JW Series Computer Link SIO Driver

Introduction

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

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

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

| 2 | Selection of External Device
Select a model (series) of the External Device to be connected and connection method. | ☞ "2 Selection of External Device" (page 5) |

| 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 6) |

| 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 30) |

| 5 | Cable Diagram
This section shows cables and adapters for connecting the Display and the External Device. | ☞ "5 Cable Diagram" (page 35) |

Operation

1   System Configuration

The system configuration in the case when the External Device of Sharp Manufacturing Systems Corporation and the Display are connected is shown.

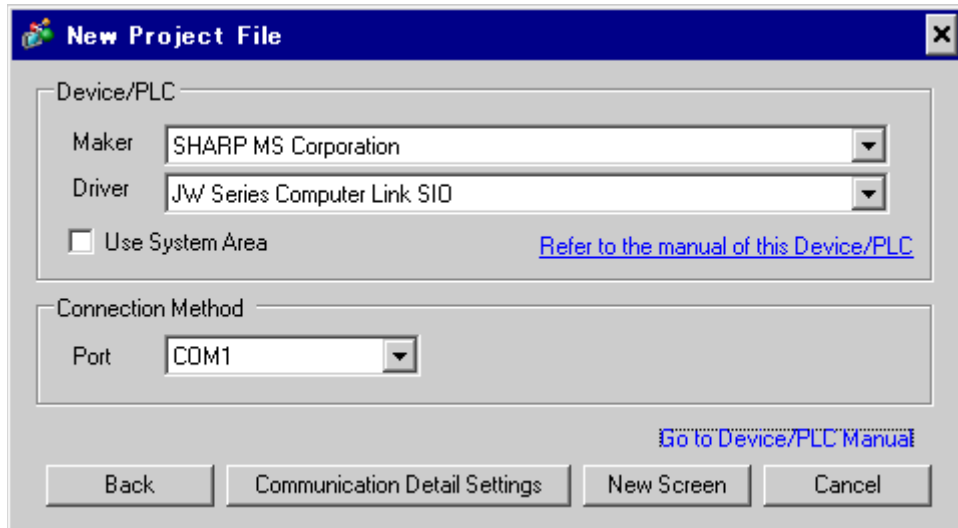| Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
JW20H	JW-21CUH	JW-21CM[*1]	RS422/485 (4wire)	Setting Example 1 (page 6)	Cable Diagram 1 (page 37)
			RS422/485 (2wire)	Setting Example 2 (page 8)	Cable Diagram 2 (page 41)
	JW-22CUH	Communication port on the CPU unit	RS232C	Setting Example 3 (page 10)	Cable Diagram 3 (page 48)
			RS422/485 (4wire)	Setting Example 4 (page 12)	Cable Diagram 4 (page 49)
		JW-21CM[*1]	RS422/485 (4wire)	Setting Example 1 (page 6)	Cable Diagram 1 (page 37)
			RS422/485 (2wire)	Setting Example 2 (page 8)	Cable Diagram 2 (page 41)
JW30H	JW-31CUH1	JW-21CM[*1]	RS422/485 (4wire)	Setting Example 1 (page 6)	Cable Diagram 1 (page 37)
			RS422/485 (2wire)	Setting Example 2 (page 8)	Cable Diagram 2 (page 41)
	JW-32CUH1 JW-32CUM1 JW-32CUM2 JW-33CUH1 JW-33CUH2 JW-33CUH3	PG/COMM1 on the CPU unit	RS422/485 (4wire)	Setting Example 5 (page 14)	Cable Diagram 5 (page 53)
		PG/COMM2 on the CPU unit	RS232C	Setting Example 6 (page 16)	Cable Diagram 6 (page 57)
			RS422/485 (4wire)	Setting Example 7 (page 18)	Cable Diagram 5 (page 53)
		JW-21CM[*1]	RS422/485 (4wire)	Setting Example 1 (page 6)	Cable Diagram 1 (page 37)
			RS422/485 (2wire)	Setting Example 2 (page 8)	Cable Diagram 2 (page 41)

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
JW50H JW70H JW100	JW-50CUH	JW-10CM	RS422/485 (4wire)	Setting Example 8 (page 20)	Cable Diagram 1 (page 37)
			RS422/485 (2wire)	Setting Example 9 (page 22)	Cable Diagram 2 (page 41)
	JW-70CUH JW-100CUH	Communication port on the CPU unit	RS232C	Setting Example 10 (page 24)	Cable Diagram 3 (page 48)
			RS422/485 (4wire)	Setting Example 11 (page 26)	Cable Diagram 7 (page 58)
		JW-10CM	RS422/485 (4wire)	Setting Example 8 (page 20)	Cable Diagram 1 (page 37)
			RS422/485 (2wire)	Setting Example 9 (page 22)	Cable Diagram 2 (page 41)
JW10	JW-1324K JW-1424K JW-1624K JW-1342K JW-1442K JW-1642K	Communication port on the base module	RS422/485 (2wire)	Setting Example 12 (page 28)	Cable Diagram 8 (page 62)

*1   Note that some of them cannot be used or the range of use is restricted depending on the version of the link unit JW-21CM.

Version sticker on the front of the unit	Restriction of use
30Hn	Available to use without restriction
30H	Unable to read or write the file register 10 to 2C Unable to read or write the file register address 100000 to 176777
Without sticker	Unable to use in the JW30H Series

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 "Sharp MS Corporation".
Series	Select a model (series) of the External Device to be connected and connection method. Select "JW Series Computer Link SIO". Check the External Device which can be connected in "JW Series Computer Link SIO" in system configuration.)☞ "1 System Configuration" (page 3)
Use System Area	Check this option when you synchronize the system data area of the Display and the device (memory) of the External Device. When synchronized, you can use the ladder program of the External Device to switch the display or display the window on the Display. Cf.　　GP-Pro EXReference Manual "Appendix 1.4 LS Area (only for direct access method)" This can be also set with GP-Pro EX or in off-line mode of the Display. Cf.　　GP-Pro EX Reference Manual "5.14.6[Setting Guide of [System Setting Window], Setting Guide of [Main Unit Settings], System Area Setting" Cf.　　Maintenance/Troubleshooting "2.14.1 Settings common to all Display models ◆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
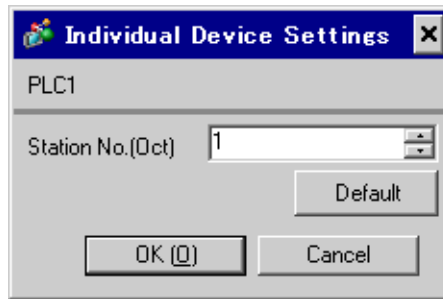
■ Settings of GP-Pro EX

◆ Communication Settings

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

```
Device/PLC 1 |
  Summary                                                              Change Device/PLC
    Maker  SHARP MS Corporation      Driver  JW Series Computer Link SIO    Port  COM1

    Text Data Mode    2    Change

  Communication Settings
    SIO Type          C RS232C       C RS422/485(2wire)    ⊙ RS422/485(4wire)
    Speed             19200             ▼
    Data Length       ⊙ 7            C 8
    Parity            C NONE         ⊙ EVEN          C ODD
    Stop Bit          C 1            ⊙ 2
    Flow Control      C NONE         ⊙ ER(DTR/CTS)   C XON/XOFF
    Timeout           3        ÷ (sec)
    Retry             2        ÷
    Wait To Send      0        ÷ (ms)
    ┌─────────────────────────────────────────────────────────────┐
    │ RI / VCC        ⊙ RI         C VCC                            │
    │ In the case of RS232C, you can select the 9th pin to RI (Input)│
    │ or VCC (5V Power Supply). If you use the Digital's RS232C      │
    │ Isolation Unit, please select it to VCC.          Default     │
    └─────────────────────────────────────────────────────────────┘
  Device-Specific Settings
    Allowable No. of Device/PLCs  16 Unit(s)
      No.  Device Name                   Settings
      1    PLC1                          Station No.(Oct)=1
```
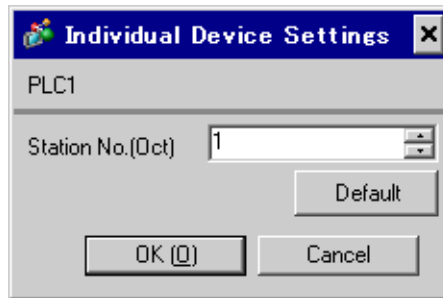
◆ Device Setting

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

Use the rotary switch on Link I/F for setting. Please refer to the manual of the External Device for more details.

Restart the power of the External Device after setting the switch to enable the setting.

◆ Function Setting Switch

Rotary Switch	Setting Value	Setup Description
SW0	4	SIO Type: Computer link

◆ Station Setting Switch

Rotary Switch	Setting Value	Setup Description
SW2 (x10)	0	Station No. setting: Set the upper station number.
SW1 (x1)	1	Station No. setting: Set the lower station number.

NOTE • Set the station No. between 01 and 37 (o) with SW2 and SW1.

◆ Operation ModeSetting Switch

DIP Switch	Setting Value	Setup Description
SW3-1	OFF	Reserved
SW3-2	ON	Number of communication wire: 4 wire
SW3-3	OFF	Reserved
SW3-4	ON	Parity: Even

◆ Transfer Speed Setting Switch

Rotary Switch	Setting Value	Setup Description
SW4	0	Transmission speed: 19200bps

◆ Termination Resistance Switch

DIP Switch	Setting Value	Setup Description
SW7	ON	Insert the termination resistance: Set it to ON to insert the termination resistance. Set only the External Device which terminates the connection to ON.

◆ Unit No. Switch

Rotary Switch	Setting Value	Setup Description
SW8	0	Set the data memory address for sub station 01 to 04.

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

Use the rotary switch on Link I/F for setting. Please refer to the manual of the External Device for more details.

Restart the power of the External Device after setting the switch to enable the setting.

◆ Function Setting Switch

Rotary Switch	Setting Value	Setup Description
SW0	4	SIO Type: Computer link

◆ Station Setting Switch

Rotary Switch	Setting Value	Setup Description
SW2 (x10)	0	Station No. setting: Set the upper station number.
SW1 (x1)	1	Station No. setting: Set the lower station number.

NOTE • Set the station No. between 01 and 37 (o) with SW2 and SW1.

◆ Operation ModeSetting Switch

DIP Switch	Setting Value	Setup Description
SW3-1	OFF	Reserved
SW3-2	OFF	Number of communication wire: 2 wire
SW3-3	OFF	Reserved
SW3-4	ON	Parity: Even

◆ Transfer Speed Setting Switch

Rotary Switch	Setting Value	Setup Description
SW4	0	Transfer Speed: 19200 bps

◆ Termination Resistance Switch

DIP Switch	Setting Value	Setup Description
SW7	ON	Insert the termination resistance: Set it to ON to insert the termination resistance. Set only the External Device which terminates the connection to ON.

◆ Unit No. Switch

Rotary Switch	Setting Value	Setup Description
SW8	0	Set the data memory address for sub station 01 to 04.

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

Set the bit of system memory in the External Device to ON or OFF. Please refer to the manual of the External Device for more details.

Restart the power of the External Device after setting to enable the setting.

◆ Setting for #236

Setting Area	Setting Value	Setup Description
#236	30(H)	Communication setting. Enter in hex number. Description for each bit is shown below.

• Description for Bit

Bit in System Area	Setting Value	Setup Description
D0	OFF	Transfer Speed: 19200 bps
D1	OFF	
D2	OFF	
D3	OFF	Parity: Even
D4	ON	
D5	ON	Stop bit: 2 bits
D6	OFF	Always OFF
D7	OFF	Always OFF

◆ Setting for #237

Setting Area	Setting Value	Setup Description
#237	1(o)	Station No. setting. Enter in octal number.

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/PLC 1

Summary   Change Device/PLC

Maker SHARP MS Corporation   Driver JW Series Computer Link SIO   Port COM1

Text Data Mode   2   Change

Communication Settings

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

Speed   19200

Data Length   ● 7   ○ 8

Parity   ○ NONE   ● EVEN   ○ ODD

Stop Bit   ○ 1   ● 2

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

Timeout   3   ÷ (sec)

Retry   2   ÷

Wait To Send   0   ÷ (ms)

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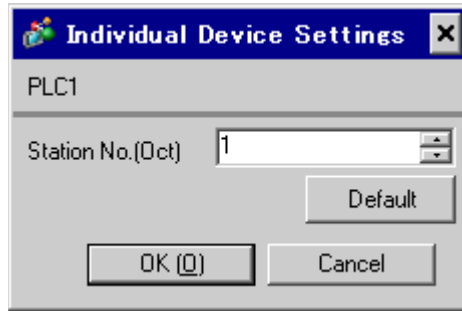
Device-Specific Settings

Allowable No. of Device/PLCs 16 Unit(s)

No. Device Name   Settings

1   PLC1   Station No.(Oct)=1

◆ 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].

Individual Device Settings

PLC1

Station No.(Oct) [1]

Default

OK (O)   Cancel

■ Settings of External Device

Set the bit of system memory in the External Device to ON or OFF. Please refer to the manual of the External Device for more details.

Restart the power of the External Device after setting to enable the setting.

◆ Setting for #236

Setting Area	Setting Value	Setup Description
#236	30(H)	Communication setting. Enter in hex number. Description for each bit is shown below.

• Description for Bit

Bit in System Area	Setting Value	Setup Description
D0	OFF	Transfer Speed: 19200 bps
D1	OFF	
D2	OFF	
D3	OFF	Parity: Even
D4	ON	
D5	ON	Stop bit: 2 bits
D6	OFF	Always OFF
D7	OFF	Always OFF

◆ Setting for #237

Setting Area	Setting Value	Setup Description
#237	1(o)	Station No. setting. Enter in octal number.

◆ Termination Resistance Switch

DIP Switch	Setting Value	Setup Description
SW1	ON	Insert the termination resistance: Set it to ON to insert the termination resistance. Set only the External Device which terminates the connection to ON.

