

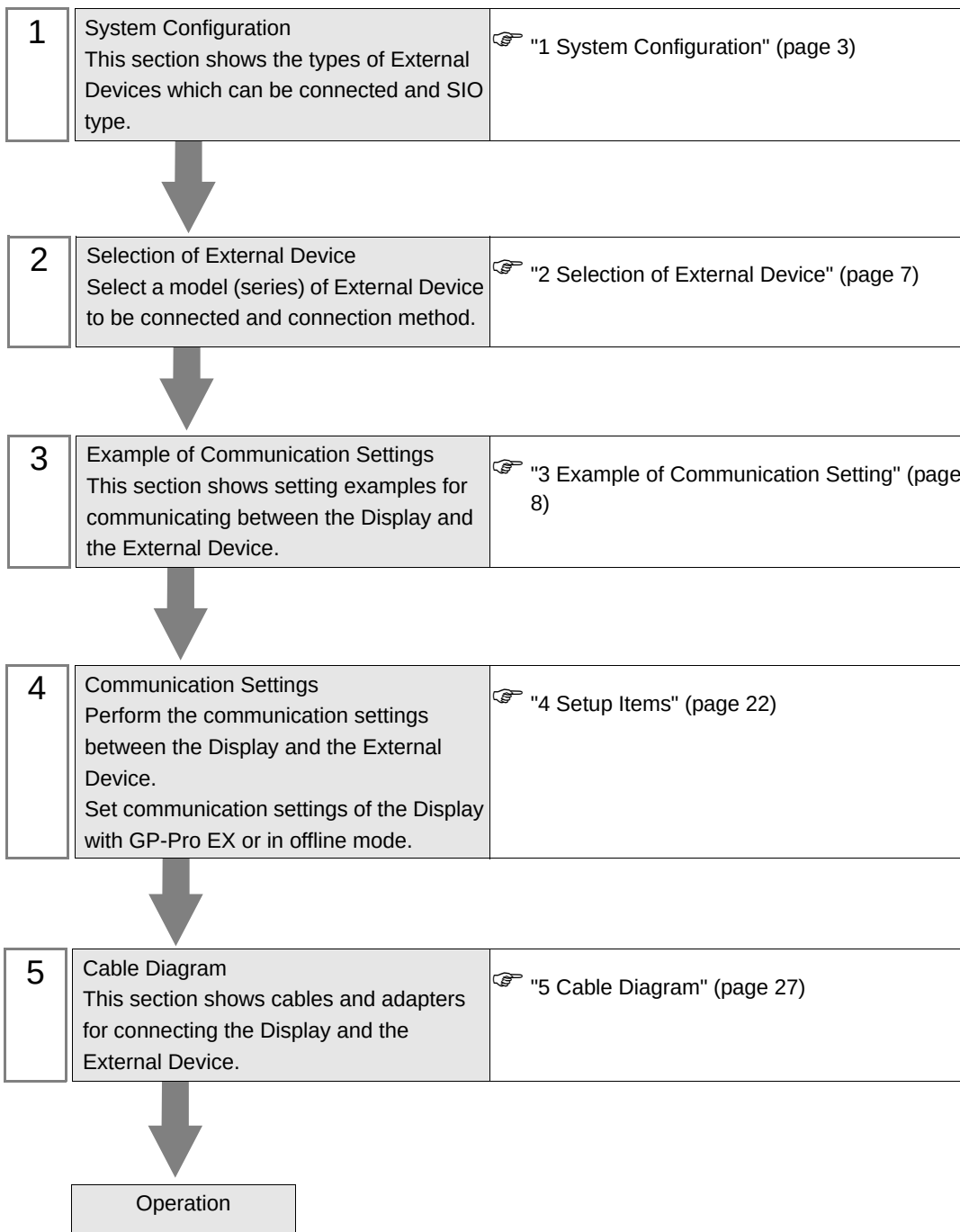
# TOYOPUC CMP-LINK SIO Driver

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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

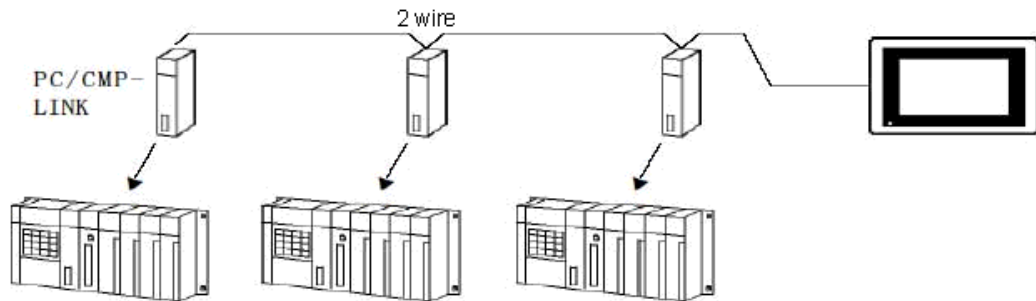
The system configuration in the case when the External Device of JTEKT Corporation and the Display are connected is shown.

| Series            | CPU            | Link I/F                                                           | SIO Type         | Setting Example                | Cable Diagram                |
|-------------------|----------------|--------------------------------------------------------------------|------------------|--------------------------------|------------------------------|
| TOYOPUC-PC2       | PC2<br>L2      | THU-2652<br>(computer link module)                                 | RS422<br>(2wire) | Setting Example 1<br>(page 8)  | Cable Diagram 1<br>(page 27) |
|                   | PC2J           | THU-2755 (PC/CMP-LINK)                                             | RS422<br>(2wire) | Setting Example 2<br>(page 10) | Cable Diagram 1<br>(page 27) |
| TOYOPUC-PC3J      | PC3J           | Link I/F on the CPU unit<br>(L2 terminal block)                    | RS422<br>(2wire) | Setting Example 3<br>(page 12) | Cable Diagram 2<br>(page 39) |
|                   |                | Link I/F on the CPU unit<br>(L1, L2 terminal block)                | RS422<br>(4wire) | Setting Example 4<br>(page 14) | Cable Diagram 3<br>(page 51) |
|                   |                | THU-2755 (PC/CMP-LINK)                                             | RS422<br>(2wire) | Setting Example 5<br>(page 16) | Cable Diagram 4<br>(page 58) |
|                   | PC3JD<br>PC3JG | Link I/F on the CPU unit<br>(L1 terminal block)                    | RS422<br>(2wire) | Setting Example 3<br>(page 12) | Cable Diagram 1<br>(page 27) |
|                   |                | THU-2755<br>(PC/CMP-LINK)*1                                        | RS422<br>(2wire) | Setting Example 5<br>(page 16) | Cable Diagram 1<br>(page 27) |
| TOYOPUC-<br>PC3JT | PC3JT          | Communication connector<br>(L1 for operation board) on<br>CPU Unit | RS422<br>(2wire) | Setting Example 6<br>(page 18) | Cable Diagram 5<br>(page 70) |
|                   |                | Link communication<br>connector(L2) on CPU Unit                    | RS422<br>(2wire) | Setting Example 7<br>(page 20) | Cable Diagram 6<br>(page 77) |

\*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.

## ■ 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.

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## ■ 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> |

\*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.

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)

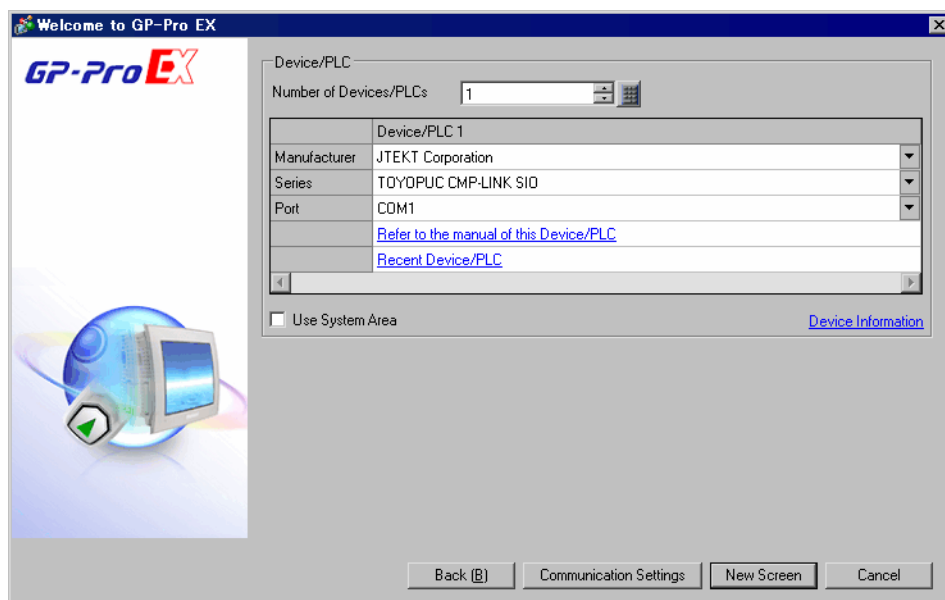
| DIP Switch | Setting | Description                                             |
|------------|---------|---------------------------------------------------------|
| 1          | OFF     | Reserved (always OFF)                                   |
| 2          | ON      | SIO type: RS-422/485                                    |
| 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/<br>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".<br>In System configuration, make sure the External Device you are connecting is supported by "TOYOPUC CMP-LINK SIO".<br>☞ "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.<br>Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"<br>This feature can also be set in GP-Pro EX or in the Display's offline mode.<br>Cf. GP-Pro EX Reference Manual "System Settings [Display Unit] - [System Area] Settings Guide"<br>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: JTEKT Corporation Series: TOYOPUC CMP-LINK SIO Port: COM1

Text Data Mode: 1 [Change](#)

Communication Settings

SIO Type: ☐ RS232C ☒ RS422/485(2wire) ☐ RS422/485(4wire)

Speed: 19200

Data Length: ☐ 7 ☒ 8

Parity: ☐ NONE ☒ EVEN ☐ ODD

Stop Bit: ☒ 1 ☐ 2

Flow Control: ☒ NONE ☐ ER(DTR/CTS) ☐ XON/XOFF

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (ms)

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](#)

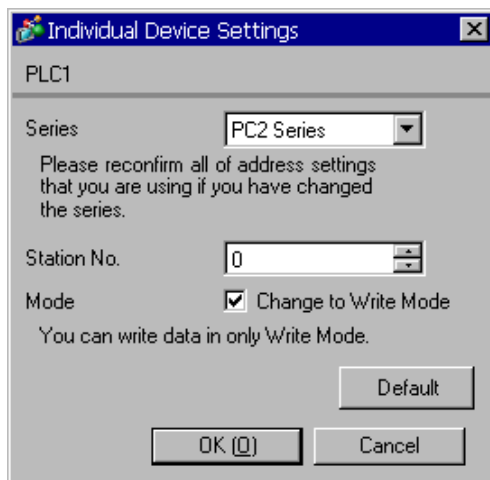
| No. | Device Name | Settings                                               | Add Indirect Device |
|-----|-------------|--------------------------------------------------------|---------------------|
| 1   | PLC1        | Series=PC2 Series, Station No.=0, Change to 'Write Mor | <a href="#">+</a>  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



### ◆ 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' window with the following settings:

- 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
- Device-Specific Settings:**
  - Allowable Number of Devices/PLCs: 16
  - Table:
 

| No. | Device Name | Settings                                               |
|-----|-------------|--------------------------------------------------------|
| 1   | PLC1        | Series=PC2 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 'Individual Device Settings' dialog box for 'PLC1' contains the following information:

- Series:** PC2 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
- 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                  |
| Internal Switch | SW4-1 OFF<br>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].

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' tab is active, displaying the following information:

- Manufacturer:** JTEKT Corporation
- Series:** TOYOPUC CMP-LINK SIO
- Port:** COM1
- Text Data Mode:** 1

The 'Communication Settings' section includes:

- 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)

Below these settings is a section for 'RI / VCC' with radio buttons for 'RI' (selected) and 'VCC'. A note 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.' A 'Default' button is also present.

The 'Device-Specific Settings' section shows:

- Allowable Number of Devices/PLCs:** 16
- Add Device** button
- Table:**

| No. | Device Name | Settings                                                |
|-----|-------------|---------------------------------------------------------|
| 1   | PLC1        | Series=PC3J Series, Station No.=0, Change to Write Mode |
- 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 'Individual Device Settings' dialog box for 'PLC1' is shown. It contains the following settings:

- Series:** PC3J Series
- Station No.:** 0
- Mode:** ☒ Change to Write Mode

Instructions within the dialog state: 'Please reconfirm all of address settings that you are using if you have changed the series.' and 'You can write data in only Write Mode.' Buttons for 'Default', 'OK (O)', and 'Cancel' are at the bottom.

## ■ 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<br>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' dialog box. The 'Summary' section includes fields for Manufacturer (JTEKT Corporation), Series (TOYOPUC CMP-LINK SIO), and Port (COM1). The 'Text Data Mode' is set to 1. The 'Communication Settings' section includes radio buttons for SIO Type (RS232C, RS422/485(2wire), RS422/485(4wire)), a Speed dropdown (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), and Wait To Send (0 ms). There is a section for RI/VCC with radio buttons and a note about RS232C pin selection. A 'Default' button is present. The 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16, with an 'Add Device' button. Below is a table with columns 'No.', 'Device Name', and 'Settings'. The first row shows '1', 'PLC1', and '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 screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It has a 'Series' dropdown menu set to 'PC3J Series'. Below it is a note: 'Please reconfirm all of address settings that you are using if you have changed the series.' The 'Station No.' is set to 0. The 'Mode' section has a checked checkbox for 'Change to Write Mode' with a note: 'You can write data in only Write Mode.' There are 'Default', 'OK (O)', and 'Cancel' buttons at the bottom.

## ■ 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<br>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

Manufacturer: JTEKT Corporation Series: TOYOPUC CMP-LINK SIO Port: COM1

Text Data Mode: 1 [Change](#)

Communication Settings

SIO Type: ☐ RS232C ☒ RS422/485(2wire) ☐ RS422/485(4wire)

Speed: 19200

Data Length: ☐ 7 ☒ 8

Parity: ☐ NONE ☒ EVEN ☐ ODD

Stop Bit: ☒ 1 ☐ 2

Flow Control: ☒ NONE ☐ ER(DTR/CTS) ☐ XON/XOFF

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (ms)

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=PC3J Series, Station No.=0, Change to Write Mode | <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.

Individual Device Settings

PLC1

Series: PC3J Series

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

Station No.: 0

Mode: ☒ Change to Write Mode

You can write data in only Write Mode.

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<br>Connecting<br>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' 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: ☒ RS232C, ☐ RS422/485(2wire), ☐ RS422/485(4wire)
  - Speed: 115200
  - 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
  - Table:

| No. | Device Name | Settings                                                 |
|-----|-------------|----------------------------------------------------------|
| 1   | PLC1        | Series=PC3JT 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:** PC3JT Series
- Station No.:** 0
- Mode:** ☒ Change to Write Mode
- Buttons:** Default, OK (O), 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/PLC 1

Summary [Change Device/PLC](#)

Manufacturer: JTEKT Corporation Series: TOYOPUC CMP-LINK SIO Port: COM1

Text Data Mode: 1 [Change](#)

Communication Settings

SIO Type: ☐ RS232C ☒ RS422/485(2wire) ☐ RS422/485(4wire)

Speed: 19200

Data Length: ☐ 7 ☒ 8

Parity: ☐ NONE ☒ EVEN ☐ ODD

Stop Bit: ☒ 1 ☐ 2

Flow Control: ☒ NONE ☐ ER(DTR/CTS) ☐ XON/XOFF

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (ms)

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                                                |
|-----|-------------|---------------------------------------------------------|
| 1   | PLC1        | Series=PC3J Series, Station No.=0, Change to Write Mode |

[Add 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.

Individual Device Settings

PLC1

Series: PC3J Series

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

Station No.: 0

Mode: ☒ Change to Write Mode  
 You can write data in only Write Mode.

[Default](#)

[OK \(O\)](#) [Cancel](#)

##### ◆ 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   |

## 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 8)

### 4.1 Setup Items in GP-Pro EX

#### ■ Communication Settings

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

Device/PLC 1

Summary

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

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

No. Device Name Settings

| No. | Device Name | Settings                                                |
|-----|-------------|---------------------------------------------------------|
| 1   | PLC1        | Series=PC3J Series, Station No.=0, Change to Write M... |

Add Indirect Device

| 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.<br>It is necessary to change RI/5V by changeover switch of IPC when connect with IPC.<br>Please refer to the manual of the IPC for more detail. |

**NOTE**

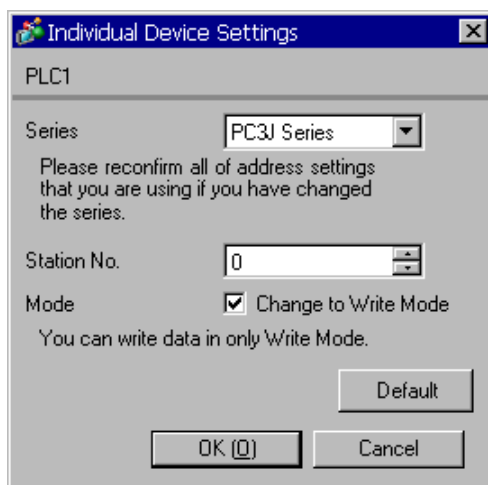
- Refer to the GP-Pro EX Reference Manual for Indirect Device.

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.<br><b>IMPORTANT</b><br>To make the communication settings correctly, confirm the serial interface specifications of Display unit for [SIO Type].<br>We cannot guarantee the operation if a communication type that the serial interface does not support is specified.<br>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<br>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<br>13:24:11 |

### NOTE

- GP-4100 series, GP-4\*01TM, 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<br>(Connection Port)                                                                                    | Cable |                                                                                                                                                            | Remarks                                      |
|-----------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| GP3000 <sup>*1</sup> (COM1)<br>AGP-3302B (COM2)<br>GP-4*01TM (COM1)<br>ST <sup>*2</sup> (COM2)<br>LT3000 (COM1) | 1A    | COM port conversion adapter by Pro-face<br>CA3-ADPCOM-01<br>+<br>Terminal block conversion adapter by Pro-face<br>CA3-ADPTRM-01<br>+<br>User-created cable | The cable length<br>must be 500m or<br>less. |
|                                                                                                                 | 1B    | User-created cable                                                                                                                                         |                                              |
| GP3000 <sup>*3</sup> (COM2)                                                                                     | 1C    | Online adapter by Pro-face<br>CA4-ADPONL-01<br>+<br>Terminal block conversion adapter by Pro-face<br>CA3-ADPTRM-01<br>+<br>User-created cable              | The cable length<br>must be 500m or<br>less. |
|                                                                                                                 | 1D    | Online adapter by Pro-face<br>CA4-ADPONL-01<br>+<br>User-created cable                                                                                     |                                              |
| IPC <sup>*4</sup>                                                                                               | 1E    | COM port conversion adapter by Pro-face<br>CA3-ADPCOM-01<br>+<br>Terminal block conversion adapter by Pro-face<br>CA3-ADPTRM-01<br>+<br>User-created cable | The cable length<br>must be 500m or<br>less. |
|                                                                                                                 | 1F    | User-created cable                                                                                                                                         |                                              |
| GP-4106 (COM1)                                                                                                  | 1G    | User-created cable                                                                                                                                         | The cable length<br>must be 500m or<br>less. |
| GP-4107 (COM1)<br>GP-4*03T <sup>*5</sup> (COM2)<br>GP-4203T (COM1)                                              | 1H    | User-created cable                                                                                                                                         |                                              |

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

\*1 All GP3000 models except AGP-3302B

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

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

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

 ■ IPC COM Port (page 5)

\*5 Except GP-4203T

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

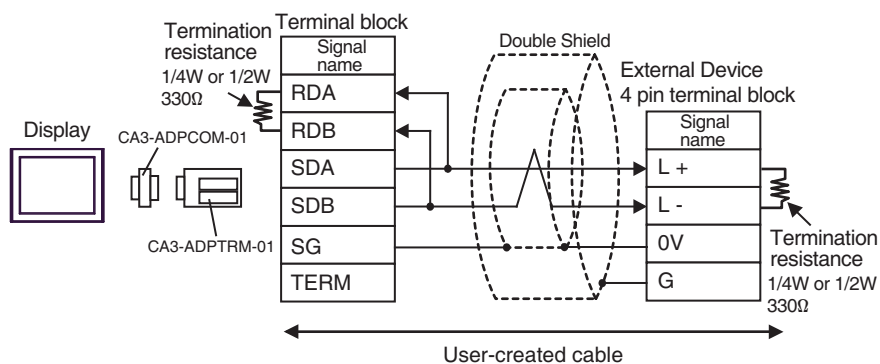
\*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 1A.

