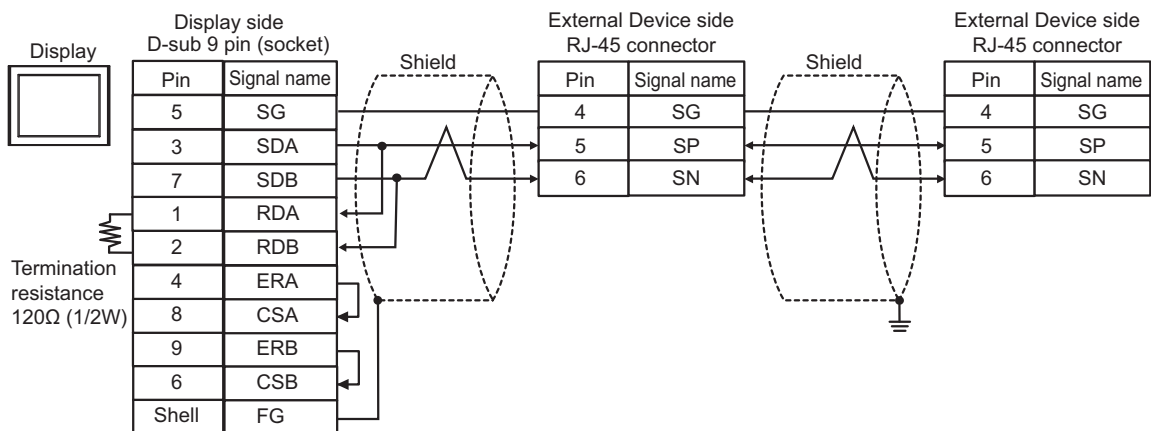| NOTE	• Please turn on the termination resistance switch to enable build-in resistance (120Ω) on the remotest External Device side.

15D)

• 1:1 Connection

External Device side
Display side
D-sub 9 pin (plug)

Pin	Signal name
5	SG
3	SDA
8	SDB
2	RDA
7	RDB
1	TERMRX
9	TERMTX
Shell	FG

External Device side
RJ-45 connector

Pin	Signal name
4	SG
5	SP
6	SN

CA4-ADPONL-01

Display

Shield

User-created cable

• 1:n Connection

Display side
D-sub 9 pin (plug)

Pin	Signal name
5	SG
3	SDA
8	SDB
2	RDA
7	RDB
1	TERMRX
9	TERMTX
Shell	FG

External Device side
RJ-45 connector

Pin	Signal name
4	SG
5	SP
6	SN

External Device side
RJ-45 connector

Pin	Signal name
4	SG
5	SP
6	SN

CA4-ADPONL-01

Display

Shield

Shield

User-created cable

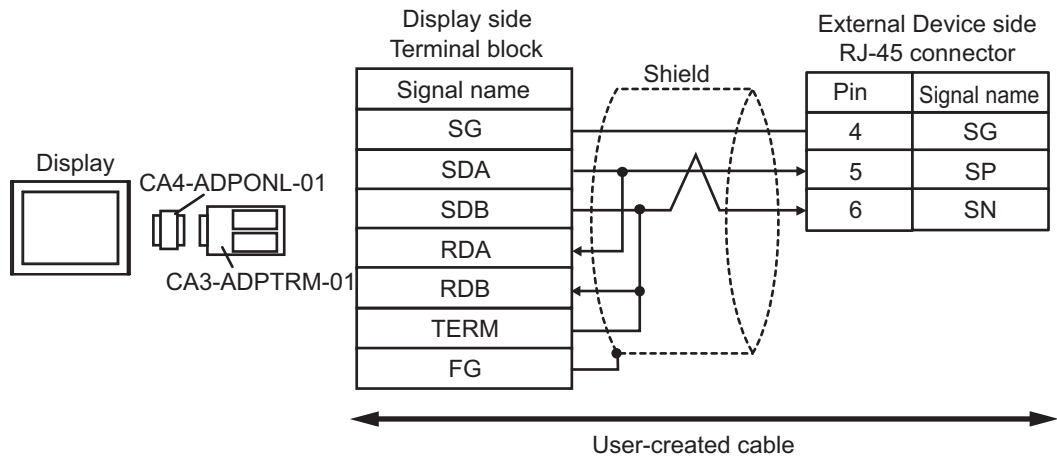| NOTE	• Please turn on the termination resistance switch to enable build-in resistance (120Ω) on the remotest External Device side.

15E)