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/PLC 1

Summary   Change Device/PLC

Maker SHARP MS Corporation   Driver JW Series Computer Link SIO   Port COM1

Text Data Mode   2   Change

Communication Settings

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

Speed   19200

Data Length   ● 7   ○ 8

Parity   ○ NONE   ● EVEN   ○ ODD

Stop Bit   ○ 1   ● 2

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

Timeout   3   (sec)

Retry   2

Wait To Send   0   (ms)

RI / VCC   ● RI   ○ VCC
In the case of RS232C, you can select the 9th pin to RI (Input)
or VCC (5V Power Supply). If you use the Digital's RS232C
Isolation Unit, please select it to VCC.   Default
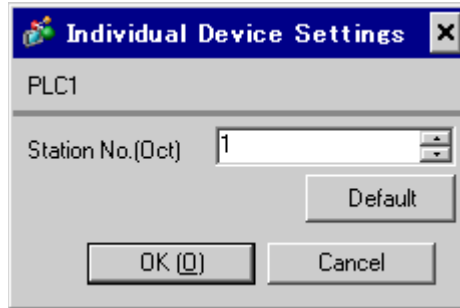
Device-Specific Settings
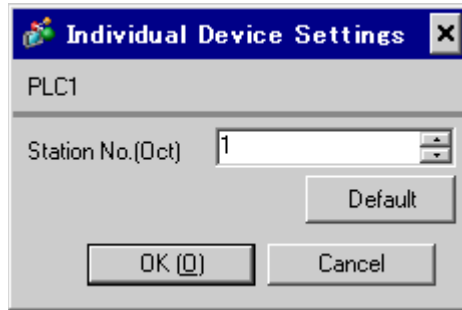
Allowable No. of Device/PLCs 16 Unit(s)

No. Device Name   Settings
1   PLC1   Station No.(Oct)=1

◆ 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].

Individual Device Settings

PLC1

Station No.(Oct) 1

Default

OK (O)   Cancel

■ Settings of External Device

Set the bit of system memory in the External Device to ON or OFF. Please refer to the manual of the External Device for more details.

Restart the power of the External Device after setting to enable the setting.

◆ Setting for #234

Setting Area	Setting Value	Setup Description
#234	30(H)	Communication setting. Enter in hex number. Description for each bit is shown below.

• Description for Bit

Bit in System Area	Setting Value	Setup Description
D0	OFF	
D1	OFF	Transfer Speed: 19200 bps
D2	OFF	
D3	OFF	Parity: Even
D4	ON	
D5	ON	Stop Bit: 2 bits
D6	OFF	Always OFF
D7	OFF	Always OFF

◆ Setting for #235

Setting Area	Setting Value	Setup Description
#235	1(o)	Station No. setting. Enter in octal number.

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/PLC 1

Summary   Change Device/PLC

Maker │SHARP MS Corporation   Driver │JW Series Computer Link SIO   Port │COM1

Text Data Mode   │ 2 │ Change

Communication Settings

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

Speed   │19200   ▼│

Data Length   ⊙ 7   ○ 8

Parity   ○ NONE   ⊙ EVEN   ○ ODD

Stop Bit   ○ 1   ⊙ 2

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

Timeout   │3   � │ (sec)

Retry   │2   ⠀│

Wait To Send   │0   ⠀│ (ms)

RI / VCC   ⊙ RI   ○ VCC

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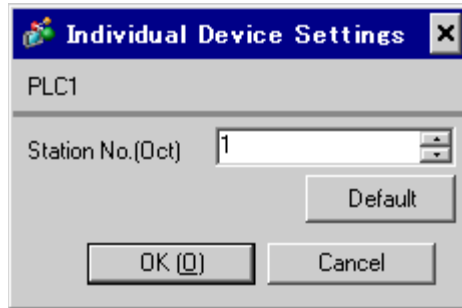Isolation Unit, please select it to VCC.   Default

Device-Specific Settings

Allowable No. of Device/PLCs 16 Unit(s)

No. Device Name   Settings

1   │PLC1   │ Station No.(Oct)=1

◆ Device Setting

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

■ Settings of External Device

Set the bit of system memory in the External Device to ON or OFF. Please refer to the manual of the External Device for more details.

Restart the power of the External Device after setting to enable the setting.

◆ Setting for #236

Setting Area	Setting Value	Setup Description
#236	30(H)	Communication setting. Enter in hex number. Description for each bit is shown below.

• Description for Bit

Bit in System Area	Setting Value	Setup Description
D0	OFF	Transfer Speed: 19200 bps
D1	OFF	
D2	OFF	
D3	OFF	Parity: Even
D4	ON	
D5	ON	Stop Bit: 2 bits
D6	OFF	Always OFF
D7	OFF	Always OFF

◆ Setting for #237

Setting Area	Setting Value	Setup Description
#237	1(o)	Station No. setting. Enter in octal number.

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].

Individual Device Settings

PLC1

Station No.(Oct)   1

Default

OK (O)   Cancel

■ Settings of External Device

Set the bit of system memory in the External Device to ON or OFF. Please refer to the manual of the External Device for more details.

Restart the power of the External Device after setting to enable the setting.

◆ Setting for #236

Setting Area	Setting Value	Setup Description
#236	30(H)	Communication setting. Enter in hex number. Description for each bit is shown below.

• Description for Bit

Bit in System Area	Setting Value	Setup Description
D0	OFF	Transfer Speed: 19200 bps
D1	OFF	
D2	OFF	
D3	OFF	Parity: Even
D4	ON	
D5	ON	Stop Bit: 2 bits
D6	OFF	Always OFF
D7	OFF	Always OFF

◆ Setting for #237

Setting Area	Setting Value	Setup Description
#237	1(o)	Station No. setting. Enter in octal number.

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

Use the rotary switch on Link I/F for setting. Please refer to the manual of the External Device for more details.
Restart the power of the External Device after setting the switch to enable the setting.

◆ Function Setting Switch

Rotary Switch	Setting Value	Setup Description
SW0	4	SIO Type: Computer link

◆ Station Address Setting Switch

Rotary Switch	Setting Value	Setup Description
SW2	0	Station No. setting: Set the upper station number.
SW1	1	Station No. setting: Set the lower station number.

NOTE • Set the station No. between 01 and 37 (o) with SW2 and SW1.

◆ Operation ModeSetting Switch

DIP Switch	Setting Value	Setup Description
SW3-1	OFF	Reserved
SW3-2	ON	Number of communication wire: 4 wire
SW3-3	OFF	Reserved
SW3-4	ON	Parity: Even

◆ Transfer SpeedSetting Switch

Rotary Switch	Setting Value	Setup Description
SW4	0	Transfer Speed: 19200 bps

◆ Termination Resistance Switch

DIP Switch	Setting Value	Setup Description
SW7	ON	Insert the termination resistance: Set it to ON to insert the termination resistance. Set only the External Device which terminates the connection to ON.

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/PLC 1

Summary   Change Device/PLC

Maker SHARP MS Corporation   Driver JW Series Computer Link SIO   Port COM1

Text Data Mode   2   Change

Communication Settings

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

Speed   19200

Data Length   ● 7   ○ 8

Parity   ○ NONE   ● EVEN   ○ ODD

Stop Bit   ○ 1   ● 2

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

Timeout   3   (sec)

Retry   2

Wait To Send   0   (ms)

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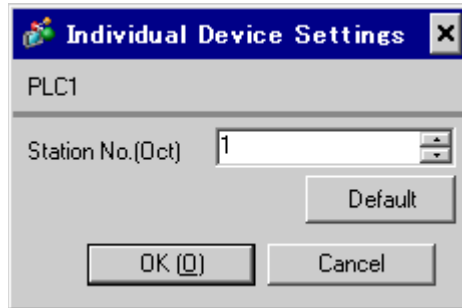
Device-Specific Settings

Allowable No. of Device/PLCs 16 Unit(s)

No. Device Name   Settings
1   PLC1   Station No.(Oct)=1

◆ Device Setting

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

■ Settings of External Device

Use the rotary switch on Link I/F for setting. Please refer to the manual of the External Device for more details. Restart the power of the External Device after setting the switch to enable the setting.

◆ Function Setting Switch

Rotary Switch	Setting Value	Setup Description
SW0	4	SIO Type: Computer link

◆ Station Address Setting Switch

Rotary Switch	Setting Value	Setup Description
SW2	0	Station No. setting: Set the upper station number.
SW1	1	Station No. setting: Set the lower station number.

NOTE
• Set the station No. between 01 and 37 (o) with SW2 and SW1.

◆ Operation ModeSetting Switch

DIP Switch	Setting Value	Setup Description
SW3-1	OFF	Reserved
SW3-2	OFF	Number of communication wire: 2 wire
SW3-3	OFF	Reserved
SW3-4	ON	Parity: Even

◆ Transfer SpeedSetting Switch

Rotary Switch	Setting Value	Setup Description
SW4	0	Transfer Speed: 19200 bps

◆ Termination Resistance Switch

DIP Switch	Setting Value	Setup Description
SW7	ON	Insert the termination resistance: Set it to ON to insert the termination resistance. Set only the External Device which terminates the connection to ON.

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

Set the bit of system memory in the External Device to ON or OFF. Please refer to the manual of the External Device for more details.

Restart the power of the External Device after setting to enable the setting.

◆ Setting for #0236

Setting Area	Setting Value	Setup Description
#0236	30(H)	Communication setting. Enter in hex number. Description for each bit is shown below.

• Description for Bit

Bit in System Area	Setting Value	Setup Description
D0	OFF	Transfer Speed: 19200 bps
D1	OFF	
D2	OFF	
D3	OFF	Parity: Even
D4	ON	
D5	ON	Stop Bit: 2 bits
D6	OFF	Always OFF
D7	OFF	Always OFF

◆ Setting for #0237

Setting Area	Setting Value	Setup Description
#0237	1(o)	Station No. setting. Enter in octal number.

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/PLC 1

Summary   Change Device/PLC

Maker SHARP MS Corporation   Driver JW Series Computer Link SIO   Port COM1

Text Data Mode   2   Change

Communication Settings

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

Speed   19200   ▼

Data Length   ● 7   ○ 8

Parity   ○ NONE   ● EVEN   ○ ODD

Stop Bit   ○ 1   ● 2

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

Timeout   3   ÷ (sec)

Retry   2   ÷

Wait To Send   0   ÷ (ms)

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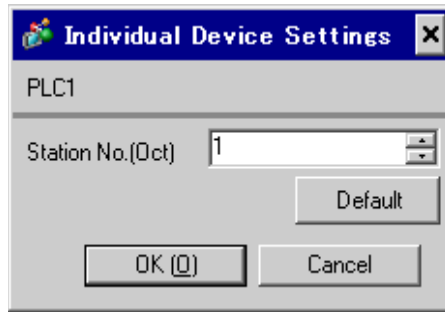
Device-Specific Settings

Allowable No. of Device/PLCs 16 Unit(s)

No. Device Name   Settings
1   PLC1   Station No.(Oct)=1

◆ 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].

Individual Device Settings	×
PLC1	
Station No.(Oct)　1　⬍	
Default	
OK (O)　Cancel	

■ Settings of External Device

Set the bit of system memory in the External Device to ON or OFF. Please refer to the manual of the External Device for more details.

Restart the power of the External Device after setting to enable the setting.

◆ Setting for #0236

Setting Area	Setting Value	Setup Description
#0236	30(H)	Communication setting. Enter in hex number. Description for each bit is shown below.

• Description for Bit

Bit in System Area	Setting Value	Setup Description
D0	OFF	Transfer Speed: 19200 bps
D1	OFF	
D2	OFF	
D3	OFF	Parity: Even
D4	ON	
D5	ON	Stop Bit: 2 bits
D6	OFF	Always OFF
D7	OFF	Always OFF

◆ Setting for #0237

Setting Area	Setting Value	Setup Description
#0237	1(o)	Station No. setting. Enter in octal number.

◆ Termination Resistance Switch

Insert the termination resistance at the end. Connecting the 6th and 13th pins in the port on the External Device allows the termination resistance to be inserted.

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/PLC 1				
Summary				Change Device/PLC
Maker	SHARP MS Corporation	Driver	JW Series Computer Link SIO	Port	COM1
Text Data Mode	2 Change			

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

RI / VCC   ◉ RI   ○ VCC
In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.   Default
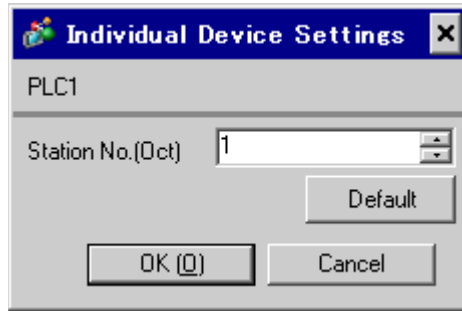
Device-Specific Settings
Allowable No. of Device/PLCs 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Station No.(Oct)=1

◆ 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].

Individual Device Settings

PLC1

Station No.(Oct) 1

Default

OK (O)   Cancel

■ Settings of External Device

Set the bit of system memory in the External Device to ON or OFF. Please refer to the manual of the External Device for more details.

Restart the power of the External Device after setting to enable the setting.

◆ Setting for #234

Setting Area	Setting Value	Setup Description
#234	00(H)	Communication mode setting: Computer link

◆ Setting for #236

Setting Area	Setting Value	Setup Description
#236	30(H)	Communication setting. Enter in hex number. Description for each bit is shown below.

• Description for Bit

Bit in System Area	Setting Value	Setup Description
D0	OFF	
D1	OFF	Transfer Speed: 19200 bps
D2	OFF	
D3	OFF	Parity: Even
D4	ON	
D5	ON	Stop Bit: 2 bits
D6	OFF	Always OFF
D7	OFF	Data Length: 7 bits

◆ Setting for #237

Setting Area	Setting Value	Setup Description
#237	1(o)	Station No. setting. Enter in octal number.

◆ Termination Resistance Switch

DIP Switch	Setting Value	Setup Description
SW7	ON	Insert the termination resistance: Set it to ON to insert the termination resistance. Set only the External Device which terminates the connection to ON.

