Hitachi IES Co., Ltd.

H Series Serial Driver

PREFACE

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 10)
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 11)
4	Setup Items This section describes communication setup items on the Display. Set communication settings of the Display with GP-Pro EX or in off-line mode.	☞"4 Setup Items" (page 95)
5	Cable Diagram This section shows cables and adapters for connecting the Display and the External Device.	☞"5 Cable Diagram" (page 100)

Operation

1 System Configuration

The system configuration in the case when the External Device of Hitach IES Co., Ltd. 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 11)	Cable Diagram 1 (page 100)
	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 11)	Cable Diagram 1 (page 100)
	H-252C(CPU22-02HC)*1 *2	Port on the CPU unit	RS232C	Setting Example 1 (page 11)	Cable Diagram 1 (page 100)
	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 11)	Cable Diagram 1 (page 100)
		COMM-H COMM-2H	RS232C	Setting Example 2 (page 13)	Cable Diagram 1 (page 100)
			RS422/485 (4wire)	Setting Example 3 (page 15)	Cable Diagram 2 (page 103)
	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 11)	Cable Diagram 1 (page 100)
		COMM-2H	RS232C	Setting Example 2 (page 13)	Cable Diagram 1 (page 100)
			RS422/485 (4wire)	Setting Example 3 (page 15)	Cable Diagram 2 (page 103)
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 17)	Cable Diagram 1 (page 100)
			RS422/485 (4wire)	Setting Example 5 (page 19)	Cable Diagram 2 (page 103)

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 21)	Cable Diagram 3 (page 109)
	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 21)	Cable Diagram 3 (page 109)
			RS422/485 (4wire)	Setting Example 7 (page 23)	Cable Diagram 4 (page 112)
			RS422/485 (2wire)	Setting Example 8 (page 25)	Cable Diagram 5 (page 118)
		Serial port 2 on the CPU unit	RS232C	Setting Example 6 (page 21)	Cable Diagram 3 (page 109)
	EH-150(EH-CPU516) EH-150(EH-CPU548)	Port1 on the EH-SIO unit*3	RS232C	Setting Example 9 (page 27)	Cable Diagram 12 (page 170)
		Port2 on the EH-SIO unit*3	RS232C*4	Setting Example 10 (page 29)	Cable Diagram 12 (page 170)
			RS422/485 (4wire)*4	Setting Example 11 (page 31)	Cable Diagram 6 (page 125)
			RS422/485 (2wire)*4	Setting Example 12 (page 33)	Cable Diagram 7 (page 131)

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 35)	Cable Diagram 3 (page 109)
	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 35)	Cable Diagram 3 (page 109)
			RS422/485 (4wire)	Setting Example 14 (page 37)	Cable Diagram 4 (page 112)
			RS422/485 (2wire)	Setting Example 15 (page 39)	Cable Diagram 5 (page 118)
	EH-150(EH-CPU516) EH-150(EH-CPU548)	Port1 on the EH-SIO unit*3	RS232C	Setting Example 16 (page 41)	Cable Diagram 12 (page 170)
		Port2 on the EH-SIO unit*3	RS232C*4	Setting Example 17 (page 43)	Cable Diagram 12 (page 170)
			RS422/485 (4wire)*4	Setting Example 18 (page 45)	Cable Diagram 6 (page 125)
			RS422/485 (2wire)*4	Setting Example 19 (page 47)	Cable Diagram 7 (page 131)
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 49)	Cable Diagram 3 (page 109)
	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 49)	Cable Diagram 3 (page 109)
		Port 2 on the CPU unit	RS422/485 (4wire)	Setting Example 21 (page 51)	Cable Diagram 8 (page 140)
			RS422/485 (2wire)	Setting Example 22 (page 53)	Cable Diagram 9 (page 146)
	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 49)	Cable Diagram 3 (page 109)
		EH-OB232*6	RS232C	Setting Example 23 (page 55)	Cable Diagram 3 (page 109)
		EH-OB485*7	RS422/485 (4wire)	Setting Example 24 (page 57)	Cable Diagram 10 (page 155)
			RS422/485 (2wire)	Setting Example 25 (page 59)	Cable Diagram 11 (page 161)

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 61)	Cable Diagram 3 (page 109)
	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 61)	Cable Diagram 3 (page 109)
		Port 2 on the CPU unit	RS422/485 (4wire)	Setting Example 27 (page 63)	Cable Diagram 8 (page 140)
			RS422/485 (2wire)	Setting Example 28 (page 65)	Cable Diagram 9 (page 146)
	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 61)	Cable Diagram 3 (page 109)
		EH-OB232[*6]	RS232C	Setting Example 29 (page 67)	Cable Diagram 3 (page 109)
		EH-OB485[*7]	RS422/485 (4wire)	Setting Example 30 (page 69)	Cable Diagram 10 (page 155)
			RS422/485 (2wire)	Setting Example 31 (page 71)	Cable Diagram 11 (page 161)
Web controller (Procedure 1 and 2)	EH-WD10DR	Serial port on the CPU unit	RS232C	Setting Example 32 (page 73)	Cable Diagram 3 (page 109)
	EH-WA23DR	Serial port on the CPU unit	RS232C	Setting Example 40 (page 89)	Cable Diagram 3 (page 109)
			RS422/485 (4wire)	Setting Example 41 (page 91)	Cable Diagram 13 (page 171)
			RS422/485 (2wire)	Setting Example 42 (page 93)	Cable Diagram 14 (page 177)

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 75)	Cable Diagram 3 (page 109)
			RS422/485 (4wire)	Setting Example 34 (page 77)	Cable Diagram 4 (page 112)
			R422/S485 (2wire)	Setting Example 35 (page 79)	Cable Diagram 5 (page 118)
		Port 1 on the EH-SIO unit*3	RS232C	Setting Example 36 (page 81)	Cable Diagram 12 (page 170)
		Port 2 on the EH-SIO unit*3	RS232C	Setting Example 37 (page 83)	Cable Diagram 12 (page 170)
			RS422/485 (4wire)	Setting Example 38 (page 85)	Cable Diagram 6 (page 125)
			RS422/485 (2wire)	Setting Example 39 (page 87)	Cable Diagram 7 (page 131)

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

*2 When the peripheral port 2 on the CPU unit is used, CNCOM-05 conversion cable by Hitachi IES Co., Ltd. needs to be used between the 8 pin connector and D-sub 15 pin connecter.

*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.

■ 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, PS-3651A	COM1[*1]	-	-
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]
PL-3000B, PL-3600T, PL-3600K, PL-3700T, PL-3700K, PL-3900T	COM1[*1*2], COM2[*1], COM3, COM4	COM1[*1*2]	COM1[*1*2]

*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.

DIP switch setting: 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.

DIP switch setting: RS-422/485 (4 wire)

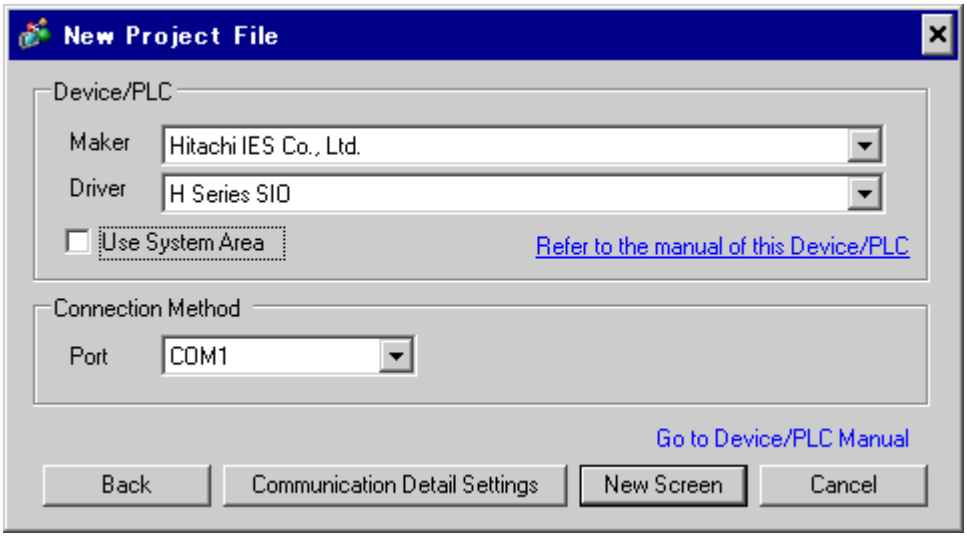
DIP switch	Setting	Description
1	OFF	Reserved (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA (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	

DIP switch setting: 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
Maker	Select the maker of the External Device to be connected. Select "Hitachi IES Co., Ltd.".
Driver	Select a model (series) of the External Device to be connected and connection method. Select "H Series SIO". Check the External Device which can be connected in "H Series SIO" in system configuration. ☞ "1 System Configuration" (page 3)
Use System Area	Check this option when you synchronize the system data area of Display and the device (memory) of External Device. When synchronized, you can use the ladder program of External Device to switch the display or display the window on the display. Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)" This can also be set in GP-Pro EX or in the Display's off-line mode. Cf. GP-Pro EX Reference Manual "Display Unit (System Area) Settings Guide" Cf. Maintenance/Troubleshooting Manual "Main Unit - System Area Settings"
Port	Select the Display port to be connected to the External Device.

3 Example of Communication Setting

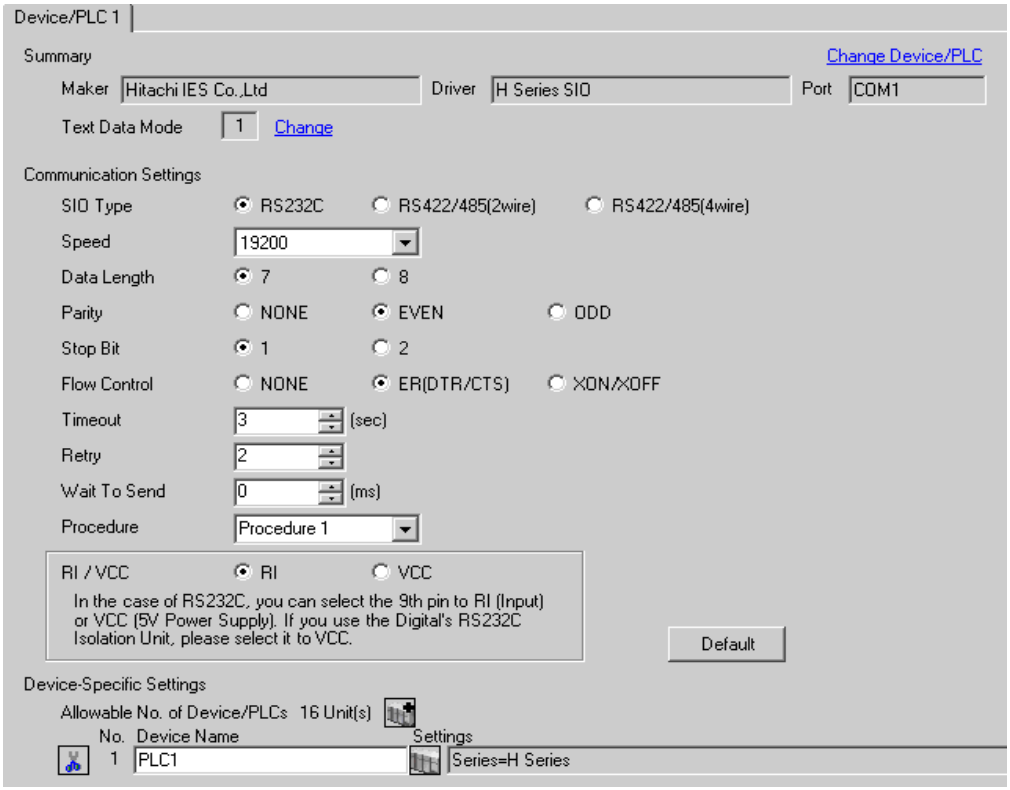
Examples of communication settings of the Display and the External Device, recommended by Digital Electronics Corp., are shown.

3.1 Setting Example 1

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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.

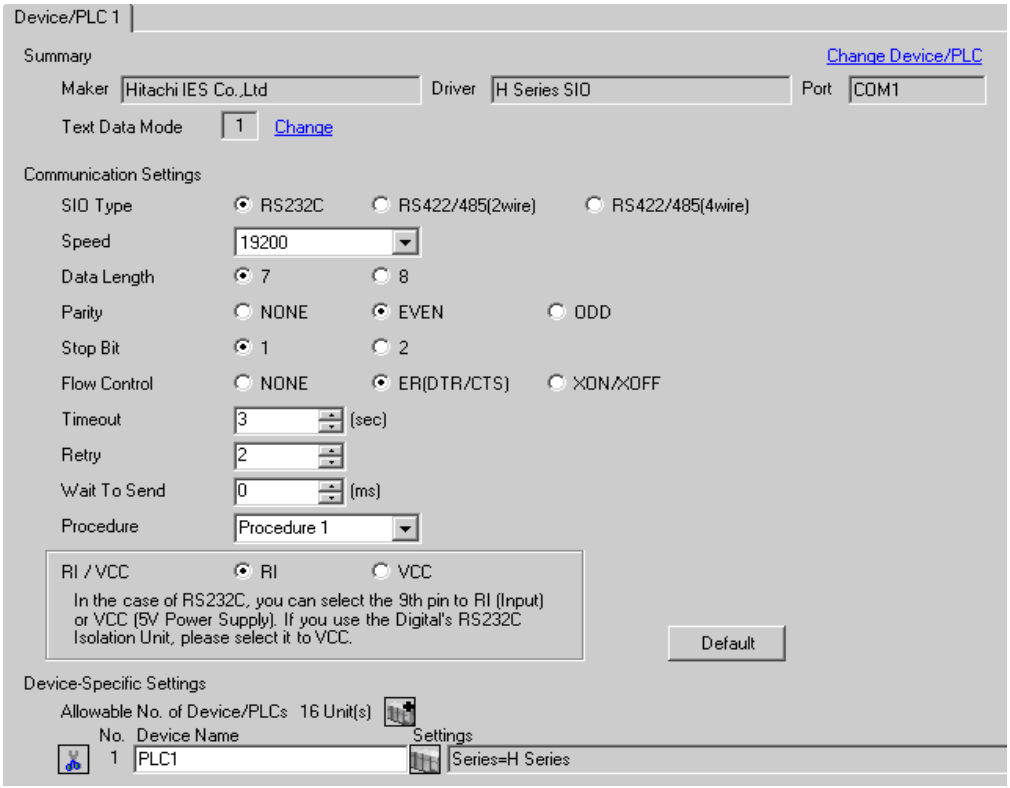
DIP Switch	Settings	Description
SW03	ON	Port 1 Transmission Speed: 38,400 bps
SW04	ON	Port 2 Transmission Speed: 38,400 bps

3.2 Setting Example 2

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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	Baud Rate Transmission Speed: 19,200bps
03	ON	
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

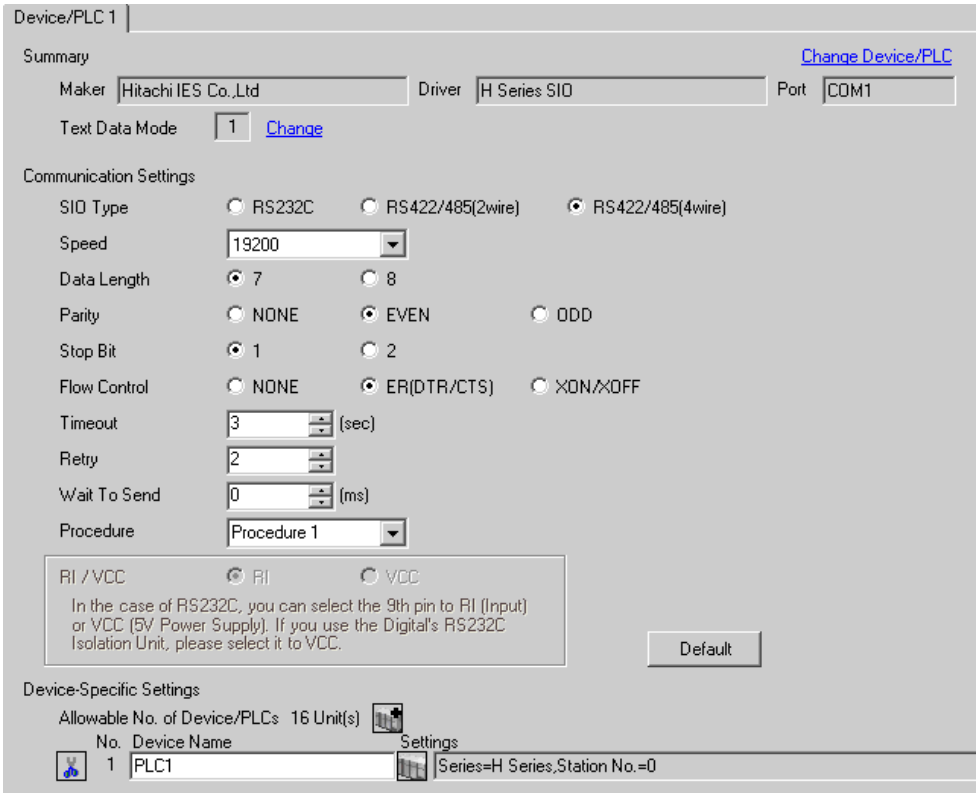
Rotary Switch	Settings	Description
MODE	2	Procedure: Procedure 1

3.3 Setting Example 3

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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	Baud Rate Transmission Speed: 19,200bps
03	ON	
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

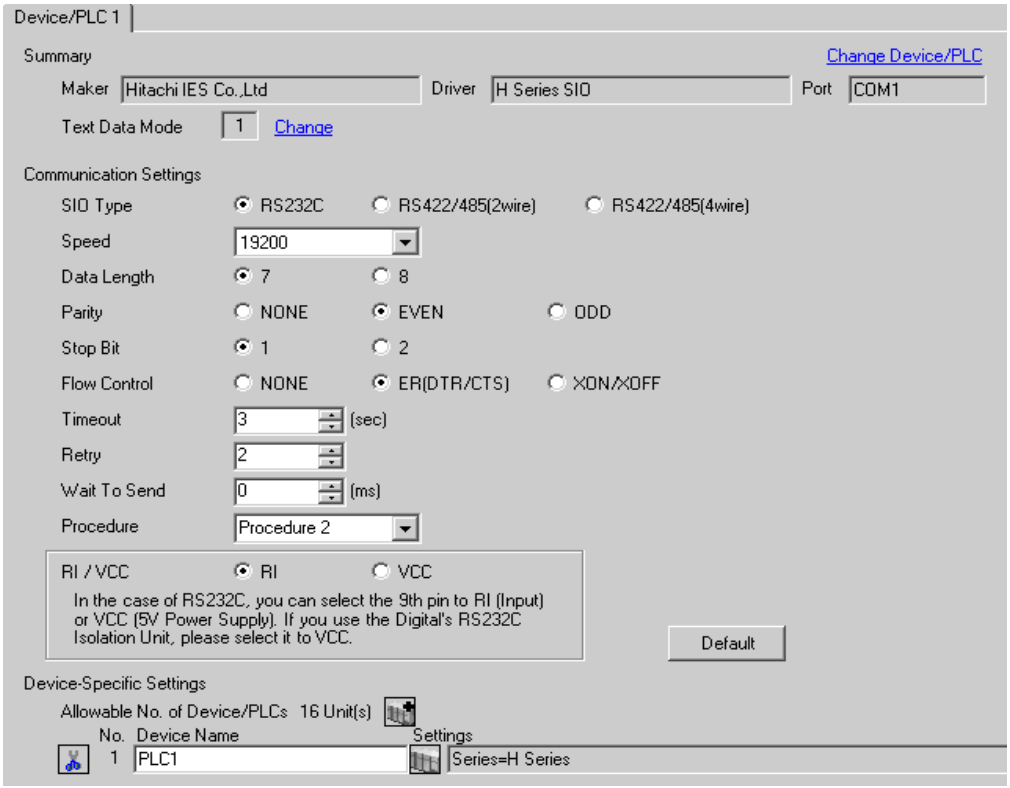
Rotary Switch	Settings	Description
MODE	2	Procedure: Procedure 1

3.4 Setting Example 4

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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	Baud Rate Transmission Speed: 19,200bps
03	ON	
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

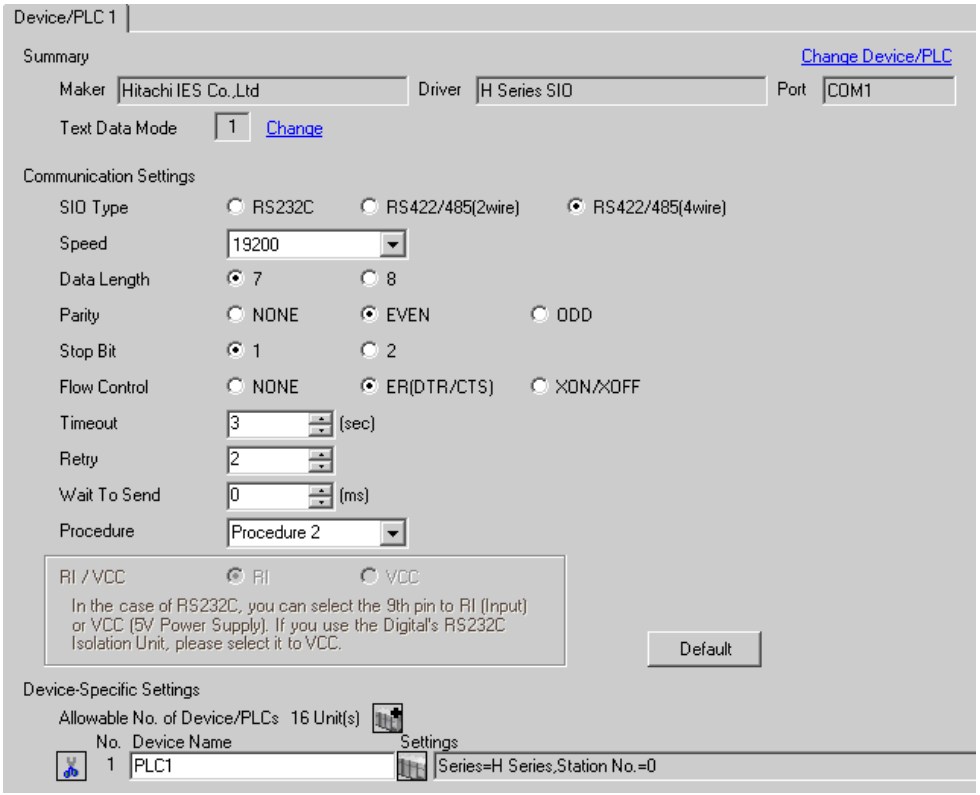
Rotary Switch	Settings	Description
MODE	9	Procedure: Procedure 2

3.5 Setting Example 5

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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	Baud Rate Transmission Speed: 19,200bps
03	ON	
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

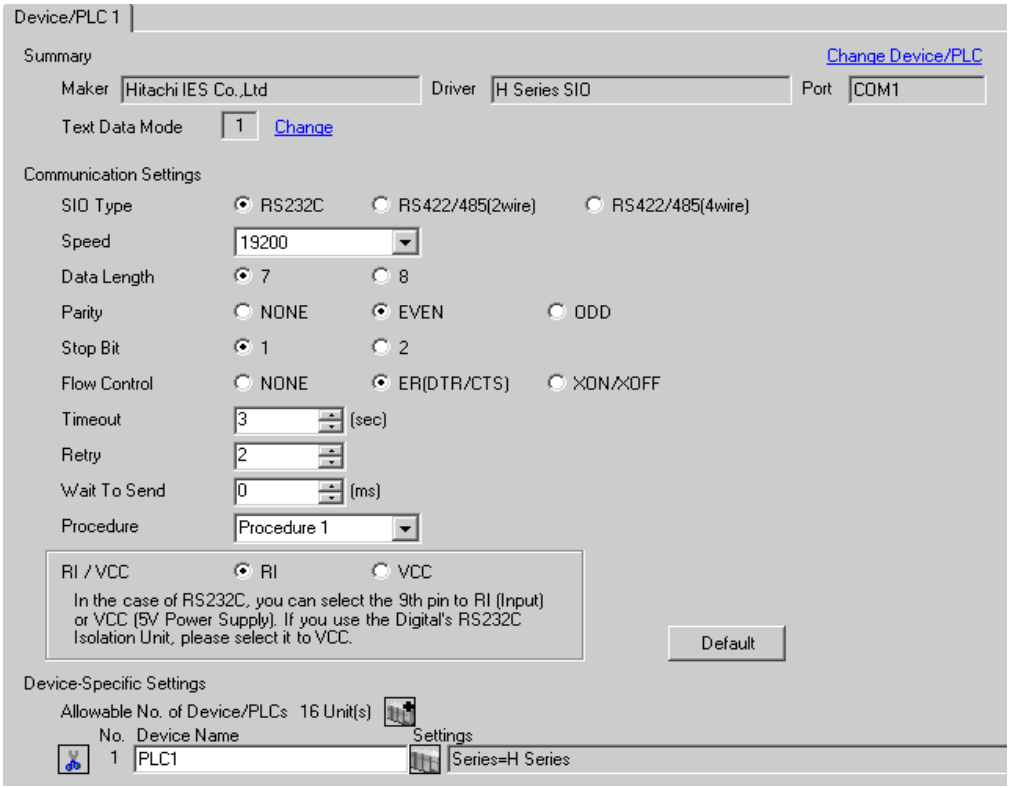
Rotary Switch	Settings	Description
MODE	9	Procedure: Procedure 2

3.6 Setting Example 6

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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 >

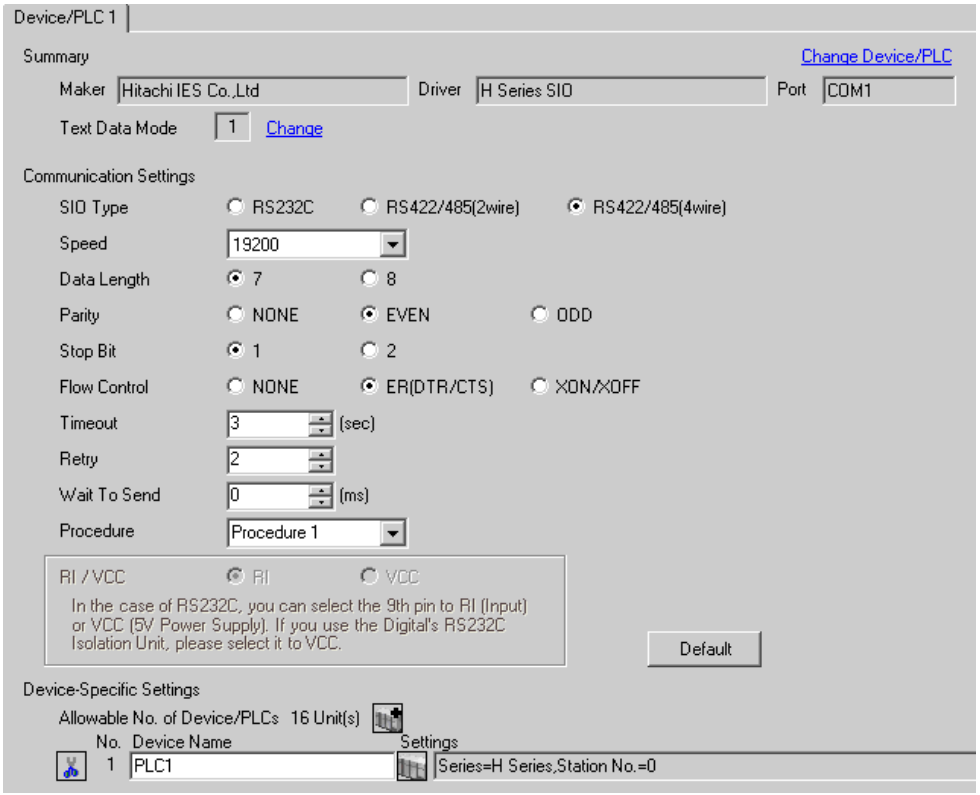
SW06	PHL	Speed Speed
OFF	OFF	4,800 bps
ON	OFF	9,600 bps
ON	ON	38,400 bps

3.7 Setting Example 7

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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.

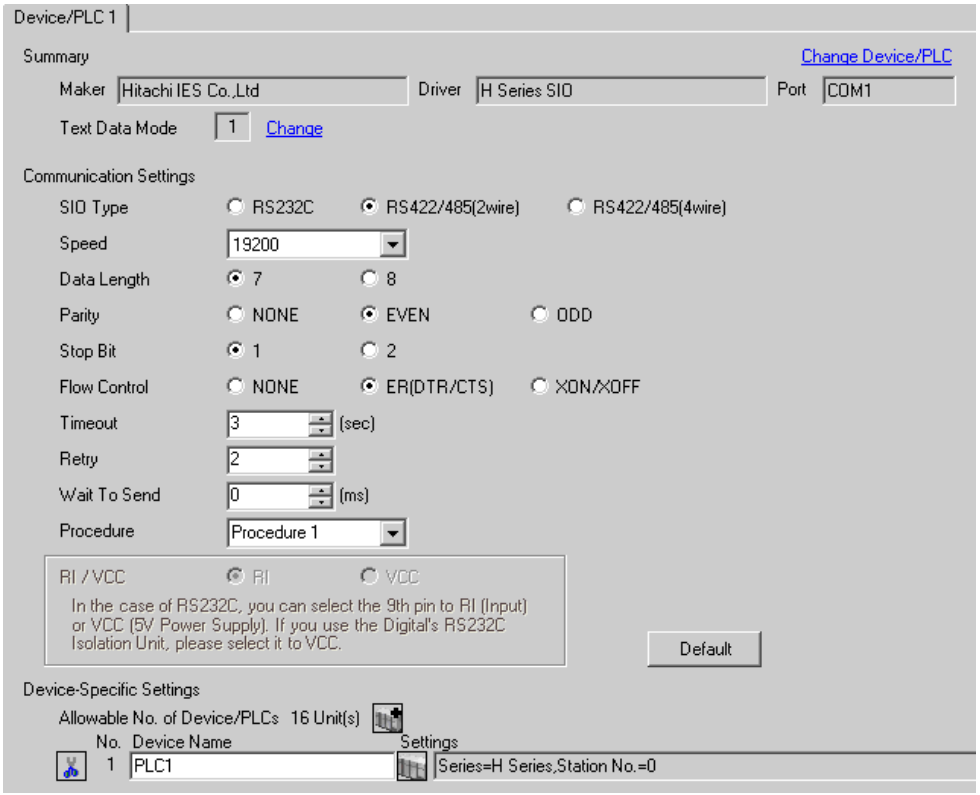
SW03	SW04	SW05	Speed Speed
ON	ON	ON	4,800 bps
OFF	ON	ON	9,600 bps
OFF	OFF	ON	38,400 bps

3.8 Setting Example 8

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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.

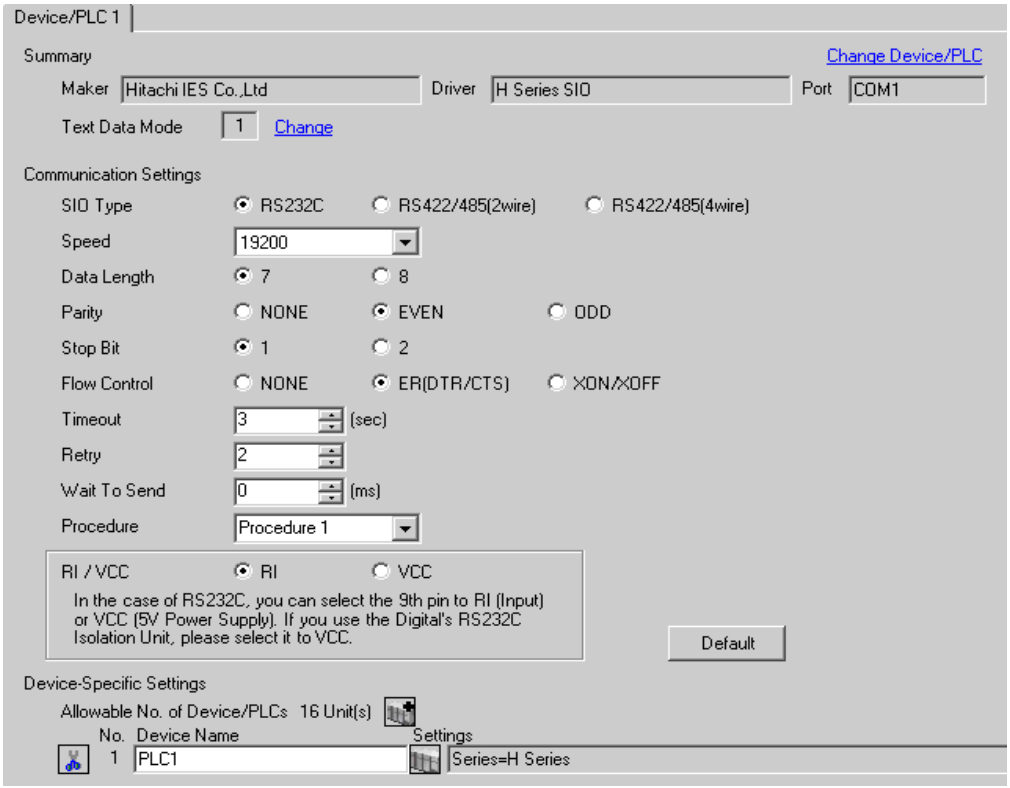
SW03	SW04	SW05	Speed Speed
ON	ON	ON	4,800 bps
OFF	ON	ON	9,600 bps
OFF	OFF	ON	38,400 bps

3.9 Setting Example 9

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

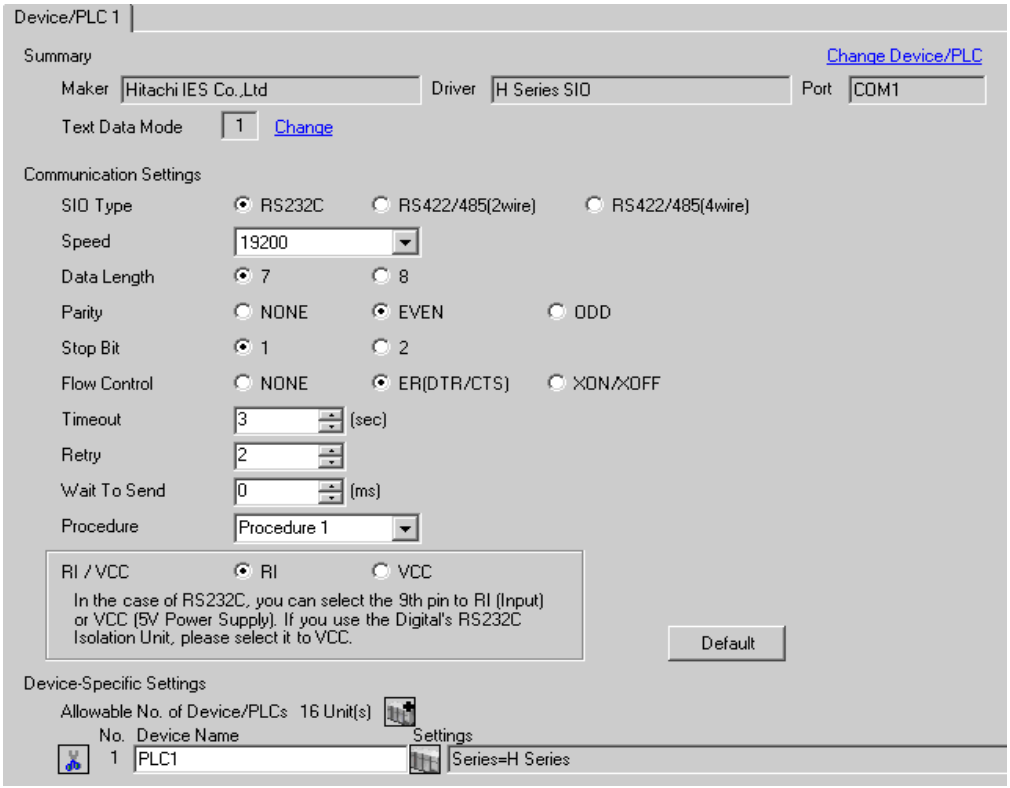
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.10 Setting Example 10

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

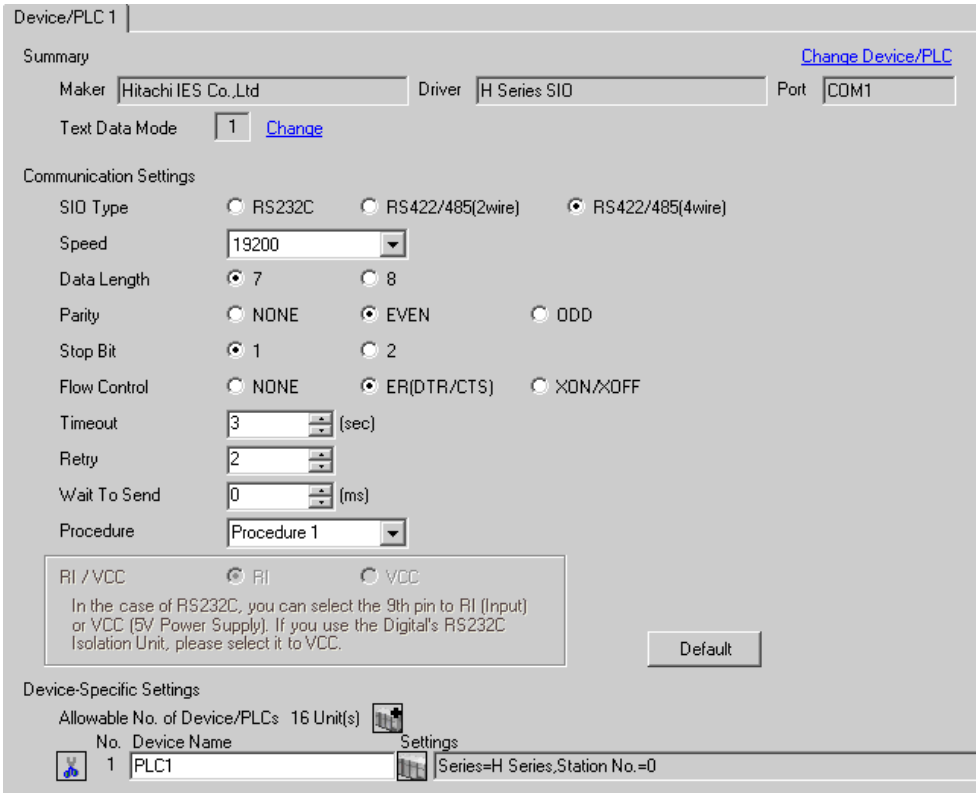
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.11 Setting Example 11

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

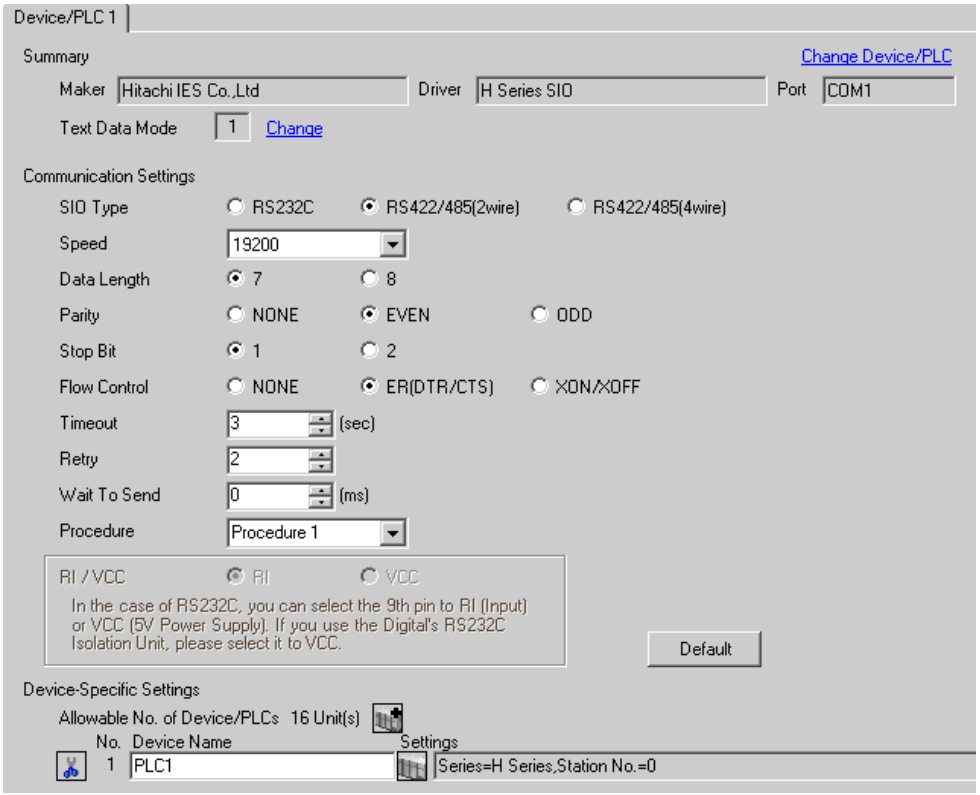
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.12 Setting Example 12

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

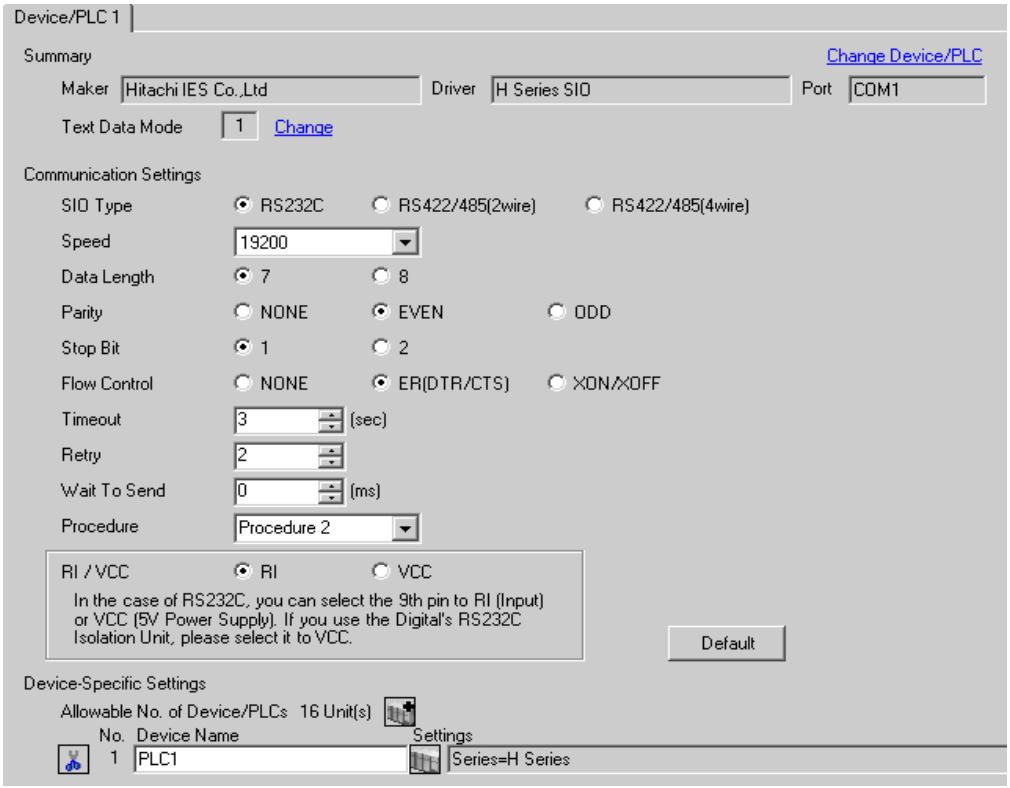
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.13 Setting Example 13

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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.