#### NOTE

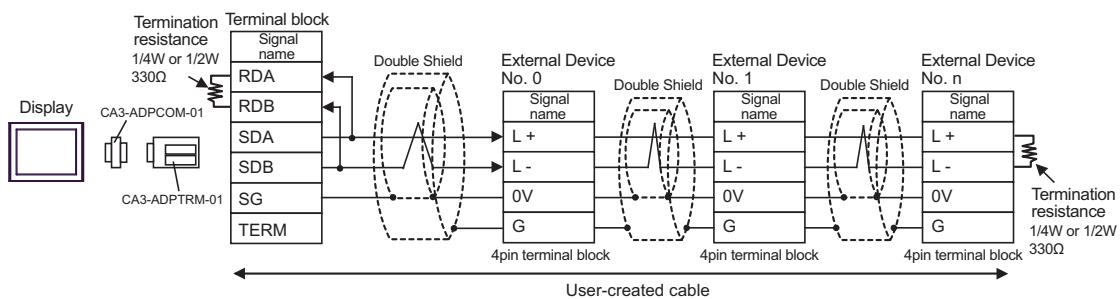
- For connection cable, we recommend the double shield 0-VCTF-SS 2C\*0.75mm<sup>2</sup> by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of 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

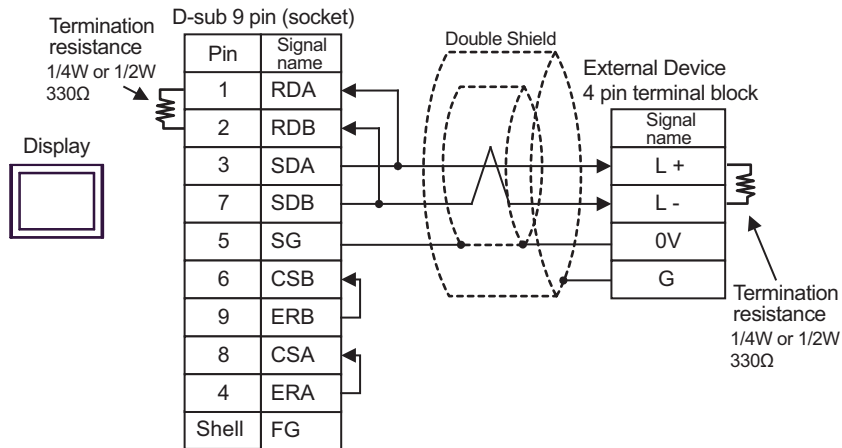


- 1:n Connection

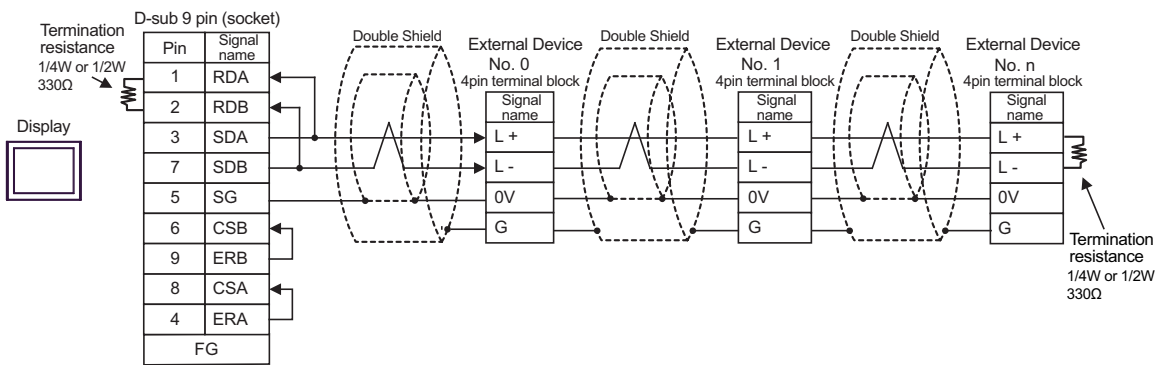


1B)

- 1:1 Connection

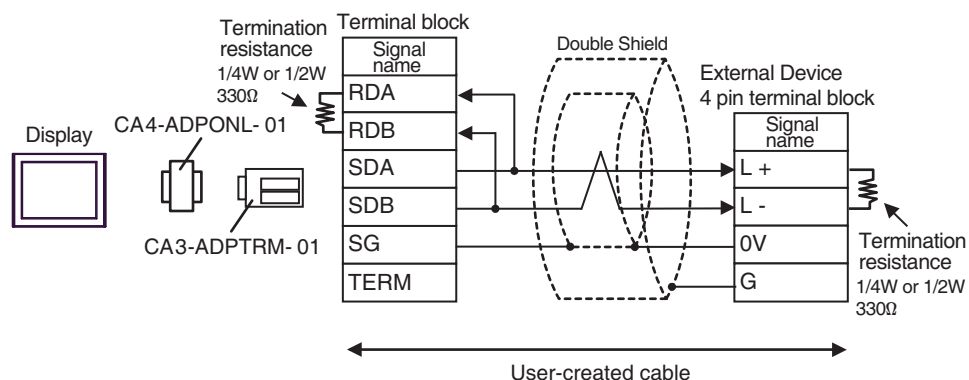


- 1:n Connection

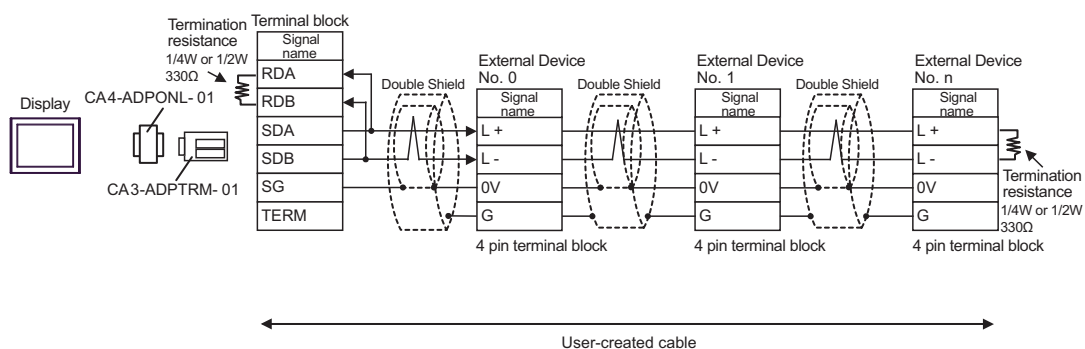


1C)

- 1:1 Connection

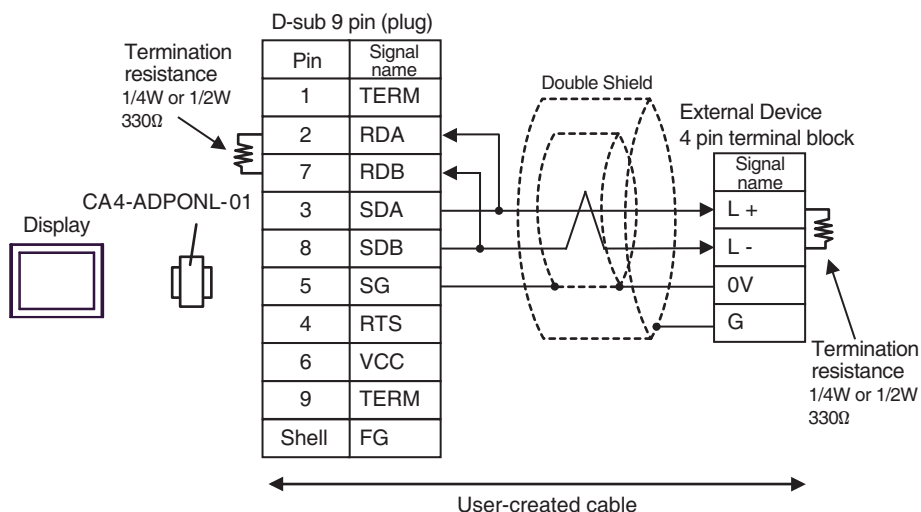


- 1:n connection

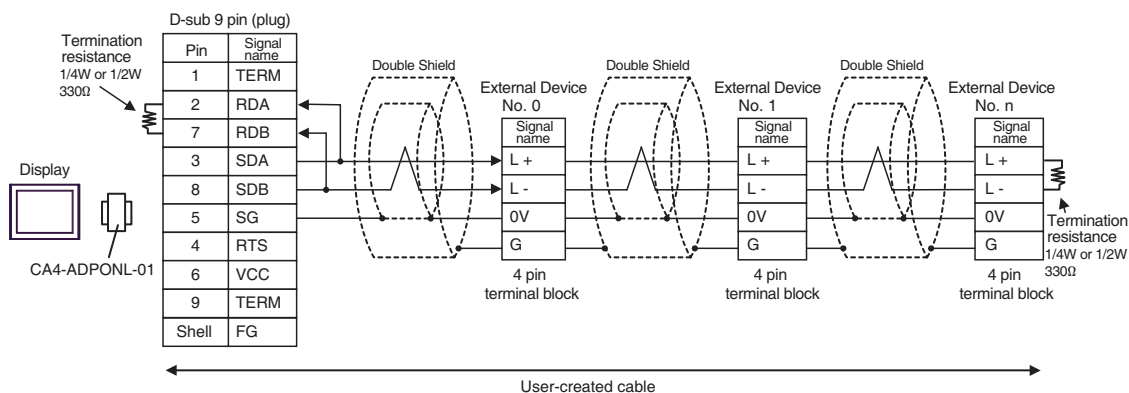


1D)

- 1:1 Connection



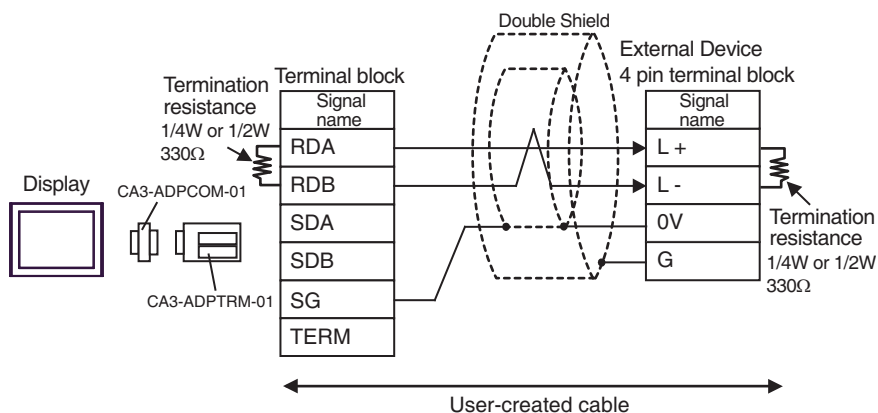
- 1:n Connection



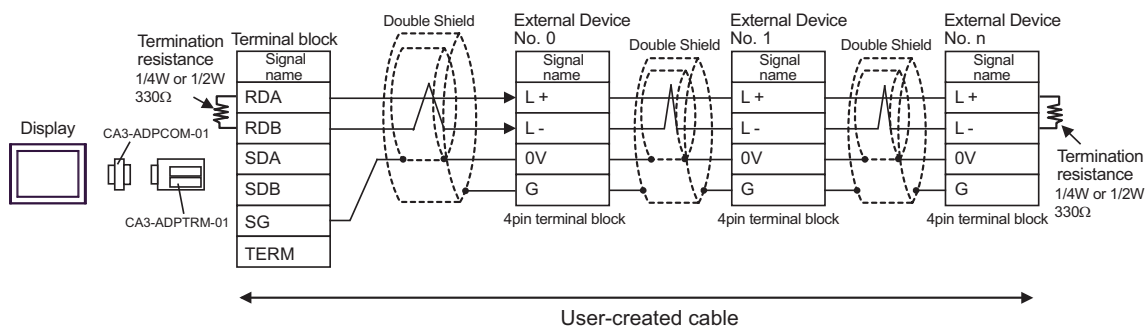


1E)

- 1:1 Connection

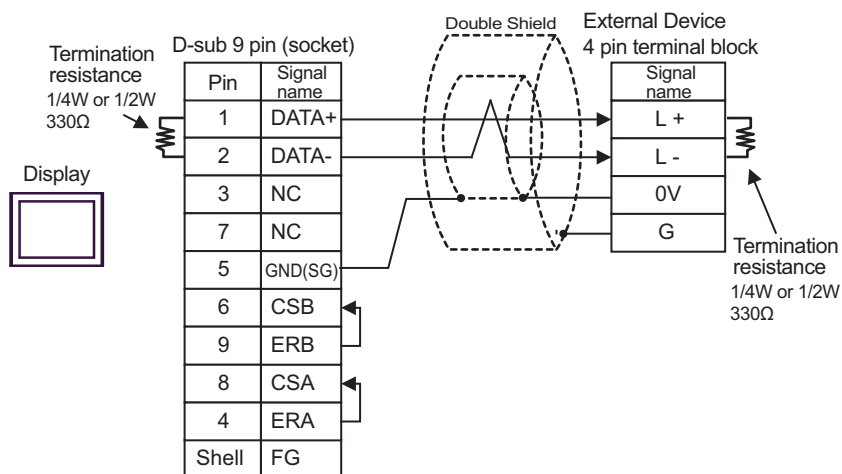


- 1:n Connection

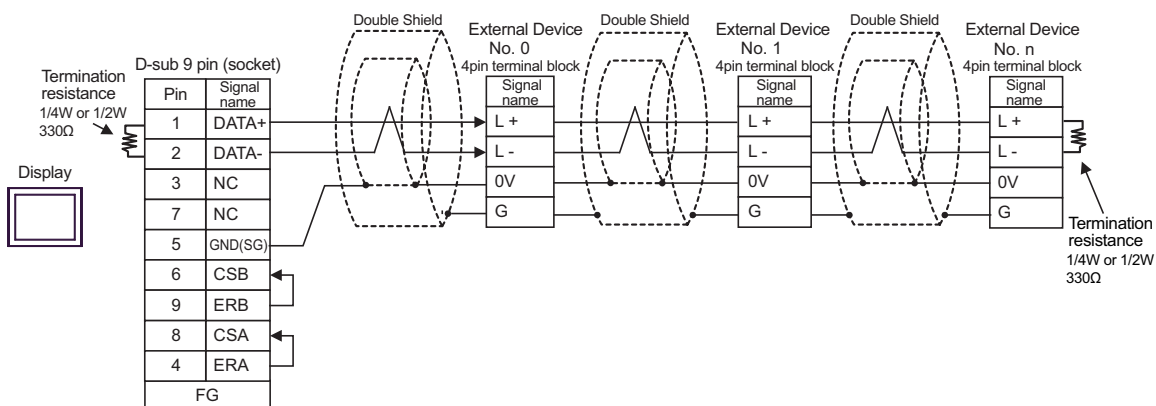


1F)

- 1:1 Connection

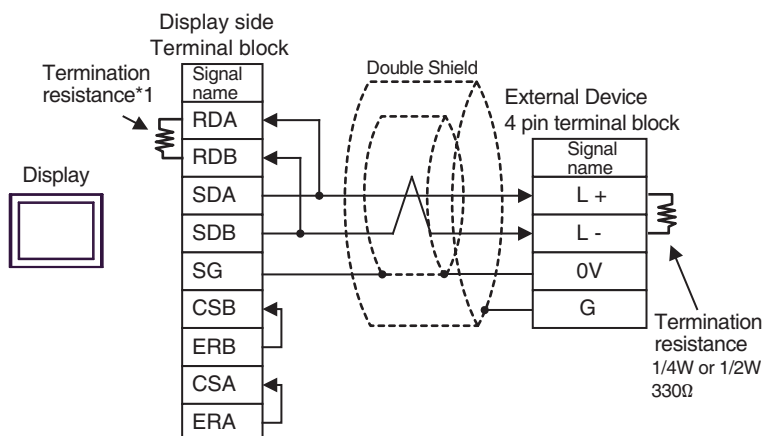


- 1:n Connection

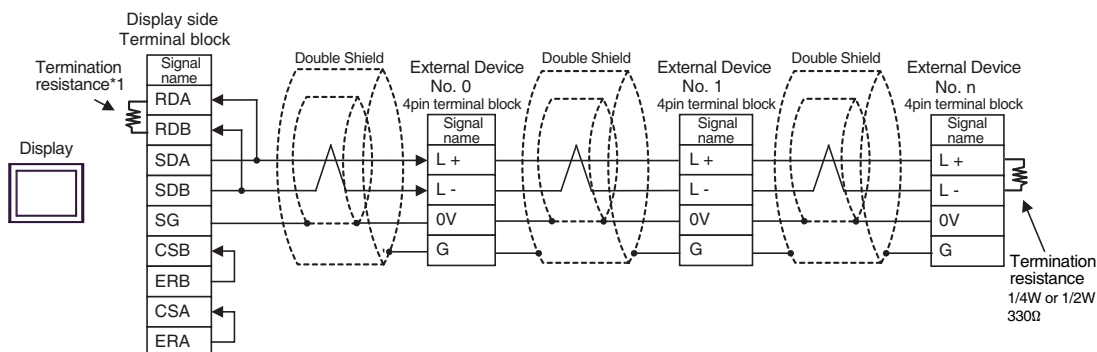


1G)

- 1:1 Connection



- 1:n Connection

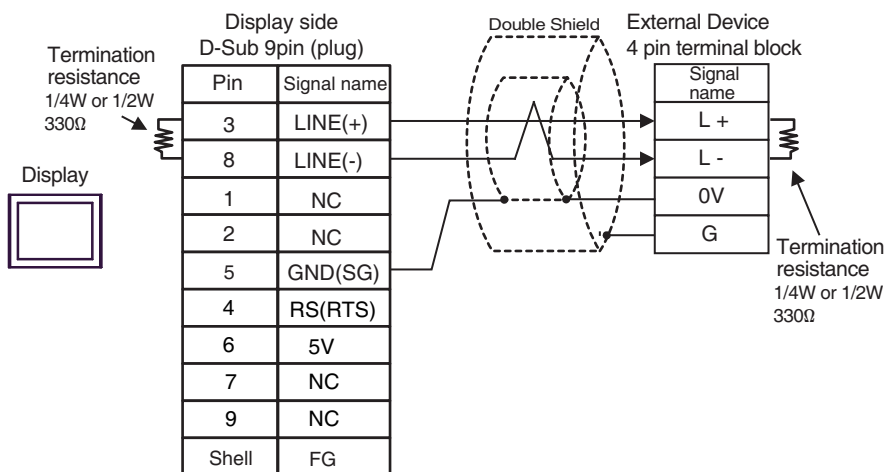


\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

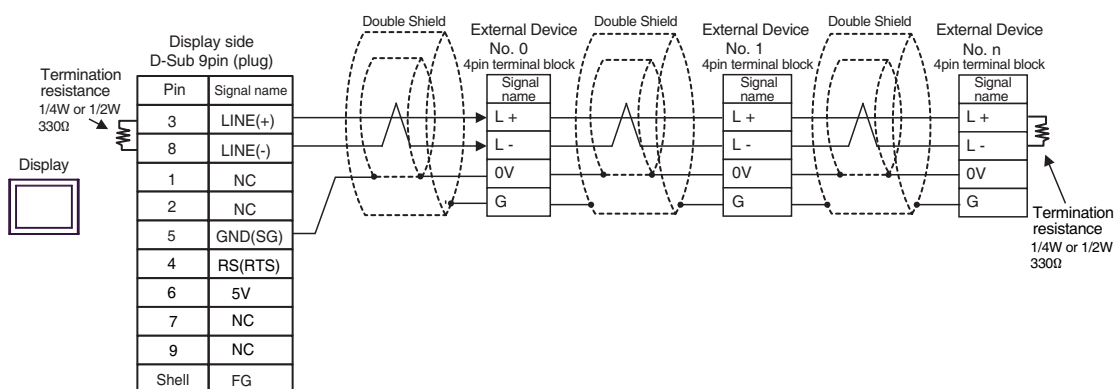
| DIP Switch No. | Set Value |
|----------------|-----------|
| 1              | OFF       |
| 2              | OFF       |
| 3              | ON        |
| 4              | OFF       |

1H)

- 1:1 Connection



- 1:n Connection

**IMPORTANT**

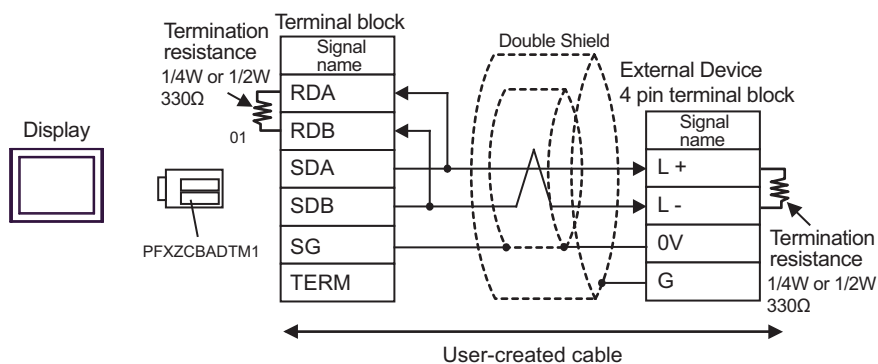
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

**NOTE**

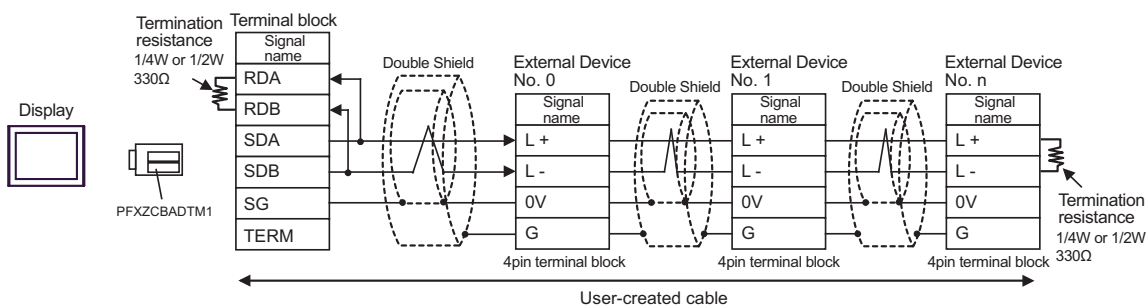
- In COM on the GP-4107, the SG and FG terminals are isolated.