4 Setup Items

Set communication settings of the Display with GP-Pro Ex or in off-line mode of the Display.
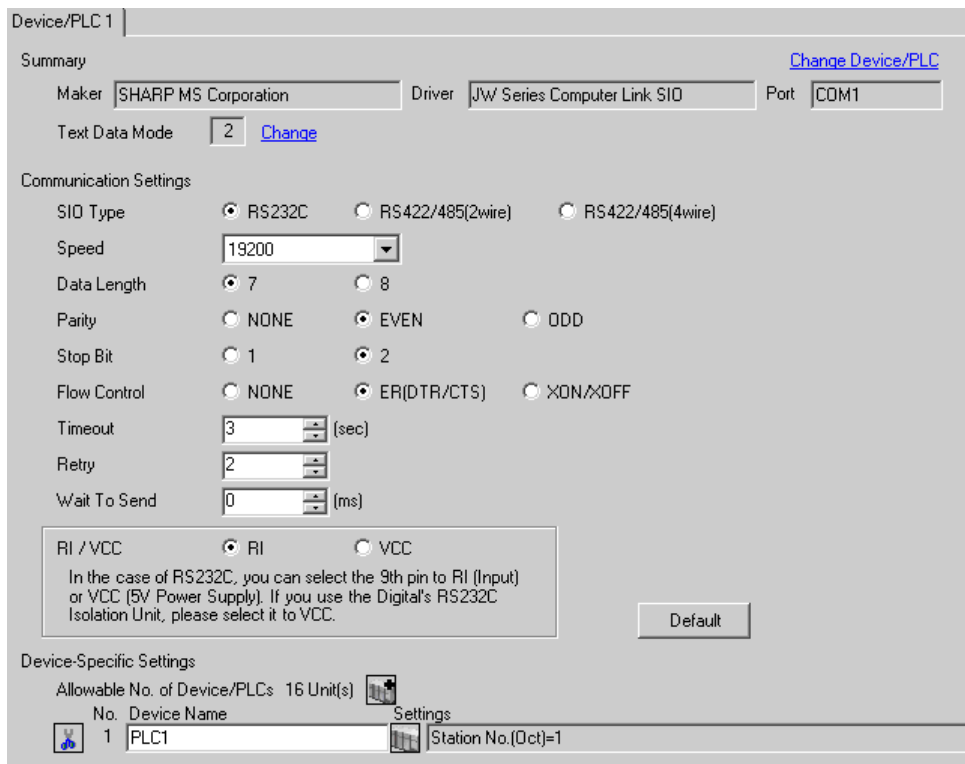
The setting of each parameter must be identical to that of External Device.

)"3 Example of Communication Setting" (page 6)

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.

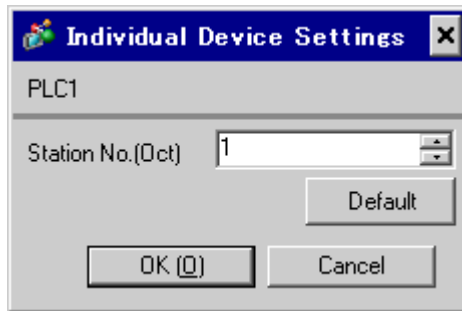| Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device.
Speed	Select speed between the External Device and the Display.
Data Length	Select data length.
Parity	Select how to check parity.
Stop Bit	Select stop bit length.
Flow Control	Select the communication 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.

Continued to 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.
RI/VCC	Switches RI/VCC of the 9th pin.

■ 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
UnitNo.	Enter the unit No. of the External Device with "01 to 37" (octal). **NOTE** • When connecting the JW10 Series, enter with "0 to 77" (octal).

4.2 Settings in Off-Line Mode

NOTE • Please refer to Maintenance/Troubleshooting for more information on how to enter off-line mode or about operation.

Cf. Maintenance/Troubleshooting "2.2 Offline Mode"

■ 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.

Comm.	Device	Option		

JW Series Computer Link SIO [COM1] Page 1/1

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

Timeout(s) 3
Retry 2
Wait To Send(ms) 0

| | Exit | | Back | 2006/06/01 16:04:12 |

Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device.
Speed	Select speed between the External Device and the Display.
Data Length	Select data length.
Parity	Select how to check parity.
Stop Bit	Select stop bit length.
Flow Control	Select the communication control method to prevent overflow of transmission and reception data.
Timeout	Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device.
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
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.

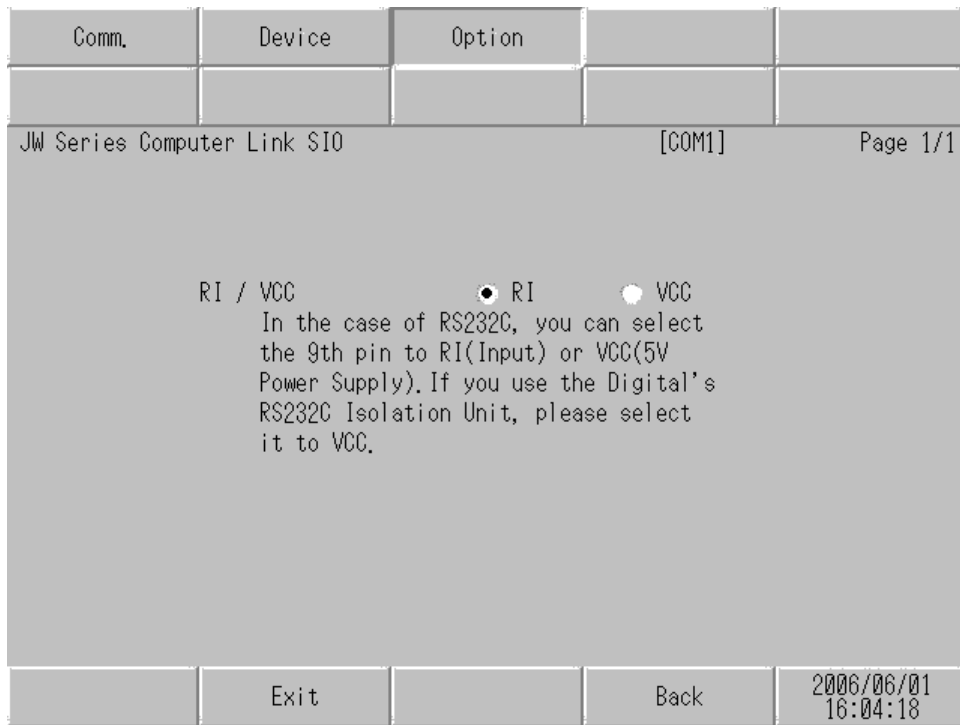| Setup Items	Setup Description
RI/VCC	Switches RI/VCC of the 9th pin.

■ 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].

Comm.	Device	Option		

JW Series Computer Link SIO   [COM1]   Page 1/1

            Device/PLC Name   PLC1   ▼

                Station No.(Oct)   1 ▼ ▲

	Exit		Back	2006/06/01 16:04:15

Setup Items	Setup Description
Device name	Select the External Device to set. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1])
UnitNo.	Enter the unit No. of the External Device with "01 to 37" (octal). **NOTE** • When connecting the JW10 Series, enter with "0 to 77" (octal).

■ Option

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

Comm.	Device	Option		

JW Series Computer Link SIO   [COM1]   Page 1/1

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

	Exit		Back	2006/06/01 16:04:18

Setup Items	Setup Description
RI/VCC	Switches RI/VCC of the 9th pin.

5 Cable Diagram

The cable diagram shown below may be different from the cable diagram recommended by Sharp Manufacturing Systems Corporation. 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..
- When connecting IPC with External Device by RS-232C, the COM port which can be used changes with series. Please refer to the manual of IPC for details.

    Usable port

Series	Usable port
PS-2000B	COM1[*1] , COM2, COM3[*1], COM4
PS-3650A, PS-3651A	COM1[*1]
PS-3700A (Pentium®4-M)	COM1[*1], COM2[*1], COM3[*2] , COM4

   *1   The RI/5V can be switched. Please switch with the change switch of IPC.

   *2   It is necessary to set up the SIO type with the Dip switch.

- When connecting to the COM3 of PS-3700A (Pentium®4-M) with External Device, it is necessary to set up the SIO type of COM3 with a Dip switch. Please refer to the manual of PS-3700A (Pentium®4-M) for details.

    Dip switch setting: RS-232C

Dip switch	Setting	Description
1	OFF	Reserve (always OFF)
2	OFF	SIO type of COM3: RS-232C
3	OFF	
4	OFF	Output mode of TX data: Always output
5	OFF	Terminal resistance insertion to TX (220Ω): None
6	OFF	Terminal resistance insertion to RX (220Ω): None
7	OFF	Short-circuit of TXA and RXA: Does not Exist
8	OFF	Short-circuit of TXB and RXB: Does not Exist
9	OFF	Auto Detection: Disable
10	OFF	

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

Dip switch	Setting	Description
1	OFF	Reserve (always OFF)
2	ON	SIO type of COM3: RS-422/485
3	ON	
4	OFF	Output mode of TX data: Always output
5	OFF	Terminal resistance insertion to TX (220Ω): None
6	OFF	Terminal resistance insertion to RX (220Ω): None
7	OFF	Short-circuit of TXA and RXA: Does not Exist
8	OFF	Short-circuit of TXB and RXB: Does not Exist
9	OFF	Auto Detection: Disable
10	OFF	

Dip switch setting: RS-422/485 (2 wire)

Dip switch	Setting	Description
1	OFF	Reserve (always OFF)
2	ON	SIO type of COM3: RS-422/485
3	ON	
4	OFF	Output mode of TX data: Always output
5	OFF	Terminal resistance insertion to TX (220Ω): None
6	OFF	Terminal resistance insertion to RX (220Ω): None
7	ON	Short-circuit of TXA and RXA: Exists
8	ON	Short-circuit of TXB and RXB: Exists
9	ON	Auto Detection: Enable
10	ON	

Cable Diagram 1

Display (Connection Port)		Cable	Remarks
GP[*1] (COM1) AGP-3302B (COM2) IPC[*2] (COM3)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	Cable length: 1000m or less
	B	Your own cable	
GP[*3] (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

*1 All GP models except AGP-3302B

*2 Only COM3 of PS -3700A (Pentium®4-M) can be used. When use the COM3, set the SIO type of COM3 with Dip switch.
☞ Dip switch setting: RS-422/485 (4 wire) (page 36)

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

A. When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
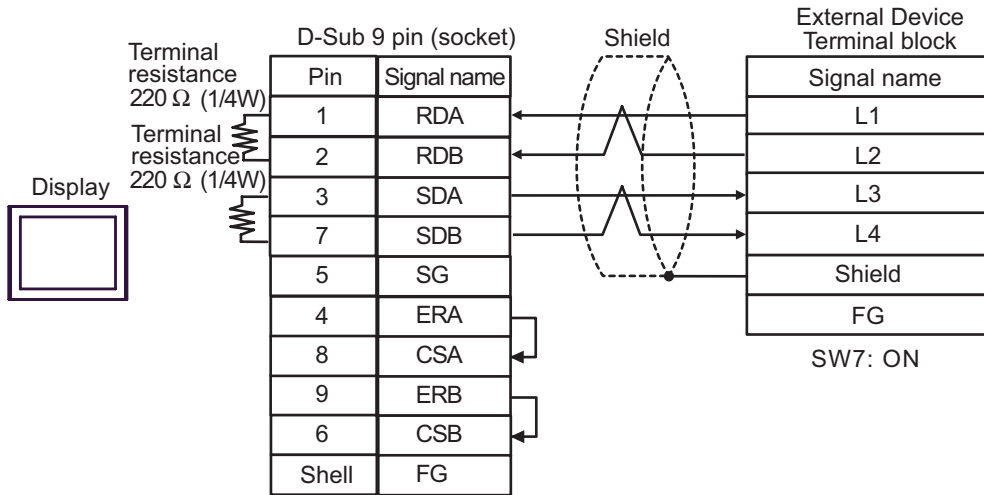
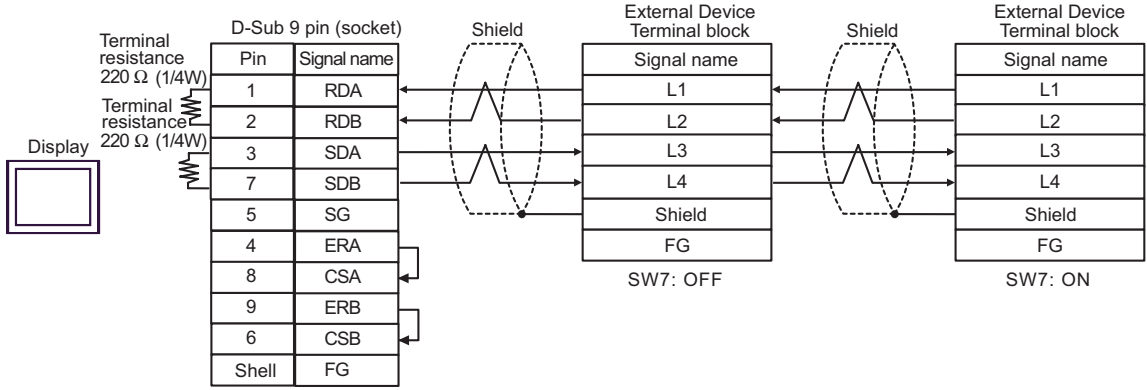• 1:1 Connection