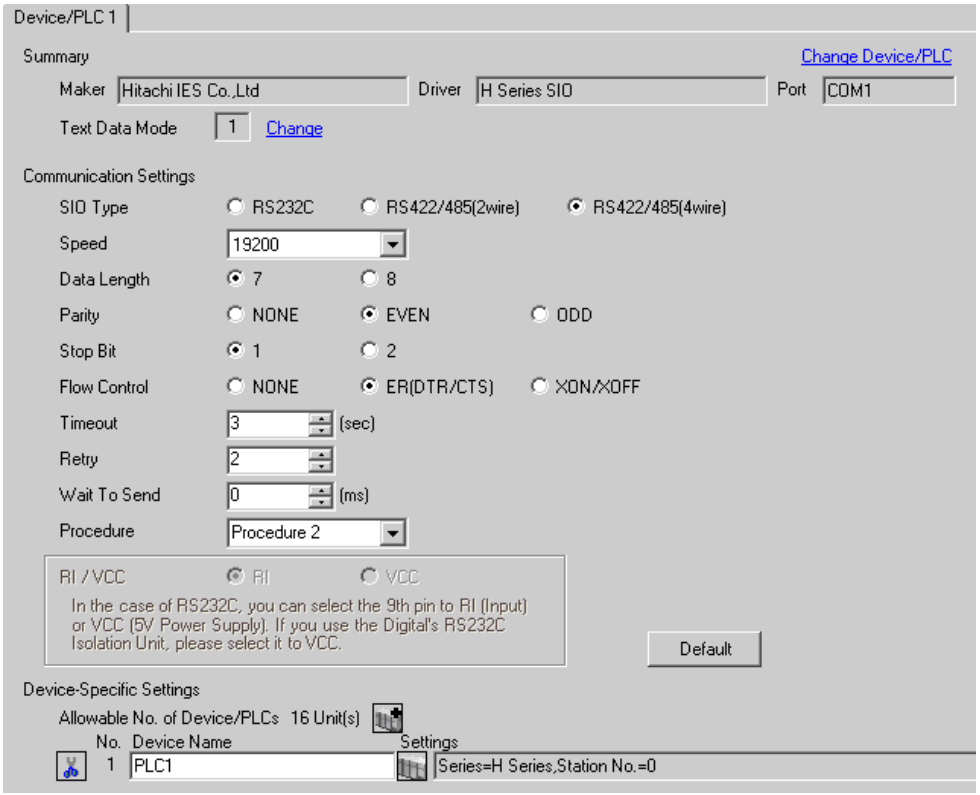
SW03	SW04	SW05	Speed Speed
ON	ON	ON	4,800 bps
OFF	ON	ON	9,600 bps
OFF	OFF	ON	38,400 bps

3.14 Setting Example 14

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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.

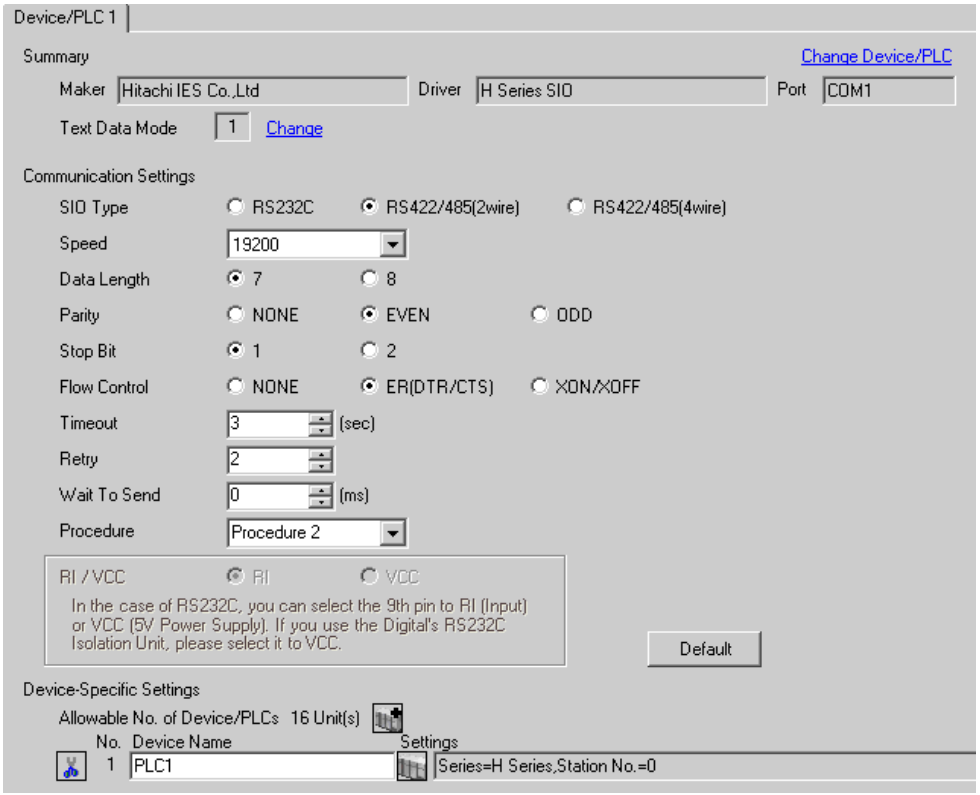
SW03	SW04	SW05	Speed Speed
ON	ON	ON	4,800 bps
OFF	ON	ON	9,600 bps
OFF	OFF	ON	38,400 bps

3.15 Setting Example 15

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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.

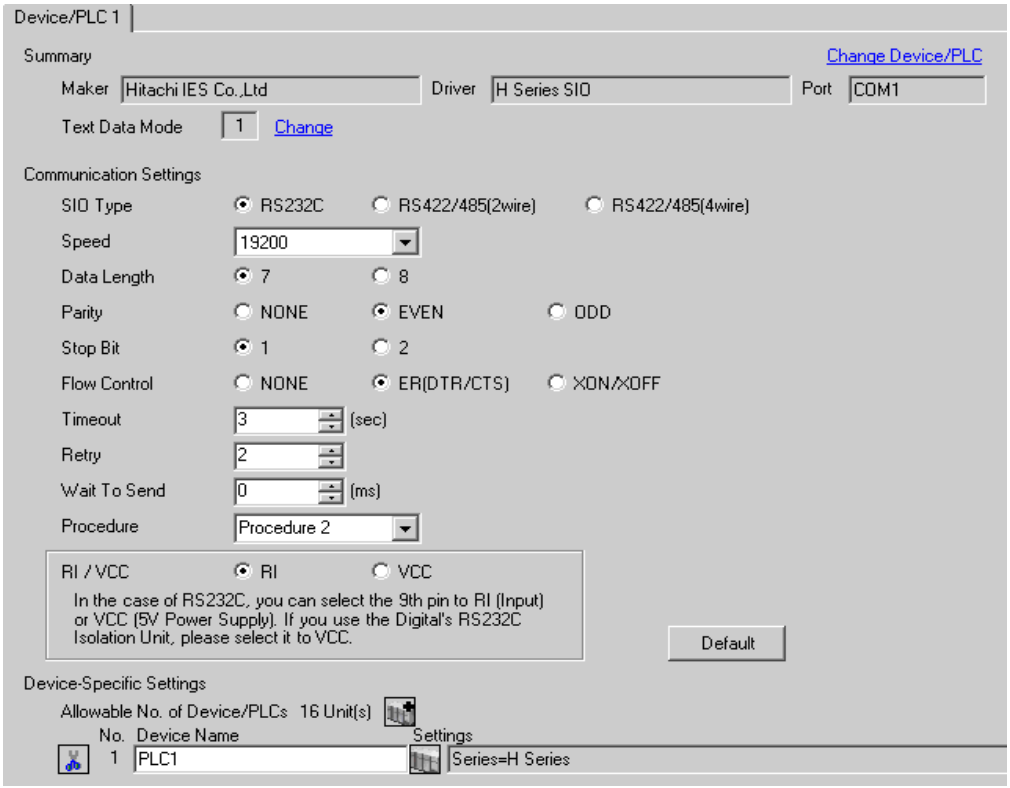
SW03	SW04	SW05	Speed Speed
ON	ON	ON	4,800 bps
OFF	ON	ON	9,600 bps
OFF	OFF	ON	38,400 bps

3.16 Setting Example 16

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

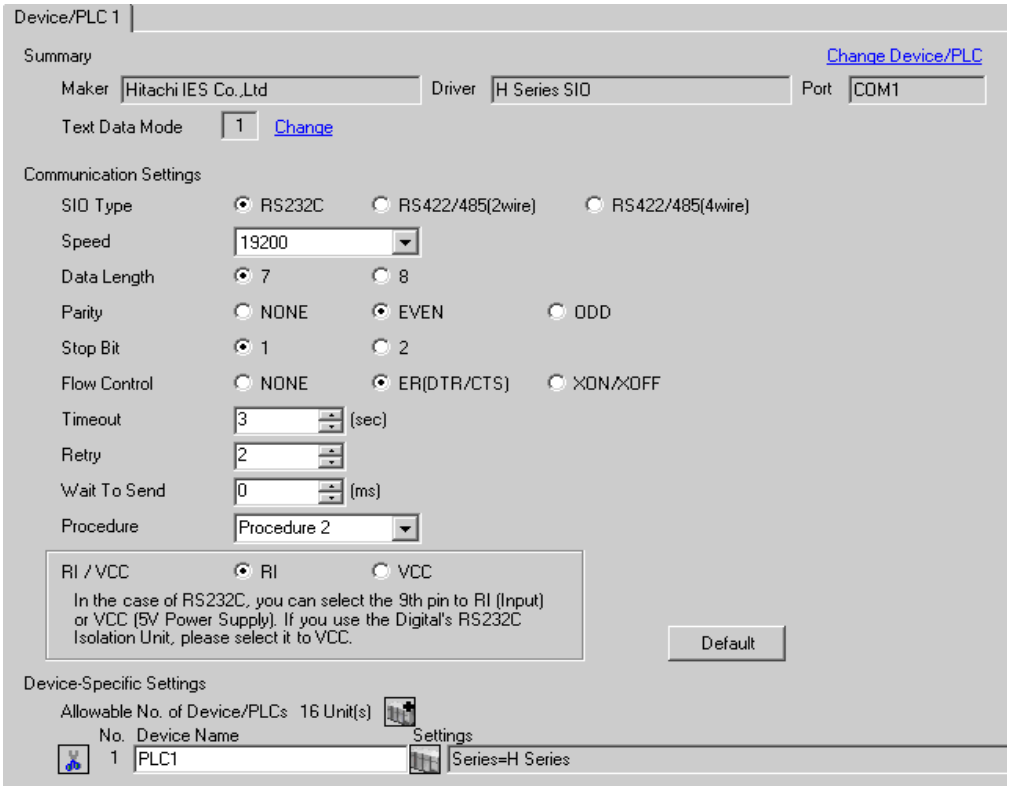
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.17 Setting Example 17

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

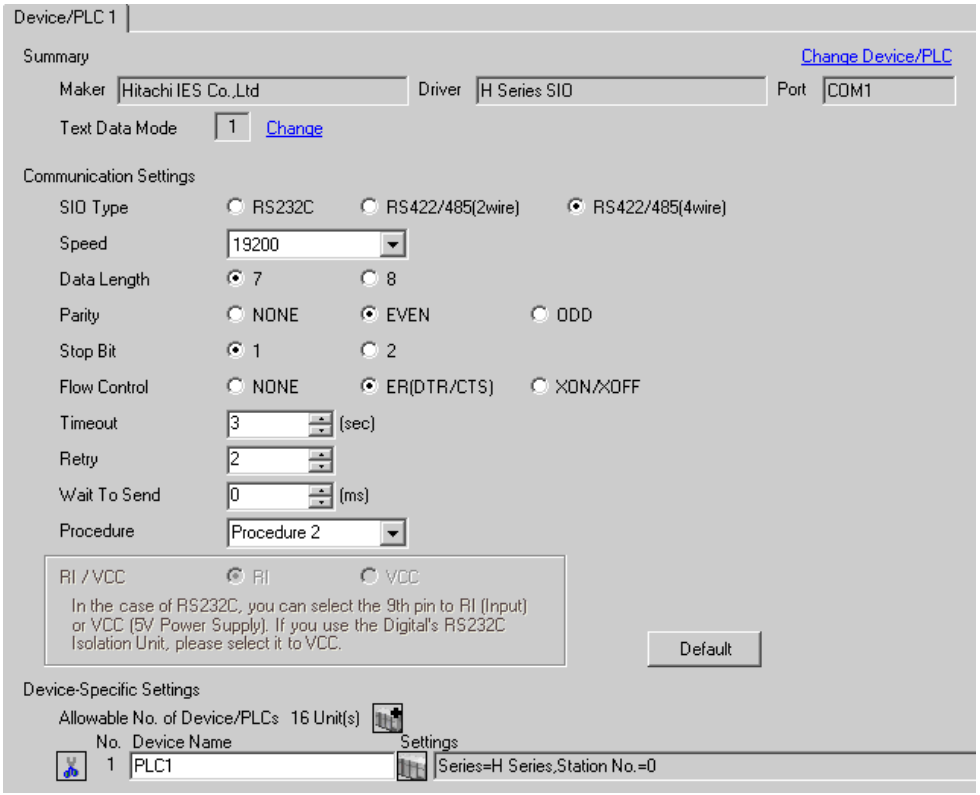
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.18 Setting Example 18

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

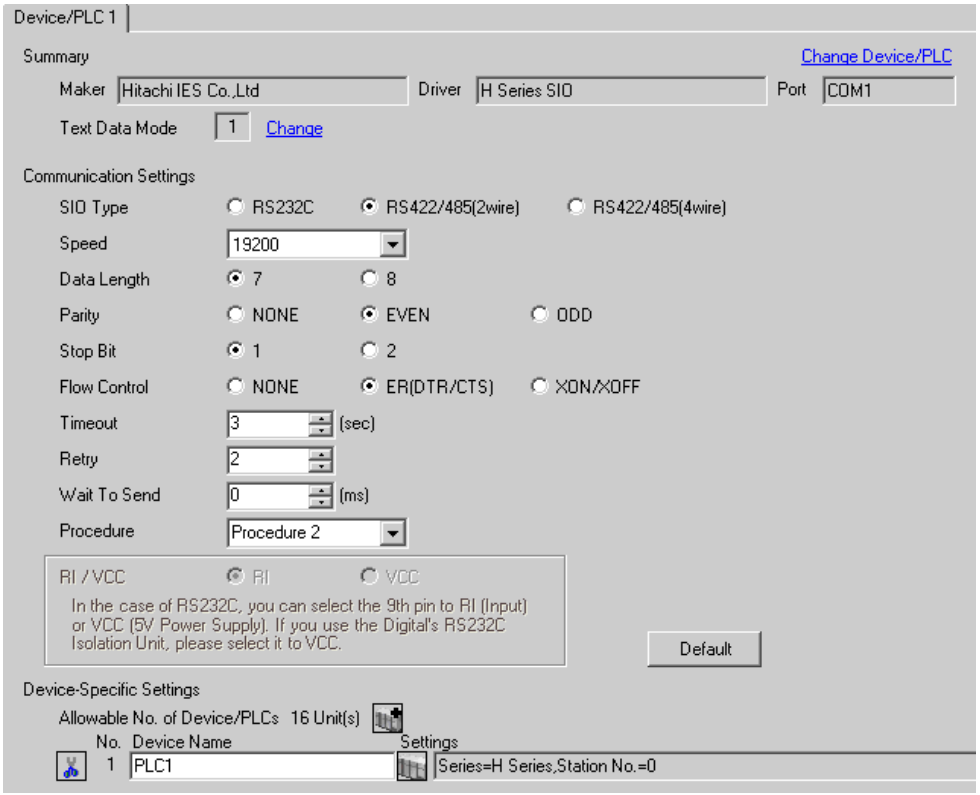
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.19 Setting Example 19

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

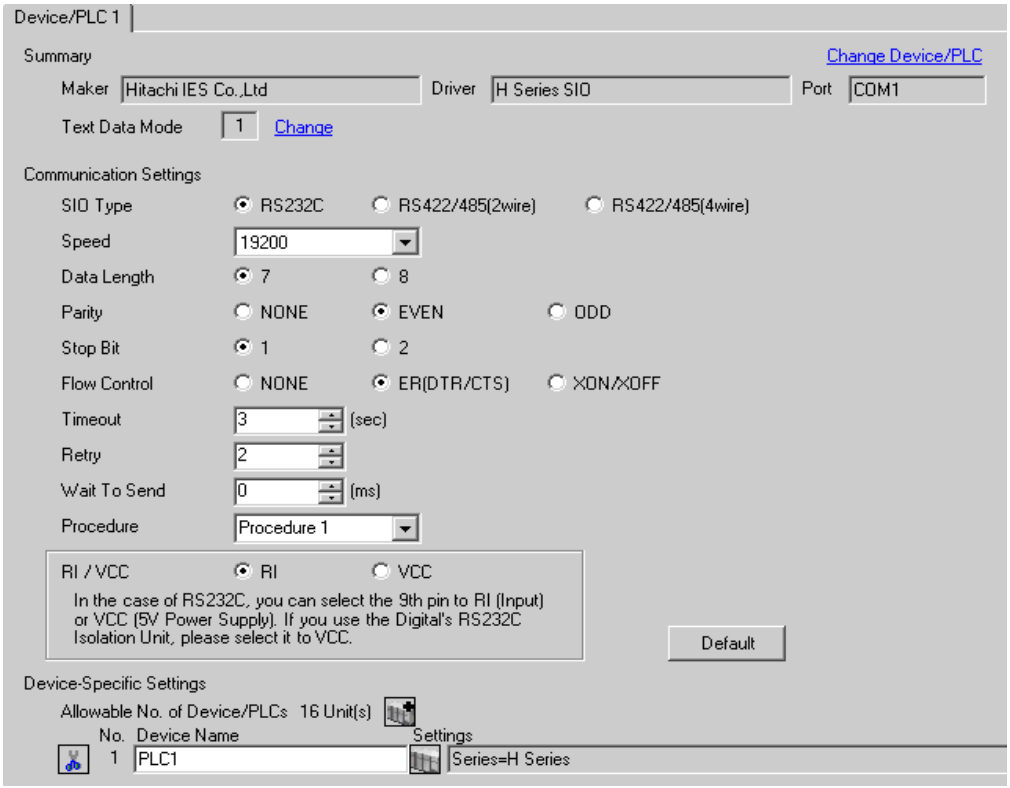
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.20 Setting Example 20

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

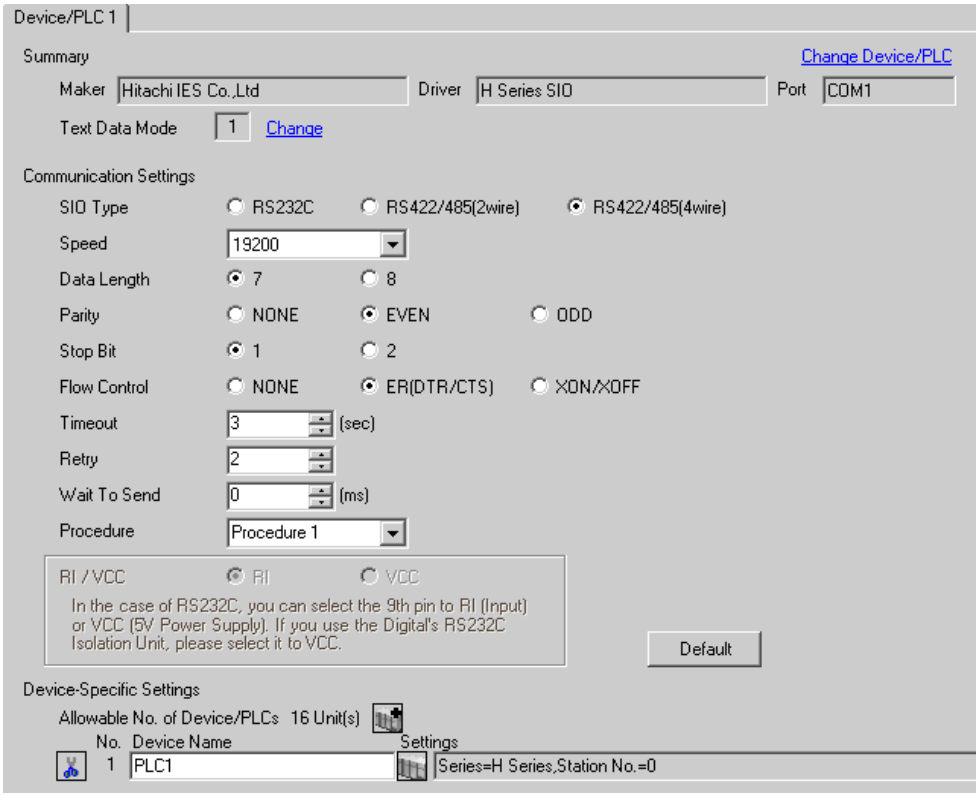
3. Turn ON the power of the External Device again.

3.21 Setting Example 21

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

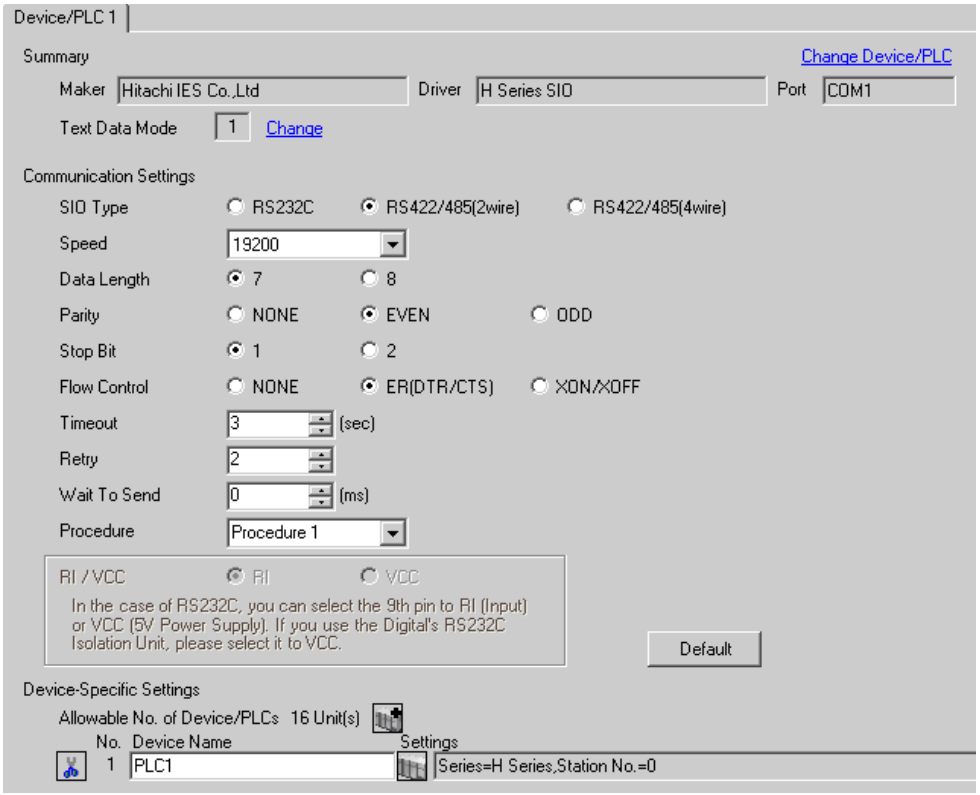
2. Turn ON the power of the External Device again.

3.22 Setting Example 22

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

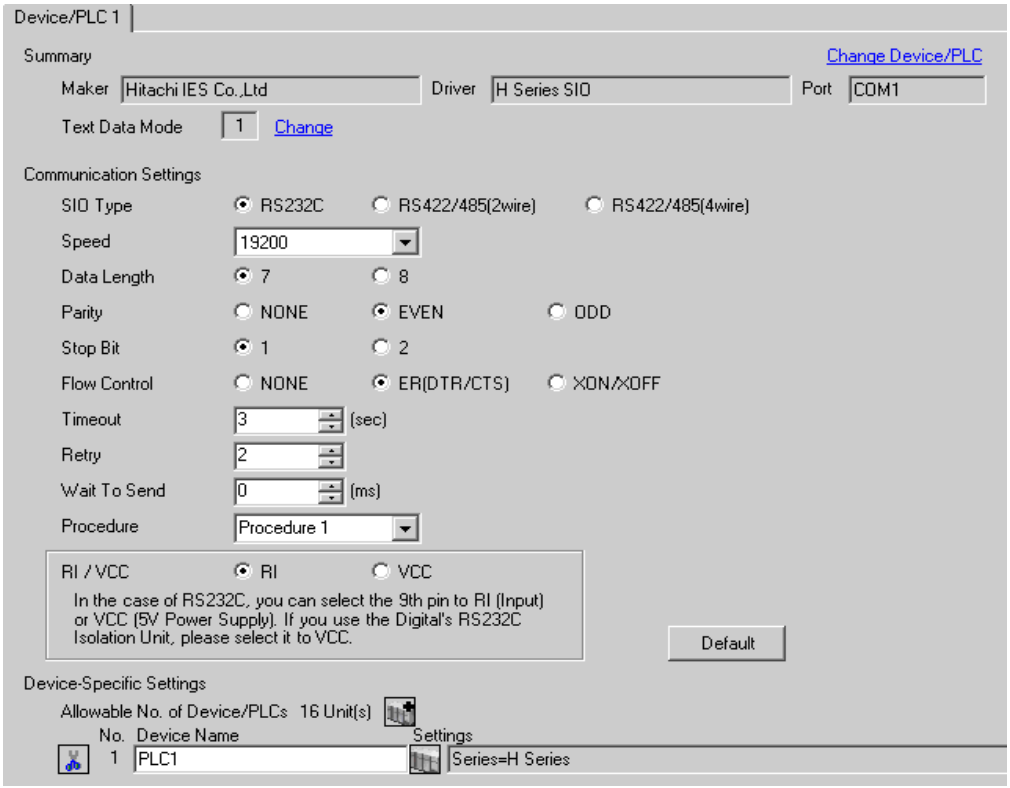
2. Turn ON the power of the External Device again.

3.23 Setting Example 23

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

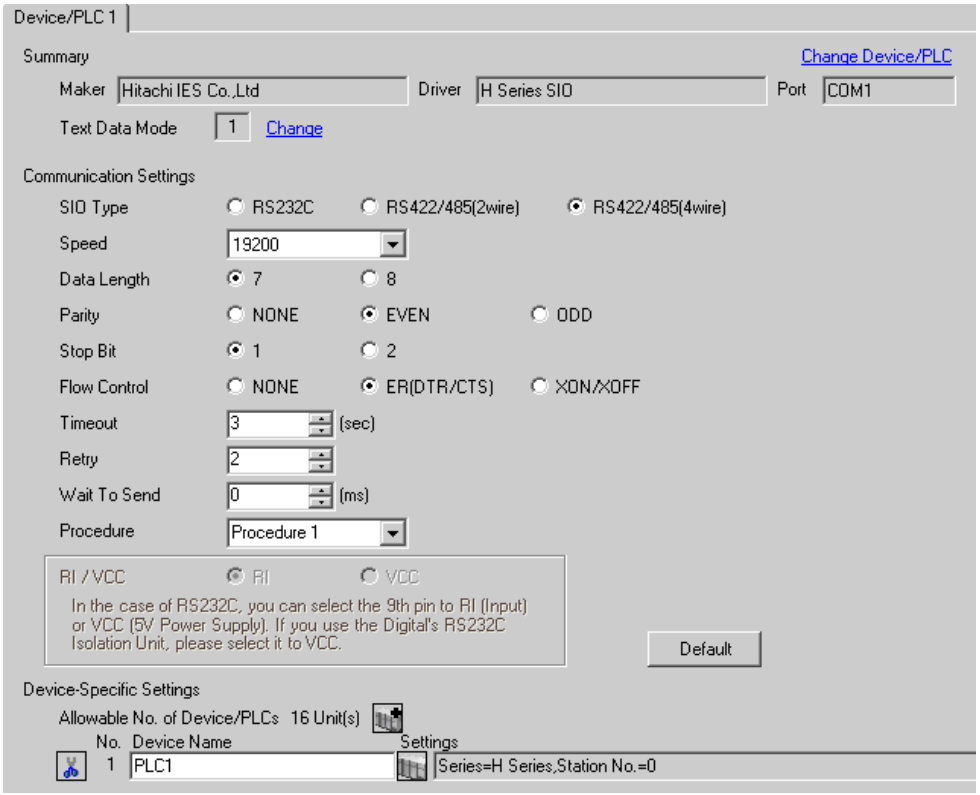
2. Turn ON the power of the External Device again.

3.24 Setting Example 24

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

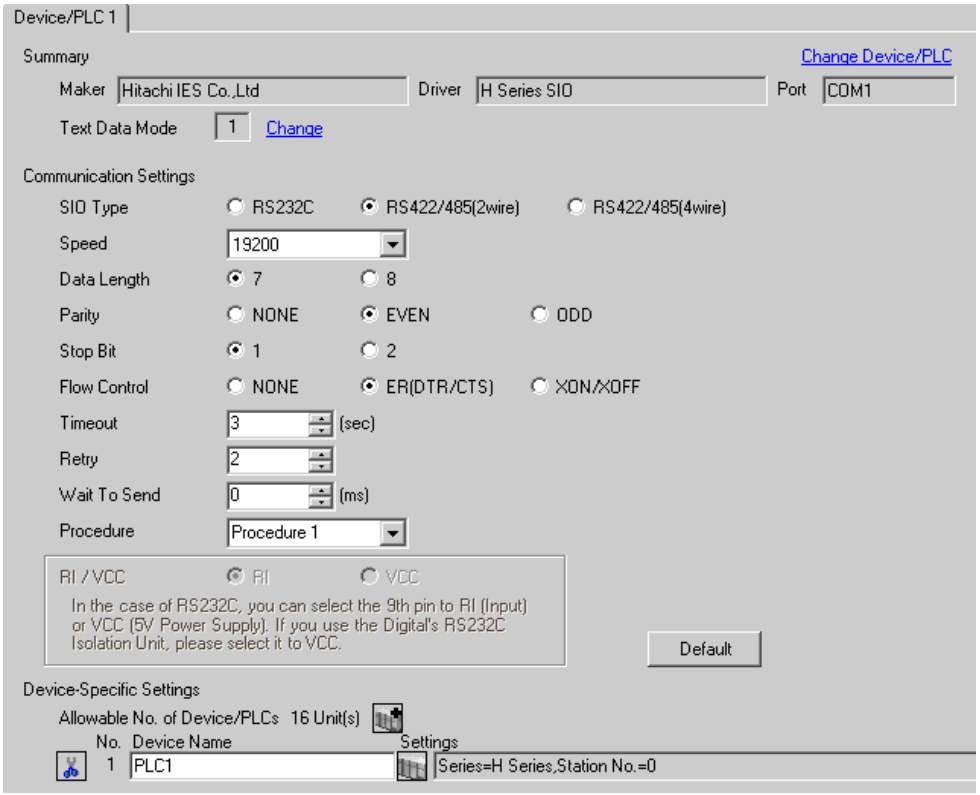
2. Turn ON the power of the External Device again.

3.25 Setting Example 25

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

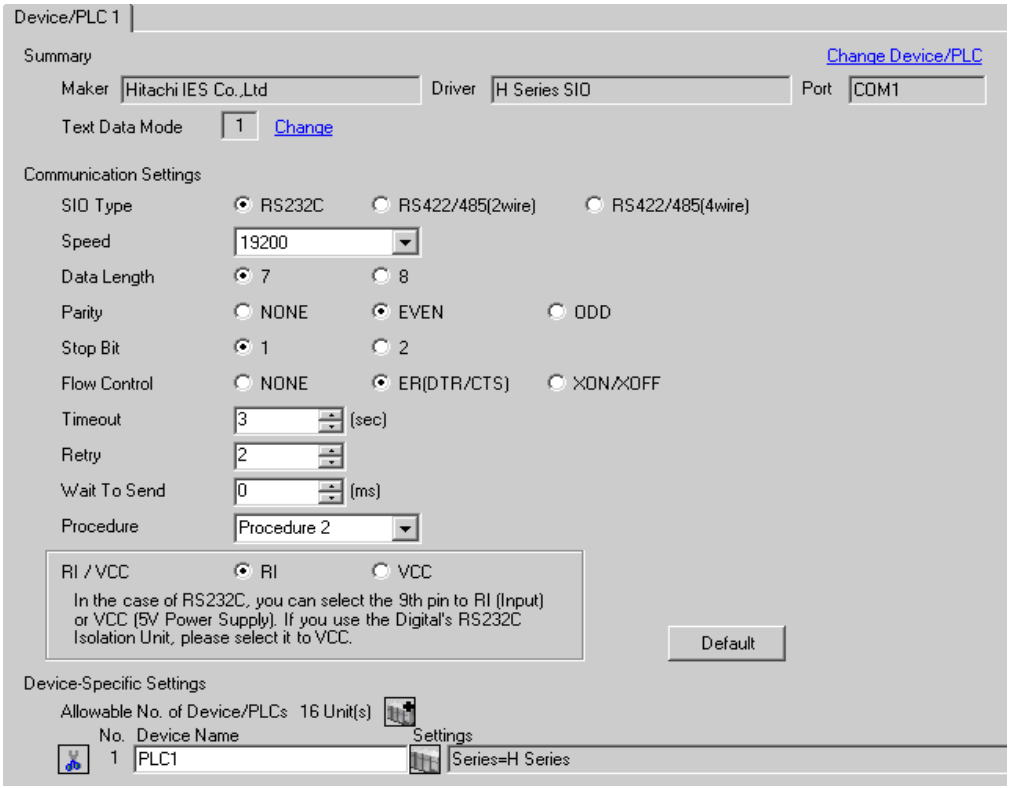
2. Turn ON the power of the External Device again.

3.26 Setting Example 26

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

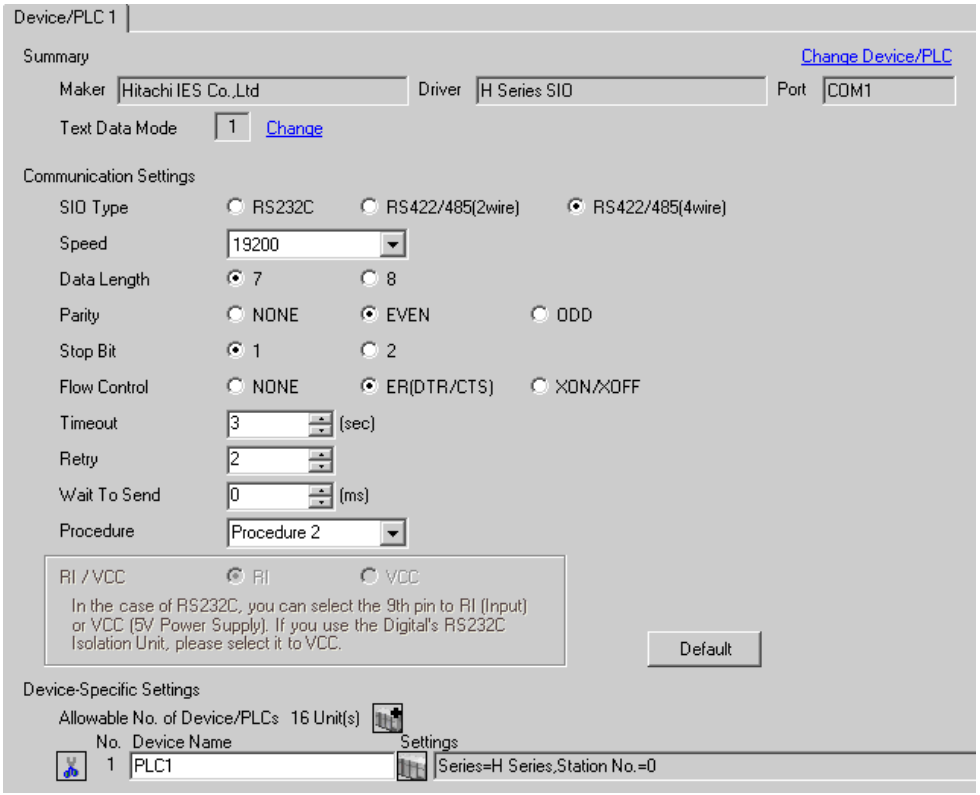
3. Turn ON the power of the External Device again.

3.27 Setting Example 27

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

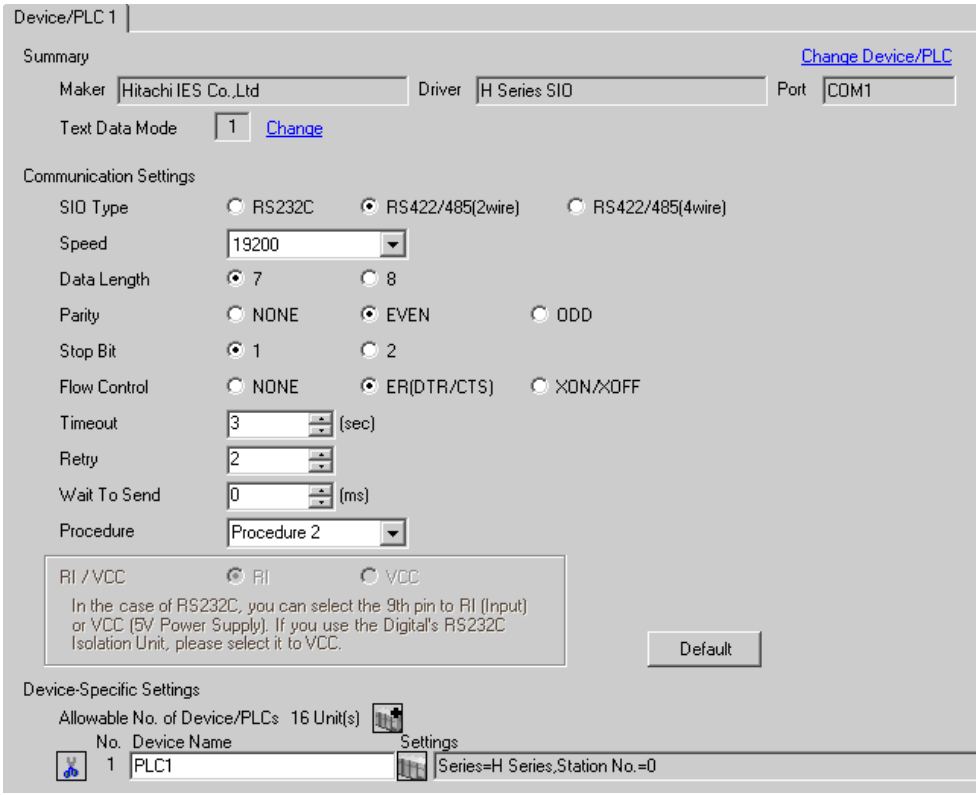
2. Turn ON the power of the External Device again.

3.28 Setting Example 28

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

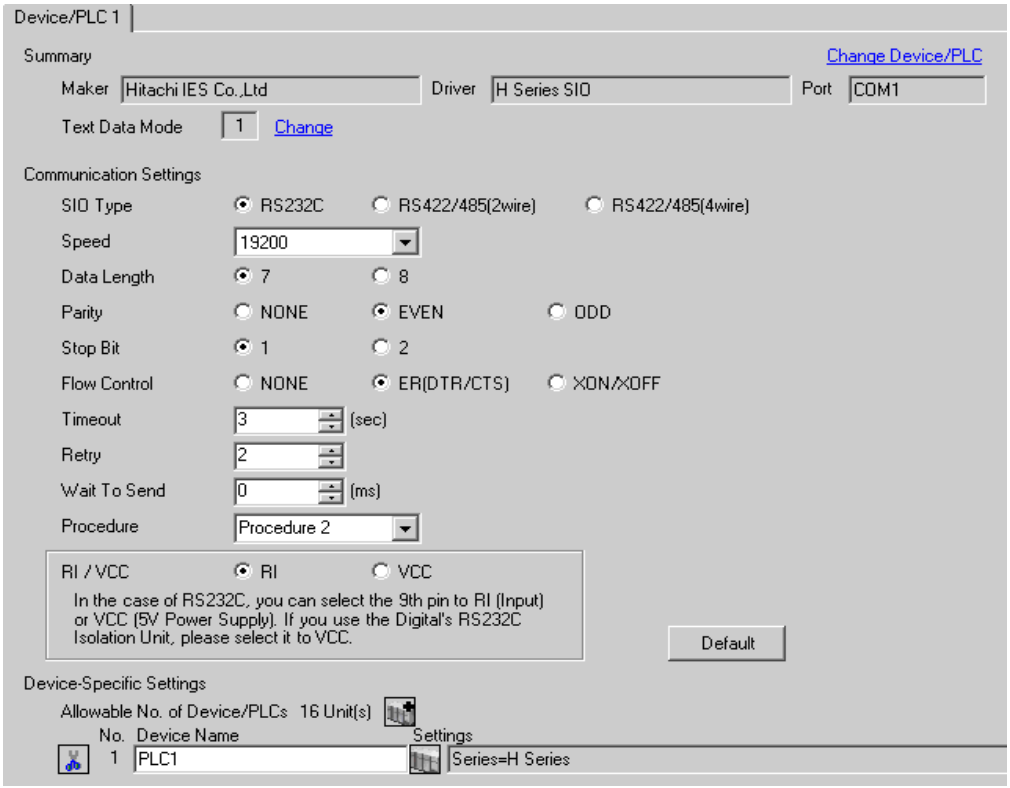
2. Turn ON the power of the External Device again.

3.29 Setting Example 29

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

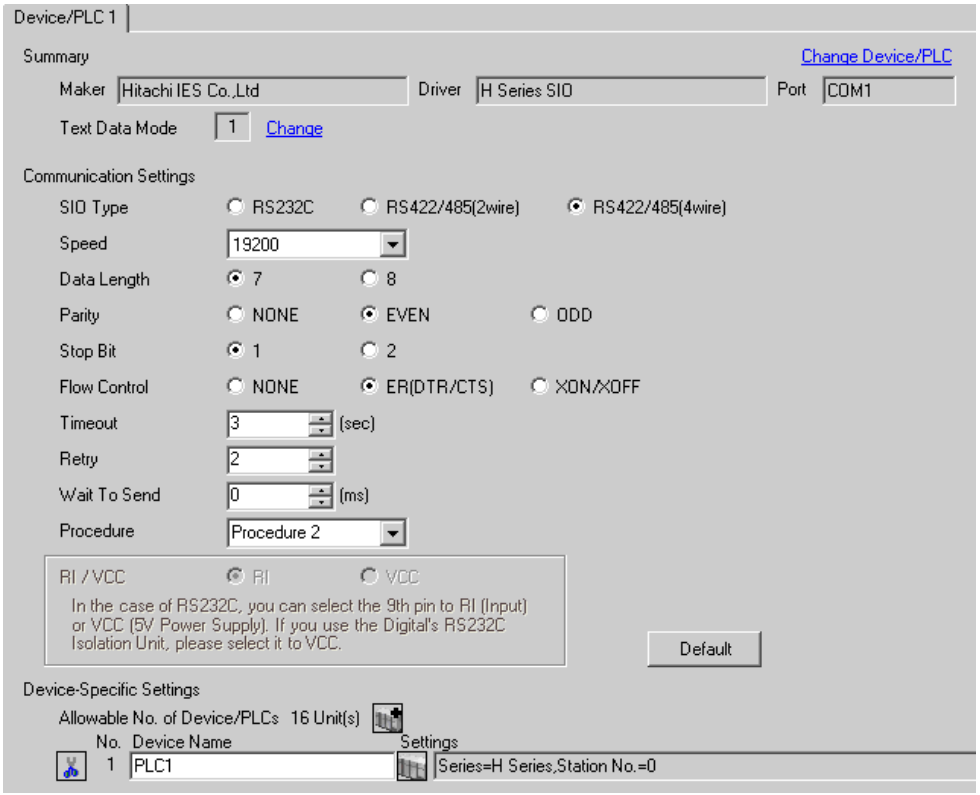
2. Turn ON the power of the External Device again.