1l)

- 1:1 Connection

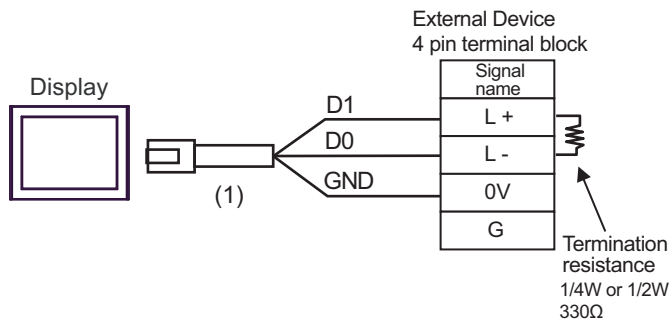


- 1:n Connection

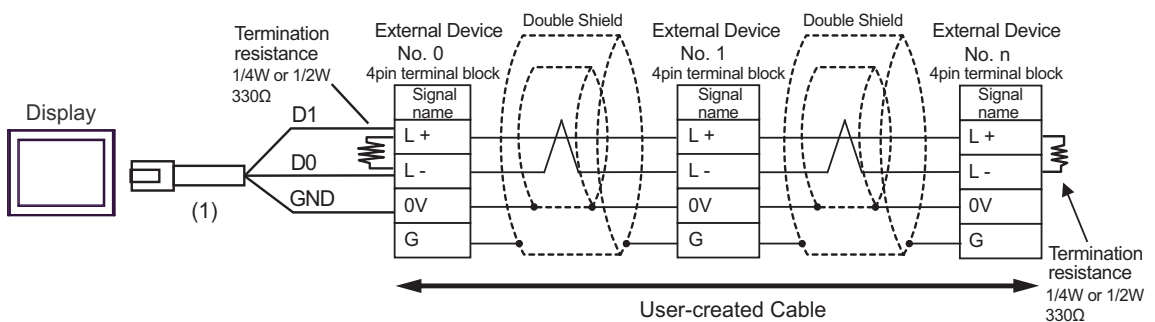


1J)

- 1:1 Connection



- 1:n Connection



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

Cable Diagram 2

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

\*1 All GP3000 models except AGP-3302B

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

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

- \*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.  
 ■ IPC COM Port (page 5)
- \*5 Except GP-4203T
- \*6 All GP4000 models except GP-4100 Series, GP-4\*01TM, 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.

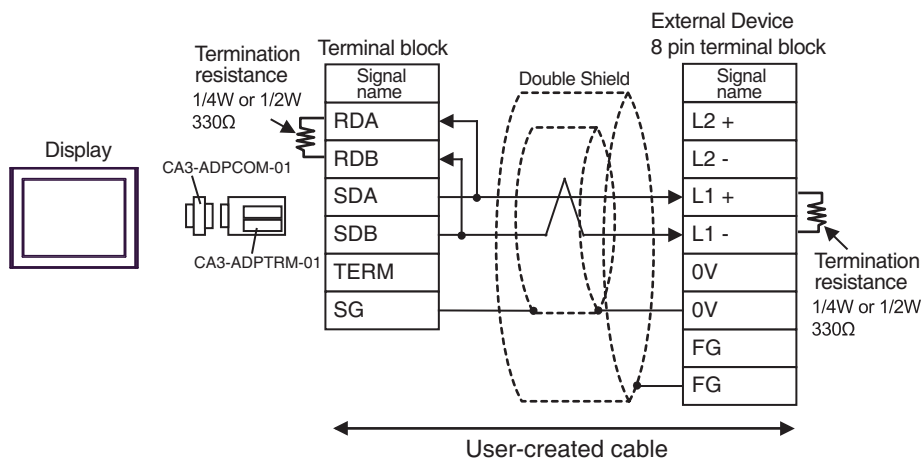
**NOTE**

- 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.

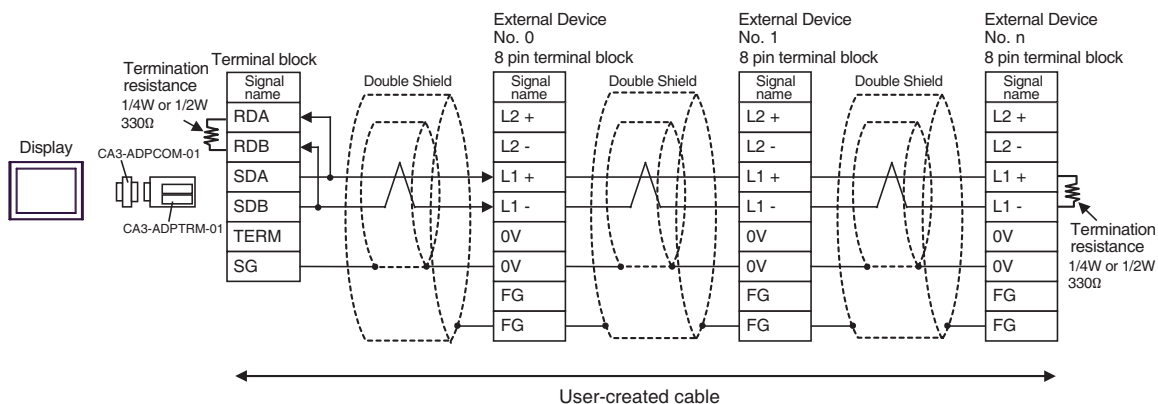


2A)

- 1:1 Connection

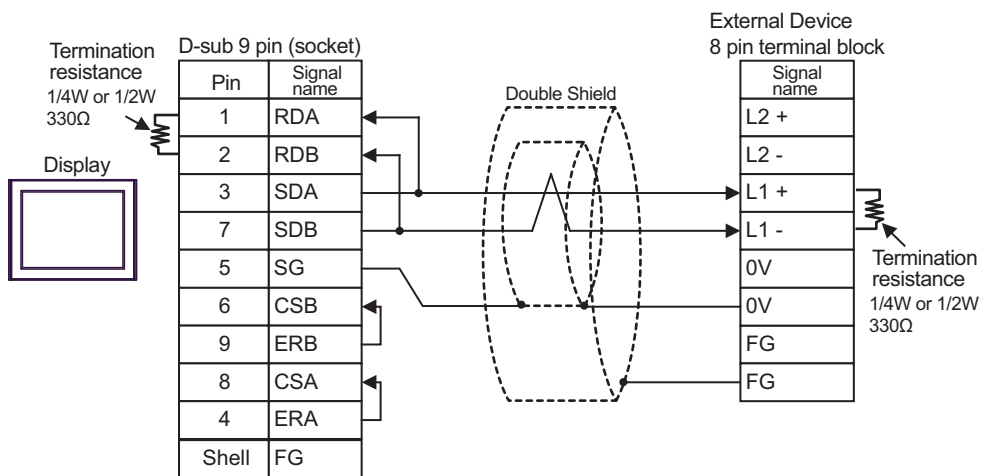


- 1:n Connection

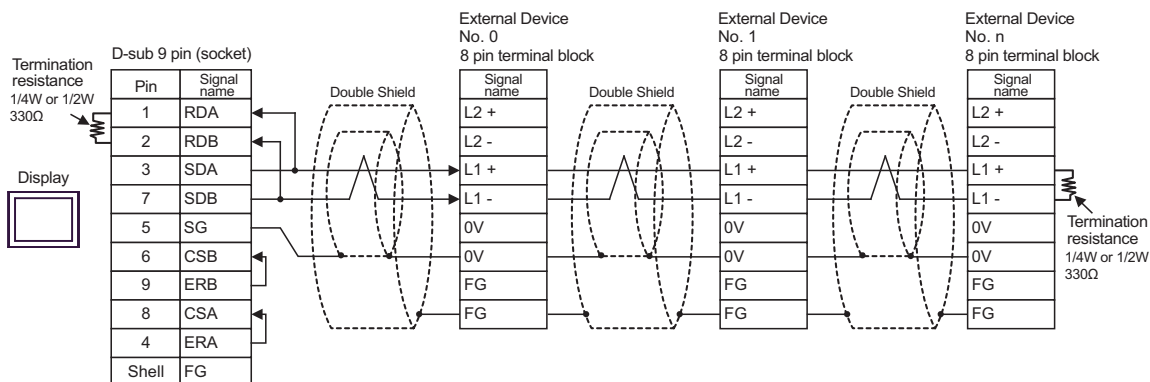


2B)

- 1:1 Connection

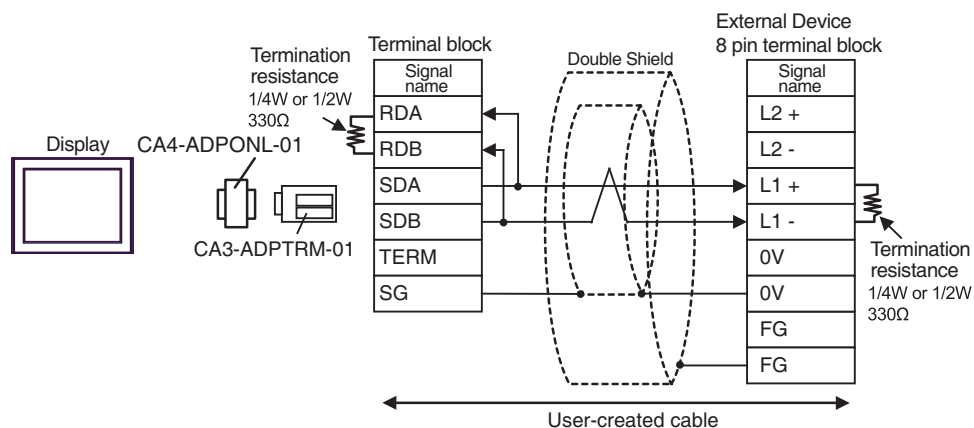


- 1:n Connection

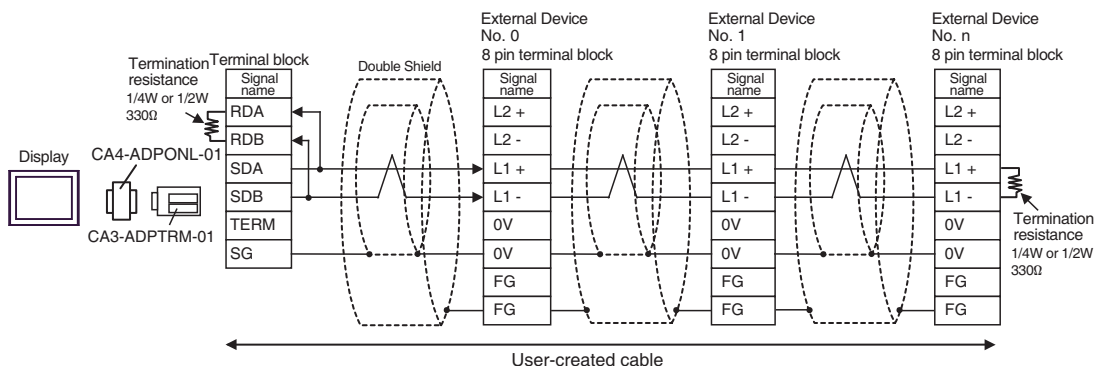


2C)

- 1:1 Connection

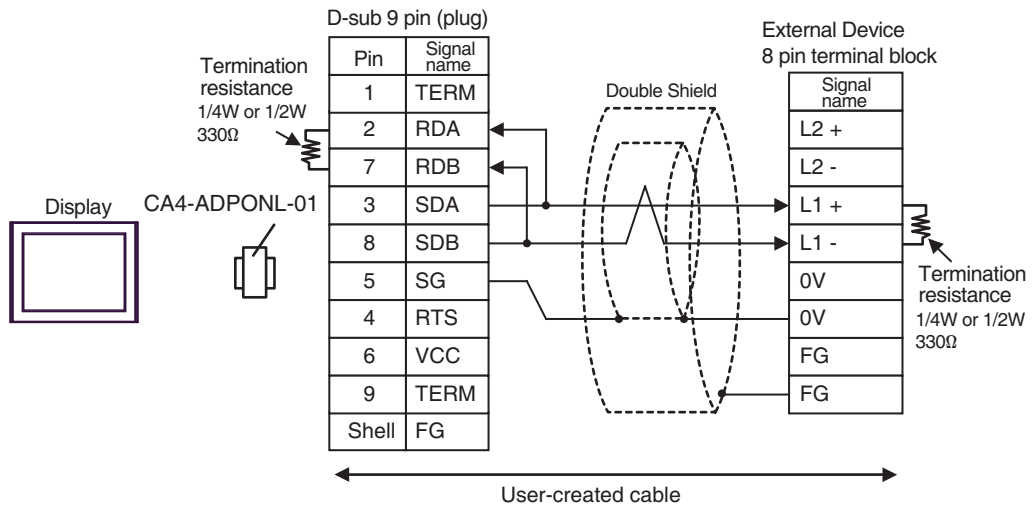


- 1:n Connection

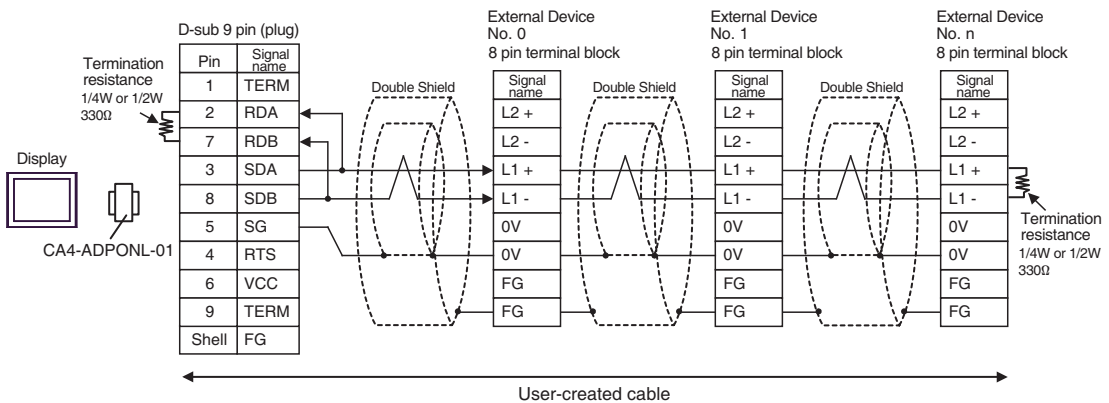


2D)

- 1:1 Connection

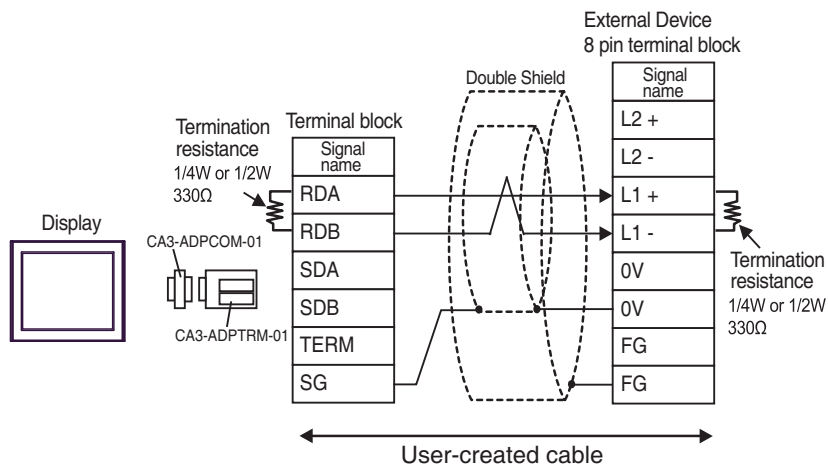


- 1:n Connection

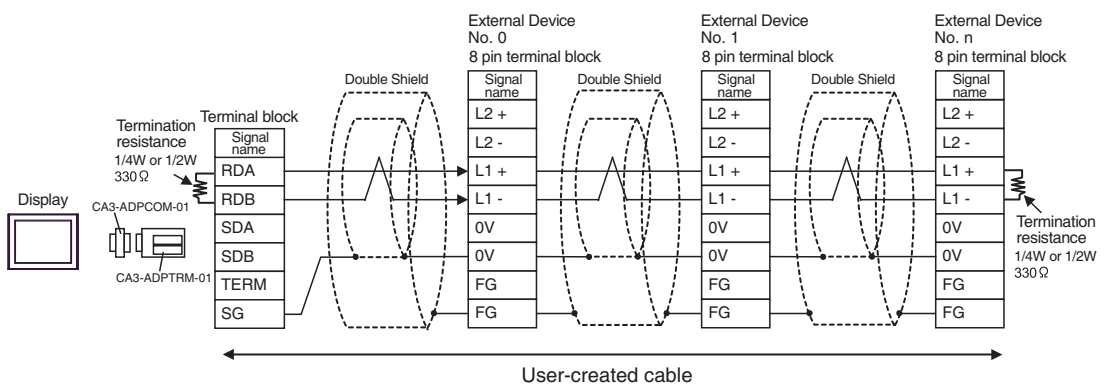


2E)