• 1:n Connection
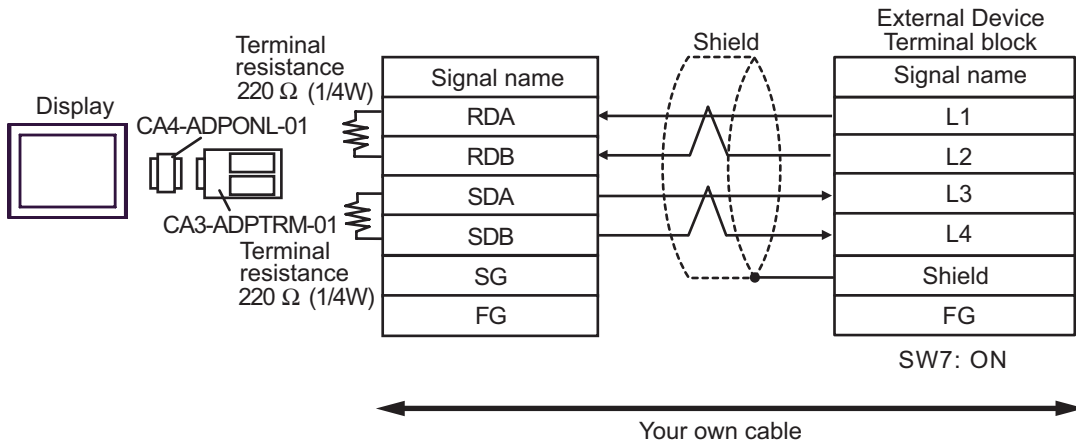

B. When your own cable is used
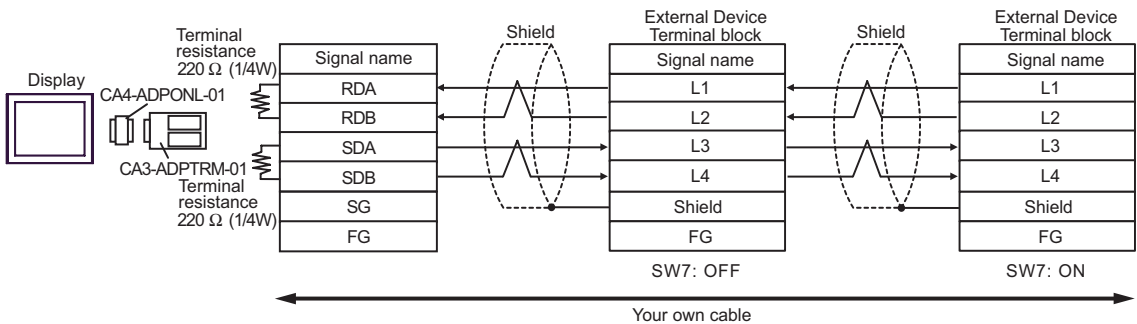
• 1:1 Connection

- 1:n Connection

C. When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
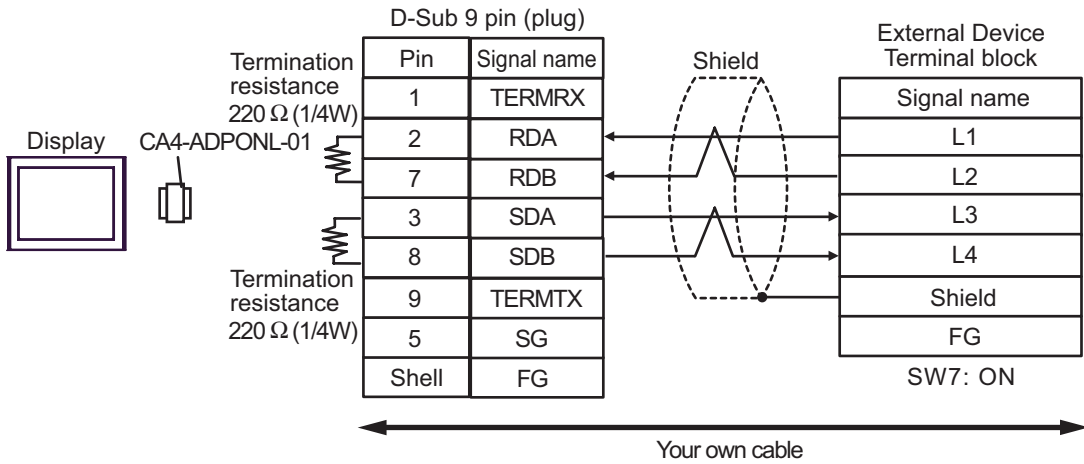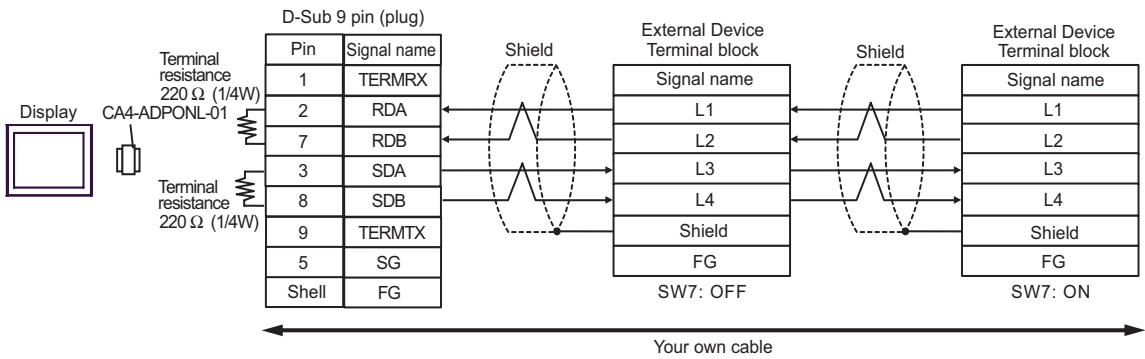
- 1:1 Connection

- 1:n Connection

D. When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

• 1:1 Connection

D-Sub 9 pin (plug)

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

External Device Terminal block

Signal name
L1
L2
L3
L4
Shield
FG

SW7: ON

Your own cable

• 1:n Connection

D-Sub 9 pin (plug)

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

External Device Terminal block

Signal name
L1
L2
L3
L4
Shield
FG

SW7: OFF

External Device Terminal block

Signal name
L1
L2
L3
L4
Shield
FG

SW7: ON

Your own cable

Cable Diagram 2

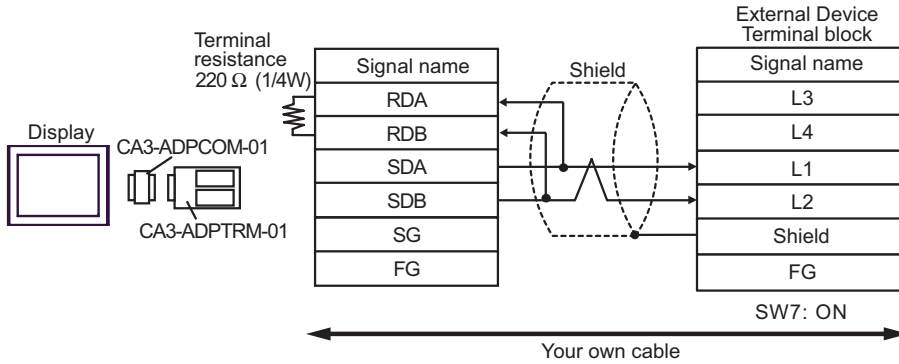| Display (Connection Port)		Cable	Remarks
GP[*1] (COM1) AGP-3302B (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	Cable length: 1000m or less
	B	Your own cable	
GP[*2] (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	
IPC[*3] (COM3)	E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	F	Your own cable	

*1   All GP models except AGP-3302B

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

*3   Only COM3 of PS -3700A (Pentium®4-M) can be used. When use the COM3, set the SIO type of COM3 with Dip switch.
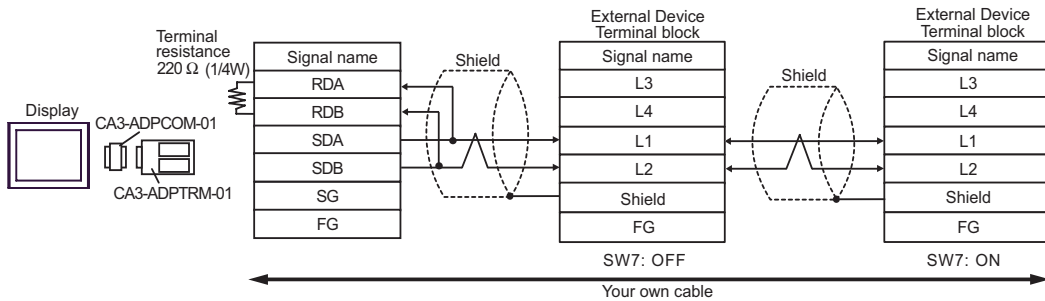☞ Dip switch setting: RS-422/485 (2 wire) (page 36)

A. When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
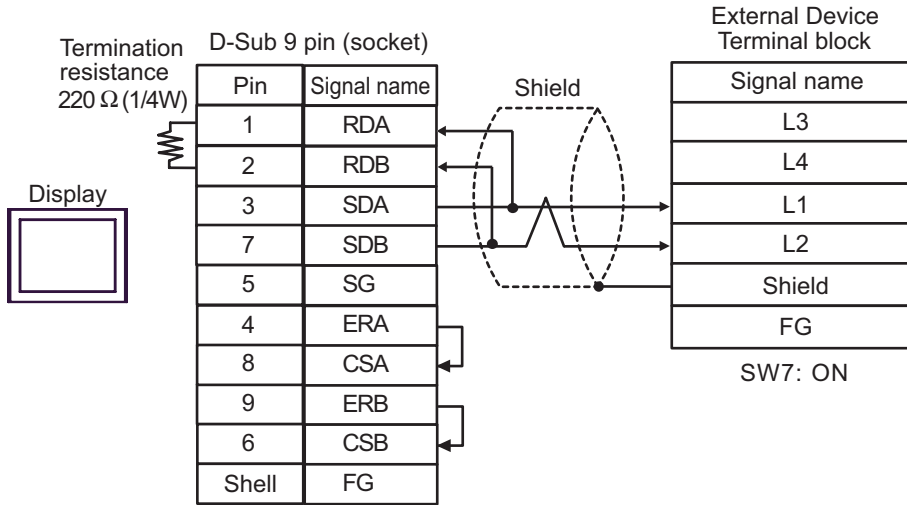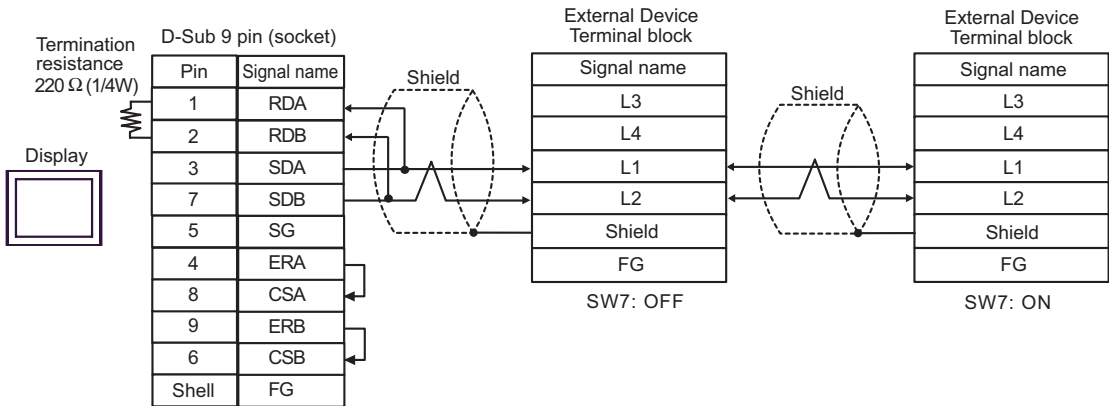
- 1:1 Connection

- 1:n Connection
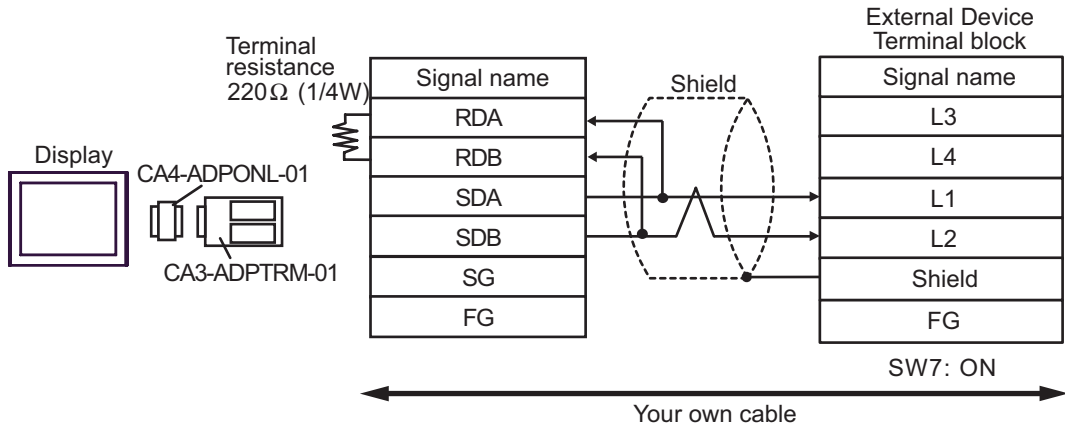
B. When your own cable is used
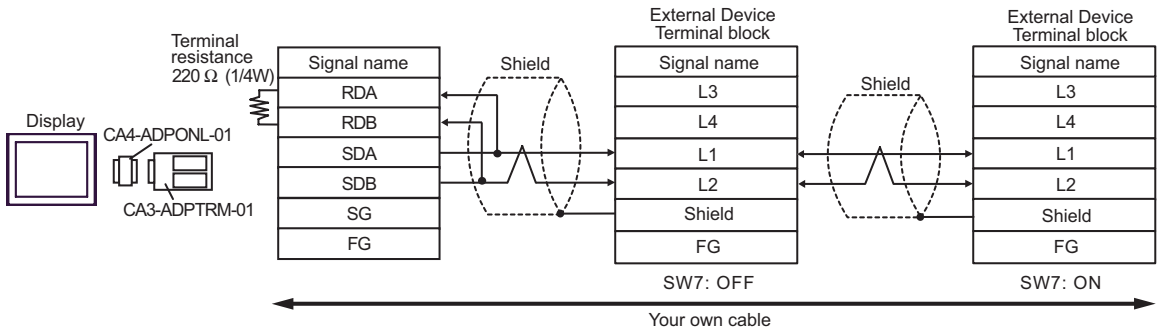
• 1:1 Connection