3.30 Setting Example 30

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

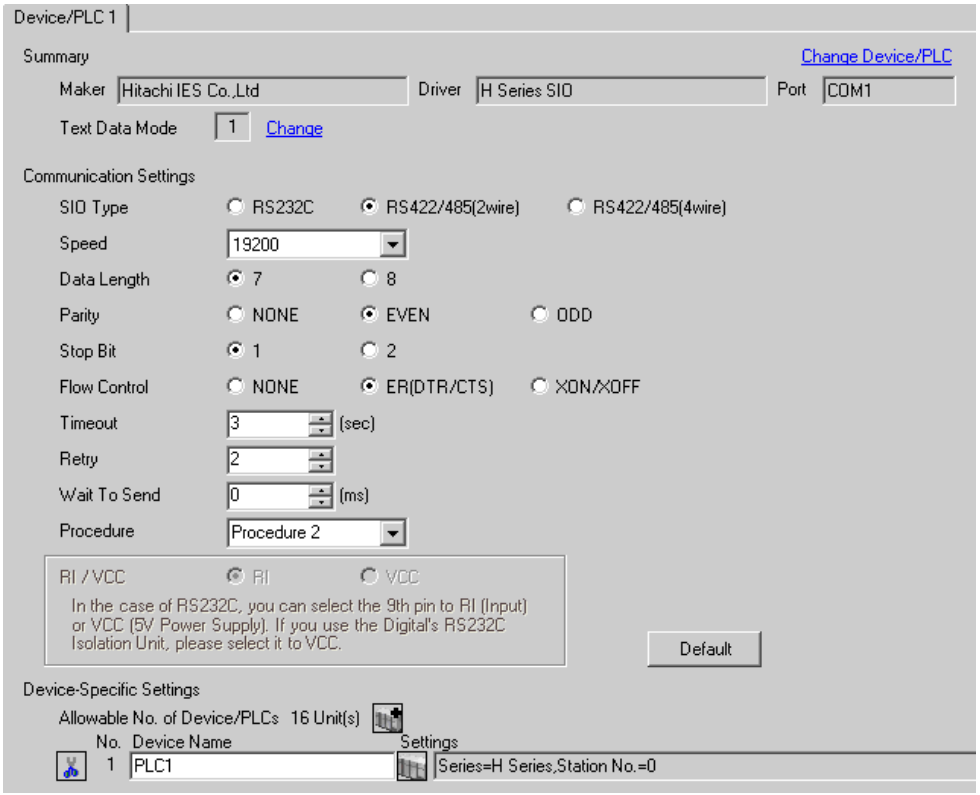
2. Turn ON the power of the External Device again.

3.31 Setting Example 31

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

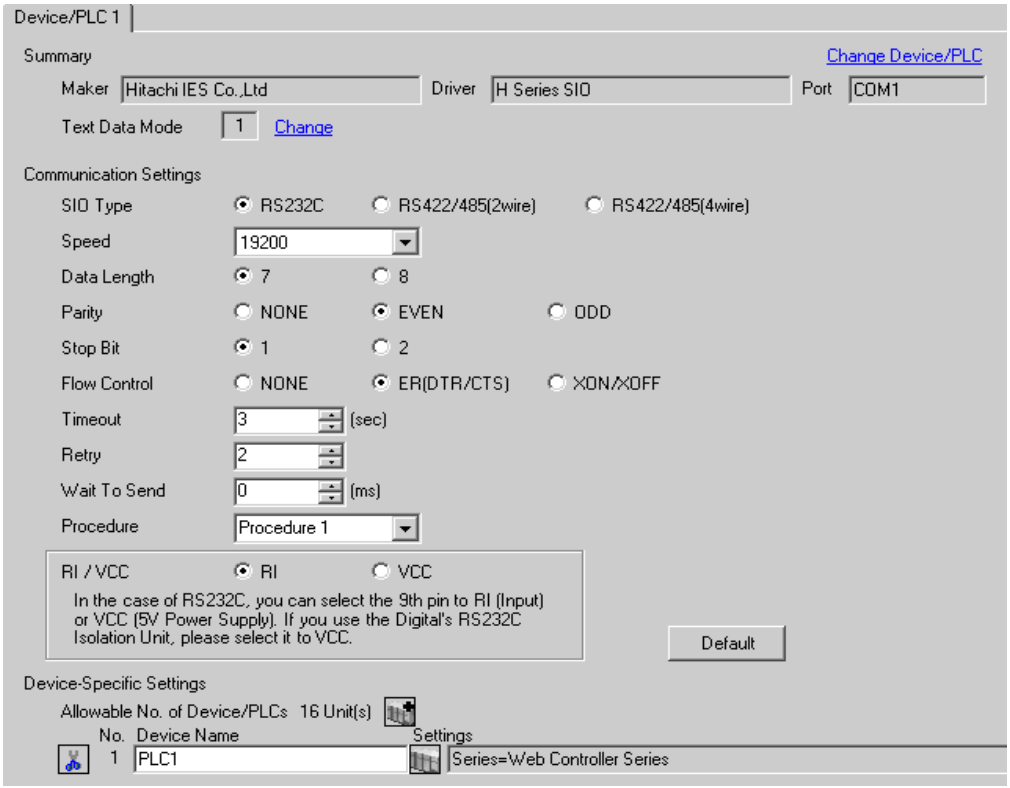
2. Turn ON the power of the External Device again.

3.32 Setting Example 32

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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].

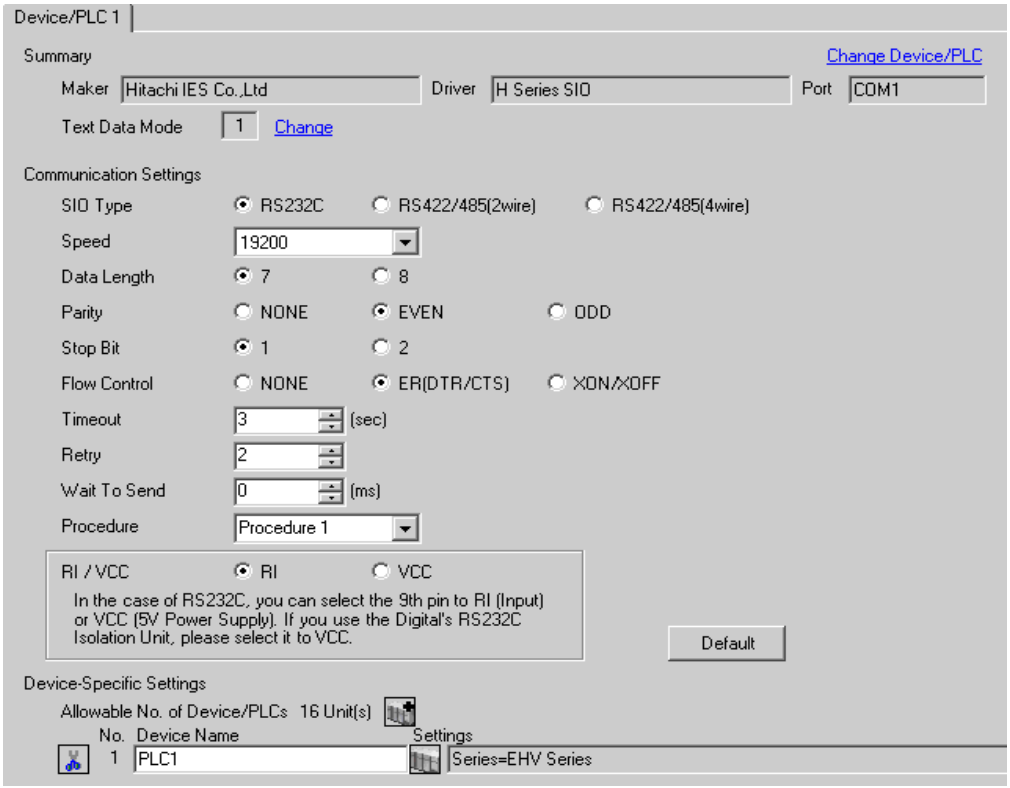
6. Set the operation mode setting switch of the External Device and turn ON the power again.
   <Operation Mode Setting Switch>
   •Set the rotary switch to "0"

3.33 Setting Example 33

■ Settings of GP-Pro EX

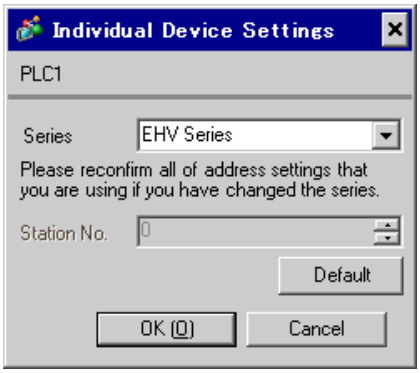
◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ 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)].

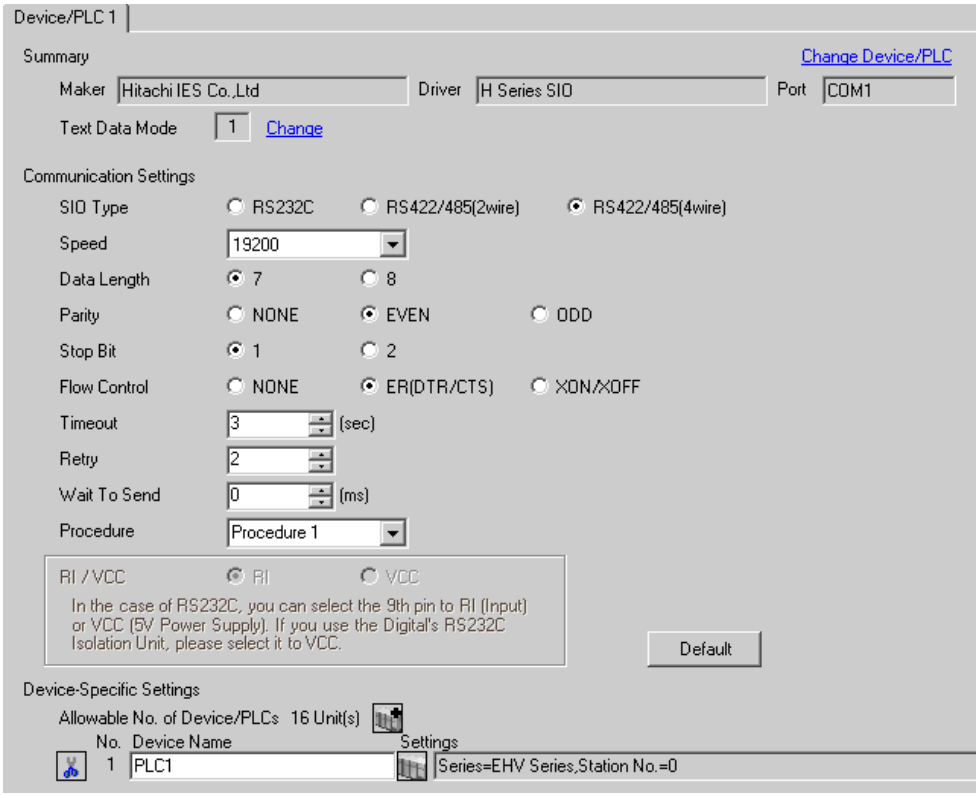
7. Turn ON the power of the External Device again.

3.34 Setting Example 34

■ Settings of GP-Pro EX

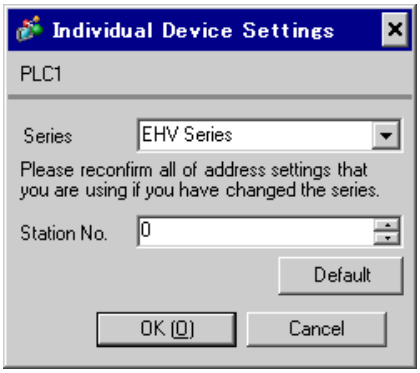
◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ 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.

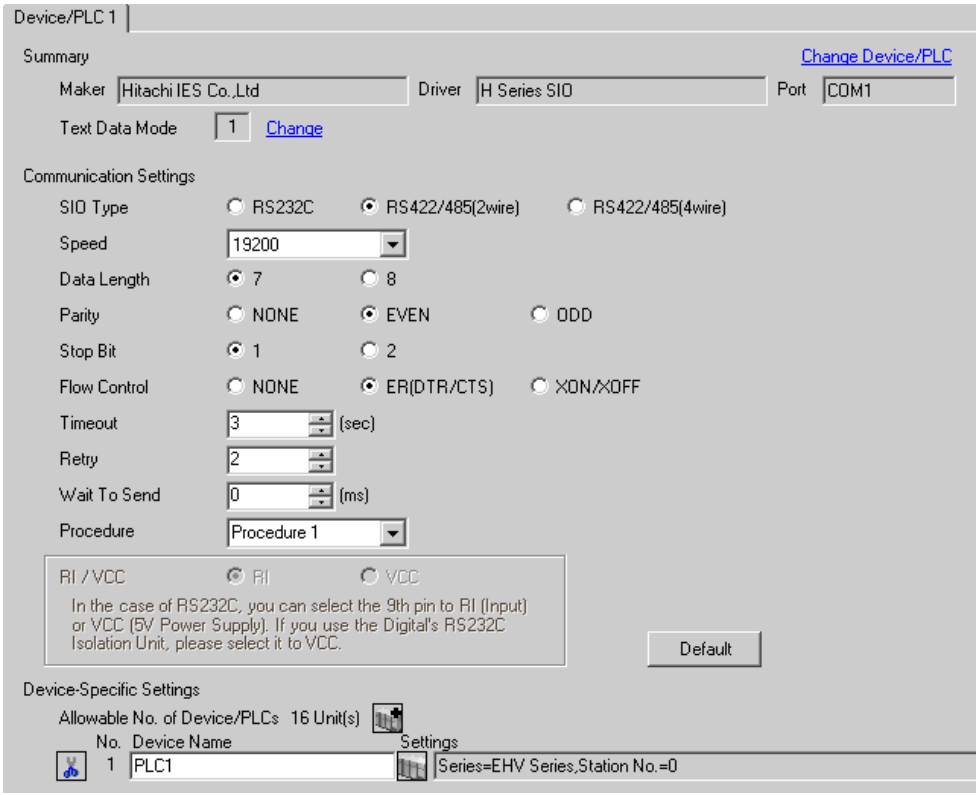
7. Turn ON the power of the External Device again.

3.35 Setting Example 35

■ Settings of GP-Pro EX

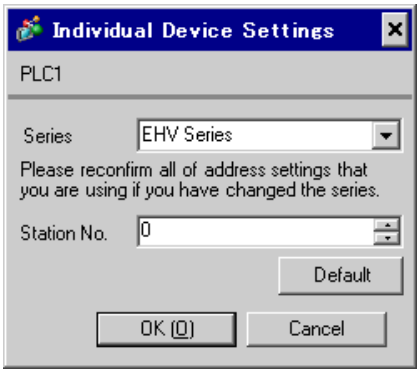
◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ 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.

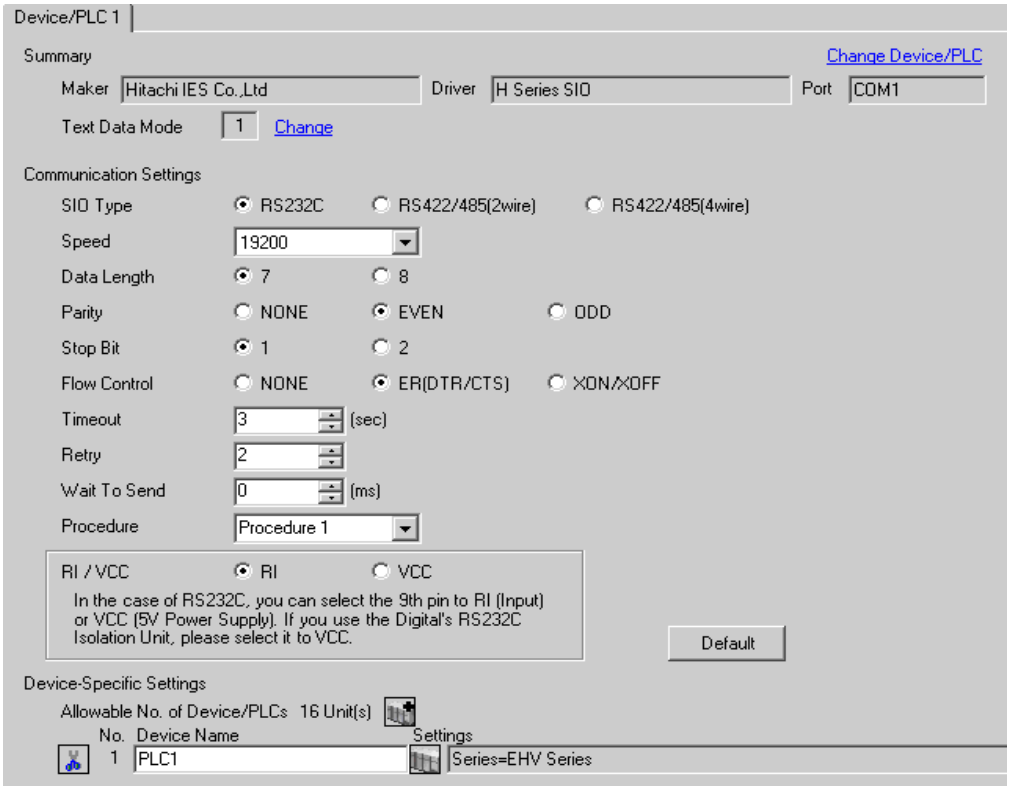
7. Turn ON the power of the External Device again.

3.36 Setting Example 36

■ Settings of GP-Pro EX

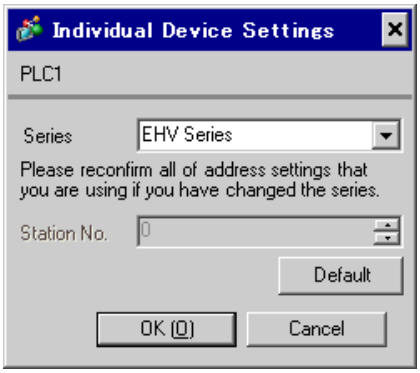
◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ 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 1 (for Port 1)

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

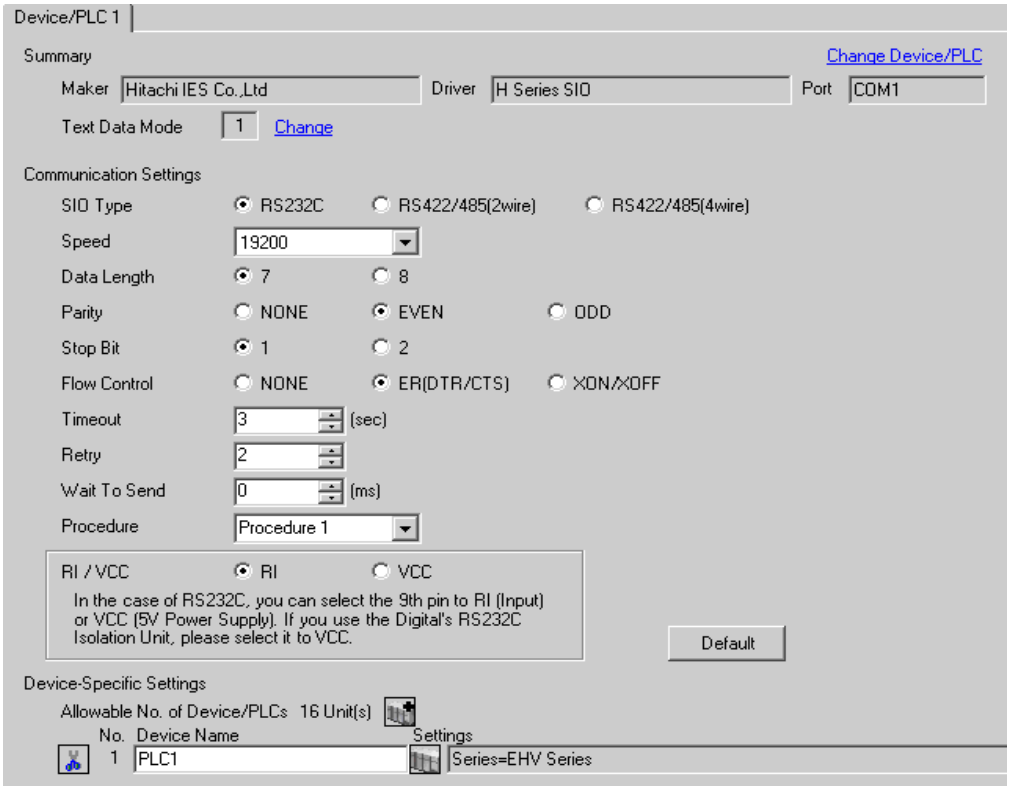
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.37 Setting Example 37

■ Settings of GP-Pro EX

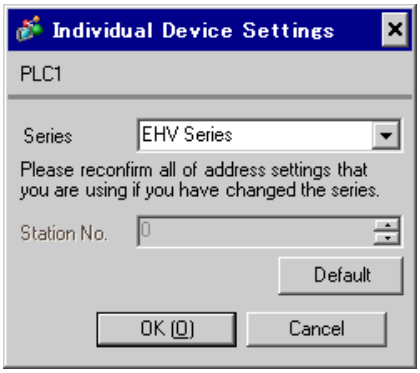
◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ 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

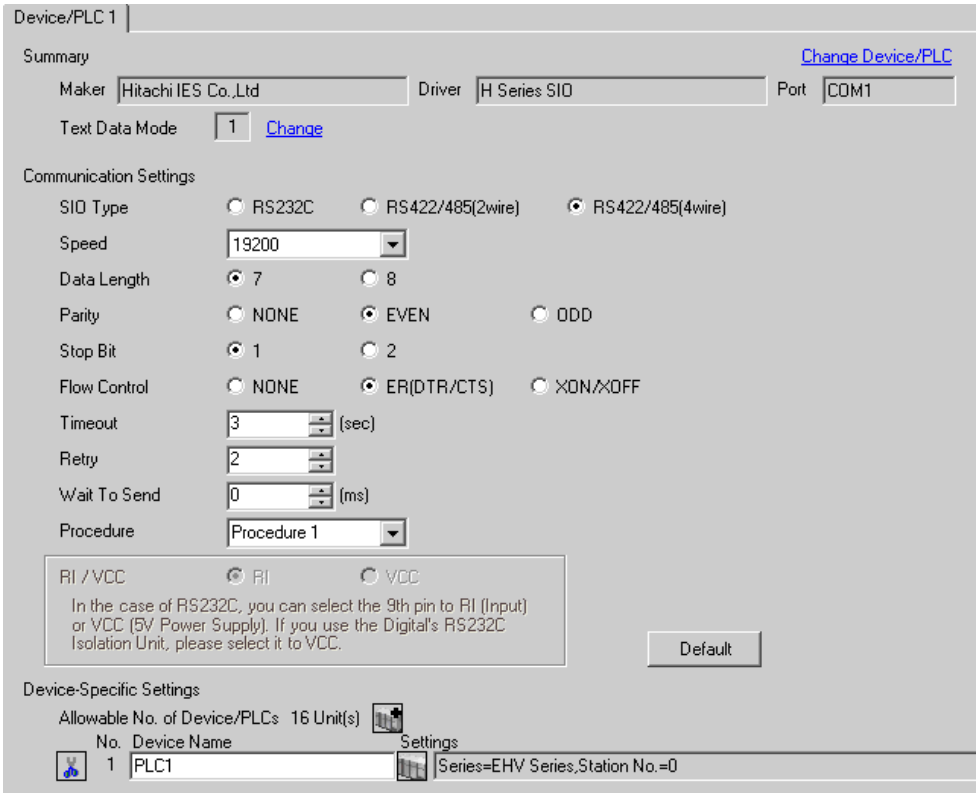
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.38 Setting Example 38

■ Settings of GP-Pro EX

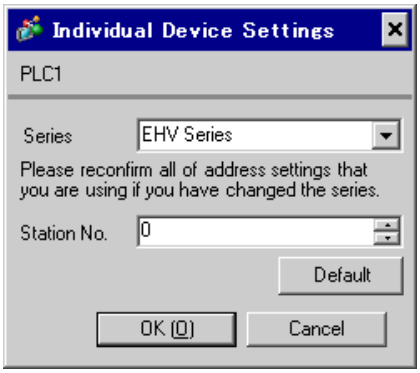
◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ 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/RS485C

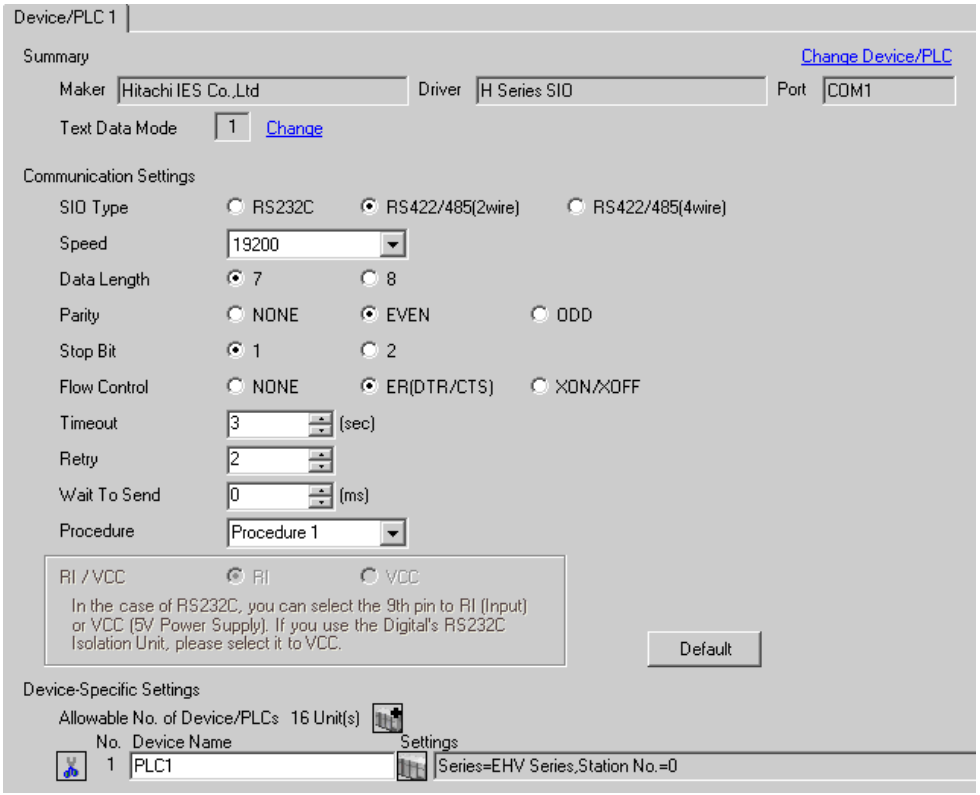
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.39 Setting Example 39

■ Settings of GP-Pro EX

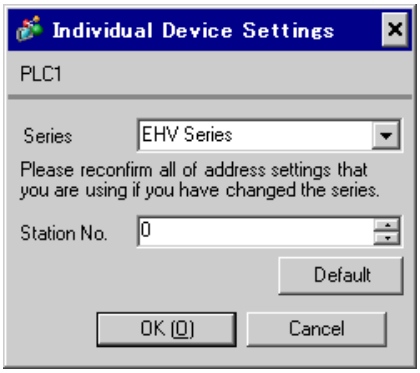
◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].



■ 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/RS485C

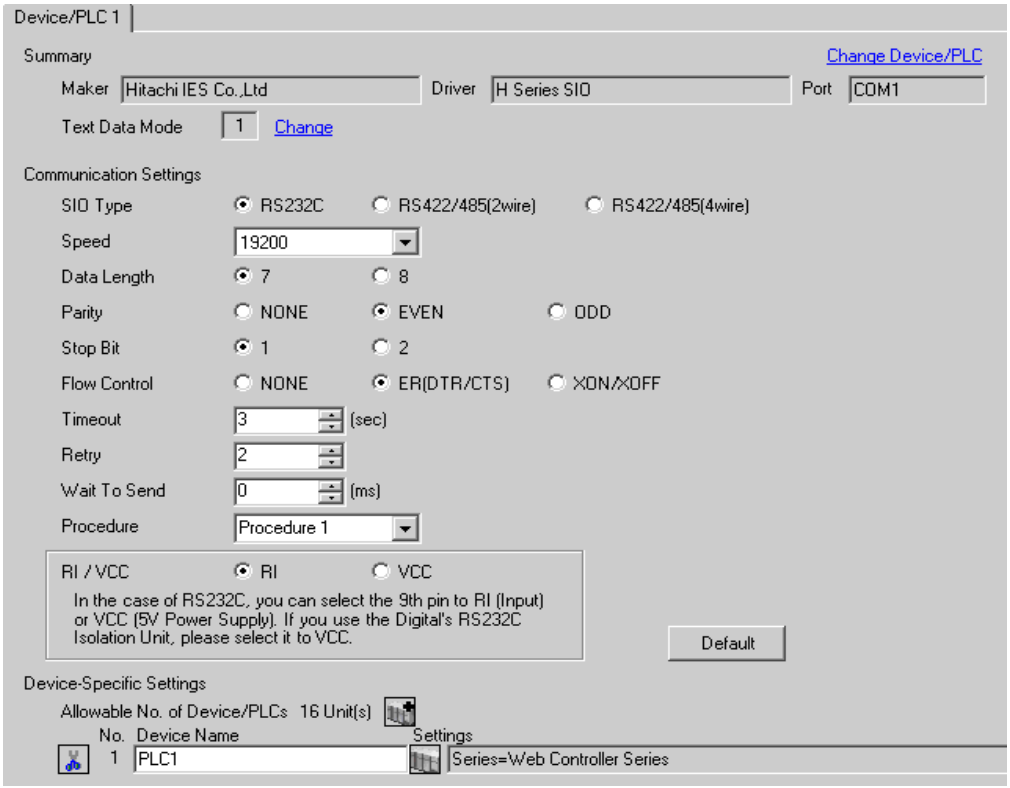
2. Ladder program is required for initial settings. Please refer to the manual of the External Device for more details.

3.40 Setting Example 40

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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].

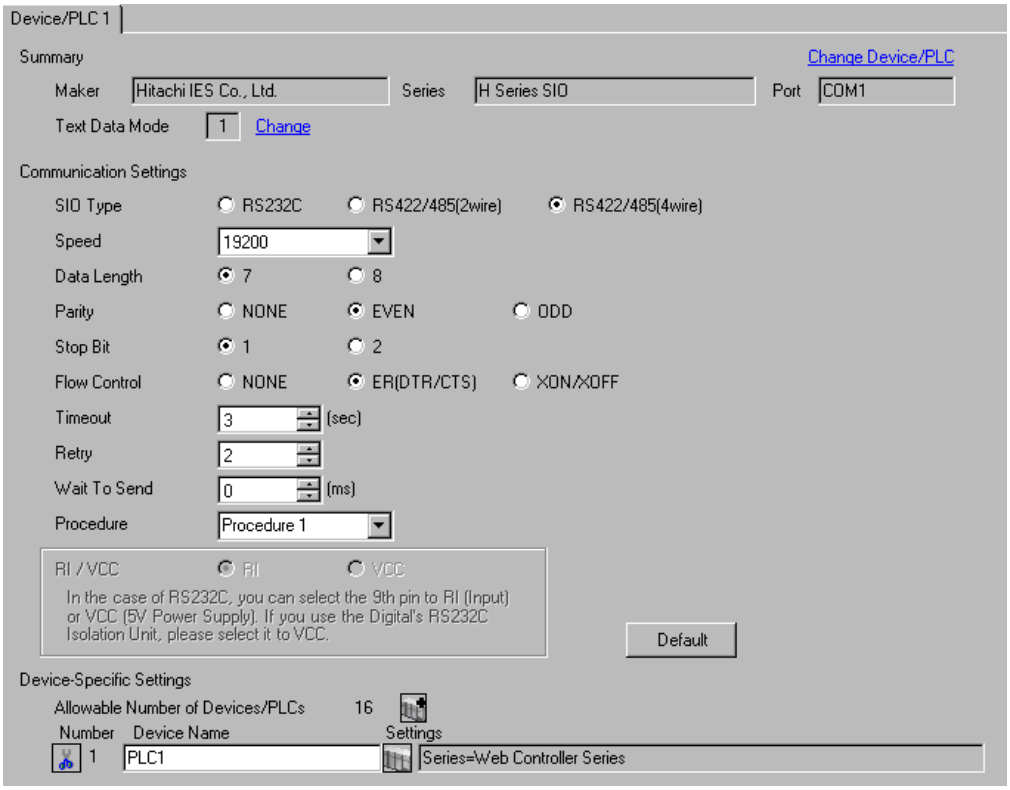
6. Set the operation mode setting switch of the External Device and turn ON the power again.
   <Operation Mode Setting Switch>
   •Set all the DIP switch to OFF

3.41 Setting Example 41

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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].

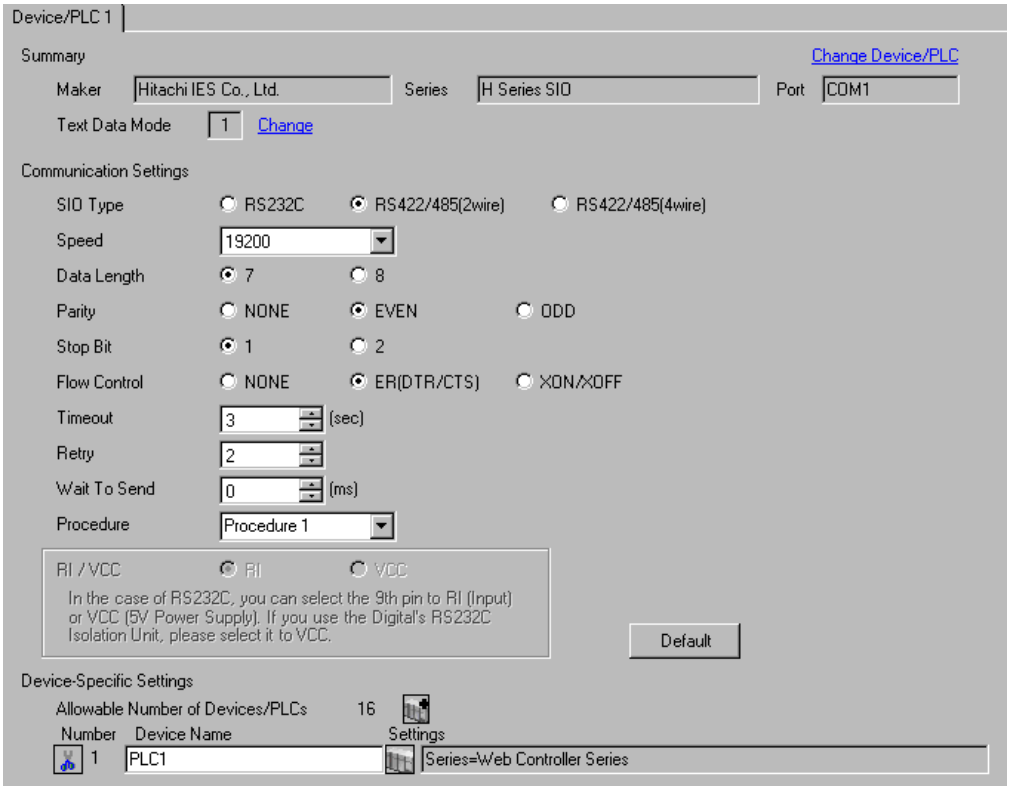
6. Set the operation mode setting switch of the External Device and turn ON the power again.
   <Operation Mode Setting Switch>
   •Set all the DIP switch to OFF

3.42 Setting Example 42

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

■ 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

4 Setup Items

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

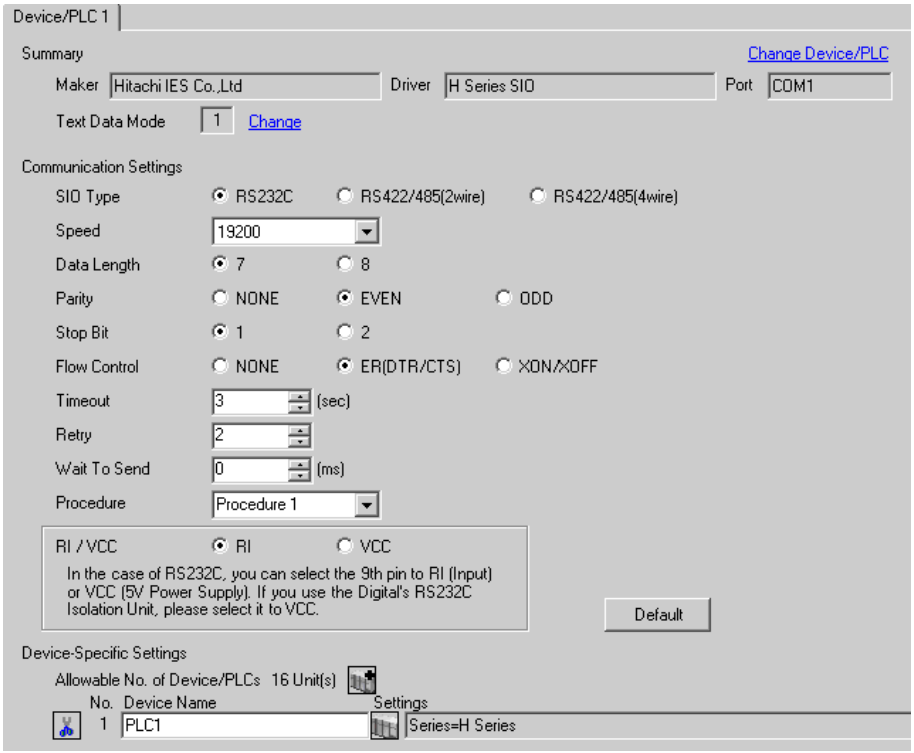
The setting of each parameter must be identical to that of External Device.

☞"3 Example of Communication Setting" (page 11)

4.1 Setup Items in GP-Pro EX

■ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



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.

Continues to the next page.

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.

■ Device Setting

To display the setting screen, click  ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When connecting multiple External Devices, you can click  from [Device-Specific Settings] of [Device/PLC Settings] to add the External Device which is available to set.

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 Off-Line Mode

NOTE

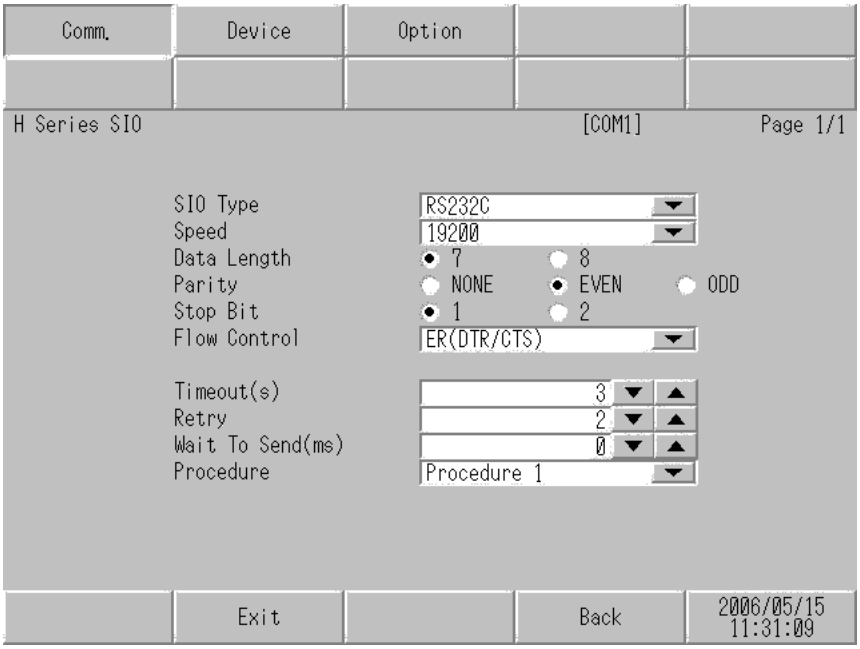
- Refer to the Maintenance/Troubleshooting manual for information on how to enter off-line mode or about the operation.

