



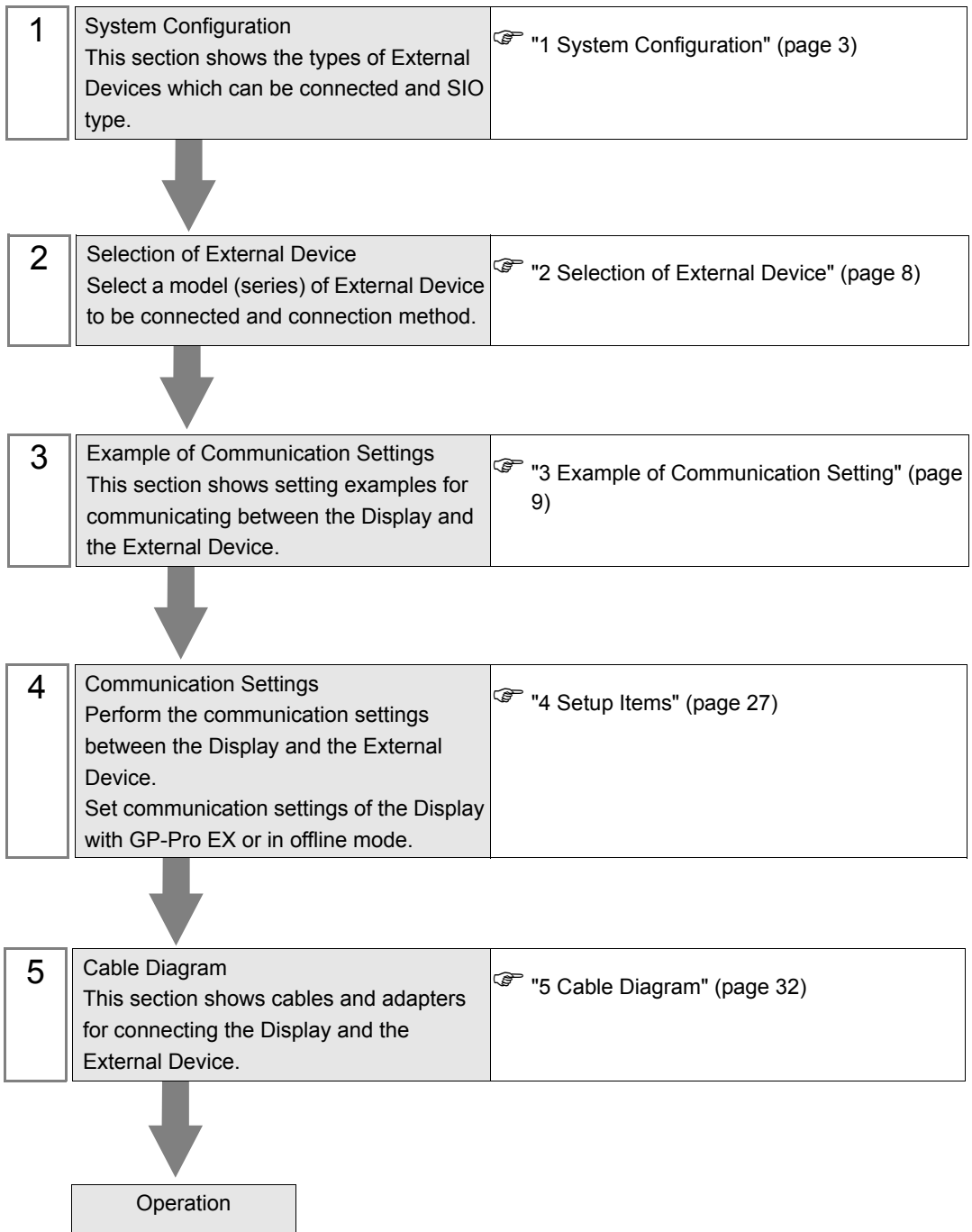
# TOYOPUC CMP-LINK SIO Driver

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## Introduction

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

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



# 1 System Configuration

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

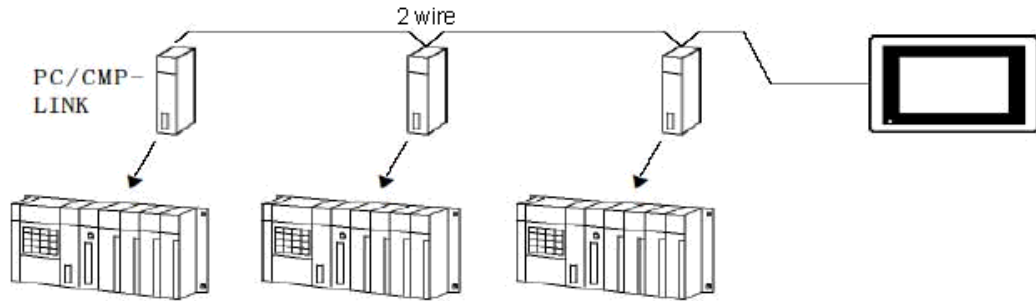
Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
TOYOPUC-PC2	PC2 L2	THU-2652 (computer link module)	RS422 (2wire)	Setting Example 1 (page 9)	Cable Diagram 1 (page 32)
	PC2J	THU-2755 (PC/CMP-LINK)	RS422 (2wire)	Setting Example 2 (page 11)	Cable Diagram 1 (page 32)
TOYOPUC-PC3J	PC3J	Link I/F on the CPU unit (L2 terminal block)	RS422 (2wire)	Setting Example 3 (page 13)	Cable Diagram 2 (page 45)
		Link I/F on the CPU unit (L1, L2 terminal block)	RS422 (4wire)	Setting Example 4 (page 15)	Cable Diagram 3 (page 58)
		THU-2755 (PC/CMP-LINK)	RS422 (2wire)	Setting Example 5 (page 17)	Cable Diagram 4 (page 67)
	PC3JD PC3JG	Link I/F on the CPU unit (L1 terminal block)	RS422 (2wire)	Setting Example 3 (page 13)	Cable Diagram 1 (page 32)
		THU-2755 (PC/CMP-LINK)*1	RS422 (2wire)	Setting Example 5 (page 17)	Cable Diagram 1 (page 32)
TOYOPUC- PC3JT	PC3JT	Communication connector (L1 for operation board) on CPU Unit	RS422 (2wire)	Setting Example 6 (page 19)	Cable Diagram 5 (page 80)
		Link communication connector(L2) on CPU Unit	RS422 (2wire)	Setting Example 7 (page 21)	Cable Diagram 6 (page 88)
TOYOPUC- PC10G	PC10G	Link I/F on the CPU unit (L3 terminal block)	RS422 (2wire)	Setting Example 8 (page 23)	Cable Diagram 1 (page 32)
		THU-2755 (PC/CMP-LINK)*2	RS422 (2wire)	Setting Example 9 (page 25)	Cable Diagram 1 (page 32)

\*1 When using PC/CMP-LINK (THU-2755) with PC3J command, the link unit in ver. 5.00 or higher is required. Also, the link unit does not have the settings of PC2J or PC3J selection switch (SW) etc. Error occurs when sending PC3J command to the link unit in less than ver. 5.00.

\*2 To connect to GM, GC, GY, or EB devices, PC/CMP-LINK(THU-2755) Ver.6 or later is required.

## ■ Connection Configuration

The system configuration in the case when you use the External Device PC2J (n units) of JTEKT Corporation and the Display (1 unit) to realize the 1:n communication with HOST link protocol are connected is shown.



- Always set one unit of the Display used in the system.
- On the link, you can connect max 16 units of the External Device to one unit of the Display.

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**NOTE**

- The L1 port on PC3JT supports the 1:1 connection only. For the L2 port, you can connect max 16 units of the External Device to one unit of the Display.
-

## ■ 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 <sup>*1</sup> , COM2, COM3 <sup>*1</sup> , COM4	-	-
PS-3450A, PS-3451A, PS3000-BA, PS3001-BD	COM1, COM2 <sup>*1*2</sup>	COM2 <sup>*1*2</sup>	COM2 <sup>*1*2</sup>
PS-3650A (T41 model), PS-3651A (T41 model)	COM1 <sup>*1</sup>	-	-
PS-3650A (T42 model), PS-3651A (T42 model)	COM1 <sup>*1*2</sup> , COM2	COM1 <sup>*1*2</sup>	COM1 <sup>*1*2</sup>
PS-3700A (Pentium®4-M) PS-3710A	COM1 <sup>*1</sup> , COM2 <sup>*1</sup> , COM3 <sup>*2</sup> , COM4	COM3 <sup>*2</sup>	COM3 <sup>*2</sup>
PS-3711A	COM1 <sup>*1</sup> , COM2 <sup>*2</sup>	COM2 <sup>*2</sup>	COM2 <sup>*2</sup>
PS4000 <sup>*3</sup>	COM1, COM2	-	-
PL3000	COM1 <sup>*1*2</sup> , COM2 <sup>*1</sup> , COM3, COM4	COM1 <sup>*1*2</sup>	COM1 <sup>*1*2</sup>
PE-4000B Atom N270	COM1, COM2	-	-
PE-4000B Atom N2600	COM1, COM2	COM3 <sup>*4</sup> , COM4 <sup>*4</sup> , COM5 <sup>*4</sup> , COM6 <sup>*4</sup>	COM3 <sup>*4</sup> , COM4 <sup>*4</sup> , COM5 <sup>*4</sup> , COM6 <sup>*4</sup>

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

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

\*3 When making communication between an External Device and COM port on the Expansion slot, only RS-232C is supported. However, ER (DTR/CTS) control cannot be executed because of the specification of COM port.

For connection with External Device, use user-created cables and disable Pin Nos. 1, 4, 6 and 9. Please refer to the IPC manual for details of pin layout.

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

## DIP Switch setting: RS-232C

DIP Switch	Setting	Description
1	OFF <sup>*1</sup>	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)

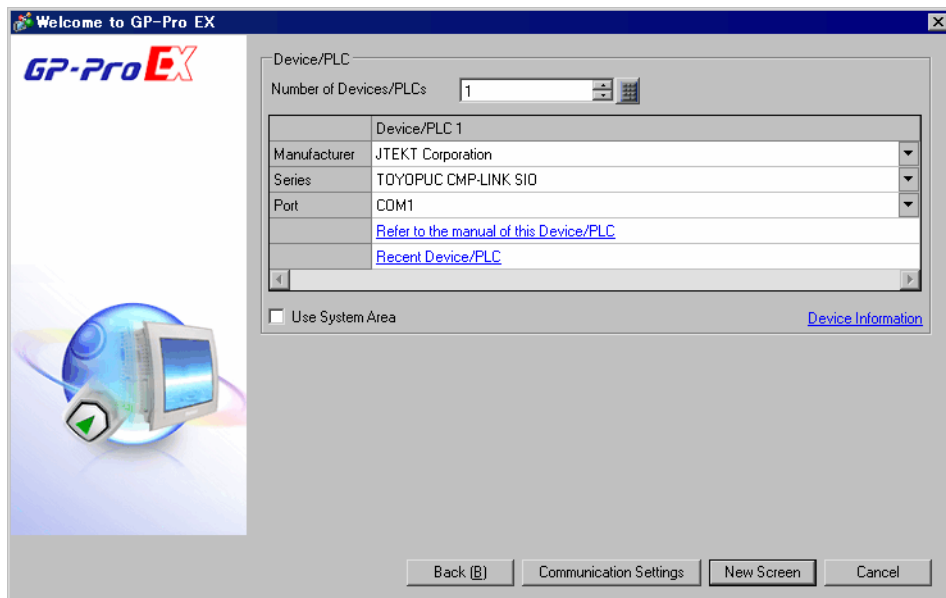
DIP Switch	Setting	Description
1	OFF	Reserved (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA (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
Number of Devices/ PLCs	Enter an integer from 1 to 4 to define the number of Devices/PLCs to connect to the display.
Manufacturer	Select the manufacturer of the External Device to connect. Select "JTEKT Corporation".
Driver	Select the External Device model (series) and the connection method. Select "TOYOPUC CMP-LINK SIO". In System configuration, make sure the External Device you are connecting is supported by "TOYOPUC CMP-LINK SIO". ☞ "1 System Configuration" (page 3)
Port	Select the Display port to be connected to the External Device.
Use System Area	Check this option to synchronize the system data area of the Display and the device (memory) of the External Device. When synchronized, you can use the External Device's ladder program to switch the display or display the window on the Display. Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)" This feature can also be set in GP-Pro EX or in the Display's offline mode. Cf. GP-Pro EX Reference Manual "System Settings [Display Unit] - [System Area] Settings Guide" Cf. Maintenance/Troubleshooting Guide "Main Unit - System Area Settings"



### 3 Example of Communication Setting

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

When you use the TOYOPUC Series, use GP-Pro EX and the ladder software to set as below.

#### 3.1 Setting Example 1

##### ■ Setting of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer  Series  Port

Text Data Mode  [Change](#)

Communication Settings

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

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

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

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC

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


[Default](#)

Device-Specific Settings

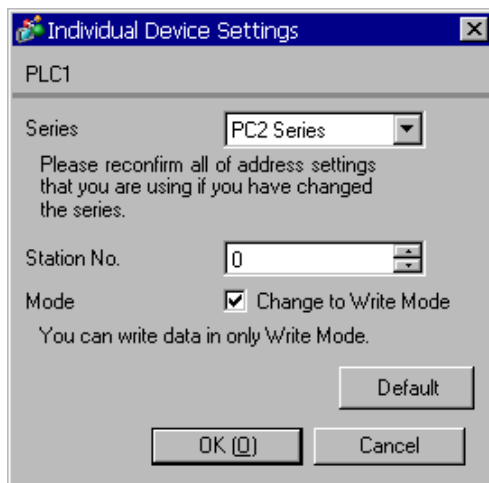
Allowable Number of Devices/PLCs 16 [Add Device](#)

No.	Device Name	Settings	Add Indirect Device
1	PLC1	Series=PC2 Series, Station No.=0, Change to Write Mod	<a href="#">+</a>

### ◆ Device Setting

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

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



### ■ Setting of External Device

Set the computer link module as below.

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

Setup Items	Settings
Speed	19200bps
Data Bit	8bit
Stop Bit	1bit
Parity Bit	Even
Card Type	CMP link
SET5	Watchdog timer ON
Station No.	0

## 3.2 Setting Example 2

### ■ Setting of GP-Pro EX

#### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. It is divided into several sections:

- Summary:** Manufacturer: JTEKT Corporation, Series: TOYOPUC CMP-LINK SIO, Port: COM1. Text Data Mode: 1.
- 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. Note: In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.
- Device-Specific Settings:** Allowable Number of Devices/PLCs: 16. A table below shows:
 

No.	Device Name	Settings
1	PLC1	[Series=PC2 Series,Station No.=0,Change to Write Mod]

#### ◆ Device Setting

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

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It contains the following fields and options:

- Series: PC2 Series
- Station No.: 0
- Mode:  Change to Write Mode

Buttons: Default, OK (O), Cancel.

## ■ Setting of External Device

Set the computer link module as below.

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

Setup Items	Settings
Speed	19200bps
Data Bit	8bit
Stop Bit	1bit
Parity Bit	Even
Internal Switch	SW4-1 OFF SW4-2 ON
Station No.	1

### 3.3 Setting Example 3

#### ■ Setting of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer  Series  Port

Text Data Mode  [Change](#)

Communication Settings

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

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

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

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


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

Device-Specific Settings

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

No.	Device Name	Settings
<input type="button" value="1"/>	<input type="text" value="PLC1"/>	<input type="text" value="Series=PC3J Series,Station No.=0,Change to Write Mo"/>

##### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series

Please reconfirm all of address settings that you are using if you have changed the series.

Station No.

Mode  Change to Write Mode

You can write data in only Write Mode.

## ■ Setting of External Device

Set the computer link module as below.

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

Setup Items	Settings
Speed	19200bps
Data Bit	8bit
Stop Bit	1bit
Parity Bit	Even
RS422 Connecting Port	2wire
STATION No.	0

## 3.4 Setting Example 4

### ■ Setting of GP-Pro EX

#### ◆ Communication Settings


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

The screenshot shows the 'Device/PLC 1' configuration window. It is divided into several sections:

- Summary:** Manufacturer: JTEKT Corporation, Series: TOYOPUC CMP-LINK SIO, Port: COM1. A 'Change Device/PLC' link is visible.
- Text Data Mode:** Set to 1 with a 'Change' link.
- Communication Settings:**
  - SIO Type:  RS232C,  RS422/485(2wire),  RS422/485(4wire)
  - Speed: 19200 (dropdown)
  - 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. A note below explains the selection criteria for RI or VCC.
  - A 'Default' button is present.
- Device-Specific Settings:**
  - Allowable Number of Devices/PLCs: 16. An 'Add Device' link is present.
  - A table lists the device:
 

No.	Device Name	Settings
1	PLC1	Series=PC3J Series, Station No.=0, Change to Write Mode
  - An 'Add Indirect Device' button is at the bottom right.

#### ◆ Device Setting

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

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

The 'Individual Device Settings' dialog box for 'PLC1' contains the following fields and options:

- Series:** PC3J Series (dropdown menu)
- Message:** Please reconfirm all of address settings that you are using if you have changed the series.
- Station No.:** 0 (spin box)
- Mode:**  Change to Write Mode
- Message:** You can write data in only Write Mode.
- Buttons:** Default, OK (O), Cancel

## ■ Setting of External Device

Set the computer link module as below.

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

Setup Items	Settings
Speed	19200bps
Data Bit	8bit
Stop Bit	1bit
Parity Bit	Even
RS422 Connecting Port	4wire
STATION No.	0



## 3.5 Setting Example 5

### ■ Setting of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer  Series  Port

Text Data Mode  [Change](#)

Communication Settings

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

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

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

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


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

Device-Specific Settings

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

No.	Device Name	Settings	Add Indirect Device
<input type="button" value="1"/>	<input type="text" value="PLC1"/>	<input type="text" value="Series=PC3J Series, Station No.=0, Change to Write Mo"/>	<input type="button" value="+"/>

#### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series

Please reconfirm all of address settings that you are using if you have changed the series.

Station No.

Mode  Change to Write Mode

You can write data in only Write Mode.

## ■ Setting of External Device

Set the computer link module as below.

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

Setup Items	Settings
Speed	19200bps
Data Bit	8bit
Stop Bit	1bit
Parity Bit	Even
RS422 Connecting Port <sup>*1</sup>	2wire
STATION No.	0

\*1 When using PC/CMP-LINK (THU-2755), only 2-wire type is available to use. In addition, when using PC3J command, the link unit in ver. 5.00 or higher is required.

## 3.6 Setting Example 6

### ■ Setting of GP-Pro EX


#### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. It is divided into several sections:

- Summary:** Manufacturer: JTEKT Corporation, Series: TOYOPUC CMP-LINK SIO, Port: CDM1. There is a 'Change Device/PLC' link.
- Text Data Mode:** Set to 1, with a 'Change' link.
- Communication Settings:**
  - SIO Type:** Radio buttons for RS232C, RS422/485(2wire) (selected), and RS422/485(4wire).
  - Speed:** Dropdown menu set to 115200.
  - Data Length:** Radio buttons for 7 and 8 (selected).
  - Parity:** Radio buttons for NONE, EVEN (selected), and ODD.
  - Stop Bit:** Radio buttons for 1 (selected) and 2.
  - Flow Control:** Radio buttons for NONE (selected), ER(DTR/CTS), and XON/XOFF.
  - Timeout:** Dropdown menu set to 3 (sec).
  - Retry:** Dropdown menu set to 2.
  - Wait To Send:** Dropdown menu set to 0 (ms).
- RI / VCC:** Radio buttons for RI and VCC (selected). A note below states: '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.' There is a 'Default' button.
- Device-Specific Settings:**
  - Allowable Number of Devices/PLCs: 16, with an 'Add Device' link.
  - A table with columns 'No.', 'Device Name', and 'Settings'. The first row shows '1', 'PLC1', and 'Series=PC3JT Series, Station No.=0, Change to Write Mode'. There is an 'Add Indirect Device' button.

#### ◆ Device Setting

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

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It contains the following fields and options:

- Series:** Dropdown menu set to 'PC3JT Series'. A note below reads: 'Please reconfirm all of address settings that you are using if you have changed the series.'
- Station No.:** Dropdown menu set to 0.
- Mode:** Check box for 'Change to Write Mode' is checked. A note below reads: 'You can write data in only Write Mode.'
- Buttons: 'Default', 'OK (O)', and 'Cancel'.

## ■ Setting of External Device

Use the DIP Switch of the External Device for communication settings of the External Device.

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

- DIP Switch (SW5)

DIP Switches	Setting Value	Setup Description
1	ON	RS422
2	ON	CMP (computer link)
3	OFF	Turning off always
4	ON	115.2 Kbps
5	OFF	Turning off always
6	OFF	Output OFF
7	OFF	RUN continuance
8	OFF	The scanning is asynchronous.

**NOTE** • The following items are fixed.

Setup Items	Setting Value
Data Length	8 bit
Stop	1 bit
Parity	Even
Station Number	0

## 3.7 Setting Example 7

### ■ Setting of GP-Pro EX

#### ◆ Communication Settings

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

#### ◆ Device Setting

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

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

#### ◆ Note

When you use an L2 port on PC3JT, select [PC3J Series] from the [Series] list.

## ■ Setting of External Device

Set the External Device as below.

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

Setup Items	Settings
Station No.	0
Data bits	8bits
Stop bits	1bit
Bits per second	19200bps
2-wire/4-wire	2-wire

## 3.8 Setting Example 8

### ■ Setting of GP-Pro EX

#### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' dialog box with the following settings:

- Summary:** Manufacturer: JTEKT Corporation, Series: TOYOPUC CMP-LINK SIO, Port: COM1. Text Data Mode: 1.
- Communication Settings:**
  - SIO Type:  RS422/485(2wire)
  - Speed: 19200
  - Data Length:  8
  - Parity:  EVEN
  - Stop Bit:  1
  - Flow Control:  NONE
  - Timeout: 3 (sec)
  - Retry: 2
  - Wait To Send: 0 (ms)
- RI / VCC:**  RI
- Device-Specific Settings:** Allowable Number of Devices/PLCs: 16. A table below shows:
 

No.	Device Name	Settings
1	PLC1	Series=PC10G Series, Station No.=0, Change to Write Mode

#### ◆ Device Setting

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

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1' with the following settings:

- Series:** PC10G Series
- Station No.:** 0
- Mode:**  Change to Write Mode

## ■ Setting of External Device

Use the the ladder software (PCWin) to set up the External Device communication settings.

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

- 1 Start the ladder software and create a project.
- 2 In the project tree, set the [CPU Mode] to [PC10 mode].
- 3 In the project tree, double-click [Link Parameter].
- 4 In the [Link parameter setup] dialog box, select the link number of the link module you want to define, and click [Link setup].
- 5 Define the following settings and click [OK].

Setup Items	Settings
Rack No.	Built-in
Slot No.	Standard
Link module name	Computer link

- 6 Select the link module, click [Detail] and define the following settings.

Setup Items	Settings
Station No.	00
Data bits	8bits
Stop bits	1bit
Bits per second	19200bps
2-wire/4-wire	2-wire

- 7 Write the communication settings to the External Device. After the write operation is complete, restart the External Device.



### 3.9 Setting Example 9

#### ■ Setting of GP-Pro EX

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. It is divided into several sections:

- Summary:** Manufacturer: JTEKT Corporation, Series: TOYOPUC CMP-LINK SIO, Port: COM1. A 'Change Device/PLC' link is visible.
- Text Data Mode:** Set to 1, with a 'Change' link.
- 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. A note explains that for RS232C, the 9th pin can be selected for RI (Input) or VCC (5V Power Supply). A 'Default' button is present.
- Device-Specific Settings:**
  - Allowable Number of Devices/PLCs: 16, with an 'Add Device' link.
  - A table with columns 'No.', 'Device Name', and 'Settings'. The first row shows '1', 'PLC1', and 'Series=PC10G Series, Station No.=0, Change to Write M'.
  - An 'Add Indirect Device' button is on the right.

##### ◆ Device Setting

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

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It contains the following fields and options:

- Series:** PC10G Series (dropdown menu)
- Message:** Please reconfirm all of address settings that you are using if you have changed the series.
- Station No.:** 0
- Mode:**  Change to Write Mode. A note below states: 'You can write data in only Write Mode.'
- Buttons:** Default, OK (O), and Cancel.

## ■ Setting of External Device

On the front of the link interface, use the rotary switch and dip switch to define the External Device communication settings.

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

- Rotary Switch

Rotary Switch	Setup Value	Description
SW1	0	Station No. (ten's digit)
SW2	0	Station No. (one's digit)
SW3	1	19200bps

- Dip Switch

Dip Switch	Setup Value	Description
SW4-4	OFF	Data bits: 8bits
SW4-3	ON	Stop bits: 1bit
SW4-2	ON	Computer link
SW4-1	OFF	2-wire (fixed)

## 4 Setup Items

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

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

☞ "3 Example of Communication Setting" (page 9)

### 4.1 Setup Items in GP-Pro EX

#### ■ Communication Settings

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

Setup Items	Setup Description
SIO Type	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.

continued to next page


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

**NOTE**

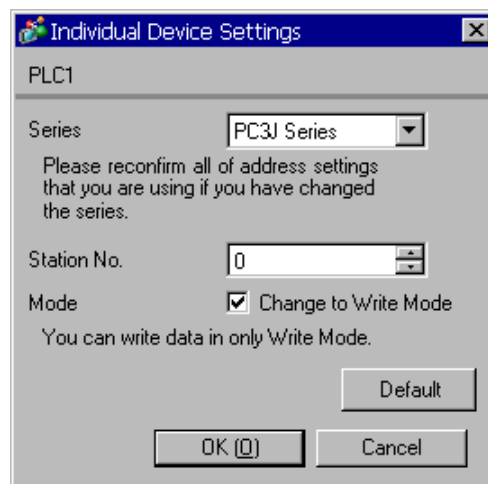
- Refer to the GP-Pro EX Reference Manual for Indirect Device.

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

## ◆ Device Setting

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

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



Setup Items	Setup Description
Series	Select either "PC3J Series" or "PC2 Series" for the driver series name.
Station No.	Use an integer from 0 to 31 (octal) to enter the station No.
Mode	When receiving write request from GP-Pro EX, check "ON" to change the External Device to the write mode.

**IMPORTANT**

- The External Device does not receive write from the Display in operation mode. When the "operation mode" is enabled, the External Device will be changed to the monitor mode at startup, which allows you to write to the External Device.

## 4.2 Setup Items in Offline Mode

- NOTE** • Refer to the Maintenance/Troubleshooting guide for information on how to enter offline mode or about the operation.