- 1:1 Connection

- 1:n Connection

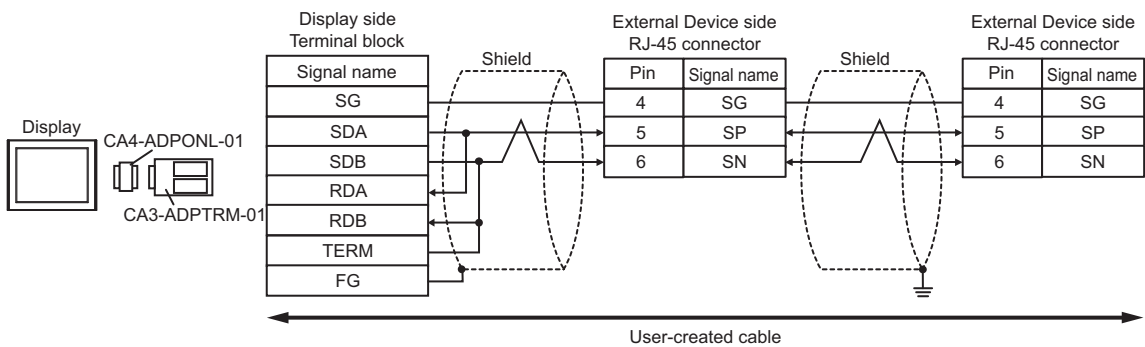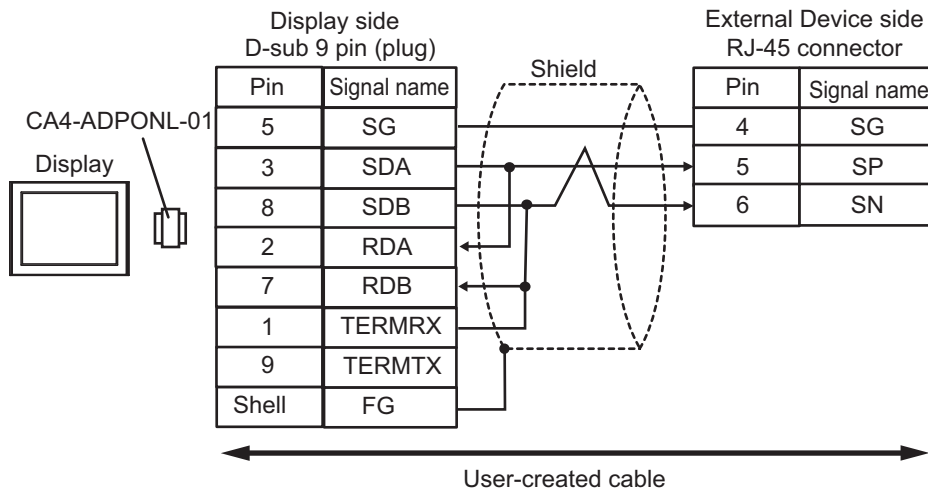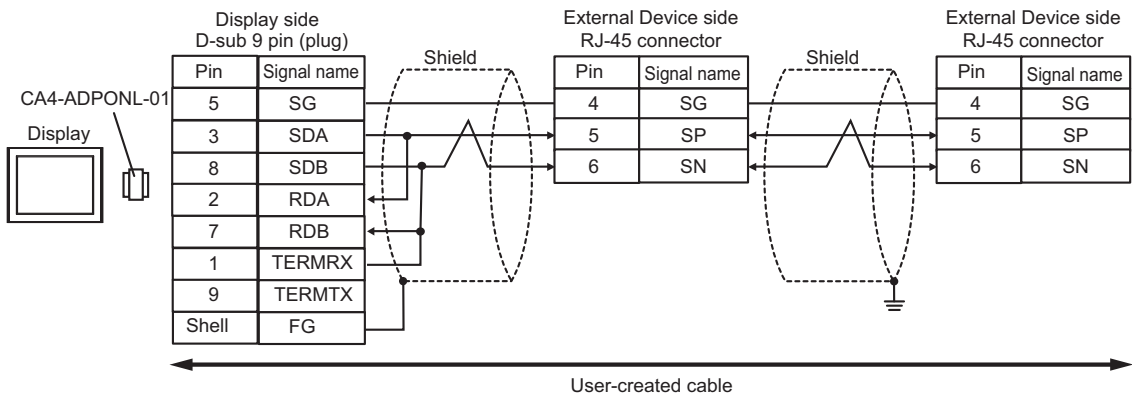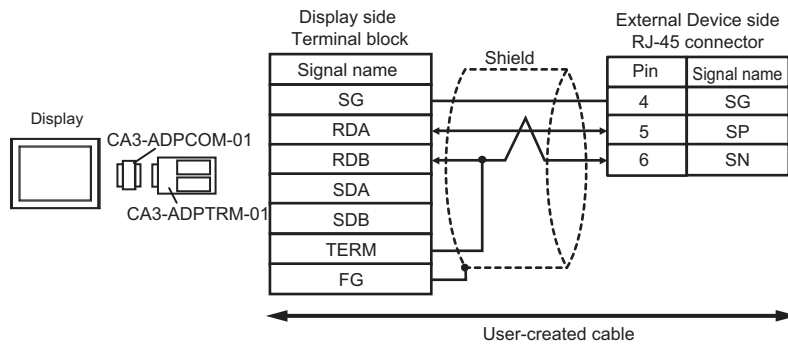| NOTE	• Please turn on the termination resistance switch to enable build-in resistance (120Ω) on the remotest External Device side.

15F)

- 1:1 Connection

	Display side D-sub 9 pin (socket)			External Device side RJ-45 connector	
	Pin	Signal name	Shield	Pin	Signal name
Termination resistance 120Ω (1/2W)	5	GND(SG)		4	SG
	1	DATA+		5	SP
Display	2	DATA-		6	SN
	3	NC			
	7	NC			
	4	ERA			
	8	CSA			
	9	ERB			
	6	CSB			
	Shell	FG			

- 1:n Connection

	Display side D-sub 9 pin (socket)			External Device side RJ-45 connector			External Device side RJ-45 connector	
	Pin	Signal name	Shield	Pin	Signal name	Shield	Pin	Signal name
Termination resistance 120Ω (1/2W)	5	GND(SG)		4	SG		4	SG
	1	DATA+		5	SP		5	SP
Display	2	DATA-		6	SN		6	SN
	3	NC						
	7	NC						
	4	ERA						
	8	CSA						
	9	ERB						
	6	CSB						
	Shell	FG						

NOTE	• Please turn on the termination resistance switch to enable build-in resistance (120Ω) on the remotest External Device side.