• 1:n Connection

C. When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
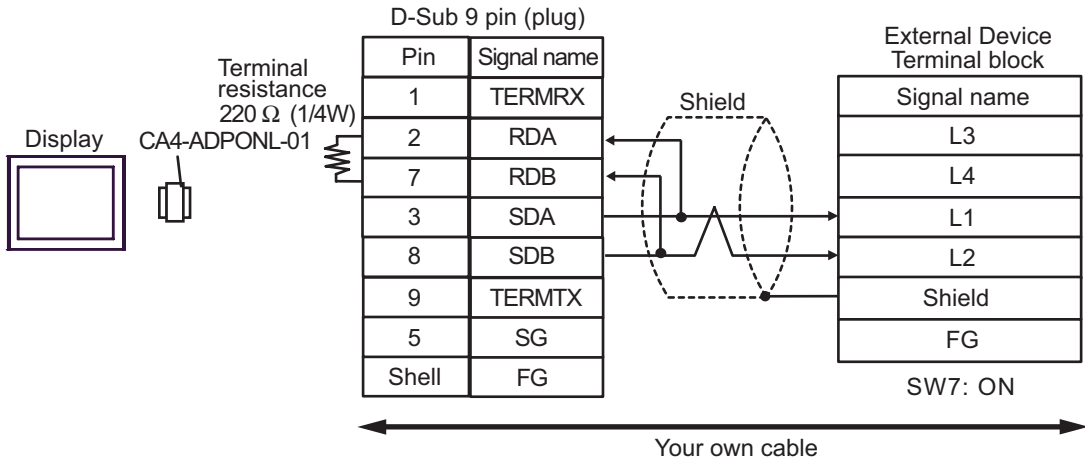
- 1:1 Connection
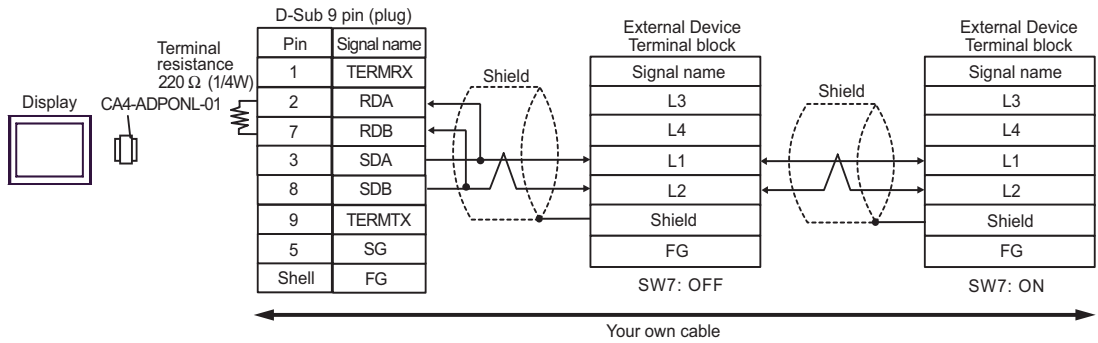

- 1:n Connection

D. When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable
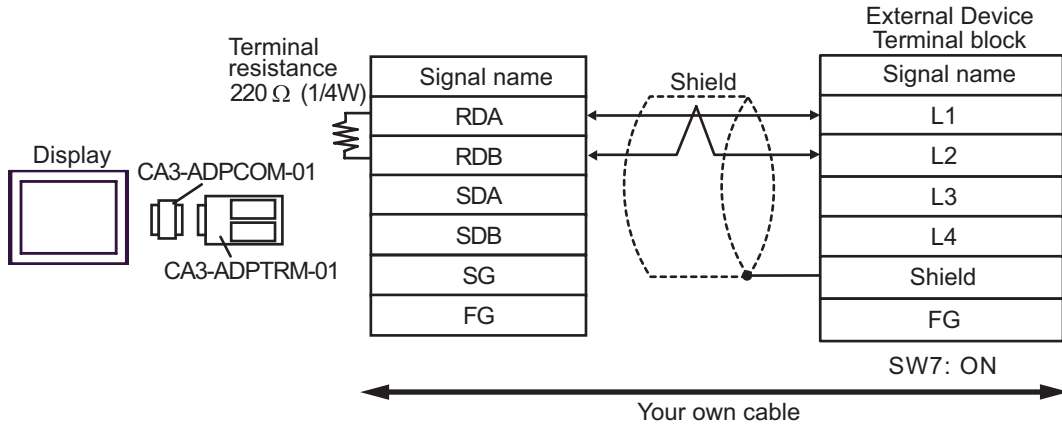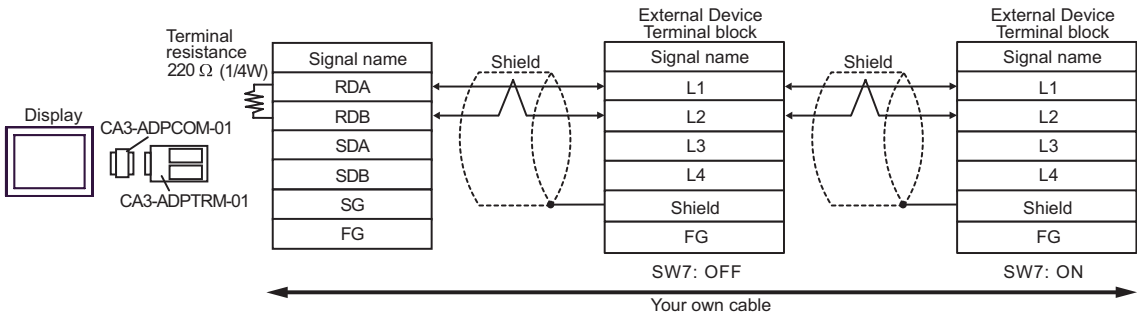
• 1:1 Connection

• 1:n Connection

E. When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

• 1:1 Connection

• 1:n Connection

F. When your own cable is used

• 1:1 Connection

• 1:n Connection

Cable Diagram 3

Display (Connection Port)	Cable	Remarks
GP (COM1) IPC*1*2	Your own cable	Cable length: 15m or less

*1   Usable ports are different by the series.
☞Usable port (page 35)

*2   When use the COM3 of PS-3700A (Pentium®4-M), set the SIO type of COM3 with Dip switch.
☞Dip switch setting: RS-232C (page 35)

External Device
D-Sub 9 pin (socket)   D-Sub 15 pin (plug)

Pin	Signal name		Shield		Pin	Signal name
2	RD(RXD)				2	SD
3	SD(TXD)				3	RD
4	ER(DTR)				5	CTS
5	SG				7	SG
8	CS(CTS)				4	RTS
6	DR(DSR)				12	
7	RS(RTS)				14	
Shell	FG				1	FG

Display

Cable Diagram 4

Display (Connection Port)		Cable	Remarks
GP*1 (COM1) AGP-3302B (COM2) IPC*2 (COM3)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	Cable length: or less
	B	Your own cable	
GP*3 (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

*1   All GP models except AGP-3302B

*2   Only COM3 of PS -3700A (Pentium®4-M) can be used. When use the COM3, set the SIO type of COM3 with Dip switch.
☞ Dip switch setting: RS-422/485 (4 wire) (page 36)

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

A.   When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
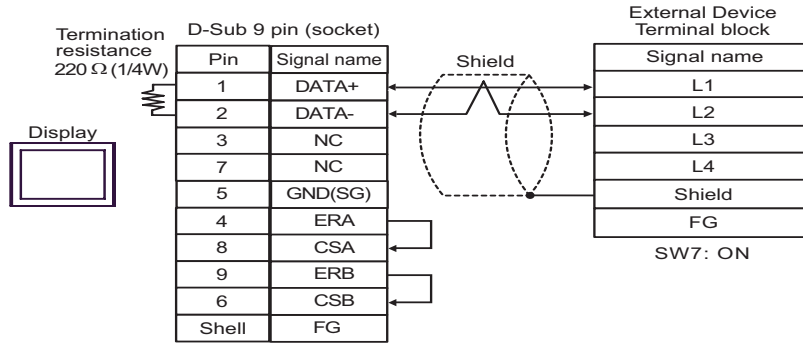
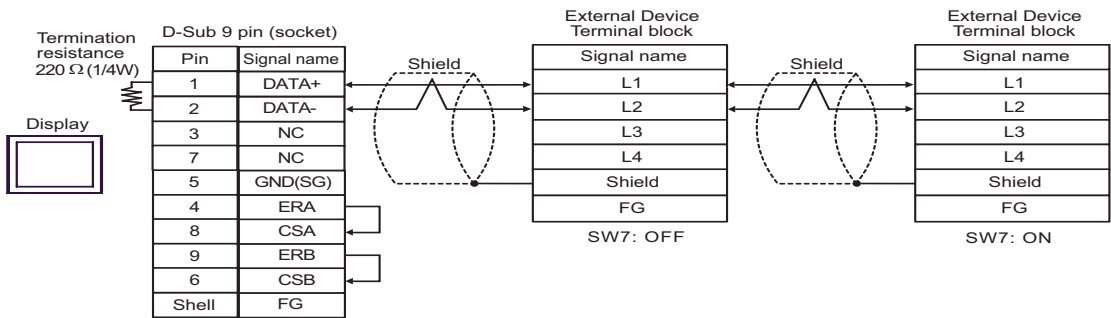• 1:1 Connection

• 1:n Connection

B. When your own cable is used

• 1:1 Connection

• 1:n Connection

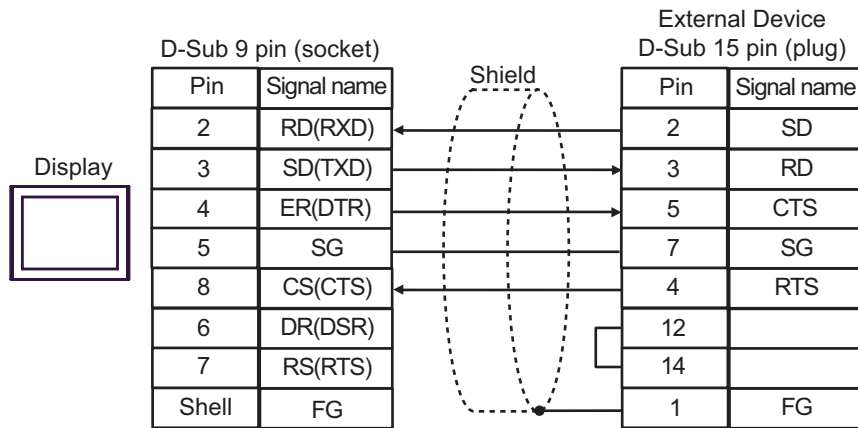C. When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

- 1:n connection

D. When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection

• 1:n Connection

Your own cable

Cable Diagram 5

Display (Connection Port)		Cable	Remarks
GP[*1] (COM1) AGP-3302B (COM2) IPC[*2] (COM3)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	Cable length: 1000m or less
	B	Your own cable	
GP[*3] (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

*1   All GP models except AGP-3302B

*2   Only COM3 of PS -3700A (Pentium®4-M) can be used. When use the COM3, set the SIO type of COM3 with Dip switch.
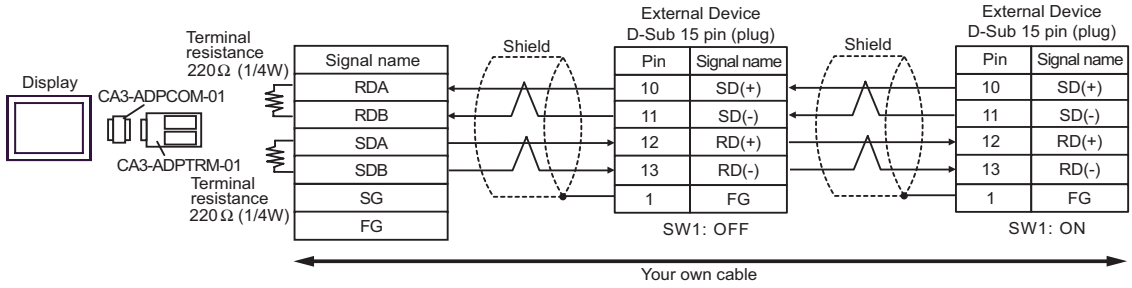☞ Dip switch setting: RS-422/485 (4 wire) (page 36)

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

NOTE	• Do not connect anything to Pins No. 2, 4, 8 and 12 on the External Device.
	• Do not connect to Pins No. 14 and 15 on the External Device since voltage is +5V.