Cf. Maintenance/Troubleshooting Guide "Offline Mode"

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

### ■ Communication Settings

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

Comm.	Device	Option		
TOYOPUC CMP-LINK SIO [COM1] Page 1/1				
SIO Type	RS422/485(2wire)			
Speed	19200			
Data Length	<input type="radio"/> 7 <input checked="" type="radio"/> 8			
Parity	EVEN			
Stop Bit	<input checked="" type="radio"/> 1 <input type="radio"/> 2			
Flow Control	NONE			
Timeout(s)	3			
Retry	2			
Wait To Send(ms)	0			
Exit			Back	
2005/09/02 13:24:08				

Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. <b>IMPORTANT</b> 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.
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.

## ■ Device Setting

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

Comm.	Device	Option		
TOYOPUC CMP-LINK SIO		[COM1]	Page 1/1	
Device/PLC Name [PLC1]				
Series		PC3J Series		
Station No.		0 (Oct)		
Write Mode		<input checked="" type="radio"/> Enable <input type="radio"/> Disable		
Exit		Back		2005/09/02 13:24:09

Setup Items	Setup Description
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])
Series	Displays the series name of the External Device.
Station No.	Use an integer from 0 to 31 (octal) to enter the station No.
Write Command	When receiving write request from GP-Pro EX, check "Enable" to change the External Device to the write mode.

## ■ Option

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

Comm.	Device	Option		
TOYOPUC CMP-LINK SIO			[COM1]	Page 1/1
There is no setting item.				
	Exit		Back	2005/09/02 13:24:11

### NOTE

- GP-4100 series, GP-4\*01TM, GP-Rear Module, LT-4\*01TM and LT-Rear Module do not have the [Option] setting in the offline mode.

## 5 Cable Diagram

The cable diagram shown below may be different from the cable diagram recommended by JTEKT 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.
- Use the double shield connection cable.
- Connect the isolation unit, when communication is not stabilized under the influence of a noise etc.

Cable Diagram 1

Display (Connection Port)	Cable		Remarks
GP3000* <sup>1</sup> (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST* <sup>2</sup> (COM2) LT3000 (COM1)	1A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	1B	User-created cable	
GP3000* <sup>3</sup> (COM2)	1C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	1D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC* <sup>4</sup>	1E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	1F	User-created cable	
GP-4106 (COM1)	1G	User-created cable	The cable length must be 500m or less.
GP-4107 (COM1) GP-4*03T* <sup>5</sup> (COM2) GP-4203T (COM1)	1H	User-created cable	




Display (Connection Port)	Cable		Remarks
GP4000* <sup>6</sup> (COM2) GP-4201T (COM1) SP5000 (COM1/2)	1I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1* <sup>7</sup> + User-created cable	The cable length must be 500m or less.
	1B	User-created cable	
LT-4*01TM (COM1) LT-Rear Module (COM1)	1J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81	The cable length must be 200m or less.
PE-4000B* <sup>8</sup>	1K	User-created cable	The cable length must be 500m or less.

\*1 All GP3000 models except AGP-3302B

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


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

\*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B)  
 ■ IPC COM Port (page 5)

\*5 Except GP-4203T

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

\*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 1A.

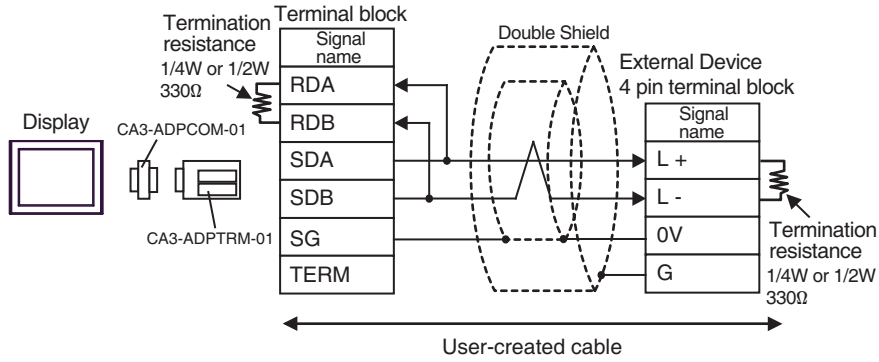
\*8 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.  
 ■ IPC COM Port (page 5)

#### NOTE

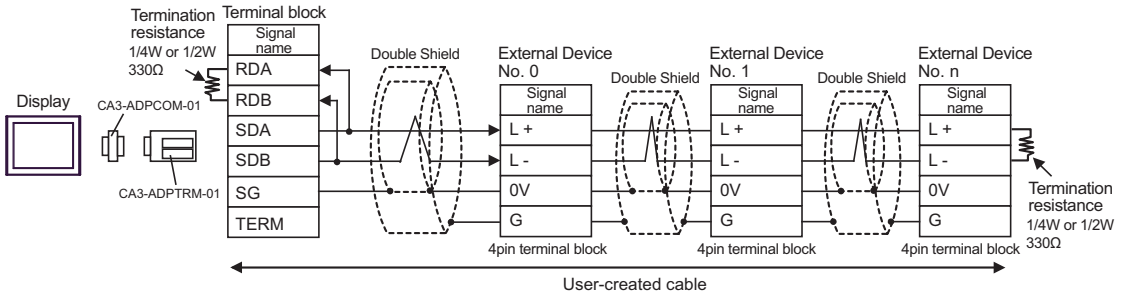
- For connection cable, we recommend the double shield 0-VCTF-SS 2C\*0.75mm<sup>2</sup> by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of the External Device must be D-class grounded.
- Select either on the External Device or on the Display depending on installation environment to connect FG to the shield cable.
- Please be sure to connect signal ground (SG) when connecting the communication cable.
- In RS422 connection, please refer to the manual of JTEKT Corporation for the cable length.

1A)

- 1:1 Connection

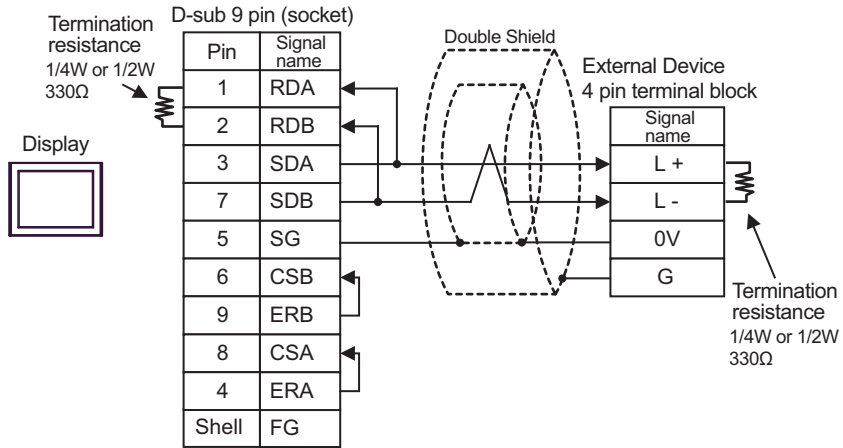


- 1:n Connection

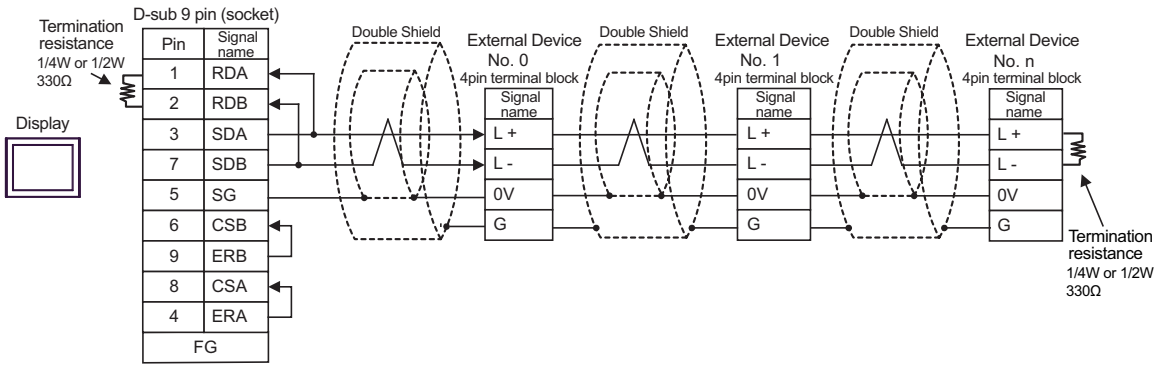


1B)

- 1:1 Connection

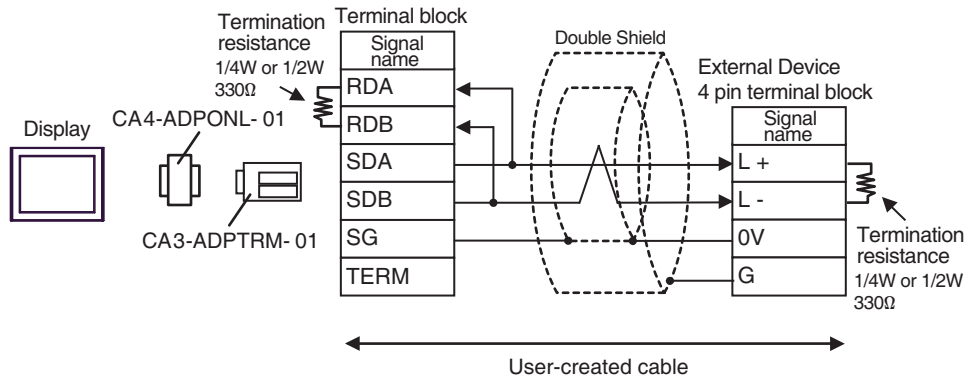


- 1:n Connection

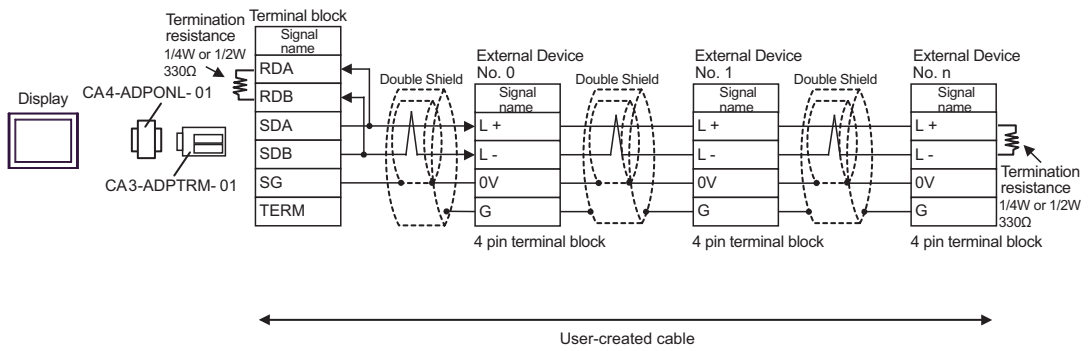


1C)

- 1:1 Connection

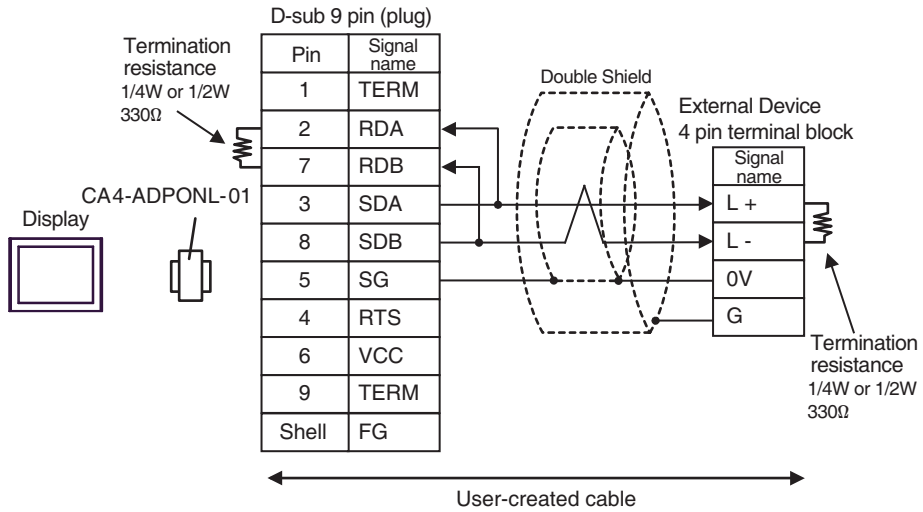


- 1:n connection

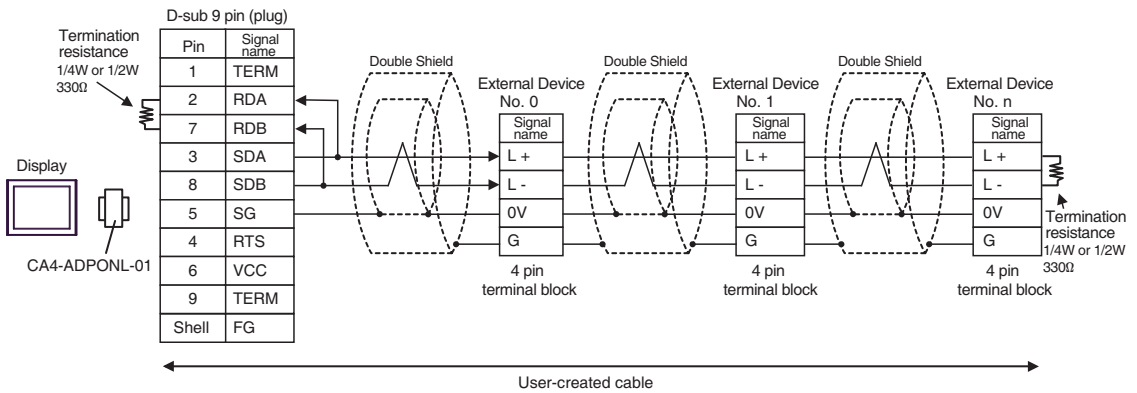


1D)

- 1:1 Connection

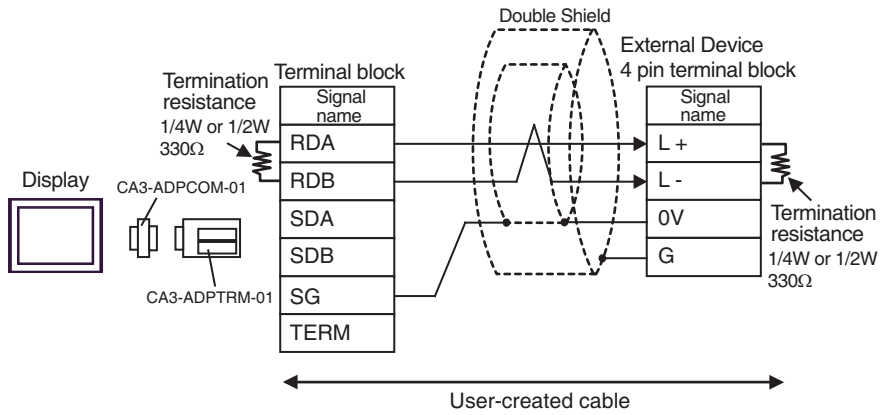


- 1:n Connection

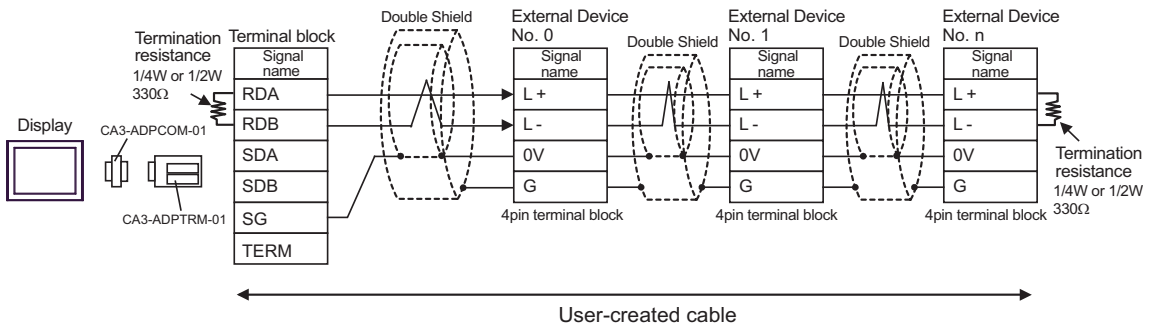


1E)

- 1:1 Connection

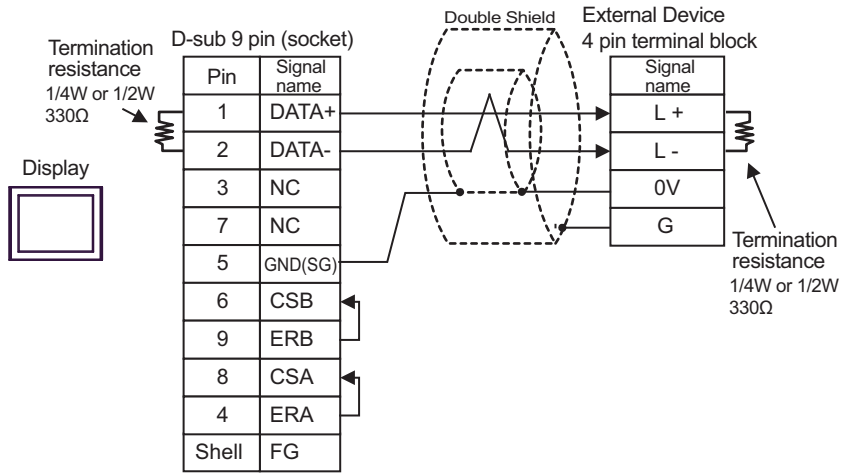


- 1:n Connection

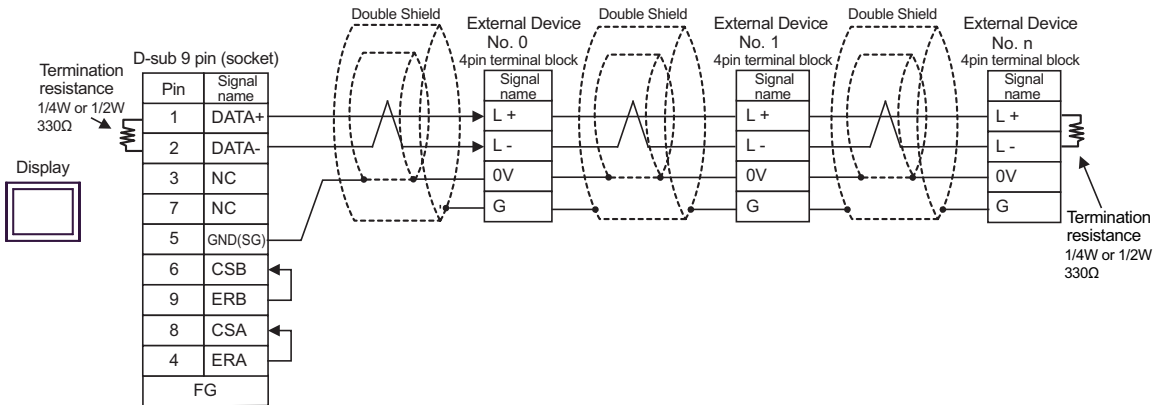


1F)

- 1:1 Connection

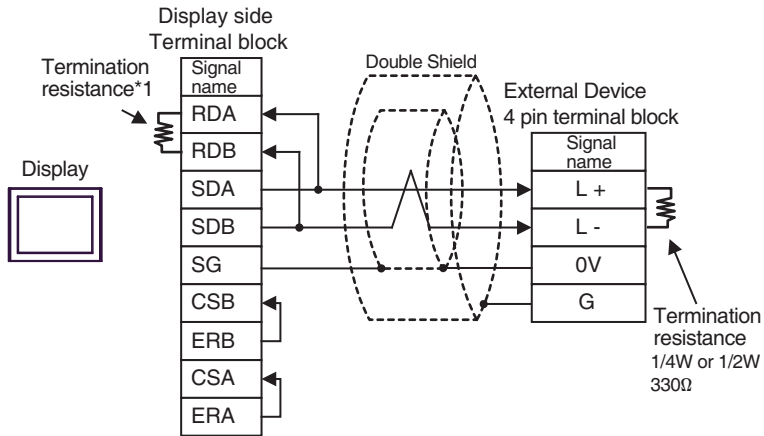


- 1:n Connection

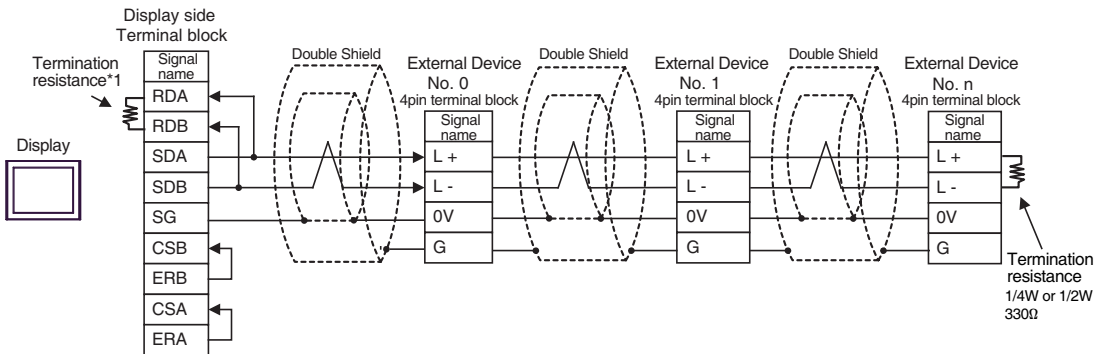


1G)

- 1:1 Connection



- 1:n Connection



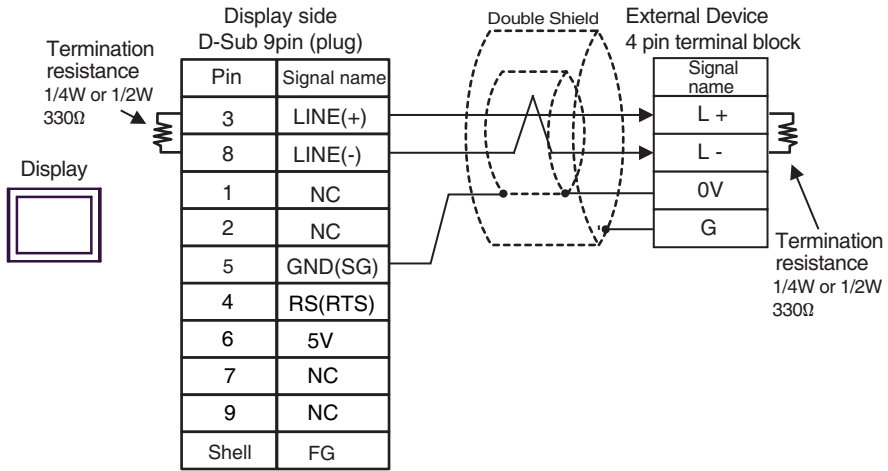
\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

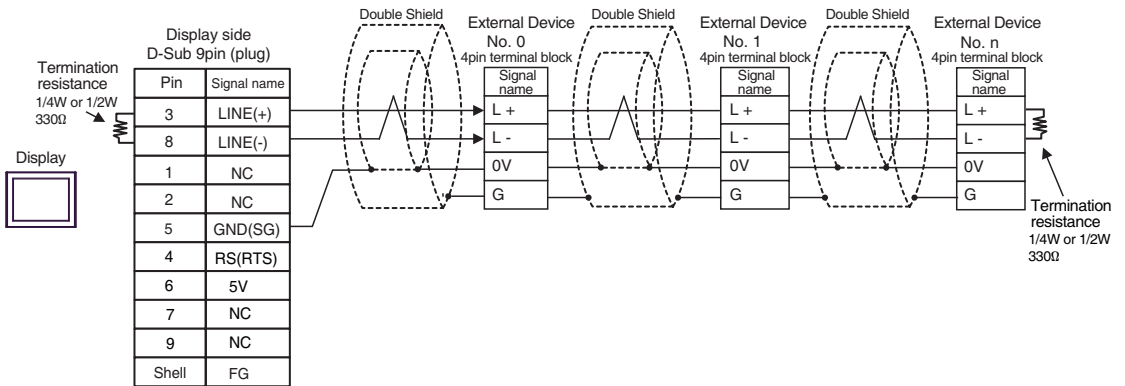


1H)

- 1:1 Connection



- 1:n Connection

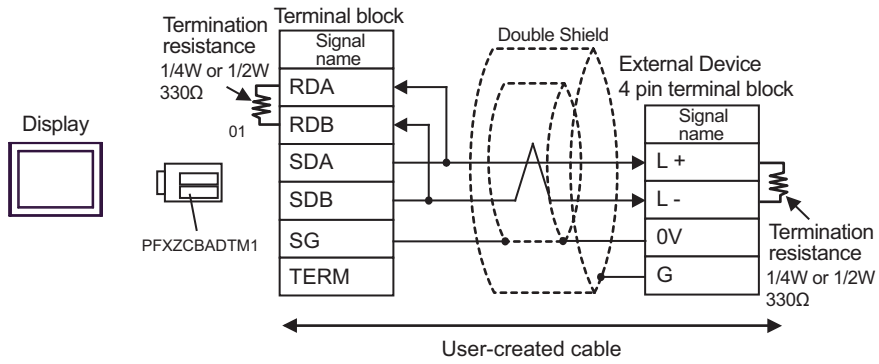


**IMPORTANT** • The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

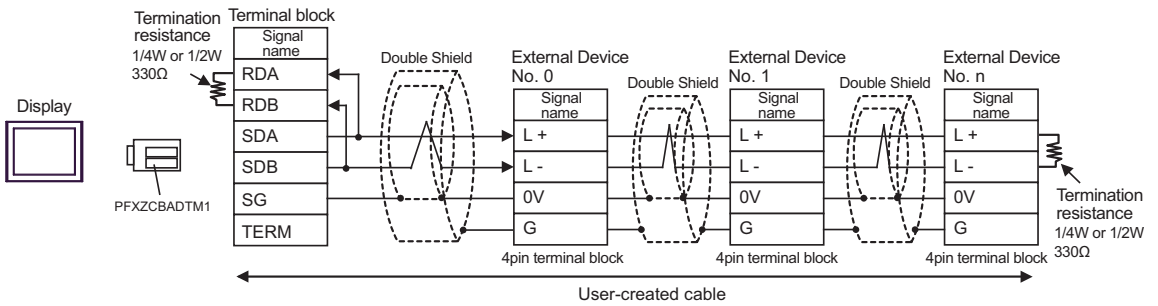
**NOTE** • In COM on the GP-4107, the SG and FG terminals are isolated.