15G)
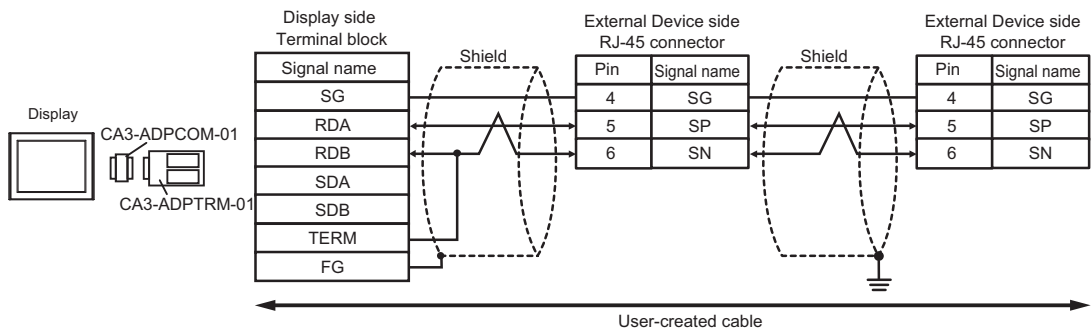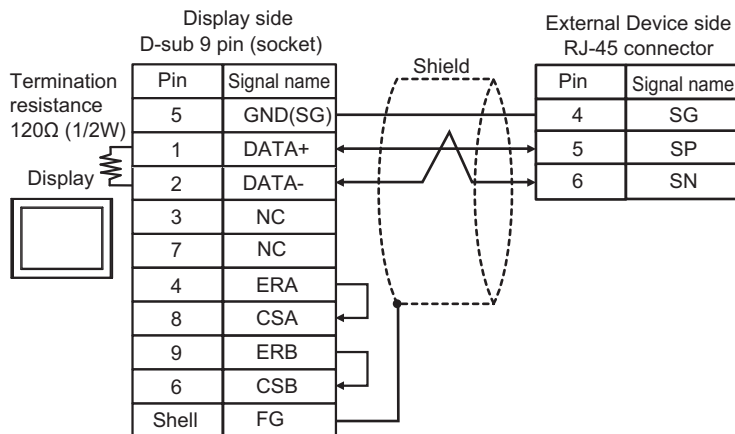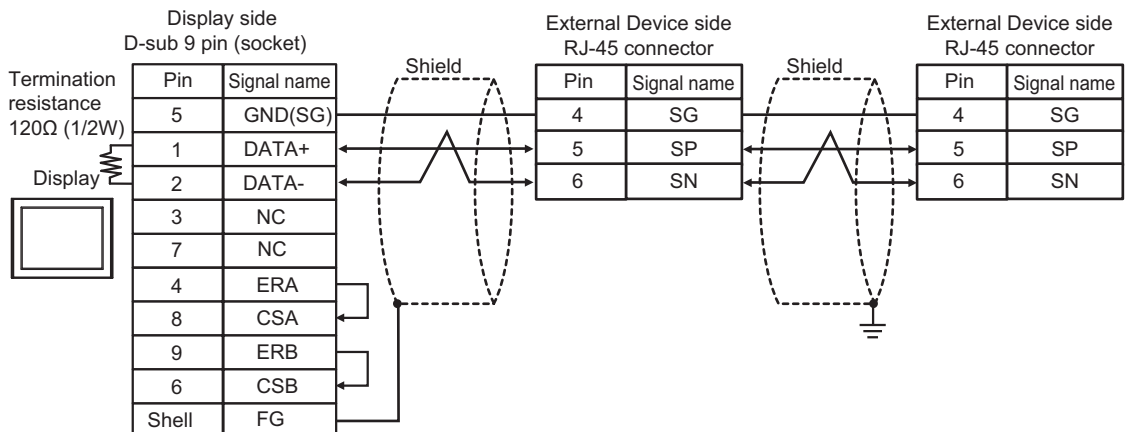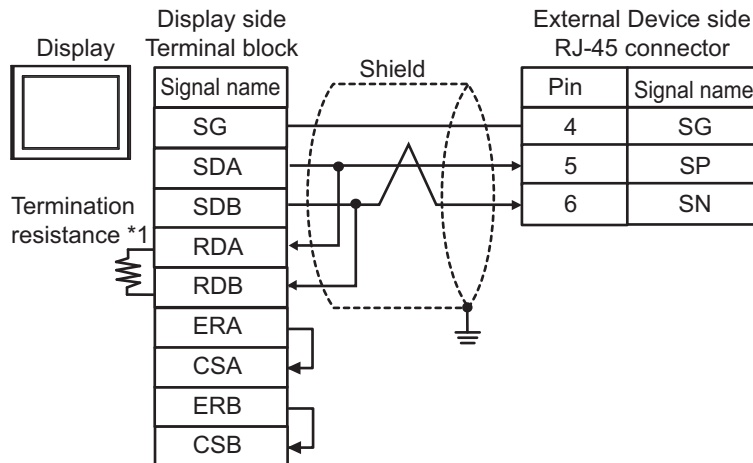
- 1:1 Connection

- 1:n Connection

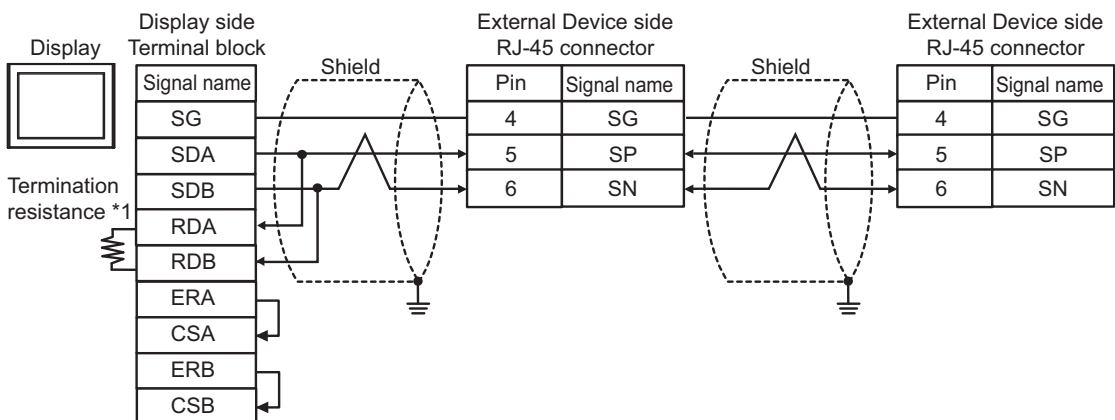| NOTE	• Please turn on the termination resistance switch to enable build-in resistance (120Ω) on the remotest External Device side.