  Cf. Maintenance/Troubleshooting Manual "Off-line Mode"

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

■ Communication Settings

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

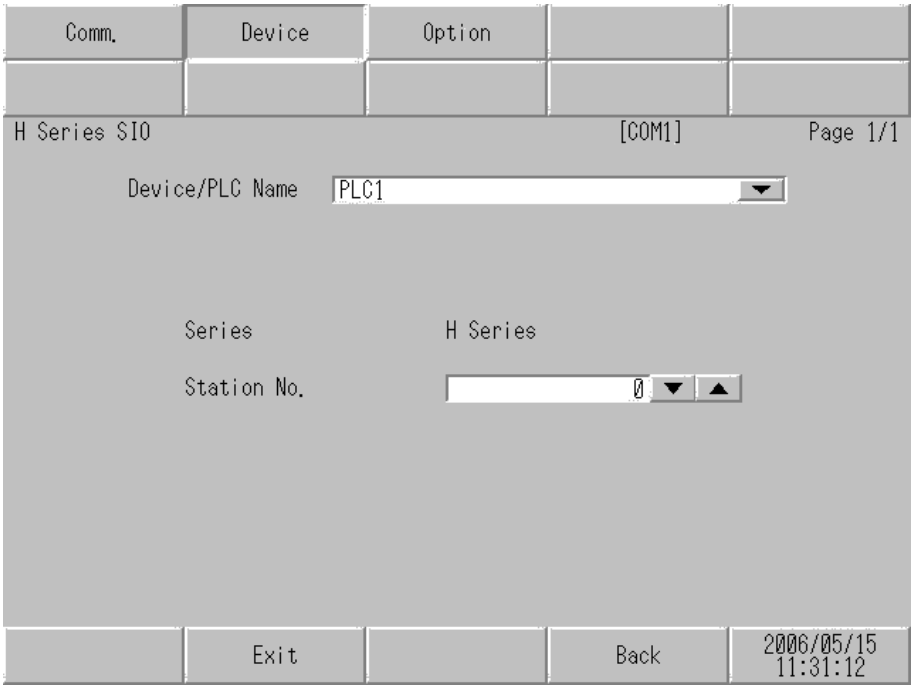


Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. **IMPORTANT** To make the communication settings correctly, confirm the serial interface specifications of Display unit for [SIO Type]. We cannot guarantee the operation if a communication type that the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

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

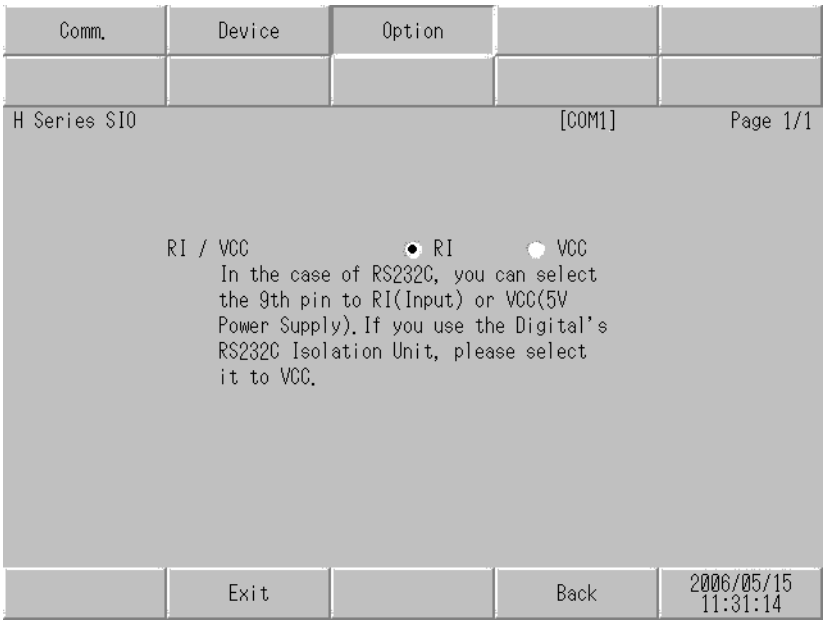
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Equipment Settings]. Touch the External Device you want to set from the displayed list, and touch [Device Settings].



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].



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 do not have the [Option] setting in the off-line mode.

5 Cable Diagram

The cable diagram shown below may be different from the cable diagram recommended by Hitachi IES Co., Ltd. Please be assured there is no operational problem in applying the cable diagram shown in this manual.

- The FG pin of the main body of the External Device must be D-class grounded. Please refer to the manual of the External Device for more details.
- SG and FG are connected inside the Display. When connecting SG to the External Device, design the system not to form short-circuit loop.
- Connect the isolation unit, when communication is not stabilized under the influence of a noise etc..

Cable Diagram 1

Display (Connection Port)	Cable*1		Remarks
GP3000 (COM1) ST (COM1) IPC*2 PC/AT	1A	By Hitachi IES Co., Ltd. WVCB02H	Cable length: 15m or less
	1B	User-created cable1	
	1C	User-created cable2	
GP-4105 (COM1)	1D	User-created cable1	
	1E	User-created cable2	

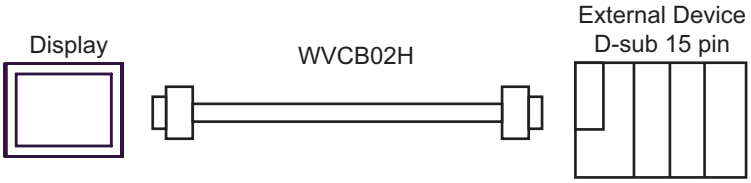
*1 You need to change the wiring depending on the speed.

	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 or Serial 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 or Serial Port 2	-	-	4800bps	1B,1D	-	-	4800bps	1B,1D
			19200bps	1A 1C 1E			19200bps	1A, 1C,1E
							38400bps	1A,1B,1C 1D,1E

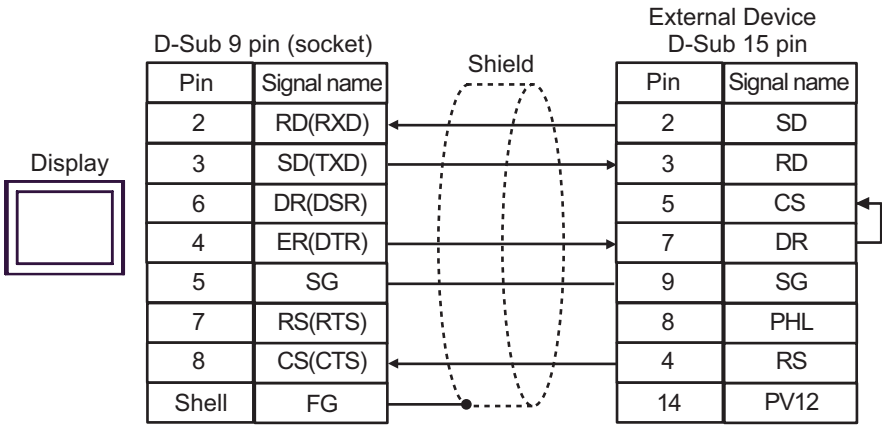
*2 Only the COM port which can communicate by RS-232C can be used.

☞■ IPC COM Port (page 8)

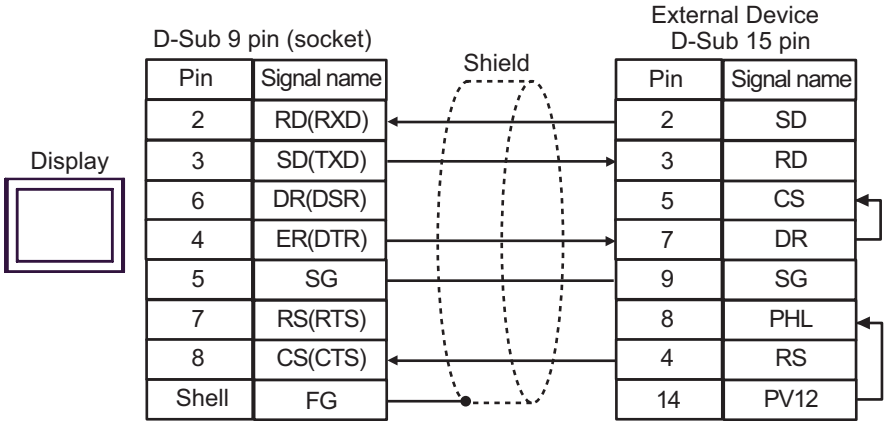
1A)


Display
WVCB02H
External Device
D-sub 15 pin

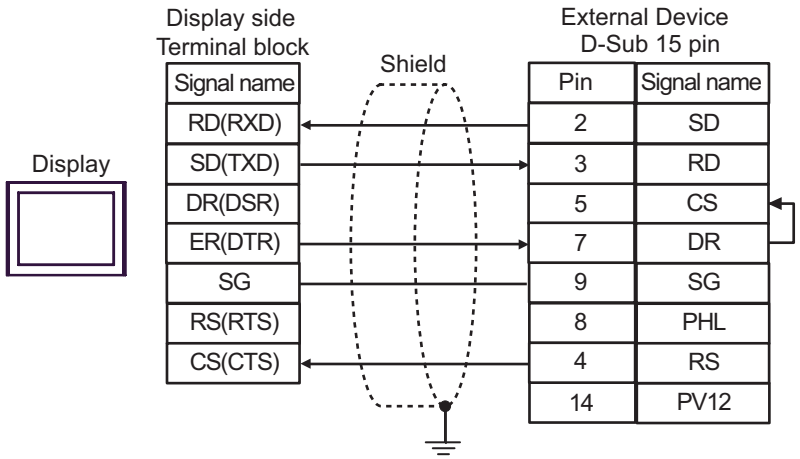
1B)


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

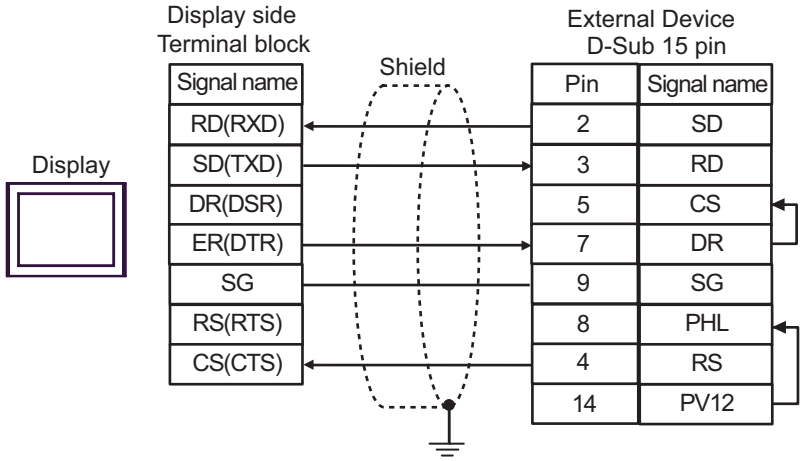
1C)


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

1D)


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

1E)


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

Cable Diagram 2

Display (Connection Port)	Cable		Remarks
GP3000*1 (COM1) AGP-3302B (COM2) ST*2 (COM2) 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	
	2D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	2E	User-created cable	

*1 All GP3000 models except AGP-3302B

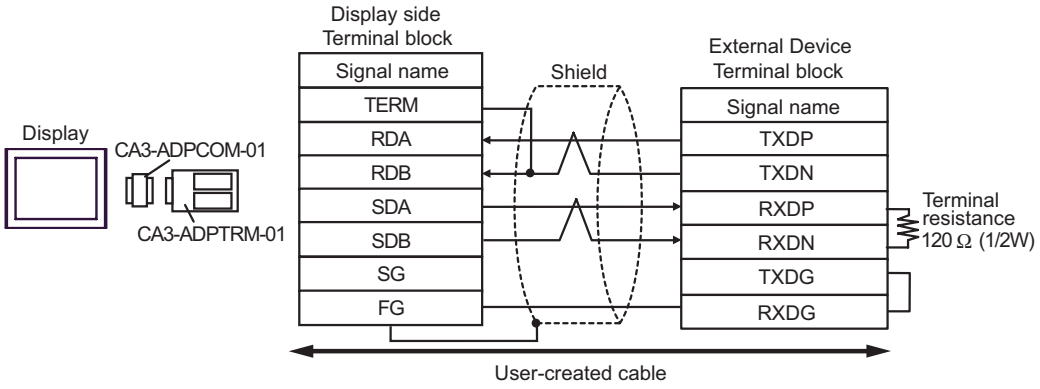
*2 All ST models except AST-3211A and AST-3302B

*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.
☞ ■ IPC COM Port (page 8)

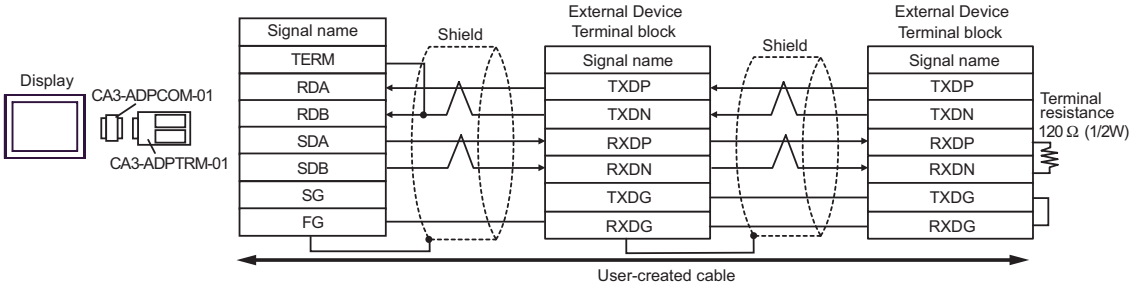
*4 All GP3000 models except GP-3200 series and AGP-3302B

2A)

- 1:1 Connection

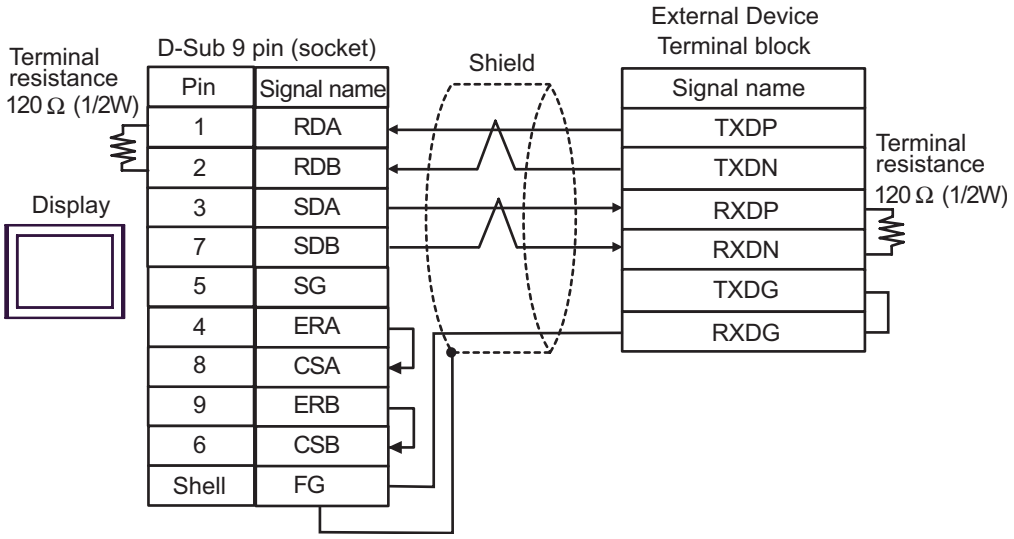


- 1:n Connection

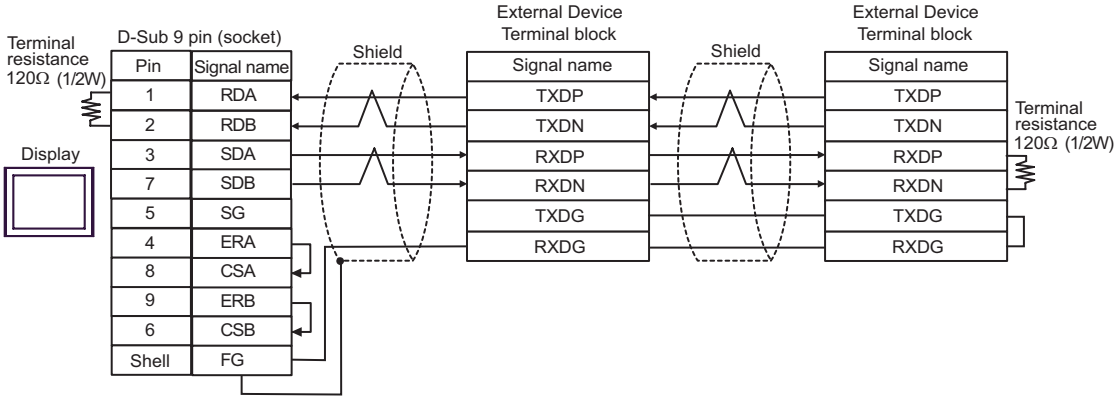


2B)

- 1:1 Connection

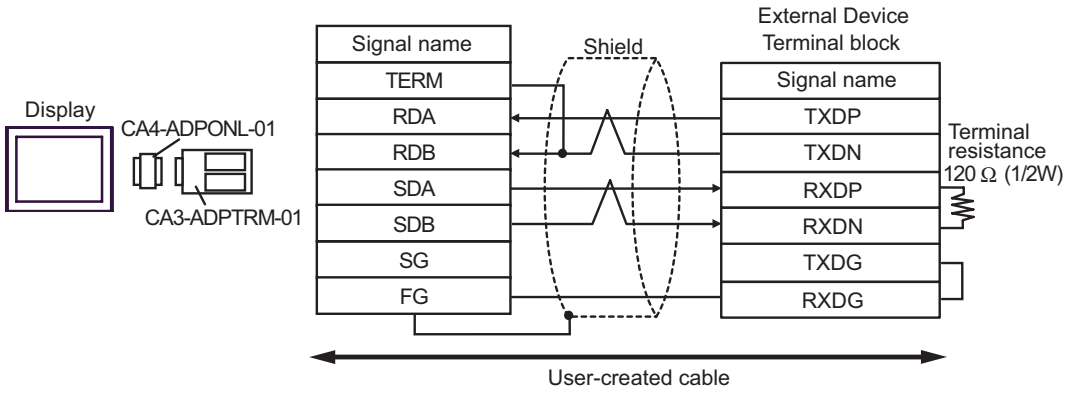


- 1:n Connection

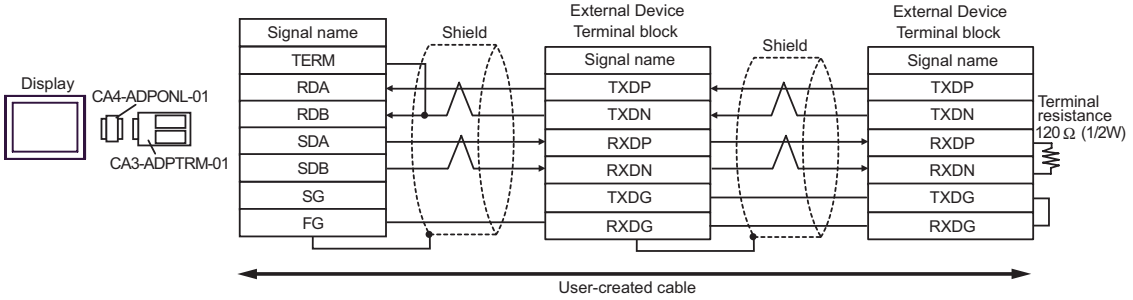


2C)

- 1:1 Connection

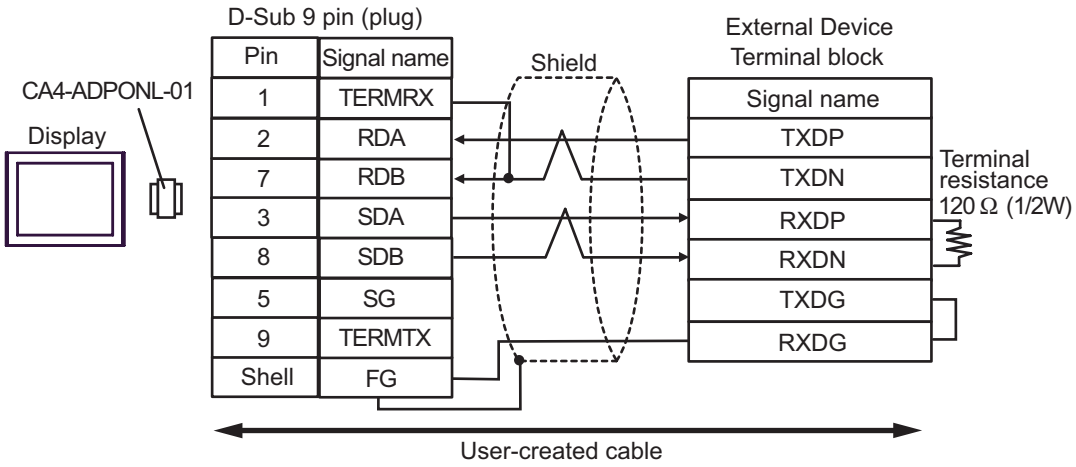


- 1:n Connection

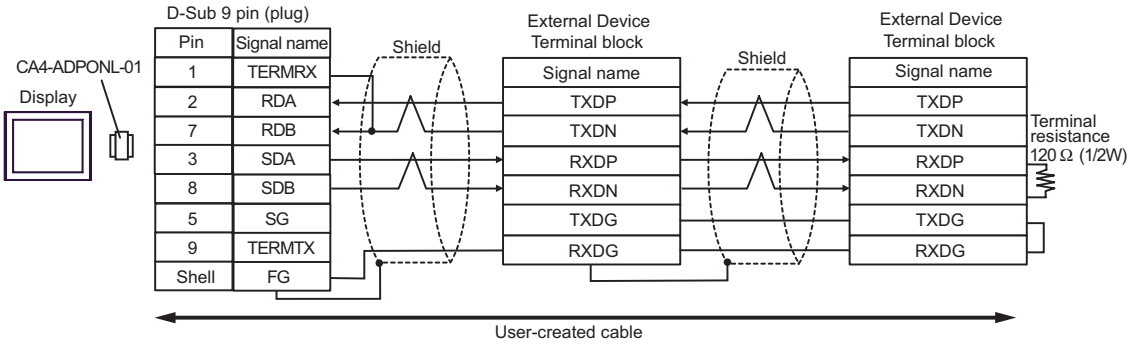


2D)

- 1:1 Connection

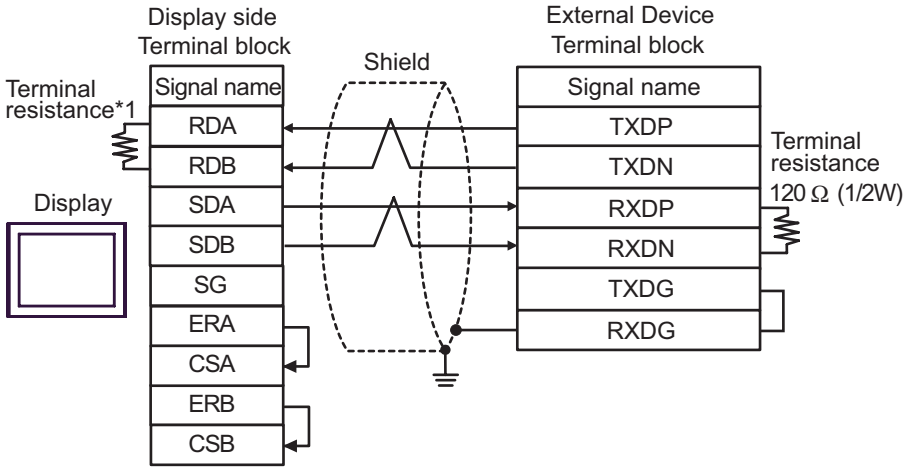


- 1:n Connection

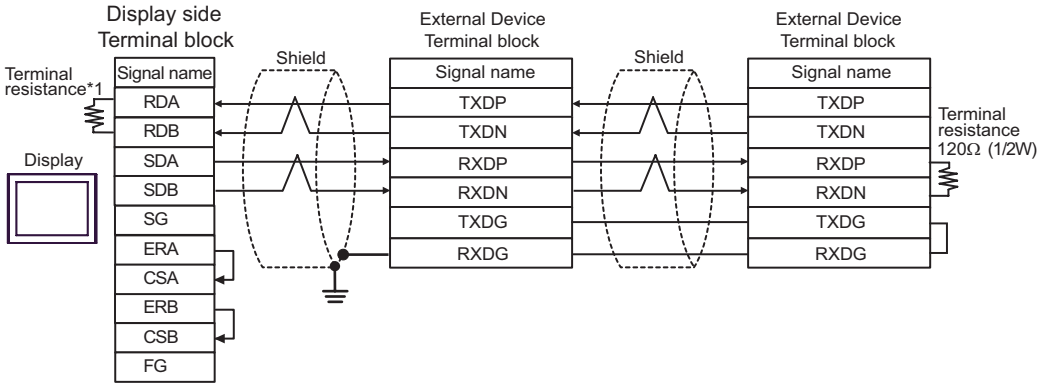


2E)

- 1:1 Connection



- 1:n Connection



*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

Cable Diagram 3

Display (Connection Port)	Cable*1		Remarks
GP3000 (COM1) ST (COM1) IPC*2 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)	3E	User-created cable + By Hitachi IES Co., Ltd. EH-VCB02(2m)	
	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)	

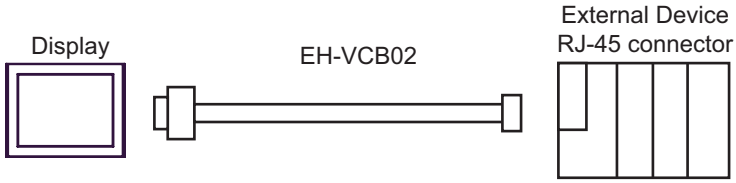
*1 You need to change the wiring depending on the speed.

	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

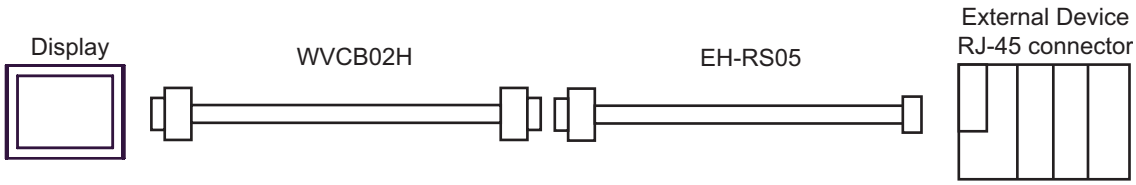
*2 Only the COM port which can communicate by RS-232C can be used.

☞ ■ IPC COM Port (page 8)

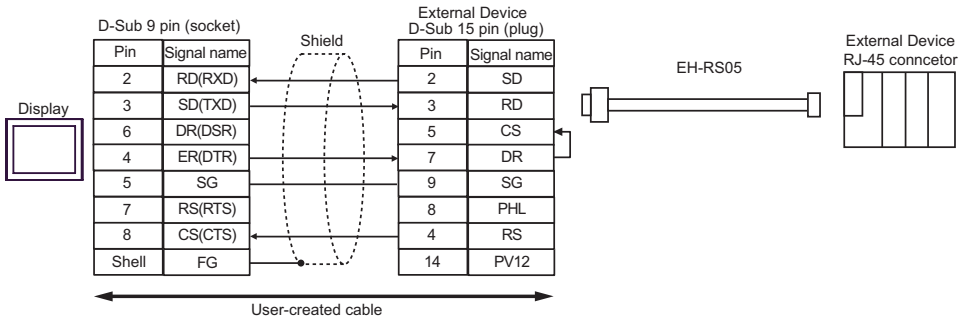
3A)


Display
EH-VCB02
External Device
RJ-45 connector

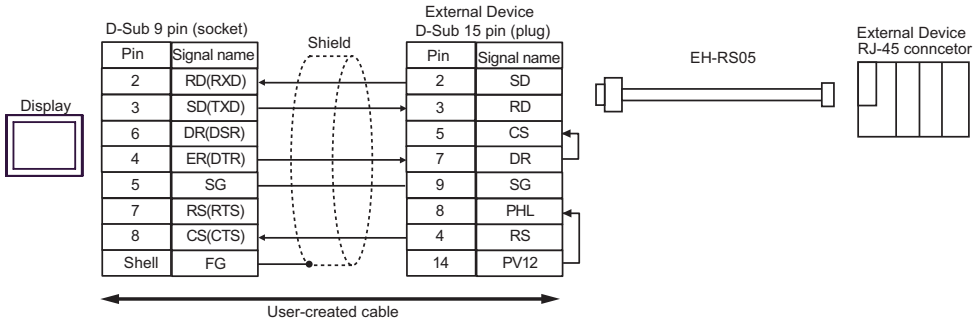
3B)


Display
WVCB02H
EH-RS05
External Device
RJ-45 connector

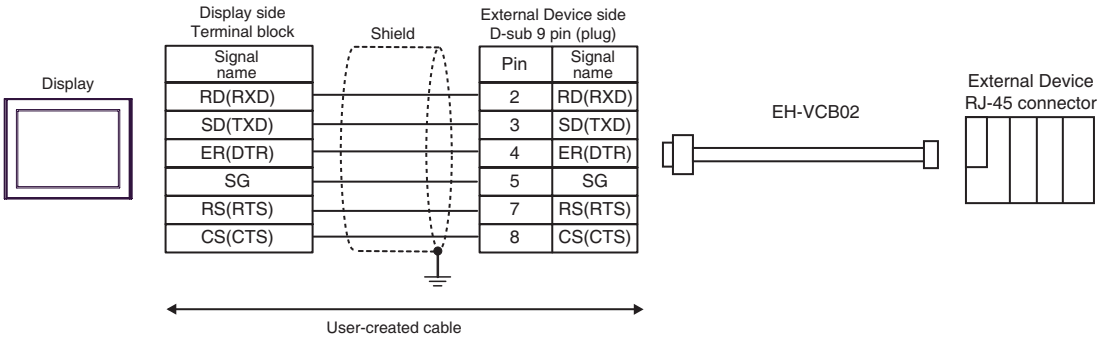
3C)


D-Sub 9 pin (socket)
Pin
Signal name
2 RD(RXD)
3 SD(TXD)
6 DR(DSR)
4 ER(DTR)
5 SG
7 RS(RTS)
8 CS(CTS)
Shell FG
Shield
External Device
D-Sub 15 pin (plug)
Pin
Signal name
2 SD
3 RD
5 CS
7 DR
9 SG
8 PHL
4 RS
14 PV12
Display
EH-RS05
External Device
RJ-45 conncetor
User-created cable

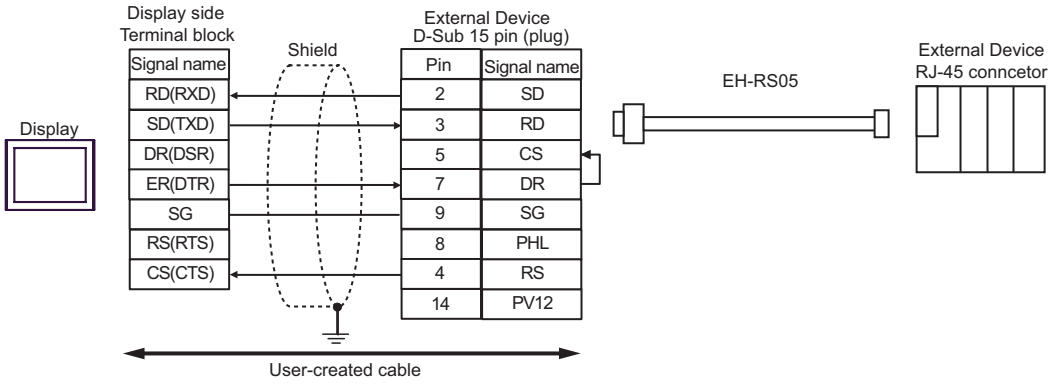
3D)


D-Sub 9 pin (socket)
Pin
Signal name
2 RD(RXD)
3 SD(TXD)
6 DR(DSR)
4 ER(DTR)
5 SG
7 RS(RTS)
8 CS(CTS)
Shell FG
Shield
External Device
D-Sub 15 pin (plug)
Pin
Signal name
2 SD
3 RD
5 CS
7 DR
9 SG
8 PHL
4 RS
14 PV12
Display
EH-RS05
External Device
RJ-45 conncetor
User-created cable

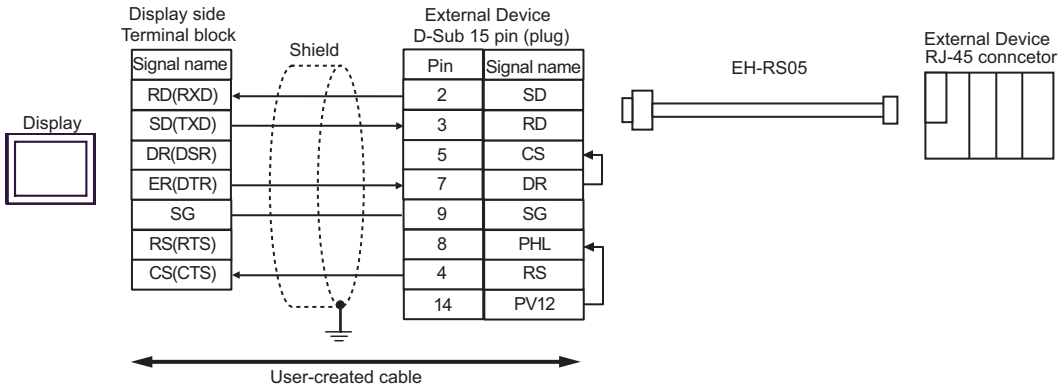
3E)


Display side
Terminal block
Shield
External Device side
D-sub 9 pin (plug)
Signal name
Pin
Signal name
Display
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)
EH-VCB02
External Device
RJ-45 connector
User-created cable

3F)


Display side
Terminal block
Shield
External Device
D-Sub 15 pin (plug)
Signal name
Pin
Signal name
Display
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
EH-RS05
External Device
RJ-45 conncetor
User-created cable

3G)


Display side
Terminal block
Shield
External Device
D-Sub 15 pin (plug)
Signal name
Pin
Signal name
Display
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
EH-RS05
External Device
RJ-45 conncetor
User-created cable

Cable Diagram 4

Display (Connection Port)	Cable		Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) ST[*2] (COM2) 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	
	4D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	
GP-4106 (COM1)	4E	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	

*1 All GP3000 models except AGP-3302B

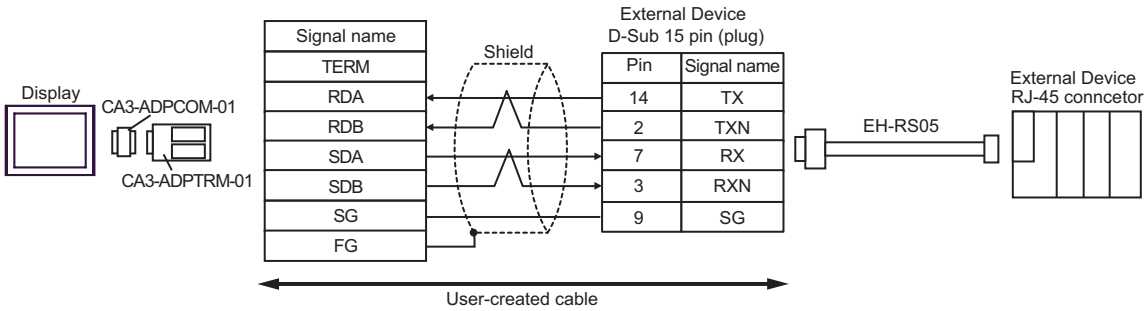
*2 All ST models except AST-3211A and AST-3302B

*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.
☞ ■ IPC COM Port (page 8)

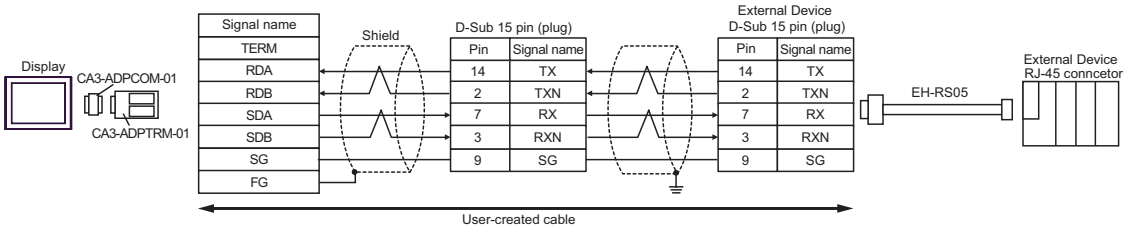
*4 All GP3000 models except GP-3200 series and AGP-3302B

4A)

- 1:1 Connection



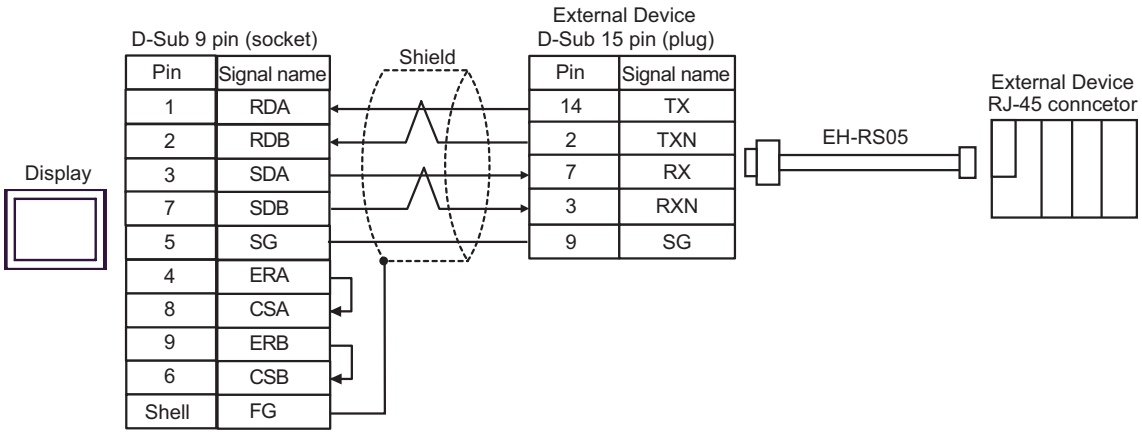
- 1:n Connection



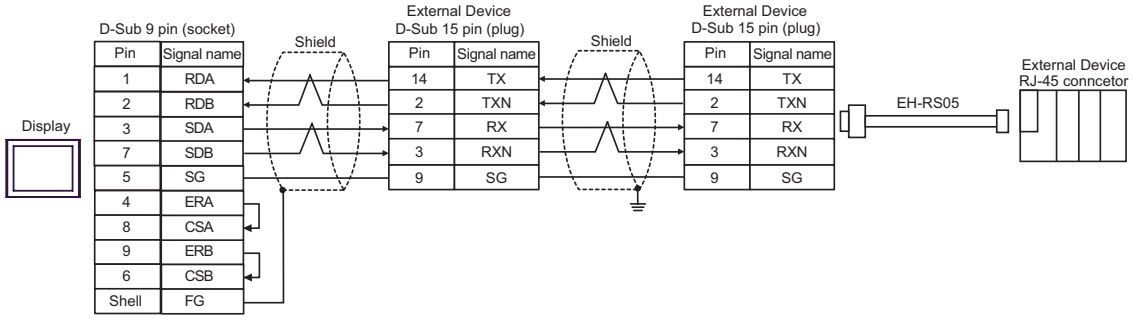
*For more information about the termination resistance, contact Hitachi IES Co., Ltd.

4B)

- 1:1 Connection



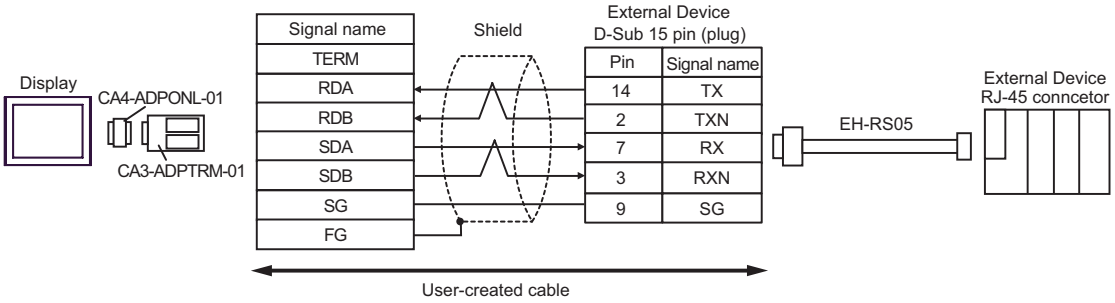
- 1:n Connection



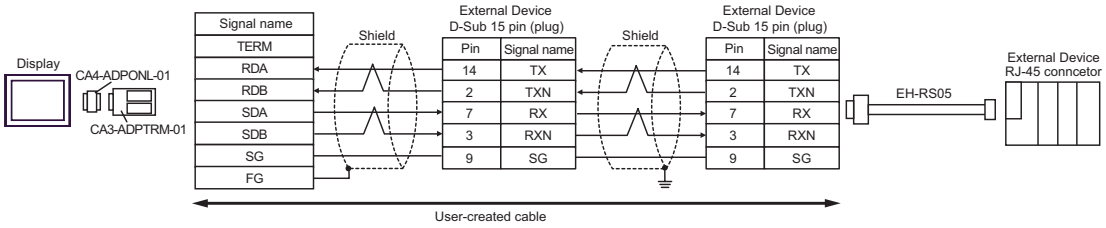
*For more information about the termination resistance, contact Hitachi IES Co., Ltd.

4C)

- 1:1 Connection



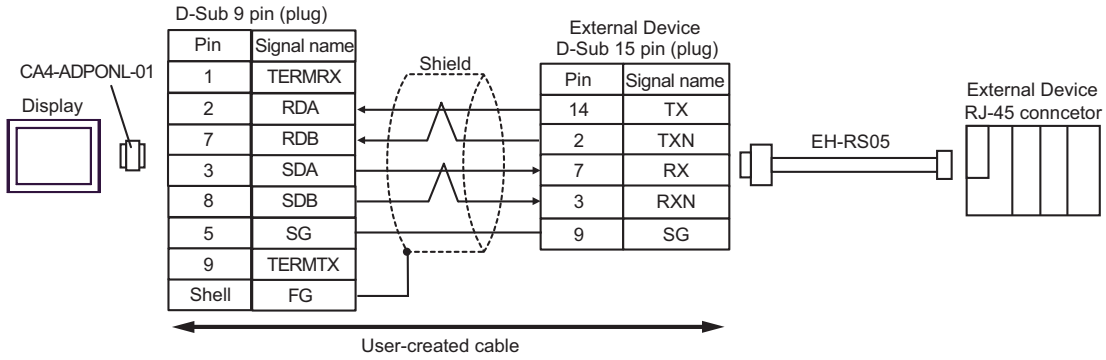
- 1:n Connection



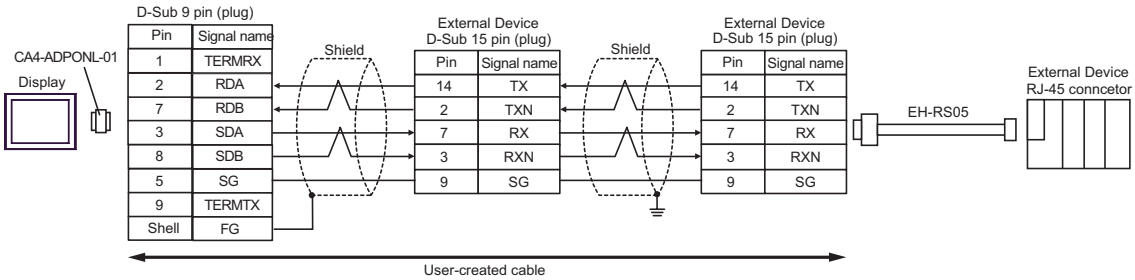
*For more information about the termination resistance, contact Hitachi IES Co., Ltd.

