



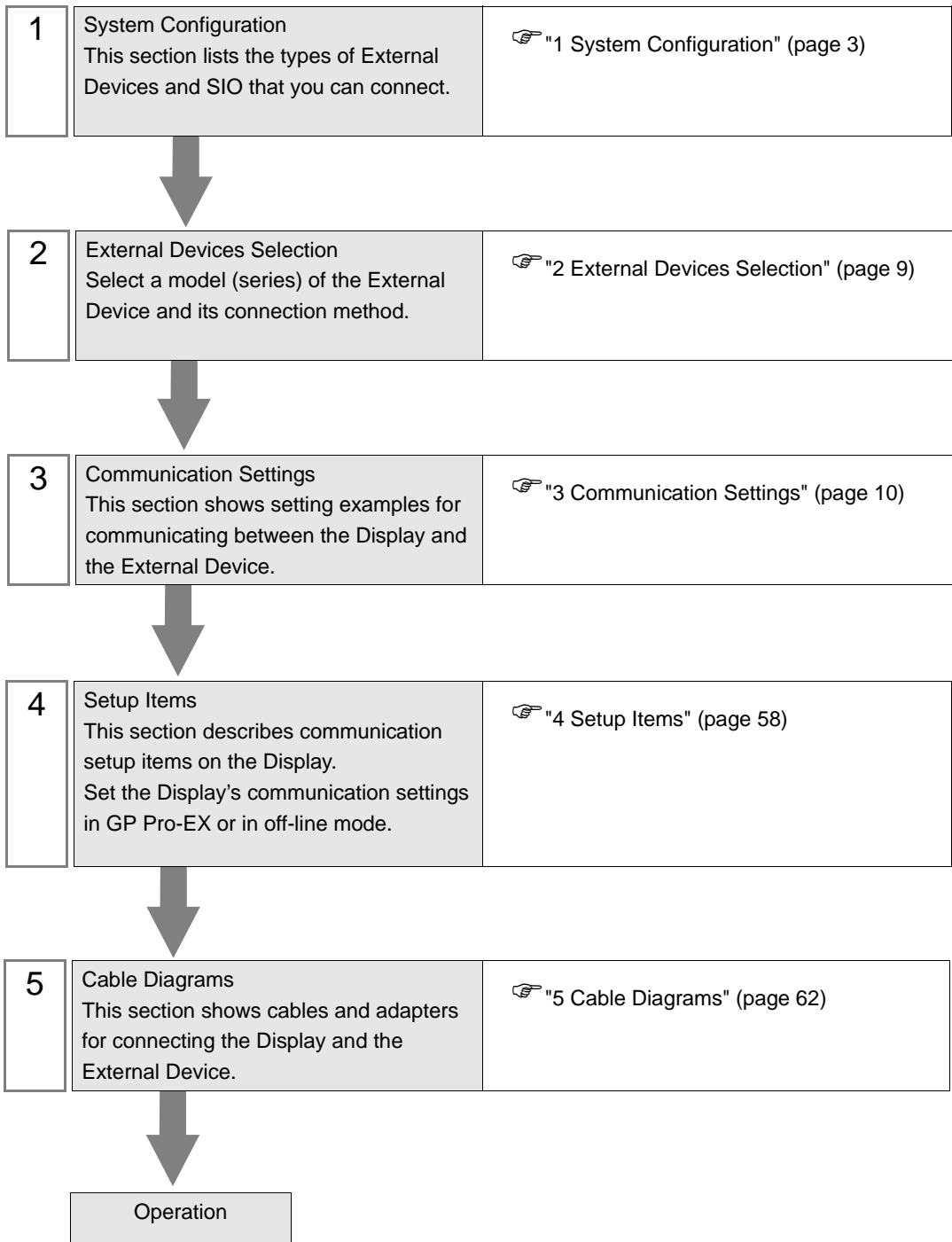
# FREQROL Inverter Driver

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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 is described in the sections identified below:



# 1 System Configuration

The following table lists system configurations for connecting Mitsubishi Electric Corporation External Devices and the Display.

## IMPORTANT

- If problems such as communication interruptions due to a disconnection of the signal wire or malfunction of the Display cannot be detected on the inverter side, implement a precautionary measure by using the inverter's communication retry function or communication check function. Refer to your External Device manual for details.
- Do not reset the inverter while communication is enabled. This may cause malfunction. Prior to resetting the inverter, take the Display off-line.

Series	Inverter* <sup>1</sup>	Link I/F	SIO Type	Setting Example	Cable Diagram
FR-A700	FR-A720-□K FR-A740-□K	PU connector on the Inverter	RS-422/485 (4 wire )	"Setting Example 1" (page 10)	" Cable Diagram 1" (page 62)
		RS-485 terminal on the Inverter	RS-422/485 (4 wire )	"Setting Example 2" (page 12)	" Cable Diagram 2" (page 65)
			RS-422/485 (2 wire)	"Setting Example 3" (page 14)	" Cable Diagram 3" (page 70)
FR-A701	FR-A721-□K	PU connector on the Inverter	RS-422/485 (4 wire )	"Setting Example 1" (page 10)	" Cable Diagram 1" (page 62)
		RS-485 terminal on the Inverter	RS-422/485 (4 wire )	"Setting Example 2" (page 12)	" Cable Diagram 2" (page 65)
			RS-422/485 (2 wire)	"Setting Example 3" (page 14)	" Cable Diagram 3" (page 70)
FR-F700	FR-F720-□K FR-F740-□K	PU connector on the Inverter	RS-422/485 (4 wire )	"Setting Example 4" (page 16)	" Cable Diagram 1" (page 62)
		RS-485 terminal on the Inverter	RS-422/485 (4 wire )	"Setting Example 5" (page 18)	" Cable Diagram 2" (page 65)
			RS-422/485 (2 wire)	"Setting Example 6" (page 20)	" Cable Diagram 3" (page 70)
FR-E700	FR-E720-□K FR-E740-□K FR-E720S-□K FR-E710W-□K	PU connector on the Inverter	RS-422/485 (4 wire )	"Setting Example 7" (page 22)	" Cable Diagram 4" (page 77)* <sup>2</sup>
			RS-422/485 (2 wire)	"Setting Example 8" (page 24)	" Cable Diagram 5" (page 86)
		RS-485 terminal on FR-E7TR	RS-422/485 (4 wire )	"Setting Example 7" (page 22)	" Cable Diagram 8" (page 111)
			RS-422/485 (2 wire)	"Setting Example 8" (page 24)	" Cable Diagram 9" (page 116)
FR-V500	FR-V520-□K FR-V540-□K	PU connector on the Inverter	RS-422/485 (4 wire )	"Setting Example 9" (page 26)	" Cable Diagram 4" (page 77)* <sup>2</sup>
		Terminal on FR-A5NR	RS-422/485 (4 wire )	"Setting Example 10" (page 28)	" Cable Diagram 7" (page 106)

Series	Inverter*1	Link I/F	SIO Type	Setting Example	Cable Diagram
FR-V500L	FR-V520L-□K FR-V540L-□K	PU connector on the Inverter	RS-422/485 (4 wire)	"Setting Example 9" (page 26)	" Cable Diagram 4" (page 77)*2
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 10" (page 28)	" Cable Diagram 7" (page 106)
FR-A500	FR-A520-□K FR-A540-□K	PU connector on the Inverter	RS-422/485 (4 wire)	"Setting Example 11" (page 30)	" Cable Diagram 4" (page 77)*2
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 12" (page 32)	" Cable Diagram 7" (page 106)
FR-A500L	FR-A520L-□K FR-A540L-□K	PU connector on the Inverter	RS-422/485 (4 wire)	"Setting Example 11" (page 30)	" Cable Diagram 4" (page 77)*2
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 12" (page 32)	" Cable Diagram 7" (page 106)
FR-F500	FR-F520-□K FR-F540-□K	PU connector on the Inverter	RS-422/485 (4 wire)	"Setting Example 13" (page 34)	" Cable Diagram 4" (page 77)*2
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 14" (page 36)	" Cable Diagram 7" (page 106)
FR-F500L	FR-F520L-□K FR-F540L-□K	PU connector on the Inverter	RS-422/485 (4 wire)	"Setting Example 13" (page 34)	" Cable Diagram 4" (page 77)*2
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 14" (page 36)	" Cable Diagram 7" (page 106)
FR-E500	FR-E520-□K FR-E540-□K FR-E520S-□K FR-E510W-□K	PU connector on the Inverter	RS-422/485 (4 wire)	"Setting Example 15" (page 38)	" Cable Diagram 4" (page 77)*2
FR-C500	FR-C520-□K	PU connector on the Inverter	RS-422/485 (4 wire)	"Setting Example 16" (page 40)	" Cable Diagram 4" (page 77)*2
FR-S500	FR-S520-□K(-R)(-C) FR-S540-□K(-R) FR-S520S-□K(-R) FR-S510W-□K(-R) FR-S520E-□K(-C) FR-S540E-□K FR-S520SE-□K FR-S510WE-□K	RS-485 connector on the Inverter	RS-422/485 (4 wire)	"Setting Example 17" (page 42)	" Cable Diagram 4" (page 77)*2
	FR-S520E-□K-NMR	RS-485 terminal on the Inverter	RS-422/485 (2 wire)	"Setting Example 18" (page 44)	" Cable Diagram 6" (page 99)
FR-F500J	FR-F520J-□K(F) FR-F540J-□K(F)	RS-485 connector on the Inverter	RS-422/485 (4 wire)	"Setting Example 19" (page 46)	" Cable Diagram 4" (page 77)*2
FR-B, B3(A500)	FR-B-□K FR-B3(-N)(H)□K	PU connector on the Inverter	RS-422/485 (4 wire)	"Setting Example 20" (page 48)	" Cable Diagram 4" (page 77)*2
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 21" (page 50)	" Cable Diagram 7" (page 106)