A. When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
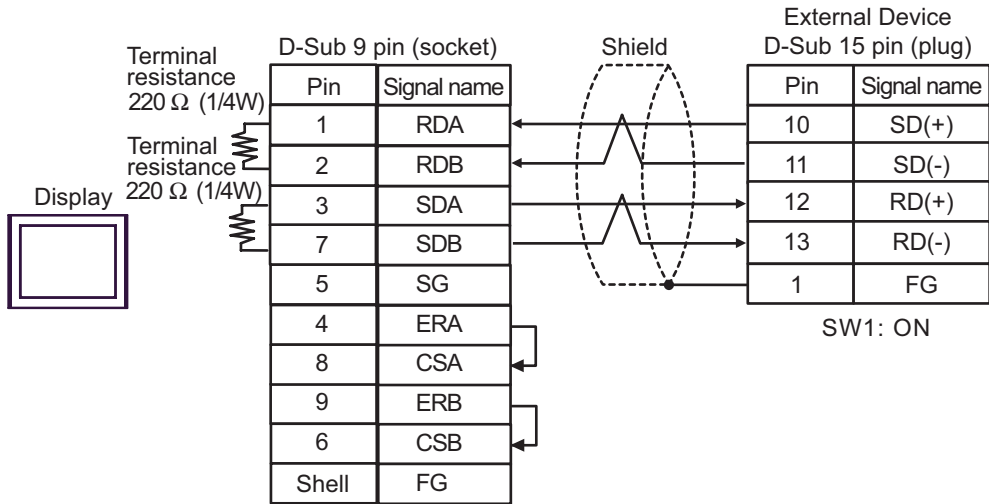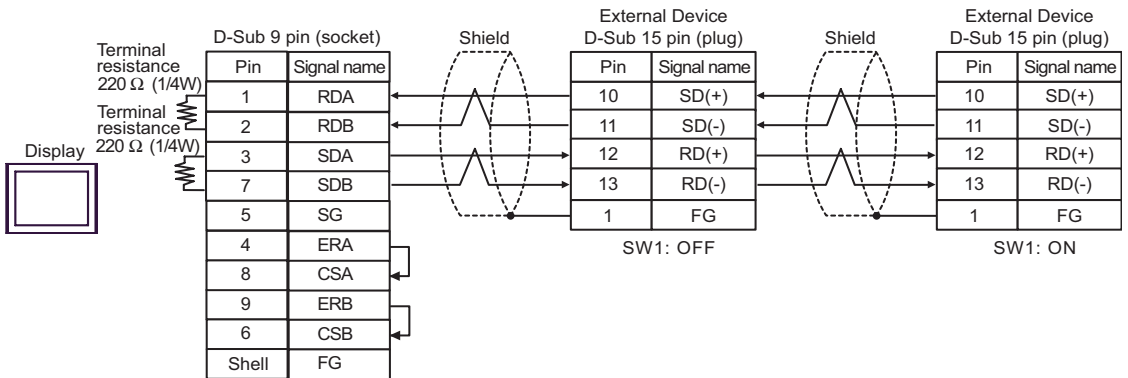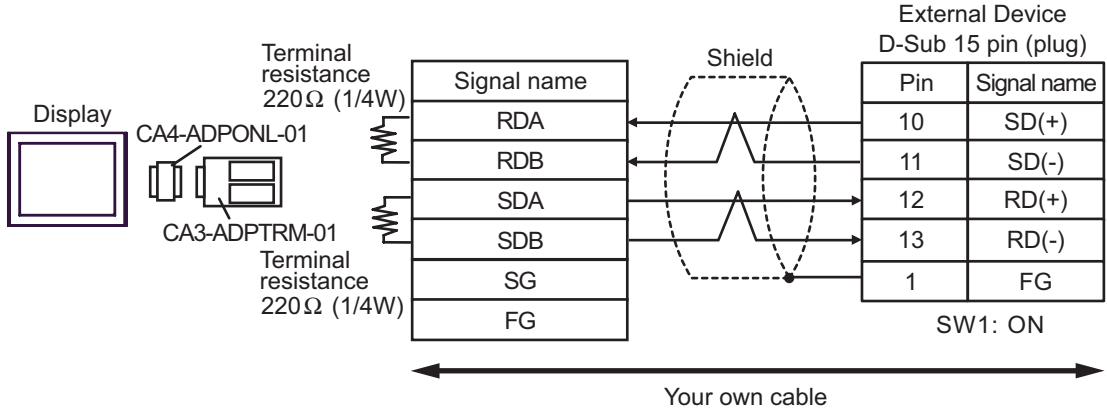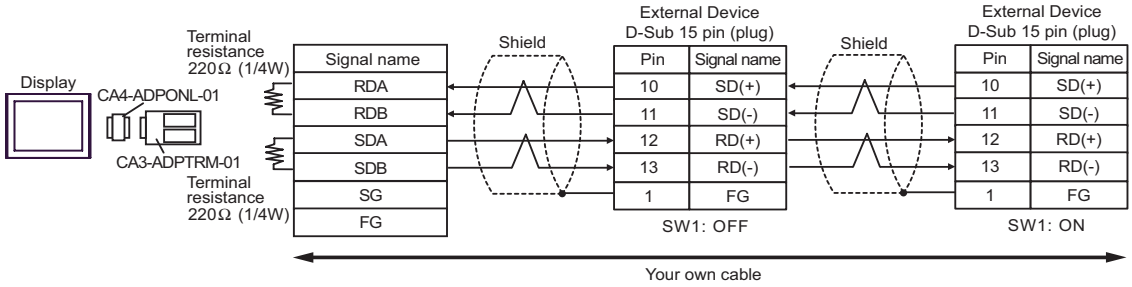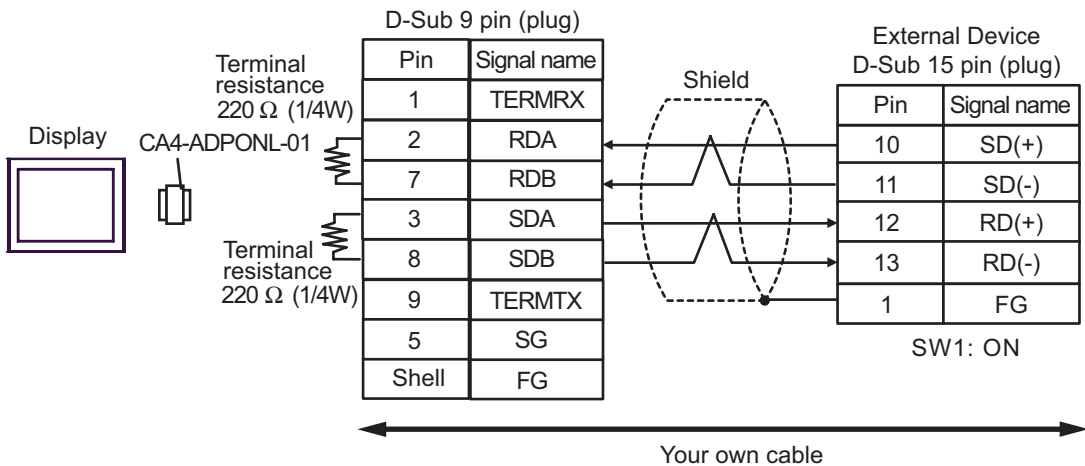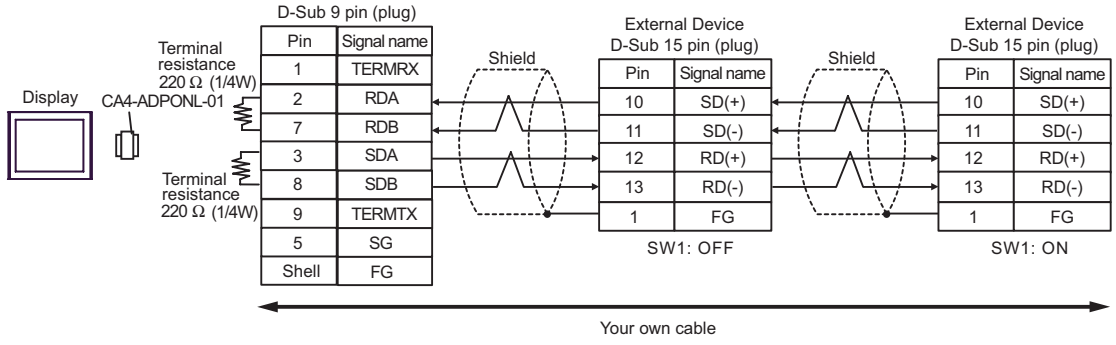
• 1:1 Connection

Display — CA3-ADPCOM-01 / CA3-ADPTRM-01

Shield

Signal name
RDA
RDB
SDA
SDB
SG
FG

External Device
D-Sub 15 pin (plug)

Pin	Signal name
3	SD(+)
11	SD(-)
9	RD(+)
10	RD(-)
1	FG

Your own cable

• 1:n Connection

Display — CA3-ADPCOM-01 / CA3-ADPTRM-01

Signal name
RDA
RDB
SDA
SDB
SG
FG

Shield

External Device
D-Sub 15 pin (plug)

Pin	Signal name
3	SD(+)
11	SD(-)
9	RD(+)
10	RD(-)
1	FG

Shield

External Device
D-Sub 15 pin (plug)

Pin	Signal name
3	SD(+)
11	SD(-)
9	RD(+)
10	RD(-)
1	FG

Your own cable

B. When your own cable is used

• 1:1 Connection

Display

D-Sub 9 pin (socket)

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

Shield

External Device
D-Sub 15 pin (plug)

Pin	Signal name
3	SD(+)
11	SD(-)
9	RD(+)
10	RD(-)
1	FG

- 1:n Connection

D-Sub 9 pin (socket)			External Device D-Sub 15 pin (plug)			External Device D-Sub 15 pin (plug)	
Pin	Signal name		Pin	Signal name		Pin	Signal name
1	RDA		3	SD(+)		3	SD(+)
2	RDB		11	SD(-)		11	SD(-)
3	SDA		9	RD(+)		9	RD(+)
7	SDB		10	RD(-)		10	RD(-)
5	SG		1	FG		1	FG
4	ERA						
8	CSA						
9	ERB						
6	CSB						
Shell	FG						

C. When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

	Signal name		External Device D-Sub 15 pin (plug)	
			Pin	Signal name
	RDA		3	SD(+)
	RDB		11	SD(-)
	SDA		9	RD(+)
	SDB		10	RD(-)
	SG		1	FG
	FG			

Your own cable

- 1:n Connection

Signal name		External Device D-Sub 15 pin (plug)			External Device D-Sub 15 pin (plug)	
		Pin	Signal name		Pin	Signal name
RDA		3	SD(+)		3	SD(+)
RDB		11	SD(-)		11	SD(-)
SDA		9	RD(+)		9	RD(+)
SDB		10	RD(-)		10	RD(-)
SG		1	FG		1	FG
FG						

Your own cable

D. When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

• 1:1 Connection

• 1:n Connection

Cable Diagram 6

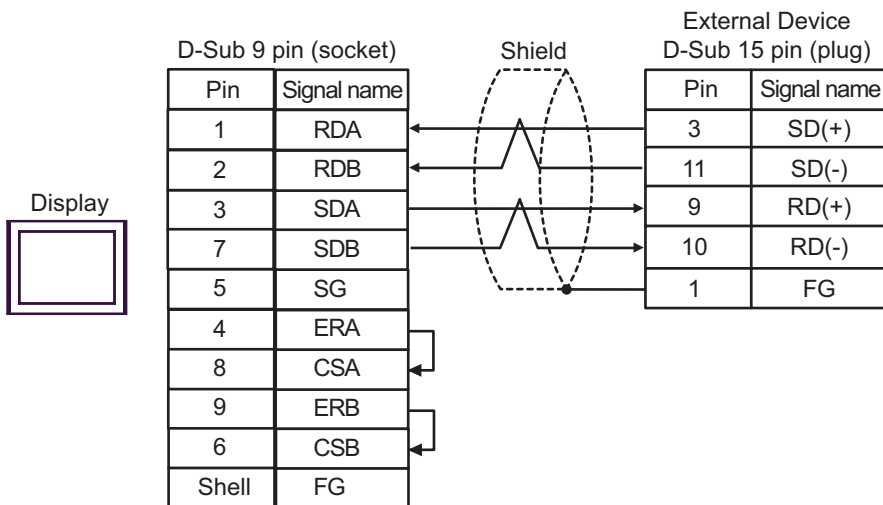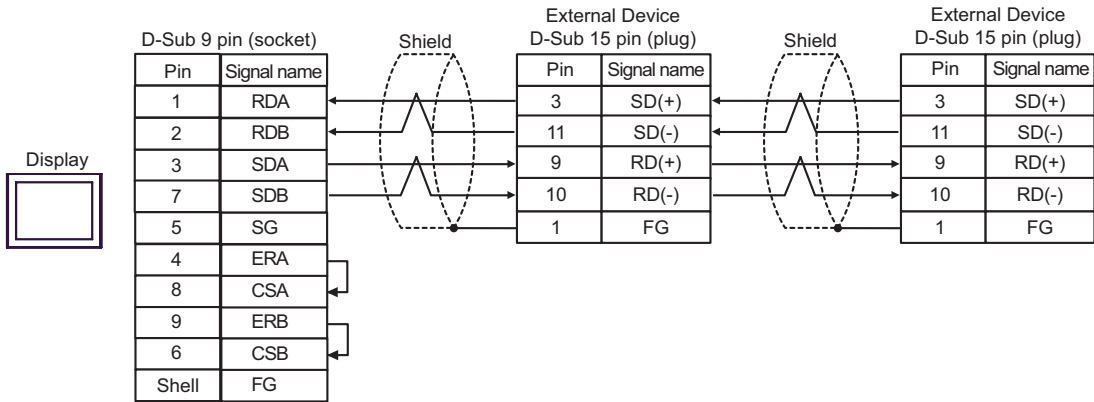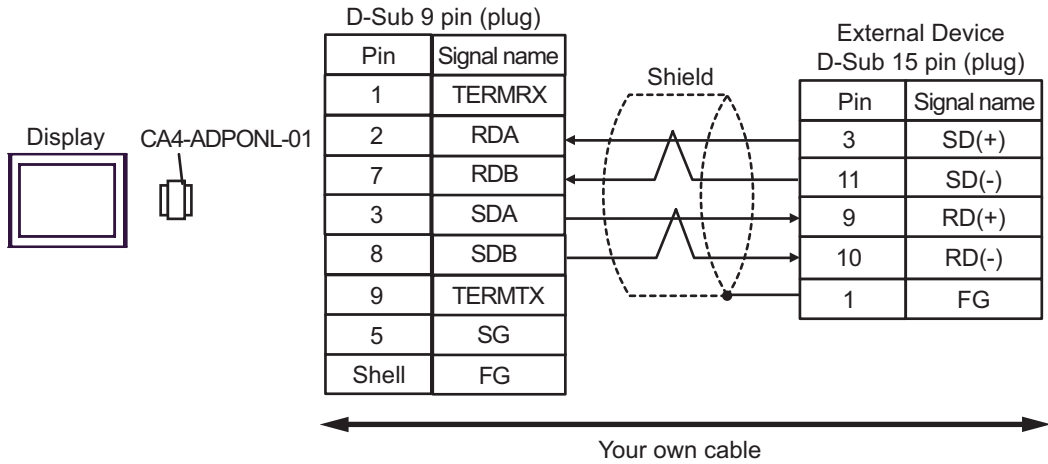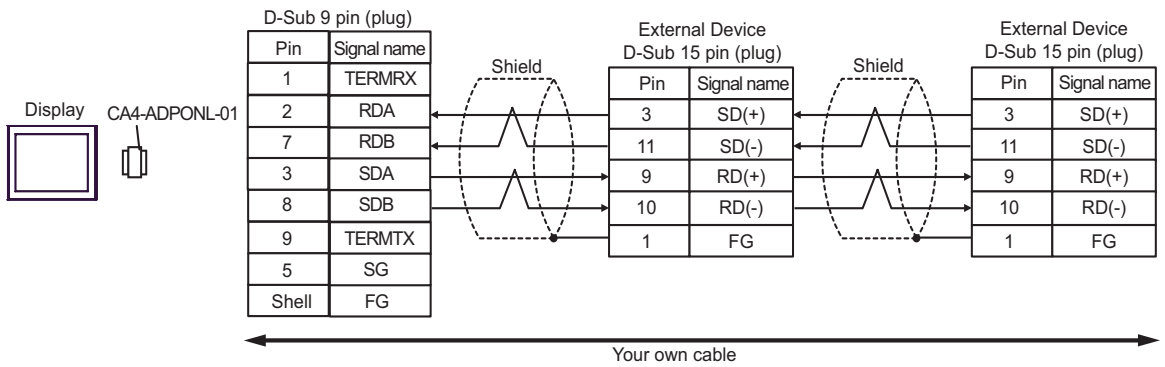| Display (Connection Port)	Cable	Remarks
GP (COM1) IPC[*1*2]	Your own cable	Cable length: 15m or less