1)

- 1:1 Connection

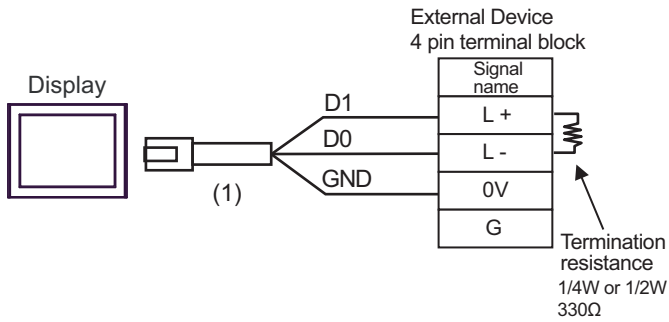


- 1:n Connection

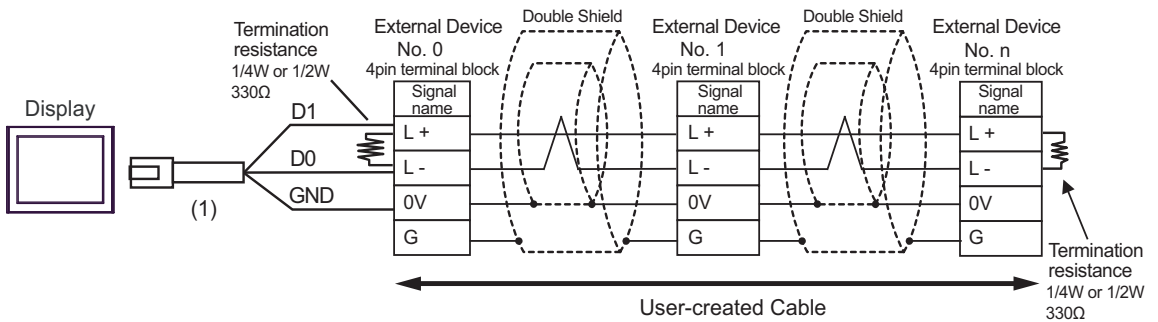


1J)

- 1:1 Connection



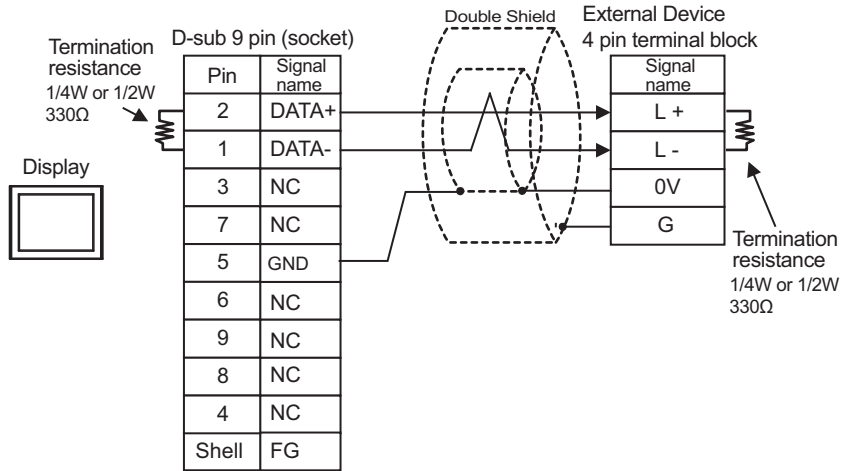
- 1:n Connection



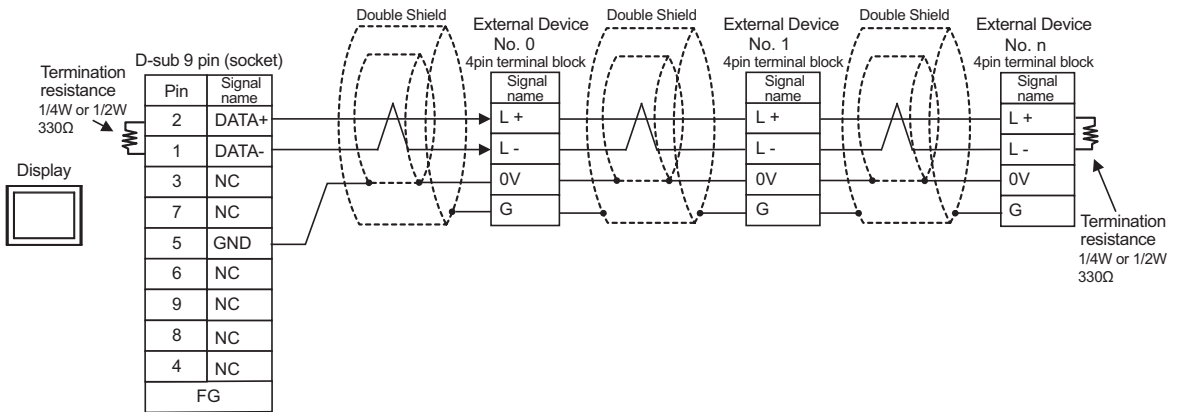
Number	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81	

1K)

- 1:1 Connection



- 1:n Connection



Cable Diagram 2

Display (Connection Port)	Cable		Remarks
GP3000* <sup>1</sup> (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST* <sup>2</sup> (COM2) LT3000 (COM1)	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	2B	User-created cable	
GP3000* <sup>3</sup> (COM2)	2C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	2D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC* <sup>4</sup>	2E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	2F	User-created cable	
GP-4106 (COM1)	2G	User-created cable	The cable length must be 500m or less.
GP-4107 (COM1) GP-4*03T* <sup>5</sup> (COM2) GP-4203T (COM1)	2H	User-created cable	
GP4000* <sup>6</sup> (COM2) GP-4201T (COM1) SP5000 (COM1/2)	2I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1* <sup>7</sup> + User-created cable	The cable length must be 500m or less.
	2B	User-created cable	
LT-4*01TM (COM1) LT-Rear Module (COM1)	2J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81	The cable length must be 200m or less.
PE-4000B* <sup>8</sup>	2K	User-created cable	The cable length must be 500m or less.

\*1 All GP3000 models except AGP-3302B

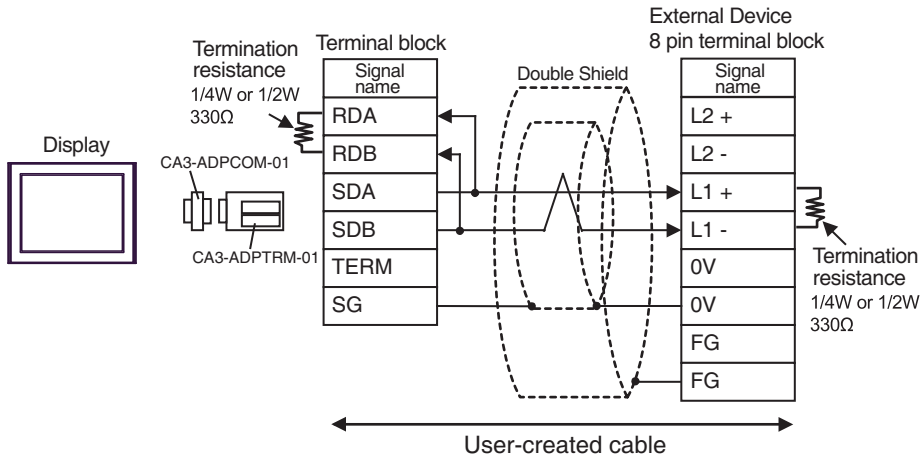
- \*2 All ST models except AST-3211A and AST-3302B
- \*3 All GP3000 models except GP-3200 series and AGP-3302B
- \*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B)  
☞ ■ IPC COM Port (page 5)
- \*5 Except GP-4203T
- \*6 All GP4000 models except GP-4100 Series, GP-4\*01TM, GP-Rear Module, GP-4201T and GP-4\*03T
- \*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 2A.
- \*8 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.  
☞ ■ IPC COM Port (page 5)

**NOTE**

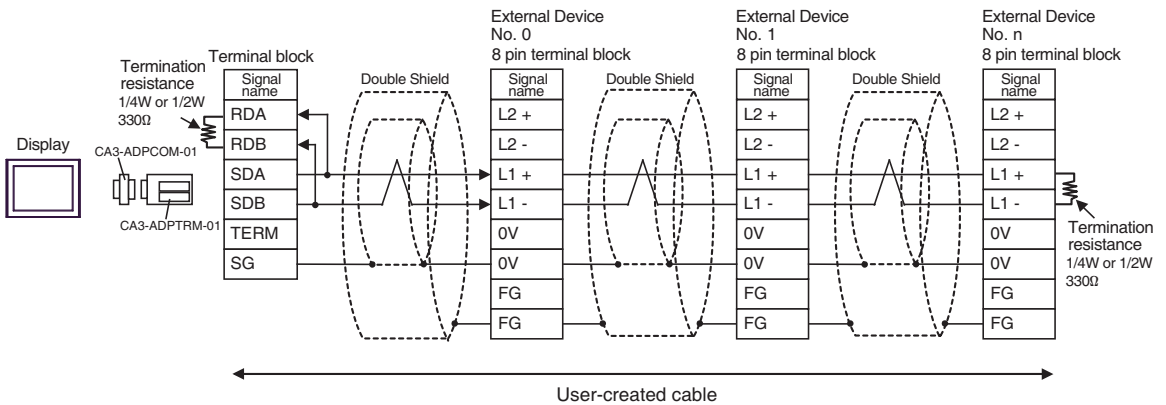
- For connection cable, we recommend the double shield 0-VCTF-SS 2C\*0.75mm<sup>2</sup> by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of the External Device must be D-class grounded.
- Select either on the External Device or on the Display depending on installation environment to connect FG to the shield cable.
- Please be sure to connect signal ground (SG) when connecting the communication cable.
- In RS422 connection, please refer to the manual of JTEKT Corporation for the cable length.

2A)

- 1:1 Connection

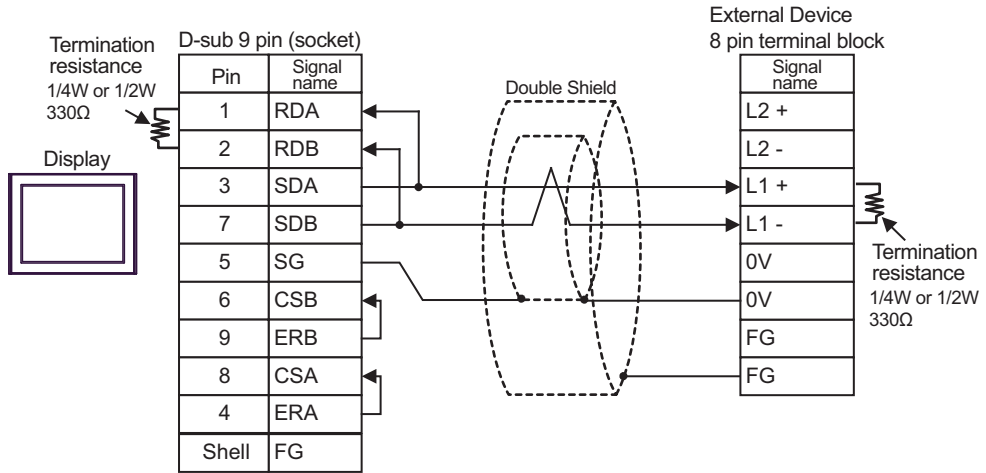


- 1:n Connection

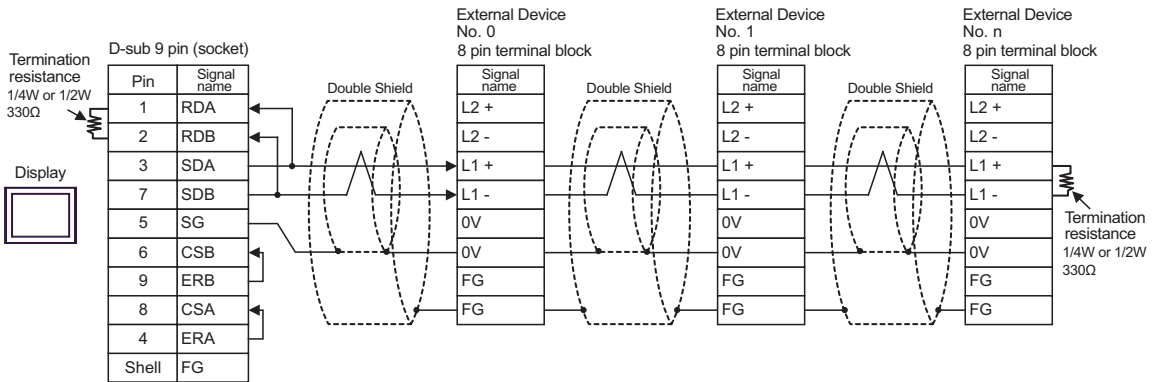


2B)

- 1:1 Connection



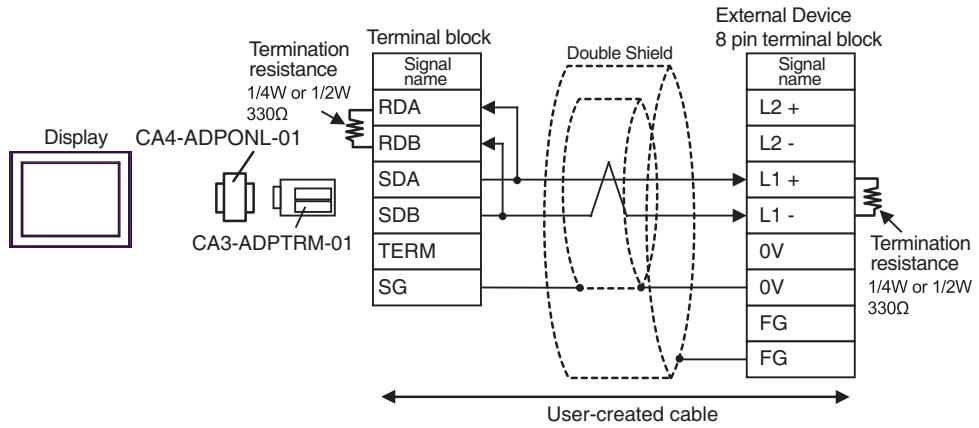
- 1:n Connection



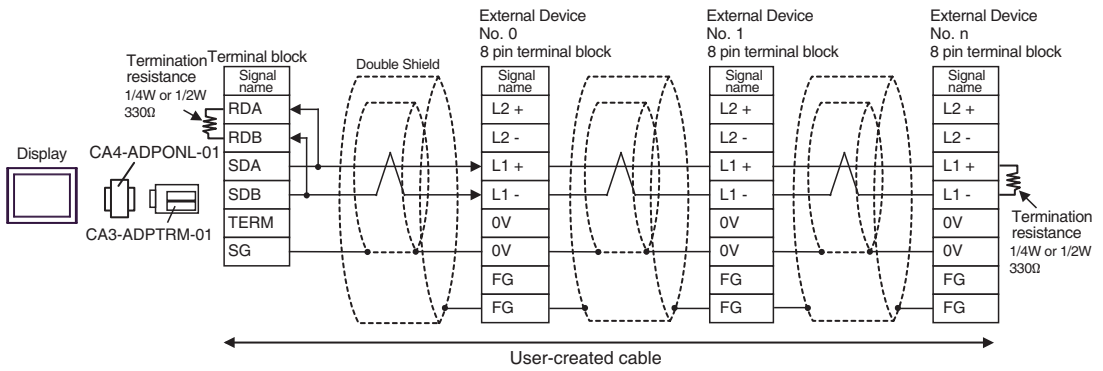


2C)

- 1:1 Connection

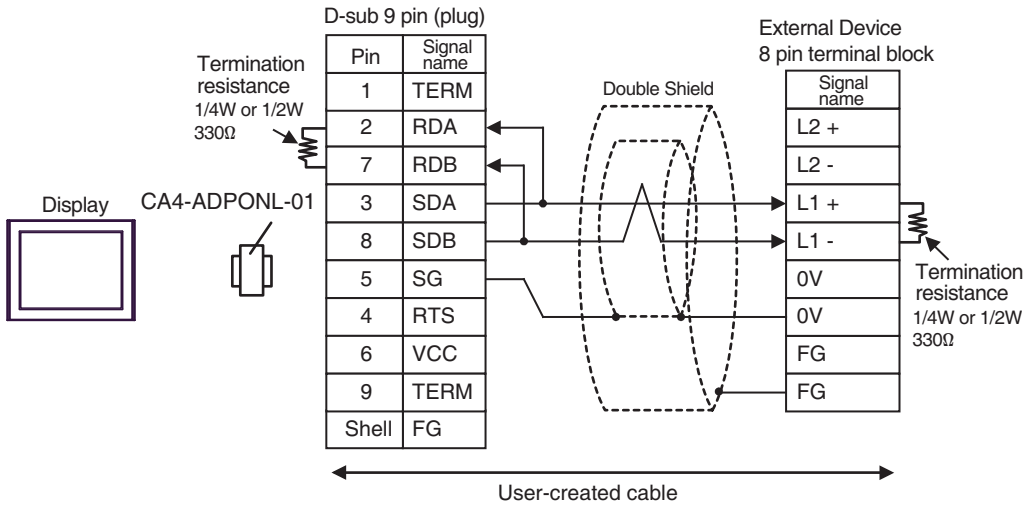


- 1:n Connection

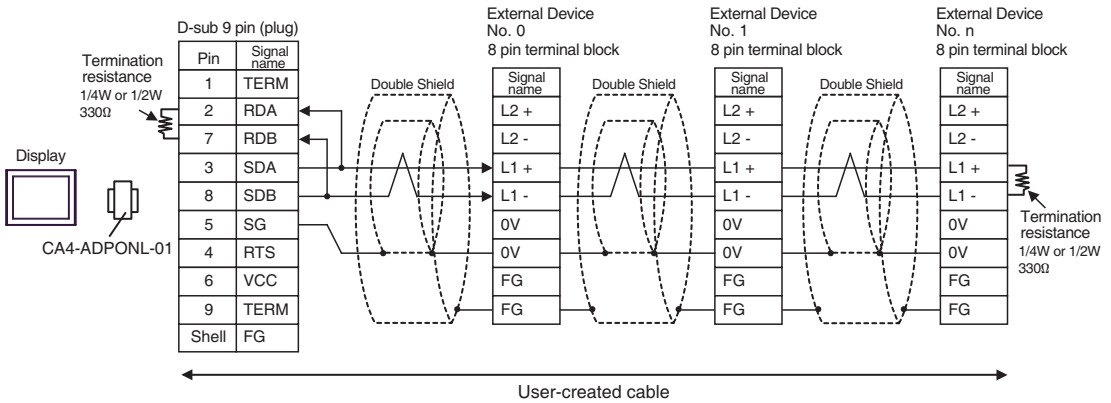


2D)

- 1:1 Connection

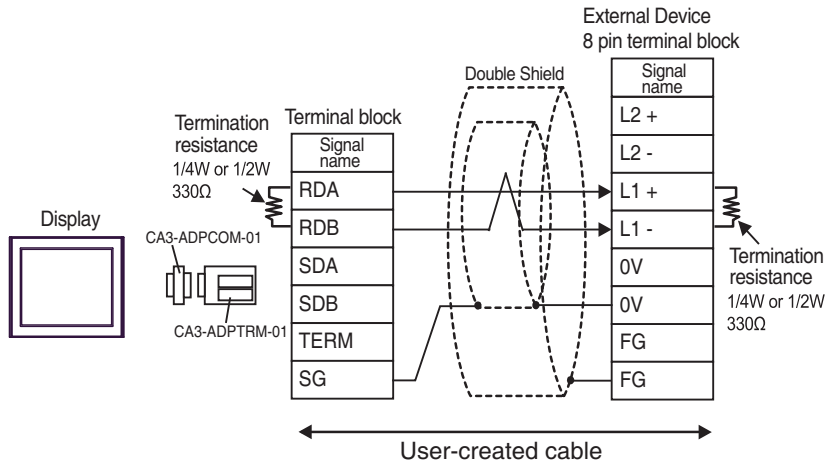


- 1:n Connection

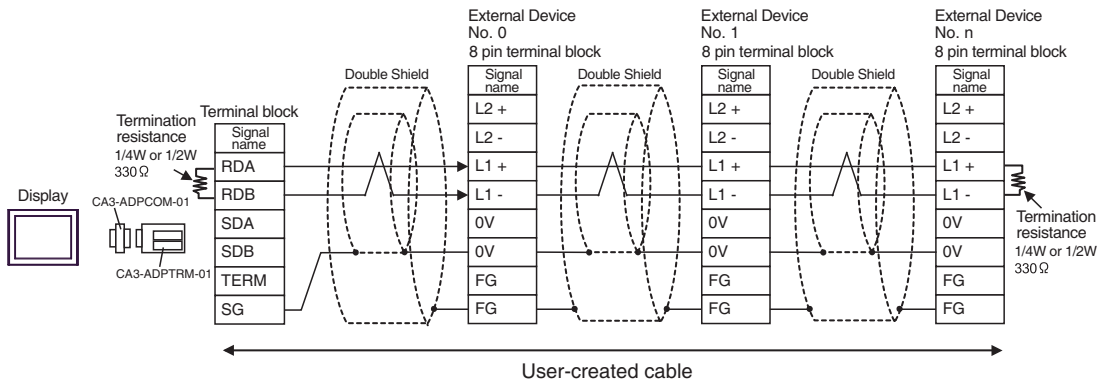


2E)

- 1:1 Connection

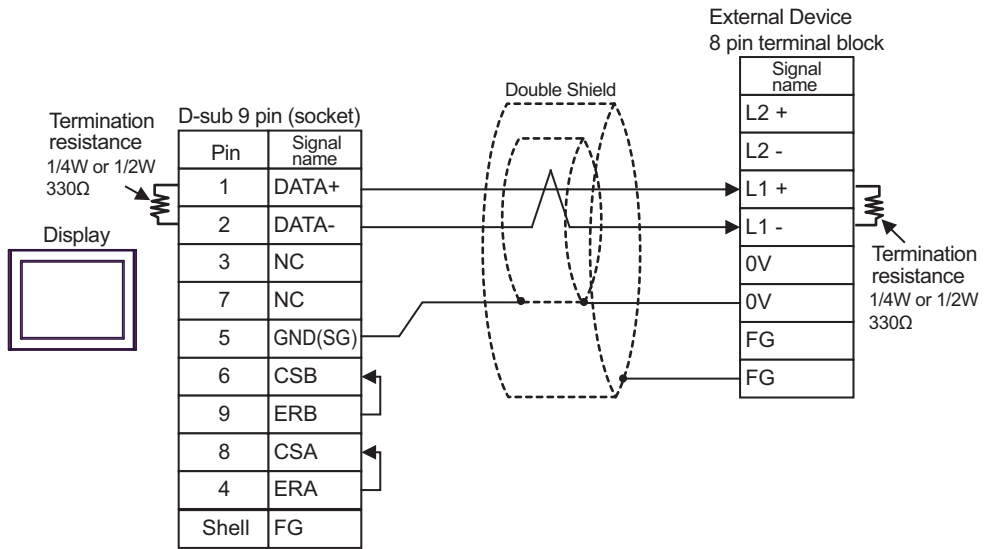


- 1:n Connection

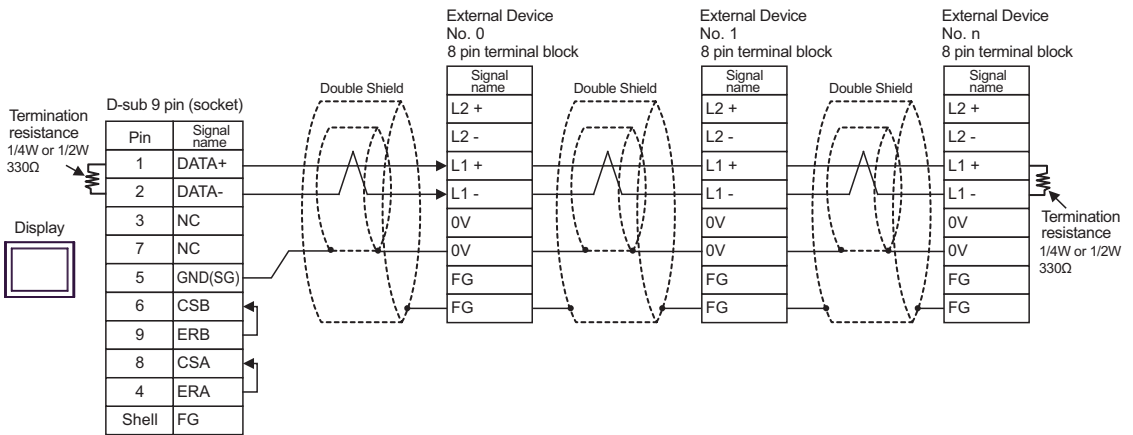


2F)

- 1:1 Connection

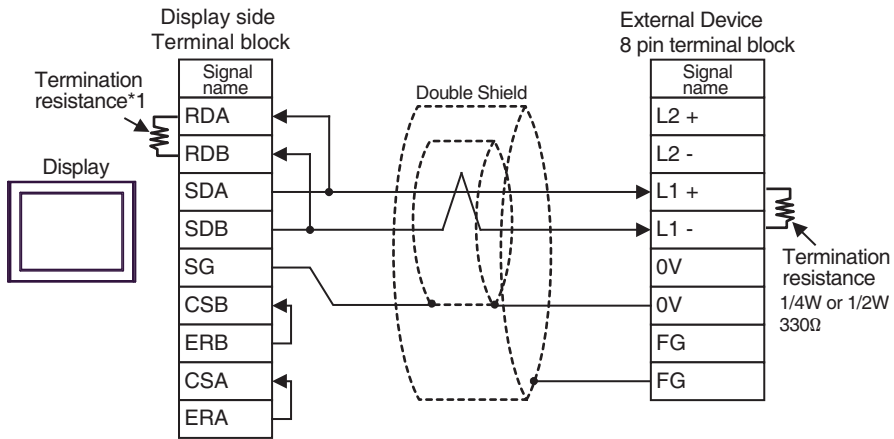


- 1:n Connection

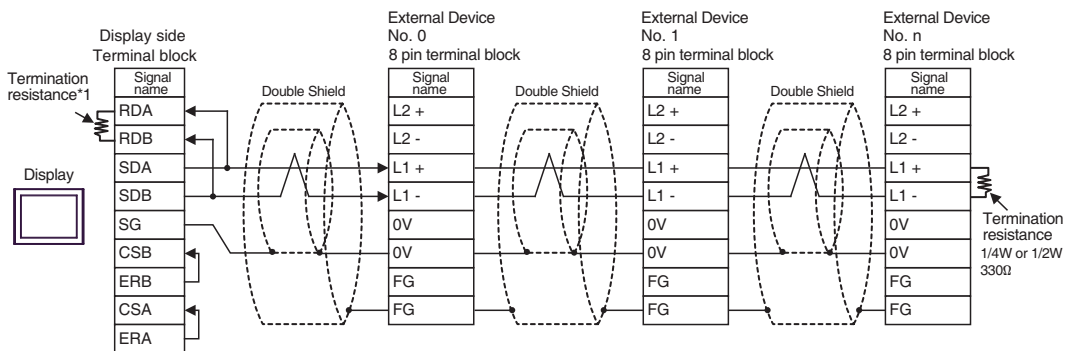


2G)