- 1:1 Connection

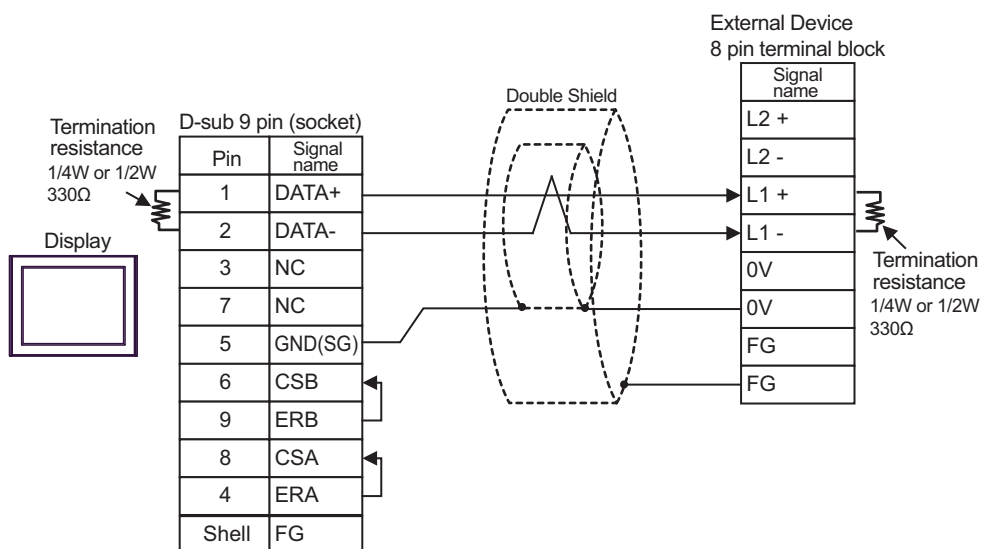


- 1:n Connection

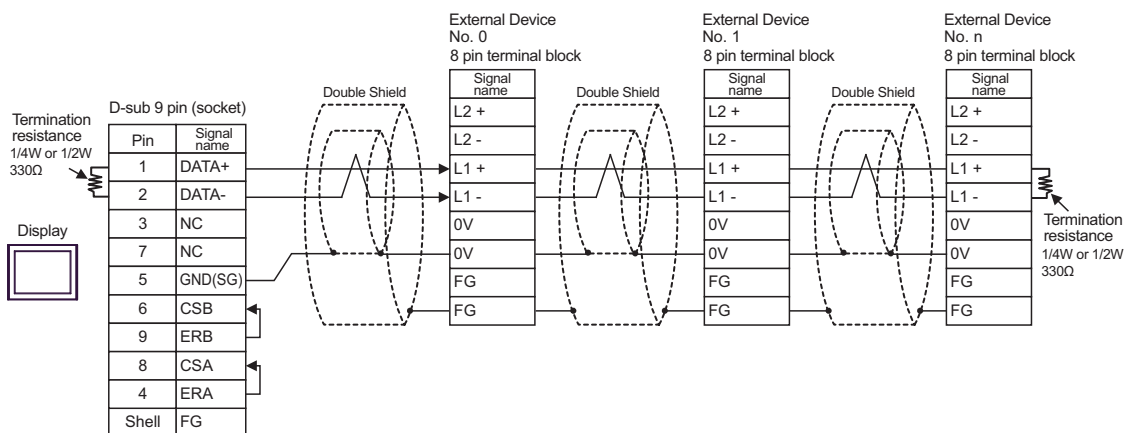


2F)

- 1:1 Connection

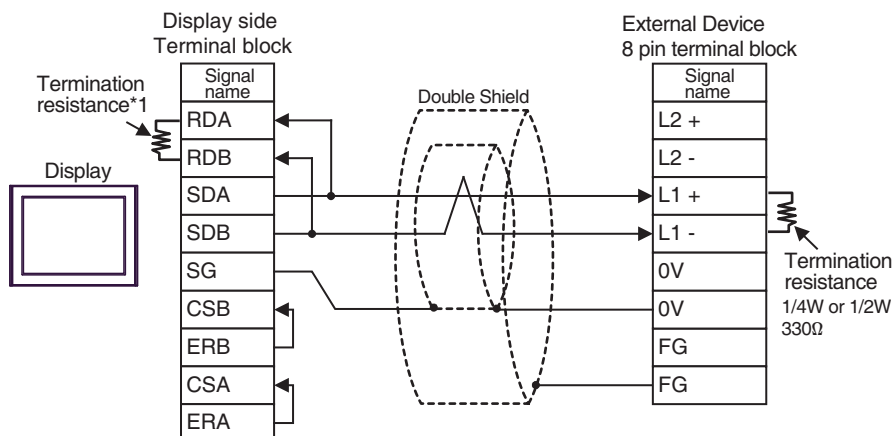


- 1:n Connection

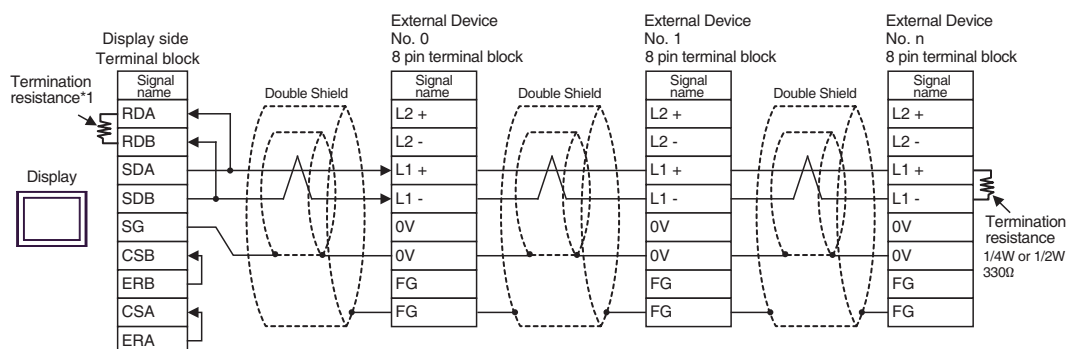


2G)

- 1:1 Connection



- 1:n Connection

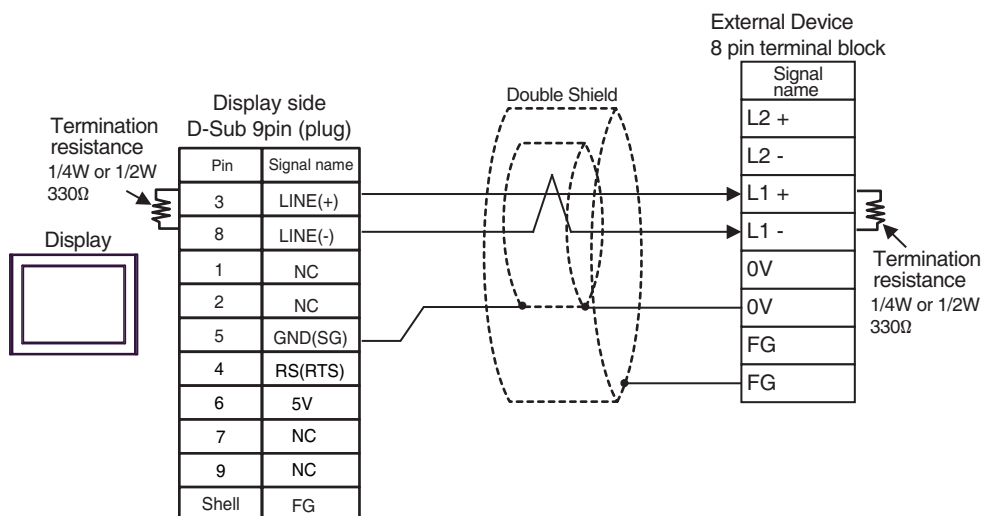


\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

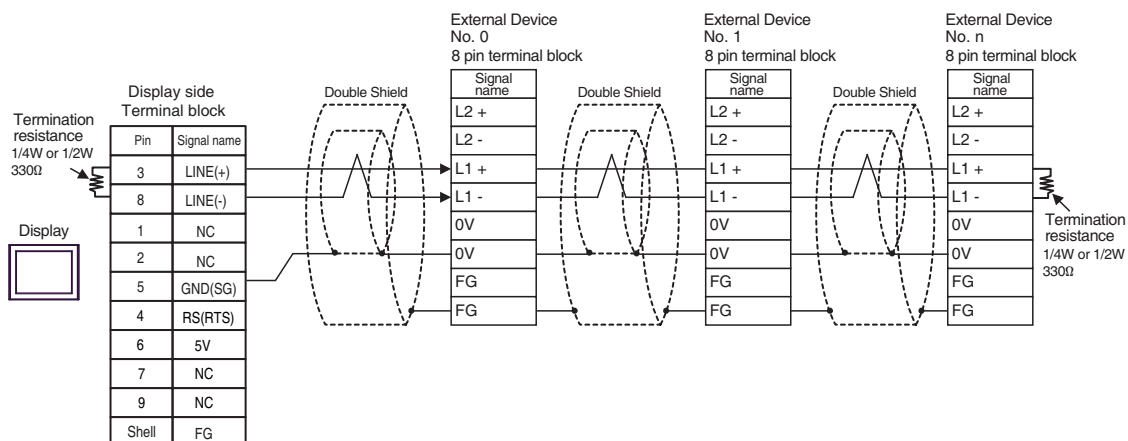
| DIP Switch No. | Set Value |
|----------------|-----------|
| 1              | OFF       |
| 2              | OFF       |
| 3              | ON        |
| 4              | OFF       |

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.

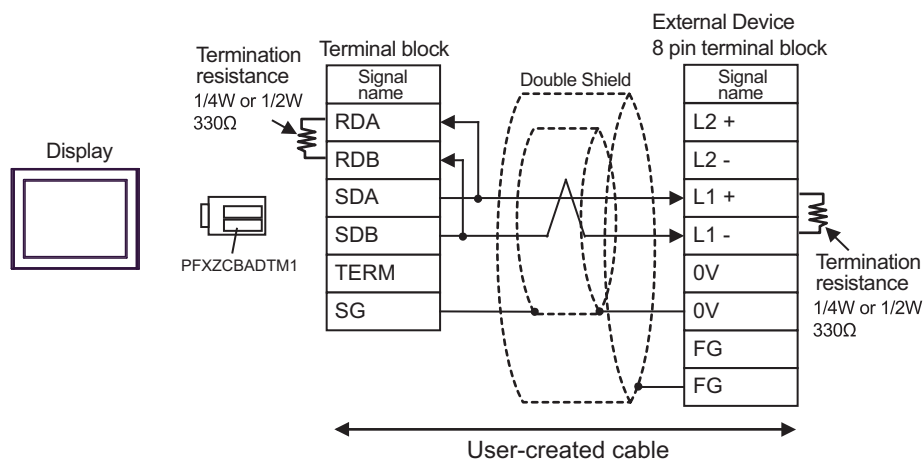
**NOTE**

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

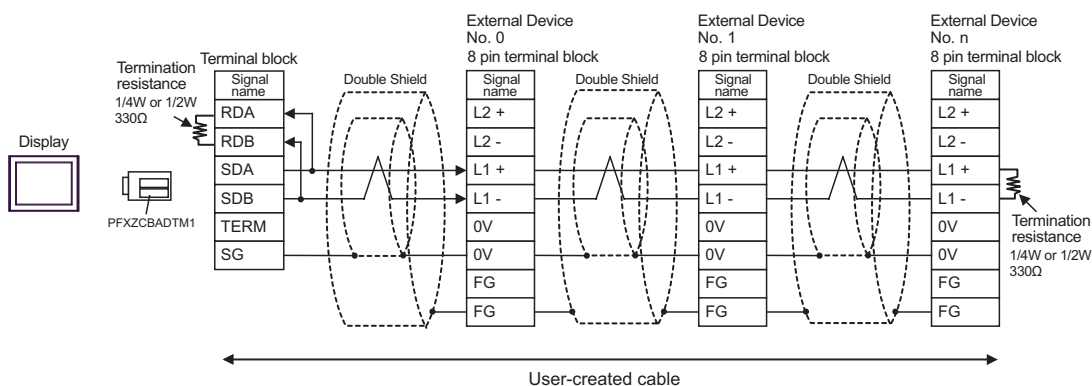


2l)

- 1:1 Connection

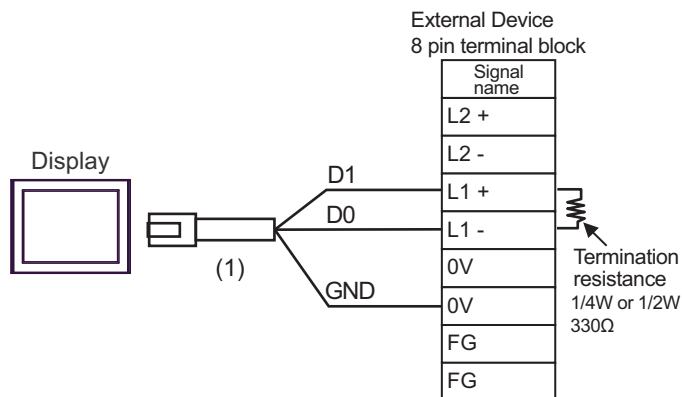


- 1:n Connection

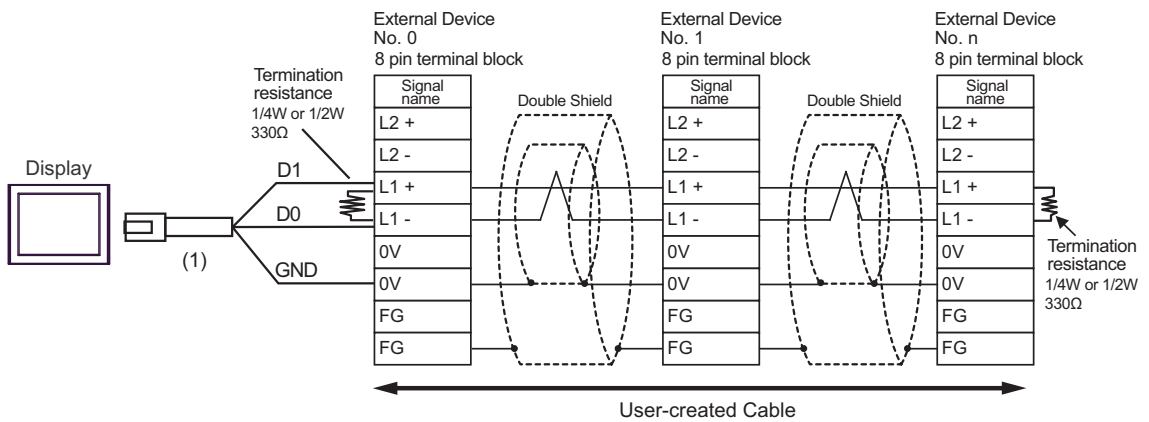


2J)

- 1:1 Connection



- 1:n Connection



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

Cable Diagram 3

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

\*1 All GP3000 models except AGP-3302B

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

\*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.

 ■ IPC COM Port (page 5)

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

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

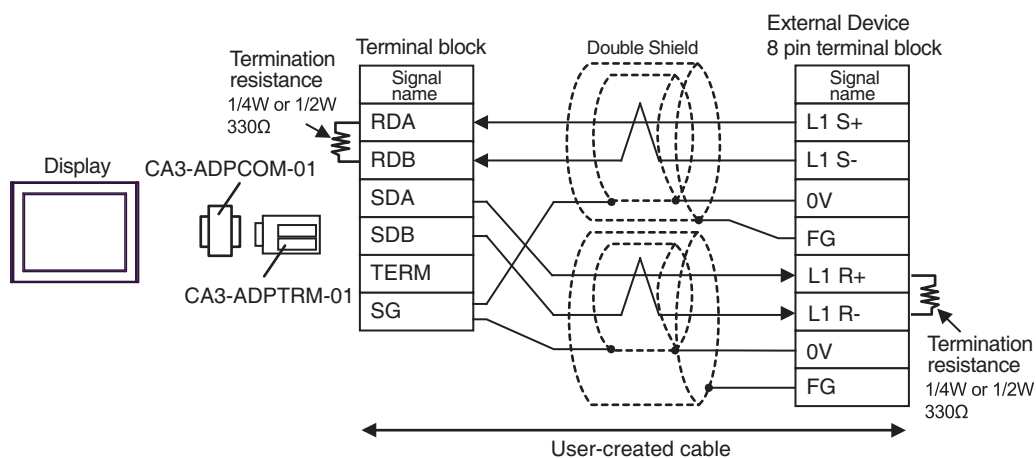
\*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 3A.

**NOTE**

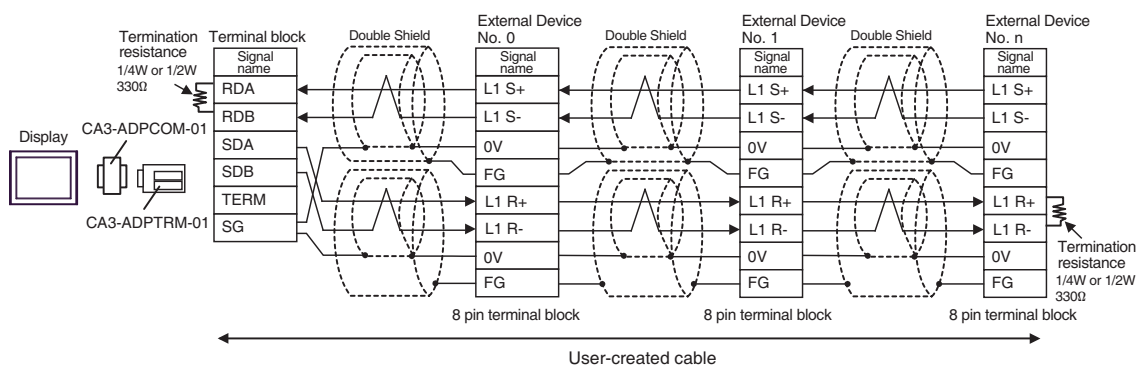
- For connection cable, we recommend the double shield 0-VCTF-SS 2C\*0.75mm<sup>2</sup> by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of 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

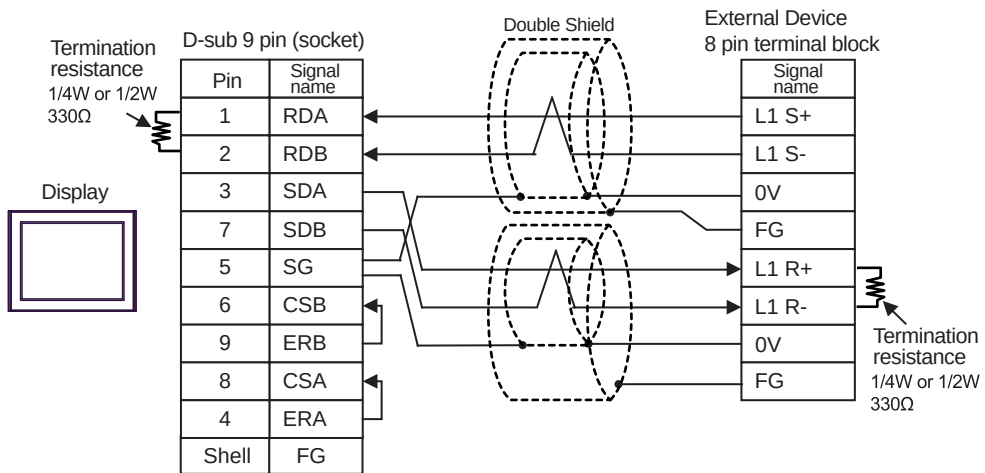


- 1:n Connection

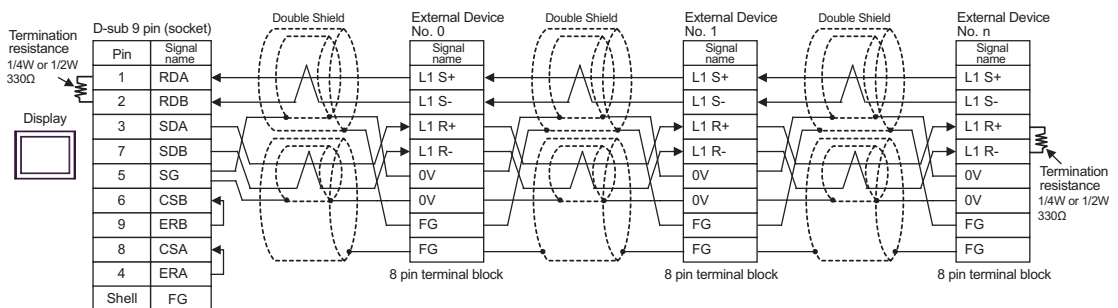


3B)