*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

15H)

- 1:1 Connection

- 1:n Connection

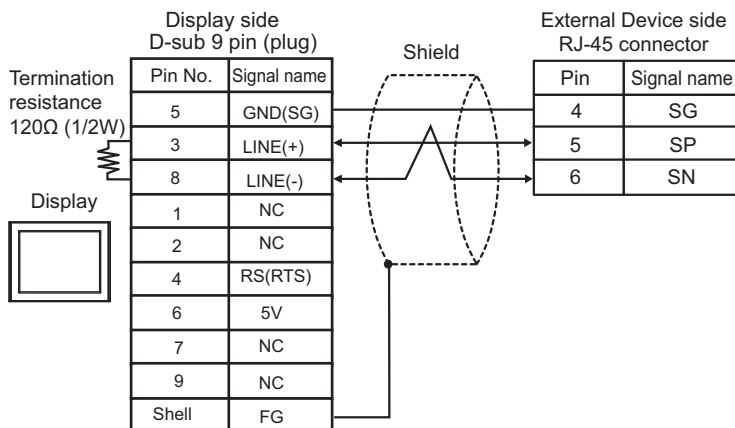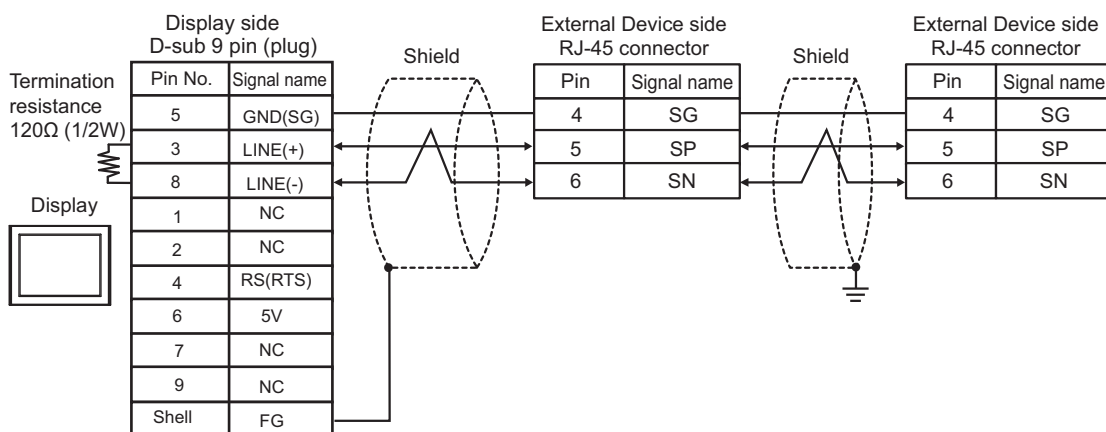| IMPORTANT	• The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE	• Please turn on the termination resistance switch to enable build-in resistance (120Ω) on the remotest External Device side.
	• In COM on the GP-4107, the SG and FG terminals are isolated.

15I)
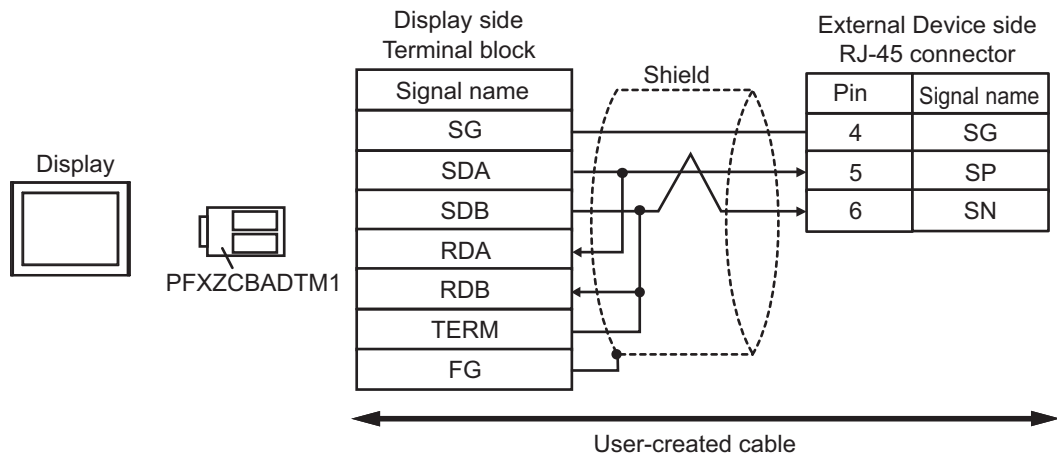
- 1:1 Connection

User-created cable

- 1:n Connection

User-created cable

NOTE	• Please turn on the termination resistance switch to enable build-in resistance (120Ω) on the remotest External Device side.

15J)

- 1:1 Connection
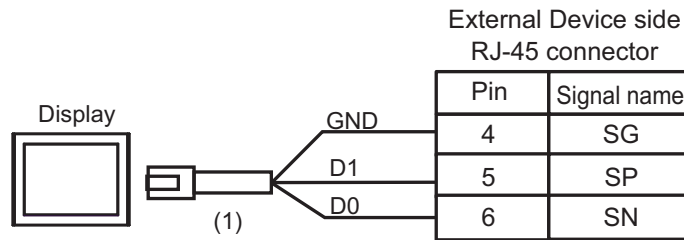
External Device side
RJ-45 connector

Pin	Signal name
4	SG
5	SP
6	SN

Display
GND
D1
D0
(1)

NOTE

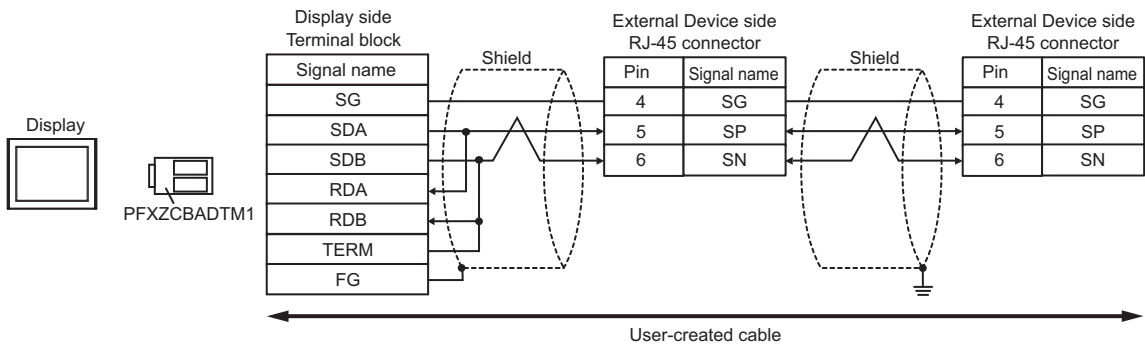- Please turn on the termination resistance switch to enable build-in resistance (120Ω) on the remotest External Device side.