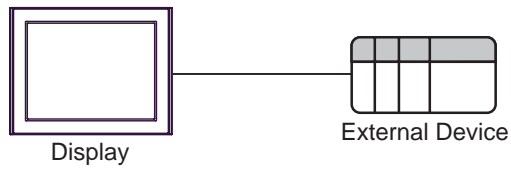
Series	Inverter <sup>*1</sup>	Link I/F	SIO Type	Setting Example	Cable Diagram
FR-B, B3(A700)	FR-B-□K FR-B3-(N)(H)□K	PU connector on the Inverter	RS-422/485 (4 wire)	"Setting Example 22" (page 52)	" Cable Diagram 1" (page 62)
		RS-485 terminal on the Inverter	RS-422/485 (4 wire)	"Setting Example 23" (page 54)	" Cable Diagram 2" (page 65)
			RS-422/485 (2 wire)	"Setting Example 24" (page 56)	" Cable Diagram 3" (page 70)

\*1 □ varies depending on each inverter's capacity.

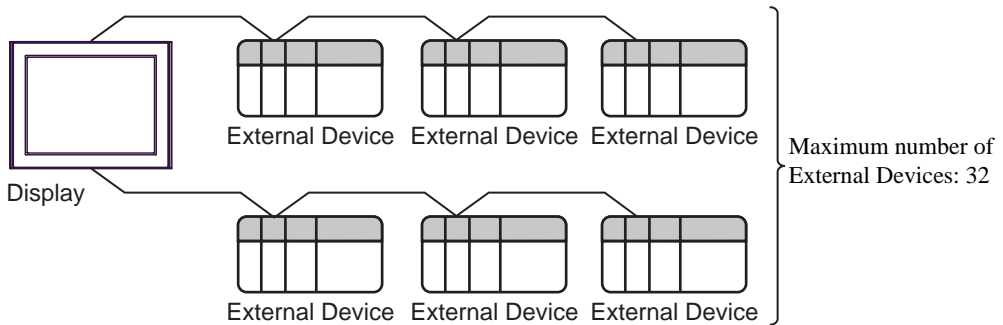
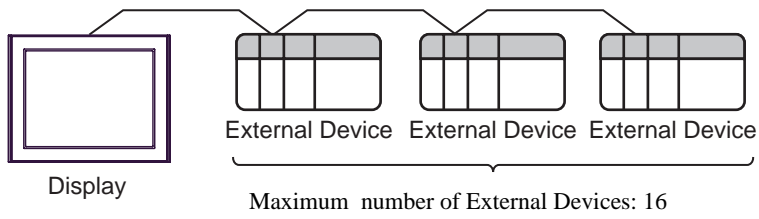
\*2 Cable Diagram 1 can be used for 1:1 Connection.

## ■ Connection Configuration

- 1:1 Connection



- 1:n Connection



## ■ 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, PS-3651A	COM1 <sup>*1</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>
PL-3000B, PL-3600T, PL-3600K, PL-3700T, PL-3700K, PL-3900T	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.

### 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	

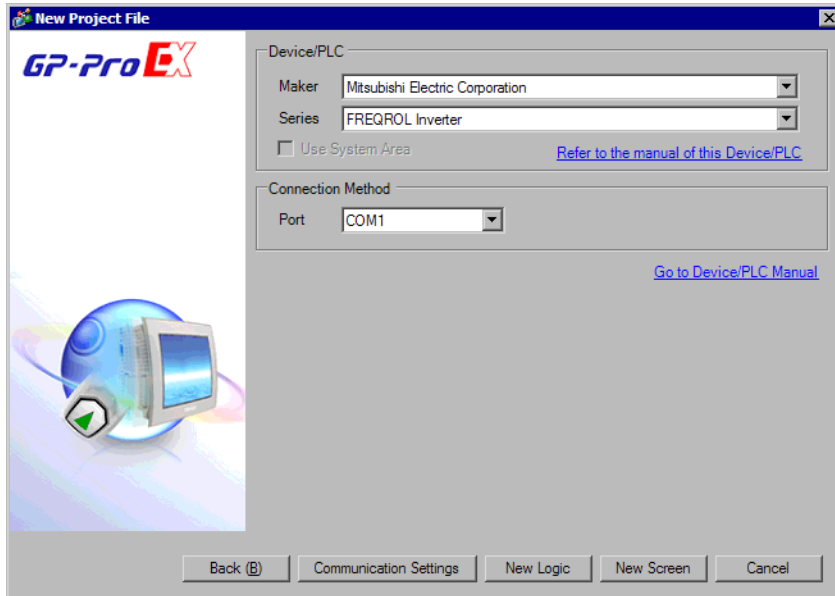
## DIP switch setting: RS-422/485 (2 wire)

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 External Devices Selection

Select the External Device to be connected to the Display.



Setup Items	Setup Description
Maker	Select the maker of the External Device to be connected. Select "Mitsubishi Electric Corporation".
Series	Select a model (series) of the External Device to be connected and connection method. Select "FREQROL Inverter". In System configuration, check to make sure the external device to which you are connecting is supported in "FREQROL Inverter". ☞ "1 System Configuration" (page 3)
Use System Area	Not available for this driver.
Port	Select the Display port to be connected to the External Device.

## 3 Communication Settings

This section provides examples of communication settings recommended by Pro-face for the Display and the External Device.

### 3.1 Setting Example 1

#### ■ GP Pro-EX Settings

#### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes:
 

- Maker: Mitsubishi Electric Corporation
- Series: FREQROL Inverter
- Port: COM1
- Text Data Mode: 1

 The 'Communication Settings' section includes:
 

- SIO Type:  RS422/485(4wire)
- Speed: 19200
- Data Length:  8
- Parity:  EVEN
- Stop Bit:  2
- Flow Control:  NONE
- Timeout: 3 (sec)
- Retry: 2
- Wait To Send: 0 (ms)
- RI/VCC:  RI

 A 'Default' button is located at the bottom right of the communication settings. The 'Device-Specific Settings' section shows:
 

- Allowable Number of Devices/PLCs: 16
- Number: 1
- Device Name: PLC1
- Settings: Series=FR-A700/A701, Station No.=0

#### ◆ Device Setting

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

The 'Individual Device Settings' dialog box for PLC1 shows:
 

- Series: FR-A700/A701
- Station No.: 0
- Buttons: Default, OK (O), Cancel

 A note states: 'If you change the series, please reconfirm all address settings.'

## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
117	0	PU communication station number
118	192	PU communication speed
119	1	PU communication stop bit length
120	2	PU communication parity check
121	1	Number of PU communication retries
122	Any Except 0	PU communication check time interval
123	9999	PU communication waiting time setting
124	1	PU communication CR/LF presence/absence selection

### NOTE

- Always restart the External Device after changing parameters.