- 1:1 Connection



- 1:n Connection

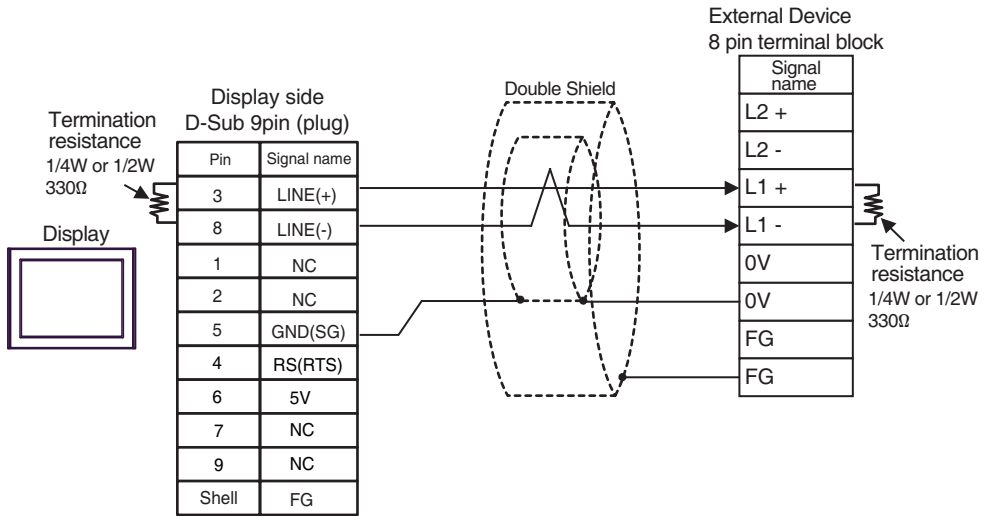


\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

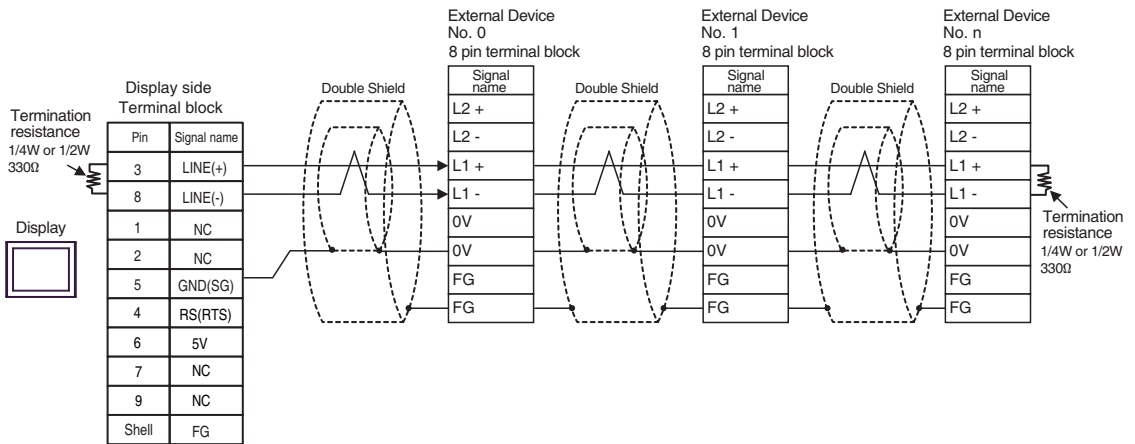
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	OFF

2H)

- 1:1 Connection



- 1:n Connection

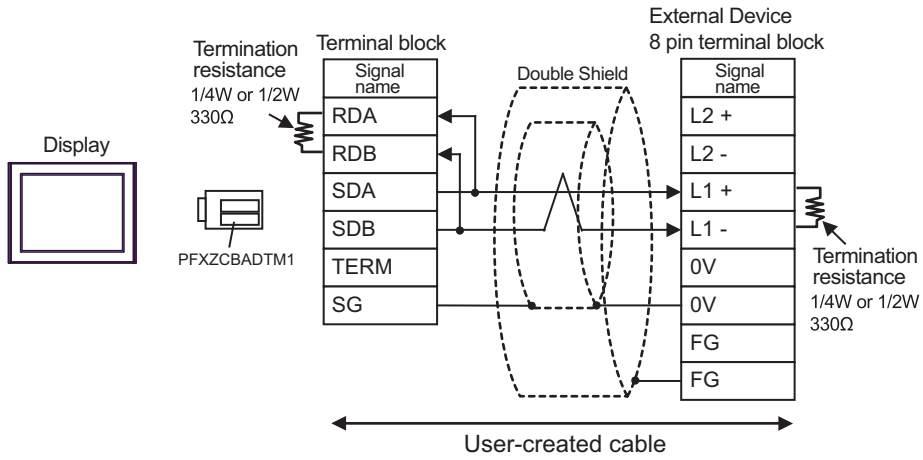


**IMPORTANT** • The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

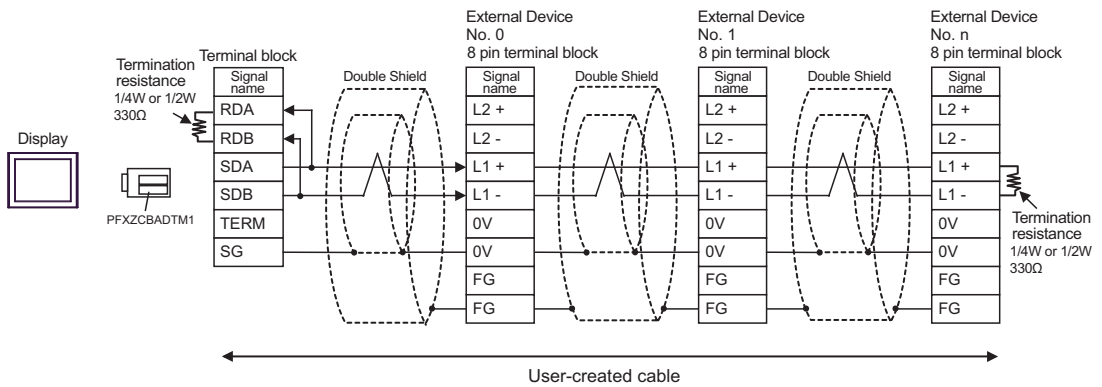
**NOTE** • In COM on the GP-4107, the SG and FG terminals are isolated.

2l)

- 1:1 Connection

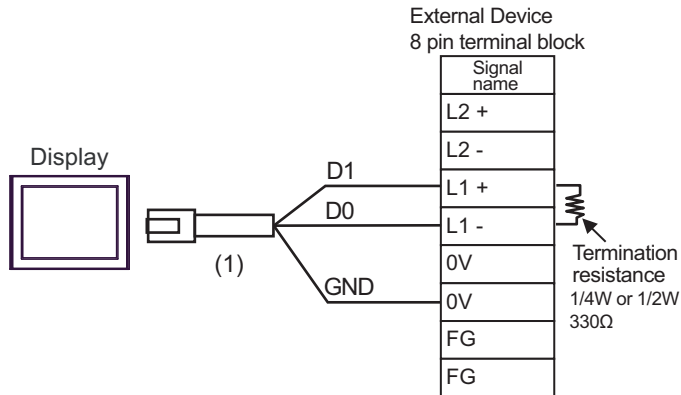


- 1:n Connection

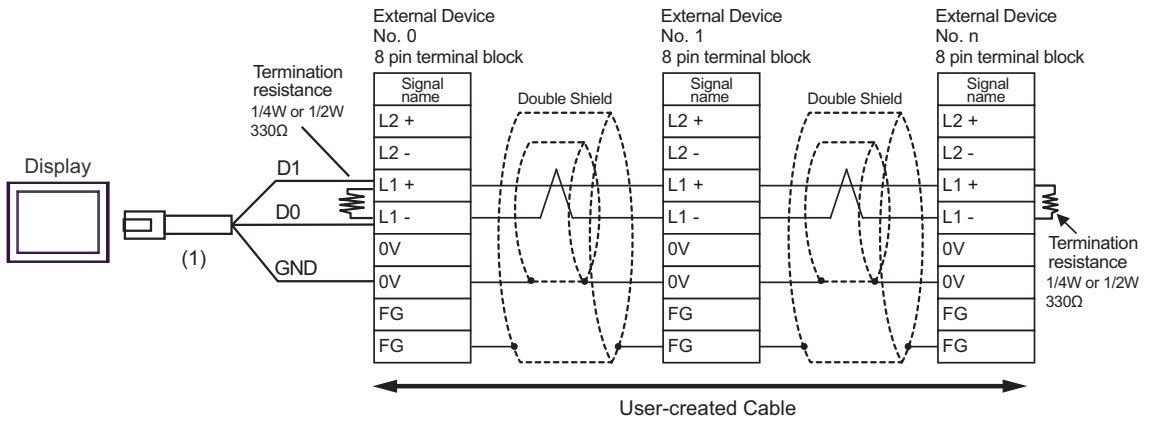


2J)

- 1:1 Connection



- 1:n Connection

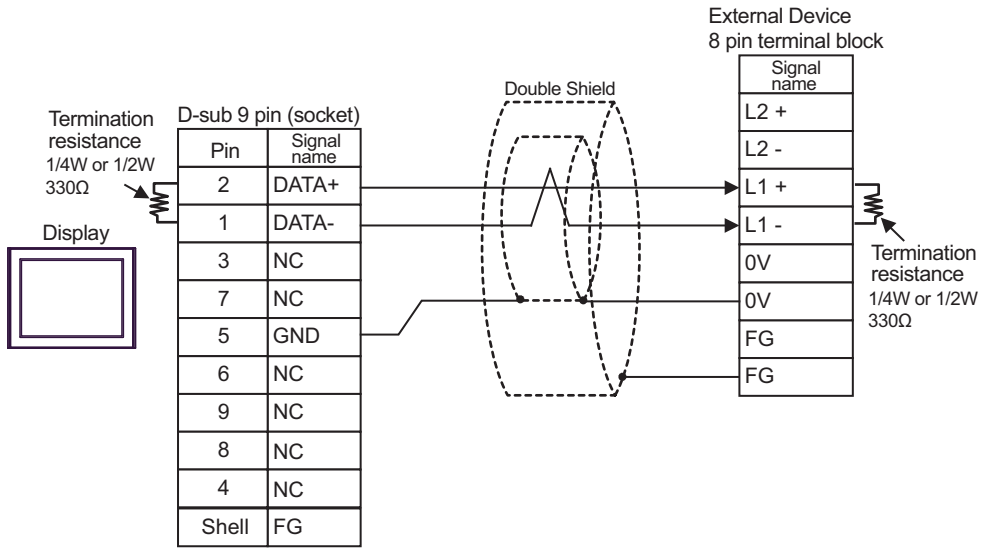


Number	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81	

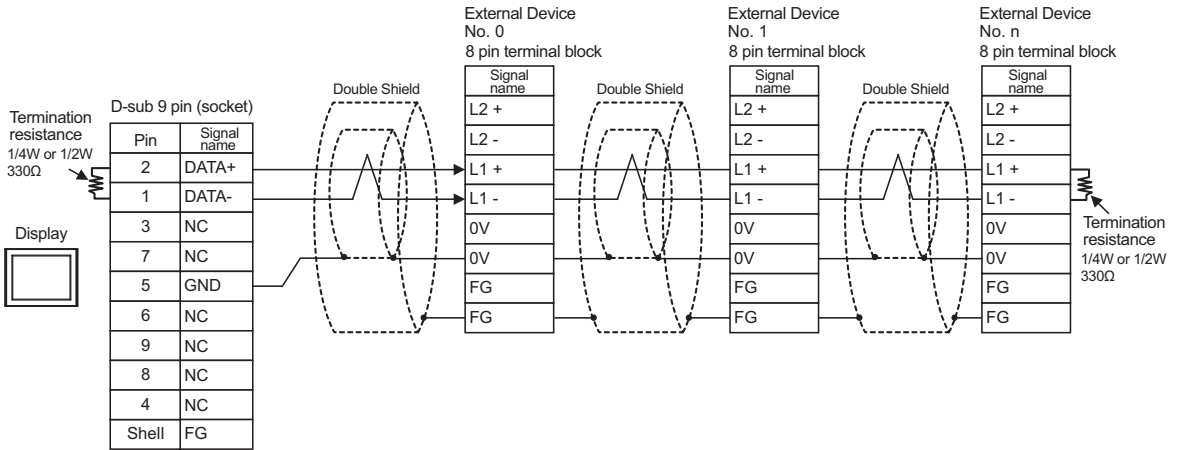


2K)

- 1:1 Connection



- 1:n Connection




Cable Diagram 3

Display (Connection Port)	Cable		Remarks
GP3000* <sup>1</sup> (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST* <sup>2</sup> (COM2) LT3000 (COM1) IPC* <sup>3</sup>	3A	COM port conversion adapter (for COM1) by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	3B	User-created cable	
GP3000* <sup>4</sup> (COM2)	3C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	3D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	3E	User-created cable	The cable length must be 500m or less.
GP4000* <sup>5</sup> (COM2) GP-4201T (COM1) SP5000 (COM1/2)	3F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1* <sup>6</sup> + User-created cable	The cable length must be 500m or less.
	3B	User-created cable	
PE-4000B* <sup>7</sup>	3G	User-created cable	The cable length must be 500m or less.

\*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. (Except PE-4000B)


 ■ IPC COM Port (page 5)

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

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

\*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 3A.

\*7 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.

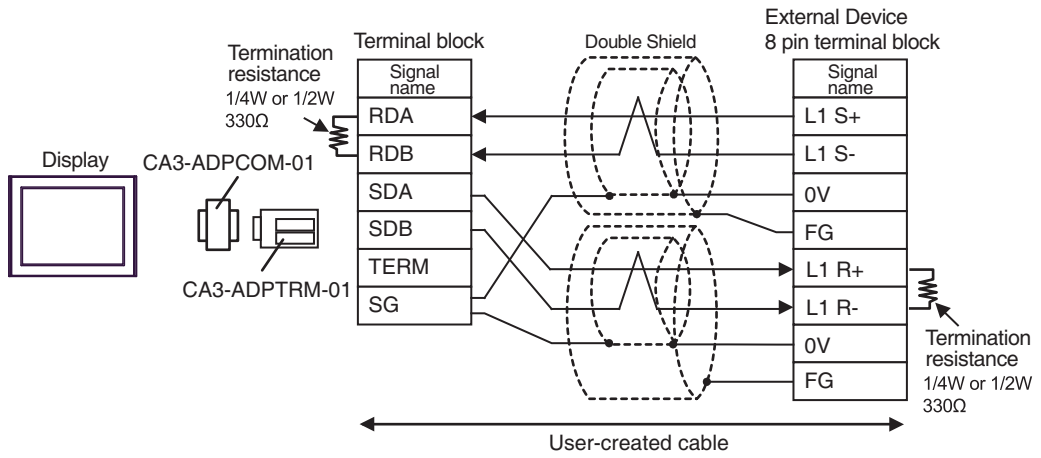
 ■ IPC COM Port (page 5)

**NOTE**

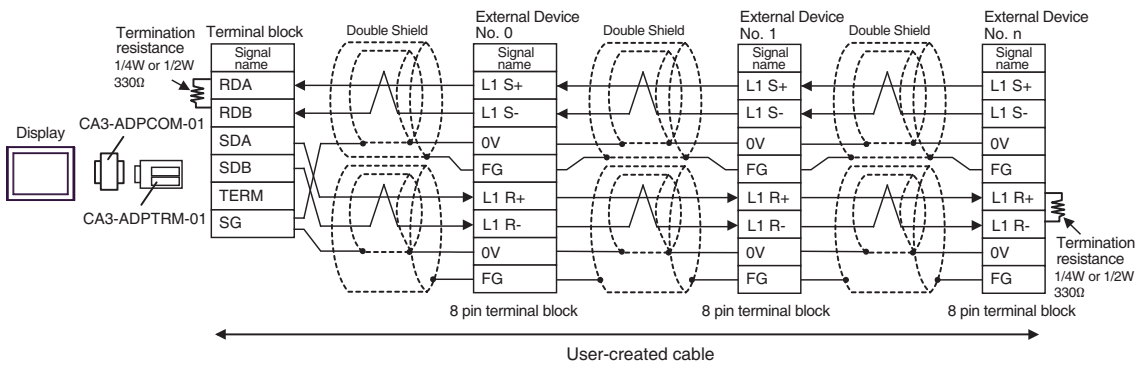
- For connection cable, we recommend the double shield 0-VCTF-SS 2C\*0.75mm<sup>2</sup> by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of the External Device must be D-class grounded.
- Select either on the External Device or on the Display depending on installation environment to connect FG to the shield cable.
- Please be sure to connect signal ground (SG) when connecting the communication cable.
- In RS422 connection, please refer to the manual of JTEKT Corporation for the cable length.

3A)

- 1:1 Connection

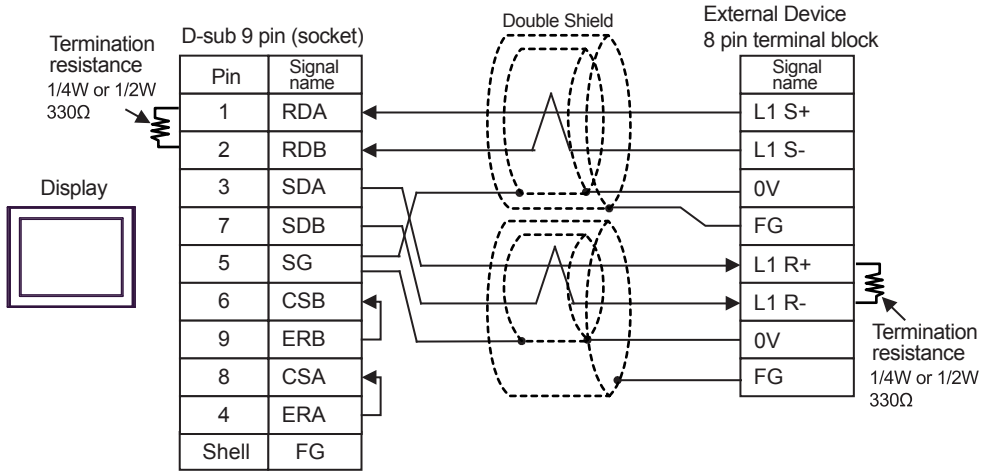


- 1:n Connection

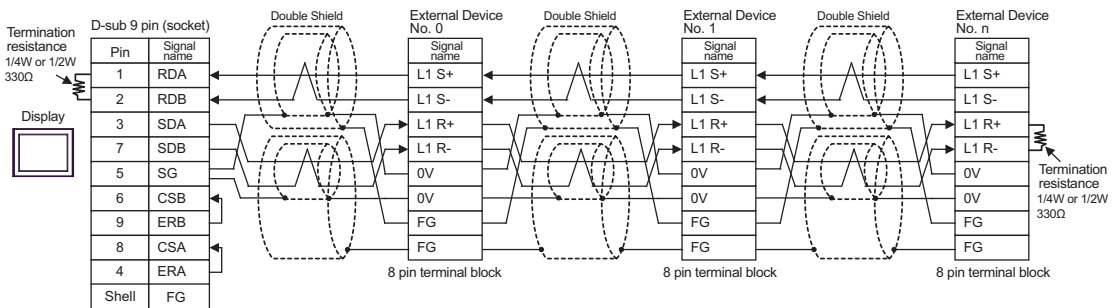


3B)

- 1:1 Connection

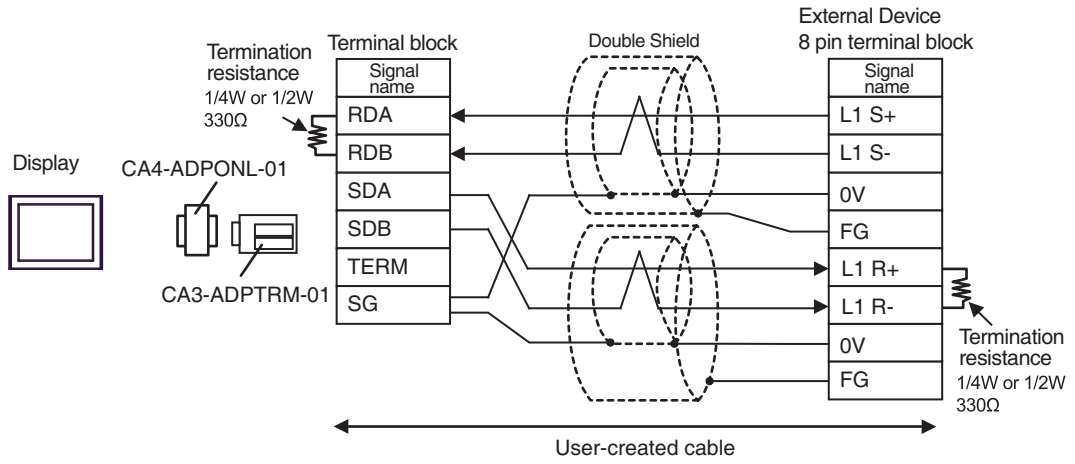


- 1:n Connection

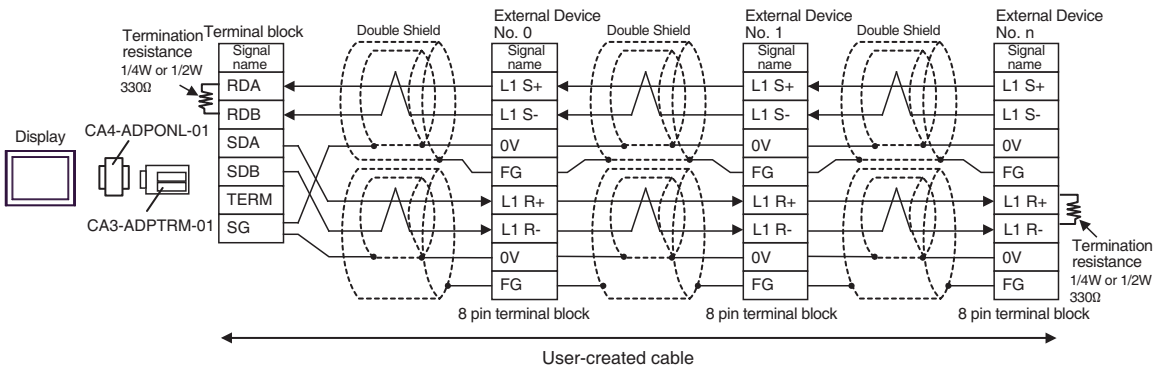


3C)

- 1:1 Connection

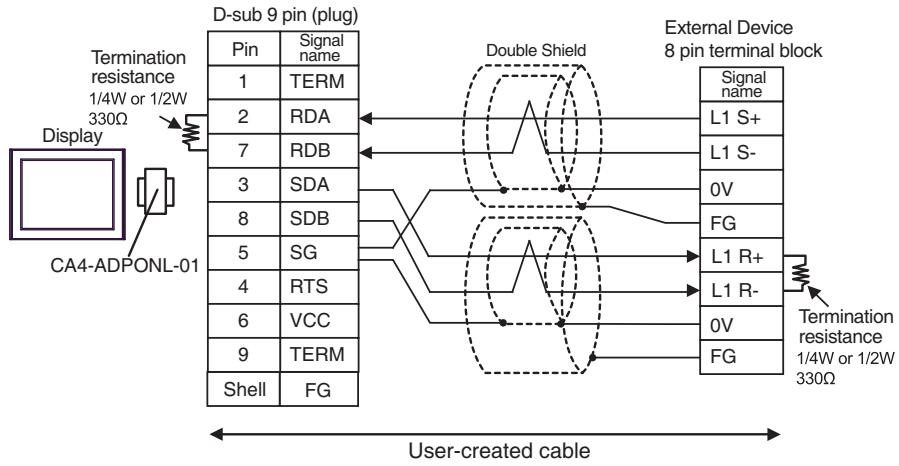


- 1:n Connection

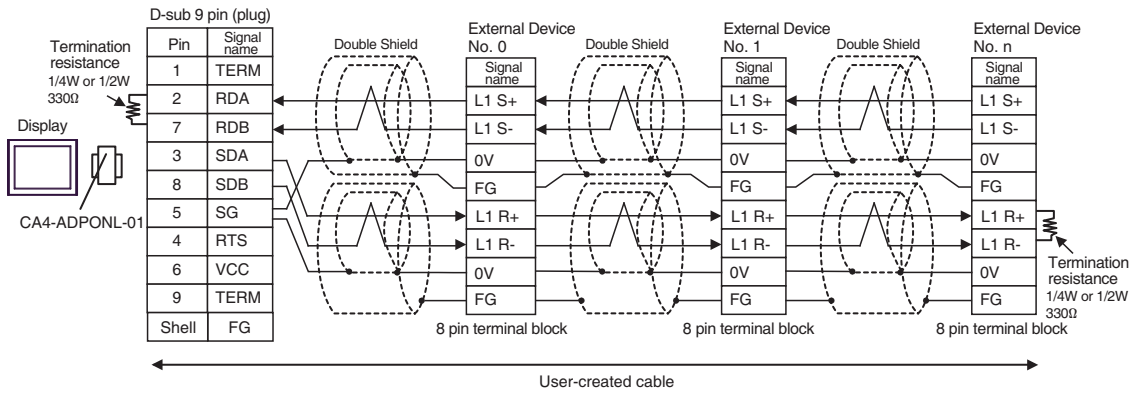


3D)