*1   Usable ports are different by the series.
        ☞Usable port (page 35)

*2   When use the COM3 of PS-3700A (Pentium®4-M), set the SIO type of COM3 with Dip switch.
        ☞Dip switch setting: RS-232C (page 35)

External Device
D-Sub 9 pin (socket)   Shield   D-Sub 15 pin (plug)

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

Display

Pin	Signal name
2	SD
4	RD
12	CTS
7	SG
8	RTS
1	FG

Cable Diagram 7

Display (Connection Port)		Cable	Remarks
GP[*1] (COM1) AGP-3302B (COM2) IPC[*2] (COM3)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	Cable length: 1000m or less
	B	Your own cable	
GP[*3] (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

*1   All GP models except AGP-3302B

*2   Only COM3 of PS -3700A (Pentium®4-M) can be used. When use the COM3, set the SIO type of COM3 with Dip switch.
☞Dip switch setting: RS-422/485 (4 wire) (page 36)

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

A. When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

•   1:1 Connection

• 1:n Connection

Your own cable

B. When your own cable is used

• 1:1 Connection

• 1:n Connection

C. When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

• 1:1 Connection

Your own cable

• 1:n Connection

Your own cable

D. When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable
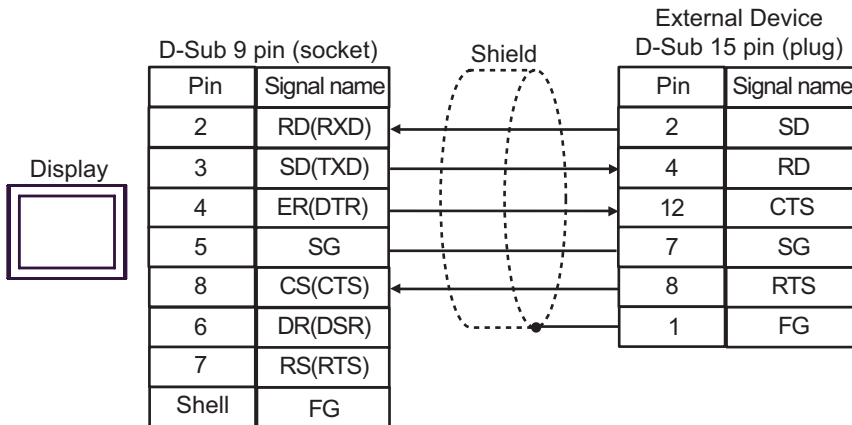
• 1:1 Connection

Your own cable

Cable Diagram 8

Display (Connection Port)		Cable	Remarks
GP[*1] (COM1) AGP-3302B (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	Cable length: 1000m or less
	B	Your own cable	
GP[*2] (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	
IPC[*3] (COM3)	E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	F	Your own cable	

*1   All GP models except AGP-3302B

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

*3   Only COM3 of PS -3700A (Pentium®4-M) can be used. When use the COM3, set the SIO type of COM3 with Dip switch.
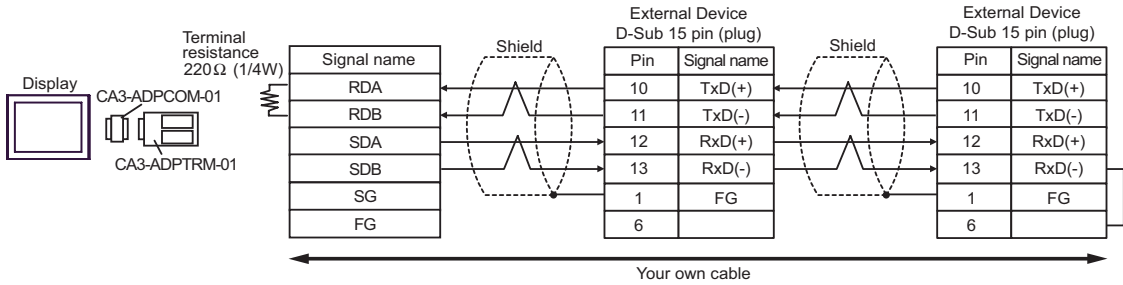☞ Dip switch setting: RS-422/485 (2 wire) (page 36)

A. When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
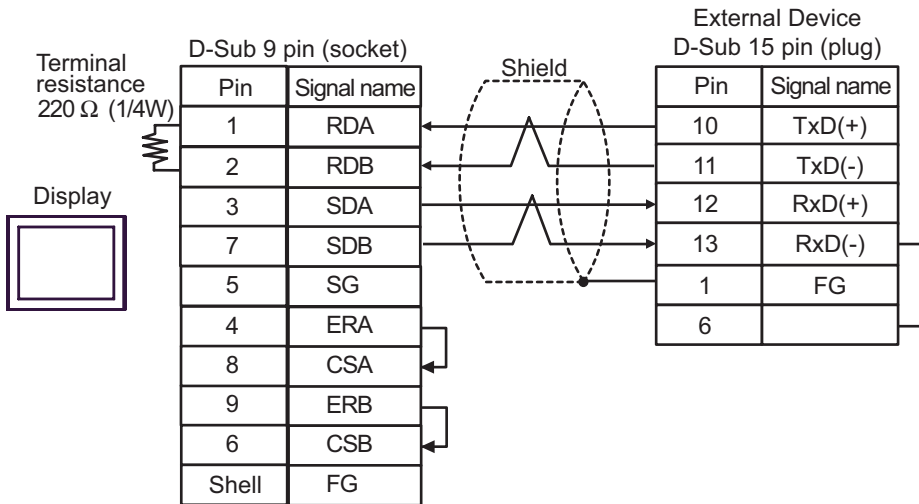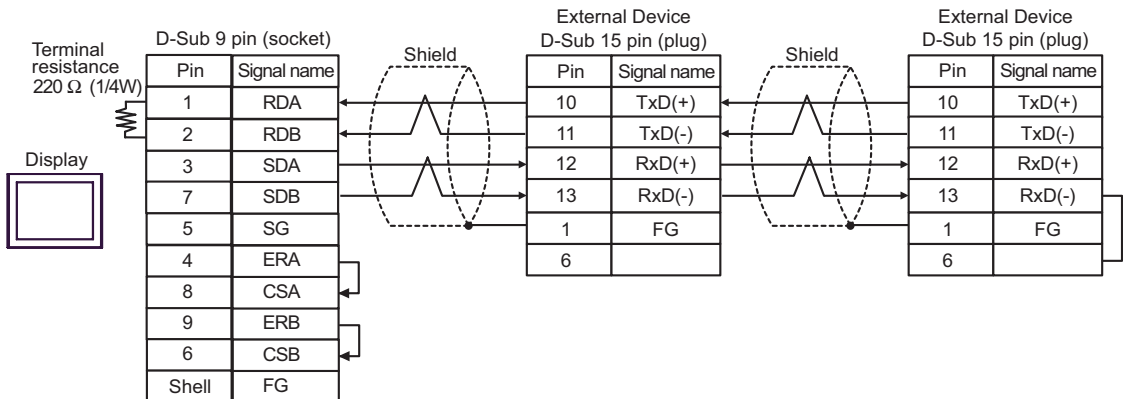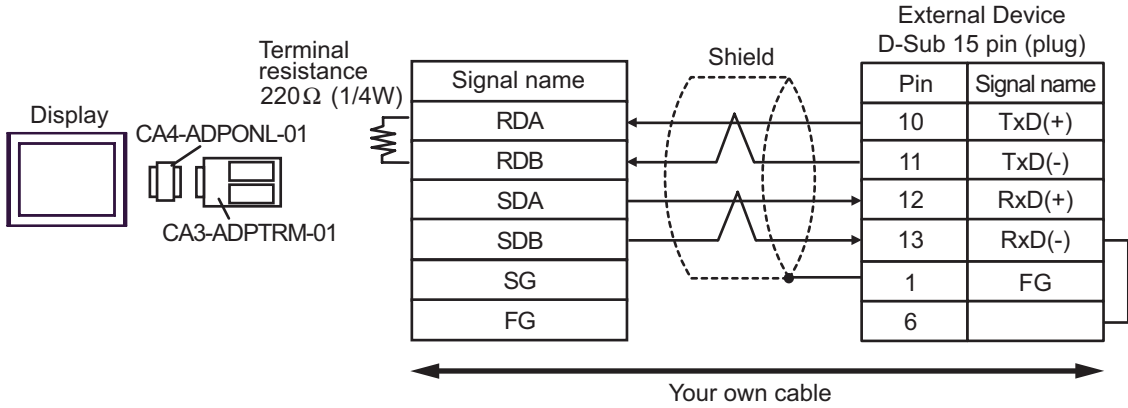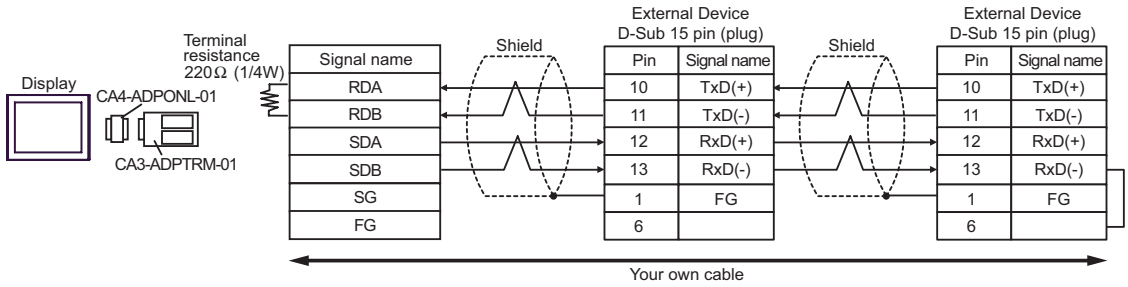
- 1:1 Connection

- 1:n Connection

B. When your own cable is used

• 1:1 Connection

D-Sub 9 pin (socket)

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

External Device
Terminal block

Signal name
L1
L2
Shield

Display

Shield

• 1:n Connection

D-Sub 9 pin (socket)

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

External Device
Terminal block

Signal name
L1
L2
Shield

External Device
Terminal block

Signal name
L1
L2
Shield

Display

Shield

Shield

C. When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
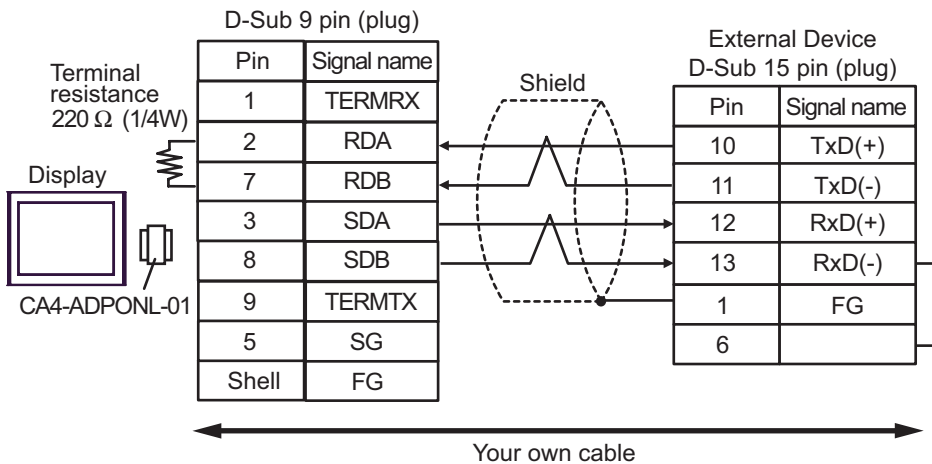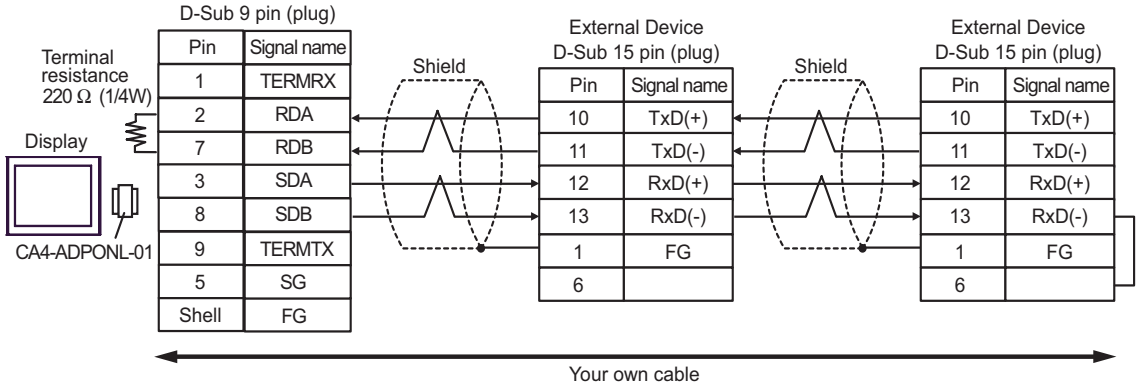
• 1:1 Connection