- 1:1 Connection

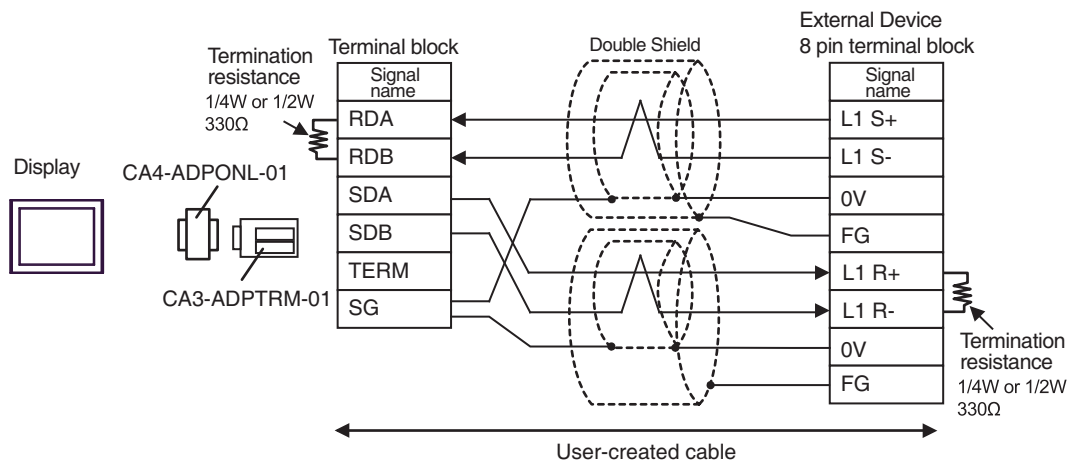


- 1:n Connection

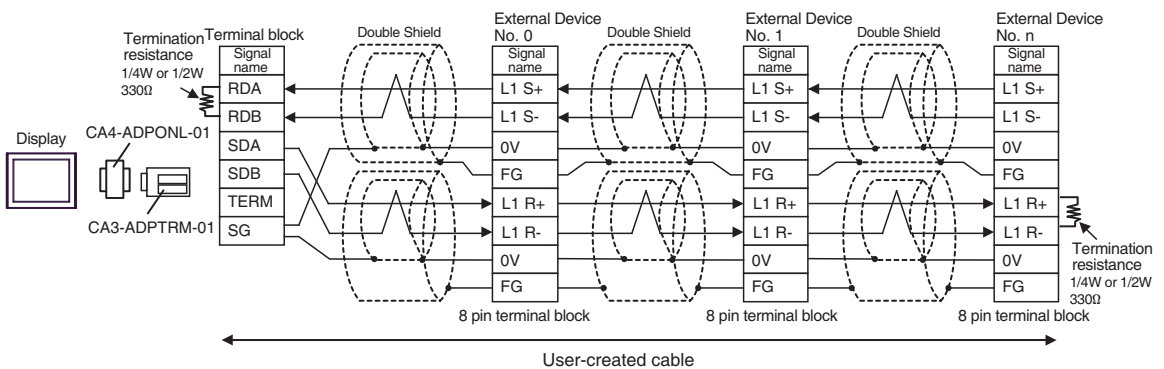


3C)

- 1:1 Connection

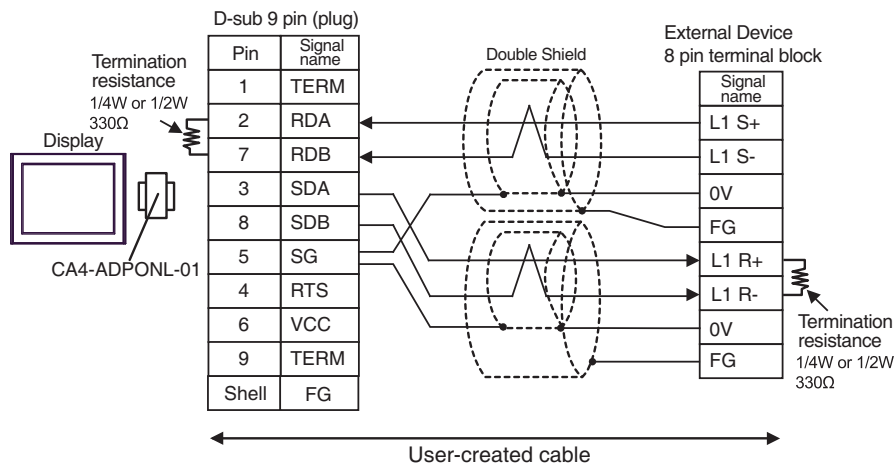


- 1:n Connection

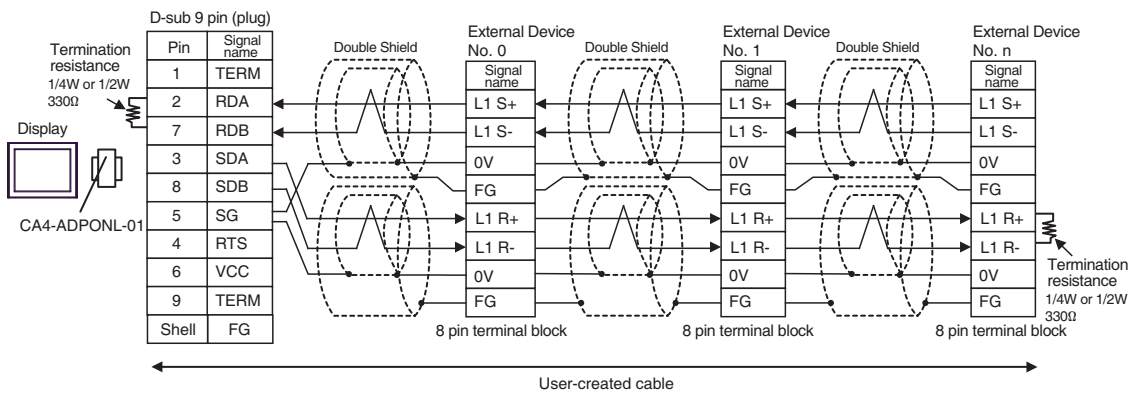


3D)

- 1:1 Connection

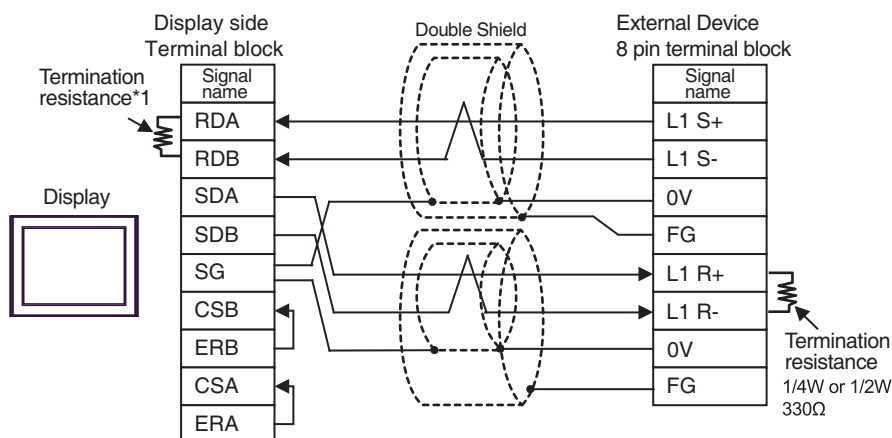


- 1:n Connection

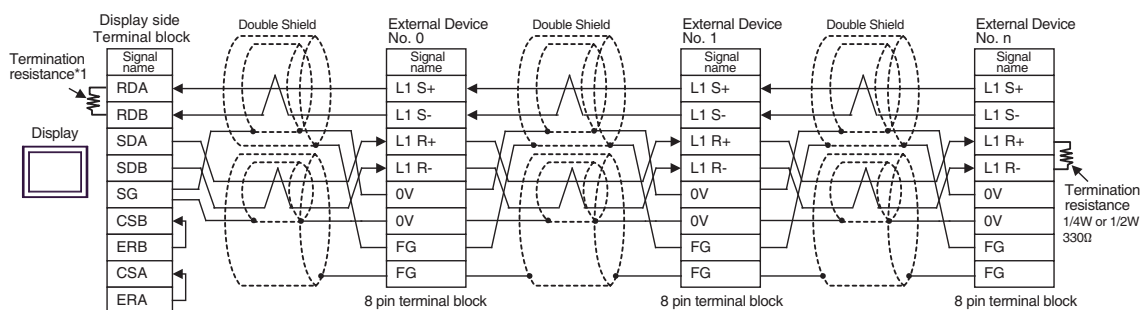


3E)

- 1:1 Connection



- 1:n Connection



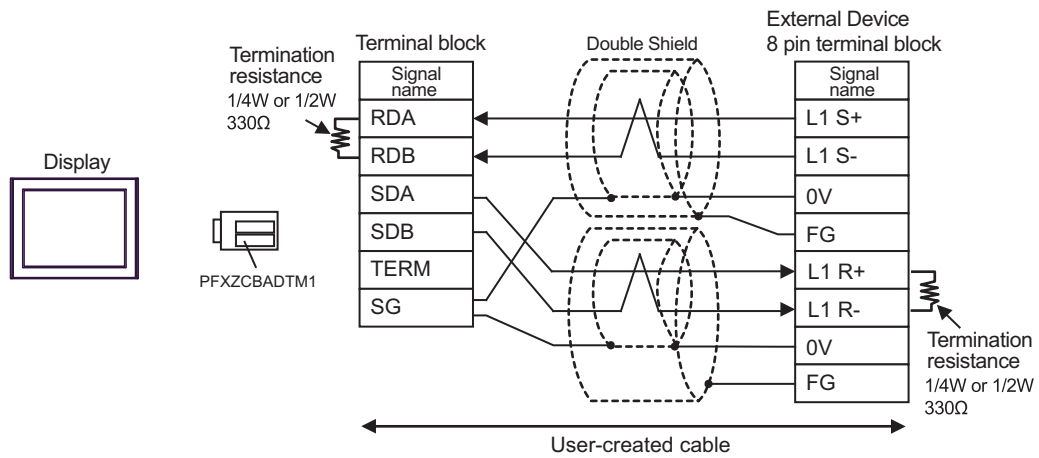
\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

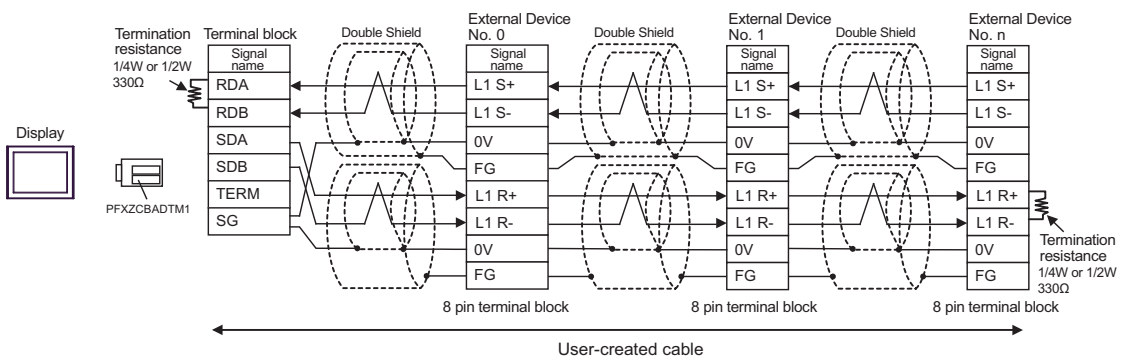


3F)

- 1:1 Connection



- 1:n Connection



Cable Diagram 4

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

\*1 All GP3000 models except AGP-3302B

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

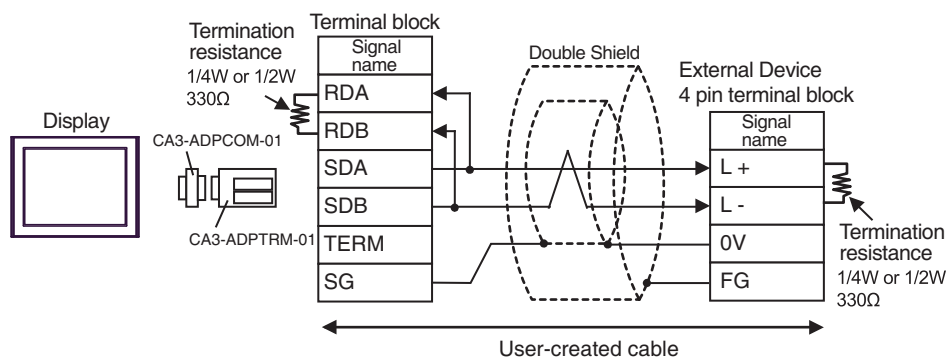
- \*3 All GP3000 models except GP-3200 series and AGP-3302B
- \*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.  
 ■ IPC COM Port (page 5)
- \*5 Except GP-4203T
- \*6 All GP4000 models except GP-4100 Series, GP-4\*01TM, GP-4201T and GP-4\*03T
- \*7 When using a Terminal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

**NOTE**

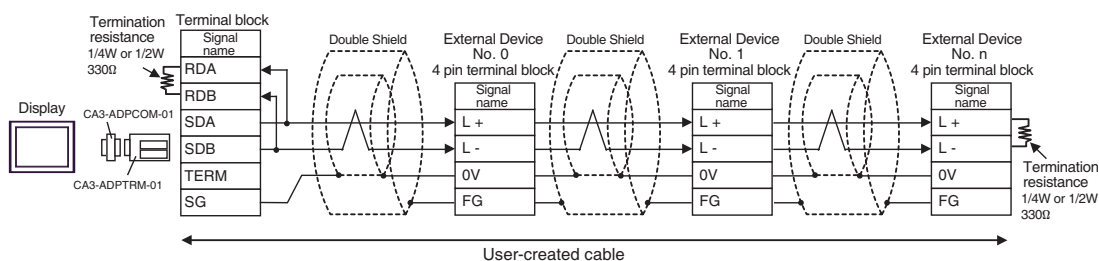
- For connection cable, we recommend the double shield 0-VCTF-SS 2C\*0.75mm<sup>2</sup> by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of 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

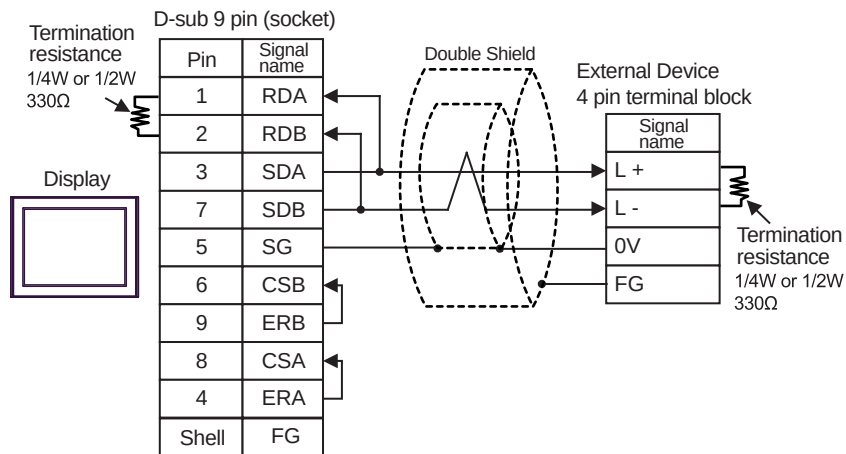


- 1:n Connection

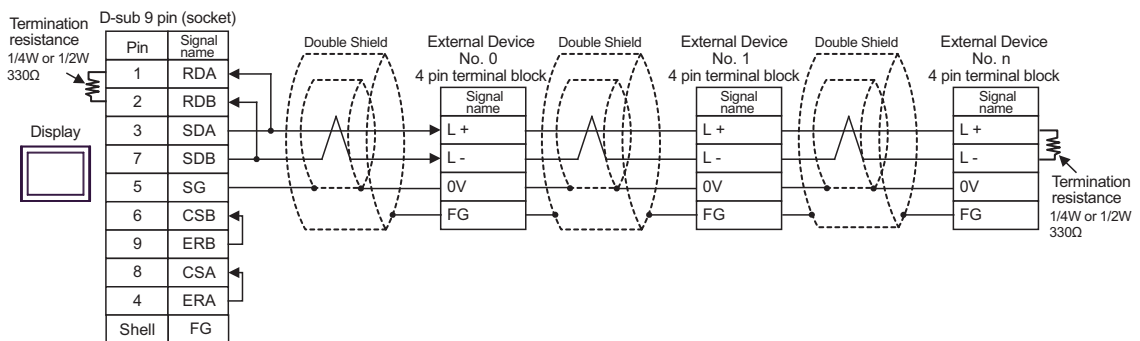


4B)

- 1:1 Connection

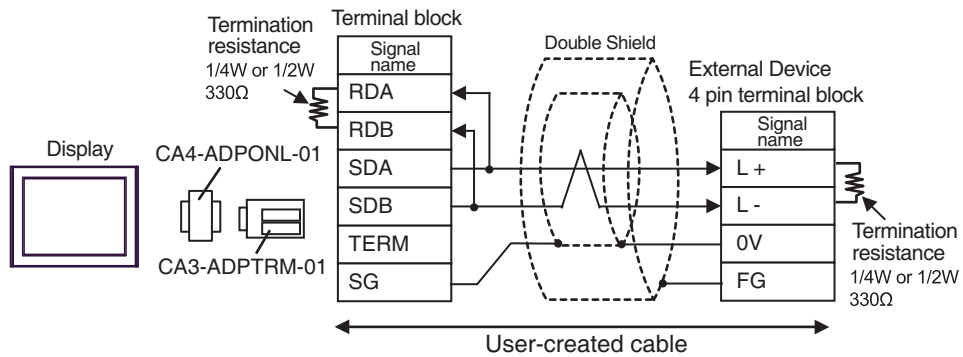


- 1:n Connection

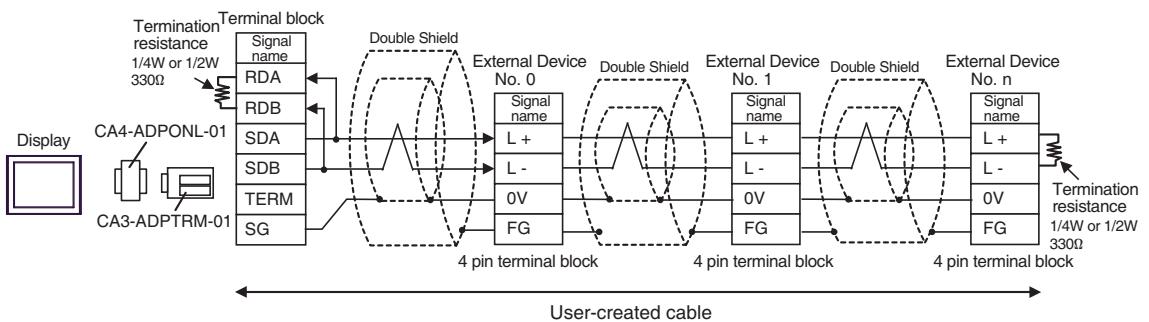


4C)