## 3.2 Setting Example 2

### ■ GP Pro-EX Settings

#### ◆ Communication Settings

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

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

- Summary:**
  - Maker: Mitsubishi Electric Corporation
  - Series: FREQROL Inverter
  - Port: COM1
  - Text Data Mode: 1
- Communication Settings:**
  - SIO Type:  RS232C  RS422/485(2wire)  RS422/485(4wire)
  - Speed: 19200
  - Data Length:  7  8
  - Parity:  NONE  EVEN  ODD
  - Stop Bit:  1  2
  - Flow Control:  NONE  ER(DTR/CTS)  XON/XOFF
  - Timeout: 3 (sec)
  - Retry: 2
  - Wait To Send: 0 (ms)
- RI / VCC:**
  - RI  VCC
  - Note: In the case of RS232C, you can select the 9th pin to RI (Input or VCC (5V Power Supply)). If you use the Digital's RS232C Isolation Unit, please select it to VCC.
- Device-Specific Settings:**
  - Allowable Number of Devices/PLCs: 16
  - Table:

Number	Device Name	Settings
1	PLC1	Series=FR-A700/A701, Station No.=0

#### ◆ Device Setting

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

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

- Series: FR-A700/A701
- Station No.: 0

Buttons: Default, OK (O), Cancel

## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
331	0	RS-485 communication station
332	192	RS-485 communication speed
333	1	RS-485 communication stop bit length
334	2	RS-485 communication parity check selection
335	1	RS-485 communication retry count
336	Any Except 0	RS-485 communication check time interval
337	9999	RS-485 communication waiting time setting
341	1	RS-485 communication CR/LF selection
549	0	Protocol selection

### NOTE

- Always restart the External Device after changing parameters.

### 3.3 Setting Example 3

#### ■ GP Pro-EX Settings

##### ◆ Communication Settings



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

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

- Summary:** Includes fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), and 'Port' (COM1). There is a 'Change Device/PLC' link.
- Text Data Mode:** Set to '1' with a 'Change' link.
- Communication Settings:**
  - SIO Type:** Radio buttons for RS232C, RS422/485(2wire) (selected), and RS422/485(4wire).
  - Speed:** A dropdown menu set to 19200.
  - Data Length:** Radio buttons for 7 and 8 (selected).
  - Parity:** Radio buttons for NONE, EVEN (selected), and ODD.
  - Stop Bit:** Radio buttons for 1 and 2 (selected).
  - Flow Control:** Radio buttons for NONE (selected), ER(DTR/CTS), and XON/XOFF.
  - Timeout:** A numeric field set to 3 (sec).
  - Retry:** A numeric field set to 2.
  - Wait To Send:** A numeric field set to 0 (ms).
- RI / VCC:** Radio buttons for RI (selected) and VCC. A note below states: "In the case of RS232C, you can select the 9th pin to RI (Input or VCC (5V Power Supply)). If you use the Digital's RS232C Isolation Unit, please select it to VCC." A 'Default' button is also present.
- Device-Specific Settings:** Shows 'Allowable Number of Devices/PLCs' as 16. Below is a table:
 

Number	Device Name	Settings
1	PLC1	Series=FR-A700/A701, Station No.=0

##### ◆ Device Setting

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

The 'Individual Device Settings' dialog box is shown for 'PLC1'. It contains the following fields and controls:

- Series:** A dropdown menu set to 'FR-A700/A701'. Below it is a note: "If you change the series, please reconfirm all address settings."
- Station No.:** A numeric field set to '0'.
- Buttons:** 'Default', 'OK (O)', and 'Cancel'.

## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
331	0	RS-485 communication station
332	192	RS-485 communication speed
333	1	RS-485 communication stop bit length
334	2	RS-485 communication parity check selection
335	1	RS-485 communication retry count
336	Any Except 0	RS-485 communication check time interval
337	9999	RS-485 communication waiting time setting
341	1	RS-485 communication CR/LF selection
549	0	Protocol selection

### NOTE

- Always restart the External Device after changing parameters.

## 3.4 Setting Example 4



### ■ GP Pro-EX Settings

#### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. It has a 'Summary' section with fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), and 'Port' (COM1). Below this is the 'Communication Settings' section with 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 also a section for 'RI/VCC' with radio buttons for RI and VCC, and a 'Default' button. At the bottom, the 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1 | PLC1 | Settings | Series=FR-F700, Station No.=0'.

#### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It has a 'Series' dropdown menu set to 'FR-F700' and a 'Station No.' spinner box set to '0'. Below the 'Station No.' field is a 'Default' button. At the bottom are 'OK (O)' and 'Cancel' buttons. A note reads: 'If you change the series, please reconfirm all address settings.'



## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
117	0	PU communication station number
118	192	PU communication speed
119	1	PU communication stop bit length
120	2	PU communication parity check
121	1	Number of PU communication retries
122	Any Except 0	PU communication check time interval
123	9999	PU communication waiting time setting
124	1	PU communication CR/LF presence/absence selection

### NOTE

- Always restart the External Device after changing parameters.

## 3.5 Setting Example 5



### ■ GP Pro-EX Settings

#### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), 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 are also options for RI/VCC and a 'Default' button. The 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1' for 'PLC1' with 'Series=FR-F700, Station No.=0'.

#### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It has a 'Series' dropdown menu set to 'FR-F700' and a note: 'If you change the series, please reconfirm all address settings.' Below that is a 'Station No.' spinner box set to '0'. At the bottom are 'Default', 'OK (O)', and 'Cancel' buttons.

## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
331	0	RS-485 communication station
332	192	RS-485 communication speed
333	1	RS-485 communication stop bit length
334	2	RS-485 communication parity check selection
335	1	RS-485 communication retry count
336	Any Except 0	RS-485 communication check time interval
337	9999	RS-485 communication waiting time setting
341	1	RS-485 communication CR/LF selection
549	0	Protocol selection

### NOTE

- Always restart the External Device after changing parameters.

## 3.6 Setting Example 6



### ■ GP Pro-EX Settings

#### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. It includes a 'Summary' section with fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), and 'Port' (COM1). Below this is the 'Communication Settings' section, which 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), and 'Flow Control' (NONE, ER(DTR/CTS), XON/XOFF). There are also spinners for 'Timeout' (3 sec), 'Retry' (2), and 'Wait To Send' (0 ms). A section for 'RI / VCC' allows selecting between 'RI' and 'VCC' with a note about RS232C pin configurations. A 'Default' button is present. At the bottom, 'Device-Specific Settings' shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1 | PLC1 | Settings | Series=FR-F700, Station No.=0'.

#### ◆ Device Setting

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

The 'Individual Device Settings' dialog box is shown for 'PLC1'. It features a 'Series' dropdown menu set to 'FR-F700' and a 'Station No.' spinner set to '0'. A note states: 'If you change the series, please reconfirm all address settings.' At the bottom, there are 'Default', 'OK (O)', and 'Cancel' buttons.

## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
331	0	RS-485 communication station
332	192	RS-485 communication speed
333	1	RS-485 communication stop bit length
334	2	RS-485 communication parity check selection
335	1	RS-485 communication retry count
336	Any Except 0	RS-485 communication check time interval
337	9999	RS-485 communication waiting time setting
341	1	RS-485 communication CR/LF selection
549	0	Protocol selection

### NOTE

- Always restart the External Device after changing parameters.

## 3.7 Setting Example 7



### ■ GP Pro-EX Settings

#### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), 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 are also options for RI/VCC (RI, VCC) and a 'Default' button. The 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1 | PLC1 | Settings | Series=FR-E700, Station No.=0'.

#### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It has a 'Series' dropdown menu set to 'FR-E700' and a note: 'If you change the series, please reconfirm all address settings.' Below that is a 'Station No.' spinner box set to '0'. At the bottom are 'Default', 'OK (O)', and 'Cancel' buttons.

## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
117	0	PU communication station number
118	192	PU communication speed
119	1	PU communication stop bit length
120	2	PU communication parity check
121	1	Number of PU communication retries
122	Any Except 0	PU communication check time interval
123	9999	PU communication waiting time setting
124	1	PU communication CR/LF selection
549	0	Protocol selection

### NOTE

- Always restart the External Device after changing parameters.

## 3.8 Setting Example 8

### ■ GP Pro-EX Settings

#### ◆ Communication Settings



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

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

- Summary:**
  - Maker: Mitsubishi Electric Corporation
  - Series: FREQROL Inverter
  - Port: COM1
  - Text Data Mode: 1
- Communication Settings:**
  - SIO Type:  RS422/485(2wire)
  - Speed: 19200
  - Data Length:  8
  - Parity:  EVEN
  - Stop Bit:  2
  - Flow Control:  NONE
  - 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.
- Device-Specific Settings:**
  - Allowable Number of Devices/PLCs: 16
  - Number: 1
  - Device Name: PLC1
  - Settings: Series=FR-E700, Station No.=0

#### ◆ Device Setting

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

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

- Series: FR-E700
- Station No.: 0

Buttons: Default, OK (O), Cancel



## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
117	0	PU communication station number
118	192	PU communication speed
119	1	PU communication stop bit length
120	2	PU communication parity check
121	1	Number of PU communication retries
122	Any Except 0	PU communication check time interval
123	9999	PU communication waiting time setting
124	1	PU communication CR/LF selection
549	0	Protocol selection

### NOTE

- Always restart the External Device after changing parameters.