- 1:n Connection

Termination resistance 220Ω (1/2W)

External Device side
RJ-45 connector

Shield

External Device side
RJ-45 connector

Display
GND
D1
(1)
D0

Pin	Signal name
4	SG
5	SP
6	SN

Pin	Signal name
4	SG
5	SP
6	SN

Termination resistance 220Ω (1/2W)

User-created cable

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

15K)

- 1:1 Connection

	Display side D-sub 9 pin (socket)			External Device side RJ-45 connector	
Termination resistance 120Ω (1/2W)	Pin	Signal name	Shield	Pin	Signal name
	5	GND(SG)		4	SG
	2	DATA+		5	SP
Display	1	DATA-		6	SN
	3	NC			
	7	NC			
	4	NC			
	8	NC			
	9	NC			
	6	NC			
	Shell	FG			

- 1:n Connection

|	Display side D-sub 9 pin (socket)			External Device side RJ-45 connector			External Device side RJ-45 connector	
Termination resistance 120Ω (1/2W)	Pin	Signal name	Shield	Pin	Signal name	Shield	Pin	Signal name
	5	GND(SG)		4	SG		4	SG
	2	DATA+		5	SP		5	SP
Display	1	DATA-		6	SN		6	SN
	3	NC						
	7	NC						
	4	NC						
	8	NC						
	9	NC						
	6	NC						
	Shell	FG						

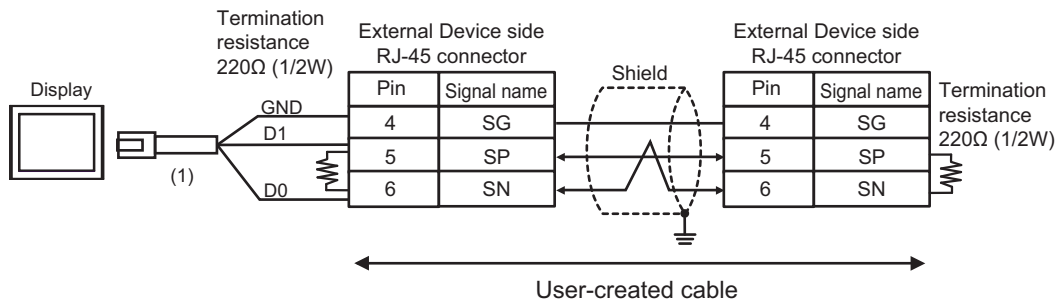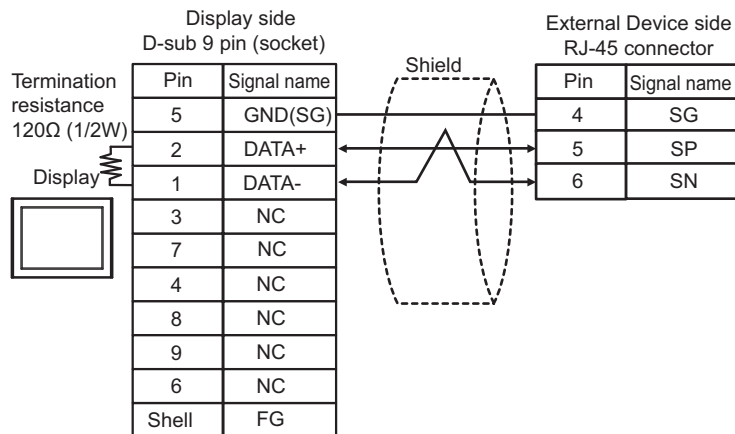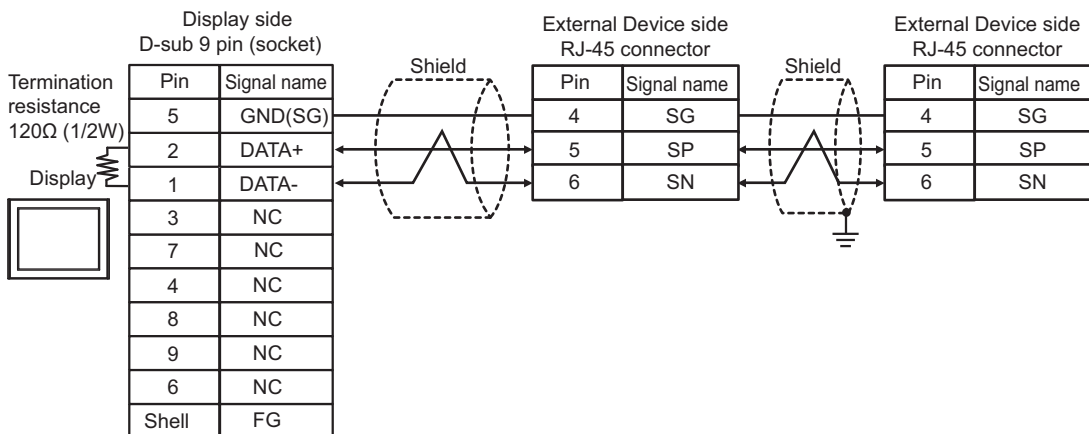| NOTE	• Please turn on the termination resistance switch to enable build-in resistance (120Ω) on the remotest External Device side.

6 Supported Device

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

6.1 H/EH-150/MICRO-EH Series
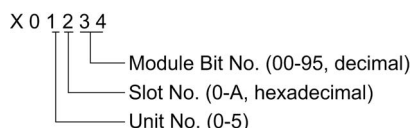
☐ This address can be specified as system data area.