- 1:1 Connection

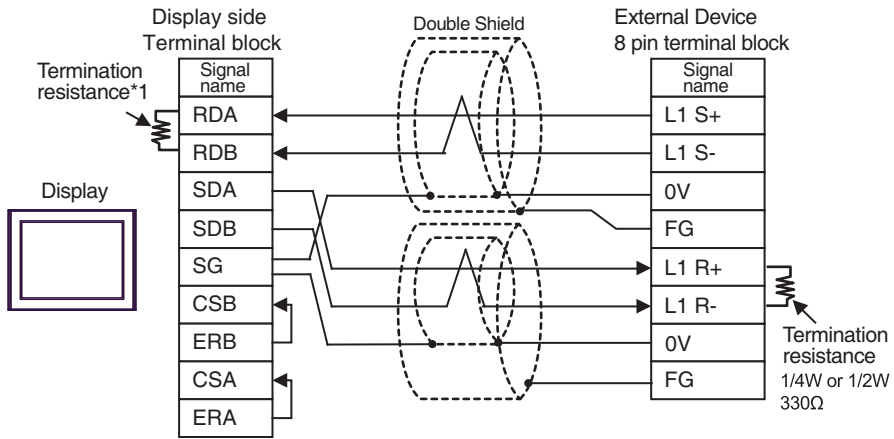


- 1:n Connection

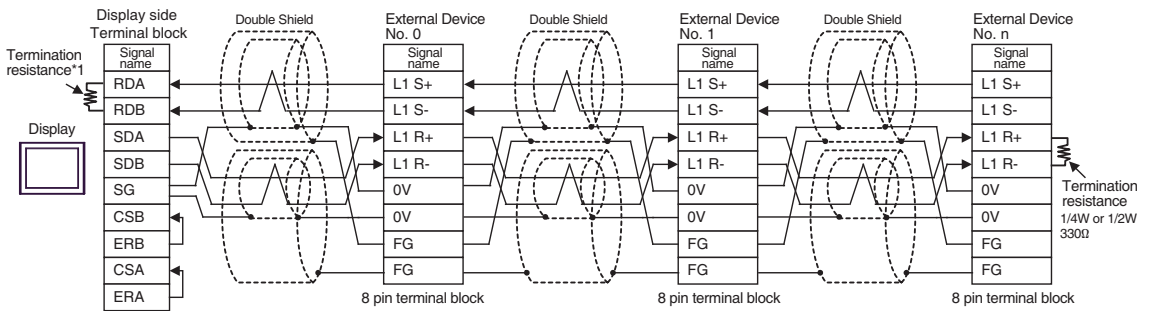


3E)

- 1:1 Connection



- 1:n Connection



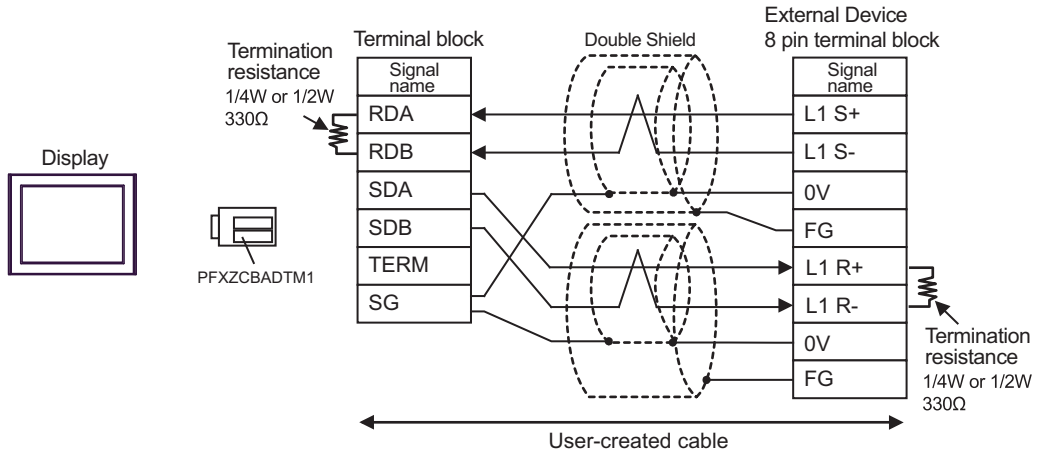
\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

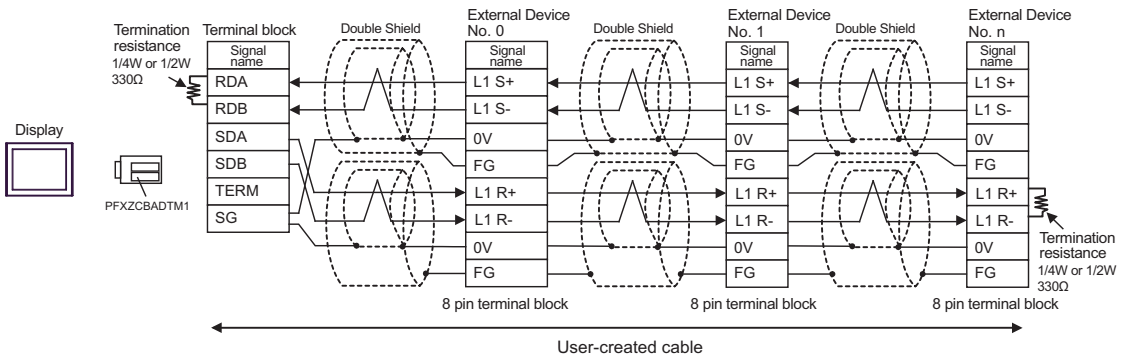


3F)

- 1:1 Connection

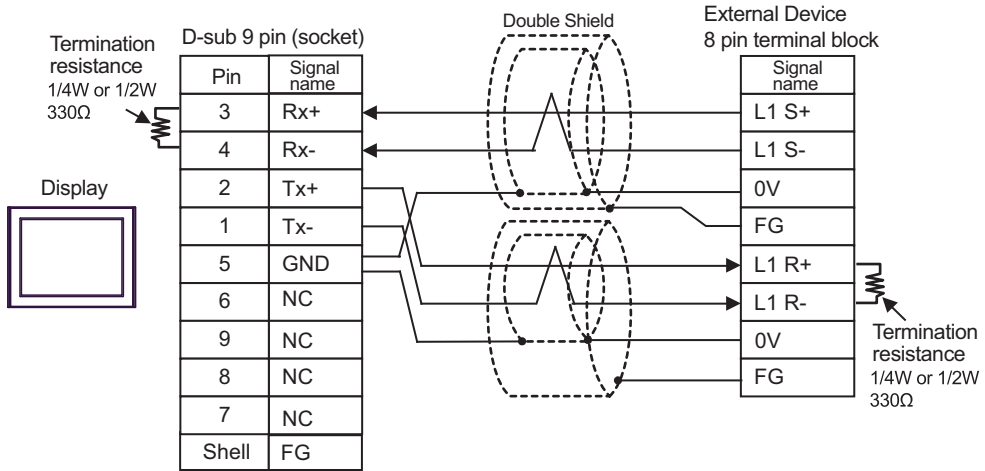


- 1:n Connection

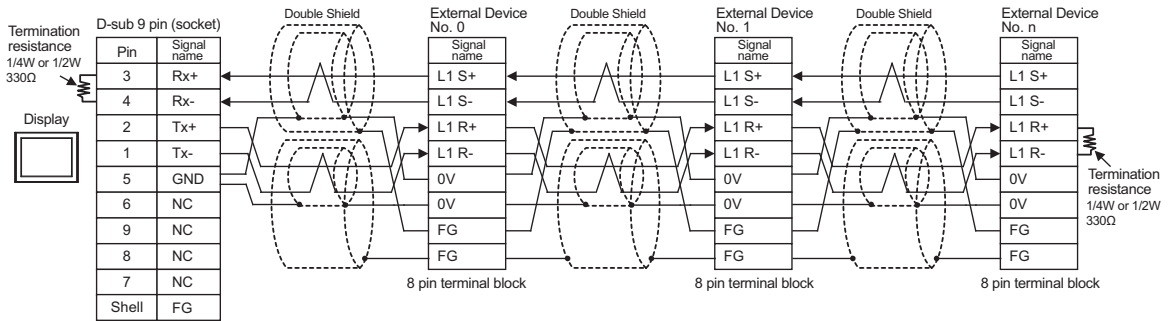


3G)

- 1:1 Connection





- 1:n Connection



Cable Diagram 4

Display (Connection Port)	Cable		Remarks
GP3000* <sup>1</sup> (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST* <sup>2</sup> (COM2) LT3000 (COM1)	4A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	4B	User-created cable	
GP3000* <sup>3</sup> (COM2)	4C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	4D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC* <sup>4</sup>	4E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 500m or less.
	4F	User-created cable	
GP-4106 (COM1)	4G	User-created cable	The cable length must be 500m or less.
GP-4107 (COM1) GP-4*03T* <sup>5</sup> (COM2) GP-4203T (COM1)	4H	User-created cable	The cable length must be 500m or less.
GP4000* <sup>6</sup> (COM2) GP-4201T (COM1) SP5000 (COM1/2)	4I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1* <sup>7</sup> + User-created cable	The cable length must be 500m or less.
	4B	User-created cable	
LT-4*01TM (COM1) LT-Rear Module (COM1)	4J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81	The cable length must be 200m or less.

Display (Connection Port)	Cable		Remarks
PE-4000B*8	4K	User-created cable	The cable length must be 500m or less.

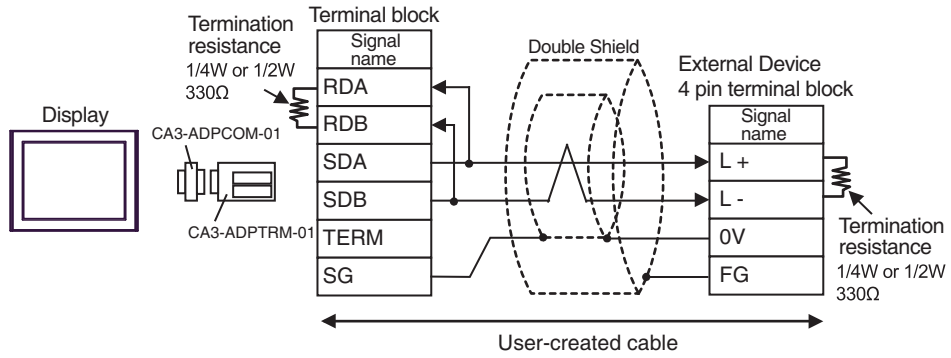
- \*1 All GP3000 models except AGP-3302B
- \*2 All ST models except AST-3211A and AST-3302B
- \*3 All GP3000 models except GP-3200 series and AGP-3302B
- \*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B)  
 ■ IPC COM Port (page 5)
- \*5 Except GP-4203T
- \*6 All GP4000 models except GP-4100 Series, GP-4\*01TM, GP-Rear Module, GP-4201T and GP-4\*03T
- \*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 4A.
- \*8 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.  
 ■ IPC COM Port (page 5)

**NOTE**

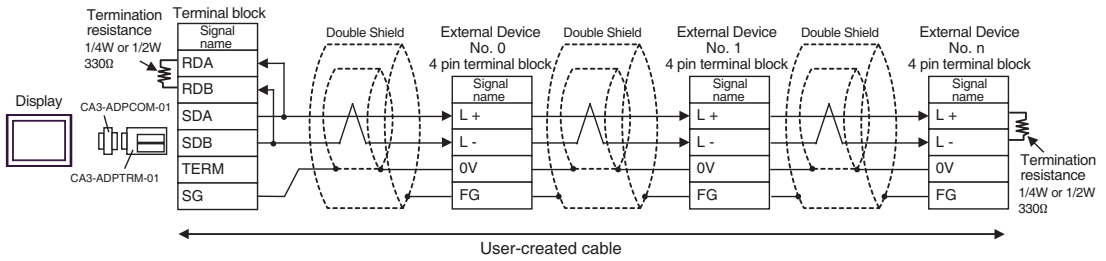
- For connection cable, we recommend the double shield 0-VCTF-SS 2C\*0.75mm<sup>2</sup> by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of the External Device must be D-class grounded.
- Select either on the External Device or on the Display depending on installation environment to connect FG to the shield cable.
- Please be sure to connect signal ground (SG) when connecting the communication cable.
- In RS422 connection, please refer to the manual of JTEKT Corporation for the cable length.

4A)

- 1:1 Connection

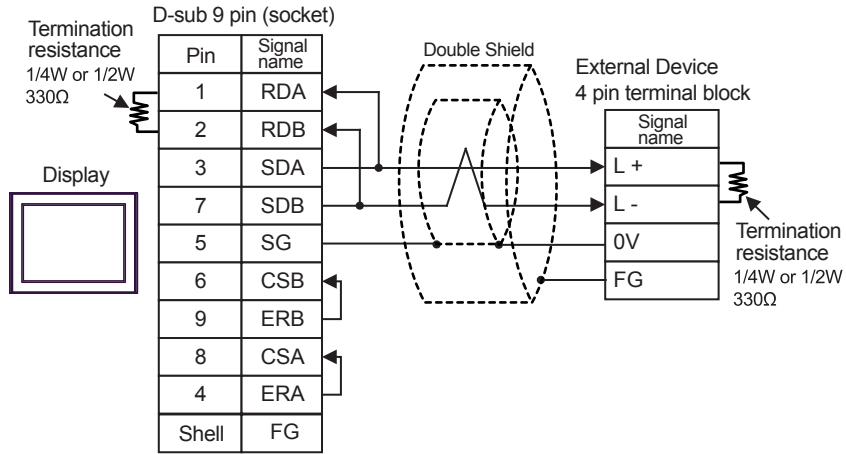


- 1:n Connection

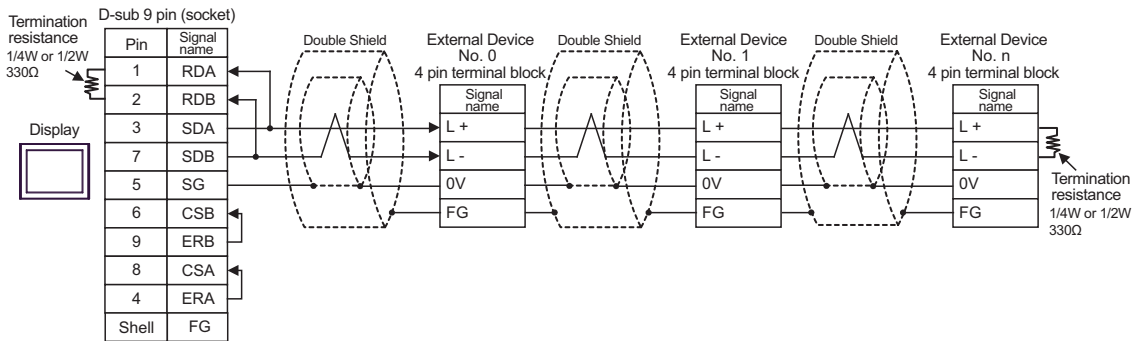


4B)

- 1:1 Connection

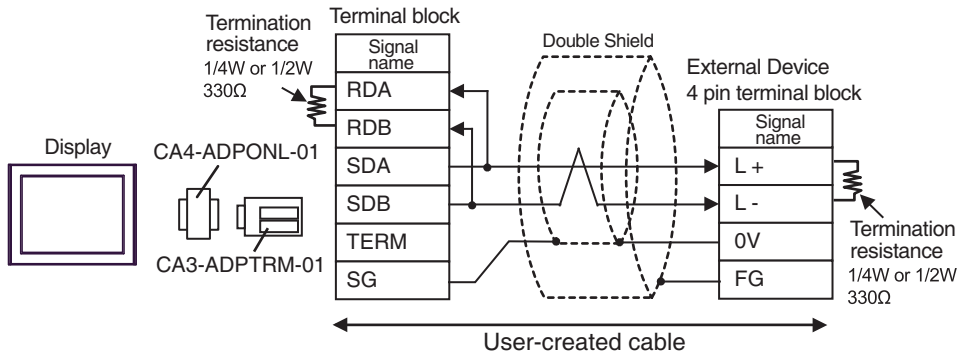


- 1:n Connection

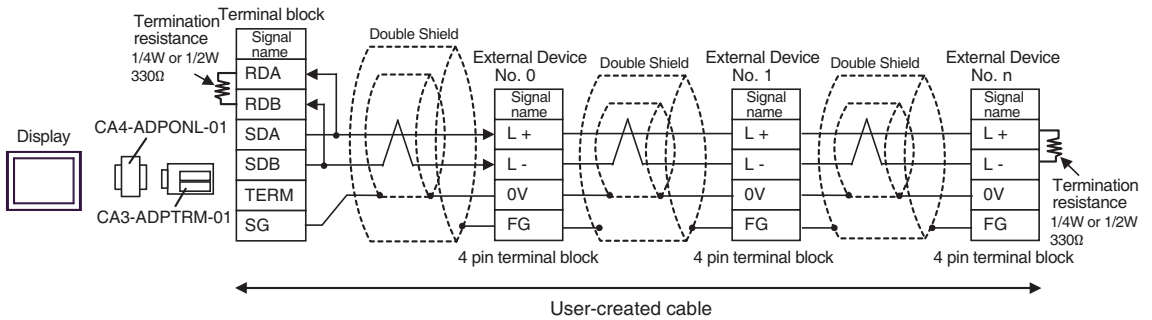


4C)

- 1:1 Connection

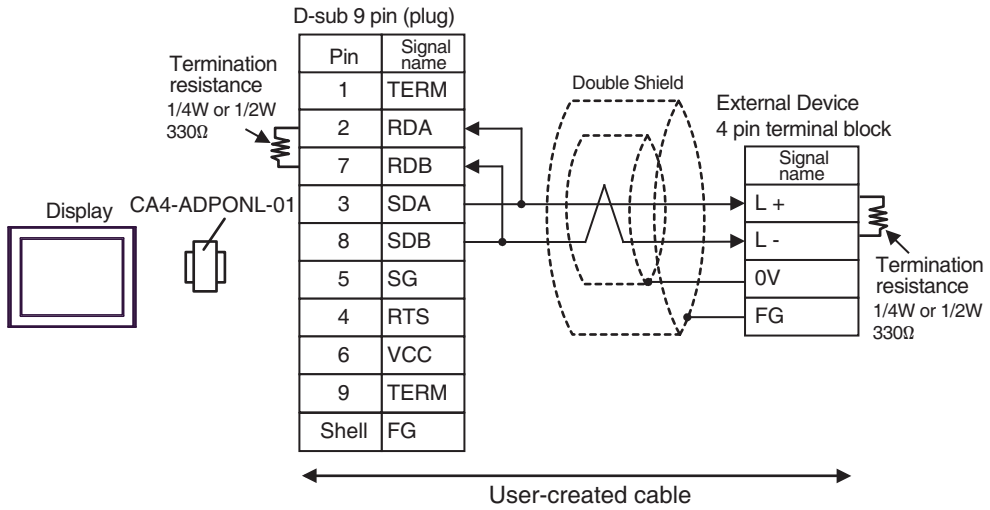


- 1:n Connection

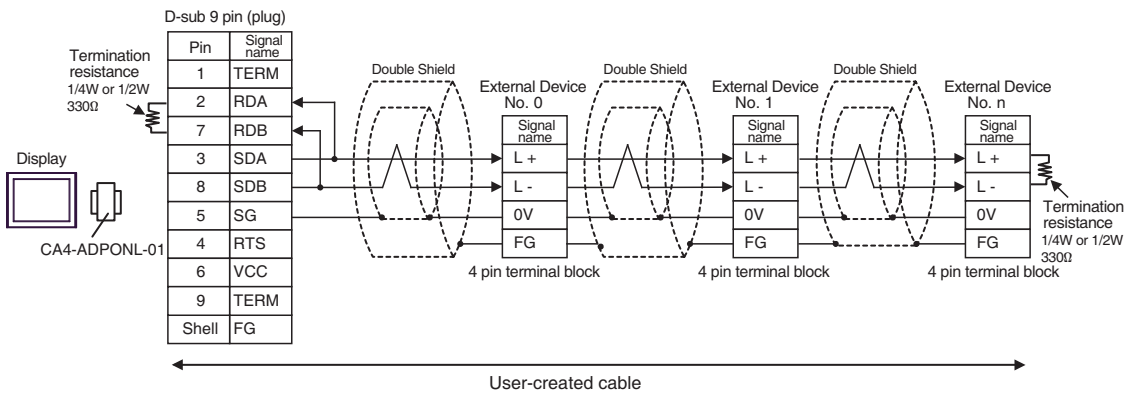


4D)

- 1:1 Connection



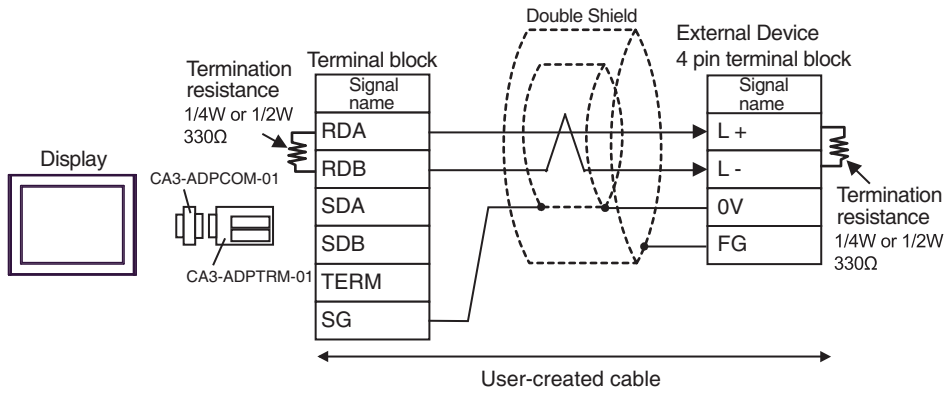
- 1:n Connection



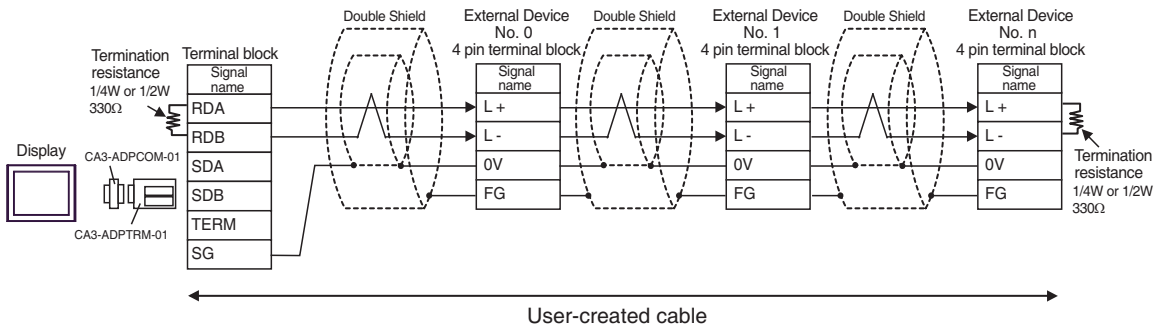


4E)

- 1:1 Connection

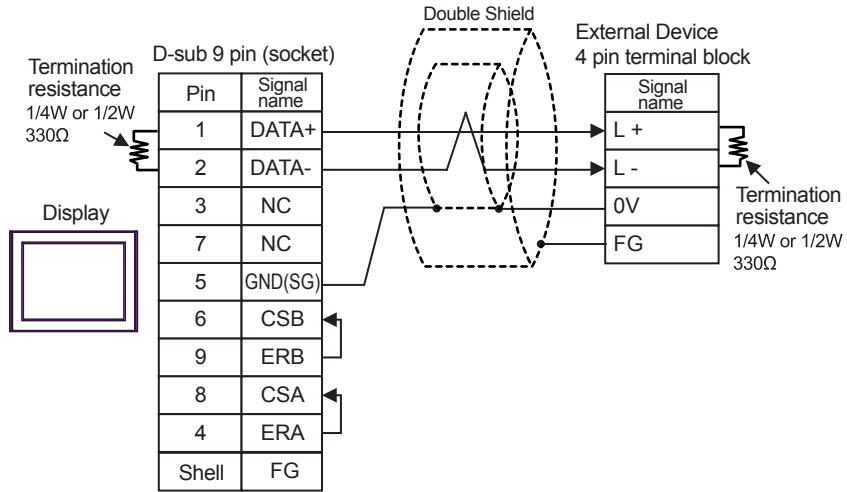


- 1:n Connection

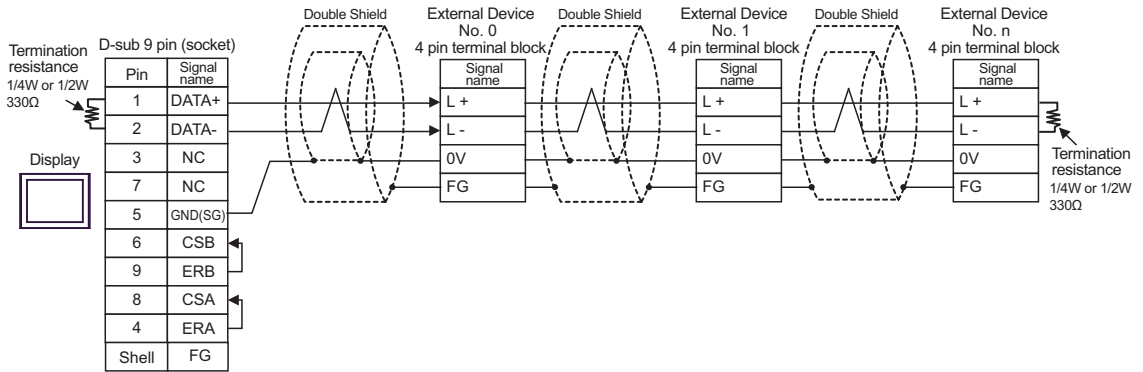


4F)