- 1:1 Connection

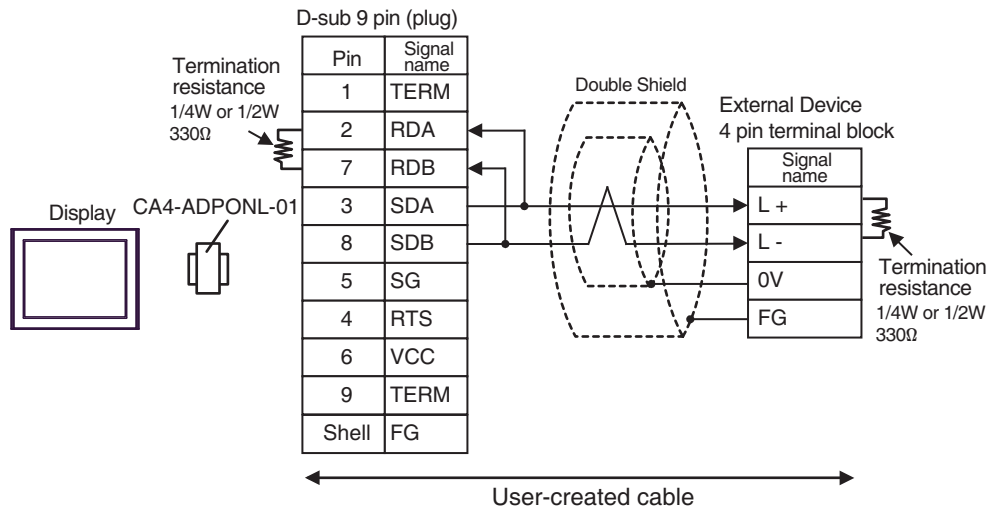


- 1:n Connection

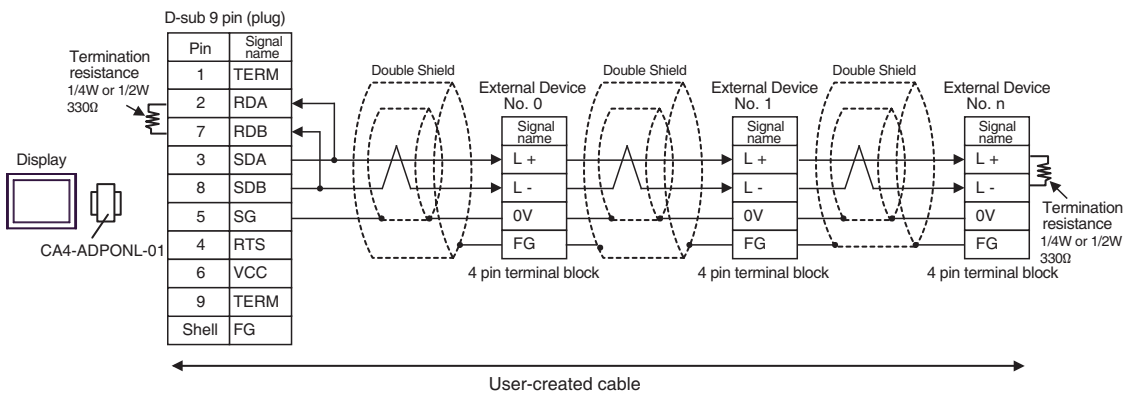


4D)

- 1:1 Connection

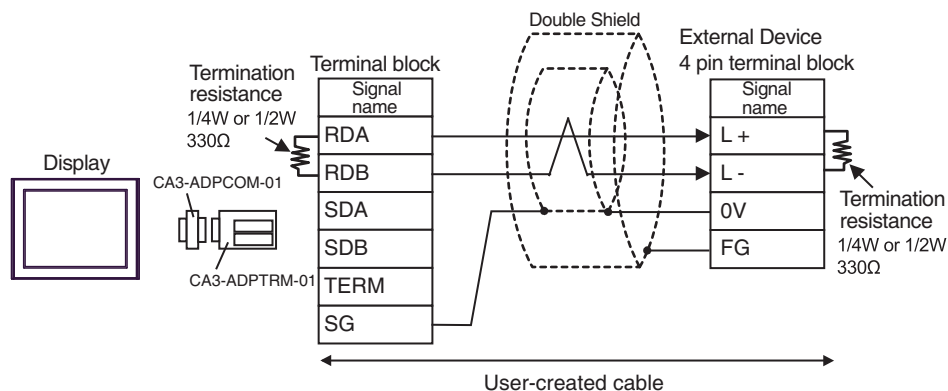


- 1:n Connection

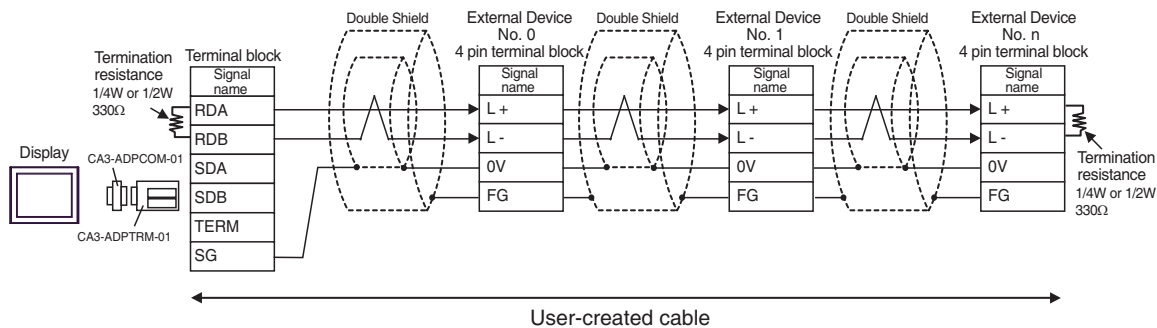


4E)

- 1:1 Connection



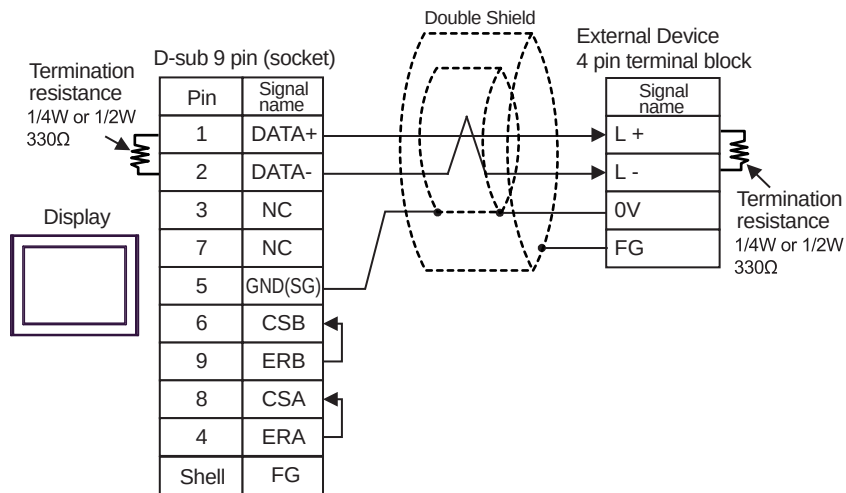
- 1:n Connection



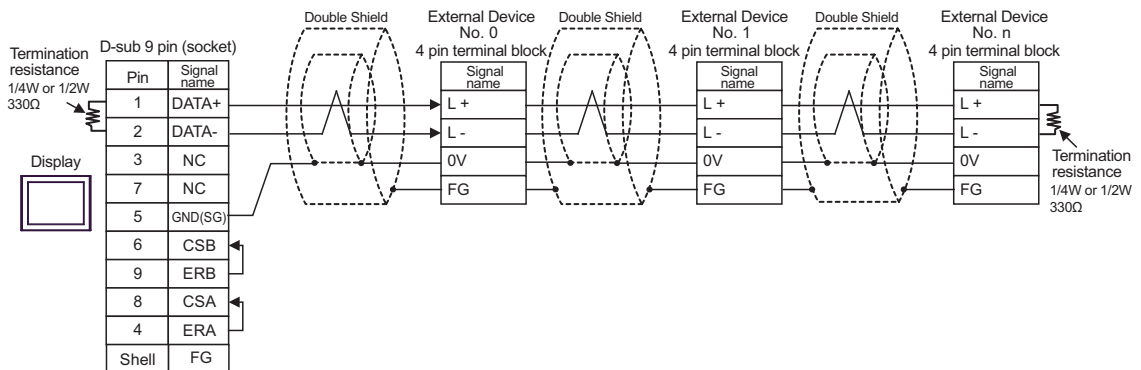


4F)

- 1:1 Connection

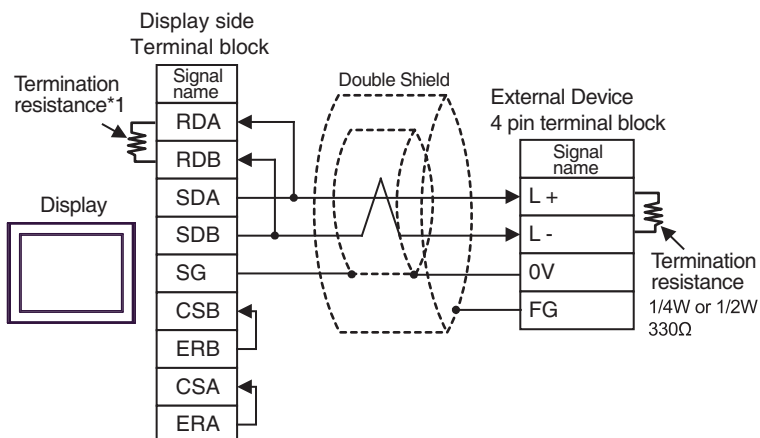


- 1:n Connection

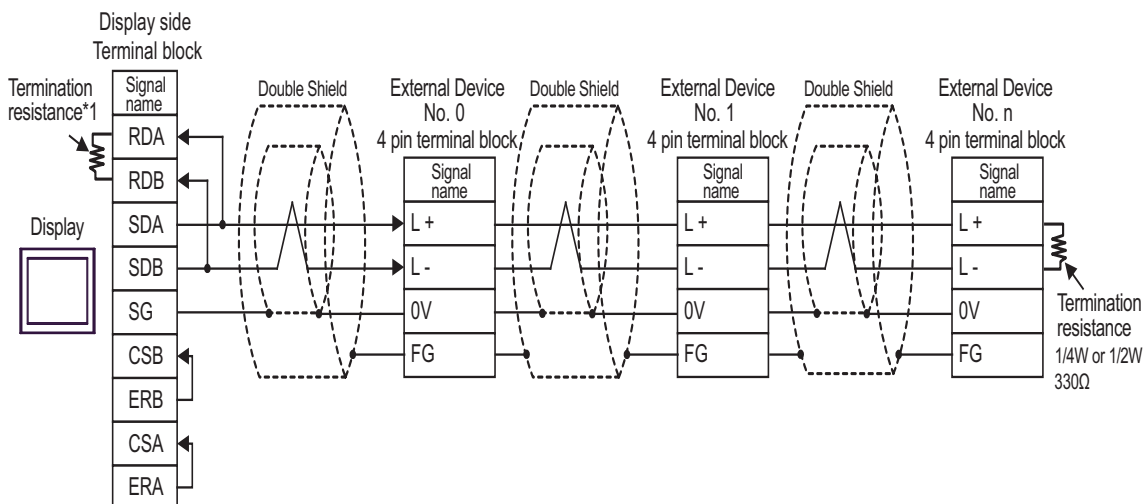


4G)

- 1:1 Connection



- 1:n Connection

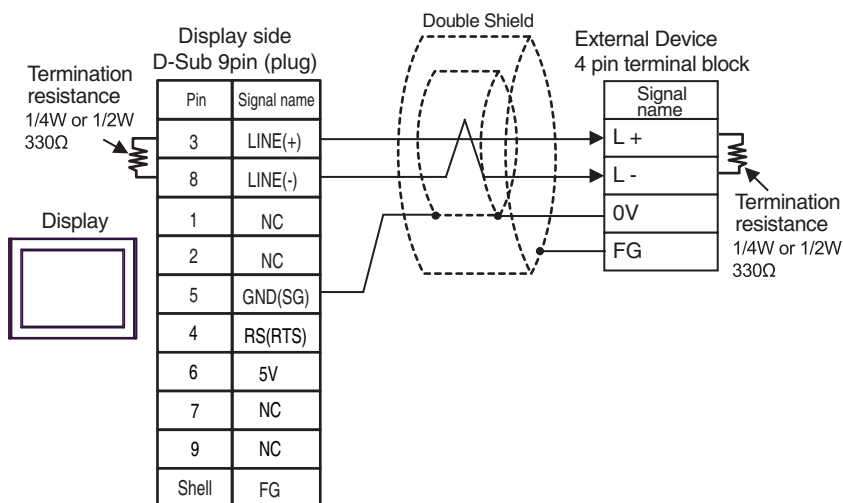


\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

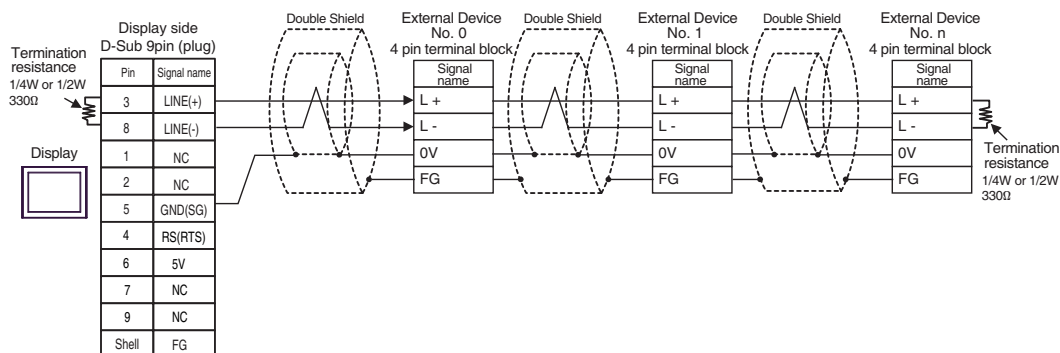
| DIP Switch No. | Set Value |
|----------------|-----------|
| 1              | OFF       |
| 2              | OFF       |
| 3              | ON        |
| 4              | OFF       |

4H)

- 1:1 Connection



- 1:n Connection

**IMPORTANT**

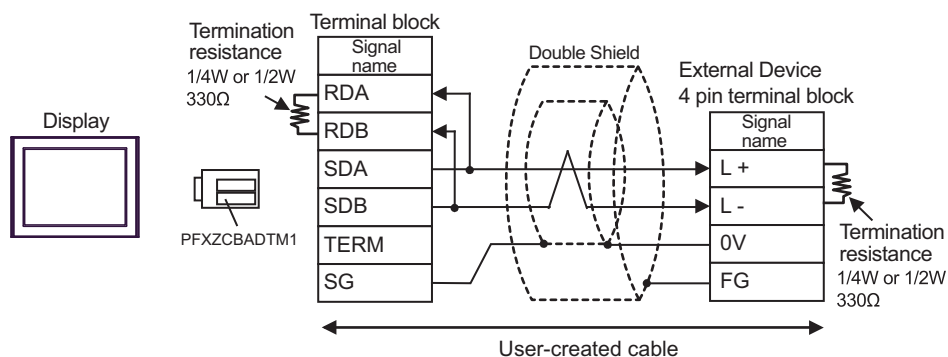
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

**NOTE**

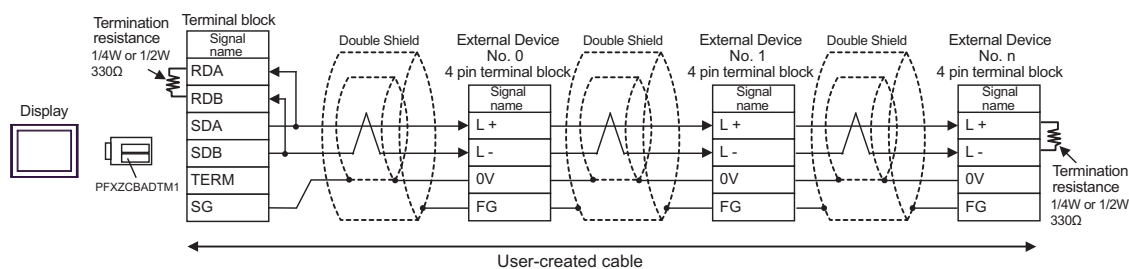
- In COM on the GP-4107, the SG and FG terminals are isolated.

4I)

- 1:1 Connection

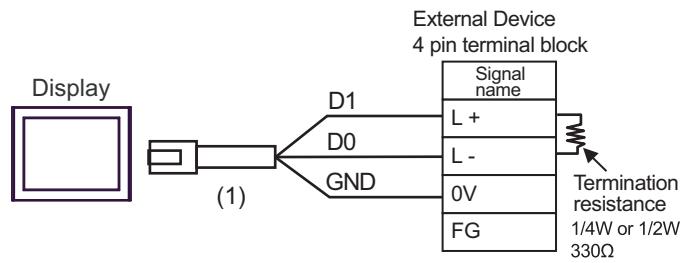


- 1:n Connection

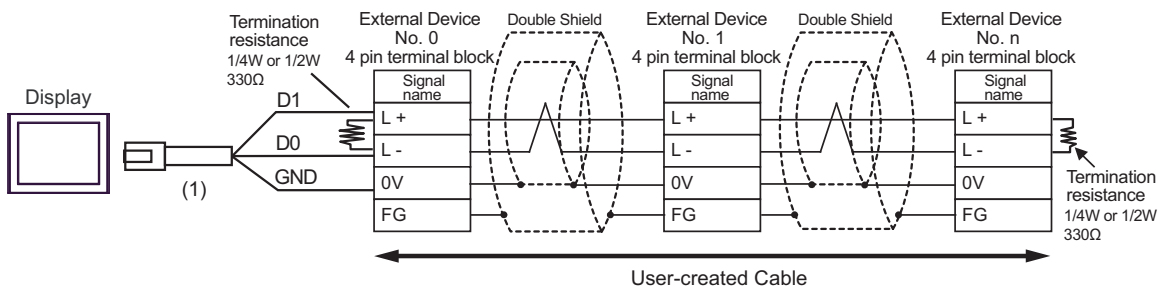


4J)

- 1:1 Connection



- 1:n Connection



| Number | Name                                               | Notes |
|--------|----------------------------------------------------|-------|
| (1)    | RJ45 RS-485 Cable (5m) by Pro-face<br>PFXZLMCBRJ81 |       |

Cable Diagram 5

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

\*1 All GP3000 models except AGP-3302B

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

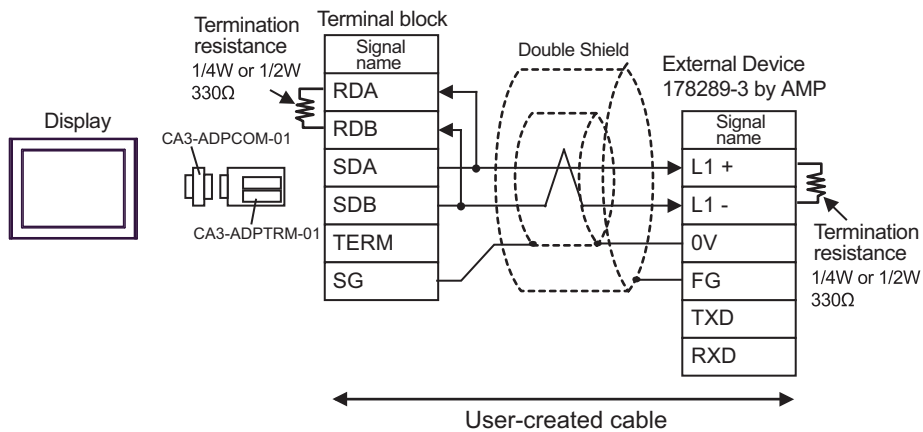
- \*3 All GP3000 models except GP-3200 series and AGP-3302B
- \*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.  
 ■ IPC COM Port (page 5)
- \*5 Except GP-4203T
- \*6 All GP4000 models except GP-4100 Series, GP-4\*01TM, GP-4201T and GP-4\*03T
- \*7 When using a Terminal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

**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.

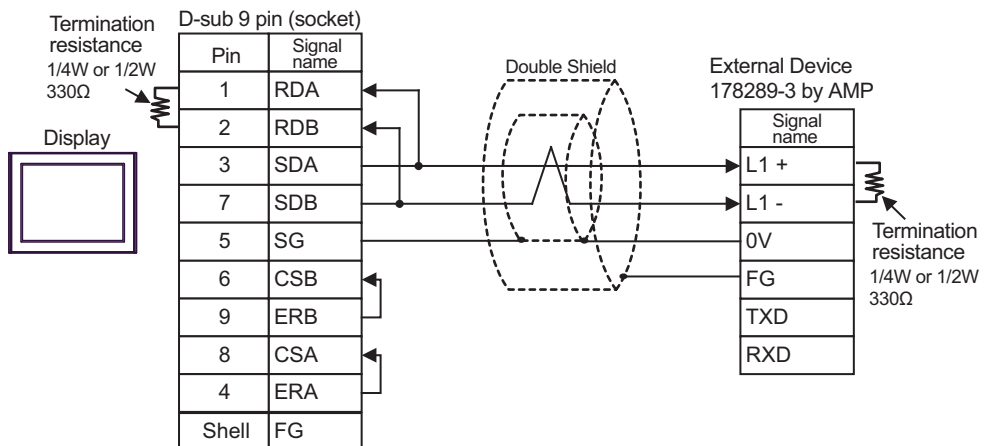
5A)

- 1:1 Connection



5B)