### 3.9 Setting Example 9



#### ■ GP Pro-EX Settings

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), and 'Port' (COM1). The 'Text Data Mode' is set to 1. The 'Communication Settings' section includes radio buttons for 'RS232C', 'RS422/485(2wire)', and 'RS422/485(4wire)'. The 'Speed' is set to 19200, 'Data Length' to 8, 'Parity' to EVEN, 'Stop Bit' to 2, and 'Flow Control' to NONE. The 'Timeout' is 3 seconds and 'Retry' is 2. The 'Wait To Send' is 0 ms. There are also options for 'RI/VCC' (RI or VCC) and a 'Default' button. The 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1 | PLC1 | Series=FR-V500/V500L, Station No.=0'.

##### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It has a 'Series' dropdown menu set to 'FR-V500/V500L'. Below it is a note: 'If you change the series, please reconfirm all address settings.' The 'Station No.' is set to 0. There are 'Default', 'OK (O)', and 'Cancel' buttons.

## ■ External Device Settings

Use the MODE key, SET key, up key, and down key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Press MODE key to select the parameter setting mode.
- 2 Press SET key.
- 3 Press up key or down key to display the most significant digit of the parameter number.
- 4 Press SET key.
- 5 Press up key or down key to display the middle digit of the parameter number.
- 6 Press SET key.
- 7 Press up key or down key to display the least significant digit of the parameter number.
- 8 Press SET key to display the current setting value.
- 9 Press up key or down key to set the setting value.
- 10 Press SET key for 1.5 seconds to write the setting value.

Setting Parameter Number	Setting Value	Setup Description
117	0	Communication station number
118	192	Communication speed
119	1	Stop bit length/data length
120	2	Parity check presence/absence
121	1	Number of communication retries
122	Any Except 0	Communication check time interval
123	9999	Waiting time setting
124	1	CR, LF presence/absence selection

### NOTE

- Always restart the External Device after changing parameters.

### 3.10 Setting Example 10



#### ■ GP Pro-EX Settings

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. It has a 'Summary' section with fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), and 'Port' (COM1). Below this is the 'Communication Settings' section with 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), and 'Flow Control' (NONE, ER(DTR/CTS), XON/XOFF). There are also spinners for 'Timeout' (3 sec), 'Retry' (2), and 'Wait To Send' (0 ms). A section for 'RI/VCC' has radio buttons for 'RI' and 'VCC', with a 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.' A 'Default' button is at the bottom right. The 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1 | PLC1 | Series=FR-V500/V500L, Station No.=0'. There are icons for adding and deleting devices.

##### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It has a 'Series' dropdown menu set to 'FR-V500/V500L' and a note: 'If you change the series, please reconfirm all address settings.' Below that is a 'Station No.' spinner set to '0'. There are 'Default', 'OK (O)', and 'Cancel' buttons.

## ■ External Device Settings

Use the MODE key, SET key, up key, and down key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Press MODE key to select the parameter setting mode.
- 2 Press SET key.
- 3 Press up key or down key to display the most significant digit of the parameter number.
- 4 Press SET key.
- 5 Press up key or down key to display the middle digit of the parameter number.
- 6 Press SET key.
- 7 Press up key or down key to display the least significant digit of the parameter number.
- 8 Press SET key to display the current setting value.
- 9 Press up key or down key to set the setting value.
- 10 Press SET key for 1.5 seconds to write the setting value.

Setting Parameter Number	Setting Value	Setup Description
331	0	Communication station number
332	192	Communication speed
333	1	Stop bit length
334	2	Parity check presence/absence
335	1	Number of communication retries
336	Any Except 0	Communication check time interval
337	9999	Waiting time setting
341	1	CR/LF presence/absence selection

### NOTE

- Always restart the External Device after changing parameters.

### 3.11 Setting Example 11



#### ■ GP Pro-EX Settings

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. It includes a 'Summary' section with fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), and 'Port' (COM1). Below this is the 'Communication Settings' section with radio buttons for 'RS232C', 'RS422/485(2wire)', and 'RS422/485(4wire)'. Other settings include 'Speed' (19200), 'Data Length' (8), 'Parity' (EVEN), 'Stop Bit' (2), 'Flow Control' (NONE), 'Timeout' (3 sec), 'Retry' (2), and 'Wait To Send' (0 ms). There is also a section for 'RI / VCC' with radio buttons for 'RI' and 'VCC', and a 'Default' button. At the bottom, the 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1 | PLC1 | Series=FR-A500/A500L, Station No.=0'.

##### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It features a 'Series' dropdown menu set to 'FR-A500/A500L' and a 'Station No.' spinner box set to '0'. A note states: 'If you change the series, please reconfirm all address settings.' There are 'Default', 'OK (O)', and 'Cancel' buttons.

## ■ External Device Settings

Use the MODE key, SET key, up key, and down key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Press MODE key to select the parameter setting mode.
- 2 Press SET key.
- 3 Press up key or down key to display the most significant digit of the parameter number.
- 4 Press SET key.
- 5 Press up key or down key to display the middle digit of the parameter number.
- 6 Press SET key.
- 7 Press up key or down key to display the least significant digit of the parameter number.
- 8 Press SET key to display the current setting value.
- 9 Press up key or down key to set the setting value.
- 10 Press SET key for 1.5 seconds to write the setting value.

Setting Parameter Number	Setting Value	Setup Description
117	0	Station number
118	192	Communication speed
119	1	Stop bit length/data length
120	2	Parity check presence/absence
121	1	Number of communication retries
122	Any Except 0	Communication check time interval
123	9999	Waiting time setting
124	1	CR, LF presence/absence selection

### NOTE

- Always restart the External Device after changing parameters.

## 3.12 Setting Example 12



### ■ GP Pro-EX Settings

#### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. It has a 'Summary' section with fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), and 'Port' (COM1). Below this is the 'Communication Settings' section with various options: 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), and Wait To Send (0 ms). There are also radio buttons for RI/VCC, RI, and VCC. A 'Default' button is located at the bottom right of the communication settings. The 'Device-Specific Settings' section at the bottom shows a table with 16 allowable devices, with the first device being 'PLC1' with 'Series=FR-A500/A500L, Station No.=0'.

#### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It has a 'Series' dropdown menu set to 'FR-A500/A500L'. Below this is a note: 'If you change the series, please reconfirm all address settings.' There is a 'Station No.' field with a value of '0'. At the bottom, there are 'Default', 'OK (O)', and 'Cancel' buttons.



## ■ External Device Settings

Use the MODE key, SET key, up key, and down key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Press MODE key to select the parameter setting mode.
- 2 Press SET key.
- 3 Press up key or down key to display the most significant digit of the parameter number.
- 4 Press SET key.
- 5 Press up key or down key to display the middle digit of the parameter number.
- 6 Press SET key.
- 7 Press up key or down key to display the least significant digit of the parameter number.
- 8 Press SET key to display the current setting value.
- 9 Press up key or down key to set the setting value.
- 10 Press SET key for 1.5 seconds to write the setting value.

Setting Parameter Number	Setting Value	Setup Description
331	0	Communication station number
332	192	Communication speed
333	1	Stop bit length
334	2	Parity check yes/no
335	1	Communication retry count
336	Any Except 0	Communication check time interval
337	9999	Waiting time setting
341	1	CR/LF yes/no selection

### NOTE

- Always restart the External Device after changing parameters.

### 3.13 Setting Example 13

#### ■ GP Pro-EX Settings

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes:
 

- Maker: Mitsubishi Electric Corporation
- Series: FREQROL Inverter
- Port: COM1
- Text Data Mode: 1 (Change)

 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' 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
- A table with columns 'Number' and 'Device Name':
 

Number	Device Name
1	PLC1
- A 'Settings' icon next to the device name.
- A text field: 'Series=FR-F500/F500L, Station No.=0'

##### ◆ Device Setting

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

The 'Individual Device Settings' dialog box for 'PLC1' contains:
 

- Series: FR-F500/F500L
- Text: 'If you change the series, please reconfirm all address settings.'
- Station No.: 0
- Buttons: Default, OK (O), Cancel

## ■ External Device Settings

Use the MODE key, SET key, up key, and down key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Press MODE key to select the parameter setting mode.
- 2 Press SET key.
- 3 Press up key or down key to display the most significant digit of the parameter number.
- 4 Press SET key.
- 5 Press up key or down key to display the middle digit of the parameter number.
- 6 Press SET key.
- 7 Press up key or down key to display the least significant digit of the parameter number.
- 8 Press SET key to display the current setting value.
- 9 Press up key or down key to set the setting value.
- 10 Press SET key for 1.5 seconds to write the setting value.