4D)

- 1:1 Connection



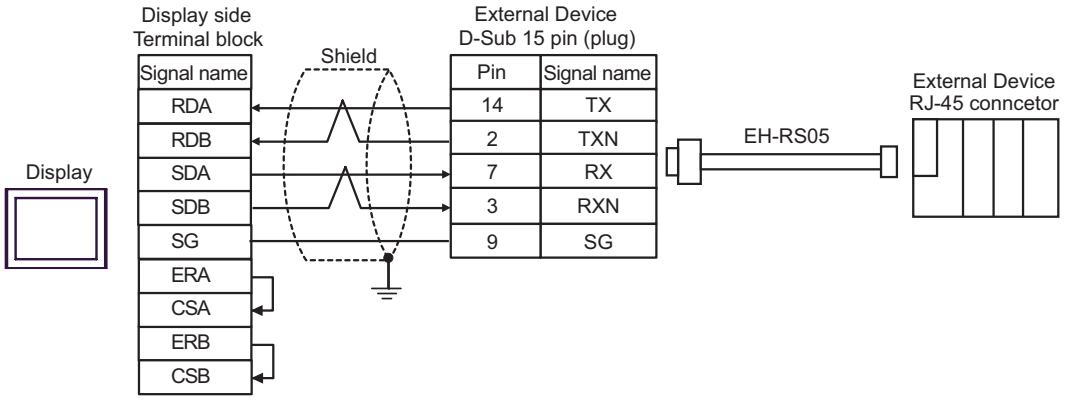
- 1:n Connection



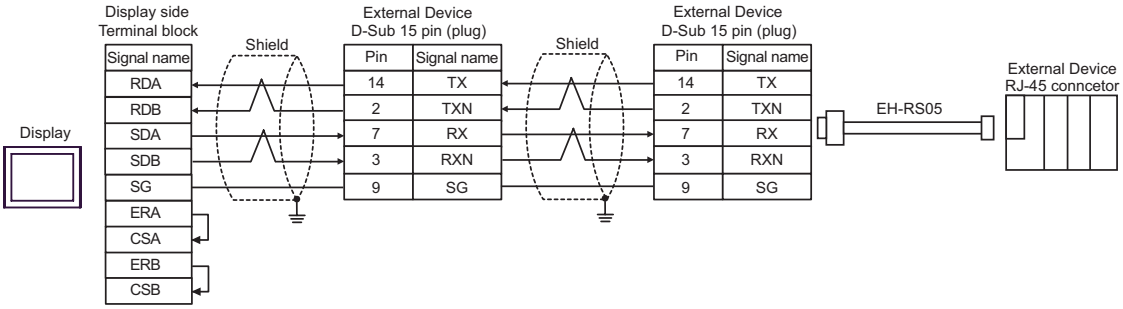
*For more information about the termination resistance, contact Hitachi IES Co., Ltd.

4E)

- 1:1 Connection



- 1:n Connection



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

Cable Diagram 5

Display (Connection Port)	Cable		Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) ST[*2] (COM2)	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	
	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	
	5F	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	
GP-4106 (COM1)	5G	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05	

Display (Connection Port)	Cable		Remarks
GP-4107 (COM1)	5H	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 All ST models except AST-3211A and AST-3302B

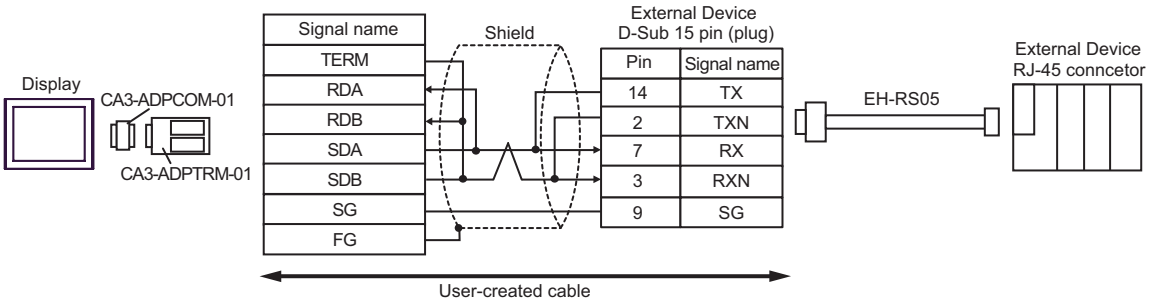
*3 All GP3000 models except GP-3200 series and AGP-3302B

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

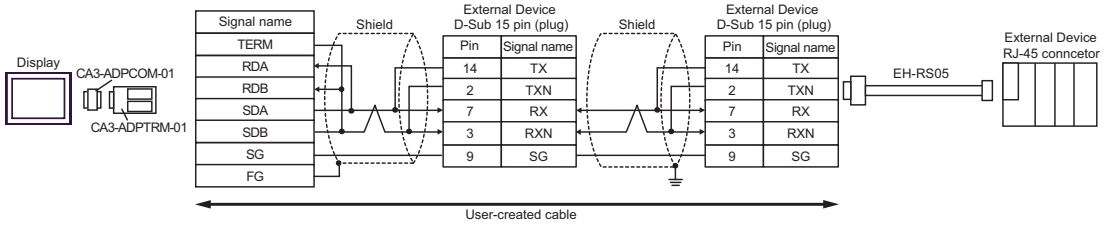
☞ ■ IPC COM Port (page 8)

5A)

- 1:1 Connection

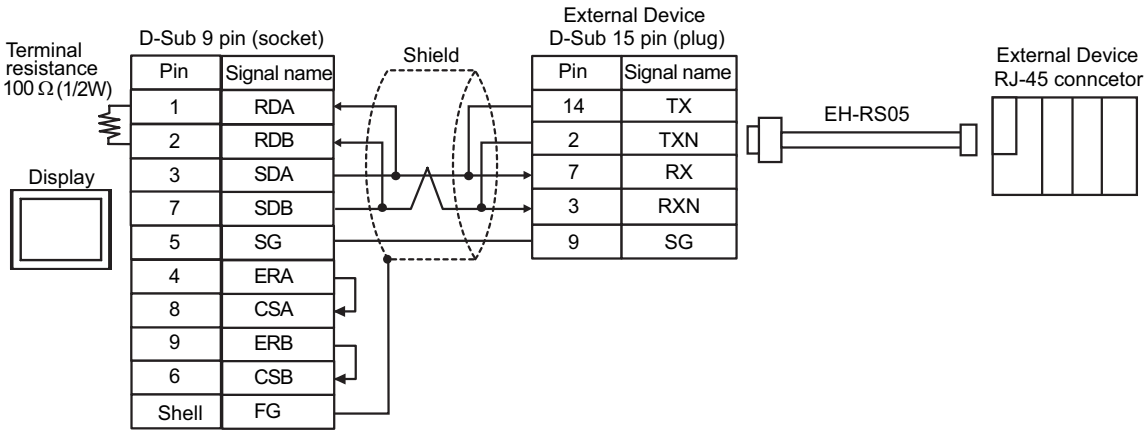


- 1:n Connection

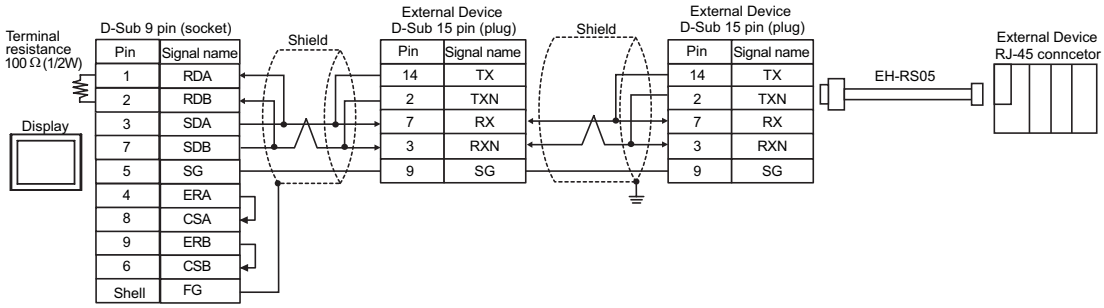


5B)

- 1:1 Connection

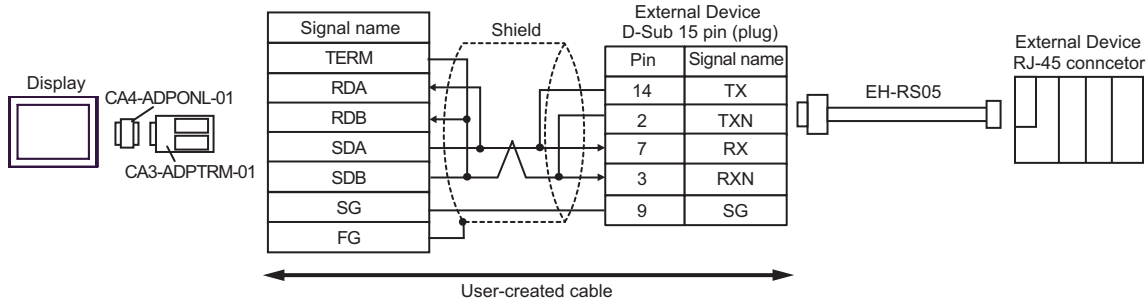


- 1:n Connection

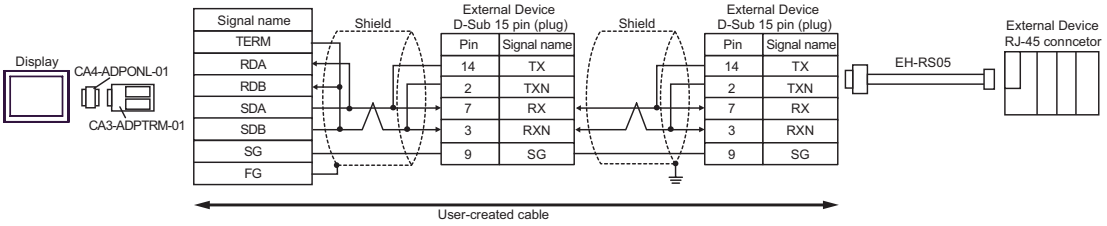


5C)

- 1:1 Connection

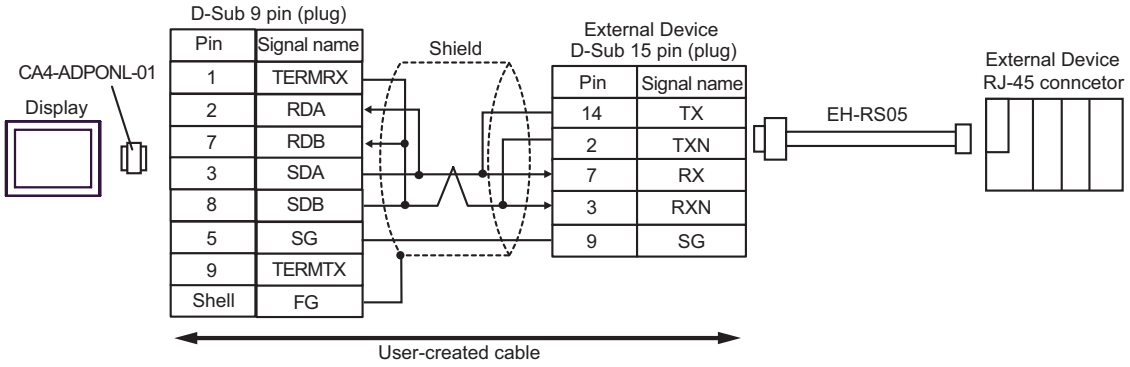


- 1:n Connection

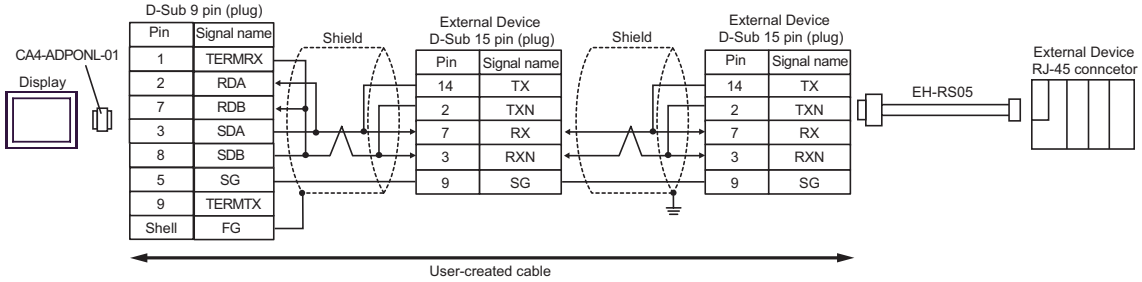


5D)

- 1:1 Connection

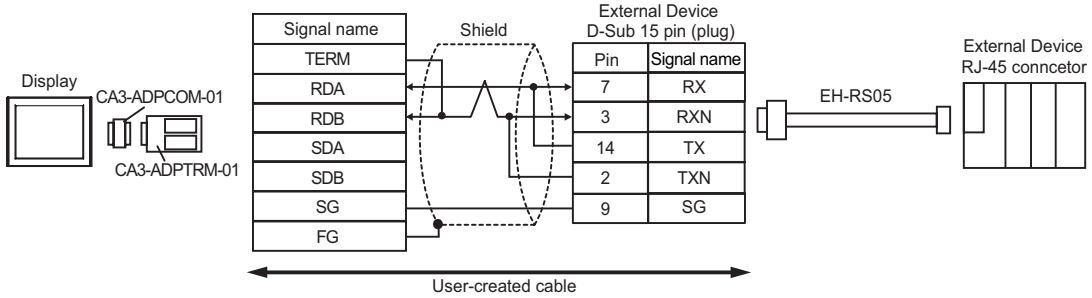


- 1:n Connection

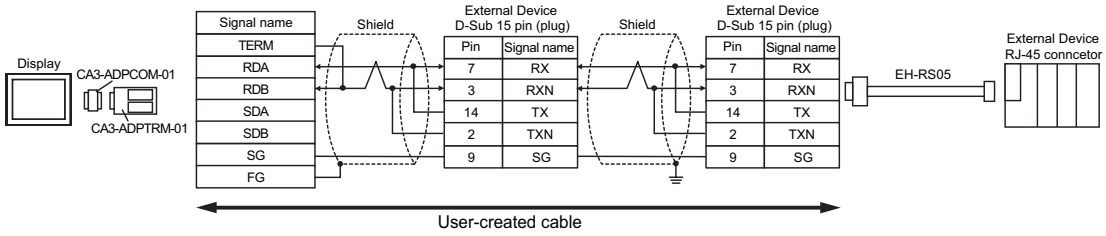


5E)

- 1:1 Connection

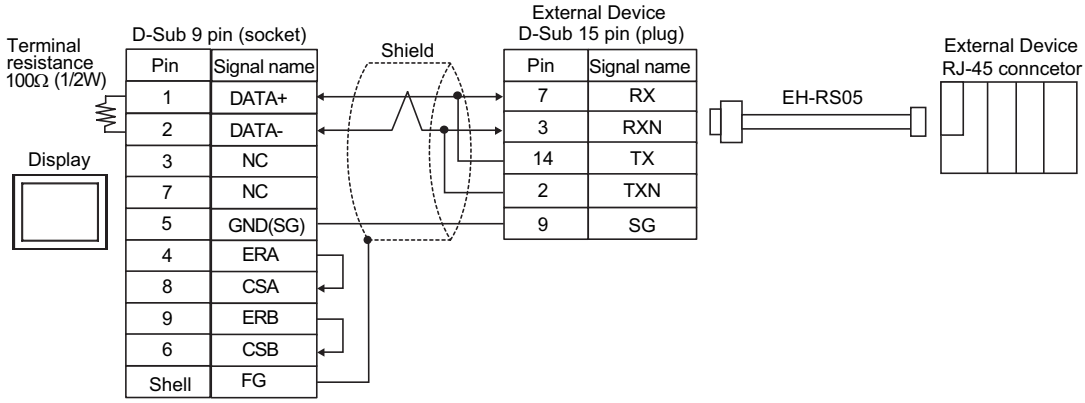


- 1:n Connection

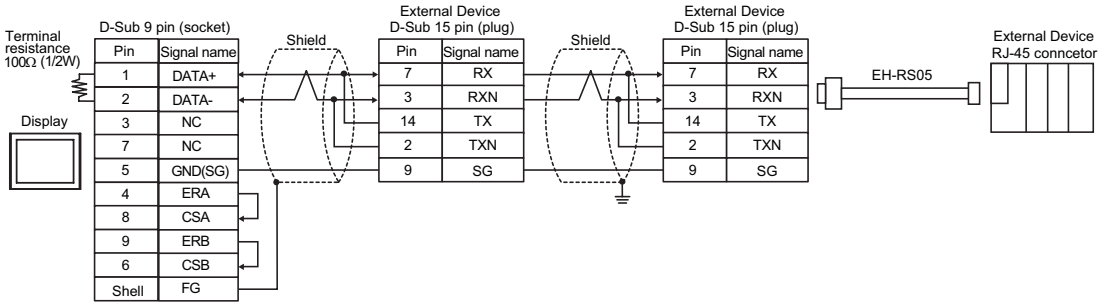


5F)

- 1:1 Connection

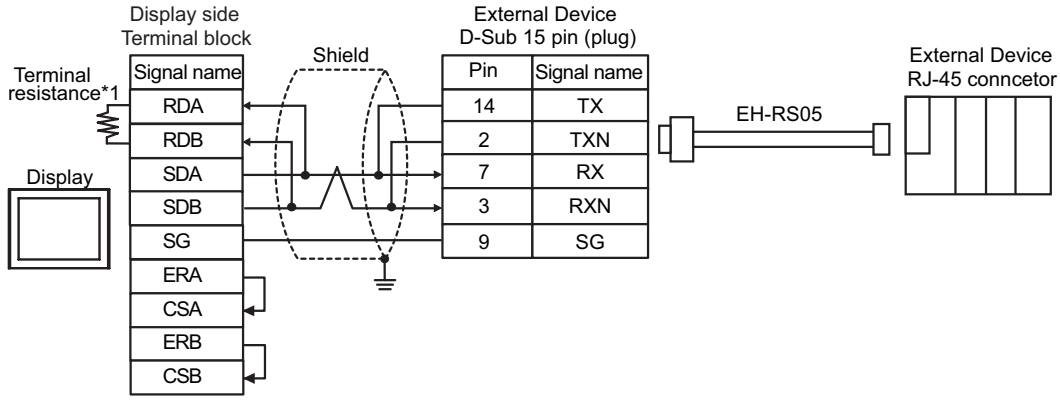


- 1:n Connection

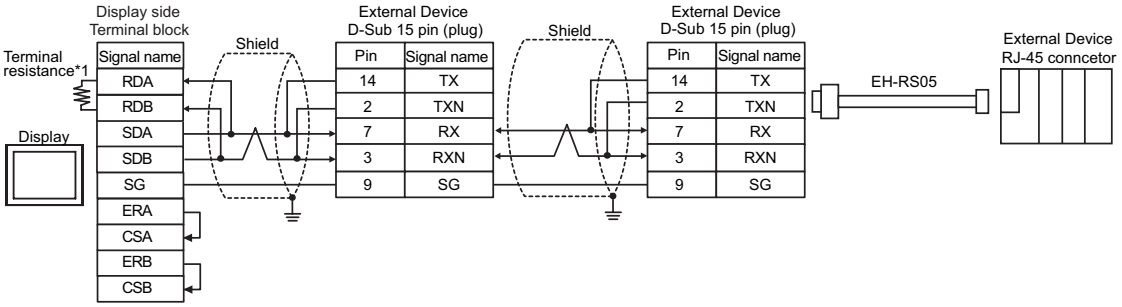


5G)

- 1:1 Connection



- 1:n Connection

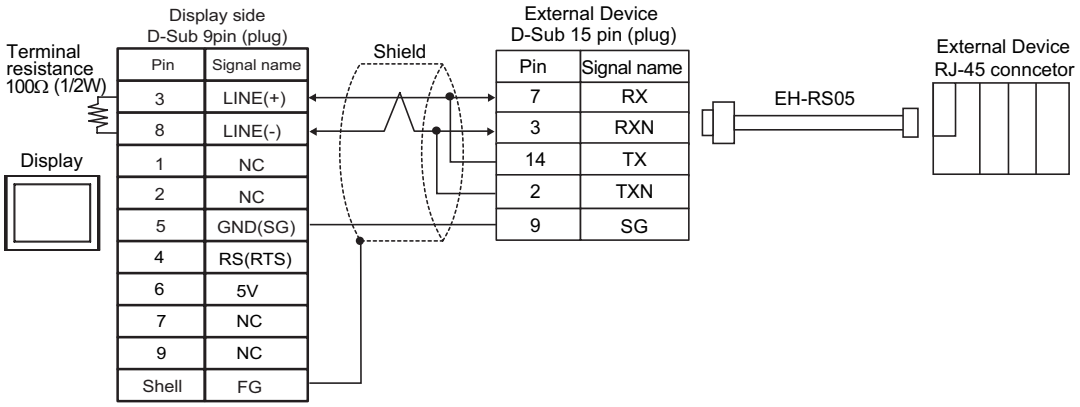


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

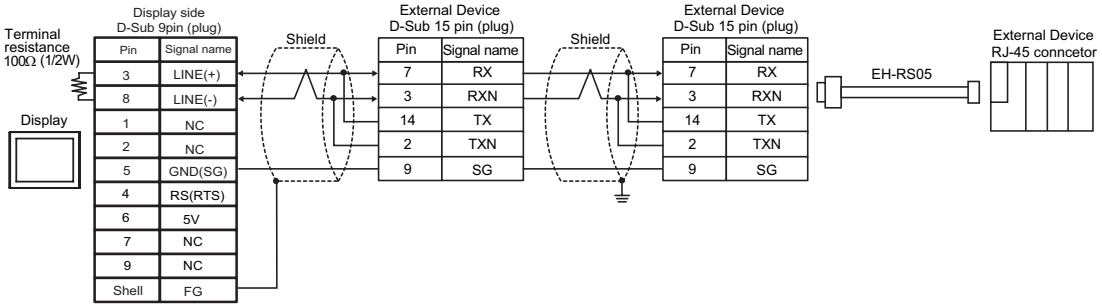
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

5H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

- The 5V output (Pin #6) on the GP-4107 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 Diagram 6

Display (Connection Port)	Cable		Remarks
GP3000*1 (COM1) AGP-3302B (COM2) ST*2 (COM2) 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	
	6D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	6E	User-created cable	

*1 All GP3000 models except AGP-3302B

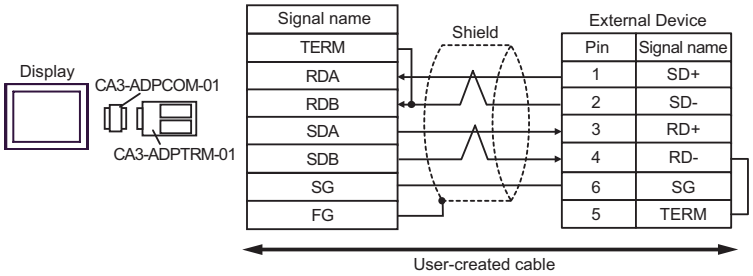
*2 All ST models except AST-3211A and AST-3302B

*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.
☞ ■ IPC COM Port (page 8)

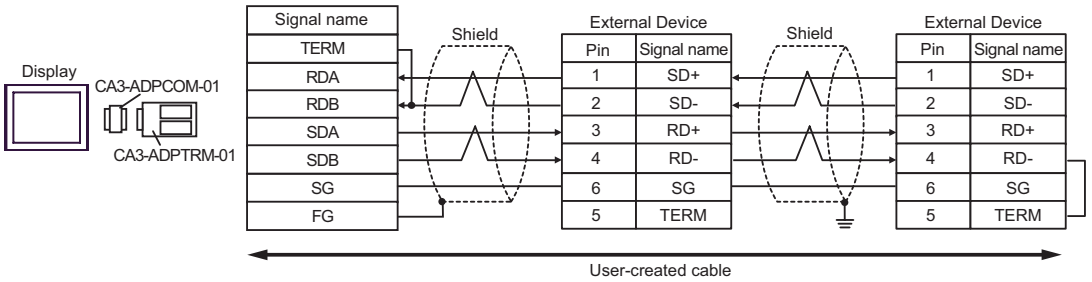
*4 All GP3000 models except GP-3200 series and AGP-3302B

6A)

- 1:1 Connection

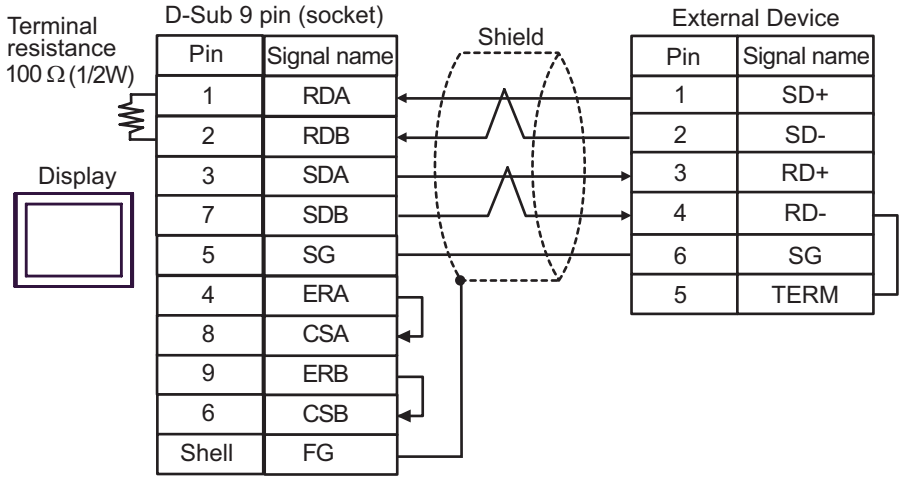


- 1:n Connection

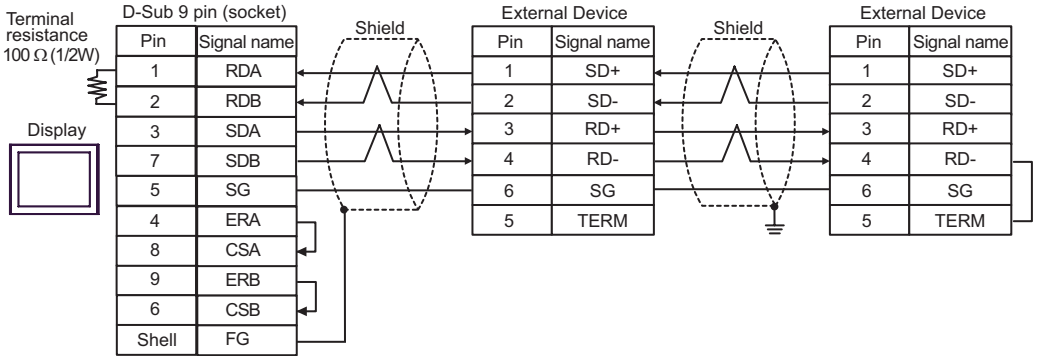


6B)

- 1:1 Connection

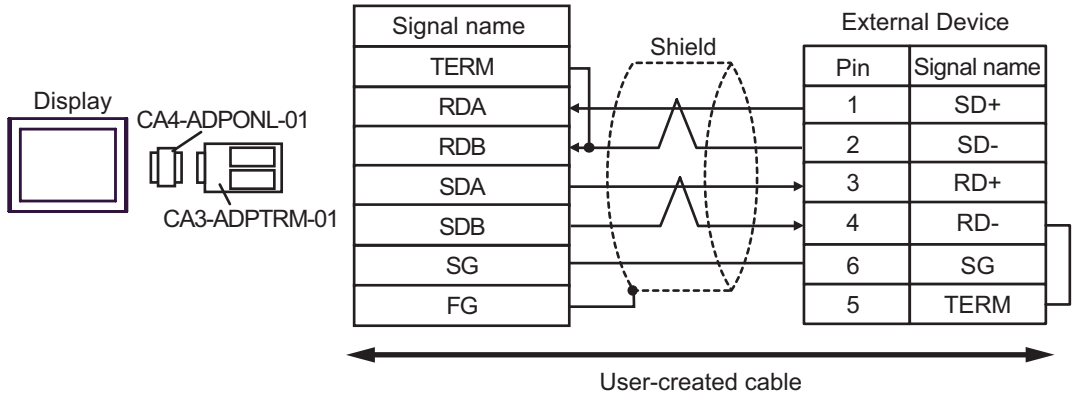


- 1:n Connection

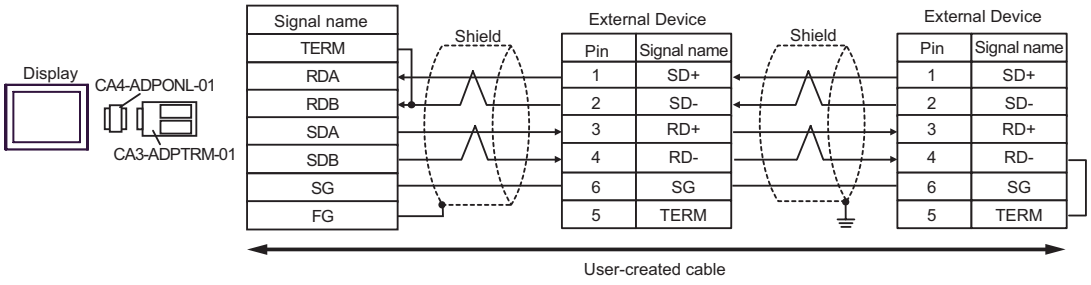


6C)

- 1:1 Connection

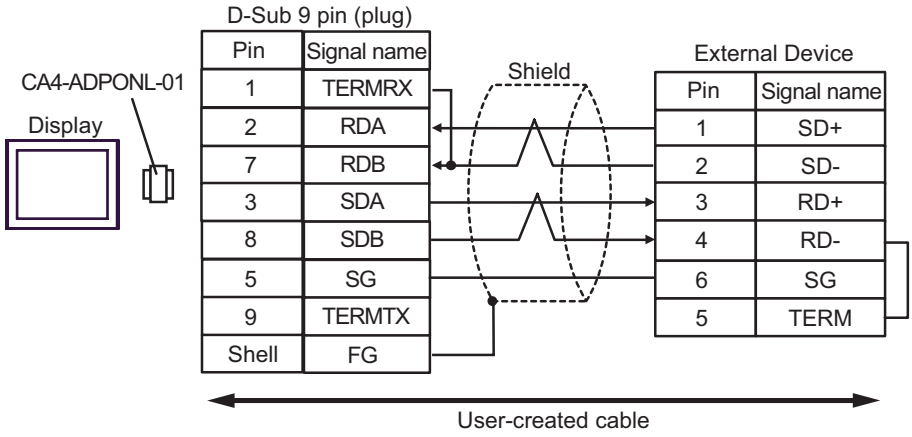


- 1:n Connection

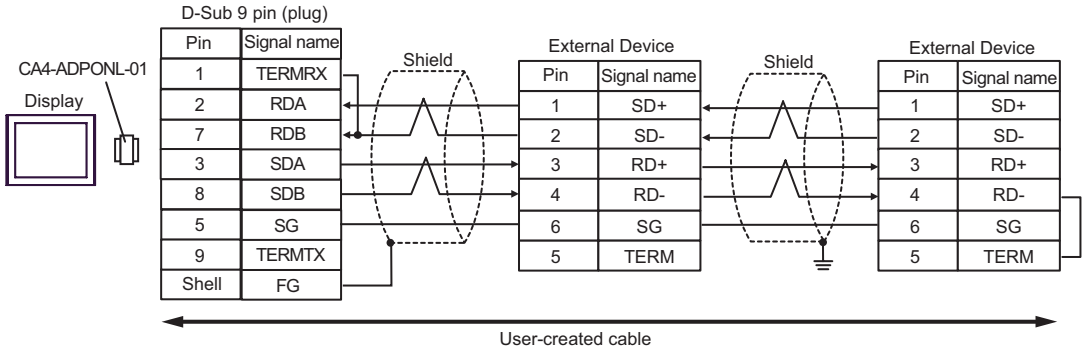


6D)

- 1:1 Connection

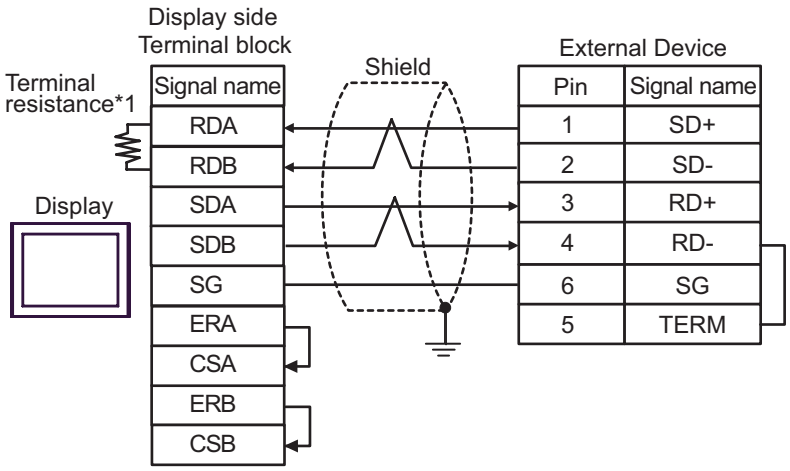


- 1:n Connection

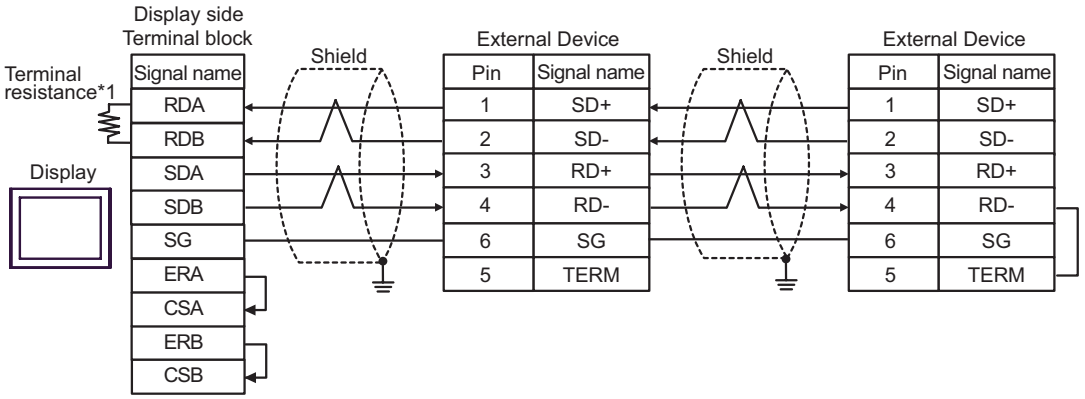


6E)

- 1:1 Connection



- 1:n Connection



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

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

Cable Diagram 7

Display (Connection Port)	Cable		Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) ST[*2] (COM2)	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	
	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	
	7F	User-created cable	
GP-4106 (COM1)	7G	User-created cable	
GP-4107 (COM1)	7H	User-created cable	

*1 All GP3000 models except AGP-3302B

*2 All ST models except AST-3211A and AST-3302B

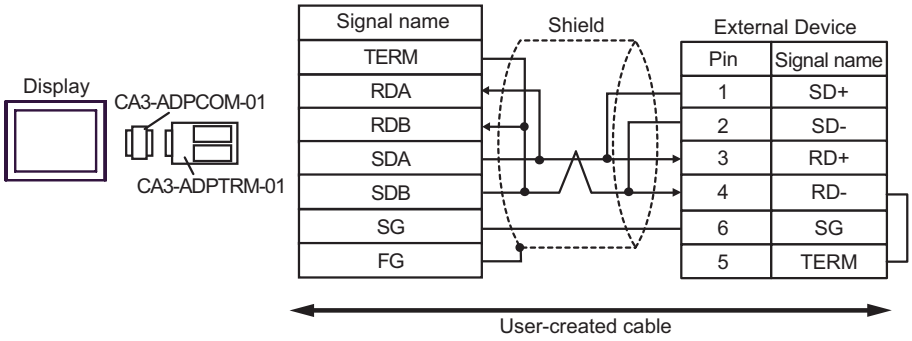
*3 All GP3000 models except GP-3200 series and AGP-3302B

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

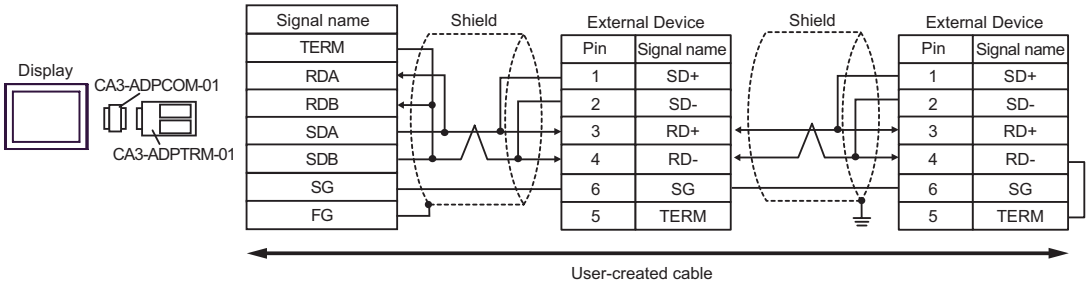
☞ ■ IPC COM Port (page 8)

7A)

- 1:1 Connection

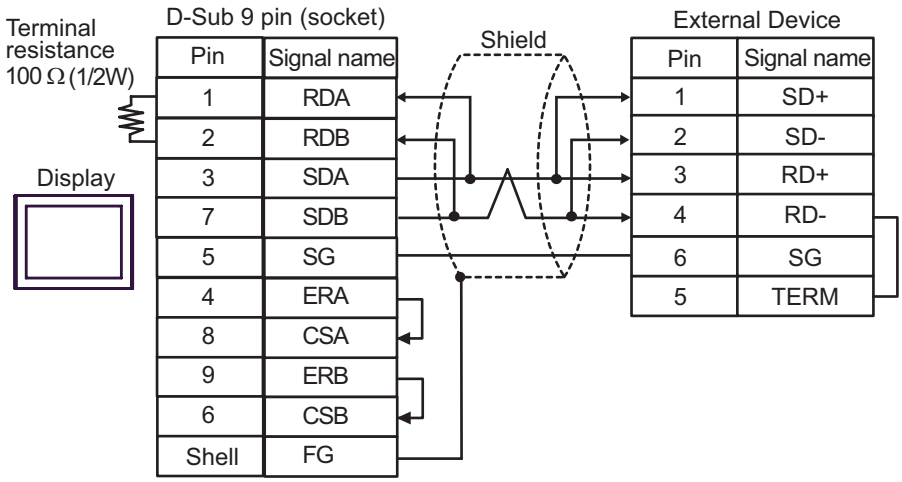


- 1:n Connection

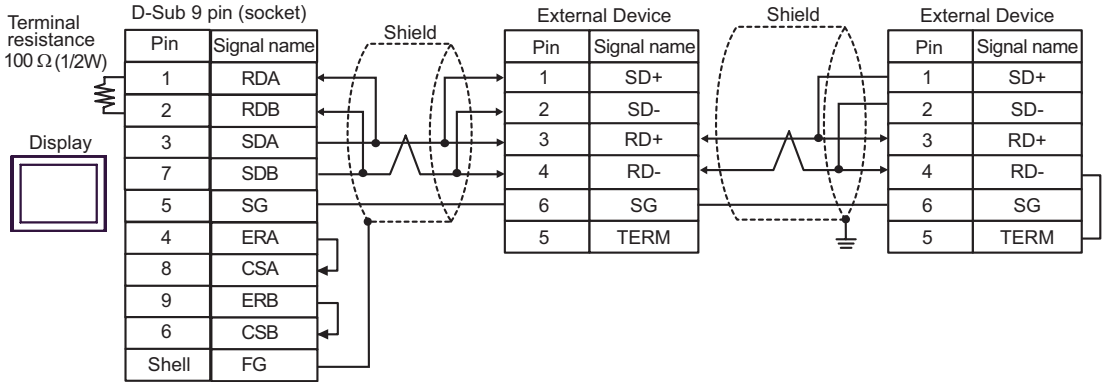


7B)

- 1:1 Connection

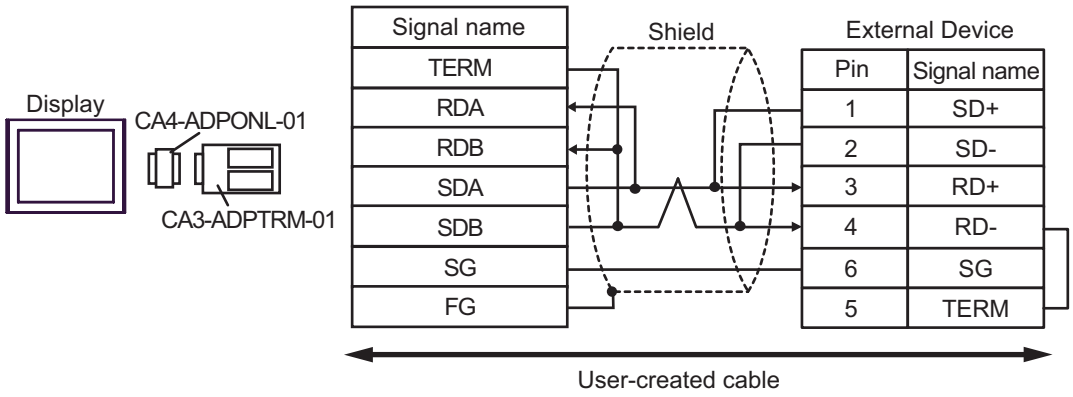


- 1:n Connection

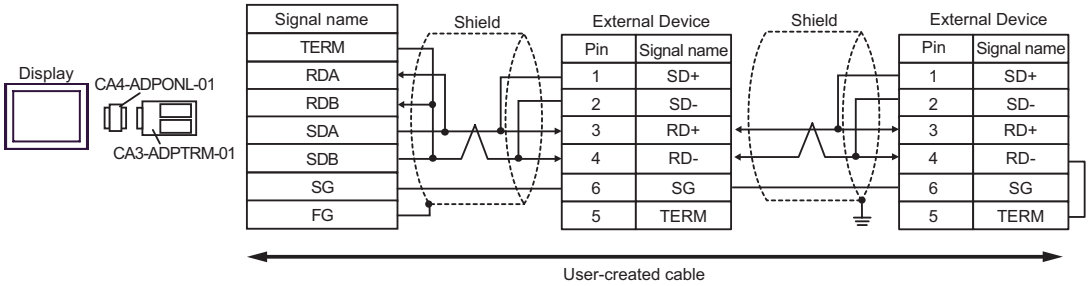


7C)

- 1:1 Connection

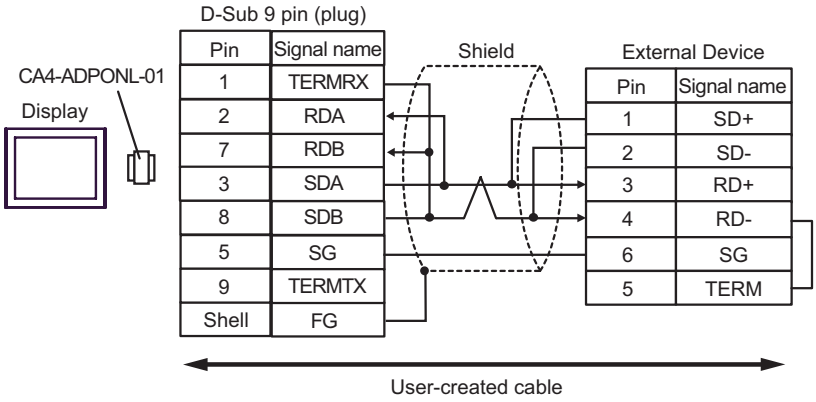


- 1:n Connection

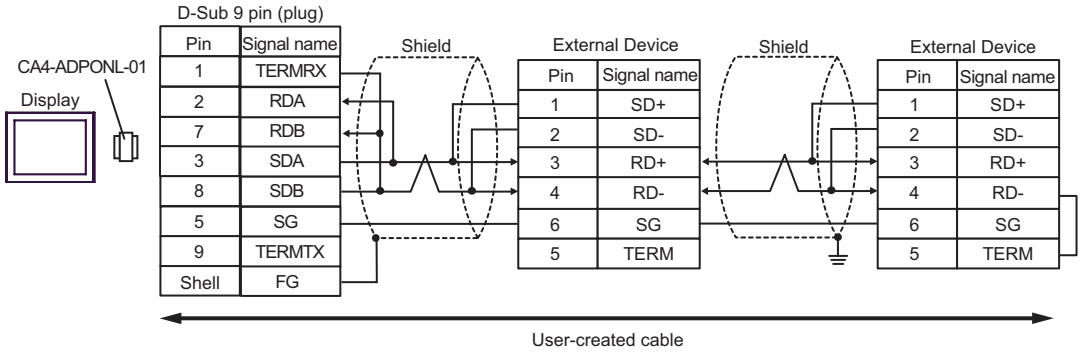


7D)