Device	Bit Address	Word Address	Double Word Address	32 bits	Remarks
External Input	X00000-X05A95	WX0000-WX05A7	DX0000-DX05A6		*1 *2
External Output	Y00000-Y05A95	WY0000-WY05A7	DY0000-DY05A6		*2
Remote Input Relay	X10000-X49995	WX1000-WX4997	DX1000-DX4996		*1 *3
Remote Output Relay	Y10000-Y49995	WY1000-WY4997	DY1000-DY4996		*3
Internal Output	R000-R7BF	-	-		
Special Internal Output	R7C0-R7FF	-	-		
Data Area	M0000-M3FFF	WM000-WM3FF	DM000-DM3FE		
First CPU Link	L00000-L03FFF	WL0000-WL03FF	DL0000-DL03FE		
Second CPU Link	L10000-L13FFF	WL1000-WL13FF	DL1000-DL13FE		
On Delay Timer	TD0000 -TD1023	-	-		
Single-shot Timer	SS0000-SS1023	-	-		
Watchdog Timer	WDT0000-WDT1023	-	-	⌐L / H⌐	
Mono Stable Timer	MS0000-MS1023	-	-		
Retentive Timer	TMR0000-TMR1023	-	-		
Up Counter	CU0000-CU2047	-	-		
Ring Counter	RCU0000-RCU2047	-	-		
Up-down Counter	CT0000-CT2047	-	-		
Extended Timer	TM0000 -TM2047	-	-		
Timer Counter (Elapsed Value)	-	TC0000-TC2047	-		
Extended Timer (Elapsed Value)	-	TV0000 - TV2047	-		

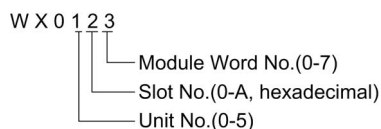| Device	Bit Address	Word Address	Double Word Address	32 bits	Remarks
Word Internal Output	-	WR0000-WRC3FF	DR0000-DRC3FE		Bit F
Special Word Internal Output	-	WRF000-WRF1FF	DRF000-DRF1FE	L / H	Bit F
Network Link Area	-	WN0000-WN7FFF	DN0000-DN7FFE		Bit F

*1 Write disable

*2 Specify as shown below.

(Example) External input unit No.1, Slot No.2, Internal Module Bit No.34

```
X 0 1 2 3 4
        └─ Module Bit No. (00-95, decimal)
      └─── Slot No. (0-A, hexadecimal)
    └───── Unit No. (0-5)
```

(Example) External input unit No.1, Slot No.2, Internal Module Word No.34

```
W X 0 1 2 3
        └─ Module Word No.(0-7)
      └─── Slot No.(0-A, hexadecimal)
    └───── Unit No.(0-5)
```

*3 Specify as shown below.

(Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Internal Module Bit No.45

```
X 1 2 3 4 5
          └─ Module Bit No.(0-95)
        └─── Slot No.(0-9)
      └───── Remote Slave No.(0-9)
    └─────── Remote Master No.(1-4)
```

(Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Internal Module Word No.4
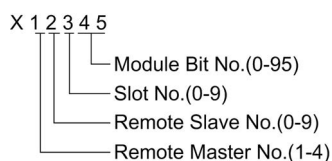
```
W X 1 2 3 4
          └─ Module Word No.(0-7)
        └─── Slot No.(0-9)
      └───── Remote Slave No.(0-9)
    └─────── Remote Master No.(1-4)
```
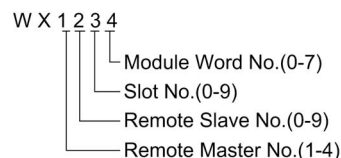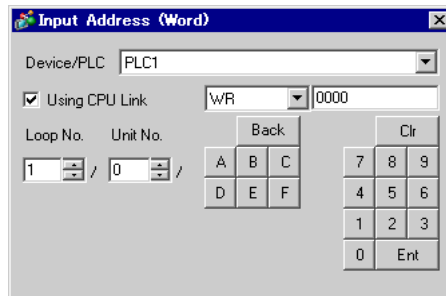
NOTE
• Available type and range of device vary depending on CPU. Be sure to check them in each CPU manual before using.
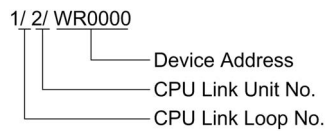
■ How to set address when using the CPU link

Set the check box of "Use CPU Link" to ON.

When using CPU Link, loop No. and unit No. are added to the address.

(Example) Loop No.1, Unit No.2

```
1/ 2/ WR0000
        └──── Device Address
      └────── CPU Link Unit No.
    └──────── CPU Link Loop No.
```

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 Web Controller Series

⬛▭▭▭ This address can be specified as system data area.

Device	Bit Address	Word Address	Double Word Address	32 bit	Remarks
External Input	X0000-X0012 X1000-X1015 X2000-X2015 X3000-X3015 X4000-X4015	WX030-WX031 WX100-WX104 WX200-WX204 WX300-WX304 WX400-WX404	DX030 DX100-DX103 DX200-DX203 DX300-DX303 DX400-DX403		*1
External Output	Y0100-Y0109 Y1016-Y1031 Y2016-Y2031 Y3016-Y3031 Y4016-Y4031	WY40 WY105-WY107 WY205-WY207 WY305-WY307 WY405-WY407	DY105-DY106 DY205-DY206 DY305-DY306 DY405-DY406		
Internal Output	R000-R7BF	-	-		
Special Internal Output	R7C0-R7FF	-	-		
Data Area	M0000-M3FFF	WM000-WM3FF	DM000-DM3FE	⌐L / H⌐	
On Delay Timer	TD000-TD255	-	-		*2
Single-shot Timer	SS000-SS255	-	-		*2
Up Counter	CU000-CU255	-	-		*2
Up-down Counter	CT000-CT255	-	-		*2*3
Timer Counter (Elapsed Value)	-	TC000-TC255	-		
Word Internal Output	-	WR0000-WRC3FF	DR0000-DRC3FE		*4 [Bit F]
Word Special Internal Output	-	WRF000-WRF1FF	DRF000-DRF1FE		[Bit F]

*1 Write disable

*2 Each timer or counter needs to be defined on the ladder program.

*3 Both the Up-down counter Up input and Down input are defined by CT, however, the device names of the External Device are CTU, CTDrespectively.

To access CTU, define the corresponding address as CTU on the ladder program of the External Device. Similarly, to access CTD, define the corresponding address as CTD on the ladder program of the External Device.

*4 In case of EH-WD10DR, the address range is "WR0000-WR3FFF", "DR0000-DR3FFE".

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 EHV Series

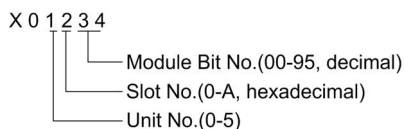This address can be specified as system data area.