- 1:1 Connection

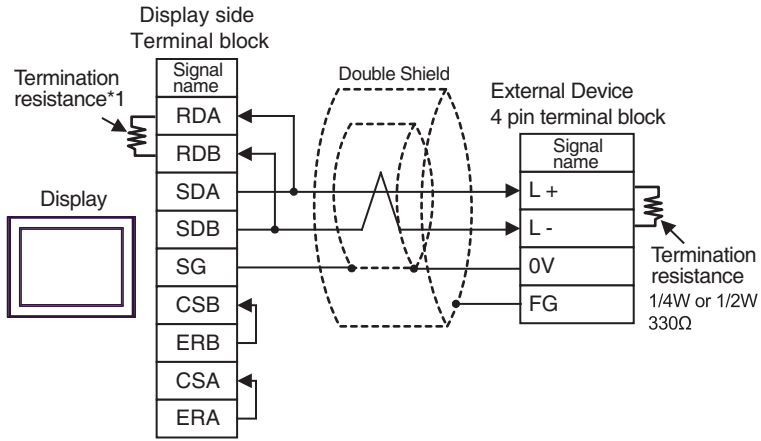


- 1:n Connection

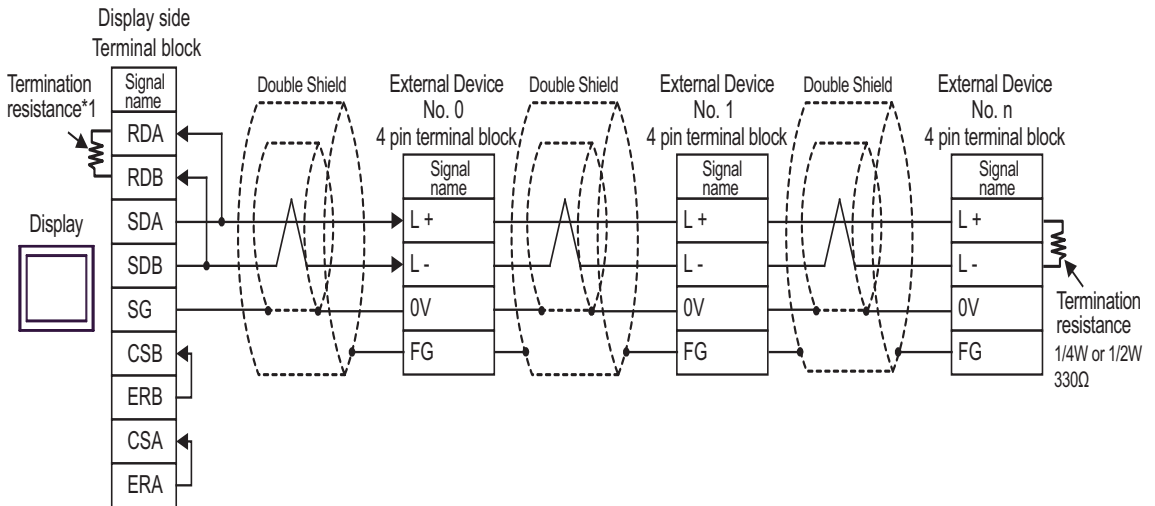


4G)

- 1:1 Connection



- 1:n Connection

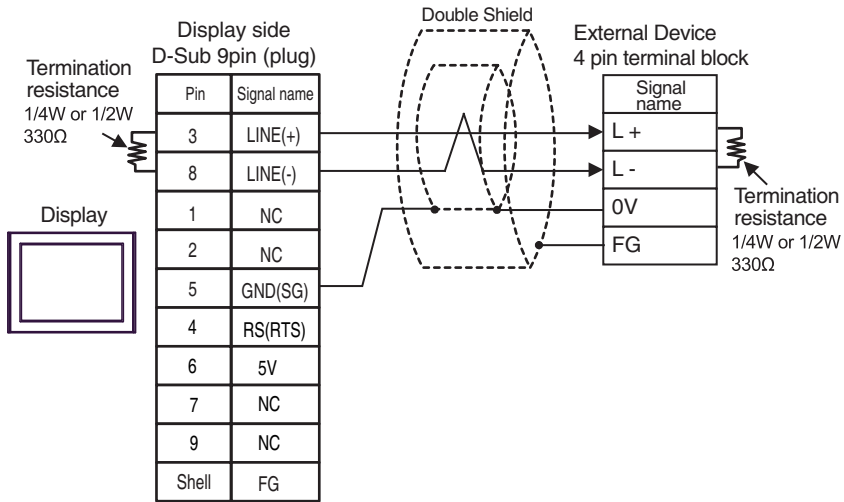


\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

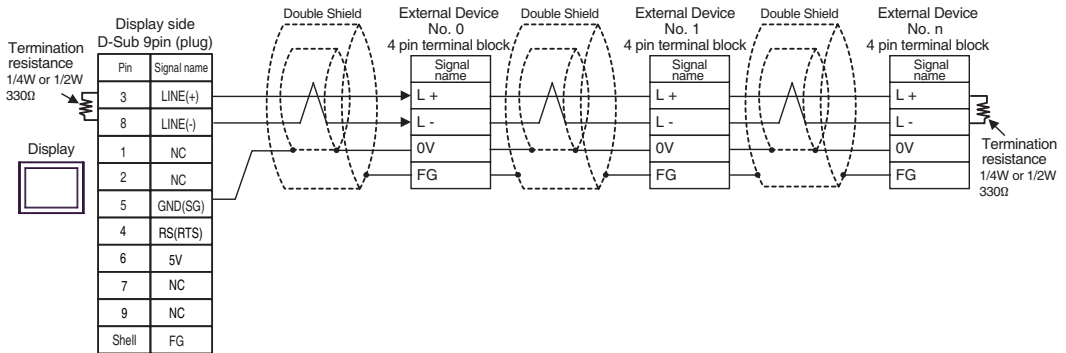
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	OFF

4H)

- 1:1 Connection



- 1:n Connection

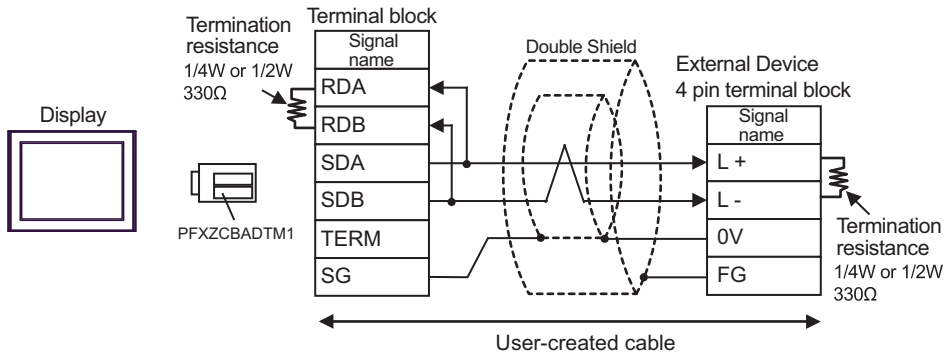


**IMPORTANT** • The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

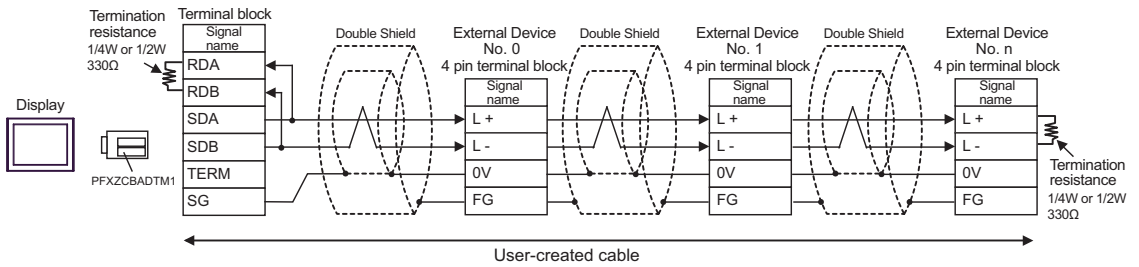
**NOTE** • In COM on the GP-4107, the SG and FG terminals are isolated.

4l)

- 1:1 Connection

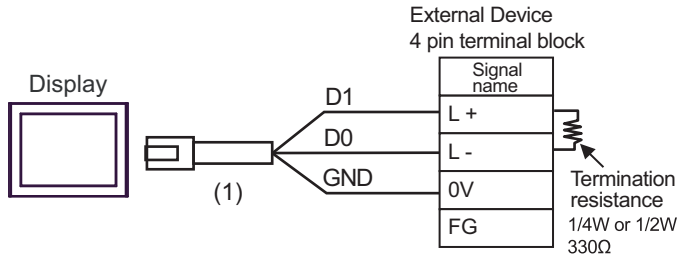


- 1:n Connection

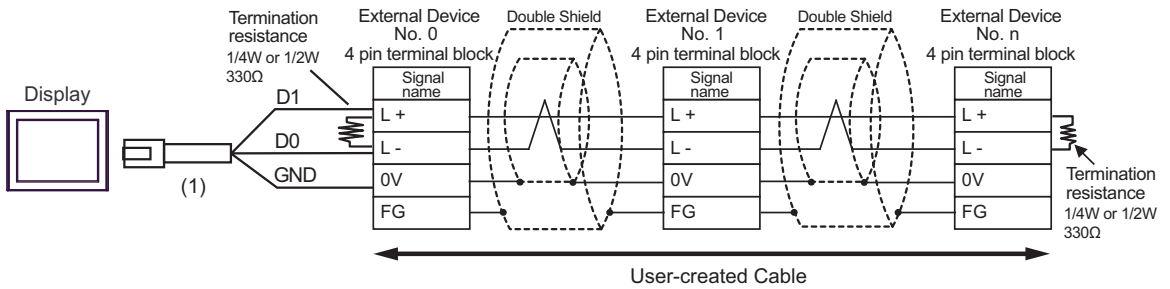


4J)

- 1:1 Connection



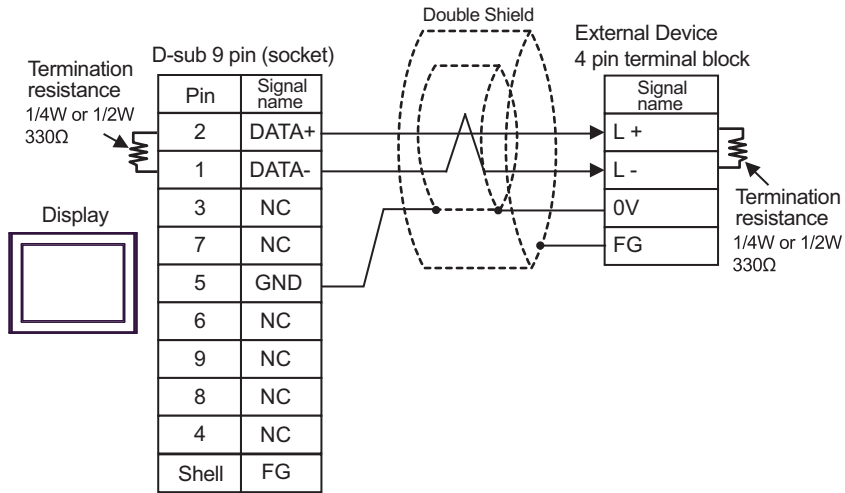
- 1:n Connection



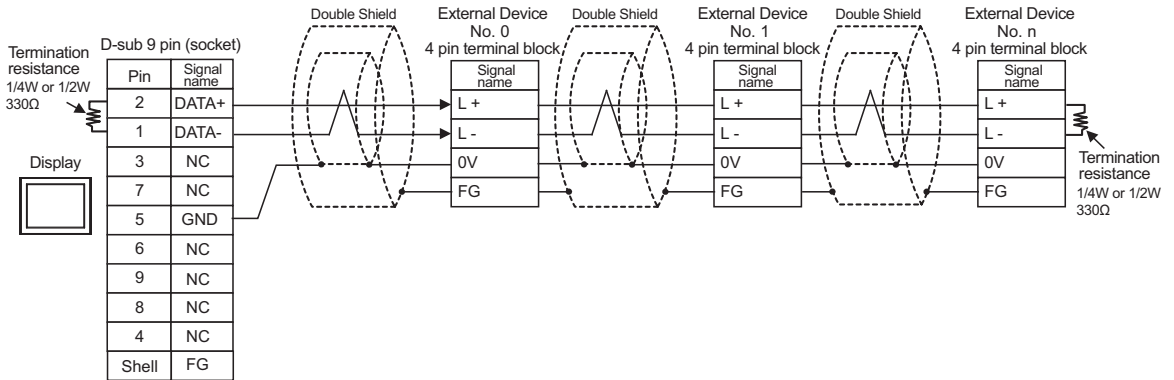
Number	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81	

4K)

- 1:1 Connection



- 1:n Connection





Cable Diagram 5

Display (Connection Port)	Cable		Remarks
GP3000* <sup>1</sup> (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST* <sup>2</sup> (COM2) LT3000 (COM1)	5A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	5B	User-created cable	
GP3000* <sup>3</sup> (COM2)	5C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	5D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC* <sup>4</sup>	5E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	5F	User-created cable	
GP-4106 (COM1)	5G	User-created cable	The cable length must be 1000m or less.
GP-4107 (COM1) GP-4*03T* <sup>5</sup> (COM2) GP-4203T (COM1)	5H	User-created cable	The cable length must be 1000m or less.
GP4000* <sup>6</sup> (COM2) GP-4201T (COM1) SP5000 (COM1/2)	5I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1* <sup>7</sup> + User-created cable	The cable length must be 1000m or less.
	5B	User-created cable	
LT-4*01TM (COM1) LT-Rear Module (COM1)	5J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81	The cable length must be 200m or less.



Display (Connection Port)	Cable		Remarks
PE-4000B*8	5K	User-created cable	The cable length must be 1000m or less.

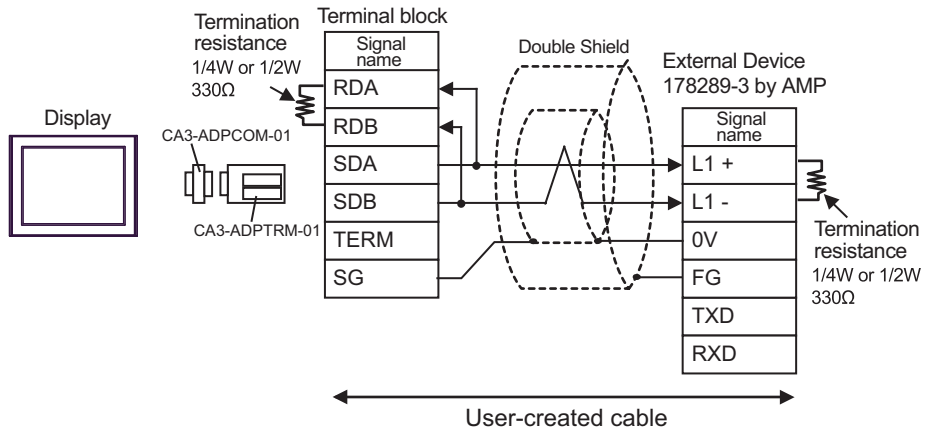
- \*1 All GP3000 models except AGP-3302B
- \*2 All ST models except AST-3211A and AST-3302B
- \*3 All GP3000 models except GP-3200 series and AGP-3302B
- \*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B)  
 ■ IPC COM Port (page 5)
- \*5 Except GP-4203T
- \*6 All GP4000 models except GP-4100 Series, GP-4\*01TM, GP-Rear Module, GP-4201T and GP-4\*03T
- \*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 5A.
- \*8 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.  
 ■ IPC COM Port (page 5)

**NOTE**

- For connection cable, we recommend the double shield 0-VCTF-SS 2C\*0.75mm<sup>2</sup> by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of the External Device must be D-class grounded.
- Select either on the External Device or on the Display depending on installation environment to connect FG to the shield cable.
- Please be sure to connect signal ground (SG) when connecting the communication cable.
- In RS422 connection, please refer to the manual of JTEKT Corporation for the cable length.

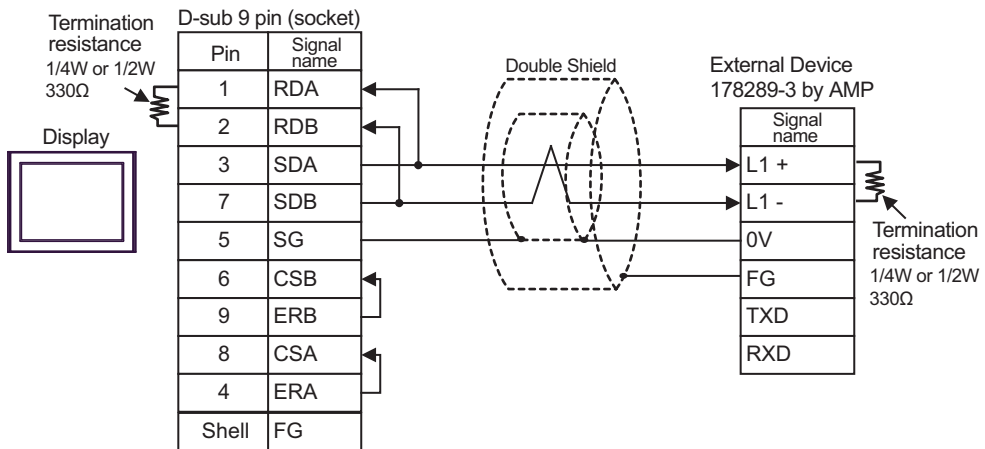
5A)

- 1:1 Connection



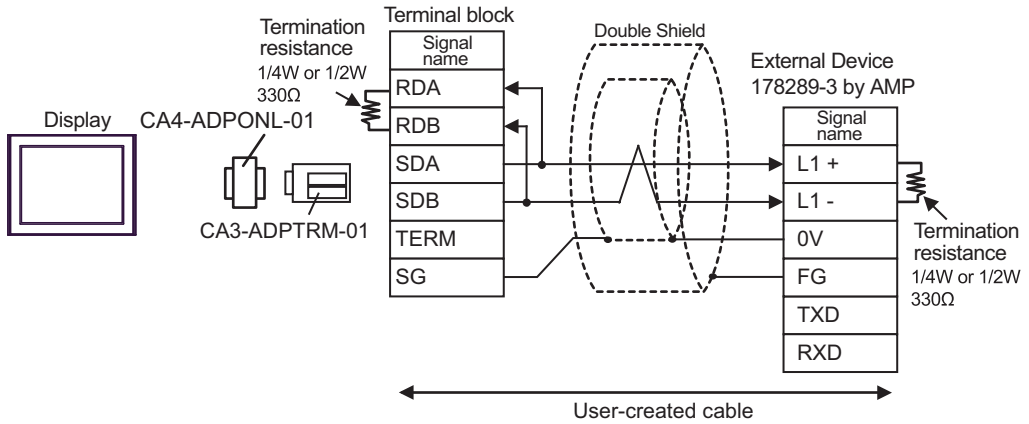
5B)

- 1:1 Connection



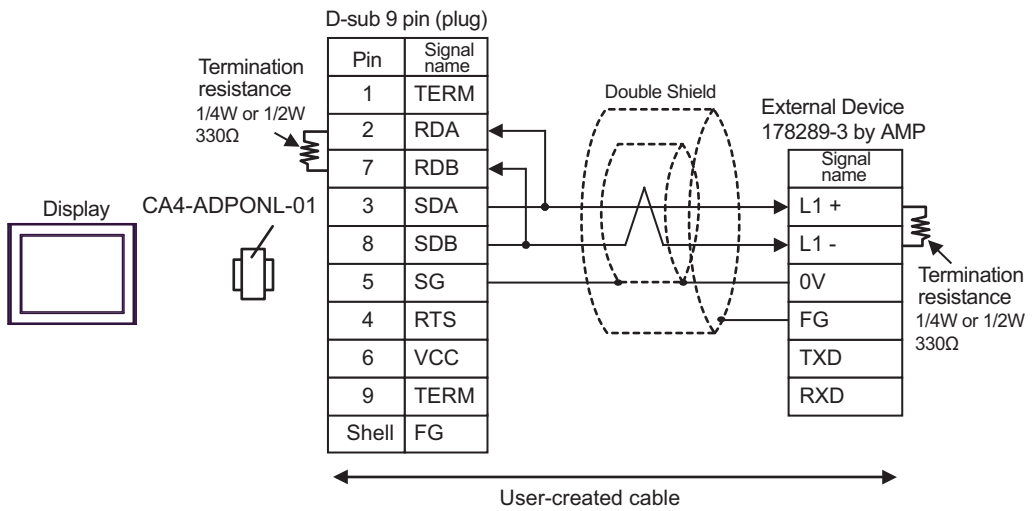
5C)

- 1:1 Connection



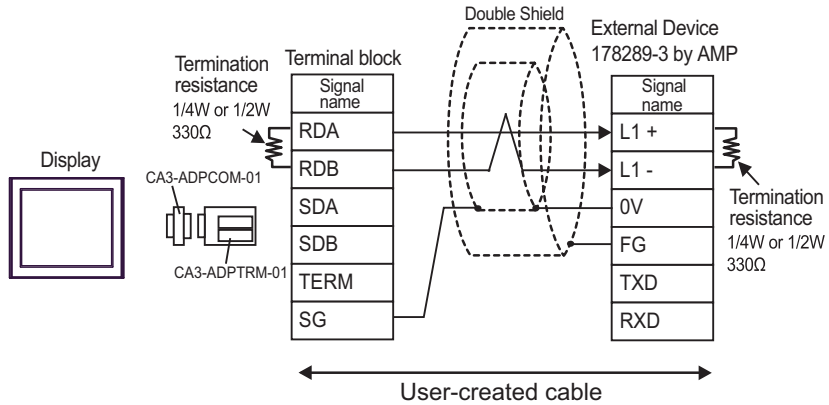
5D)

- 1:1 Connection



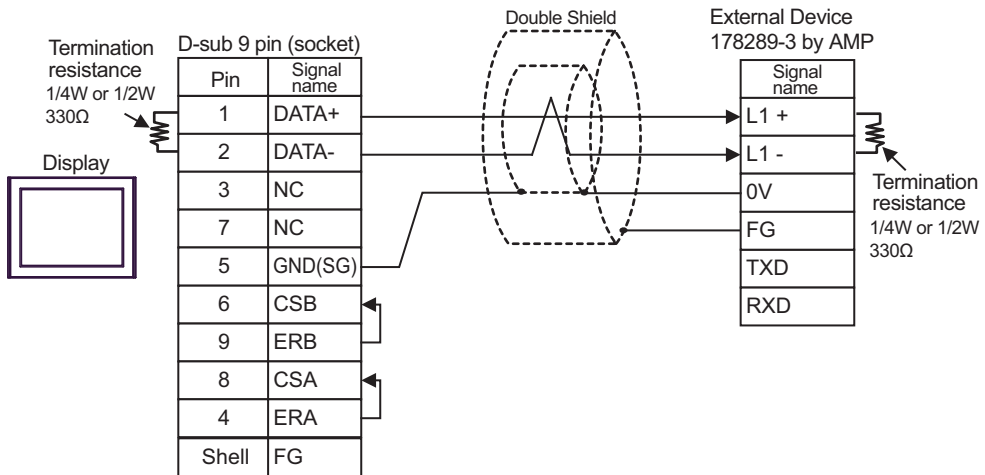
5E)

- 1:1 Connection



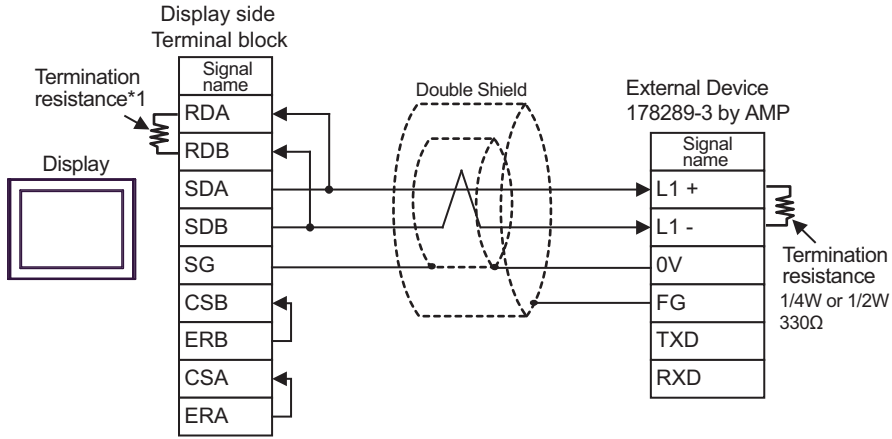
5F)

- 1:1 Connection



5G)

- 1:1 Connection

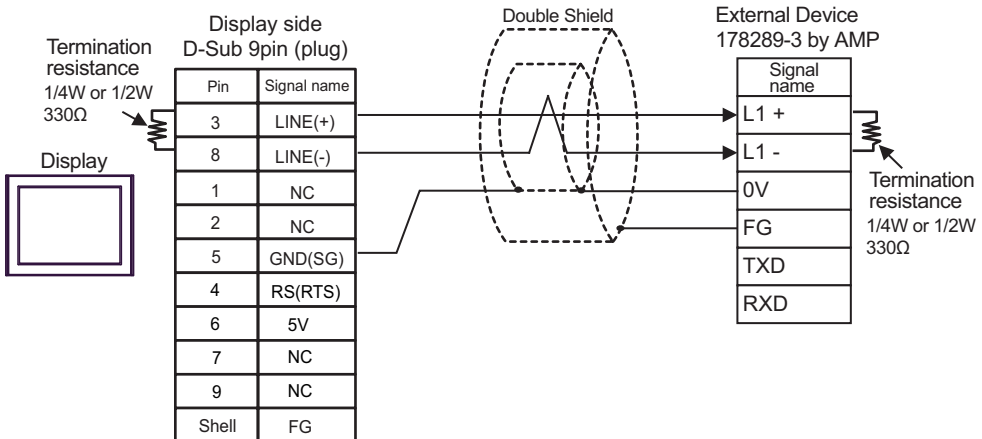


\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

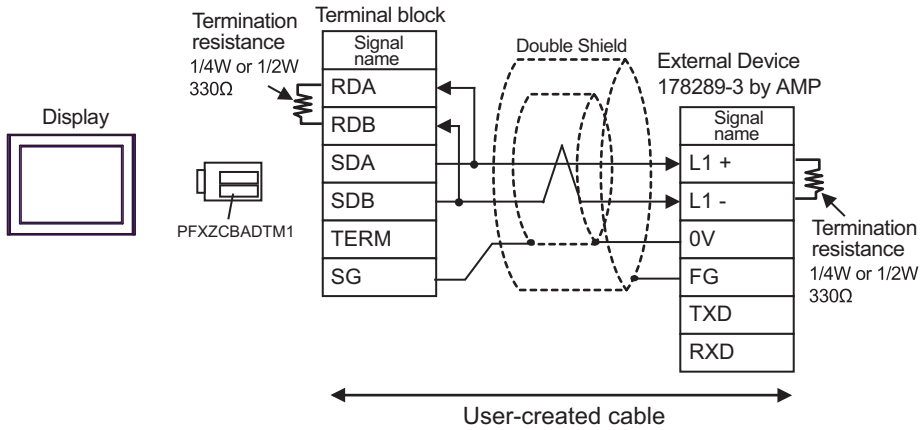
5H)

- 1:1 Connection



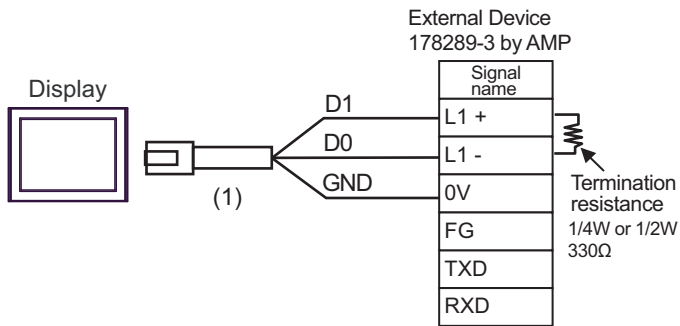
5I)

- 1:1 Connection



5J)

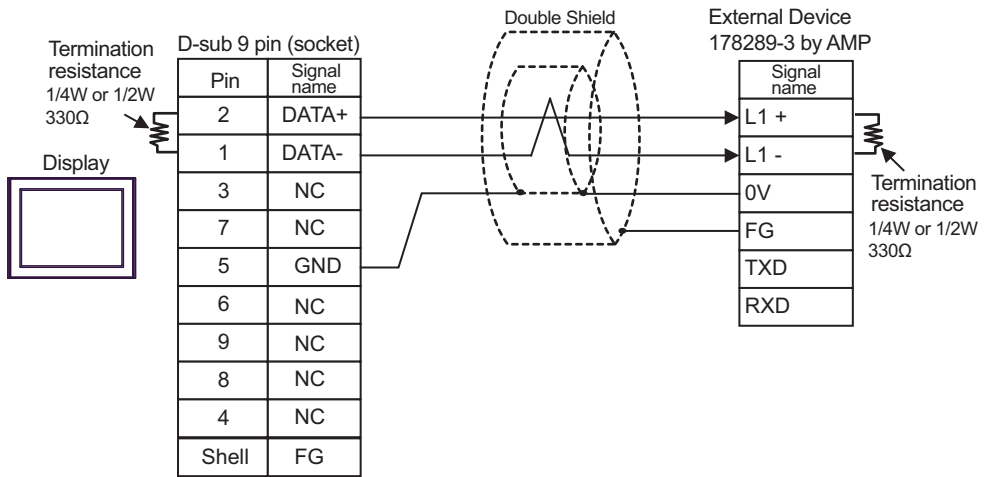
- 1:1 Connection



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

5K)

- 1:1 Connection



Cable Diagram 6

Display (Connection Port)	Cable		Remarks
GP3000* <sup>1</sup> (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST* <sup>2</sup> (COM2) LT3000 (COM1)	6A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	6B	User-created cable	
GP3000* <sup>3</sup> (COM2)	6C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	6D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC* <sup>4</sup>	6E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	6F	User-created cable	
GP-4106 (COM1)	6G	User-created cable	The cable length must be 1000m or less.
GP-4107 (COM1) GP-4*03T* <sup>5</sup> (COM2) GP-4203T (COM1)	6H	User-created cable	The cable length must be 1000m or less.
GP4000* <sup>6</sup> (COM2) GP-4201T (COM1) SP5000 (COM1/2)	6I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1* <sup>7</sup> + User-created cable	The cable length must be 1000m or less.
	6B	User-created cable	
LT-4*01TM (COM1) LT-Rear Module (COM1)	6J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81	The cable length must be 200m or less.
PE-4000B* <sup>8</sup>	6K	User-created cable	The cable length must be 1000m or less.