- 1:1 Connection

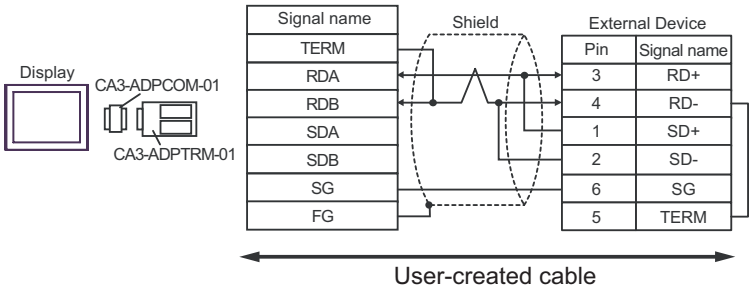


- 1:n Connection

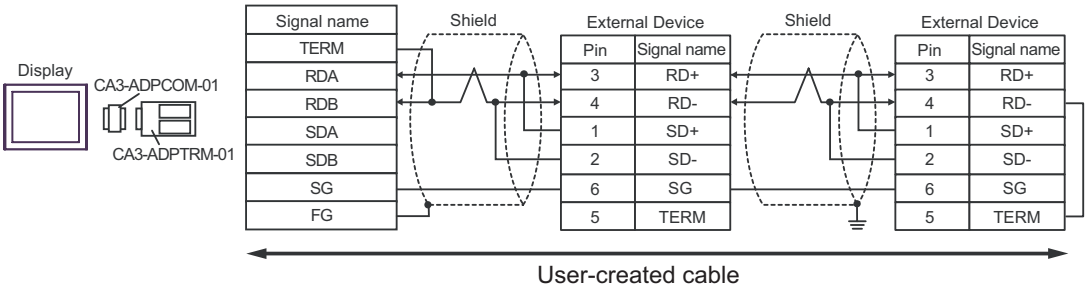


7E)

- 1:1 Connection

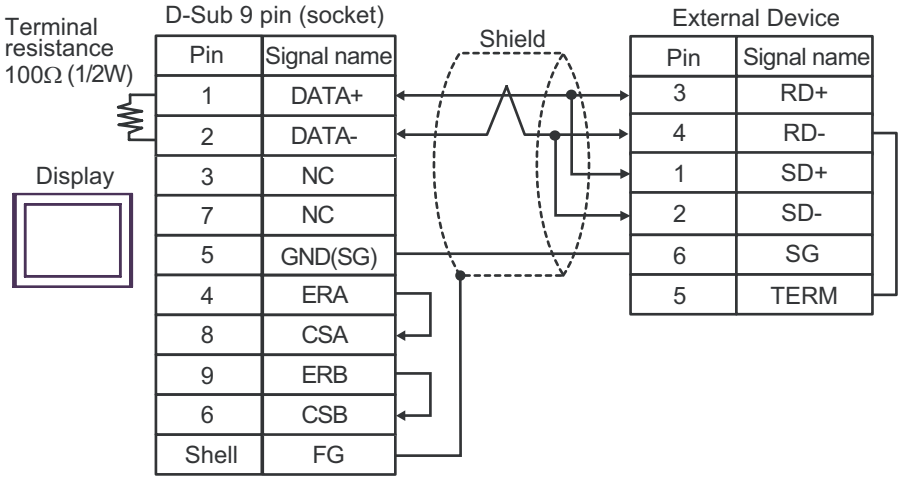


- 1:n Connection

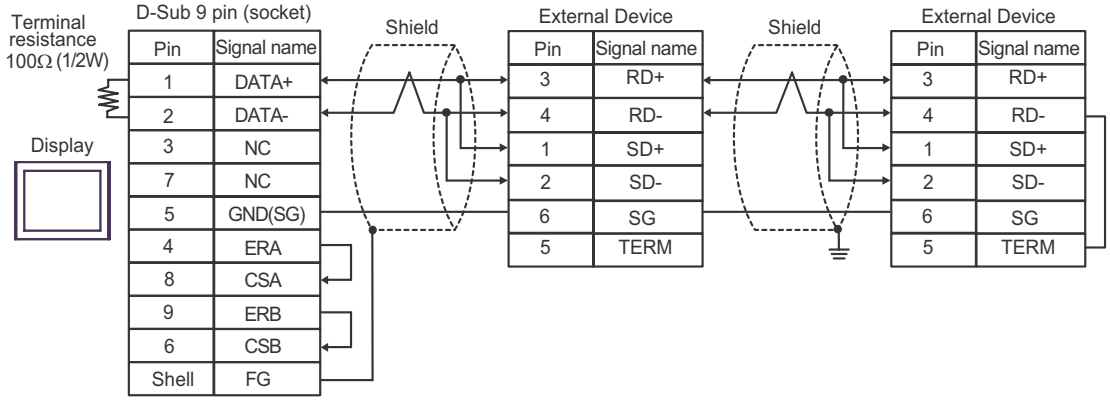


7F)

- 1:1 Connection

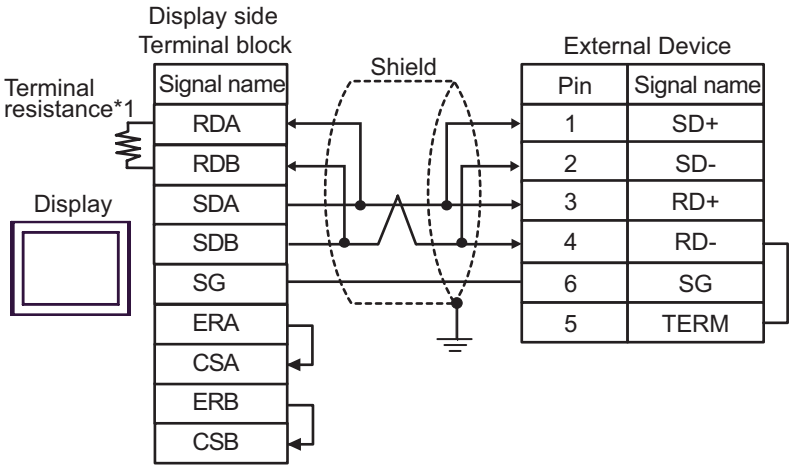


- 1:n Connection

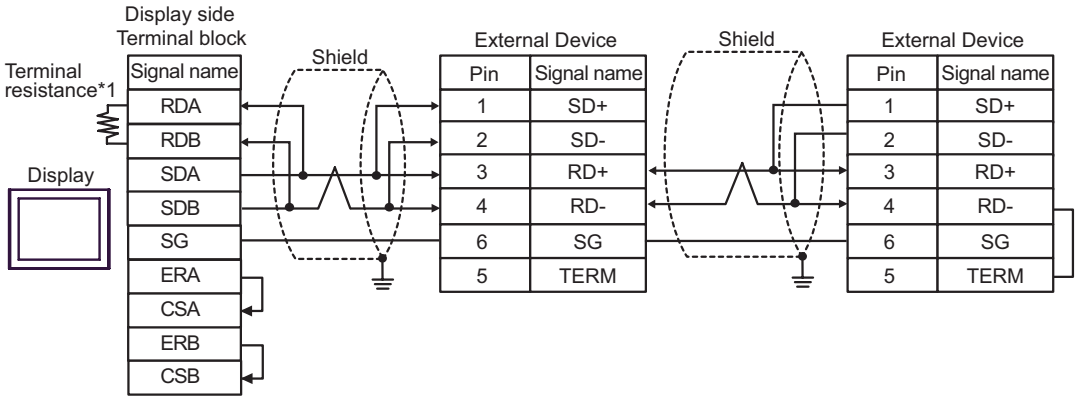


7G)

- 1:1 Connection



- 1:n Connection

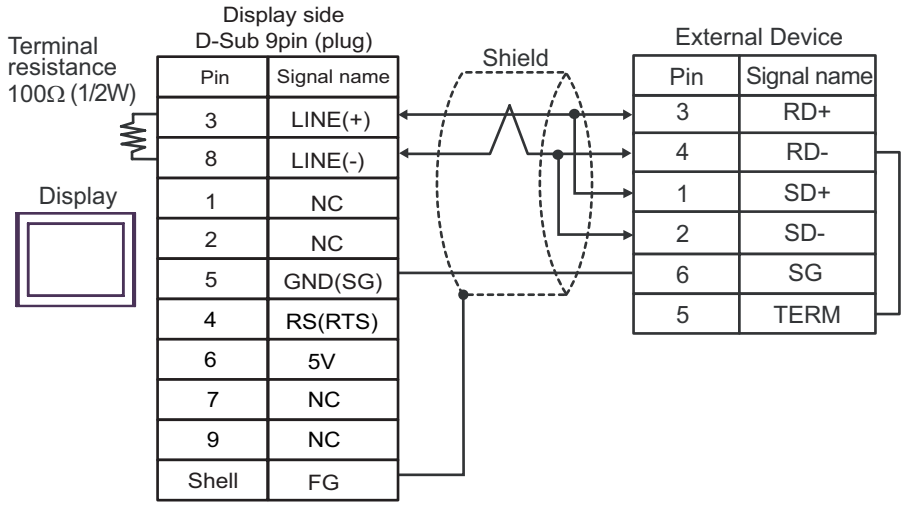


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

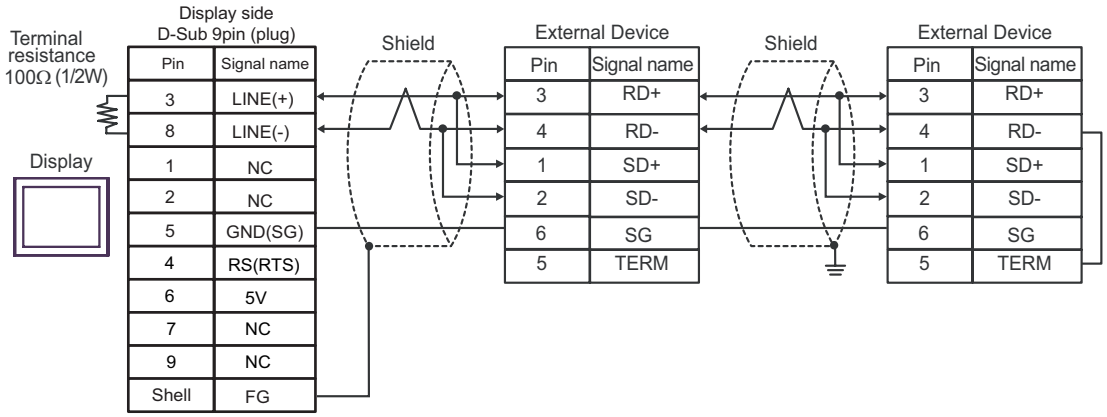
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

7H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

- The 5V output (Pin #6) on the GP-4107 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 Diagram 8

Display (Connection Port)	Cable		Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) ST[*2] (COM2) 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	
	8D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	8E	User-created cable	

*1 All GP3000 models except AGP-3302B

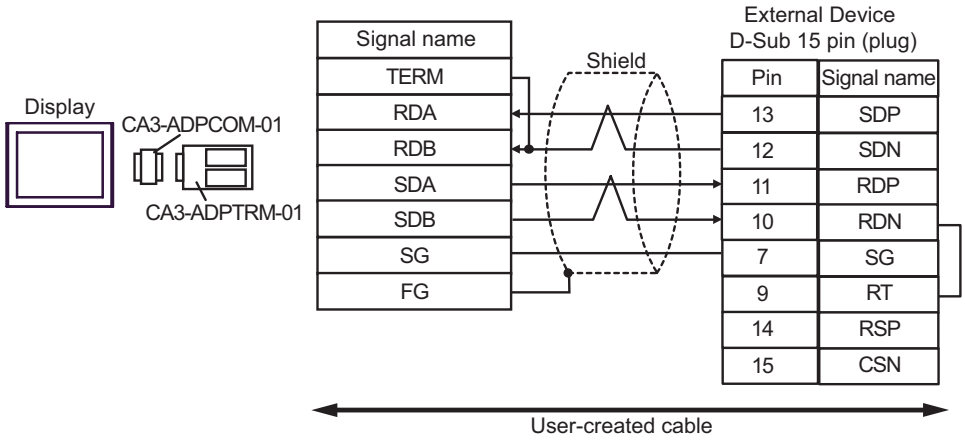
*2 All ST models except AST-3211A and AST-3302B

*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.
☞■ IPC COM Port (page 8)

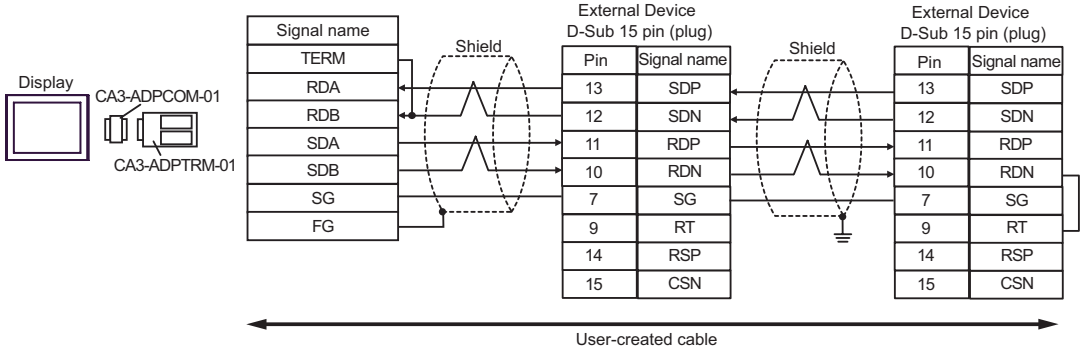
*4 All GP3000 models except GP-3200 series and AGP-3302B

8A)

- 1:1 Connection

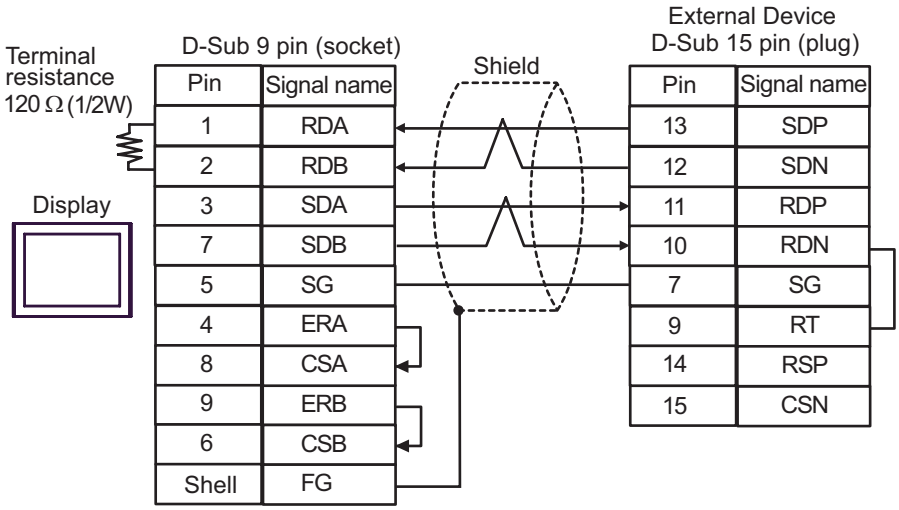


- 1:n Connection

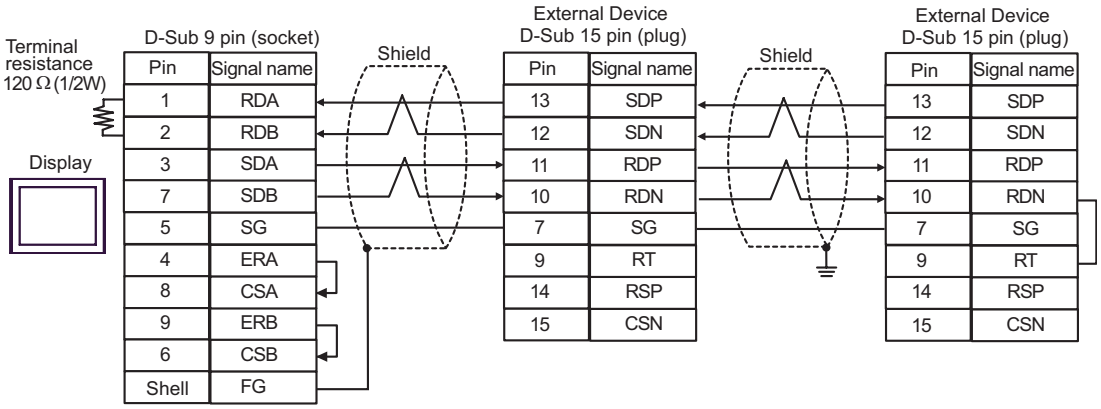


8B)

- 1:1 Connection

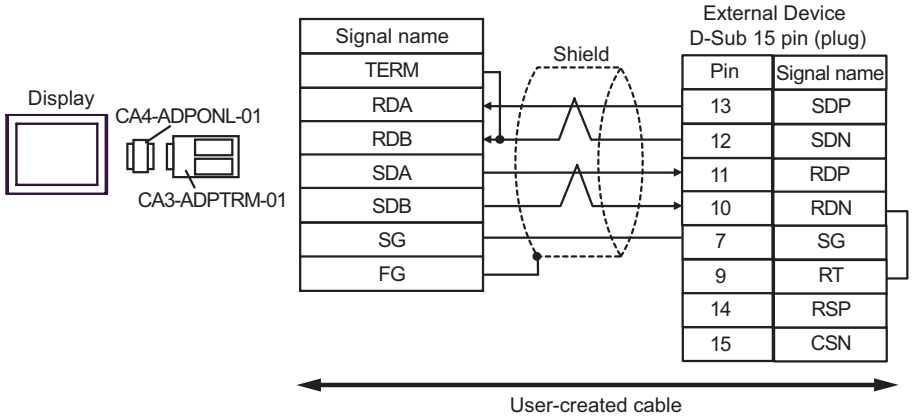


- 1:n Connection

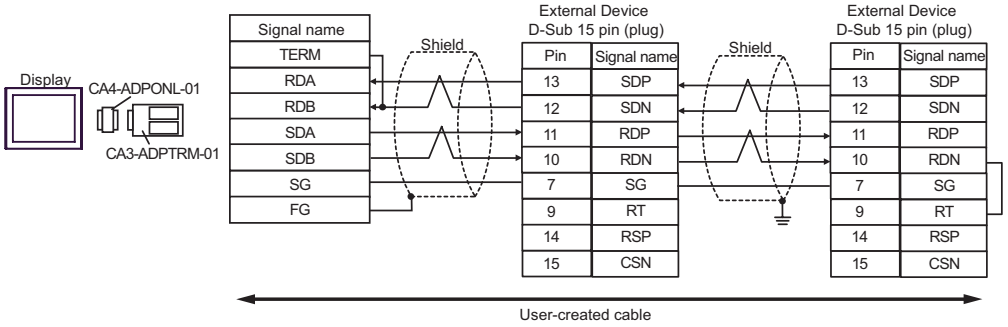


8C)

- 1:1 Connection

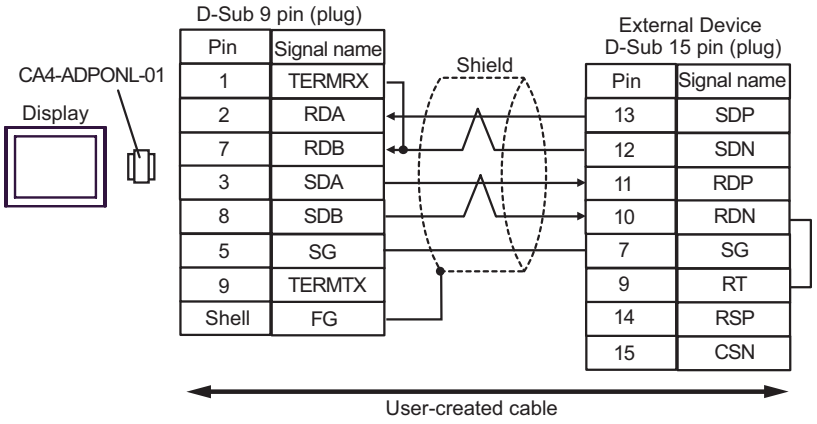


- 1:n Connection

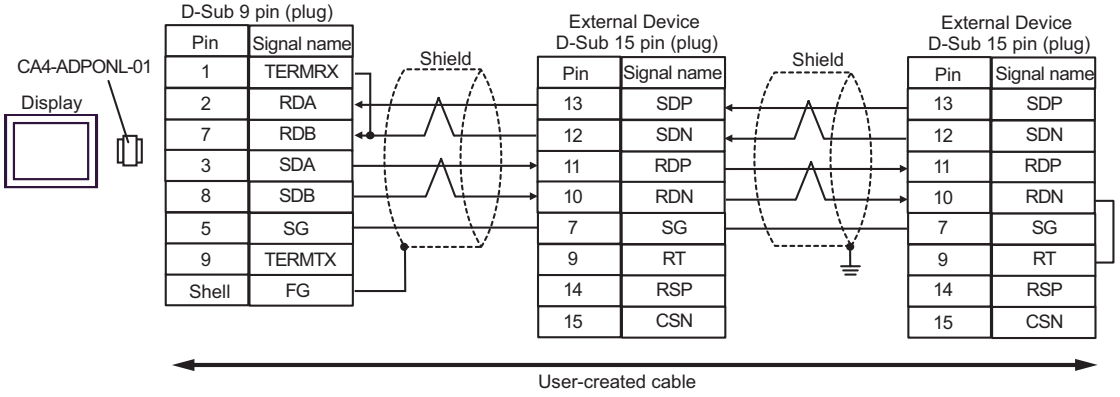


8D)

- 1:1 Connection

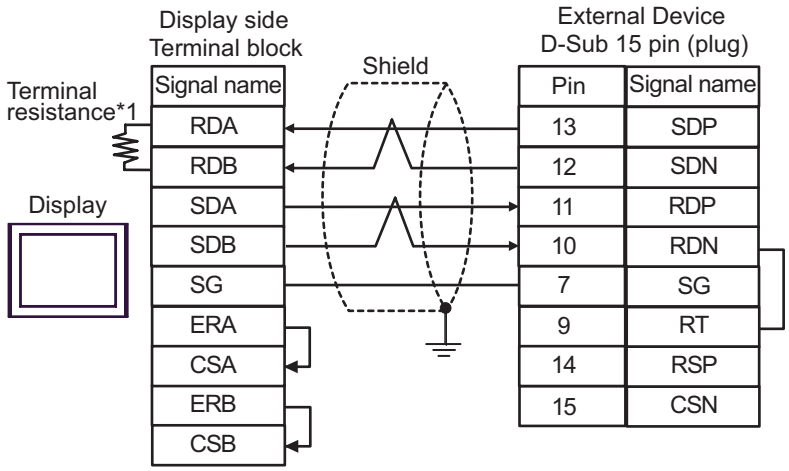


- 1:n Connection

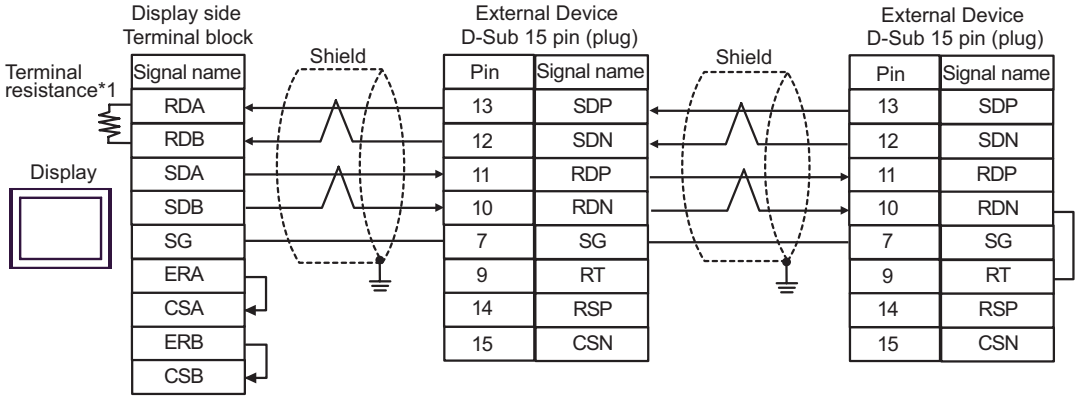


8E)

- 1:1 Connection



- 1:n Connection



*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

Cable Diagram 9

Display (Connection Port)	Cable		Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) ST[*2] (COM2)	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	
	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	
	9F	User-created cable	
GP-4106 (COM1)	9G	User-created cable	
GP-4107 (COM1)	9H	User-created cable	

*1 All GP3000 models except AGP-3302B

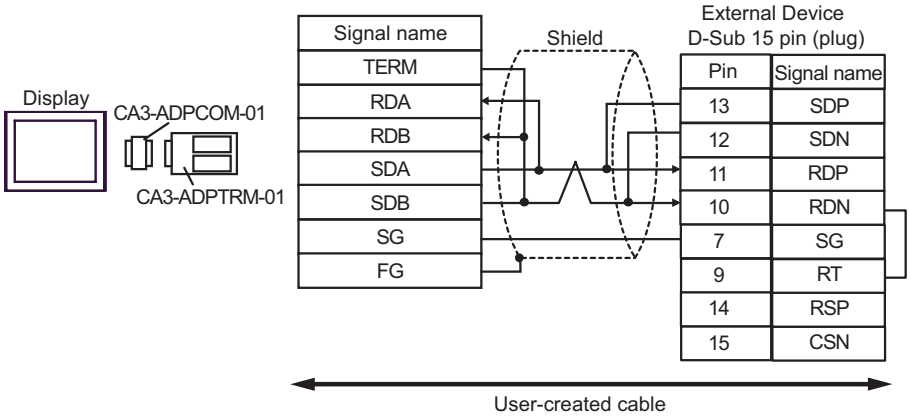
*2 All ST models except AST-3211A and AST-3302B

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

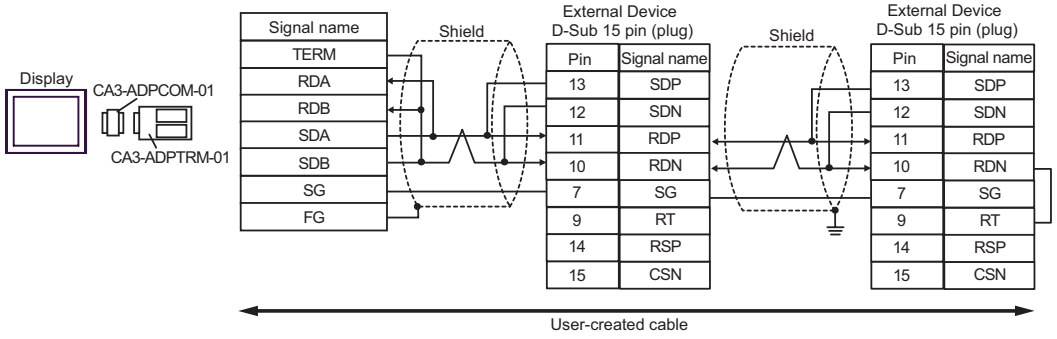
*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
☞ ■ IPC COM Port (page 8)

9A)

- 1:1 Connection

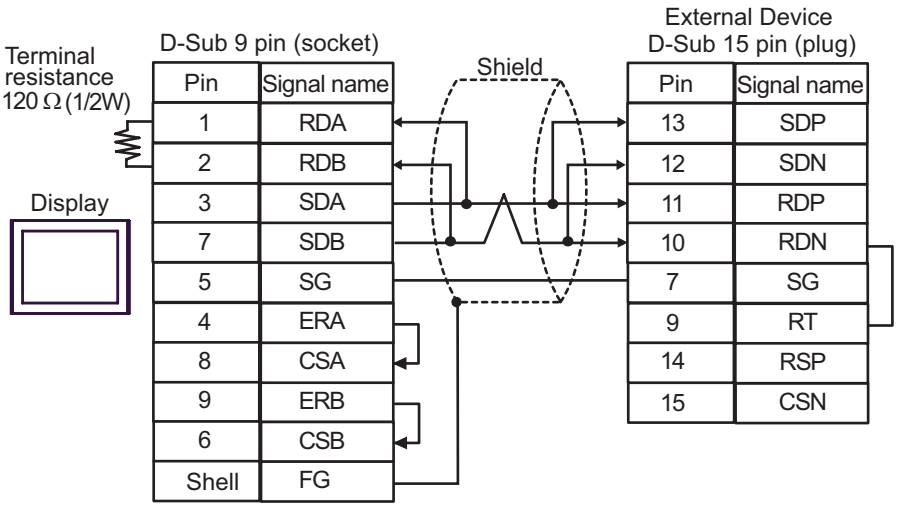


- 1:n Connection

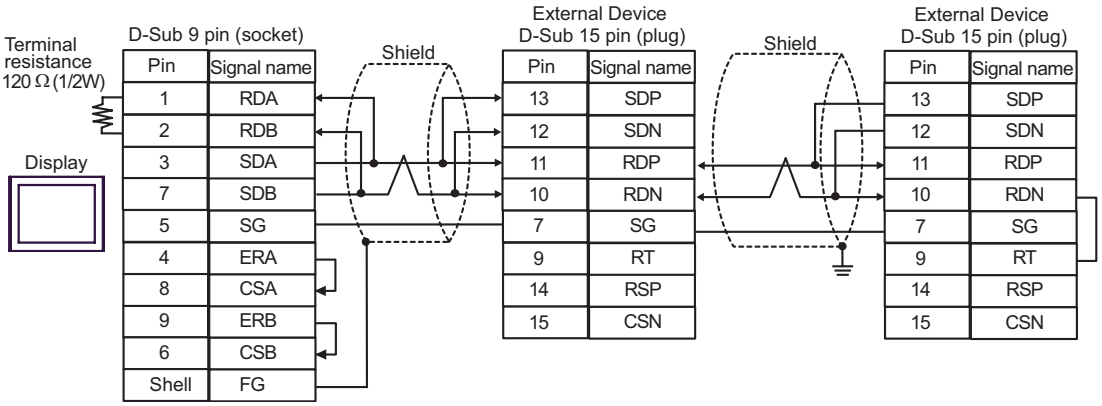


9B)

- 1:1 Connection

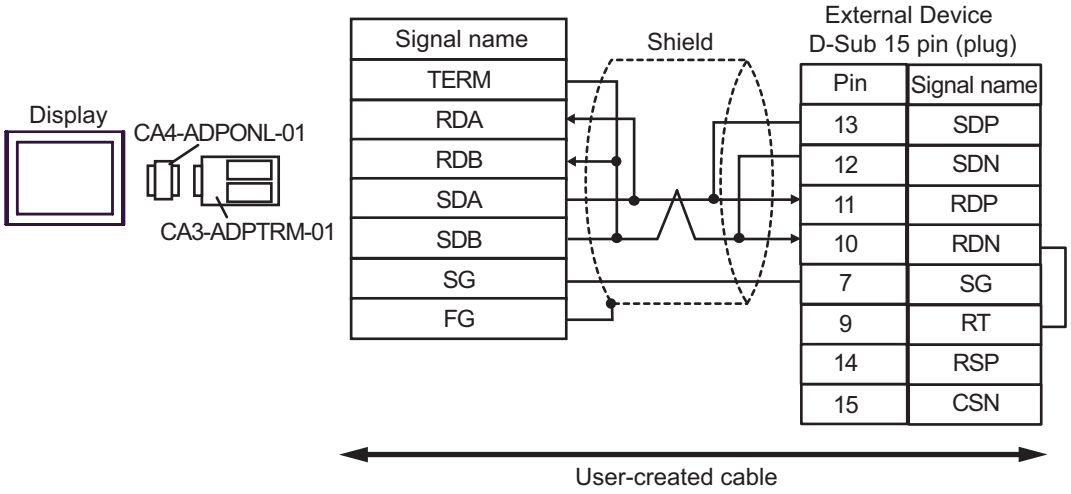


- 1:n Connection

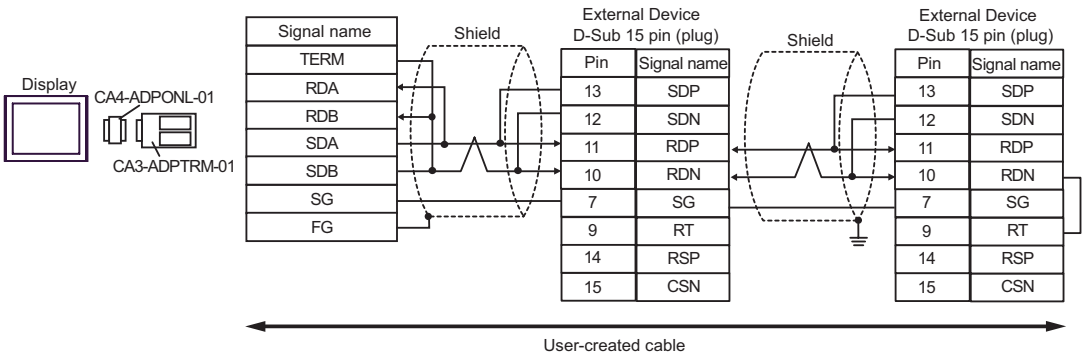


9C)

- 1:1 Connection

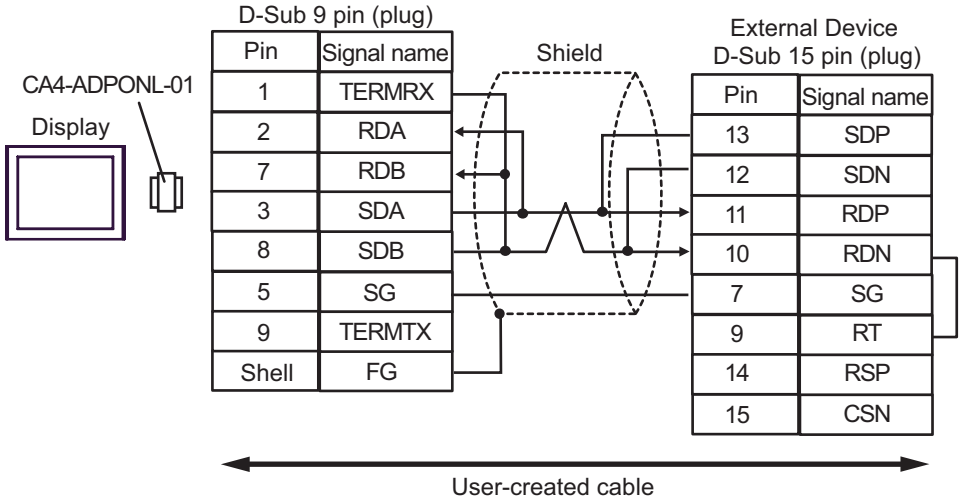


- 1:n Connection

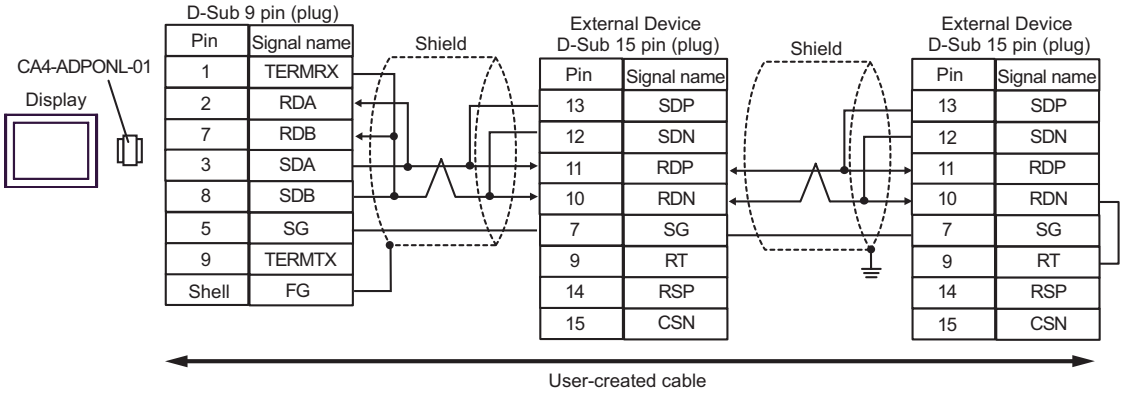


9D)

- 1:1 Connection

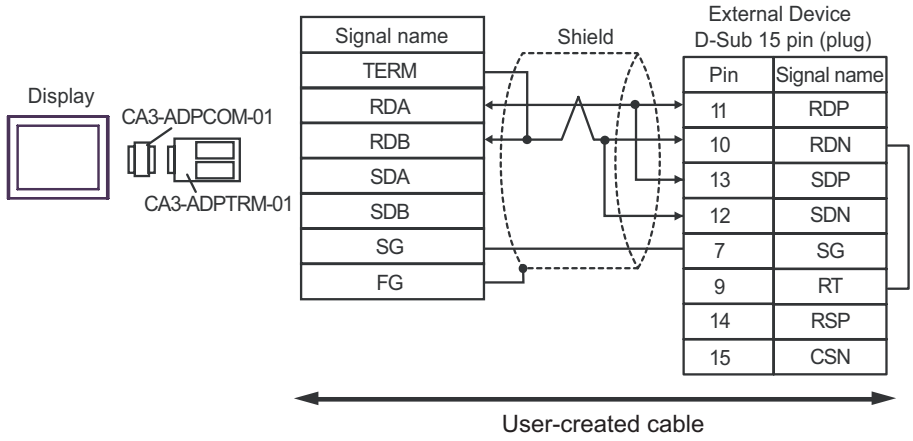


- 1:n Connection

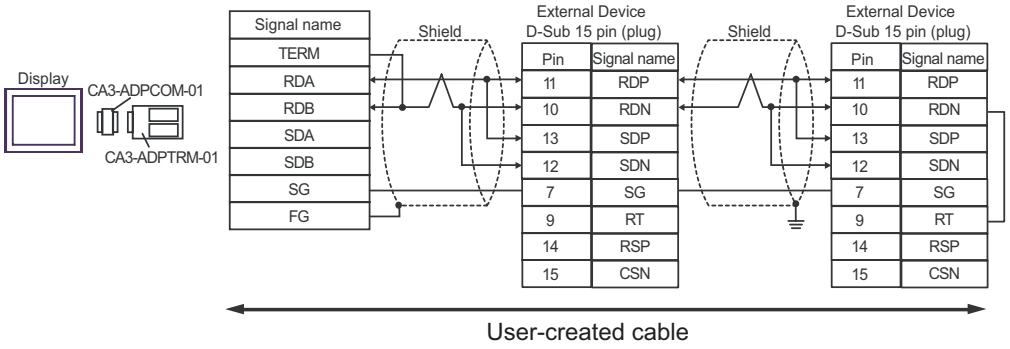


9E)

- 1:1 Connection

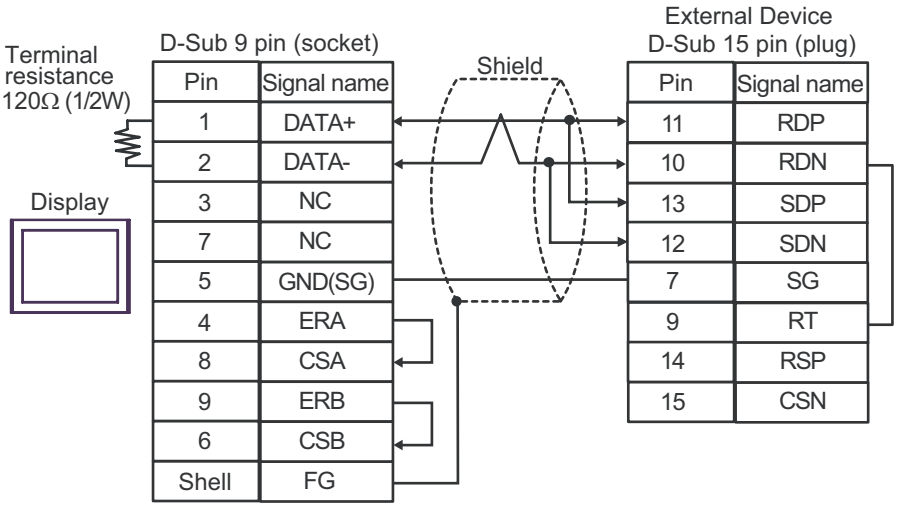


- 1:n Connection

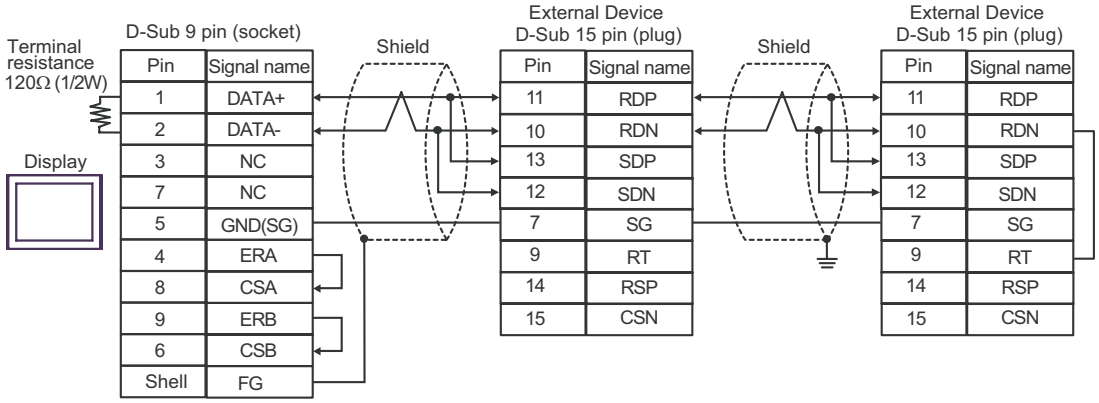


9F)