Device	Bit Address	Word Address	Double Word Address	32 bits	Remarks
External Input	X00000-X05A95	WX0000-WX05A7	DX0000-DX05A6		*1 *2
External Output	Y00000-Y05A95	WY0000-WY05A7	DY0000-DY05A6		*2
Remote Input Relay	X10000-X45A95	WX1000-WX45A7	DX1000-DX45A6		*1 *3
Remote Output Relay	Y10000-Y45A95	WY1000-WY45A7	DY1000-DY45A6		*3
Extension External Input	EX00000-EX5A7FF	WEX0000-WEX5A7F	DEX0000-DEX5A7E		*1
Extension External Output	EY00000-EY5A7FF	WEY0000-WEY5A7F	DEY0000-DEY5A7E		
Internal Output	R000-R7BF	-	-		
Special Internal Output	R7C0-RFFF	-	-		
Data Area	M00000-M7FFFF	WM0000-WM7FFF	DM0000-DM7FFE		
First CPU Link	L00000-L03FFF	WL0000-WL03FF	DL0000-DL03FE		
Second CPU Link	L10000-L13FFF	WL1000-WL13FF	DL1000-DL13FE		
Third CPU Link	L20000-L23FFF	WL2000-WL23FF	DL2000-DL23FE	⌐L / H⌐	
Fourth CPU Link	L30000-L33FFF	WL3000-WL33FF	DL3000-DL33FE		
Fifth CPU Link	L40000-L43FFF	WL4000-WL43FF	DL4000-DL43FE		
Sixth CPU Link	L50000-L53FFF	WL5000-WL53FF	DL5000-DL53FE		
Seventh CPU Link	L60000-L63FFF	WL6000-WL63FF	DL6000-DL63FE		
Eighth CPU Link	L70000-L73FFF	WL7000-WL73FF	DL7000-DL73FE		
On Delay Timer	TD0000-TD2559	-	-		
Off Delay Timer	TDN0000-TDN2559	-	-		
Single-shot Timer	SS0000-SS2559	-	-		
Watchdog Timer	WDT0000-WDT2559	-	-		
Mono Stable Timer	MS0000-MS2559	-	-		
Retentive Timer	TMR0000-TMR2559	-	-		
Up-down Counter	CT000-CT511	-	-		
Up Counter	CU000-CU511	-	-		

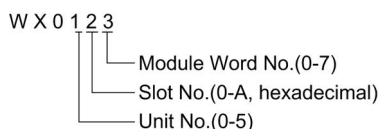| Device	Bit Address	Word Address	Double Word Address	32 bits	Remarks
Link Counter	RCU000-RCU511	-	-		
Timer Counter (Elapsed Value)	-	TC0000-TC2559	-		
Word Internal Output	WR0000.0-WREFFF.F	WR0000-WREFFF	DR0000-DREFFE	⌈L/H⌉	
Special Word Internal Output	WRF000.0-WRFFFF.F	WRF000-WRFFFF	DRF000-DRFFFE		
Data Area	WN00000.0-WN1FFFF.F	WN00000-WN1FFFF	DN00000-DN1FFFE		

*1   Write disable

*2   Specify as shown below.

   (Example) External input unit No.1, Slot No.2, Internal Module Bit No.34

   X 0 1 2 3 4
              └── Module Bit No.(00-95, decimal)
            └──── Slot No.(0-A, hexadecimal)
          └────── Unit No.(0-5)

   (Example) External input unit No.1, Slot No.2, Internal Module Word No.3

   W X 0 1 2 3
              └── Module Word No.(0-7)
            └──── Slot No.(0-A, hexadecimal)
          └────── Unit No.(0-5)

*3   Specify as shown below.

   (Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Internal Module Bit No.45

   X 1 2 3 4 5
                └── Module Bit No.(0-95, decimal)
              └──── Slot No.(0-A, hexadecimal)
            └────── Remote Slave No.(0-5)
          └──────── Remote Master No.(1-4)

   (Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Internal Module Word No.4
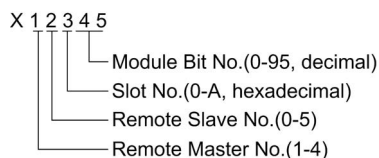
   W X 1 2 3 4
              └── Module Word No.(0-7)
            └──── Slot No.(0-A, hexadecimal)
          └────── Remote Slave No.(0-5)
        └──────── Remote Master No.(1-4)
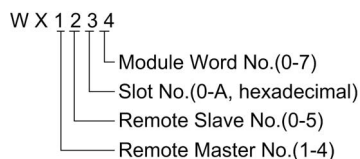
■ When using CPU Link

Set the check box of "Use CPU Link" to ON.

When using CPU Link, loop No. and unit No. are added to the address.
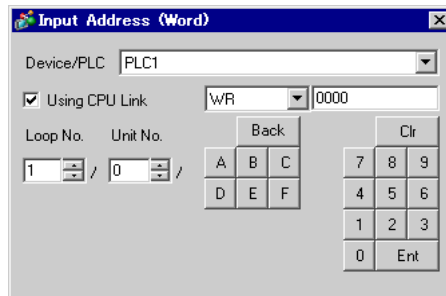
(Example) Loop No.1, Unit No.2
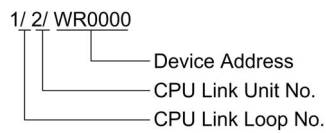
| NOTE | • Please refer to the GP-Pro EX Reference Manual for system data area.

    Cf.   GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"

  • Please refer to the precautions on manual notation for icons in the table.

    ☞"Manual Symbols and Terminology"

6.4 MICRO-EHV Series

☐ This address can be specified as system data area.