Setting Parameter Number	Setting Value	Setup Description
117	0	Communication station number
118	192	Communication speed
119	1	Stop bit length/data length
120	2	Parity check presence/absence
121	1	Number of communication retries
122	Any Except 0	Communication check time interval
123	9999	Waiting time setting
124	1	CR • LF presence/absence selection

### NOTE

- Always restart the External Device after changing parameters.

### 3.14 Setting Example 14



#### ■ GP Pro-EX Settings

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), 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 are also options for 'RI/VCC' (RI, VCC) and a 'Default' button. The 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1 | PLC1 | Settings | Series=FR-F500/F500L, Station No.=0'.

##### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It features a 'Series' dropdown menu set to 'FR-F500/F500L' and a 'Station No.' spinner box set to '0'. A note states: 'If you change the series, please reconfirm all address settings.' There are 'Default', 'OK (O)', and 'Cancel' buttons.

## ■ External Device Settings

Use the MODE key, SET key, up key, and down key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Press MODE key to select the parameter setting mode.
- 2 Press SET key.
- 3 Press up key or down key to display the most significant digit of the parameter number.
- 4 Press SET key.
- 5 Press up key or down key to display the middle digit of the parameter number.
- 6 Press SET key.
- 7 Press up key or down key to display the least significant digit of the parameter number.
- 8 Press SET key to display the current setting value.
- 9 Press up key or down key to set the setting value.
- 10 Press SET key for 1.5 seconds to write the setting value.

Setting Parameter Number	Setting Value	Setup Description
331	0	Inverter station number
332	192	Communication speed
333	1	Stop bit length
334	2	Parity check yes/no
335	1	Communication retry count
336	Any Except 0	Communication check time interval
337	9999	Waiting time setting
341	1	CR/LF yes/no selection

### NOTE

- Always restart the External Device after changing parameters.

### 3.15 Setting Example 15

#### ■ GP Pro-EX Settings

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), 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 are also radio buttons for RI/VCC (RI, VCC) and a 'Default' button. The 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1' | 'PLC1' | 'Series=FR-E500, Station No.=0'.

##### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It has a 'Series' dropdown menu set to 'FR-E500' and a 'Station No.' spinner box set to '0'. A note states: 'If you change the series, please reconfirm all address settings.' There are 'Default', 'OK (O)', and 'Cancel' buttons.

## ■ External Device Settings

Use the MODE key, SET key, up key, and down key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Press MODE key to select the parameter setting mode.
- 2 Press SET key.
- 3 Press up key or down key to display the most significant digit of the parameter number.
- 4 Press SET key.
- 5 Press up key or down key to display the middle digit of the parameter number.
- 6 Press SET key.
- 7 Press up key or down key to display the least significant digit of the parameter number.
- 8 Press SET key to display the current setting value.
- 9 Press up key or down key to set the setting value.
- 10 Press SET key for 1.5 seconds to write the setting value.

Setting Parameter Number	Setting Value	Setup Description
117	0	Communication station number
118	192	Communication speed
119	1	Stop bit length
120	2	Parity check presence/absence
121	1	Number of communication retries
122	Any Except 0	Communication check time interval
123	9999	Waiting time setting
124	1	CR/LF presence/absence selection

### NOTE

- Always restart the External Device after changing parameters.

### 3.16 Setting Example 16

#### ■ GP Pro-EX Settings

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes:
 

- Maker: Mitsubishi Electric Corporation
- Series: FREQROL Inverter
- 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)
- RI/VCC:  RI,  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 present.
   
 The 'Device-Specific Settings' section shows:
 

- Allowable Number of Devices/PLCs: 16
- Table:
 

Number	Device Name	Settings
1	PLC1	Series=FR-C500, Station No.=0

##### ◆ Device Setting

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

The 'Individual Device Settings' dialog box for 'PLC1' shows:
 

- Series: FR-C500
- Station No.: 0
- Buttons: Default, OK (O), Cancel

 A note reads: 'If you change the series, please reconfirm all address settings.'



## ■ External Device Settings

Use the PU/EXT key in the operation panel of the CPU unit and inverter setup software by Mitsubishi Electric Corporation for External Device communication settings.

Refer to your External Device manual for details.

- 1 Press PU/EXT key to select the PU operation mode.
- 2 Start up the inverter setup software.
- 3 Double-click the setting Node in the [System Settings] window to display the [VFD Structure] dialog box.
- 4 Select "FR-C500" in the [Model].
- 5 Select the size of inverter in the [Size].
- 6 Click [OK].
- 7 Click [Confirmed].
- 8 Click [OFFLINE] to change [ONLINE].
- 9 Select the [All List Format] from the [Parameter] menu to display the [All List Format] window.
- 10 Set the communication settings as follows.

Setting Parameter Number	Setting Value	Setup Description
331	0	Communication station number
332	192	Communication speed
333	1	Stop bit length
334	2	Parity check presence/absence
335	1	Communication retry count
336	Any Except 0	Communication check time interval
337	9999	Wait time setting
341	1	CR/LF selection

- 11 Click [Blk Write].

This completes the setting of the External Device.

### NOTE

- Always restart the External Device after changing parameters.

### 3.17 Setting Example 17

#### ■ GP Pro-EX Settings

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes:
 

- Maker: Mitsubishi Electric Corporation
- Series: FREQROL Inverter
- Port: COM1
- Text Data Mode: 1 (with a 'Change' link)

 The 'Communication Settings' section includes:
 



- SIO Type:  RS232C,  RS422/485(2wire),  RS422/485(4wire)
- Speed: 19200 (dropdown)
- Data Length:  7,  8
- Parity:  NONE,  EVEN,  ODD
- Stop Bit:  1,  2
- Flow Control:  NONE,  ER(DTR/CTS),  XON/XOFF
- Timeout: 3 (spin box) (sec)
- Retry: 2 (spin box)
- Wait To Send: 0 (spin box) (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
- A table with columns 'Number' and 'Device Name':
 

Number	Device Name
1	PLC1
- A 'Settings' icon and a text field containing '|Series=FR-S500,Station No.=0|'.

##### ◆ Device Setting

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

The 'Individual Device Settings' dialog box for 'PLC1' contains:
 

- Series: FR-S500 (dropdown)
- Text: 'If you change the series, please reconfirm all address settings.'
- Station No.: 0 (spin box)
- Buttons: 'Default', 'OK (O)', and 'Cancel'.

## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
n1	0	(n1)Communication station number
n2	192	(n2)Communication speed
n3	1	(n3)Stop bit length
n4	2	(n4)Parity check presence/absence
n5	1	(n5)Number of communication retries
n6	Any Except 0	(n6)Communication check time interval
n7	---	(n7)Wait time setting
n11	1	(n11)CR/LF selection

### NOTE

- Always restart the External Device after changing parameters.

### 3.18 Setting Example 18



#### ■ GP Pro-EX Settings

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), 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 are also radio buttons for RI/VCC (RI, VCC) and a 'Default' button. The 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1' | 'PLC1' | 'Series=FR-S500, Station No.=0'.

##### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It has a 'Series' dropdown menu set to 'FR-S500' and a 'Station No.' spinner box set to '0'. A note reads: 'If you change the series, please reconfirm all address settings.' There are 'Default', 'OK (O)', and 'Cancel' buttons.

## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
n1	0	(n1)Communication station number
n2	192	(n2)Communication speed
n3	1	(n3)Stop bit length
n4	2	(n4)Parity check presence/absence
n5	1	(n5)Number of communication retries
n6	Any Except 0	(n6)Communication check time interval
n7	---	(n7)Wait time setting
n11	1	(n11)CR/LF selection
n19	0	(n19)Protocol selection

### NOTE

- Always restart the External Device after changing parameters.

### 3.19 Setting Example 19

#### ■ GP Pro-EX Settings

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes:
 

- Maker: Mitsubishi Electric Corporation
- Series: FREQROL Inverter
- Port: COM1
- Text Data Mode: 1 (Change)

 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)

 A note box indicates: '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.' A 'Default' button is also present.
   