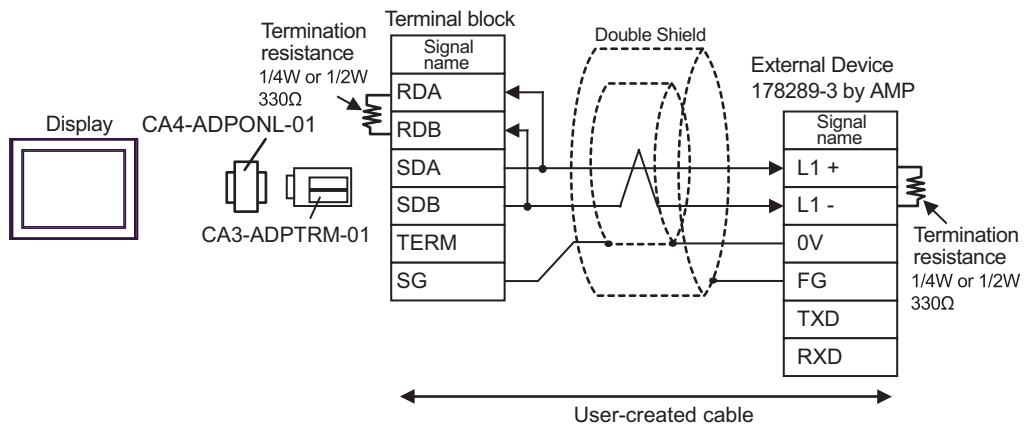
- 1:1 Connection





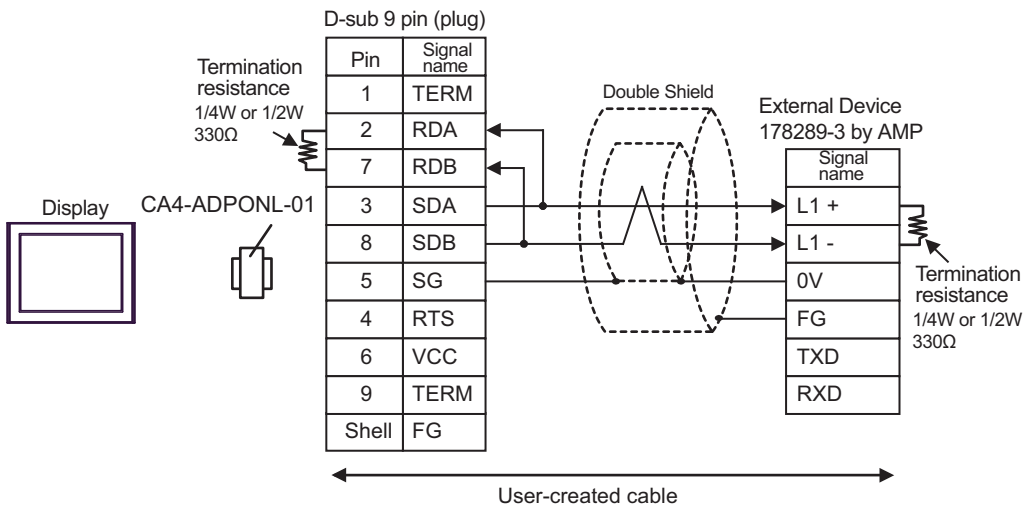
5C)

- 1:1 Connection



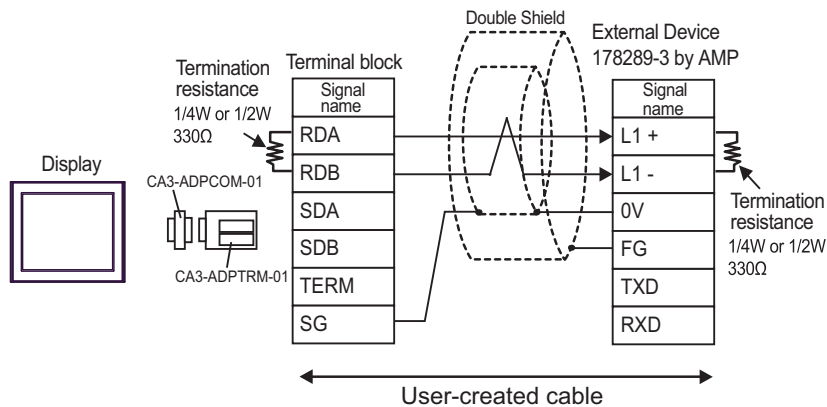
5D)

- 1:1 Connection



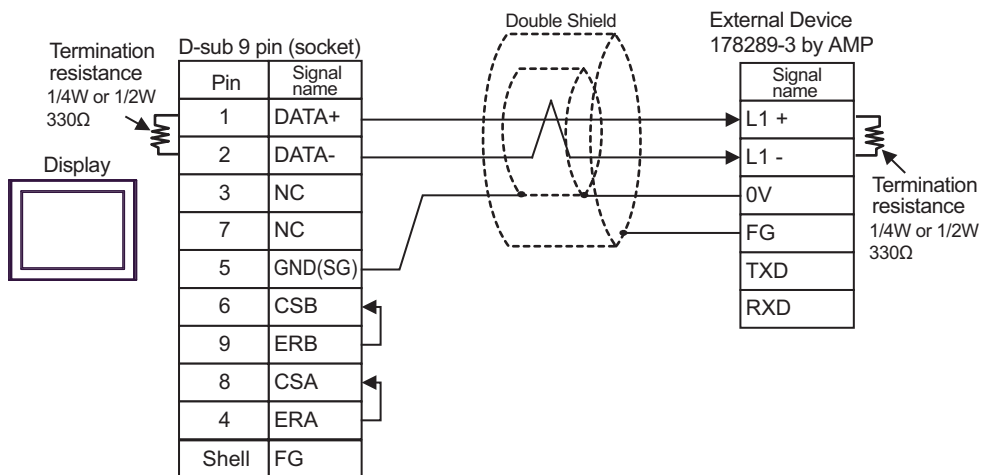
5E)

- 1:1 Connection



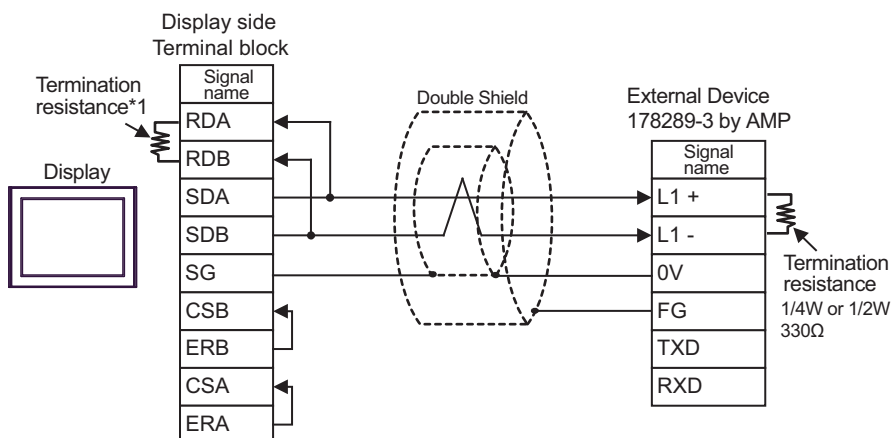
5F)

- 1:1 Connection



5G)

- 1:1 Connection

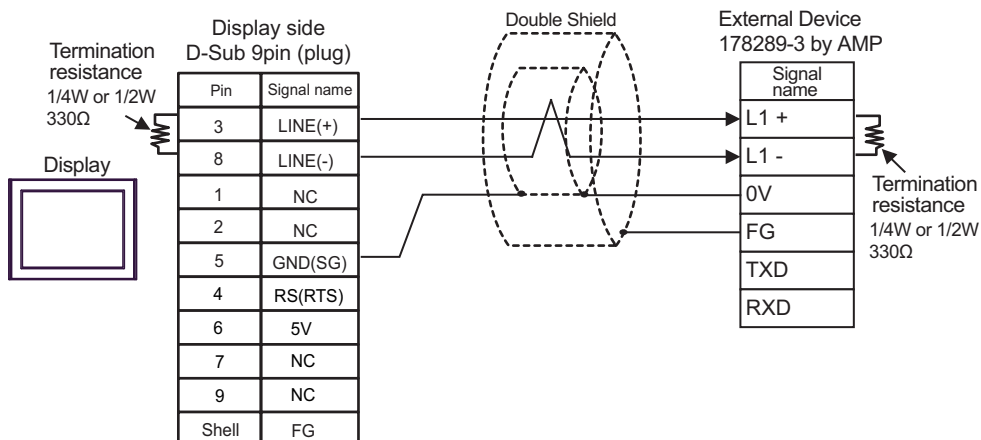


- \*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

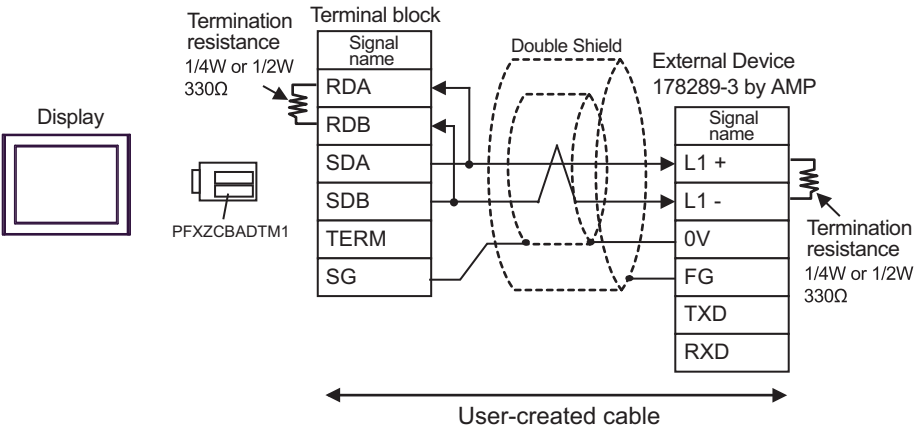
5H)

- 1:1 Connection



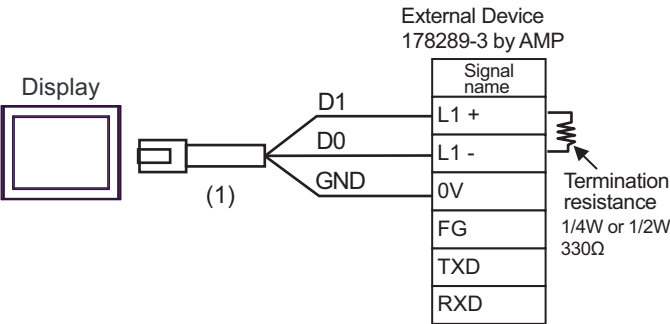
5I)

- 1:1 Connection



5J)

- 1:1 Connection



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

Cable Diagram 6

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

\*1 All GP3000 models except AGP-3302B

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

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

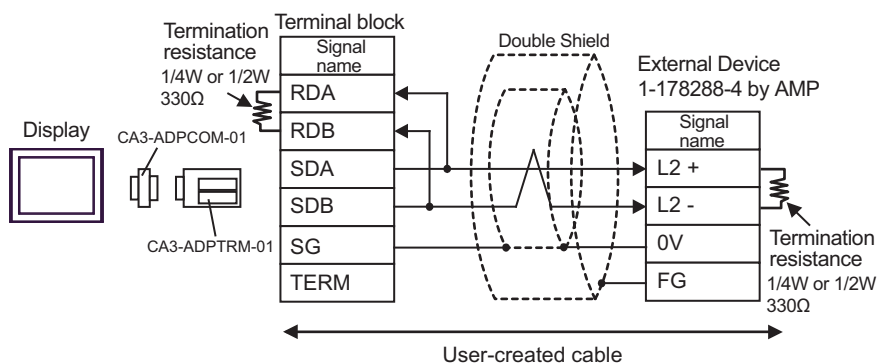
- \*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.  
 ■ IPC COM Port (page 5)
- \*5 Except GP-4203T
- \*6 All GP4000 models except GP-4100 Series, GP-4\*01TM, GP-4201T and GP-4\*03T
- \*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 6A.

**NOTE**

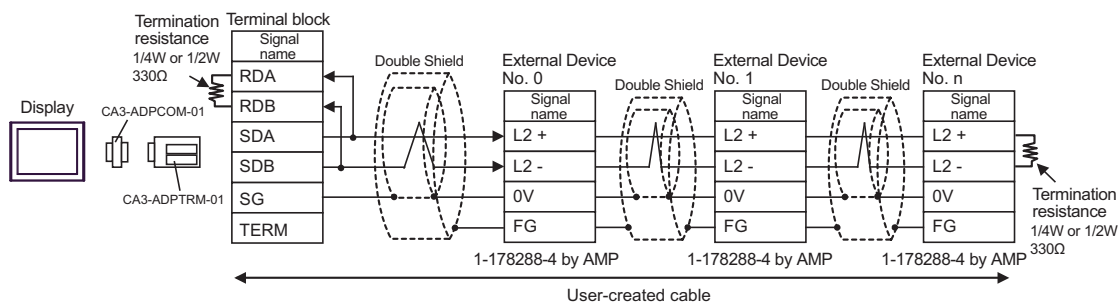
- For connection cable, we recommend the double shield 0-VCTF-SS 2C\*0.75mm<sup>2</sup> by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of 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

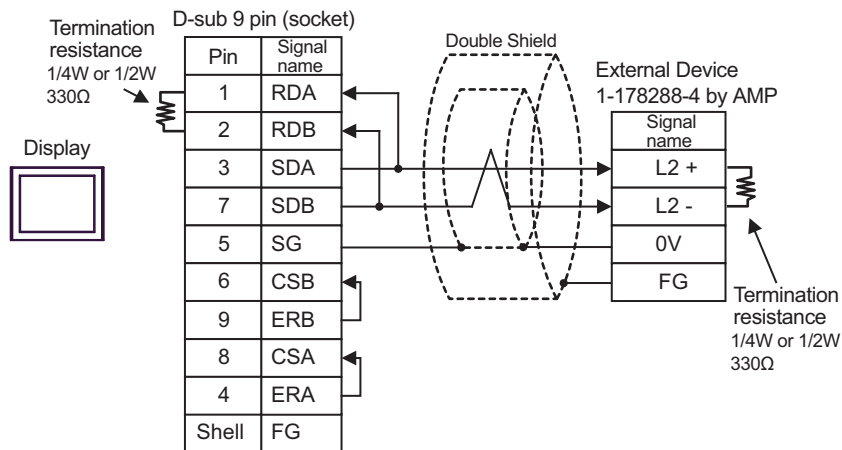


- 1:n Connection

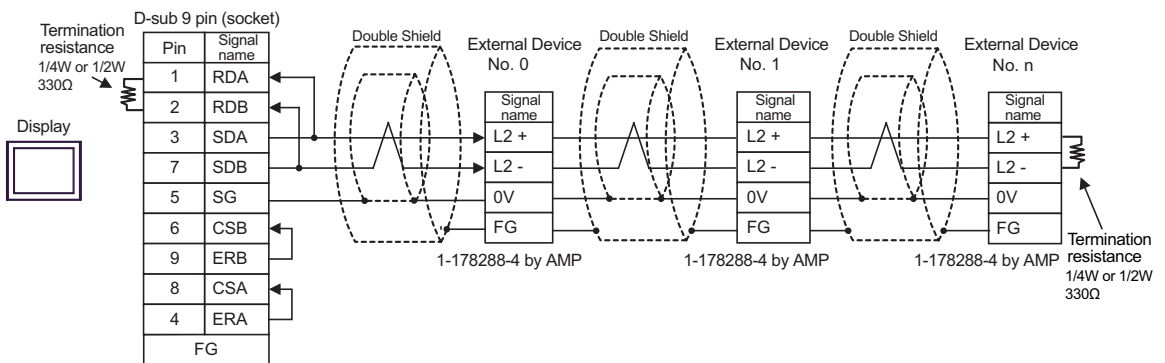


6B)

- 1:1 Connection



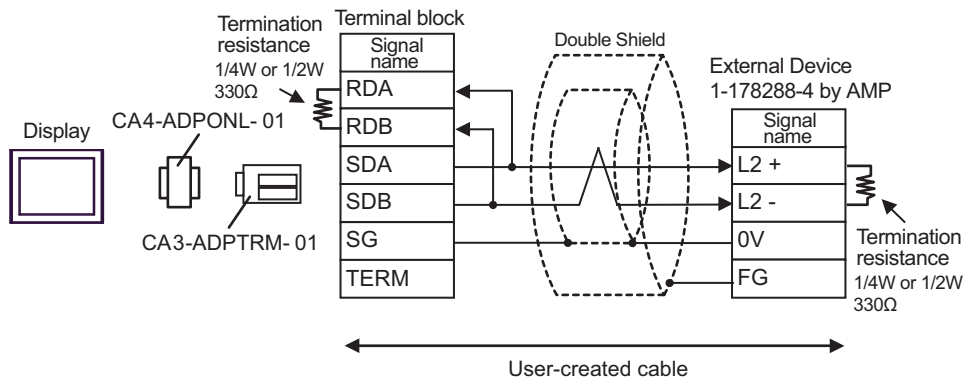
- 1:n Connection



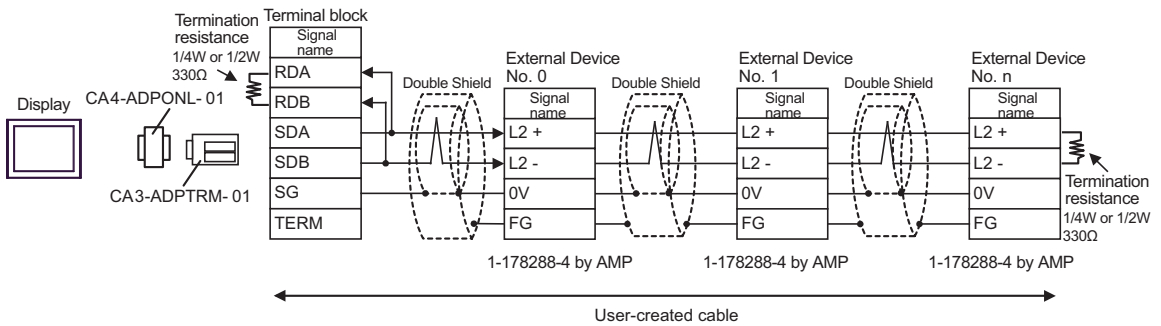


6C)

- 1:1 Connection

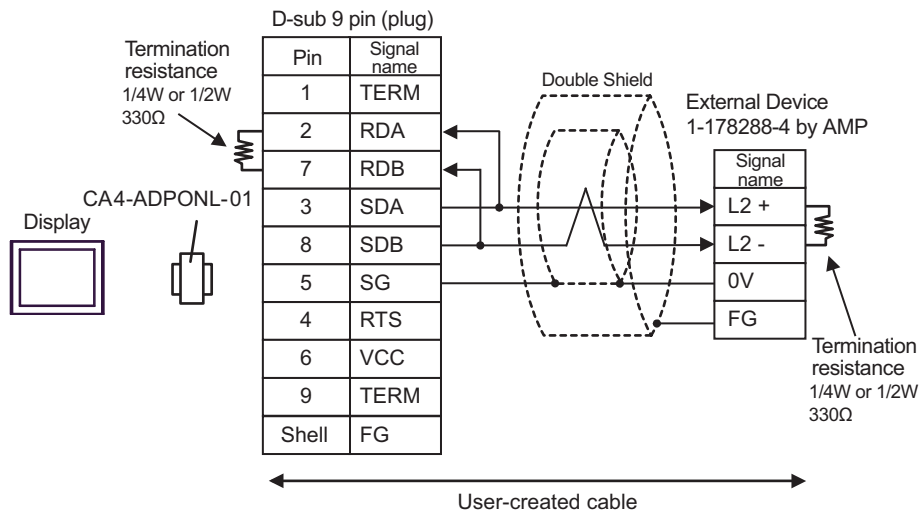


- 1:n connection

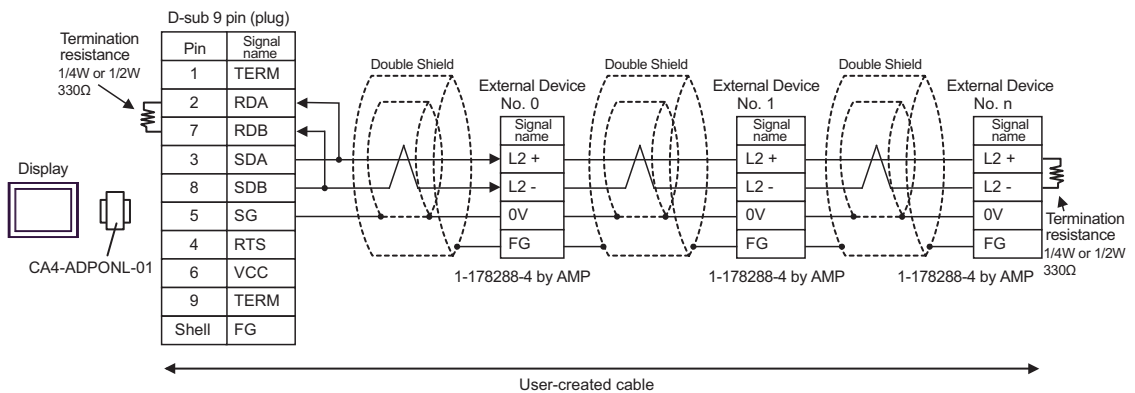


6D)