Device	Bit Address	Word Address	Double Word Address	32bit	Remarks
External Input	X0000 - X0039	WX000 - WX002	DX000		*1
External Output	Y0100 - Y0123	WY010 - WY011	DY000		
Inner Output	R000 - R7BF	-	-		
Special Inner Output	R7C0 - RFFF	-	-		
Data Area	M0000 - M7FFF	WM000 - WM7FF	DM000 - DM7FE		
On Delay Timer	TD0000 - TD2047	-	-		
Off Delay Timer	TDN0000 - TDN2047	-	-		
Single-shot Timer	SS0000 - SS2047	-	-		
Watchdog Timer	WDT0000 - WDT2047	-	-		
Mono Stable Timer	MS0000 - MS2047	-	-	[L / H]	
Retentive Timer	TMR0000 - TMR2047	-	-		
Up-down Counter	CT000 - CT511	-	-		
Up Counter	CU000 - CU511	-	-		
Ring Counter	RCU000 - RCU511	-	-		
Timer Counter (Elapsed Value)	-	TC0000 - TC2047	-		
Word Inner Output	WR0000.0 - WR7FFF.F	WR0000 - WR7FFF	DR0000 - DR7FFE		
Word Special Inner Output	WRF000.0 - WRF1FF.F	WRF000 - WRF1FF	DRF000 - DRF1FE		

*1   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.

7.1   H/EH-150/MICRO-EH Series

Device	Device Name	Device Code (HEX)	Address Code
External Input	X	80	Word Address
	WX		Word Address
	DX	20	Word Address
External Output	Y	81	Word Address
	WY		Word Address
	DY	21	Word Address
Data Area	M	82	Word Address
	WM		Word Address
	DM	22	Word Address
CPU Link	L	83	Word Address
	WL		Word Address
	DL	23	Word Address
Timer Counter (Elapsed Value)	TC	60	Word Address
Extended Timer (Elapsed Value)	TV	61	Word Address
Word Internal Output	WR	00	Word Address
	DR	24	Word Address
Network Link Area	WN	01	Word Address
	DN	25	Word Address

7.2 Web Controller Series

Device	Device Name	Device Code (HEX)	Address Code
External Input	X	80	Word Address
	WX		Word Address
	DX	20	Word Address
External Output	Y	81	Word Address
	WY		Word Address
	DY	21	Word Address
Data Area	M	82	Word Address
	WM		Word Address
	DM	22	Word Address
Timer Counter (Elapsed Value)	TC	60	Word Address
Word Internal Output Word Special Internal Output	WR	00	Word Address
	DR	24	Word Address

7.3 EHV Series

Device	Device Name	Device Code (HEX)	Address Code
External Input	X	80	Word Address
	WX		Word Address
	DX	20	Word Address
External Output	Y	81	Word Address
	WY		Word Address
	DY	21	Word Address
Extension External Input	EX	84	Word Address
	WEX		Word Address
	DEX	26	Word Address
Extension External Output	EY	85	Word Address
	WEY		Word Address
	DEY	27	Word Address
Data Area	M	82	Word Address
	WM		Word Address
	DM	22	Word Address
CPU Link	L	83	Word Address
	WL		Word Address
	DL	23	Word Address
Word Internal Output	WR	00	Word Address
	DR	24	Word Address
Data Area	WN	01	Word Address
	DN	25	Word Address
Timer Counter (Elapsed Value)	TC	60	Word Address

7.4　　　　MICRO-EHV Series

Device	Device Name	Device Code (HEX)	Address Code
External Input	X	80	Word Address
	WX		Word Address
	DX	20	Word Address
External Output	Y	81	Word Address
	WY		Word Address
	DY	21	Word Address
Data Area	M	82	Word Address
	WM		Word Address
	DM	22	Word Address
Timer Counter (Elapsed Value)	TC	60	Word Address
Word Inner Output	WR	00	Word Address
	DR	24	Word Address
Word Special Inner Output	WRF	01	Word Address
	DRF	25	Word Address

8   Error Messages

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

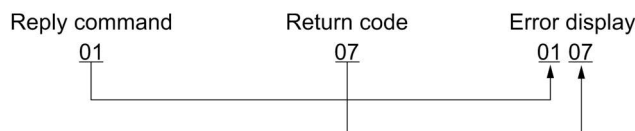| Item	Description
No.	Error No.
Device Name	Name of the External Device where error occurs. Device name is a title of the External Device set with GP-Pro EX.((Initial value[PLC1])
Error Message	Displays messages related to the error which occurs.
Error Occurrence Area	Displays IP address or device address of the External Device where error occurs, or error codes received from the External Device. **NOTE** • IP address is displayed such as "IP address(Decimal): MAC address(Hex)". • Device address is displayed such as "Address: Device address". • Received error codes are displayed such as "Hex[Hex]".

Display Examples of Error Messages

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

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

■ Error Codes Unique to External Device

Error codes are sent as separated 2 bytes codes The Display displays the error number using 1-byte code.

Example:

Reply command	Return code	Error display
01	07	01 07

Error Code	Description
01, 05	The requested number of points is beyond the designated range.
01, 06	Designated device does not exist.
01, 07	Designated device address is beyond the range.

NOTE
- Please refer to the manual of the External Device for more detail of received error codes.

■ Error Messages Unique to External Device

Error Code	Error Message	Description
RHxx128	(Node Name): Error has been responded for initial communication command (Error Code: [Hex,Hex])	After sending a communication start request to the External Device, it returned an error response.
RHxx129	(Node Name): Error has been responded for device read command (Error Code: [Hex,Hex])	After sending a read request to the External Device, it returned an error response.
RHxx130	(Node Name): Error has been responded for device write command (Error Code: [Hex,Hex])	After sending a write request to the External Device, it returned an error response.
RHxx131	(Node Name): Error has been responded for device read command (Error Code: [Hex,Hex] There are out of range devises)	After sending a read request to the External Device, it returned an error response. Check the read address.
RHxx132	(Node Name): Error has been responded for device write command (Error Code: [Hex,Hex]) There are out of range devises)	After sending a write request to the External Device, it returned an error response. Check the write address.
RHxx133	(Node Name): Error has been responded for Read Occupancy command (Error Code: [Hex,Hex]) Local station is WRITE-occupying CPU)	After sending a read occupancy request to the External Device, it returned an error response. Release the write occupancy held by the local node.
RHxx134	(Node Name): Error has been responded for Read Occupancy command (Error Code: [Hex,Hex]) Already READ-occupied by the other four stations)	After sending a read occupancy request to the External Device, it returned an error response. Release the read occupancy held by other nodes.
RHxx135	(Node Name): Error has been responded for Read Occupancy command (Error Code: [Hex,Hex]) Another station is WRITE-occupying CPU)	After sending a read occupancy request to the External Device, it returned an error response. Release the write occupancy held by other nodes.