Signal name
RDA
RDB
SDA
SDB
SG
FG

Display
CA4-ADPONL-01
CA3-ADPTRM-01

Shield

External Device
Terminal block

Signal name
L1
L2
Shield

Your own cable

• 1:n Connection

Signal name
RDA
RDB
SDA
SDB
SG
FG

Display
CA4-ADPONL-01
CA3-ADPTRM-01

Shield

External Device
Terminal block

Signal name
L1
L2
Shield

Shield

External Device
Terminal block

Signal name
L1
L2
Shield

Your own cable

D. When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

• 1:1 Connection

D-Sub 9 pin (plug)

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

Display   CA4-ADPONL-01

Shield

External Device
Terminal block

Signal name
L1
L2
Shield

Your own cable

• 1:n Connection

D-Sub 9 pin (plug)

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

Display   CA4-ADPONL-01

Shield

External Device
Terminal block

Signal name
L1
L2
Shield

Shield

External Device
Terminal block

Signal name
L1
L2
Shield

Your own cable

E. When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
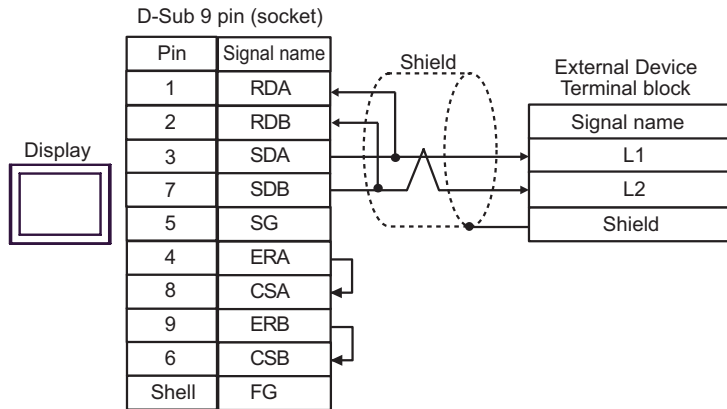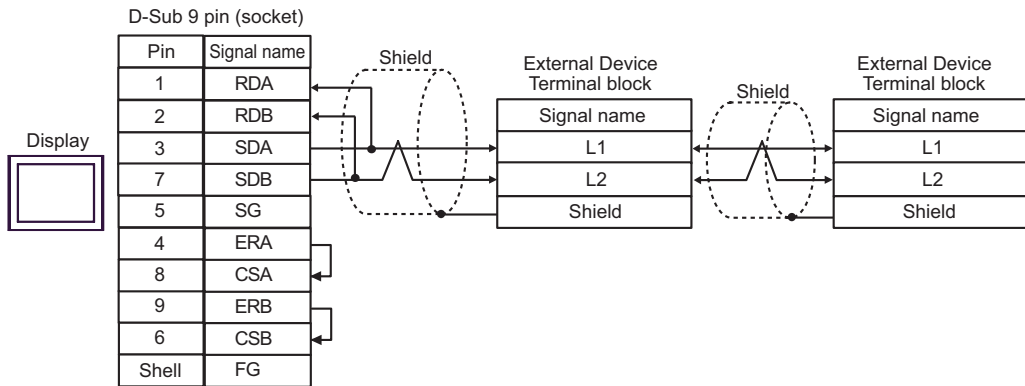
• 1:1 Connection

• 1:n Connection

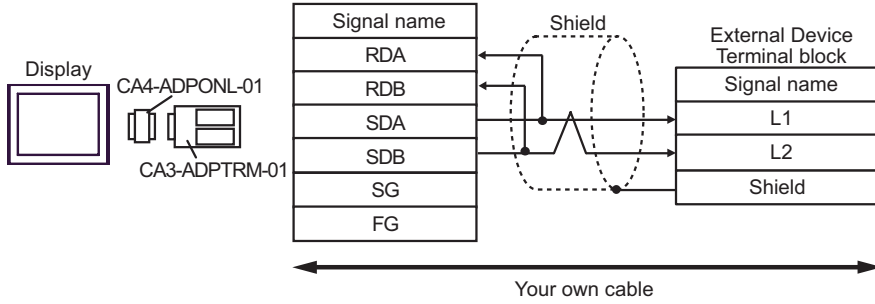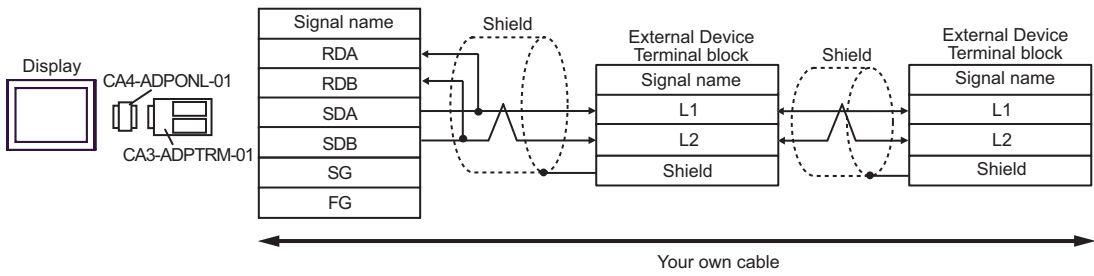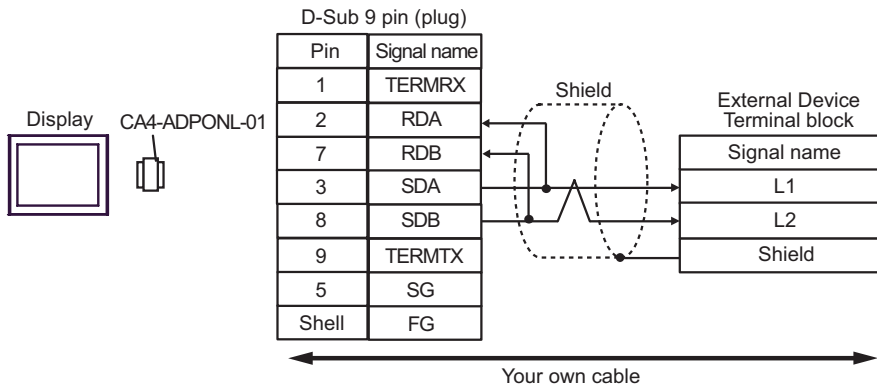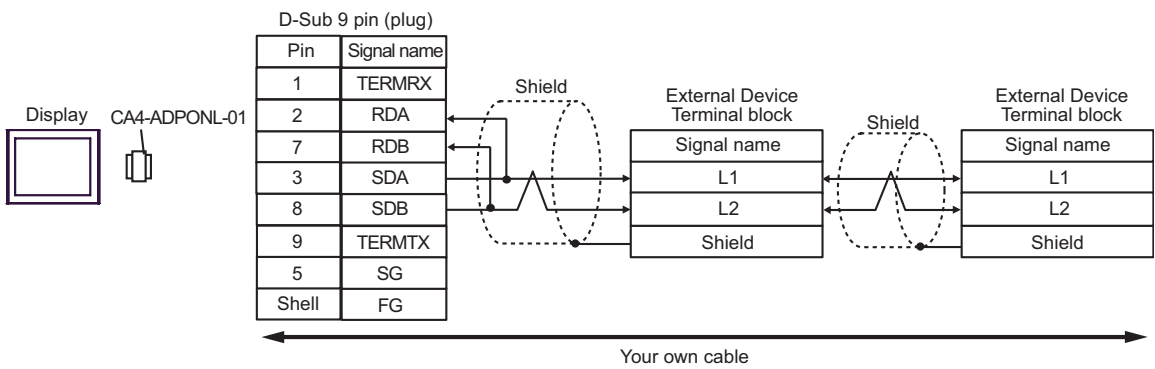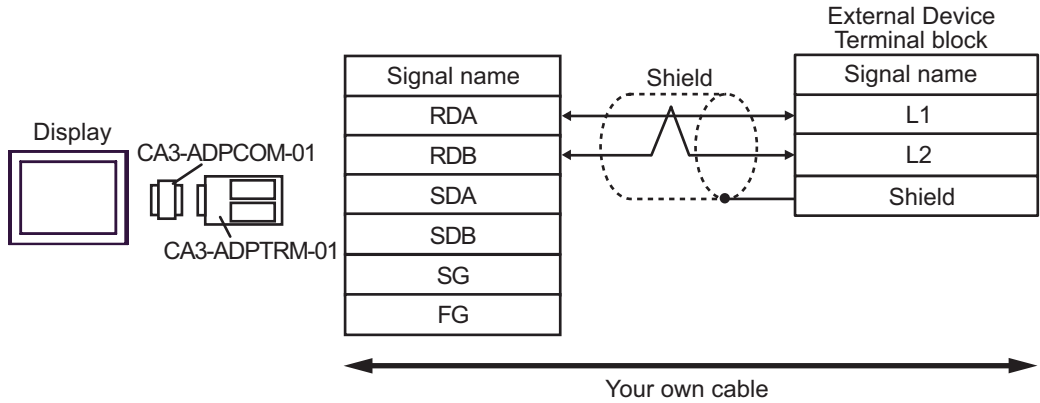F.   When your own cable is used

•   1:1 Connection

D-Sub 9 pin (socket)

External Device
Terminal block

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

Display

Shield

Signal name
L1
L2
Shield

•   1:n Connection

D-Sub 9 pin (socket)

External Device
Terminal block

External Device
Terminal block

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

Display

Shield

Signal name
L1
L2
Shield

Shield

Signal name
L1
L2
Shield

6 Supported Device

Range of supported device address is shown in the table below. Available type and range of device vary depending on CPU. Be sure to check them in each CPU manual before using.

☐☐☐☐ This address can be specified as system data area.

| Device	Bit Address	Word Address	32 bits	Remarks
Relay[*1]	0000.0-1577.7	A0000-A1576 (]0000-]1576)		÷2 / oct8
	2000.0-7577.7	A2000-A7576 (]2000-]7576)		
Timer (Contact)	T0000-T1777	-		oct8
Counter (Contact)	C0000-C1777	-		oct8
Timer Counter (current value) [*1]	-	B0000-B3776 (b0000-b3776)		÷2 / oct8 / Bit15
		T0000-T3776		
Register	-	09000-09776	L/H	÷2 / oct8 / Bit15
	-	19000-19776		
	-	29000-29776		
	-	39000-39776		
	-	49000-49776		
	-	59000-59776		
	-	69000-69776		
	-	79000-79776		
	-	89000-89776		
	-	99000-99776		
	-	E0000-E0776		
	-	E1000-E1776		
	-	E2000-E2776		
	-	E3000-E3776		
	-	E4000-E4776		
	-	E5000-E5776		
	-	E6000-E6776		
	-	E7000-E7776		

Device	Bit Address	Word Address	32 bits	Remarks
File Register[*2]	-	1000000-1177776	⌈L / H⌋ ÷ 2 ₒcT8 Bit15	
	-	2000000-2177776		
	.....	.....		
	-	6000000-6177776		
	-	7000000-7177776		
	-	F10000000-F10177776		
	-	F11000000-F11177776		
	.....	.....		
	-	F1E000000-F1E177776		
	-	F1F000000-F1F177776		
	-	F20000000-F20177776		
	-	F21000000-F21177776		
	.....	.....		
	-	F2B000000-F2B177776		
	-	F2C000000-F2C177776		

*1   Values in parentheses are used for the word address of the relay and the timer counter (current value) (B) in the manual of the External Device. For entry, use AXXXX or BXXXX.

*2   File Register consists of the file number and the address.

```
1  000000
|     |
|     └── Address
└──────── File number
```
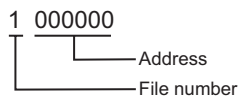
> **NOTE**
> • Please refer to the GP-Pro EX Reference Manual for system data area.
>
>   Cf.   GP-Pro EXReference Manual "Appendix 1.4 LS Area (only for direct access method)"
>
> • Please refer to the precautions on manual notation for icons in the table.
>
>   ☞ "Manual Symbols and Terminology"

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.

Device	Device Name	Device Code (HEX)	Address Code
Relay	A	0080	Word Address
Counter (Current Value)	T	0060	Word Address
	B	0061	Word Address
Register	09	0000	Word Address
	19	0001	Word Address
	29	0002	Word Address
	39	0003	Word Address
	49	0004	Word Address
	59	0005	Word Address
	69	0006	Word Address
	79	0007	Word Address
	89	0008	Word Address
	99	0009	Word Address
	E0	000A	Word Address
	E1	000B	Word Address
	E2	000C	Word Address
	E3	000D	Word Address
	E4	000E	Word Address
	E5	000F	Word Address
	E6	0010	Word Address
	E7	0011	Word Address

Device	Device Name	Device Code (HEX)	Address Code
File Register	1	0012	Word Address
	2	0013	Word Address
	.....	.....	.....
	6	0017	Word Address
	7	0018	Word Address
	F10	0019	Word Address
	F11	001A	Word Address
	.....	.....	.....
	F1E	0027	Word Address
	F1F	0028	Word Address
	F20	0029	Word Address
	F21	002A	Word Address
	.....	.....	.....
	F2B	0034	Word Address
	F2C	0035	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	Requirements
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 "Decimal[Hex]".

Display Examples of Error Messages

"RHAA035: PLC1: Error has been responded for device write command (Error Code: 1[01H])"

NOTE
• Please refer to the manual of the External Device for more detail of received error codes.
• Please refer to "When an error message is displayed (Error code list)" of "Maintenance/ Troubleshooting" for a common error message to the driver.

■ Error Codes Specific to the External Device

Error codes specific to the External Device are shown below.

Error Code	Description
0x01	Format error.
0x07	Writing to PLC memory is not executed correctly.
0x0A	Parity error.
0x0B	Framing error.
0x0C	Overrun error.
0x0D	Sum check error.
0x0F	Other CPU is accessing memory.
0x1B	System memory error.