 The 'Device-Specific Settings' section shows:
 

- Allowable Number of Devices/PLCs: 16
- Table with columns: Number, Device Name, Settings
- Row 1: 1, PLC1, Series=FR-F500J, Station No.=0

##### ◆ Device Setting

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

The 'Individual Device Settings' dialog box for 'PLC1' shows:
 

- Series: FR-F500J
- Message: 'If you change the series, please reconfirm all address settings.'
- Station No.: 0
- Buttons: Default, OK (O), Cancel

## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
n1	0	(n1)Communication station number
n2	192	(n2)Communication speed
n3	1	(n3)Stop bit length
n4	2	(n4)Parity check presence/absence
n5	1	(n5)Number of communication retries
n6	Any Except 0	(n6)Communication check time interval
n7	---	(n7)Wait time setting
n11	1	(n11)CR, LF selection

### NOTE

- Always restart the External Device after changing parameters.

## 3.20 Setting Example 20

### ■ GP Pro-EX Settings

#### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes:
 

- Maker: Mitsubishi Electric Corporation
- Series: FREQROL Inverter
- Port: COM1
- Text Data Mode: 1 (Change)

 The 'Communication Settings' section includes:
 

- SIO Type:  RS422/485(4wire)
- Speed: 19200
- Data Length:  8
- Parity:  EVEN
- Stop Bit:  2
- Flow Control:  NONE
- Timeout: 3 (sec)
- Retry: 2
- Wait To Send: 0 (ms)

 A note box indicates: '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.'
   
 The 'Device-Specific Settings' section shows:
 

- Allowable Number of Devices/PLCs: 16
- Table with columns: Number, Device Name, Settings
- Row 1: 1, PLC1, [Series=FR-B,B3(A500), Station No.=0]

#### ◆ Device Setting

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

The 'Individual Device Settings' dialog box for 'PLC1' shows:
 

- Series: FR-B,B3(A500)
- Message: 'If you change the series, please reconfirm all address settings.'
- Station No.: 0
- Buttons: Default, OK (O), Cancel



## ■ External Device Settings

Use the MODE key, SET key, up key, and down key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Press MODE key to select the parameter setting mode.
- 2 Press SET key.
- 3 Press up key or down key to display the most significant digit of the parameter number.
- 4 Press SET key.
- 5 Press up key or down key to display the middle digit of the parameter number.
- 6 Press SET key.
- 7 Press up key or down key to display the least significant digit of the parameter number.
- 8 Press SET key to display the current setting value.
- 9 Press up key or down key to set the setting value.
- 10 Press SET key for 1.5 seconds to write the setting value.

Setting Parameter Number	Setting Value	Setup Description
117	0	Station number
118	192	Communication speed
119	1	Stop bit length/data length
120	2	Parity check presence/absence
121	1	Number of communication retries
122	Any Except 0	Communication check time interval
123	9999	Waiting time setting
124	1	CR/LF presence/absence selection

### NOTE

- Always restart the External Device after changing parameters.

## 3.21 Setting Example 21



### ■ GP Pro-EX Settings

#### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. At the top, there is a 'Summary' section with fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), and 'Port' (COM1). Below this is the 'Communication Settings' section, which includes radio buttons for 'RS232C', 'RS422/485(2wire)', and 'RS422/485(4wire)'. Other settings include 'Speed' (19200), 'Data Length' (8), 'Parity' (EVEN), 'Stop Bit' (2), 'Flow Control' (NONE), 'Timeout' (3 sec), 'Retry' (2), and 'Wait To Send' (0 ms). There is also a section for 'RI / VCC' with radio buttons for 'RI' and 'VCC', and a 'Default' button. At the bottom, the 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1 | PLC1 | [Settings] | Series=FR-B,B3(A500), Station No.=0'.

#### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It features a 'Series' dropdown menu set to 'FR-B,B3(A500)'. Below this is a note: 'If you change the series, please reconfirm all address settings.' There is a 'Station No.' field set to '0'. At the bottom, there are 'Default', 'OK (O)', and 'Cancel' buttons.

## ■ External Device Settings

Use the MODE key, SET key, up key, and down key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Press MODE key to select the parameter setting mode.
- 2 Press SET key.
- 3 Press up key or down key to display the most significant digit of the parameter number.
- 4 Press SET key.
- 5 Press up key or down key to display the middle digit of the parameter number.
- 6 Press SET key.
- 7 Press up key or down key to display the least significant digit of the parameter number.
- 8 Press SET key to display the current setting value.
- 9 Press up key or down key to set the setting value.
- 10 Press SET key for 1.5 seconds to write the setting value.

Setting Parameter Number	Setting Value	Setup Description
331	0	Inverter station number
332	192	Communication speed
333	1	Stop bit length
334	2	Parity check yes/no
335	1	Communication retry count
336	Any Except 0	Communication check time interval
337	9999	Waiting time setting
341	1	CR, LF yes/no selection

### NOTE

- Always restart the External Device after changing parameters.

## 3.22 Setting Example 22

### ■ GP Pro-EX Settings

#### ◆ Communication Settings



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

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

- Summary:** Includes fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), and 'Port' (COM1). There is a 'Change Device/PLC' link.
- Text Data Mode:** Set to '1' with a 'Change' link.
- Communication Settings:**
  - SIO Type:** Radio buttons for RS232C, RS422/485(2wire), and RS422/485(4wire). RS422/485(4wire) is selected.
  - Speed:** A dropdown menu set to '19200'.
  - Data Length:** Radio buttons for 7 and 8. 8 is selected.
  - Parity:** Radio buttons for NONE, EVEN, and ODD. EVEN is selected.
  - Stop Bit:** Radio buttons for 1 and 2. 2 is selected.
  - Flow Control:** Radio buttons for NONE, ER(DTR/CTS), and XON/XOFF. NONE is selected.
  - Timeout:** A spin box set to '3' (sec).
  - Retry:** A spin box set to '2'.
  - Wait To Send:** A spin box set to '0' (ms).
- RI / VCC:** Radio buttons for RI and VCC. RI is selected. A note below states: "In the case of RS232C, you can select the 9th pin to RI (Input or VCC (5V Power Supply)). If you use the Digital's RS232C Isolation Unit, please select it to VCC." A 'Default' button is present.
- Device-Specific Settings:**
  - 'Allowable Number of Devices/PLCs' is set to 16.
  - A table lists the device:

Number	Device Name	Settings
1	PLC1	Series=FR-B.B3(A700), Station No.=0

#### ◆ Device Setting

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

The 'Individual Device Settings' dialog box is shown. It contains the following fields and controls:

- Title bar: 'Individual Device Settings' with a close button.
- Label: 'PLC1'.
- Series:** A dropdown menu set to 'FR-B.B3(A700)'. Below it, a note reads: "If you change the series, please reconfirm all address settings."
- Station No.:** A spin box set to '0'.
- Buttons: 'Default', 'OK (O)', and 'Cancel'.

## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
117	0	PU communication station number
118	192	PU communication speed
119	1	PU communication stop bit length
120	2	PU communication parity check
121	1	Number of PU communication retries
122	Any Except 0	PU communication check time interval
123	9999	PU communication waiting time setting
124	1	PU communication CR/LF selection

### NOTE

- Always restart the External Device after changing parameters.

### 3.23 Setting Example 23

#### ■ GP Pro-EX Settings

##### ◆ Communication Settings

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

The screenshot shows the 'Device/PLC 1' configuration window. The 'Summary' section includes fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), 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 are also radio buttons for RI/VCC (RI, VCC) and a 'Default' button. The 'Device-Specific Settings' section shows 'Allowable Number of Devices/PLCs' as 16 and a table with one entry: '1' | 'PLC1' | 'Series=FR-B.B3(A700), Station No.=0'.

##### ◆ Device Setting

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

The screenshot shows the 'Individual Device Settings' dialog box for 'PLC1'. It has a 'Series' dropdown menu set to 'FR-B.B3(A700)'. Below it is a note: 'If you change the series, please reconfirm all address settings.' The 'Station No.' is set to 0. There are 'Default', 'OK (O)', and 'Cancel' buttons.

## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
331	0	RS-485 communication station
332	192	RS-485 communication speed
333	1	RS-485 communication stop bit length
334	2	RS-485 communication parity check selection
335	1	RS-485 communication retry count
336	Any Except 0	RS-485 communication check time interval
337	9999	RS-485 communication waiting time setting
341	1	RS-485 communication CR/LF selection
549	0	Protocol selection

### NOTE

- Always restart the External Device after changing parameters.