\*1 All GP3000 models except AGP-3302B



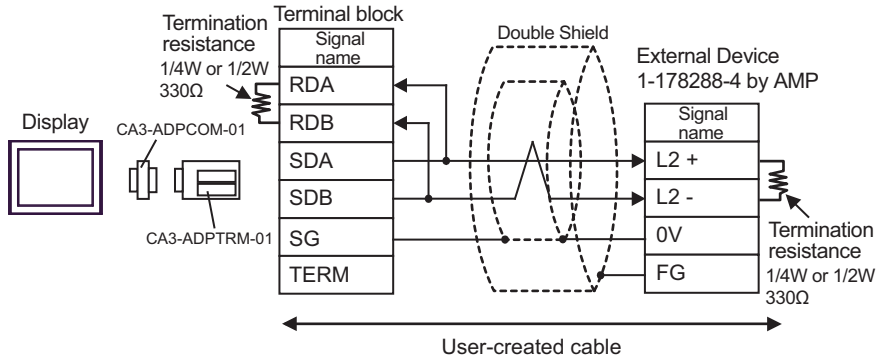
- \*2 All ST models except AST-3211A and AST-3302B
- \*3 All GP3000 models except GP-3200 series and AGP-3302B
- \*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used. (Except PE-4000B)  
☞ ■ IPC COM Port (page 5)
- \*5 Except GP-4203T
- \*6 All GP4000 models except GP-4100 Series, GP-4\*01TM, GP-Rear Module, GP-4201T and GP-4\*03T
- \*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 6A.
- \*8 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.  
☞ ■ IPC COM Port (page 5)

**NOTE**

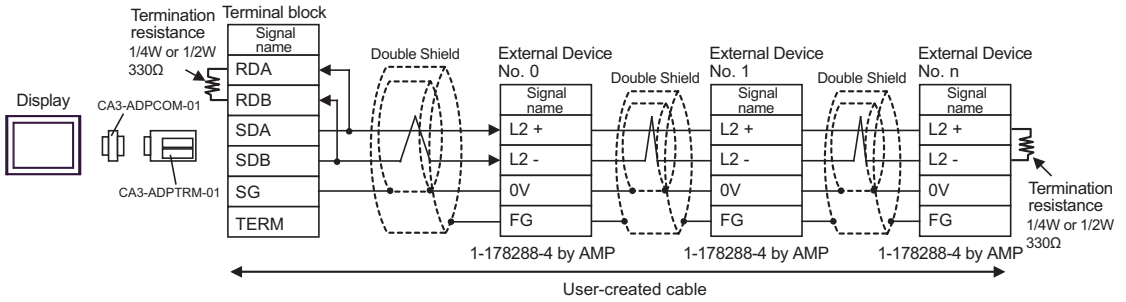
- For connection cable, we recommend the double shield 0-VCTF-SS 2C\*0.75mm<sup>2</sup> by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of the External Device must be D-class grounded.
- Select either on the External Device or on the Display depending on installation environment to connect FG to the shield cable.
- Please be sure to connect signal ground (SG) when connecting the communication cable.
- In RS422 connection, please refer to the manual of JTEKT Corporation for the cable length.

6A)

- 1:1 Connection

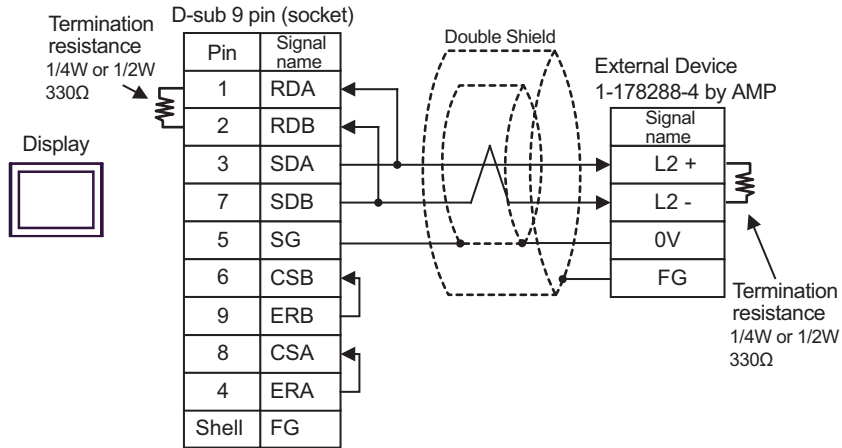


- 1:n Connection

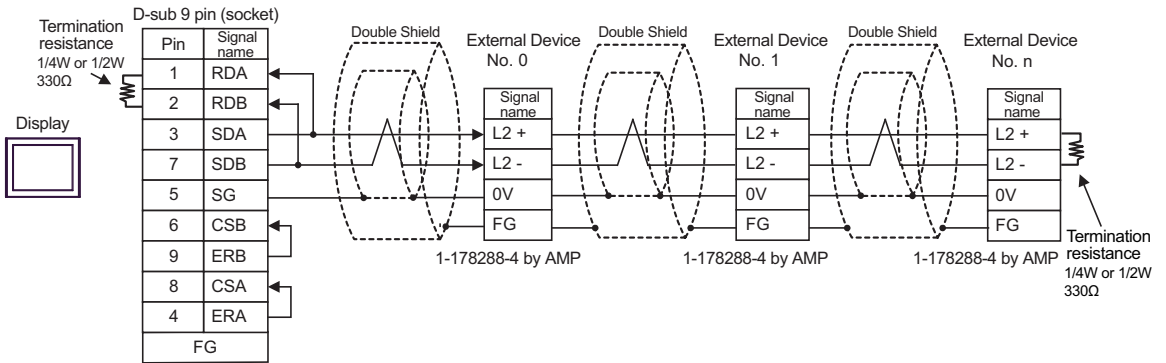


6B)

- 1:1 Connection

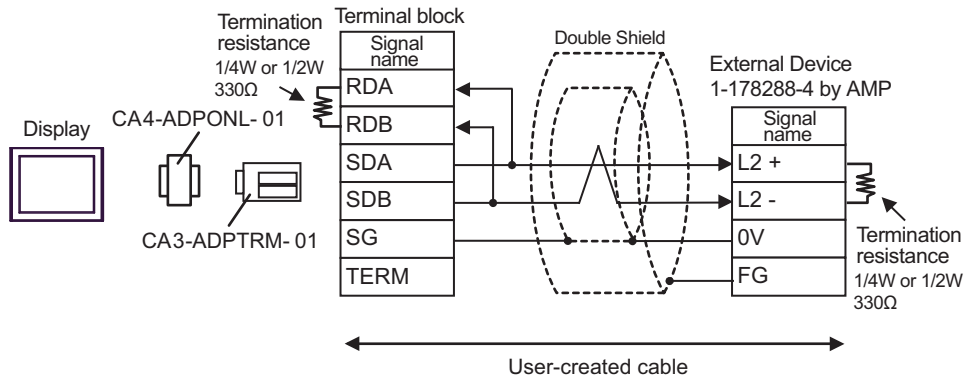


- 1:n Connection

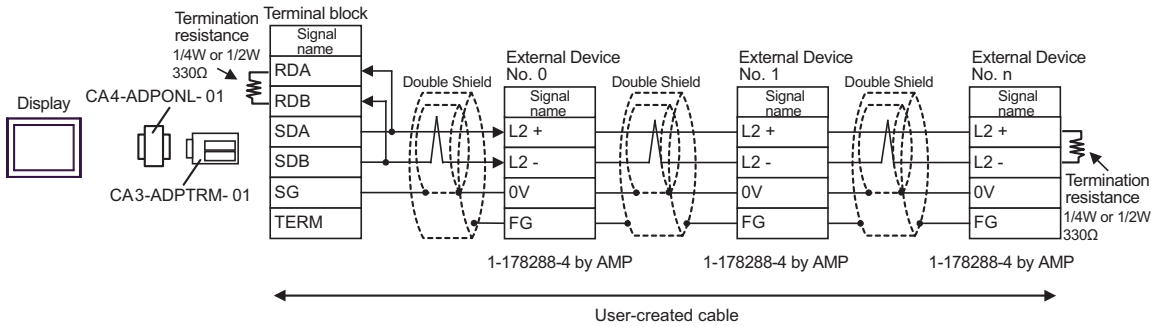


6C)

- 1:1 Connection

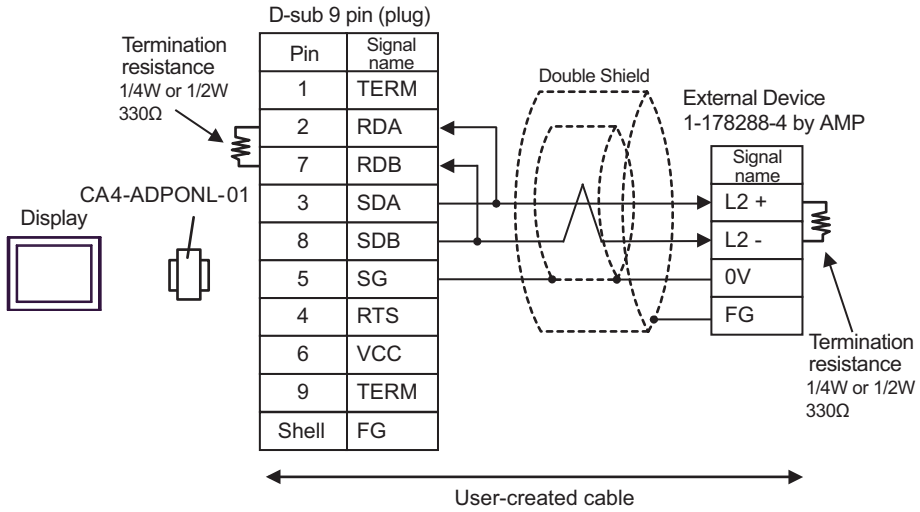


- 1:n connection

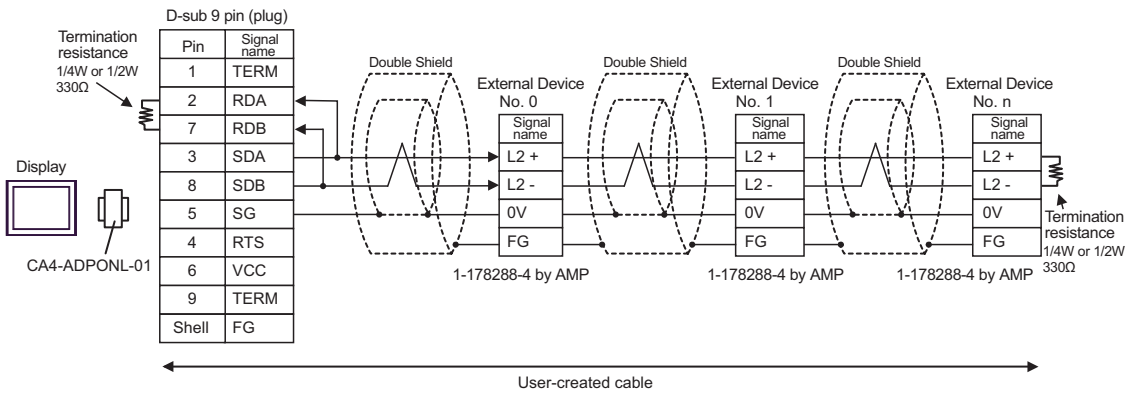


6D)

- 1:1 Connection

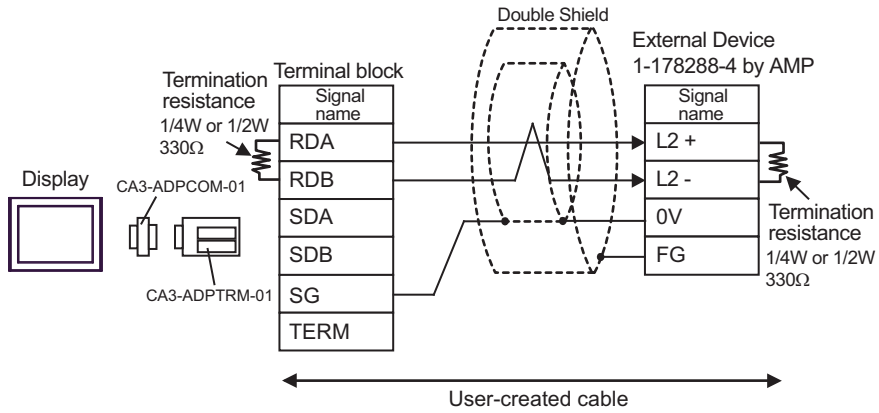


- 1:n Connection

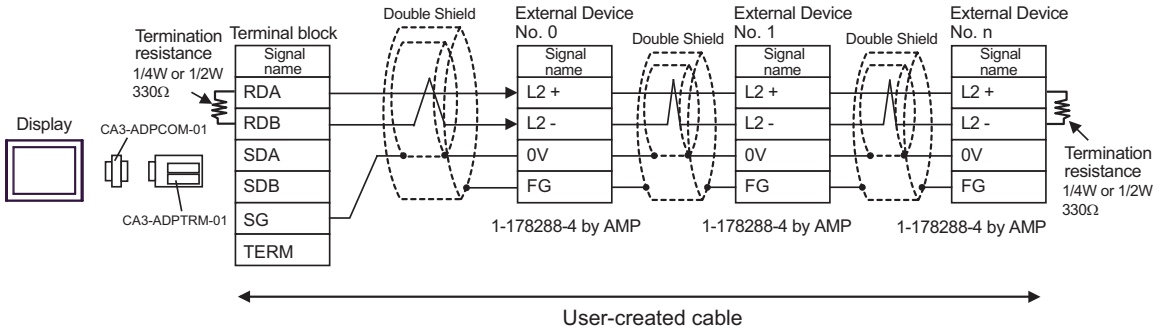


6E)

- 1:1 Connection

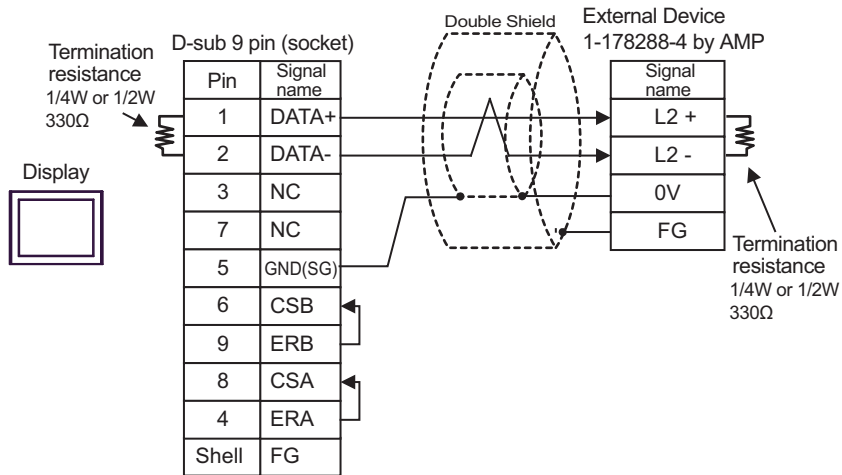


- 1:n Connection

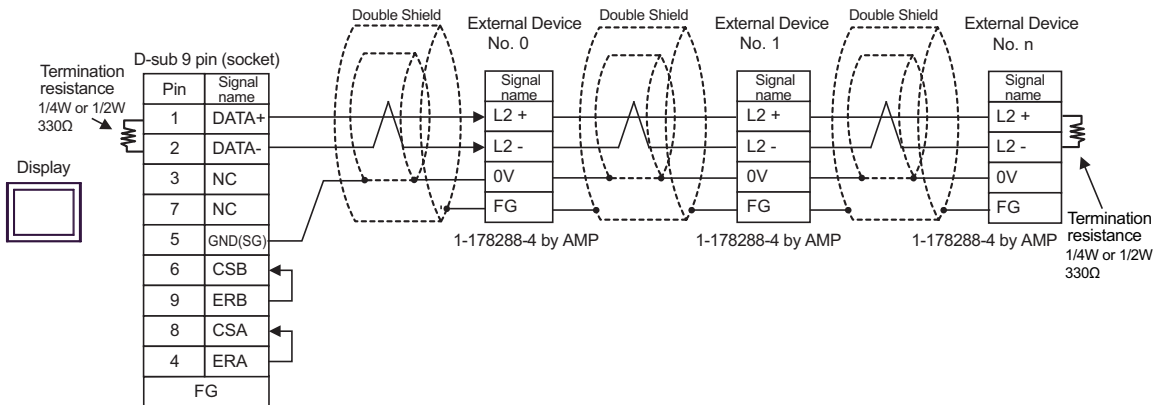


6F)

- 1:1 Connection

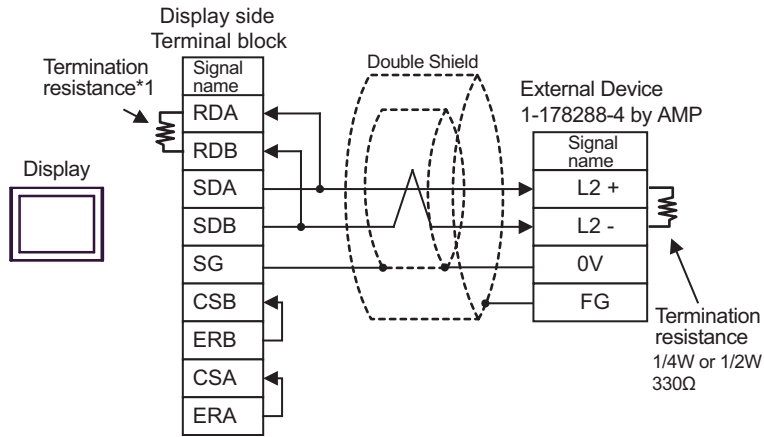


- 1:n Connection

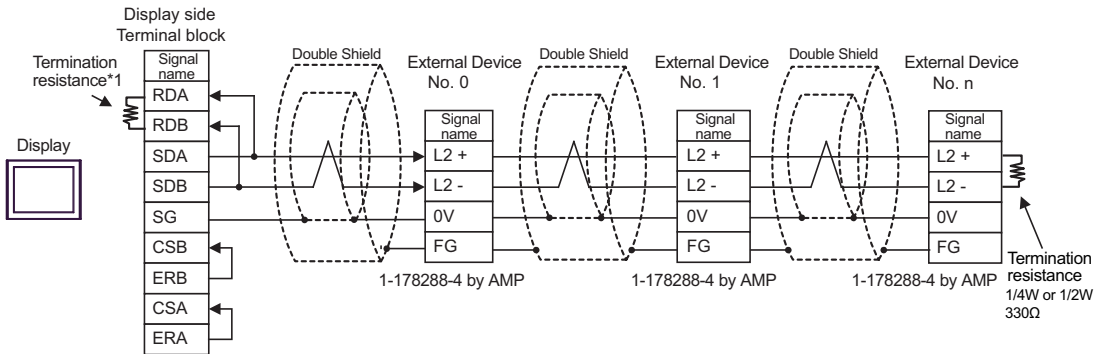


6G)

- 1:1 Connection



- 1:n Connection



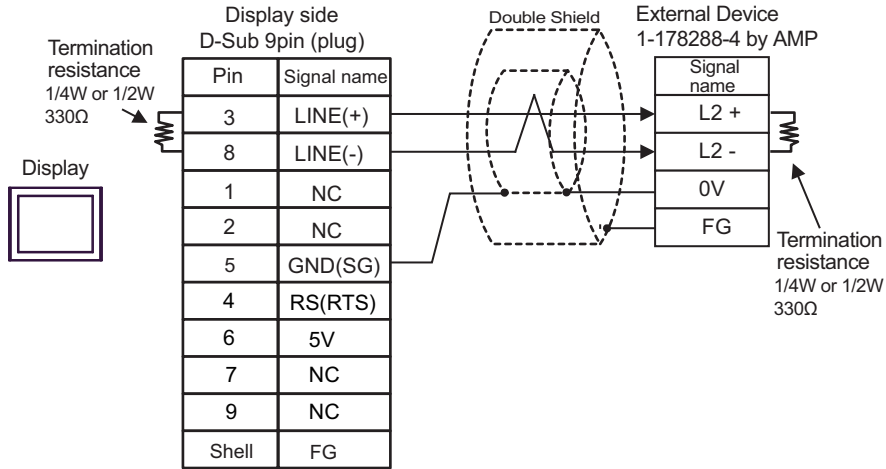
\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

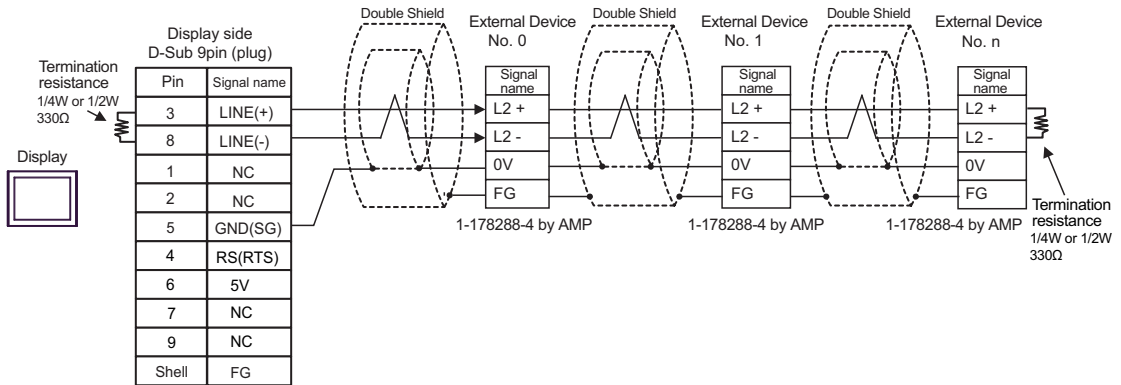


6H)

- 1:1 Connection



- 1:n Connection

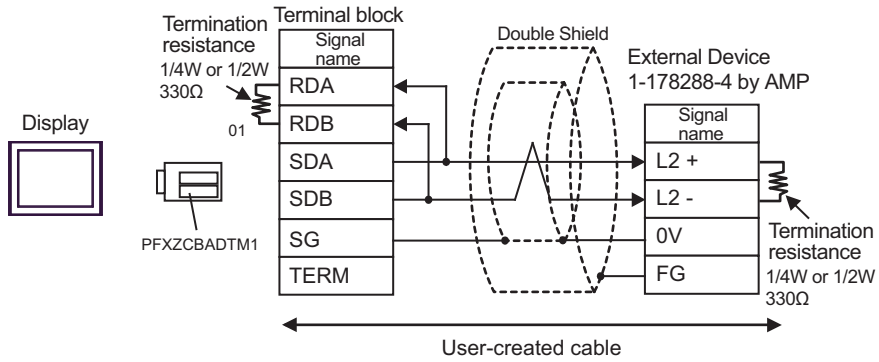


**IMPORTANT** • The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

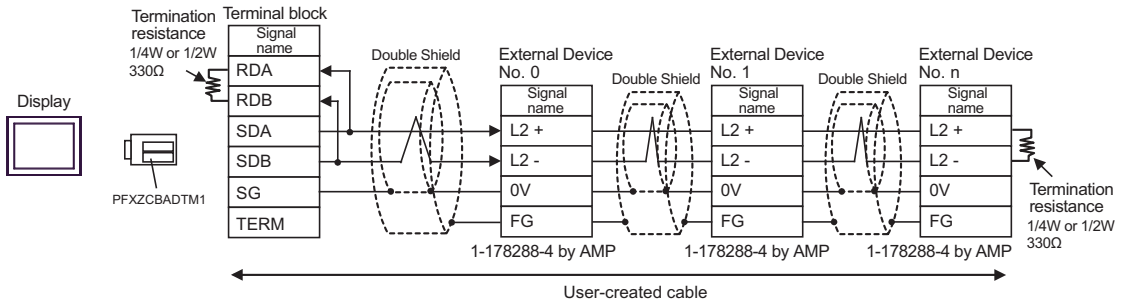
**NOTE** • In COM on the GP-4107, the SG and FG terminals are isolated.