- 1:1 Connection

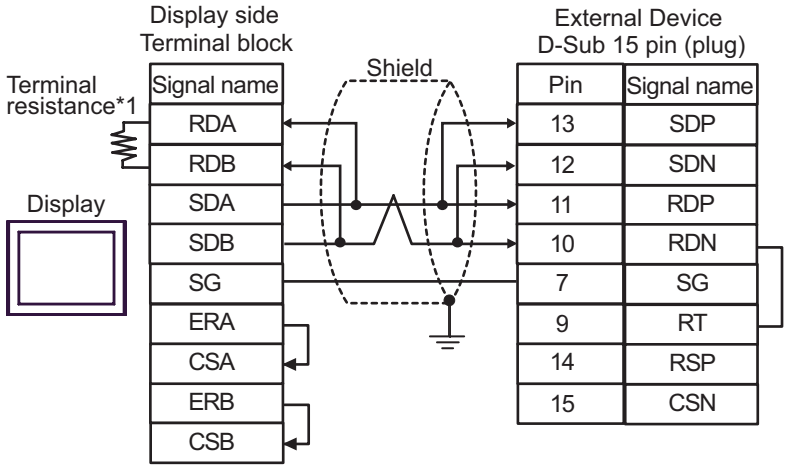


- 1:n Connection

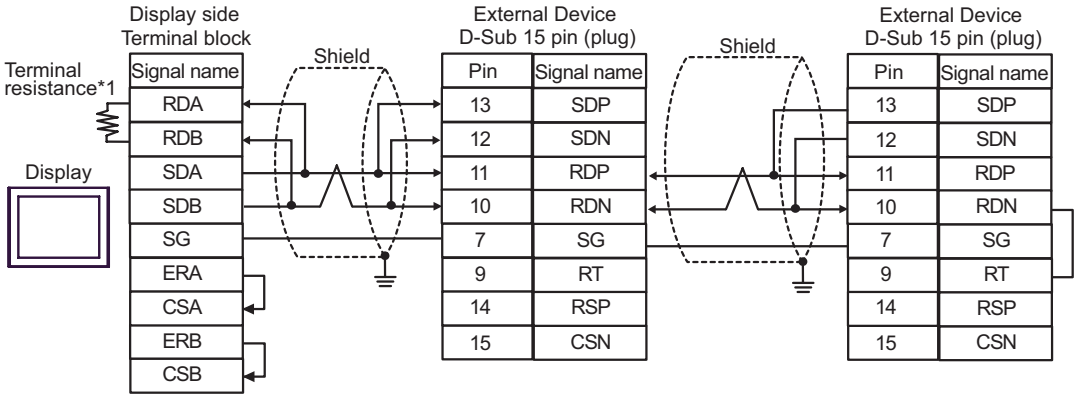


9G)

- 1:1 Connection



- 1:n Connection

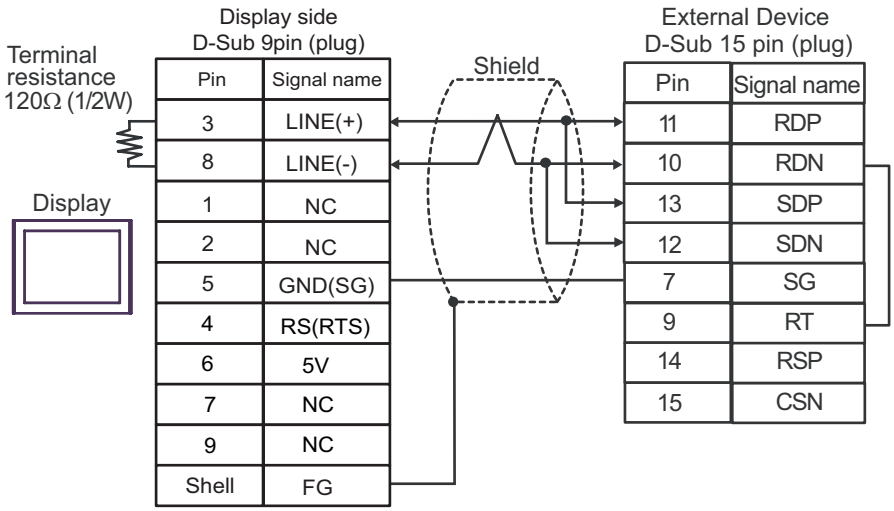


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

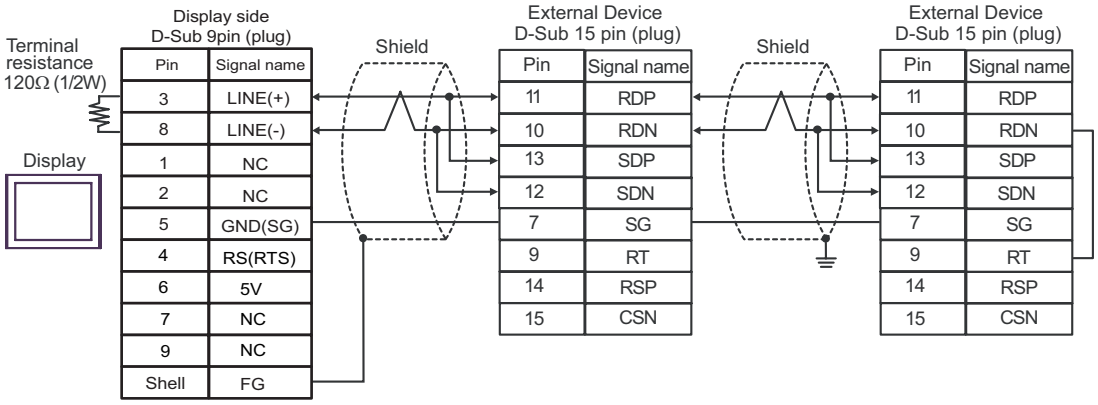
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

9H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

- The 5V output (Pin #6) on the GP-4107 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 Diagram 10

Display (Connection Port)	Cable		Remarks
GP3000*1 (COM1) AGP-3302B (COM2) ST*2 (COM2) 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	
	10D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	10E	User-created cable	

*1 All GP3000 models except AGP-3302B

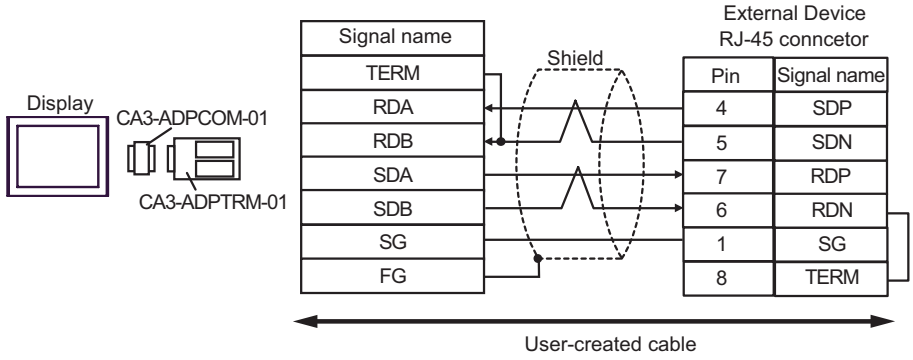
*2 All ST models except AST-3211A and AST-3302B

*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.
☞■ IPC COM Port (page 8)

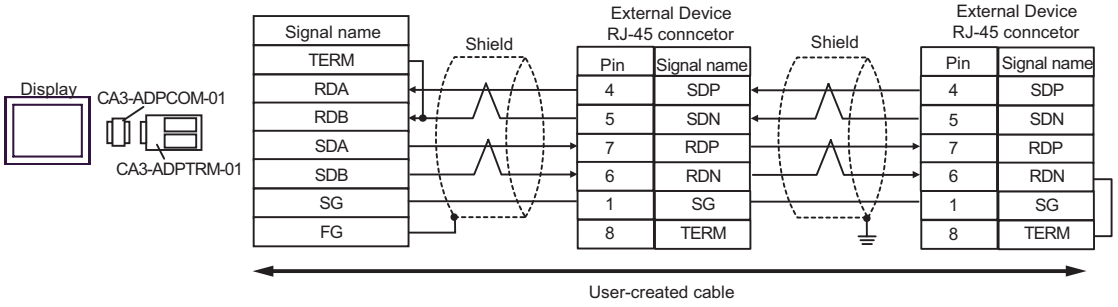
*4 All GP3000 models except GP-3200 series and AGP-3302B

10A)

- 1:1 Connection

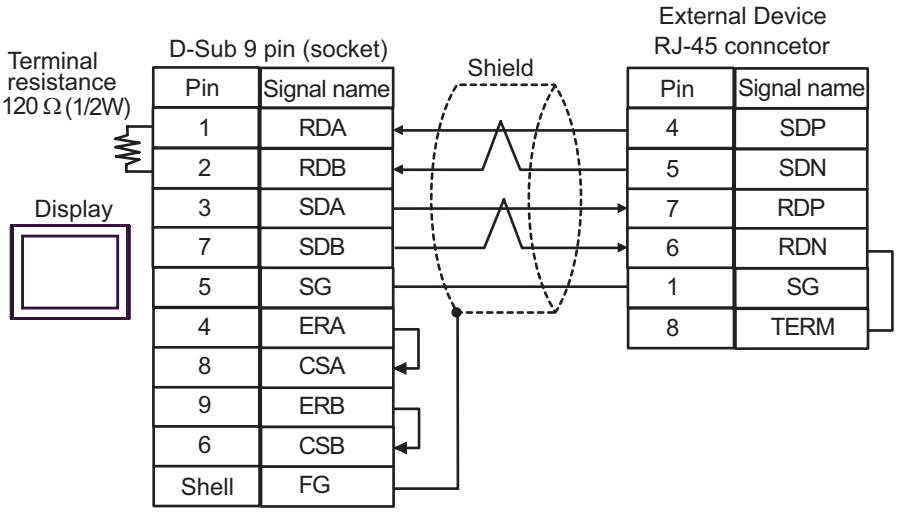


- 1:n Connection

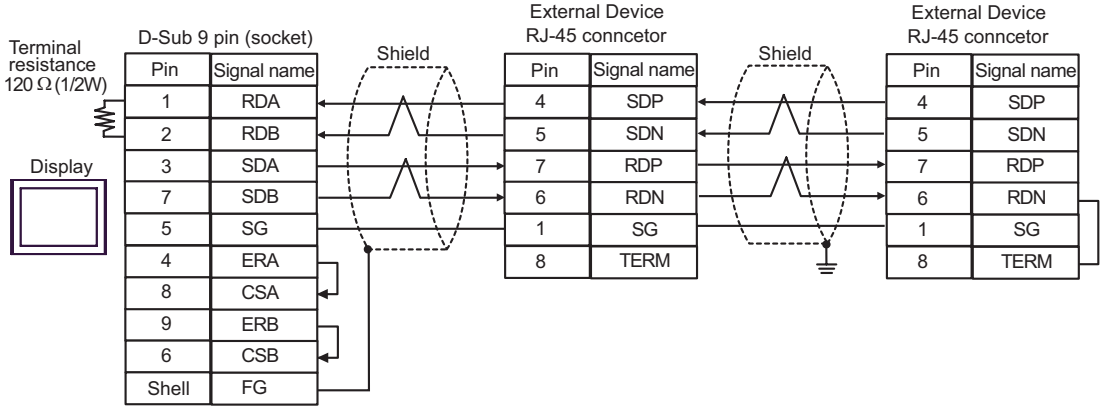


10B)

- 1:1 Connection

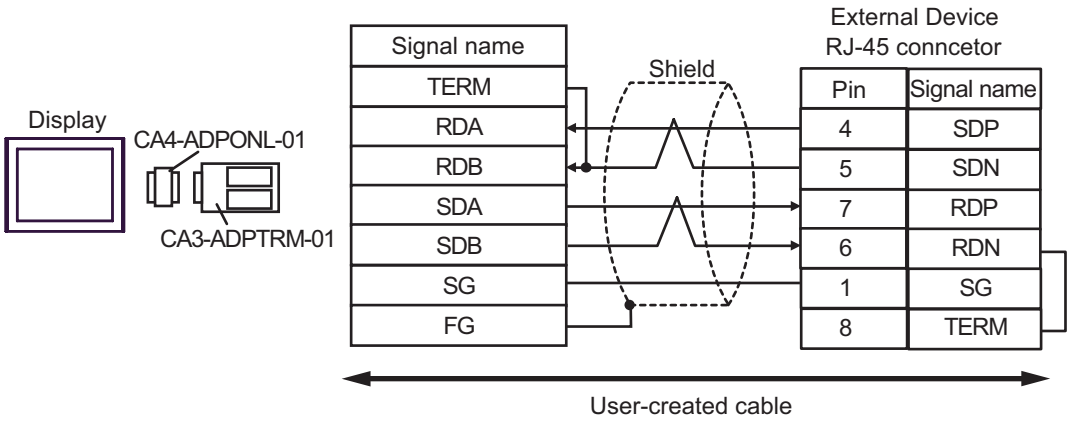


- 1:n Connection

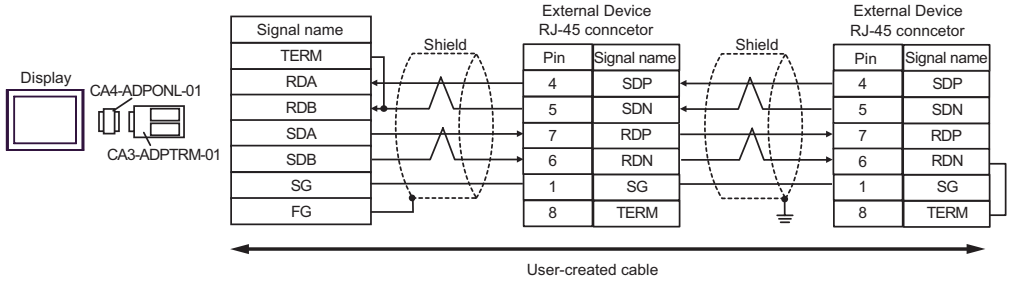


10C)

- 1:1 Connection

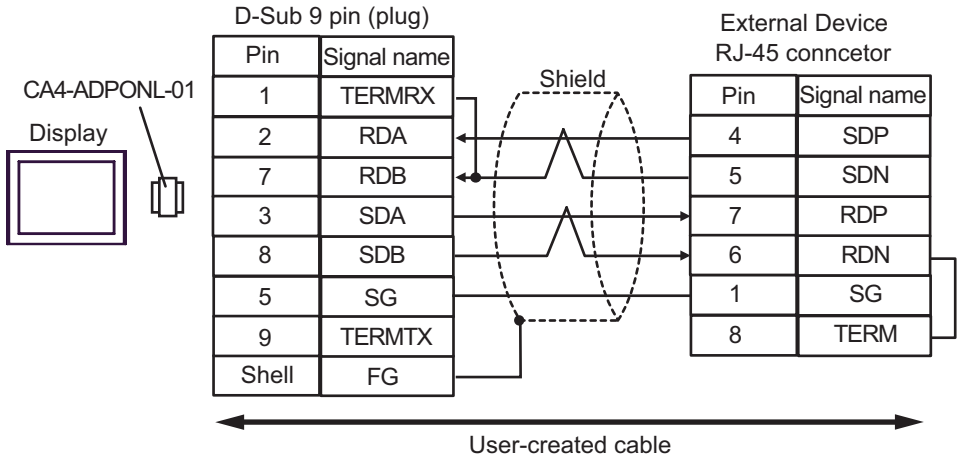


- 1:n Connection

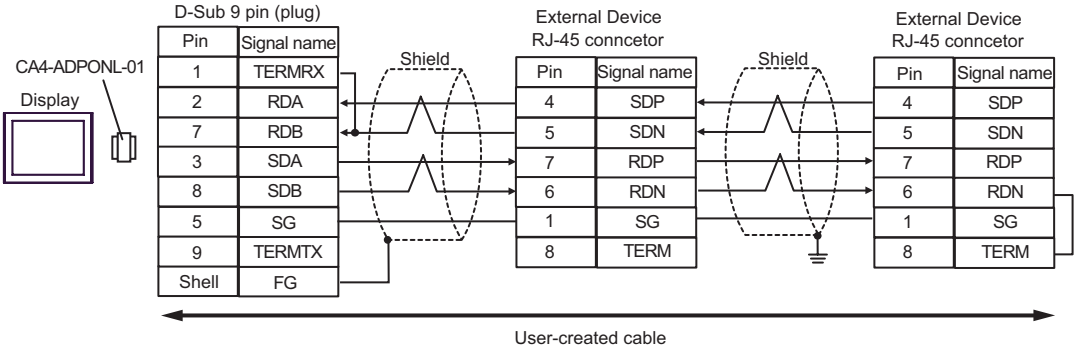


10D)

- 1:1 Connection

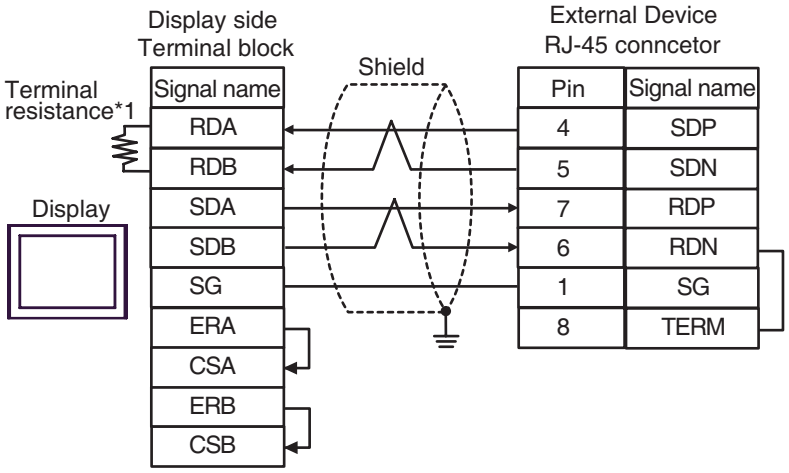


- 1:n Connection

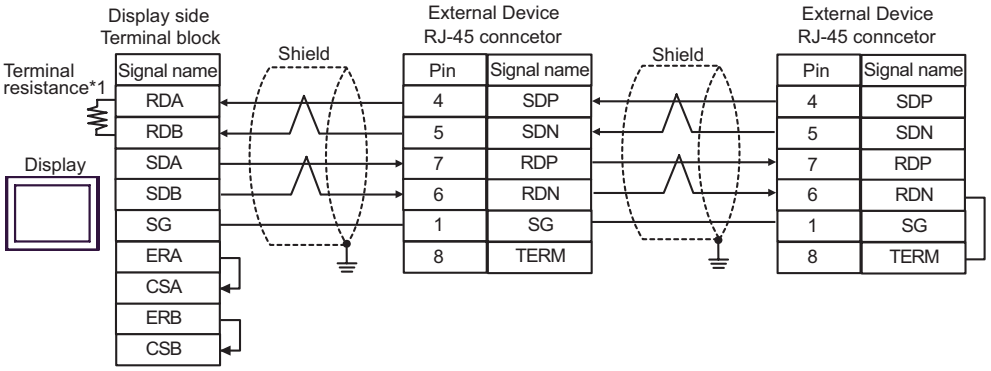


10E)

- 1:1 Connection



- 1:n Connection



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

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

Cable Diagram 11

Display (Connection Port)	Cable		Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) ST[*2] (COM2)	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	
	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	
	11F	User-created cable	
GP-4106 (COM1)	11G	User-created cable	
GP-4107 (COM1)	11H	User-created cable	

*1 All GP3000 models except AGP-3302B

*2 All ST models except AST-3211A and AST-3302B

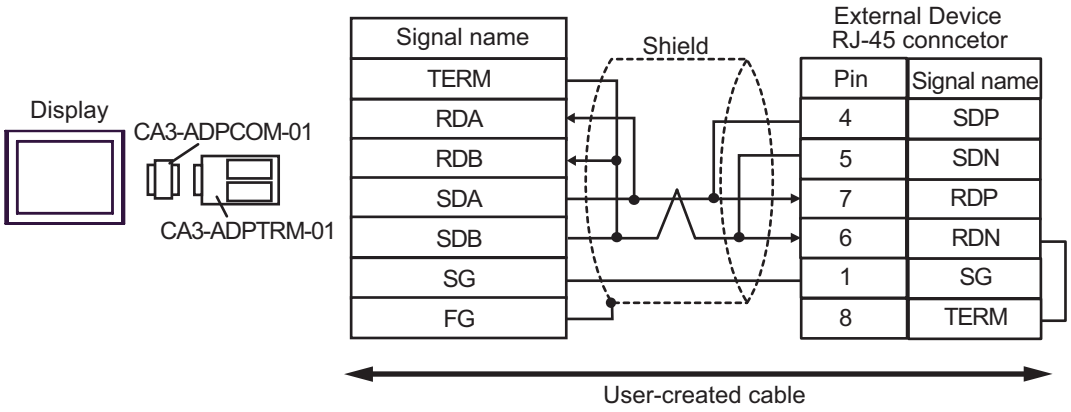
*3 All GP3000 models except GP-3200 series and AGP-3302B

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

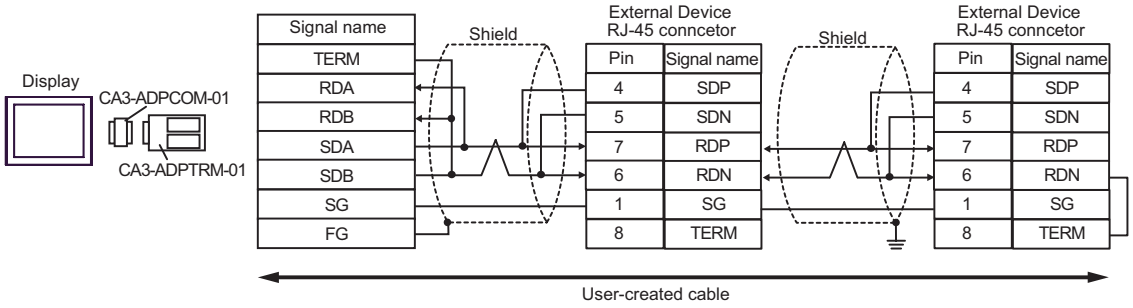
☞■ IPC COM Port (page 8)

11A)

- 1:1 Connection

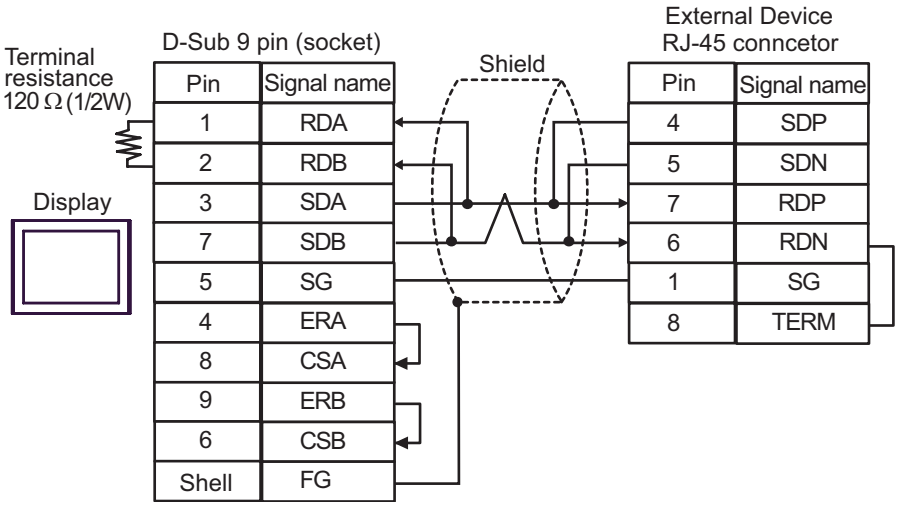


- 1:n Connection

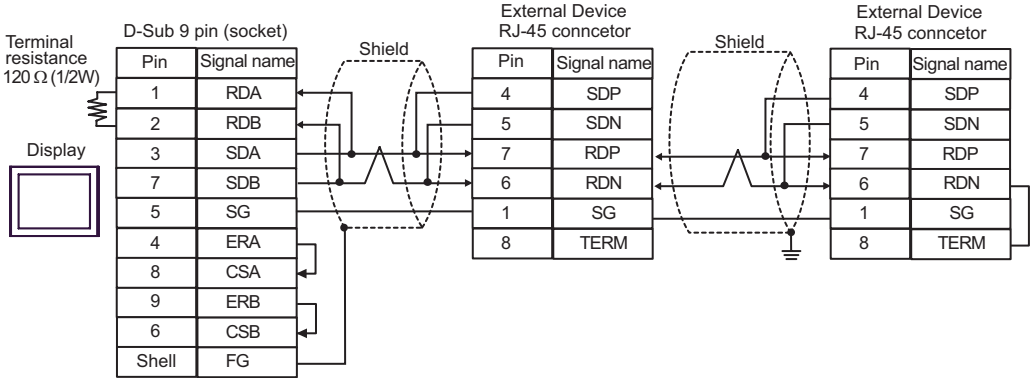


11B)

- 1:1 Connection

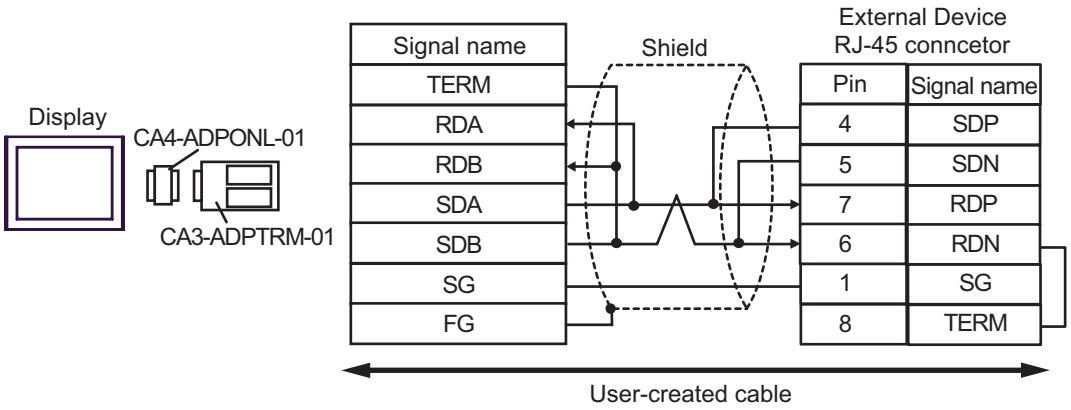


- 1:n Connection

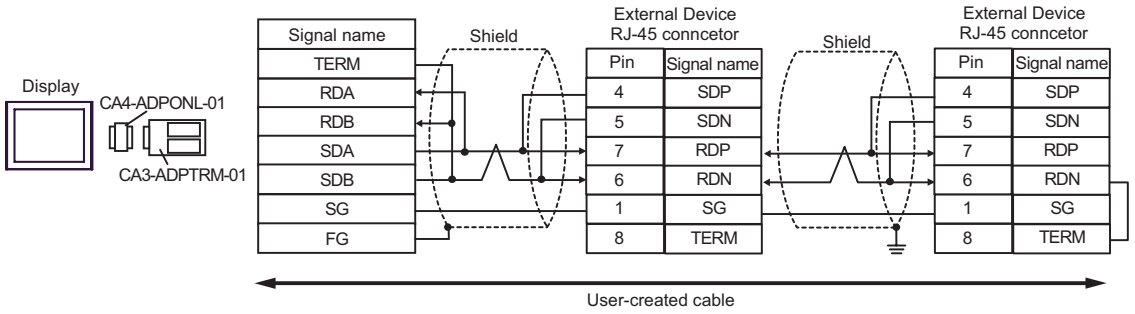


11C)

- 1:1 Connection

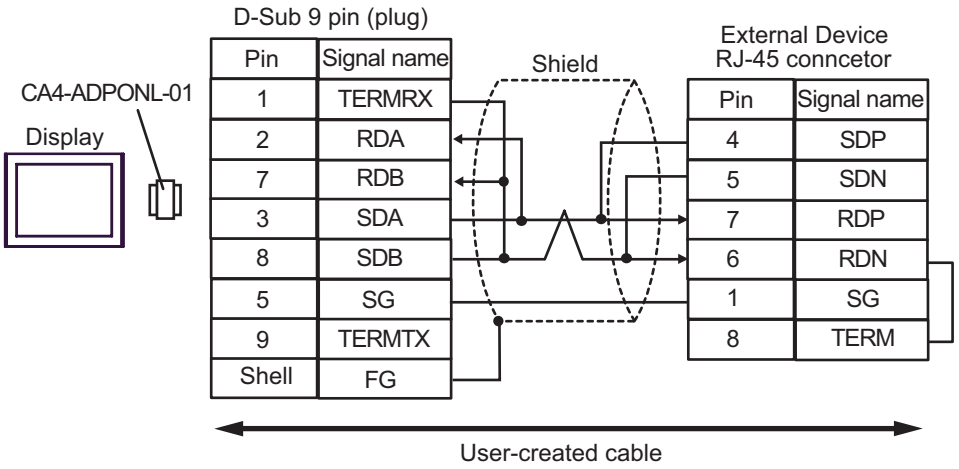


- 1:n Connection

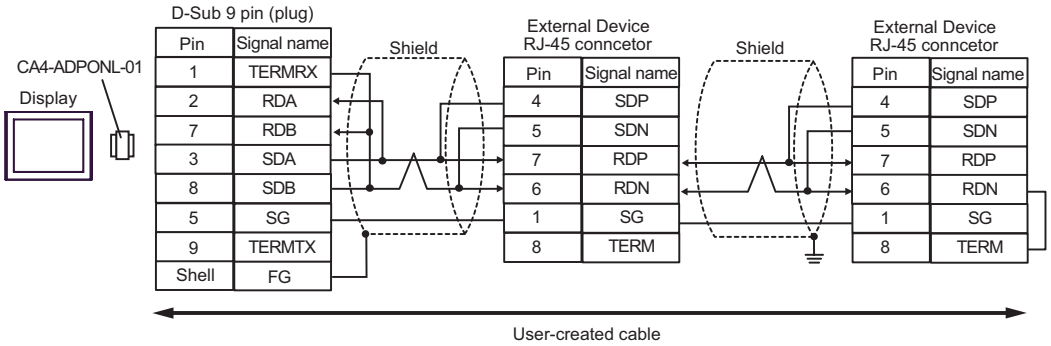


11D)

- 1:1 Connection

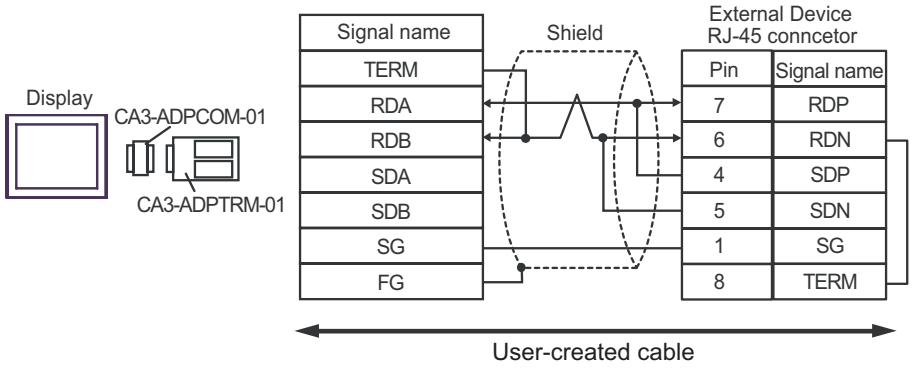


- 1:n Connection

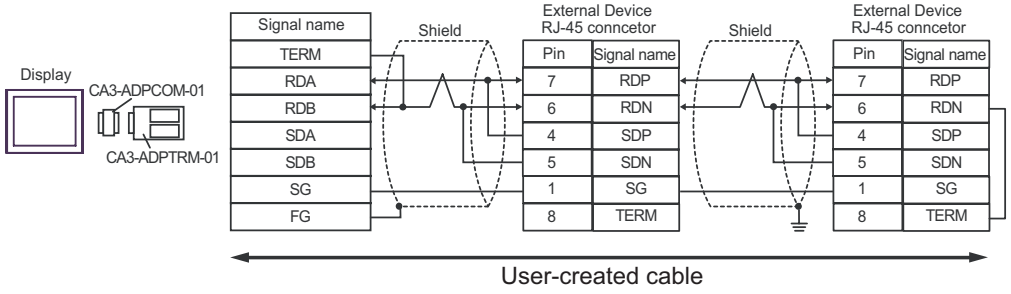


11E)

- 1:1 Connection

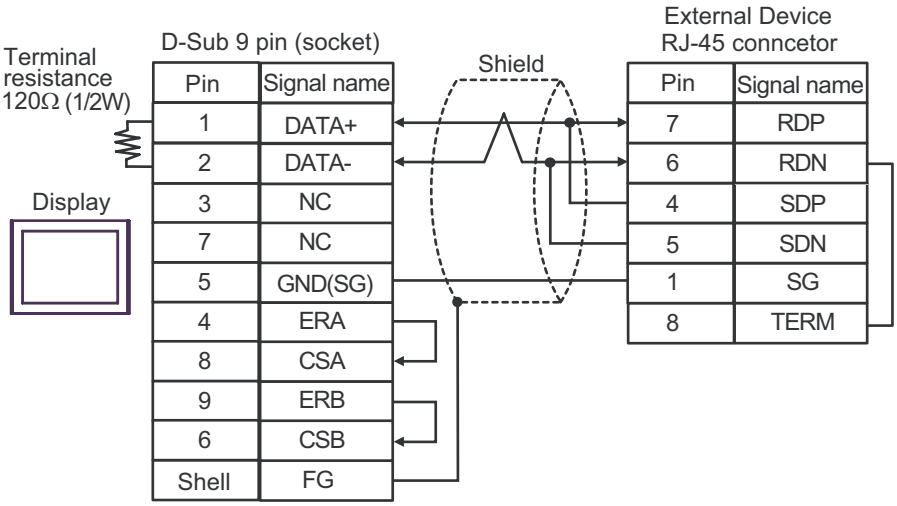


- 1:n Connection

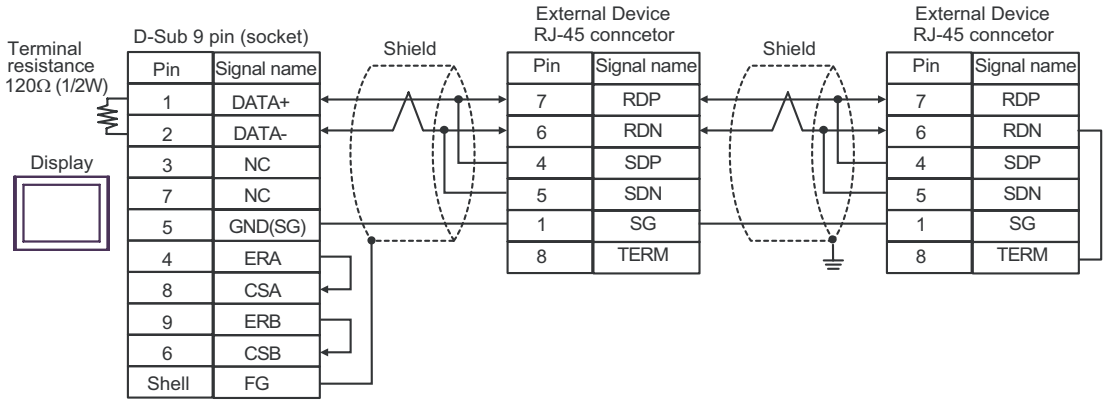


11F)

- 1:1 Connection

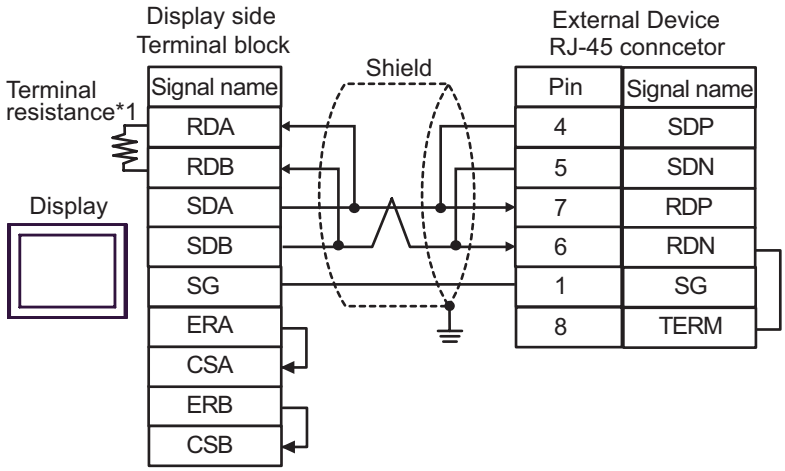


- 1:n Connection

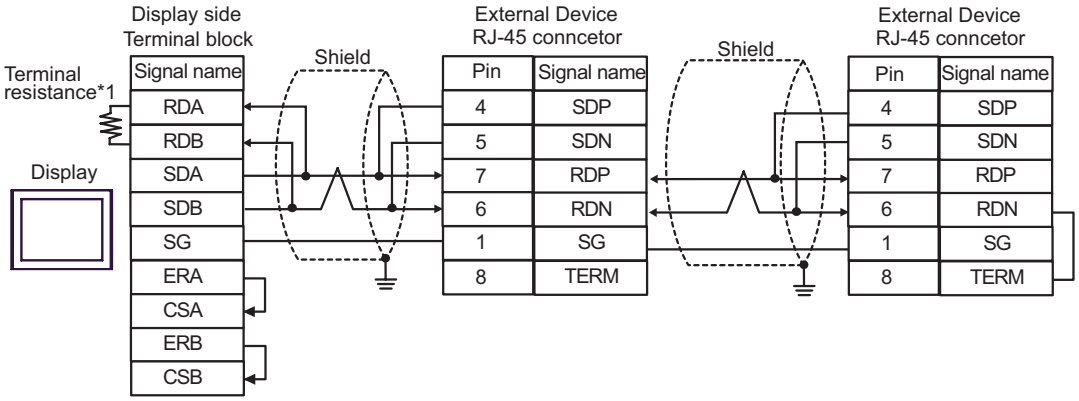


11G)

- 1:1 Connection



- 1:n Connection

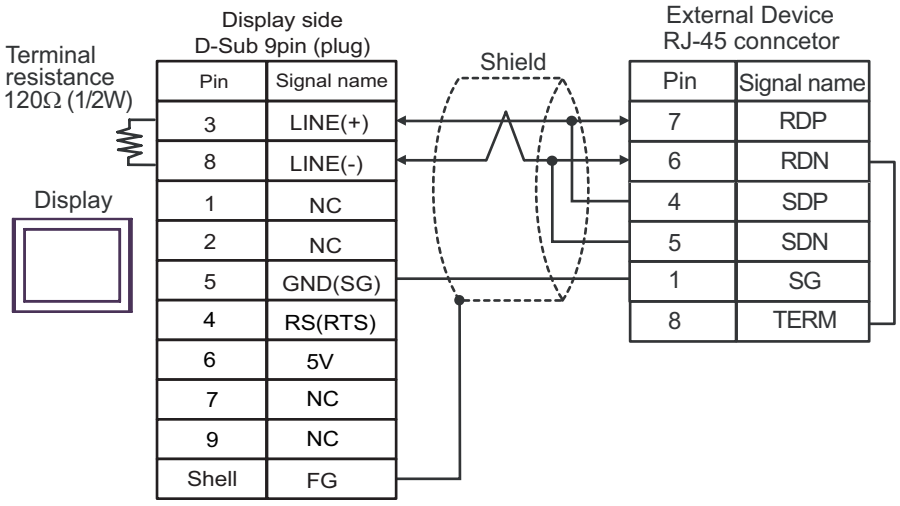


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

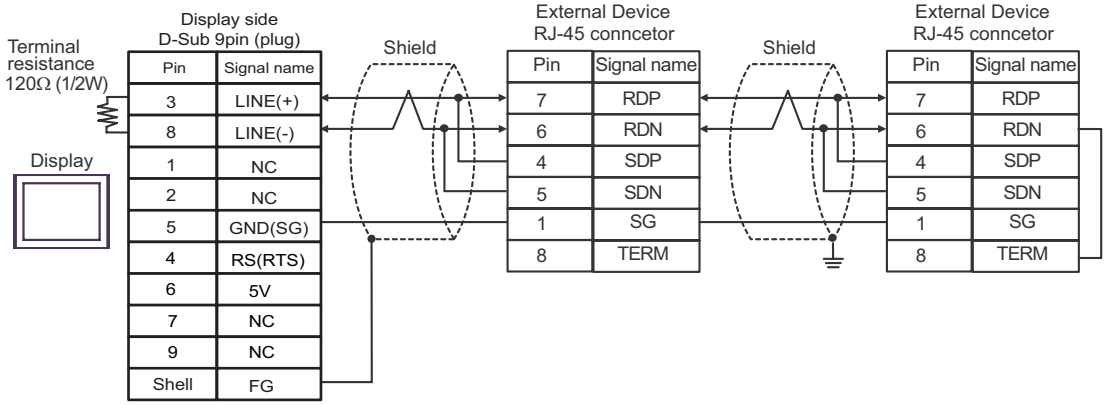
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

11H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

- The 5V output (Pin #6) on the GP-4107 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.

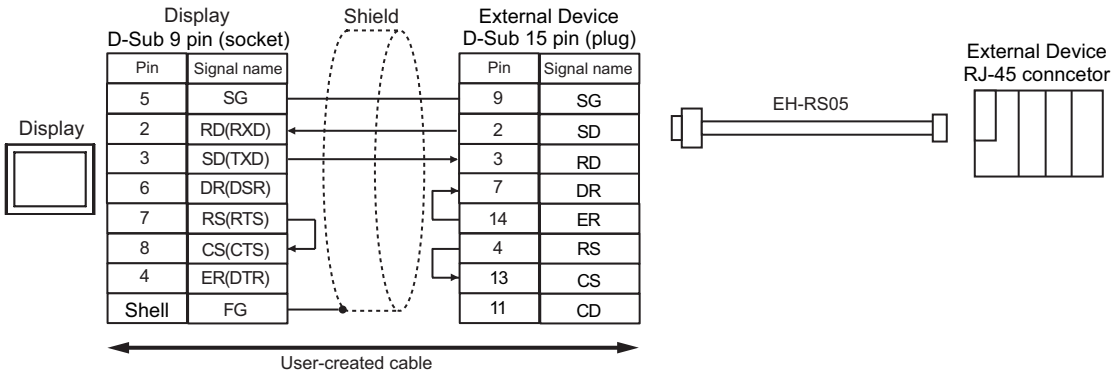
Cable Diagram 12

Display (Connection Port)	Cable		Remarks
GP3000 (COM1) ST (COM1) IPC*1 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)	12B	User-created cable + Conversion cable by Hitachi IES Co., Ltd. EH-RS05(0.5m)	

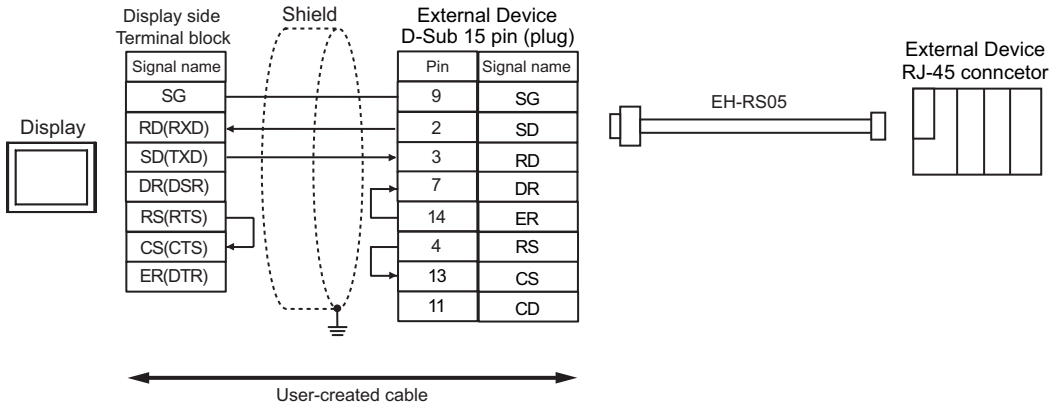
*1 Only the COM port which can communicate by RS-232C can be used.