## 3.24 Setting Example 24

### ■ GP Pro-EX Settings

#### ◆ Communication Settings



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

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

- Summary:** Includes fields for 'Maker' (Mitsubishi Electric Corporation), 'Series' (FREQROL Inverter), and 'Port' (COM1). There is a 'Change Device/PLC' link.
- Text Data Mode:** Set to '1' with a 'Change' link.
- Communication Settings:**
  - SIO Type:** Radio buttons for RS232C, RS422/485(2wire) (selected), and RS422/485(4wire).
  - Speed:** A dropdown menu set to 19200.
  - Data Length:** Radio buttons for 7 and 8 (selected).
  - Parity:** Radio buttons for NONE, EVEN (selected), and ODD.
  - Stop Bit:** Radio buttons for 1 and 2 (selected).
  - Flow Control:** Radio buttons for NONE (selected), ER(DTR/CTS), and XON/XOFF.
  - Timeout:** A numeric field set to 3 (sec).
  - Retry:** A numeric field set to 2.
  - Wait To Send:** A numeric field set to 0 (ms).
- RI/VCC:** Radio buttons for RI (selected) and VCC. A note below states: "In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC." A 'Default' button is also present.
- Device-Specific Settings:**
  - 'Allowable Number of Devices/PLCs' is set to 16.
  - A table lists the device:

Number	Device Name	Settings
1	PLC1	[Series=FR-B.B3(A700), Station No.=0]

#### ◆ Device Setting

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

The 'Individual Device Settings' dialog box is shown for 'PLC1'. It contains the following fields and controls:

- Series:** A dropdown menu set to 'FR-B.B3(A700)'. Below it, a note reads: "If you change the series, please reconfirm all address settings."
- Station No.:** A numeric field set to 0.
- Buttons:** 'Default', 'OK (O)', and 'Cancel'.



## ■ External Device Settings

Use the PU/EXT key, MODE key, M dial and SET key in the operation panel of the CPU unit for External Device communication settings.

Refer to your External Device manual for details.

- 1 Turn ON the power supply.
- 2 Press PU/EXT key to select the PU operation mode.
- 3 Press MODE key to select the parameter setting mode.
- 4 Display the setting parameter number with M dial.
- 5 Press SET key to display the current setting value.
- 6 Set the setting value with M dial.
- 7 Press SET key to confirm the setting value.

Setting Parameter Number	Setting Value	Setup Description
331	0	RS-485 communication station
332	192	RS-485 communication speed
333	1	RS-485 communication stop bit length
334	2	RS-485 communication parity check selection
335	1	RS-485 communication retry count
336	Any Except 0	RS-485 communication check time interval
337	9999	RS-485 communication waiting time setting
341	1	RS-485 communication CR/LF selection
549	0	Protocol selection


### NOTE

- Always restart the External Device after changing parameters.

## 4 Setup Items

Set up the Display's communication settings in GP Pro-EX or in the Display's off-line mode.

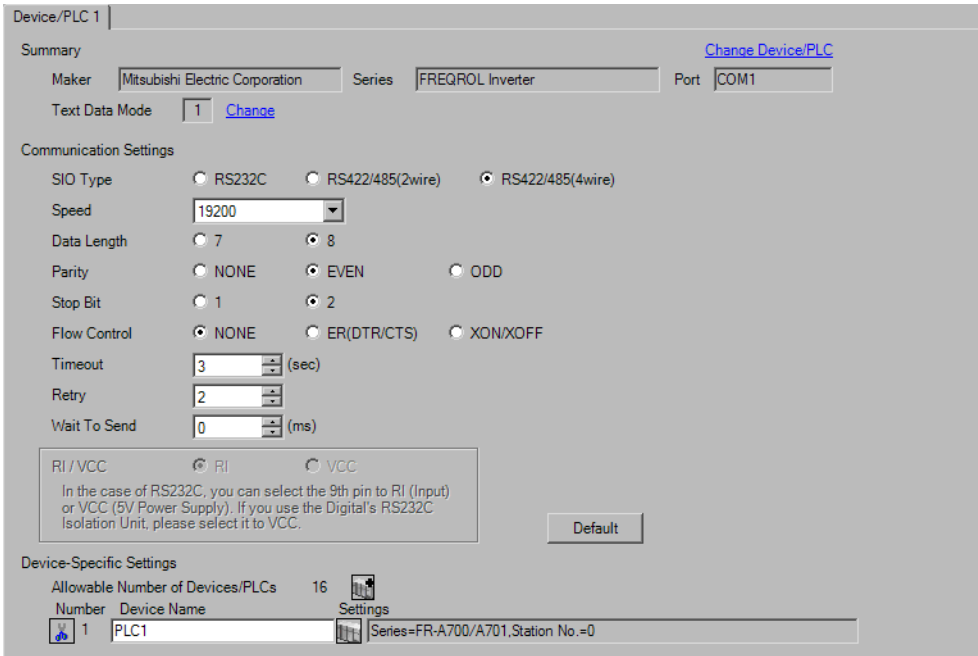
The setting of each parameter must match that of the External Device.

 "3 Communication Settings" (page 10)

### 4.1 Setup Items in GP Pro-EX

#### ■ Communication Settings

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



Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Series  Port

Text Data Mode  [Change](#)

Communication Settings

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

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

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

Timeout  (sec)


Retry



Wait To Send  (ms)

RI / VCC  RI  VCC

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

Device-Specific Settings

Allowable Number of Devices/PLCs 16 



Number	Device Name	Settings
 1	PLC1	 Series=FR-A700/A701, Station No.=0

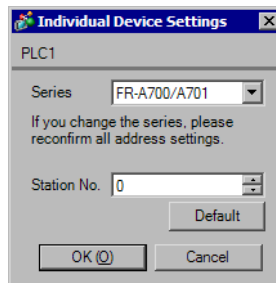
Setup Items	Setup Description
SIO Type	<p>Select the SIO type to communicate with the External Device.</p> <p><b>IMPORTANT</b></p> <p>In the communication setting, confirm the serial interface specifications of the Display and set [SIO Type] correctly.</p> <p>If you select an SIO type the serial interface does not support, we cannot guarantee the operation.</p> <p>Please refer to the manual of the Display for more detail on the serial interface specifications.</p>
Speed	Select communication 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.

Continues to the next page.

Setup Items	Setup Description
Flow Control	Select the communication control method to prevent overflow of transmission and reception data.
Timeout	Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device.
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.

## ■ Device Setting

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



Setup Items	Setup Description
Series	Select the series of the External Device.
Station No.	Use an integer from 0 to 31 to enter the Station number of the External Device. (Default value [0])

## 4.2 Setup Items in Off-line Mode

**NOTE**

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

Cf. Maintenance/Troubleshooting Manual "2.2 Off-line Mode"

### ■ Communication Settings

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

Comm.	Device	Option		
FREQROL Inverter		[COM1]	Page 1/1	
SIO Type	RS422/485(4wire) ▼			
Speed	19200 ▼			
Data Length	<input type="radio"/> 7 <input checked="" type="radio"/> 8 <input type="radio"/> NONE <input checked="" type="radio"/> EVEN <input type="radio"/> ODD			
Parity				
Stop Bit	<input type="radio"/> 1 <input checked="" type="radio"/> 2			
Flow Control	NONE ▼			
Timeout(s)		3	▼	▲
Retry		2	▼	▲
Wait To Send(ms)		0	▼	▲
Exit		Back		2008/03/14 12:03:13

Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. <b>IMPORTANT</b> In the communication setting, confirm the serial interface specifications of the Display and set [SIO Type] correctly. If you select an SIO type the serial interface does not support, we cannot guarantee the operation. Please refer to the manual of the Display for more detail on the serial interface specifications.
Speed	Select the communication 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 (s)	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 (ms)	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 Equipment Settings]. Touch the External Device you want to set from the displayed list, and touch [Device].

Comm.	Device	Option		
FREQROL Inverter			[COM1]	Page 1/1
Device/PLC Name	[PLC1]			
Series	FR-A700/A701			
Station No.	[0]			
	Exit		Back	2008/03/14 12:03:18

Setup Items	Setup Description
Device/PLC Name	Select the External Device to set. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1])
Series	Display the series of the External Device.
Station No.	Use an integer from 0 to 31 to enter the Station number of the External Device. (Default value [0])

## 5 Cable Diagrams

The cable diagrams shown below may be different from cable diagrams recommended by Mitsubishi Electric Corporation. Please be assured there is no operational problem in applying the cable diagrams shown in this manual.