6l)

- 1:1 Connection

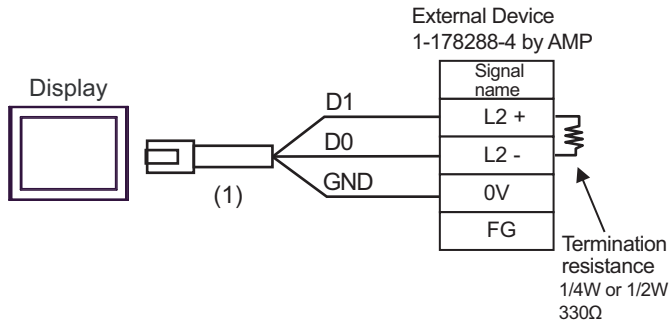


- 1:n Connection

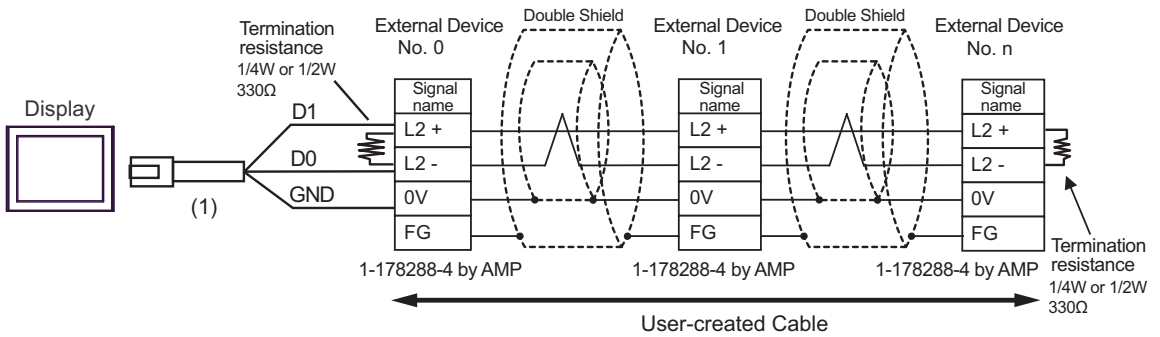


6J)

- 1:1 Connection



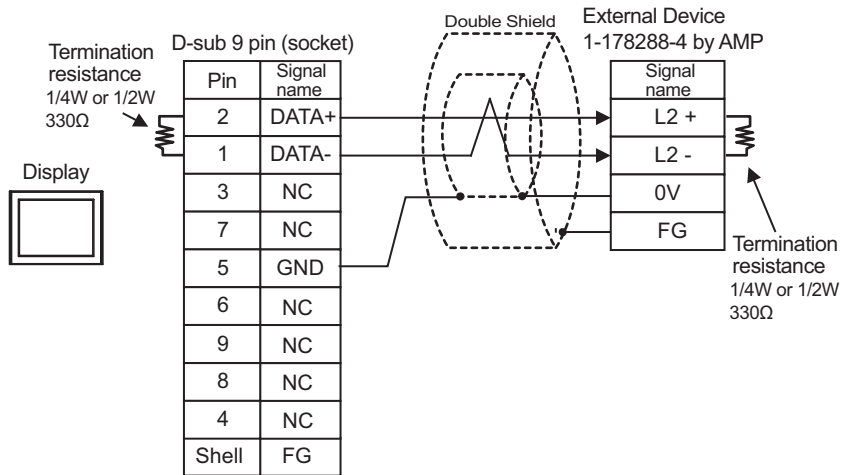
- 1:n Connection



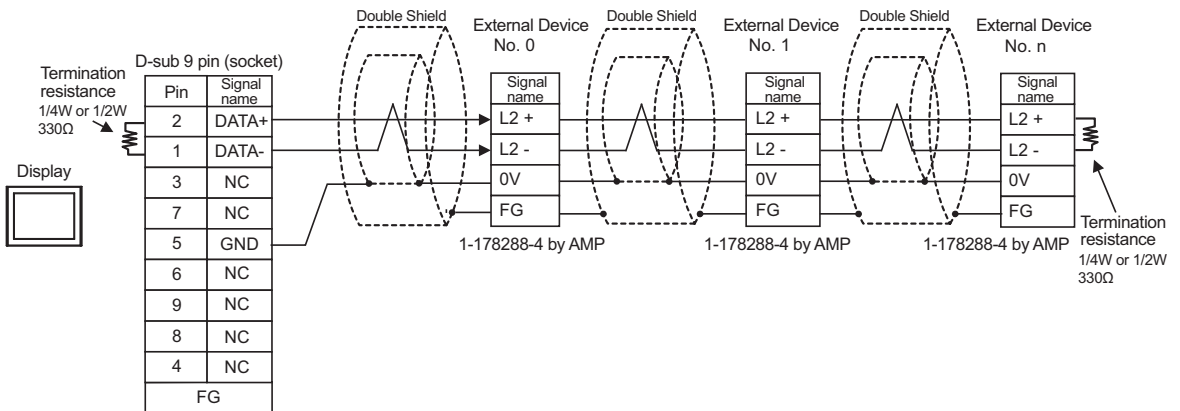
Number	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

6K)

- 1:1 Connection



- 1:n Connection



## 6 Supported Device

Range of supported device address is shown in the table below. Please note that the actually supported range of the devices varies depending on the External Device to be used. Please check the actual range in the manual of your External Device.

### 6.1 PC2 Series

     This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Remarks <sup>*1</sup>
Input Relay	X0000 - X07FF	X000 - X07F	[L/H]	*2
Output Relay	Y0000 - Y07FF	Y000 - Y07F		*2
Internal Relay	M0000 - M07FF	M000 - M07F		
Keep Relay	K0000 - K02FF	K000 - K02F		
Link Relay	L0000 - L07FF	L000 - L07F		
Special Relay	V0000 - V00FF	V000 - V00F		
Edge Detection	P0000 - P01FF	-----		
Timer (Contact)	T0000 - T01FF	T000 - T01F		*2
Counter (Contact)	C0000 - C01FF	C000 - C01F		*2
Present Value Register	N0000-0 - N01FF-F	N0000 - N01FF		*3
Data Register	D0000-0 - D2FFF-F	D0000 - D2FFF		*3
Link Register	R0000-0 - R07FF-F	R0000 - R07FF		*3
File Register	B0000-0 - B1FFF-F	B0000 - B1FFF		*3 *4
Special Register	S0000-0 - S03FF-F	S0000 - S03FF		*3
Watch Time Register	-----	WT0 - WT6	*5 *6	

\*1 You can connect maximum 16 units of External Device.

\*2 You cannot set the duplicate address for X and Y, T and C.

(Setting such address as X000/Y000, EX000/EY000, T000/C000, ET000/EC000 is wrong.)

\*3 When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Then, it changes the target bit address among the word data once read and returns the word data to the External Device. Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and returns it to the External Device.

\*4 The PC2J does not support the File Register.

\*5 When you write "Watch Time Register", the Display reads all addresses of "Watch Time Register" in the External Device. Then the Display writes all addresses of "Watch Time Register" after the Display changes the data of your requested address. Note that the correct data may not be written if you change the word address using the ladder program while the Display reads data from the External Device and returns it.

\*6 Contents of "Watch Time Register" are shown below.


Address	Mean	Note
WT0	day of week	0:Sunday, 1:Monday, 2:Tuesday, 3:Wednesday, 4:Thursday, 5:Friday, 6:Saturday
WT1	year	lower two digits of A.D.
WT2	month	
WT3	day	
WT4	hour	24-hour system
WT5	minute	
WT6	second	











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**NOTE**

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

## 6.2 PC3J, PC3JD, PC3JG, PC3JT

 This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Remarks <sup>*1</sup>						
Input Relay	1X0000 - 1X07FF	1X000W - 1X07FW	 L/H	*2 *3						
	2X0000 - 2X07FF	2X000W - 2X07FW								
	3X0000 - 3X07FF	3X000W - 3X07FW								
Output Relay	1Y0000 - 1Y07FF	1Y000W - 1Y07FW		 L/H	*2 *3					
	2Y0000 - 2Y07FF	2Y000W - 2Y07FW								
	3Y0000 - 3Y07FF	3Y000W - 3Y07FW								
Internal Relay	1M0000 - 1M07FF	1M000W - 1M07FW			 L/H	*2				
	2M0000 - 2M07FF	2M000W - 2M07FW								
	3M0000 - 3M07FF	3M000W - 3M07FW								
Keep Relay	1K0000 - 1K02FF	1K000W - 1K02FW				 L/H	*2			
	2K0000 - 2K02FF	2K000W - 2K02FW								
	3K0000 - 3K02FF	3K000W - 3K02FW								
Link Relay	1L0000 - 1L07FF	1L000W - 1L07FW					 L/H	*2		
	2L0000 - 2L07FF	2L000W - 2L07FW								
	3L0000 - 3L07FF	3L000W - 3L07FW								
Special Relay	1V0000 - 1V00FF	1V000W - 1V00FW						 L/H	*2	
	2V0000 - 2V00FF	2V000W - 2V00FW								
	3V0000 - 3V00FF	3V000W - 3V00FW								
Edge Detection	1P0000 - 1P01FF	-----							 L/H	
	2P0000 - 2P01FF	-----								
	3P0000 - 3P01FF	-----								
Timer (Contact)	1T0000 - 1T01FF	1T000W - 1T01FW	 L/H							*2 *3
	2T0000 - 2T01FF	2T000W - 2T01FW								
	3T0000 - 3T01FF	3T000W - 3T01FW								
Counter (Contact)	1C0000 - 1C01FF	1C000W - 1C01FW		 L/H						*2 *3
	2C0000 - 2C01FF	2C000W - 2C01FW								
	3C0000 - 3C01FF	3C000W - 3C01FW								
Present Value Register	1N0000-0 - 1N01FF-F	1N0000 - 1N01FF			 L/H					*4
	2N0000-0 - 2N01FF-F	2N0000 - 2N01FF								
	3N0000-0 - 3N01FF-F	3N0000 - 3N01FF								

Device	Bit Address	Word Address	32bits	Remarks*1
Data Register	1D0000-0 - 1D2FFF-F	1D0000 - 1D2FFF*5	<b>L/H</b>	*4
	2D0000-0 - 2D2FFF-F	2D0000 - 2D2FFF*5		
	3D0000-0 - 3D2FFF-F	3D0000 - 3D2FFF*5		
Link Register	1R0000-0 - 1R07FF-F	1R0000 - 1R07FF		*4
	2R0000-0 - 2R07FF-F	2R0000 - 2R07FF		
	3R0000-0 - 3R07FF-F	3R0000 - 3R07FF		
Special Register	1S0000-0 - 1S03FF-F	1S0000 - 1S03FF		*4
	2S0000-0 - 2S03FF-F	2S0000 - 2S03FF		
	3S0000-0 - 3S03FF-F	3S0000 - 3S03FF		
File Register	B0000-0 - B1FFF-F	B0000 - B1FFF		*4
Extension Input	EX0000 - EX07FF	EX000W - EX07FW		*2 *3
Extension Output	EY0000 - EY07FF	EX000W - EY07FW		*2 *3
Extension Internal Relay	EM0000 - EM1FFF	EM000W - EM1FFW		*2
Extension Special Relay	EV0000 - EV0FFF	EV000W - EV0FFW		*2
Extension Keep Relay	EK0000 - EK0FFF	EK000W - EK0FFW		*2
Extension Edge Detection	EP0000 - EP0FFF	-----		
Extension Timer	ET0000 - ET07FF	ET000W - ET07FW		*2 *3
Extension Counter	EC0000 - EC07FF	EC000W - EC07FW		*2 *3
Extension Link Relay	EL0000 - EL1FFF	EL000W - EL1FFW		*2
Extension 2 Input	GX0000 - GXFFFF	GX000W - GXFFFW		*2 *3 *6
Extension 2 Output	GY0000 - GYFFFF	GY000W - GYFFFW	*2 *3 *6	
Extension 2 Internal Relay	GM0000 - GMFFFF	GM000W - GMFFFW	*2 *6	
Extension Data Register	U0000-0 - U7FFF-F	U0000 - U7FFF	*4	
Extension Setting Value Register	H0000-0 - H07FF-F	H0000 - H07FF	*4	
Extension Special Register	ES0000-0 - ES07FF-F	ES0000 - ES07FF	*4	
Extension Current Value Register	EN0000-0 - EN07FF-F	EN0000 - EN07FF	*4	
Watch Time Register	-----	WT0 - WT6	*7 *8	
Extended buffer register	EB00000-0 - EB1FFFF-F	EB00000 - EB1FFFF	*4	


\*1 You can connect maximum 16 units of External Device.




- \*2 For word description of BitDevice, add "W" to the last of the word address.  
Example) When the address is 0 in M device, describe "M0000W".
- \*3 You cannot set the duplicate address for X and Y (EX, EY, GX, GY), T and C (ET, EC).  
(Setting such address as X000/Y000, EX000/EY000, T000/C000, ET000/EC000 is wrong.)
- \*4 For bit description of WordDevice, describe "-" following the word address and the bit position next.  
Example) When the address is 0 and the bit is 5 in D device, describe "D0000-5".
- \*5 Maximum address value of PC3J and PC3JT is 2FFF, and of PC3JD and PC3JG is 0FFF.
- \*6 Supported by Link I/F on the CPU of PC3JG.
- \*7 When you write "Watch Time Register", the Display reads all addresses of "Watch Time Register" in the External Device. Then the Display writes all addresses of "Watch Time Register" after the Display changes the data of your requested address. Note that the correct data may not be written if you change the word address using the ladder program while the Display reads data from the External Device and returns it.
- \*8 Contents of "Watch Time Register" are shown below.

Address	Mean	Note
WT0	day of week	0:Sunday, 1:Monday, 2:Tuesday, 3:Wednesday, 4:Thursday, 5:Friday, 6:Saturday
WT1	year	lower two digits of A.D.
WT2	month	
WT3	day	
WT4	hour	24-hour system
WT5	minute	
WT6	second	

**NOTE**

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

## 6.3 PC10G Series

 This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Remarks						
Input	1X000 - 1X7FF	1X00W - 1X7FW	<b>L/H</b>	*1 *2						
	2X000 - 2X7FF	2X00W - 2X7FW								
	3X000 - 3X7FF	3X00W - 3X7FW								
Output	1Y000 - 1Y7FF	1Y00W - 1Y7FW		<b>L/H</b>	*1 *2					
	2Y000 - 2Y7FF	2Y00W - 2Y7FW								
	3Y000 - 3Y7FF	3Y00W - 3Y7FW								
Internal relay	1M000 - 1M7FF	1M00W - 1M7FW			<b>L/H</b>	*1				
	2M000 - 2M7FF	2M00W - 2M7FW								
	3M000 - 3M7FF	3M00W - 3M7FW								
Keep-relay	1K000 - 1K2FF	1K00W - 1K2FW				<b>L/H</b>	*1			
	2K000 - 2K2FF	2K00W - 2K2FW								
	3K000 - 3K2FF	3K00W - 3K2FW								
Link relay	1L000 - 1L7FF	1L00W - 1L7FW					<b>L/H</b>	*1		
	2L000 - 2L7FF	2L00W - 2L7FW								
	3L000 - 3L7FF	3L00W - 3L7FW								
Special relay	1V000 - 1VFF	1V0W - 1VFW						<b>L/H</b>	*1	
	2V000 - 2VFF	2V0W - 2VFW								
	3V000 - 3VFF	3V0W - 3VFW								
Edge detection	1P0000 - 1P01FF	-----							<b>L/H</b>	
	2P0000 - 2P01FF	-----								
	3P0000 - 3P01FF	-----								
Timer(Contact)	1T000 - 1T1FF	1T00W - 1T1FW	<b>L/H</b>							*1 *2
	2T000 - 2T1FF	2T00W - 2T1FW								
	3T000 - 3T1FF	3T00W - 3T1FW								
Counter(Contact)	1C000 - 1C1FF	1C00W - 1C1FW		<b>L/H</b>						*1 *2
	2C000 - 2C1FF	2C00W - 2C1FW								
	3C000 - 3C1FF	3C00W - 3C1FW								
Present value register	1N000-0 - 1N1FF-F	1N000 - 1N1FF			<b>L/H</b>					*3
	2N000-0 - 2N1FF-F	2N000 - 2N1FF								
	3N000-0 - 3N1FF-F	3N000 - 3N1FF								

Device	Bit Address	Word Address	32bits	Remarks
Data register	1D0000-0 - 1D2FFF-F	1D0000 - 1D2FFF	[L/H]	*3
	2D0000-0 - 2D2FFF-F	2D0000 - 2D2FFF		
	3D0000-0 - 3D2FFF-F	3D0000 - 3D2FFF		
Link register	1R000-0 - 1R7FF-F	1R000 - 1R7FF		*3
	2R000-0 - 2R7FF-F	2R000 - 2R7FF		
	3R000-0 - 3R7FF-F	3R000 - 3R7FF		
Special register	1S000-0 - 1S3FF-F	1S000 - 1S3FF		*3
	2S000-0 - 2S3FF-F	2S000 - 2S3FF		
	3S000-0 - 3S3FF-F	3S000 - 3S3FF		
File register	B0000-0 - B1FFF-F	B0000 - B1FFF		*3
Extended input	EX000 - EX7FF	EX00W - EX7FW		*1 *2
Extended output	EY000 - EY7FF	EY00W - EY7FW		*1 *2
Extended internal relay	EM0000 - EM1FFF	EM000W - EM1FFW		*1
Extended special relay	EV000 - EVFFF	EV00W - EVFFW		*1
Extended keep-relay	EK000 - EKFFF	EK00W - EKFFW		*1
Extended edge detection	EP0000 - EP0FFF	-----		
Extended timer	ET000 - ET7FF	ET00W - ET7FW		*1 *2
Extended counter	EC000 - EC7FF	EC00W - EC7FW		*1 *2
Extended link relay	EL0000 - EL1FFF	EL000W - EL1FFW		*1
Extended2 input	GX0000 - GXFFFF	GX000W - GXFFFW		*1 *2 *4
Extended2 output	GY0000 - GYFFFF	GY000W - GYFFFW	*1 *2 *4	
Extended2 internal relay	GM0000 - GMFFFF	GM000W - GMFFFW	*1 *4	
Extended data register	U00000-0 - U1FFFF-F	U00000 - U1FFFF	*4	
Extended setup value register	H000-0 - H7FF-F	H000 - H7FF	*4	
Extended special register	ES000-0 - ES7FF-F	ES000 - ES7FF	*4	
Extended present value register	EN000-0 - EN7FF-F	EN000 - EN7FF	*4	
Watch Time register	-----	WT0 - WT6	*5 *6	
Extended buffer register	EB00000-0 - EB3FFFF-F	EB00000 - EB3FFFF	*3	
Extended flash register	FR000000-0 - FR1FFFFF-F	FR000000 - FR1FFFFF	*3 *7	

- \*1 For word description of BitDevice, add "W" to the last of the word address.  
Example) When the address is 0 in M device, describe "M0000W".
- \*2 You cannot set the duplicate address for X and Y (EX, EY, GX, GY), T and C (ET, EC).  
(Setting such address as X000/Y000, EX000/EY000, T000/C000, ET000/EC000 is wrong.)
- \*3 For bit description of WordDevice, describe "-" following the word address and the bit position next.  
Example) When the address is 0 and the bit is 5 in D device, describe "D0000-5".
- \*4 Supported by Link I/F on the PC10G CPU only.
- \*5 When you write "Watch Time Register", the Display reads all addresses of "Watch Time Register" in the External Device. Then the Display writes all addresses of "Watch Time Register" after the Display changes the data of your requested address. Note that the correct data may not be written if you change the word address using the ladder program while the Display reads data from the External Device and returns it.
- \*6 Contents of "Watch Time Register" are shown below.

Address	Mean	Note
WT0	day of week	0:Sunday, 1:Monday, 2:Tuesday, 3:Wednesday, 4:Thursday, 5:Friday, 6:Saturday
WT1	year	lower two digits of A.D.
WT2	month	
WT3	day	
WT4	hour	24-hour system
WT5	minute	
WT6	second	

- \*7 You can read from and write to the extended flash register. However, you cannot write values to flash memory. Use the ladder software to write values to flash memory.

**NOTE**

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

## 7 Device Code and Address Code

Use device code and address code when you select "Device Type & Address" for the address type in data displays.

### 7.1 PC2 Series

Device	Device Name	Device Code (HEX)	Address Code
Input Relay	X	0080	Word Address
Output Relay	Y	0081	Word Address
Internal Relay	M	0082	Word Address
Keep Relay	K	0084	Word Address
Link Relay	L	0088	Word Address
Special Relay	V	0083	Word Address
Timer (Contact)	T	0086	Word Address
Counter (Contact)	C	0087	Word Address
Special Register	S	0001	Word Address
Present Value Register	N	0003	Word Address
Data Register	D	0000	Word Address
Link Register	R	0002	Word Address
File Register	B	0004	Word Address
Watch Time Register	WT	0007	Word Address

## 7.2 PC3J, PC3JD, PC3JG, PC3JT

Device	Device Name	Device Code (HEX)	Address Code
Input Relay	1X	0080	Word Address
	2X	0180	Word Address
	3X	0280	Word Address
Output Relay	1Y	0081	Word Address
	2Y	0181	Word Address
	3Y	0281	Word Address
Internal Relay	1M	0082	Word Address
	2M	0182	Word Address
	3M	0282	Word Address
Keep Relay	1K	0084	Word Address
	2K	0184	Word Address
	3K	0284	Word Address
Link Relay	1L	0088	Word Address
	2L	0188	Word Address
	3L	0288	Word Address
Special Relay	1V	0083	Word Address
	2V	0183	Word Address
	3V	0283	Word Address
Timer (Contact)	1T	0086	Word Address
	2T	0186	Word Address
	3T	0286	Word Address
Counter (Contact)	1C	0087	Word Address
	2C	0187	Word Address
	3C	0287	Word Address
Special Register	1S	0001	Word Address
	2S	0101	Word Address
	3S	0201	Word Address
Present Value Register	1N	0003	Word Address
	2N	0103	Word Address
	3N	0203	Word Address

Device	Device Name	Device Code (HEX)	Address Code
Data Register	1D	0000	Word Address
	2D	0100	Word Address
	3D	0200	Word Address
Link Register	1R	0002	Word Address
	2R	0102	Word Address
	3R	0202	Word Address
File Register	B	0004	Word Address
Extension Setting Value Register	H	0006	Word Address
Extension Data Register	U	0005	Word Address
Extension Input	EX	0090	Word Address
Extension Output	EY	0091	Word Address
Extension Internal Relay	EM	0092	Word Address
Extension Keep Relay	EK	0094	Word Address
Extension Link Relay	EL	0098	Word Address
Extension Special Relay	EV	0093	Word Address
Extension Timer (Contact)	ET	0096	Word Address
Extension Counter (Contact)	EC	0097	Word Address
Extension Special Register	ES	0011	Word Address
Extension Current Value Register	EN	0013	Word Address
Extension 2 Input	GX	00A0	Word Address
Extension 2 Output	GY	00A1	Word Address
Extension 2 Internal Relay	GM	00A2	Word Address
Watch Time Register	WT	0007	Word Address
Extended Buffer Register	EB	0014	Word Address

## 7.3 PC10G Series

Device	Device Name	Device Code (HEX)	Address Code
Input	1X	0080	Word Address
	2X	0180	Word Address
	3X	0280	Word Address
Output	1Y	0081	Word Address
	2Y	0181	Word Address
	3Y	0281	Word Address
Internal relay	1M	0082	Word Address
	2M	0182	Word Address
	3M	0282	Word Address
Keep-relay	1K	0084	Word Address
	2K	0184	Word Address
	3K	0284	Word Address
Link relay	1L	0088	Word Address
	2L	0188	Word Address
	3L	0288	Word Address
Special relay	1V	0083	Word Address
	2V	0183	Word Address
	3V	0283	Word Address
Timer(Contact)	1T	0086	Word Address
	2T	0186	Word Address
	3T	0286	Word Address
Counter(Contact)	1C	0087	Word Address
	2C	0187	Word Address
	3C	0287	Word Address
Special register	1S	0001	Word Address
	2S	0101	Word Address
	3S	0201	Word Address
Present value register	1N	0003	Word Address
	2N	0103	Word Address
	3N	0203	Word Address



Device	Device Name	Device Code (HEX)	Address Code
Data register	1D	0000	Word Address
	2D	0100	Word Address
	3D	0200	Word Address
Link register	1R	0002	Word Address
	2R	0102	Word Address
	3R	0202	Word Address
File register	B	0004	Word Address
Extended setup value register	H	0006	Word Address
Extended data register	U	0005	Word Address
Extended input	EX	0090	Word Address
Extended output	EY	0091	Word Address
Extended internal relay	EM	0092	Word Address
Extended keep-relay	EK	0094	Word Address
Extended link relay	EL	0098	Word Address
Extended special relay	EV	0093	Word Address
Extended timer	ET	0096	Word Address
Extended counter	EC	0097	Word Address
Extended special register	ES	0011	Word Address
Extended present value register	EN	0013	Word Address
Extended2 input	GX	00A0	Word Address
Extended2 output	GY	00A1	Word Address
Extended2 internal relay	GM	00A2	Word Address
Watch Time register	WT	0007	Word Address
Extended buffer register	EB	0014	Word Address
Extended flash register	FR	0018	Word Address

## 8 Error Messages

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

Item	Description
No.	Error 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	<p>Displays IP address or device address of the External Device where error occurs, or error codes received from the External Device.</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• IP address is displayed such as "IP address(Decimal): MAC address( Hex)".</li> <li>• Device address is displayed such as "Address: Device address".</li> <li>• Received error codes are displayed such as "Decimal[Hex]".</li> </ul>

Display Examples of Error Messages

"RHAA035: PLC1: Error has been responded for device write command (Error Code: 2 [02H])"

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- NOTE**
- Refer to your External Device manual for details on received error codes.
  - Refer to "Display-related errors" in "Maintenance/Troubleshooting Guide" for details on the error messages common to the driver.
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### ■ Error Messages Unique to External Device

Error No.	Error Message	Description
RHxx128	[Node Name]: It failed in the writing mode setting.	Please check the connection.