☞ ■ IPC COM Port (page 8)

12A)



12B)



Cable Diagram 13

Display (Connection Port)	Cable		Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) ST[*2] (COM2) 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	
	13D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	13E	User-created cable	

*1 All GP3000 models except AGP-3302B

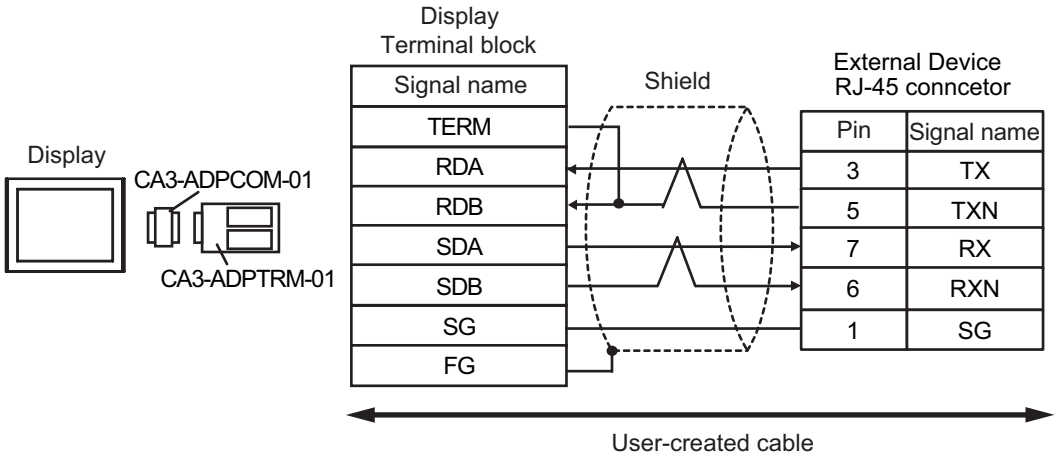
*2 All ST models except AST-3211A and AST-3302B

*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.
☞ ■ IPC COM Port (page 8)

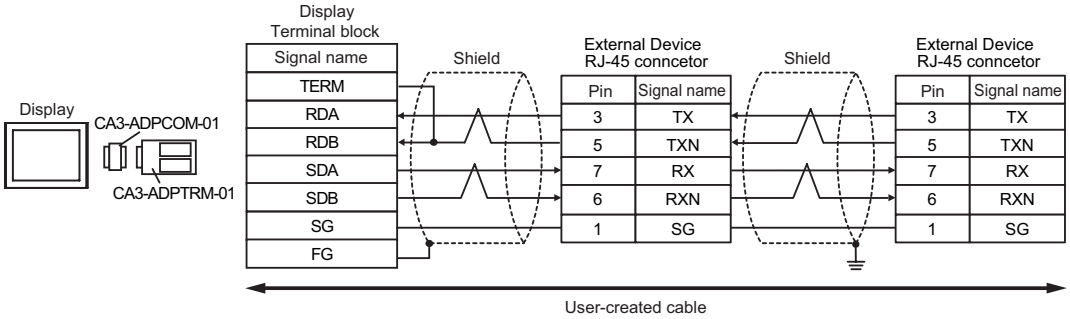
*4 All GP3000 models except GP-3200 series and AGP-3302B

13A)

- 1:1 Connection



- 1:n Connection

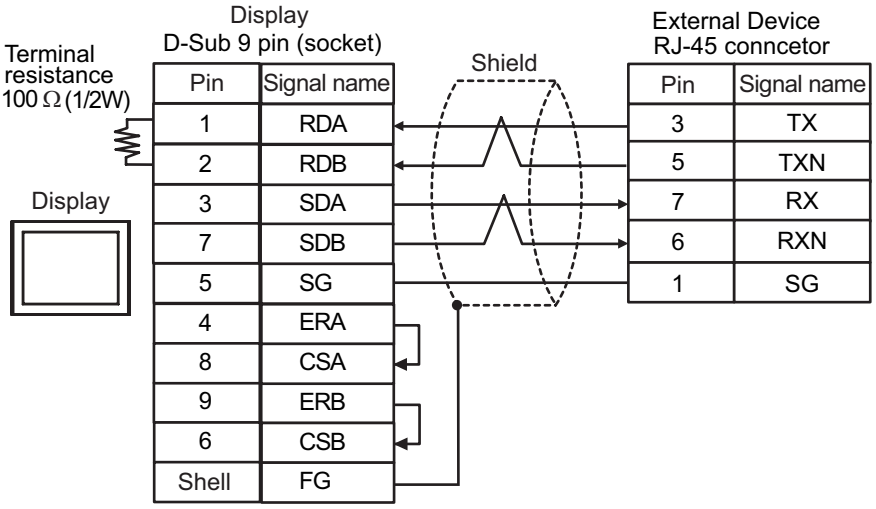


NOTE

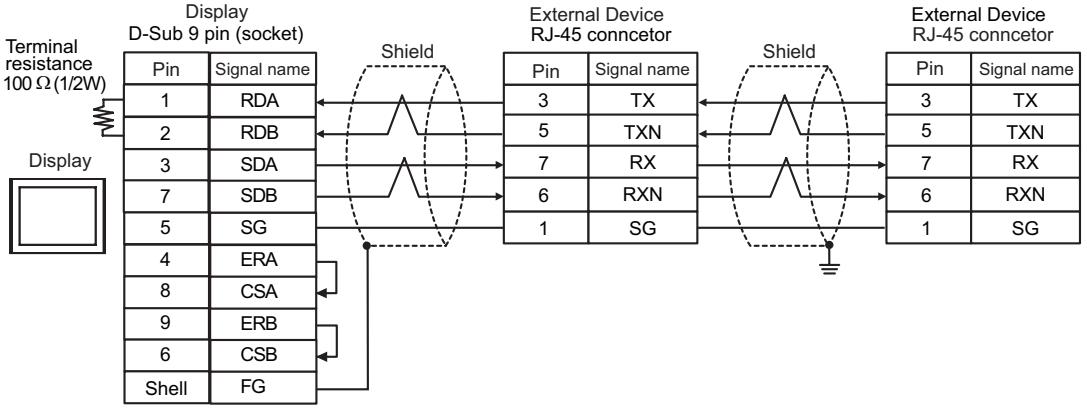
- Please turn on the DIP Switch 1 to enable build-in resistance(100Ω) on the remotest External Device side.

13B)

- 1:1 Connection



- 1:n Connection

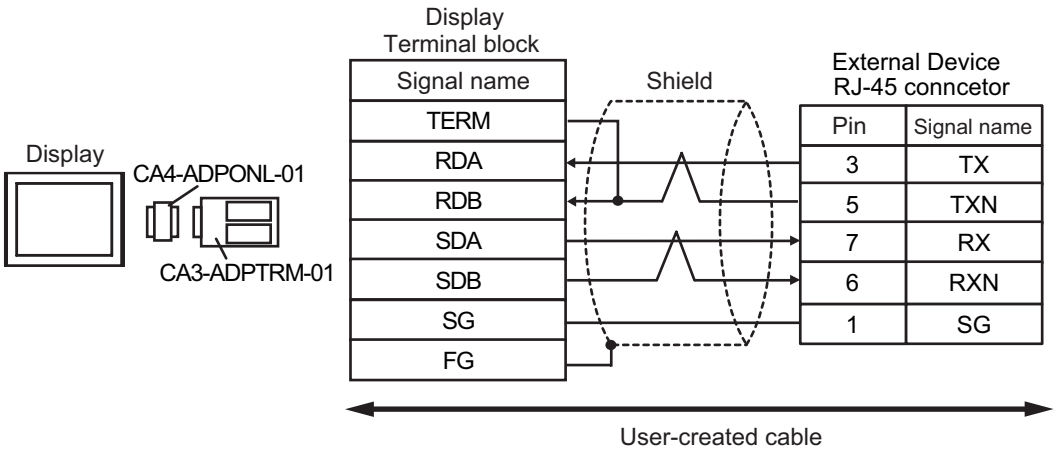


NOTE

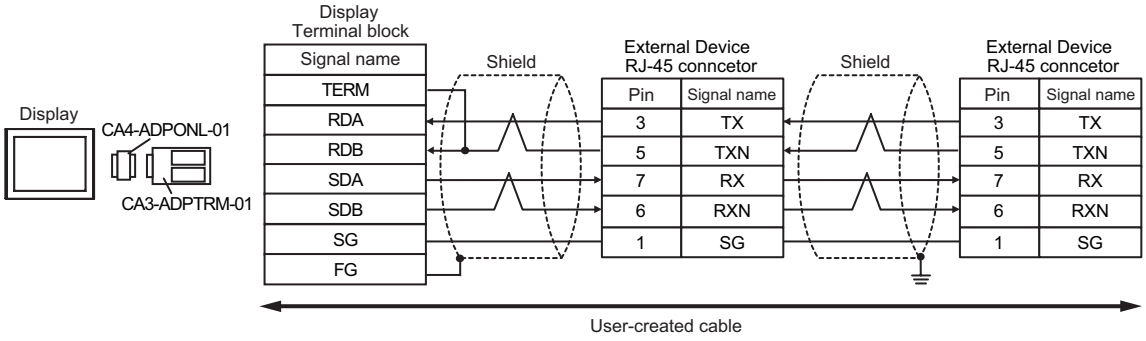
- Please turn on the DIP Switch 1 to enable build-in resistance(100Ω) on the remotest External Device side.

13C)

- 1:1 Connection



- 1:n Connection

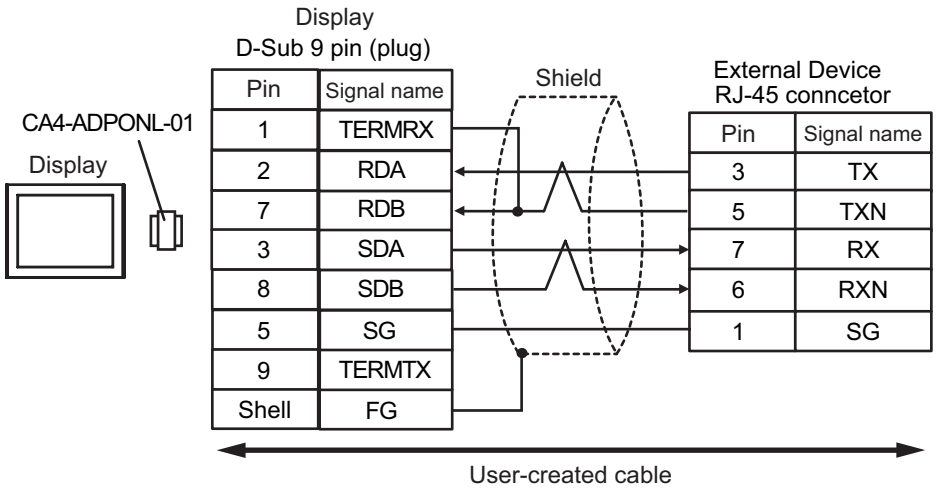


NOTE

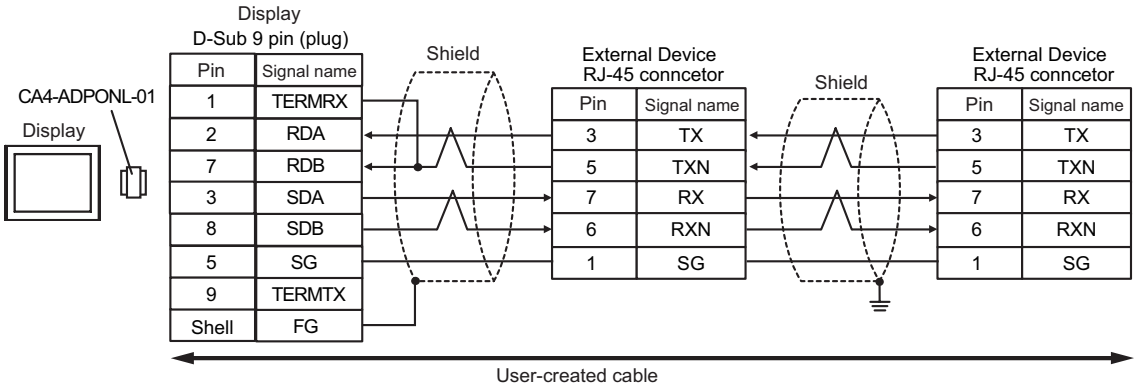
- Please turn on the DIP Switch 1 to enable build-in resistance(100Ω) on the remotest External Device side.

13D)

- 1:1 Connection



- 1:n Connection

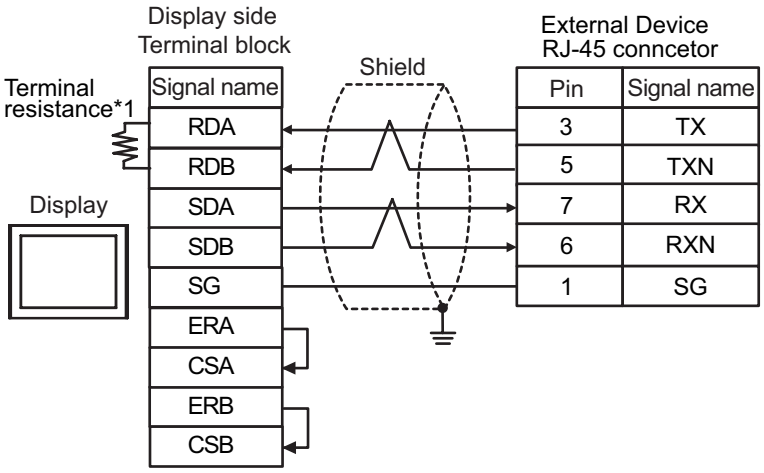


NOTE

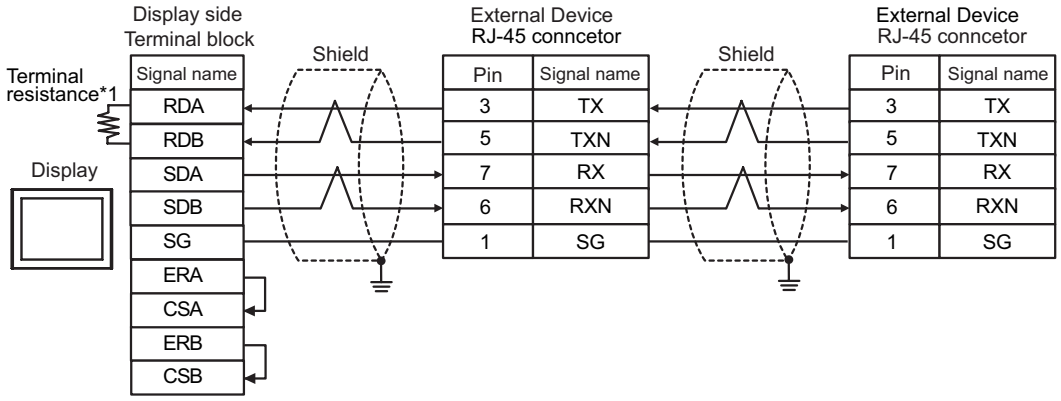
- Please turn on the DIP Switch 1 to enable build-in resistance(100Ω) on the remotest External Device side.

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.

*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

Cable Diagram 14

Display (Connection Port)	Cable		Remarks
GP3000[*1] (COM1) AGP-3302B (COM2) ST[*2] (COM2)	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	
	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	
	14F	User-created cable	
GP-4106 (COM1)	14G	User-created cable	
GP-4107 (COM1)	14H	User-created cable	

*1 All GP3000 models except AGP-3302B

*2 All ST models except AST-3211A and AST-3302B

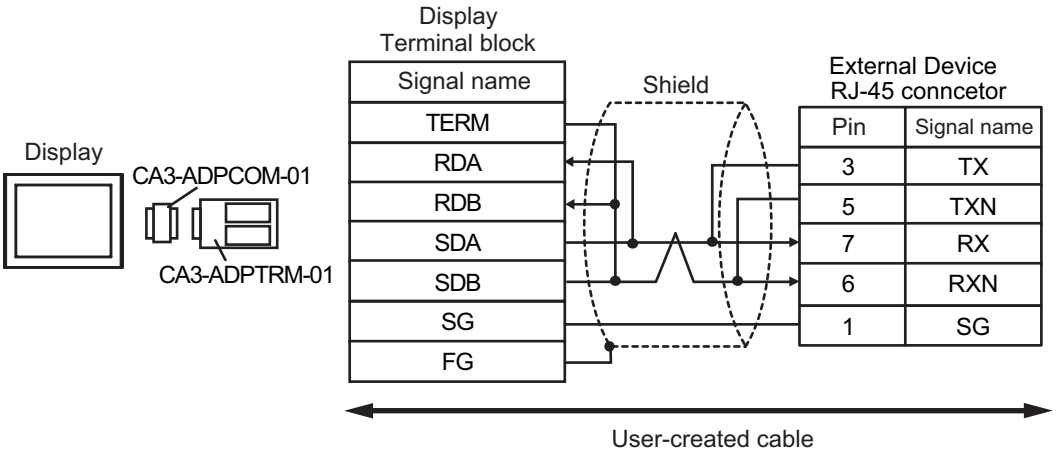
*3 All GP3000 models except GP-3200 series and AGP-3302B

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

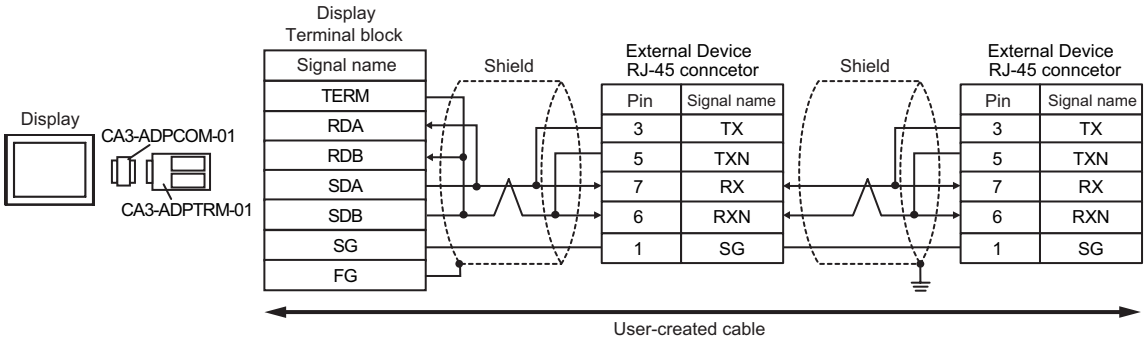
☞■ IPC COM Port (page 8)

14A)

- 1:1 Connection



- 1:n Connection

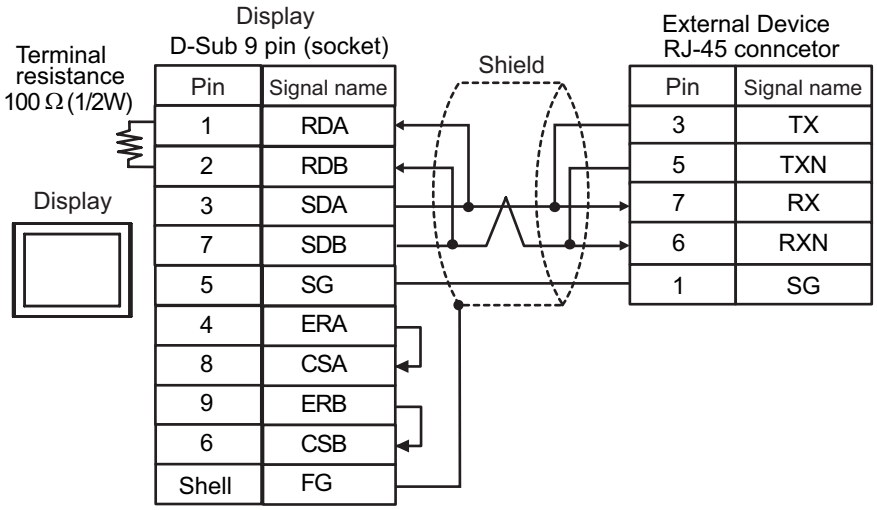


NOTE

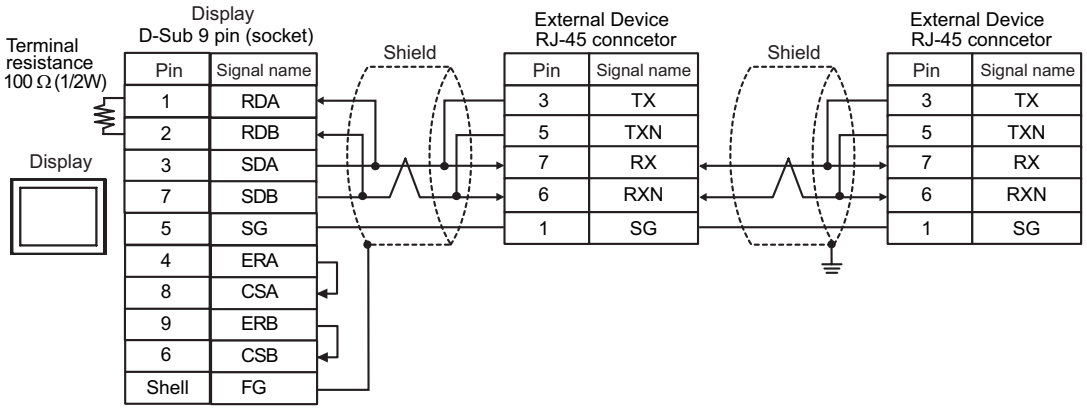
- Please turn on the DIP Switch 1 to enable build-in resistance(100Ω) on the remotest External Device side.

14B)

- 1:1 Connection



- 1:n Connection

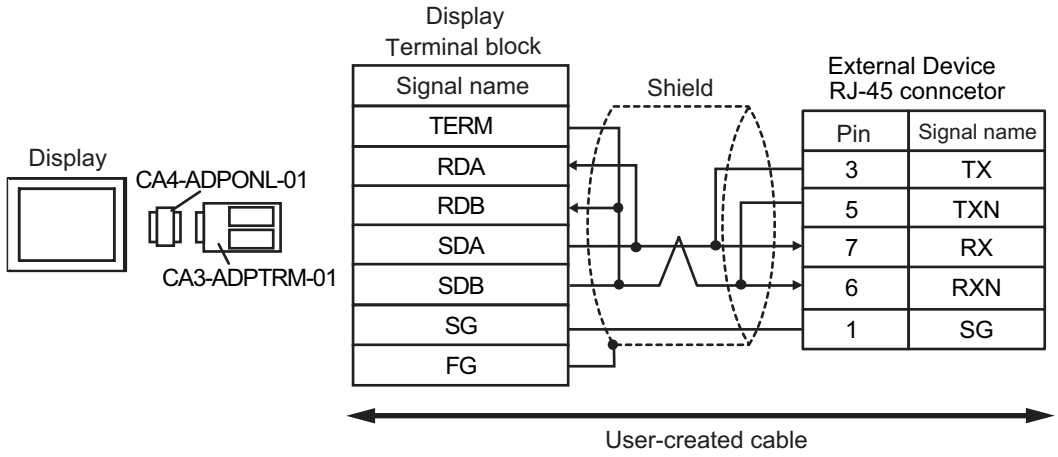


NOTE

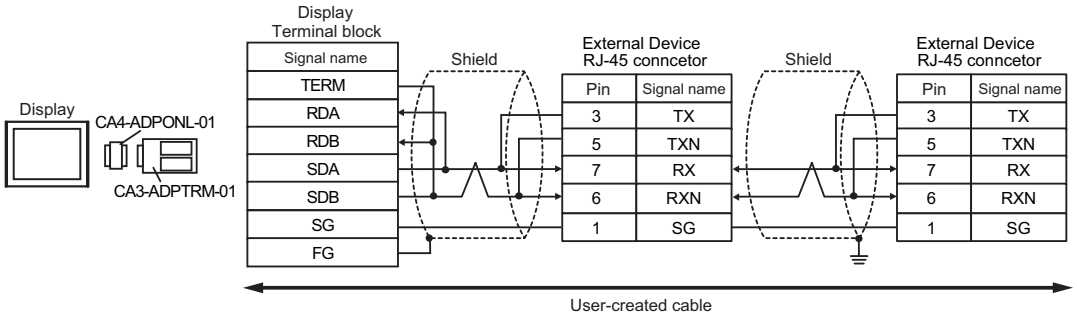
- Please turn on the DIP Switch 1 to enable build-in resistance(100Ω) on the remotest External Device side.

14C)

- 1:1 Connection



- 1:n Connection

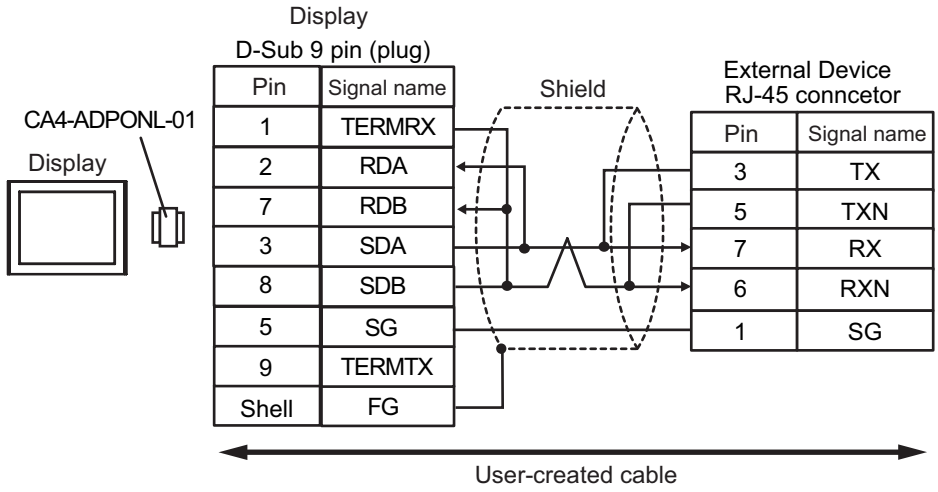


NOTE

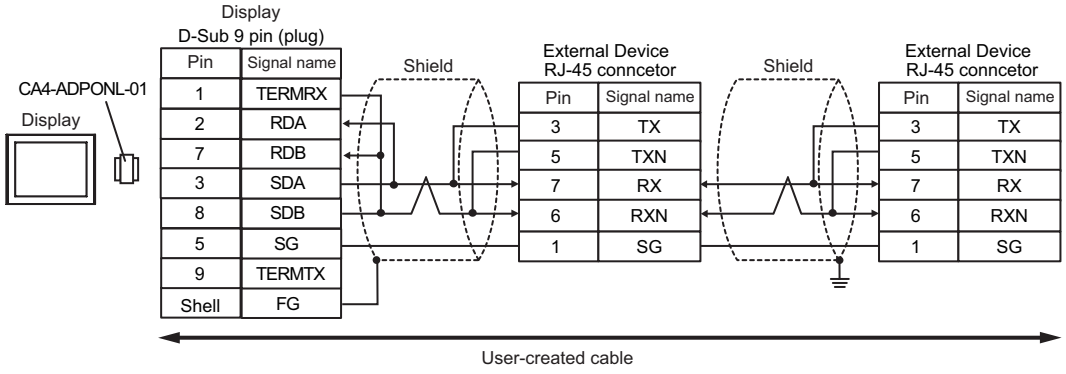
- Please turn on the DIP Switch 1 to enable build-in resistance(100Ω) on the remotest External Device side.

14D)

- 1:1 Connection



- 1:n Connection

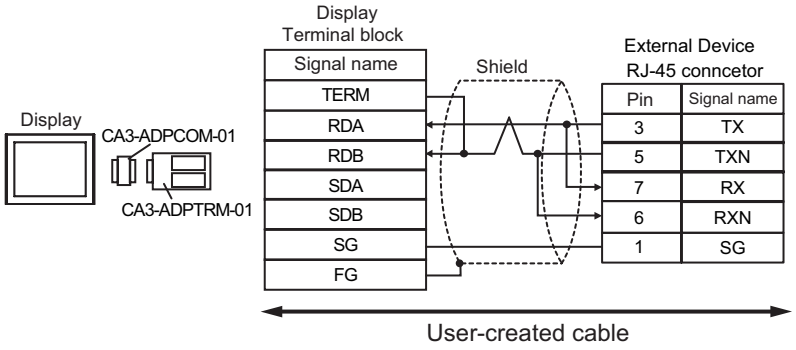


NOTE

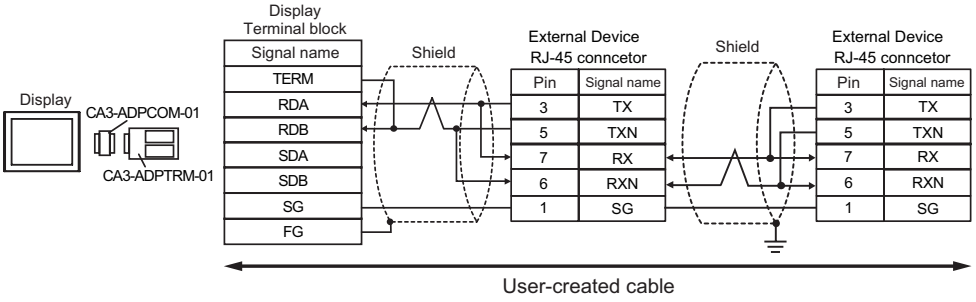
- Please turn on the DIP Switch 1 to enable build-in resistance(100Ω) on the remotest External Device side.

14E)

- 1:1 Connection



- 1:n Connection

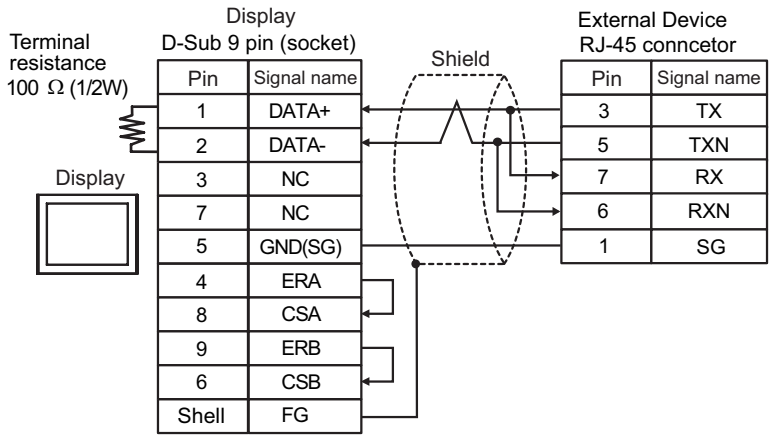


NOTE

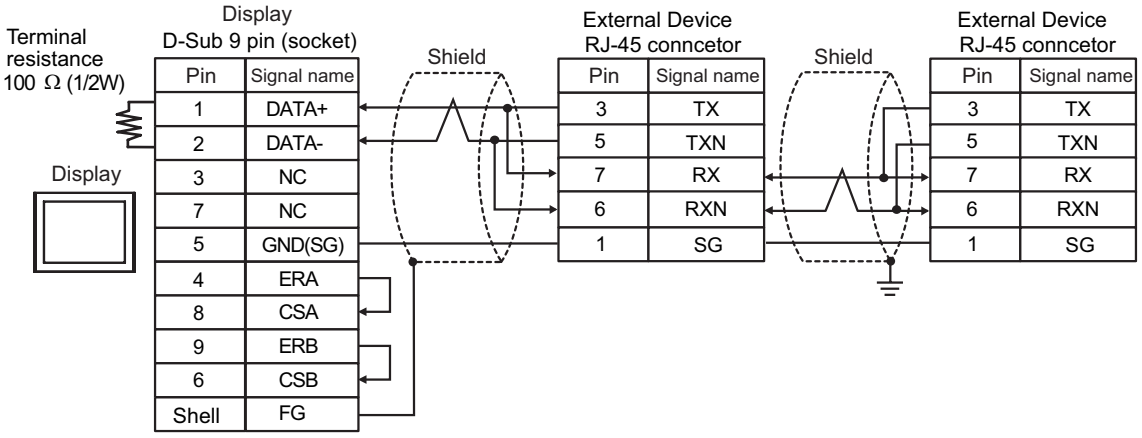
- Please turn on the DIP Switch 1 to enable build-in resistance(100Ω) on the remotest External Device side.

14F)

- 1:1 Connection



- 1:n Connection

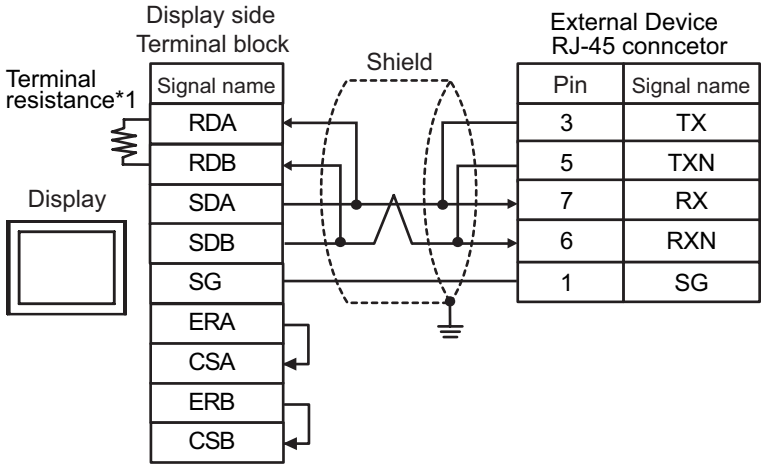


NOTE

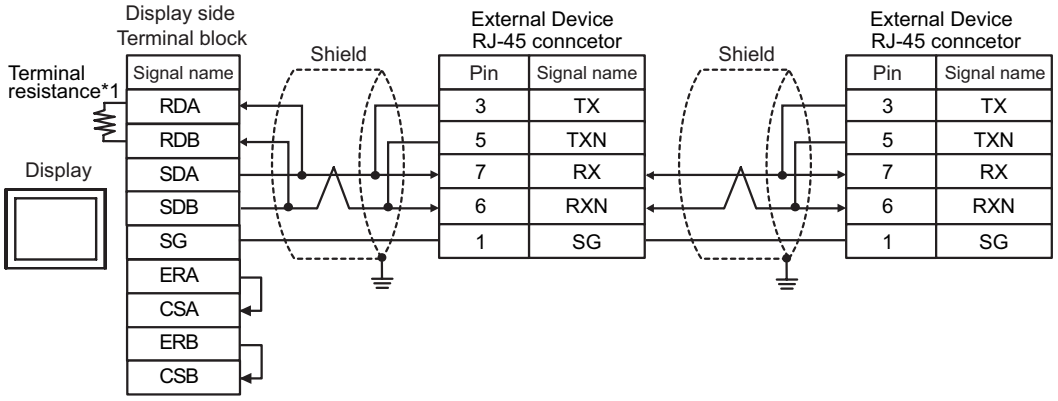
- Please turn on the DIP Switch 1 to enable build-in resistance(100Ω) on the remotest External Device side.

14G)

- 1:1 Connection



- 1:n Connection



NOTE

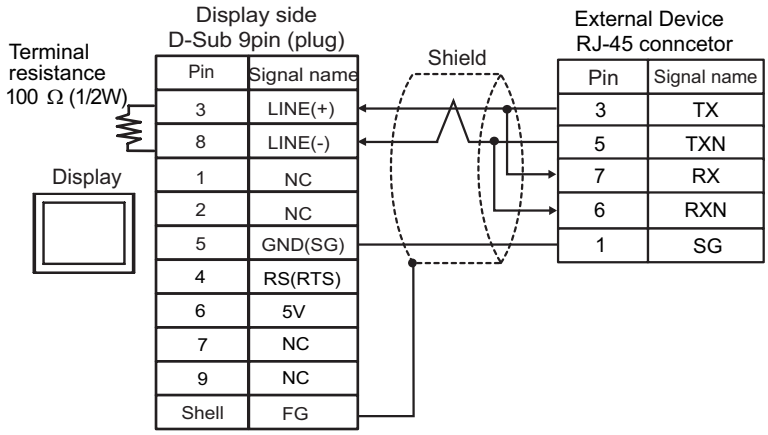
- Please turn on the DIP Switch 1 to enable build-in resistance(100Ω) on the remotest External Device side.

*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.

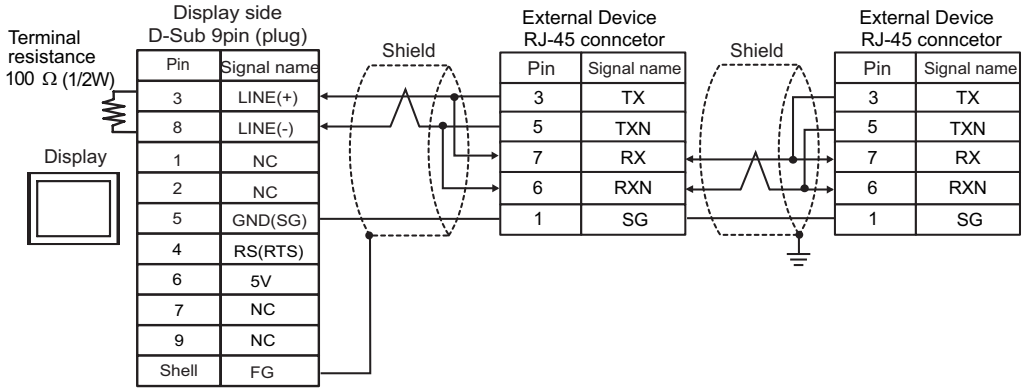
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

14H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

- The 5V output (Pin #6) on the GP-4107 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.

6 Supported Device

Range of supported device address is shown in the table below.

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	-		

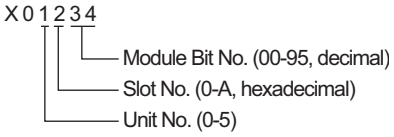
continued to next page

Device	Bit Address	Word Address	Double Word Address	32 bits	Remarks
Word Internal Output	-	WR0000-WRC3FF	DR0000-DRC3FE	L/H	Bit F
Special Word Internal Output	-	WRF000-WRF1FF	DRF000-DRF1FE		Bit F
Network Link Area	-	WN0000-WN7FFF	DN0000-DN7FFE		Bit F

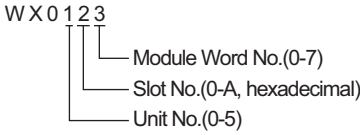
*1 Write disable

*2 Specify as shown below.

(Example) External input unit No.1, Slot No.2, Internal Module Bit No.34

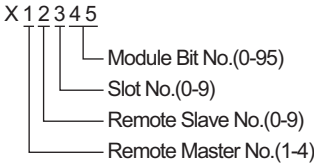


(Example) External input unit No.1, Slot No.2, Internal Module Word No.34

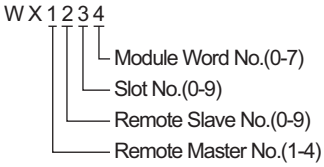


*3 Specify as shown below.

(Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Internal Module Bit No.45



(Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Internal Module Word No.4



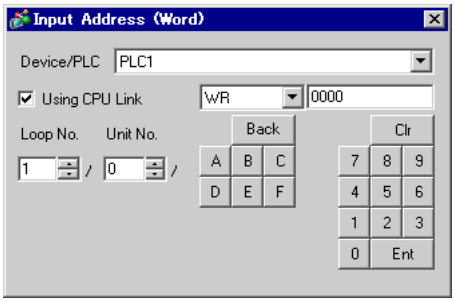
NOTE

- Available type and range of device vary depending on CPU. Be sure to check them in each CPU manual before using.

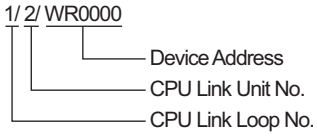
■ How to set address when using the CPU link

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



NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.

  Cf. GP-Pro EXReference Manual "LS Area (Direct Access Method)"

- 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 EXReference Manual "LS Area (Direct Access Method)"

- 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.

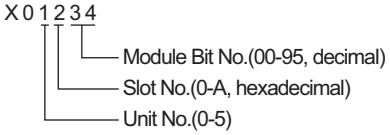
Device	Bit Address	Word Address	Double Word Address	32 bits	Remarks
External Input	X00000-X05A95	WX0000-WX05A7	DX0000-DX05A6		*1 *2
External Output	Y00000-Y05A95	WY0000-WY05A7	DY0000-DY05A6		*2
Remote Input Relay	X10000-X45A95	WX1000-WX45A7	DX1000-DX45A6		*1 *3
Remote Output Relay	Y10000-Y45A95	WY1000-WY45A7	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	-	-	L/H	
Timer Counter (Elapsed Value)	-	TC0000-TC2559	-		
Word Internal Output	WR00000-WREFFFF	WR0000-WREFFF	DR0000-DREFFE		
Special Word Internal Output	WRF000.0-WRFFFF.F	WRF000-WRFFFF	DRF000-DRFFFE		
Data Area	WN00000.0-WN1FFFF.F	WN00000-WN1FFFF	DN00000-DN1FFFE		

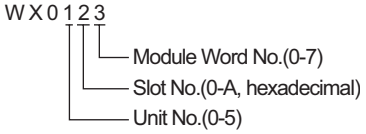
*1 Write disable

*2 Specify as shown below.

(Example) External input unit No.1, Slot No.2, Internal Module Bit No.34

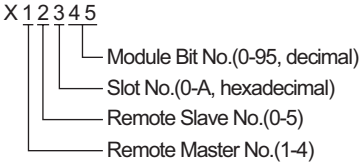


(Example) External input unit No.1, Slot No.2, Internal Module Word No.3

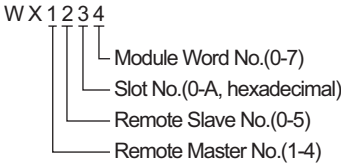


*3 Specify as shown below.

(Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Internal Module Bit No.45



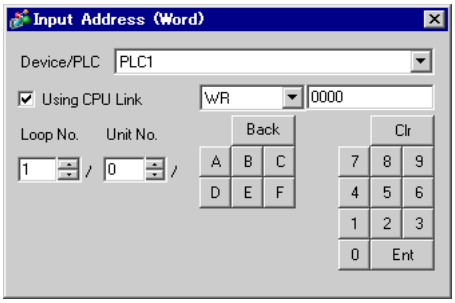
(Example) Remote External Input Remote Master No.1, Remote Slave No.2, Slot No.3, Internal Module Word No.4



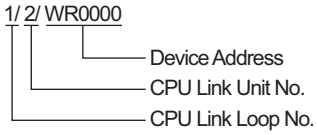
■ When using CPU Link

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 EXReference Manual "LS Area (Direct Access Method)"

- 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

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

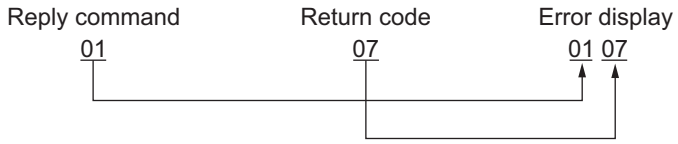
"RHAA035:PLC1: Error has been responded for device write command (Error Code: [02H,02H])"

NOTE
- Refer to your External Device manual for details on received error codes.
- Refer to "When an error is displayed (Error Code List)" in "Maintenance/Troubleshooting Manual" for details on the error messages common to the driver.

■ Driver-Specific Error Codes

Error codes are sent as separated 2 bytes codes The Display displays the error number using 1-byte code.

Example:



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.