- 1:1 Connection

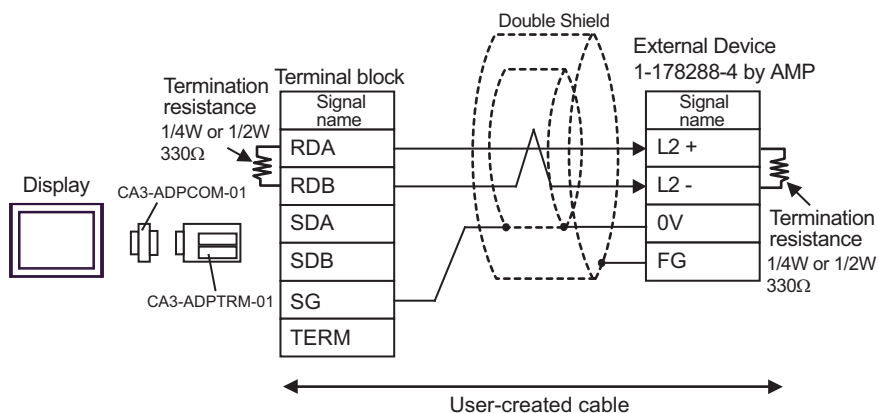


- 1:n Connection

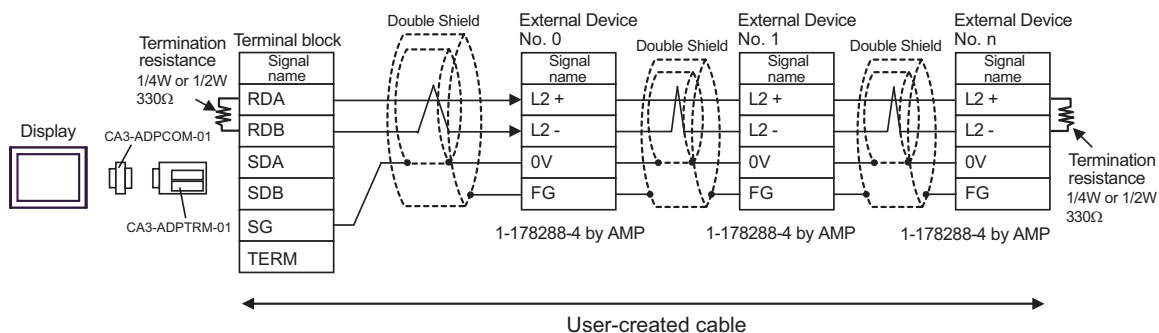


6E)

- 1:1 Connection

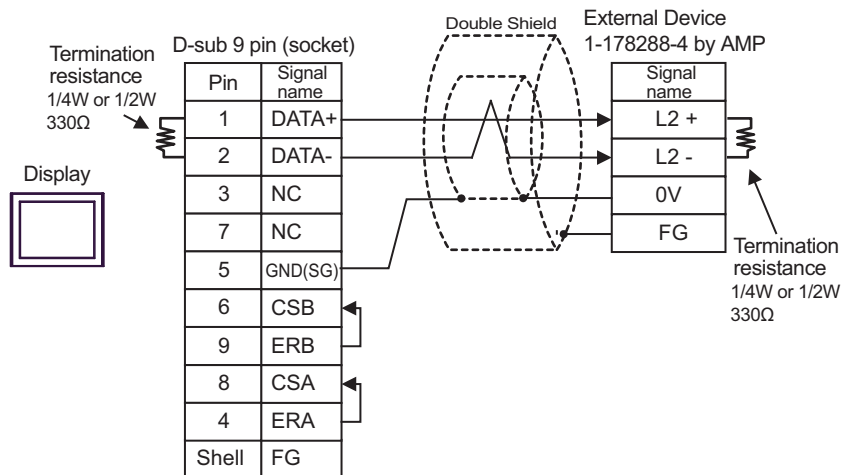


- 1:n Connection

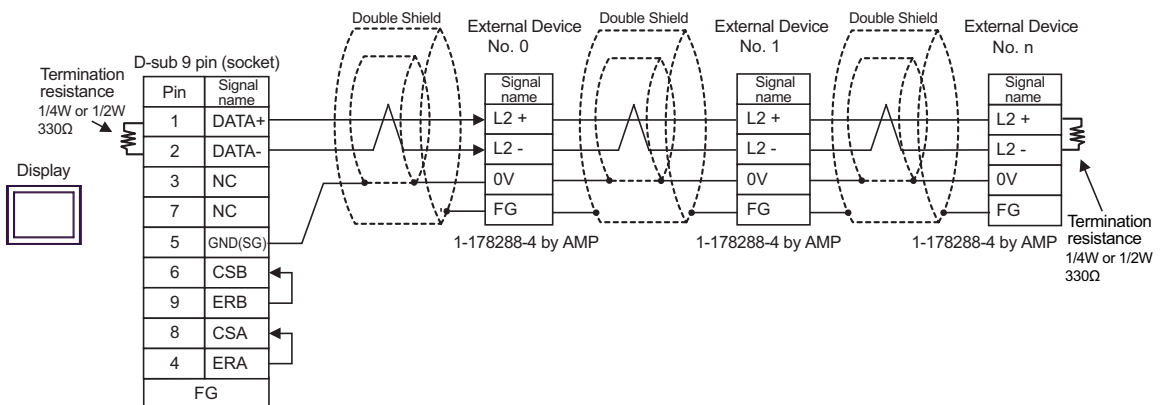


6F)

- 1:1 Connection

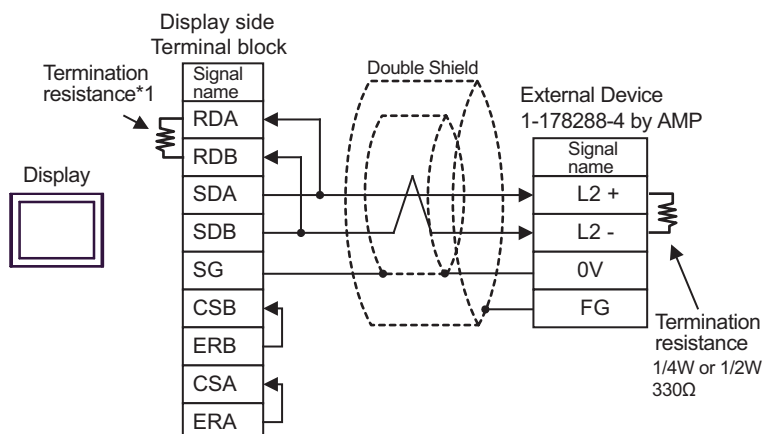


- 1:n Connection

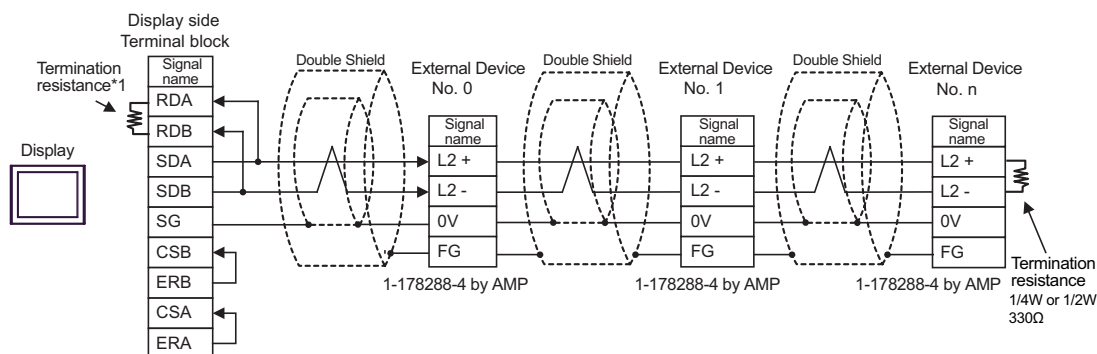


6G)

- 1:1 Connection



- 1:n Connection

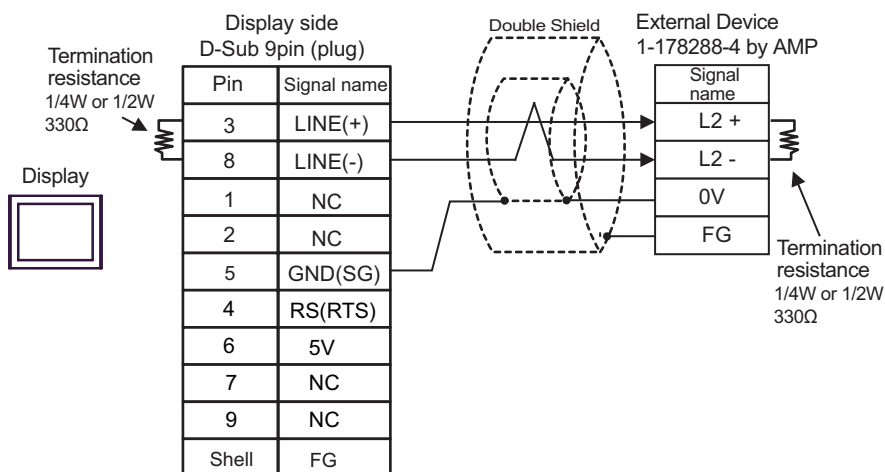


\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

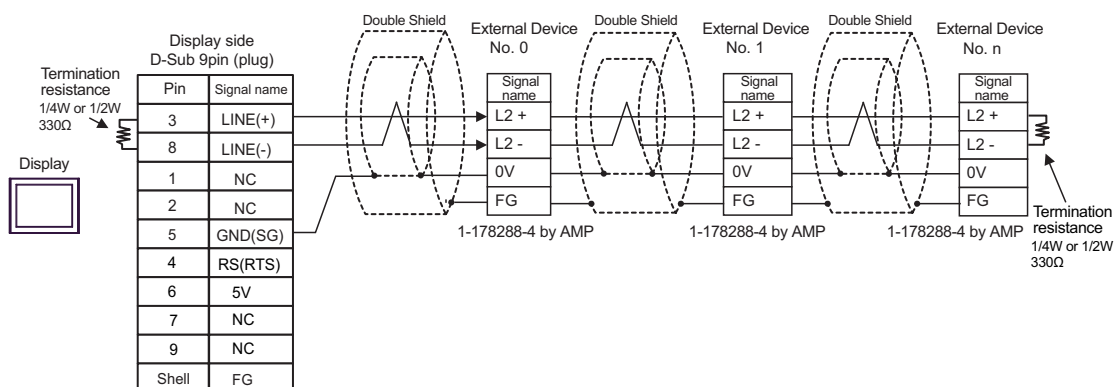
| DIP Switch No. | Set Value |
|----------------|-----------|
| 1              | OFF       |
| 2              | OFF       |
| 3              | ON        |
| 4              | OFF       |

6H)

- 1:1 Connection



- 1:n Connection

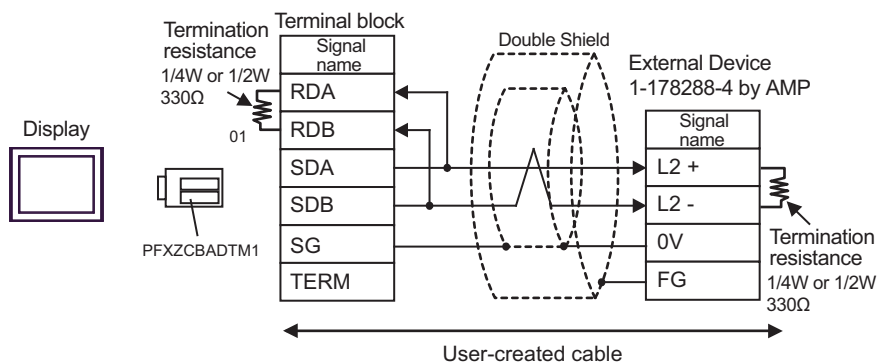


**IMPORTANT** • The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

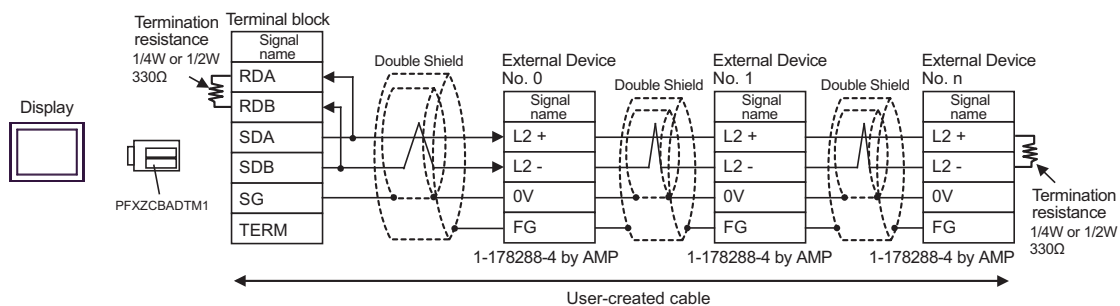
**NOTE** • In COM on the GP-4107, the SG and FG terminals are isolated.

6I)

- 1:1 Connection

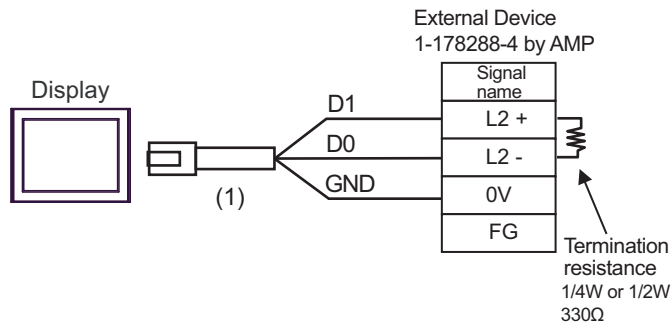


- 1:n Connection

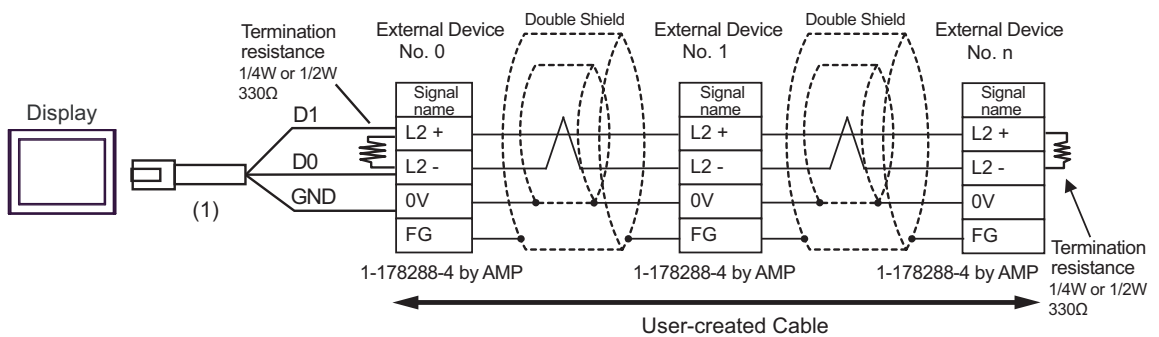


6J)

- 1:1 Connection



- 1:n Connection



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



## 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                                                                                       |  | *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      |                                                                              |

---

**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 |                                                                                             | *2*3                  |
|                        | 2Y0000 - 2Y07FF     | 2Y000W - 2Y07FW |                                                                                             |                       |
|                        | 3Y0000 - 3Y07FF     | 3Y000W - 3Y07FW |                                                                                             |                       |
| Internal Relay         | 1M0000 - 1M07FF     | 1M000W - 1M07FW |                                                                                             | *2                    |
|                        | 2M0000 - 2M07FF     | 2M000W - 2M07FW |                                                                                             |                       |
|                        | 3M0000 - 3M07FF     | 3M000W - 3M07FW |                                                                                             |                       |
| Keep Relay             | 1K0000 - 1K02FF     | 1K000W - 1K02FW |                                                                                             | *2                    |
|                        | 2K0000 - 2K02FF     | 2K000W - 2K02FW |                                                                                             |                       |
|                        | 3K0000 - 3K02FF     | 3K000W - 3K02FW |                                                                                             |                       |
| Link Relay             | 1L0000 - 1L07FF     | 1L000W - 1L07FW |                                                                                             | *2                    |
|                        | 2L0000 - 2L07FF     | 2L000W - 2L07FW |                                                                                             |                       |
|                        | 3L0000 - 3L07FF     | 3L000W - 3L07FW |                                                                                             |                       |
| Special Relay          | 1V0000 - 1V00FF     | 1V000W - 1V00FW |                                                                                             | *2                    |
|                        | 2V0000 - 2V00FF     | 2V000W - 2V00FW |                                                                                             |                       |
|                        | 3V0000 - 3V00FF     | 3V000W - 3V00FW |                                                                                             |                       |
| Edge Detection         | 1P0000 - 1P01FF     | -----           |                                                                                             |                       |
|                        | 2P0000 - 2P01FF     | -----           |                                                                                             |                       |
|                        | 3P0000 - 3P01FF     | -----           |                                                                                             |                       |
| Timer (Contact)        | 1T0000 - 1T01FF     | 1T000W - 1T01FW |                                                                                             | *2*3                  |
|                        | 2T0000 - 2T01FF     | 2T000W - 2T01FW |                                                                                             |                       |
|                        | 3T0000 - 3T01FF     | 3T000W - 3T01FW |                                                                                             |                       |
| Counter (Contact)      | 1C0000 - 1C01FF     | 1C000W - 1C01FW |                                                                                             | *2*3                  |
|                        | 2C0000 - 2C01FF     | 2C000W - 2C01FW |                                                                                             |                       |
|                        | 3C0000 - 3C01FF     | 3C000W - 3C01FW |                                                                                             |                       |
| Present Value Register | 1N0000-0 - 1N01FF-F | 1N0000 - 1N01FF |                                                                                             | *4                    |
|                        | 2N0000-0 - 2N01FF-F | 2N0000 - 2N01FF |                                                                                             |                       |
|                        | 3N0000-0 - 3N01FF-F | 3N0000 - 3N01FF |                                                                                             |                       |

| Device                           | Bit Address         | Word Address                  | 32bits     | Remarks <sup>*1</sup> |
|----------------------------------|---------------------|-------------------------------|------------|-----------------------|
| Data Register                    | 1D0000-0 - 1D2FFF-F | 1D0000 - 1D2FFF <sup>*5</sup> | <b>L/H</b> | *4                    |
|                                  | 2D0000-0 - 2D2FFF-F | 2D0000 - 2D2FFF <sup>*5</sup> |            |                       |
|                                  | 3D0000-0 - 3D2FFF-F | 3D0000 - 3D2FFF <sup>*5</sup> |            |                       |
| 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 - GXFFFF               |            | *2*3*6                |
| Extension 2 Output               | GY0000 - GYFFFF     | GY000W - GYFFFF               |            | *2*3*6                |
| Extension 2 Internal Relay       | GM0000 - GMFFFF     | GM000W - GMFFFF               |            | *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                 |

\*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"

## 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 |



## 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> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"><b>NOTE</b></div> <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])"

#### **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.