- The FG pin of the External Device body must be D-class grounded. Please refer to the manual of the External Device for more details.
- SG and FG are connected inside the Display. When connecting SG to the External Device, design the system not to form short-circuit loop.
- Connect the isolation unit if noise and interference affect communication.

Cable Diagram 1

Display (Connection Port)	Cable		Notes
GP*1 (COM1) AGP-3302B (COM2) ST*2 (COM2) LT (COM1) IPC*3	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	B	User-created cable	
GP*4 (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	

\*1 All GP models except AGP-3302B

\*2 All ST models except AST-3211A

\*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.  
 ■ IPC COM Port" (page 7)

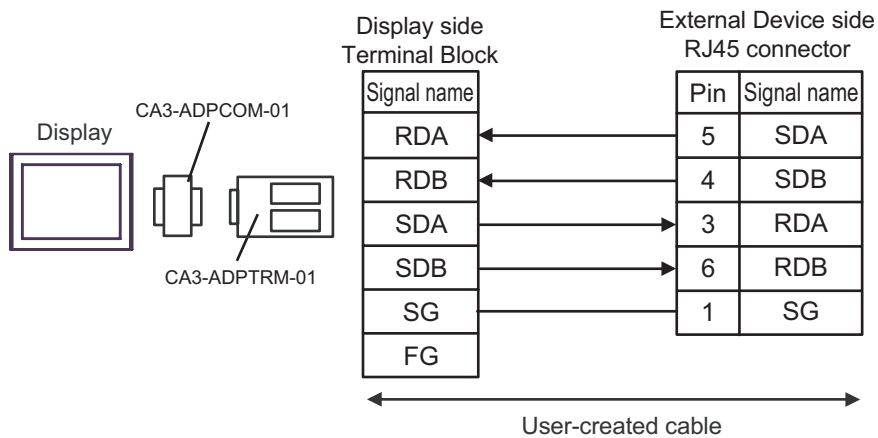
\*4 All GP models except GP-3200 series and AGP-3302B

Recommended cables and connectors

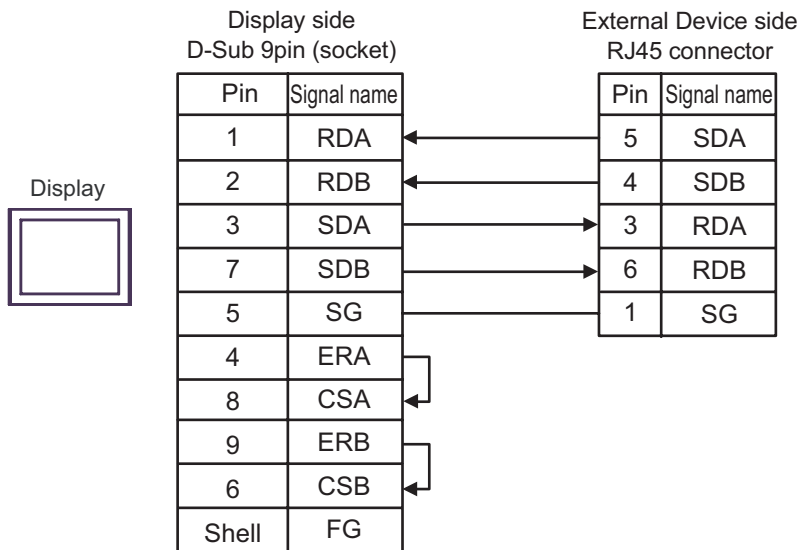
Item	Type	Manufacturer
10BASE-T cable	SGLPEV-T 0.5mmx4P*1	Mitsubishi Electric Corporation
RJ45 connector	5-554720-3	Tyco Electronics AMP K.K.

\*1 Do not use pin number 2 or 8.

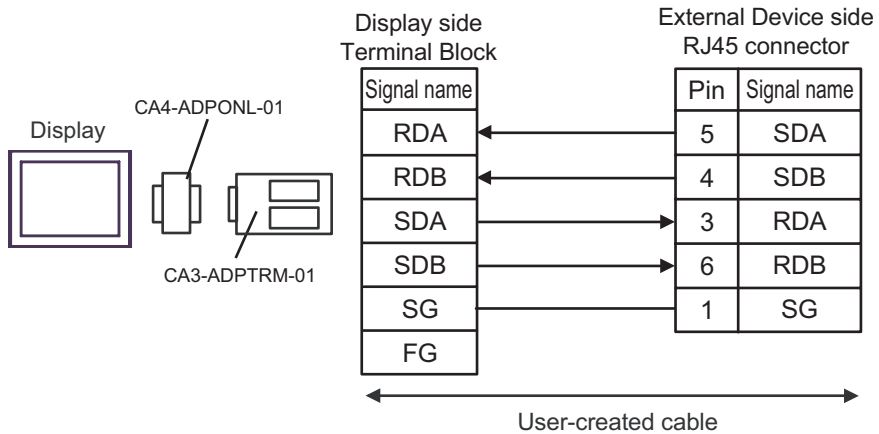
- A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable



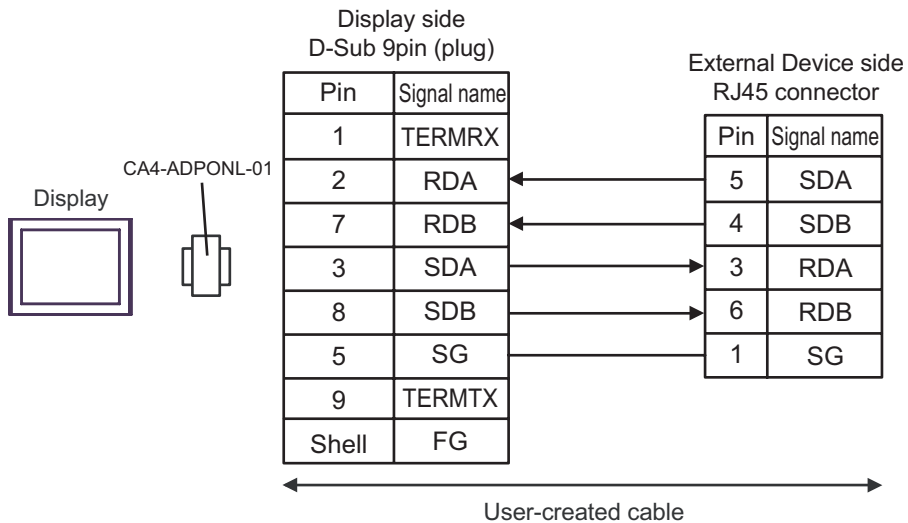
- B) When using a user-created cable



- C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable



- D) When using the online adapter (CA4-ADPONL-01) by Pro-face and a user-created cable






Cable Diagram 2

Display (Connection Port)	Cable		Notes
GP* <sup>1</sup> (COM1) AGP-3302B (COM2) ST* <sup>2</sup> (COM2) LT (COM1) IPC* <sup>3</sup>	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	B	User-created cable	
GP* <sup>4</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	

\*1 All GP models except AGP-3302B

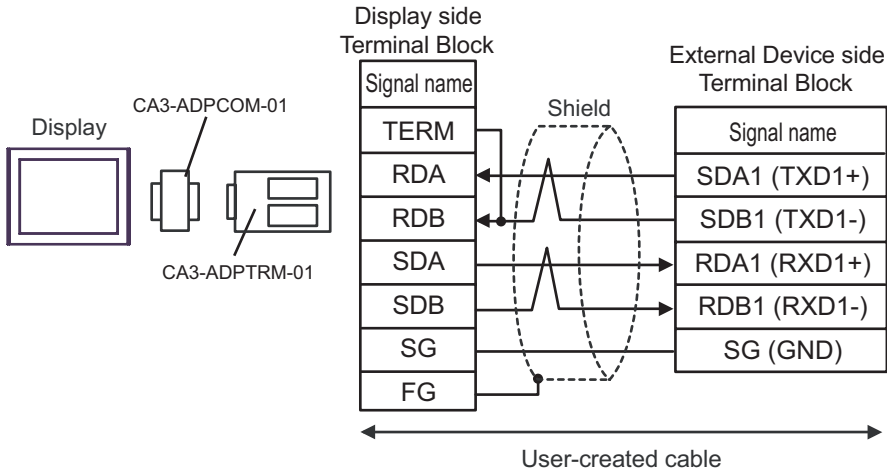
\*2 All ST models except AST-3211A

\*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.  
 "■ IPC COM Port" (page 7)

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

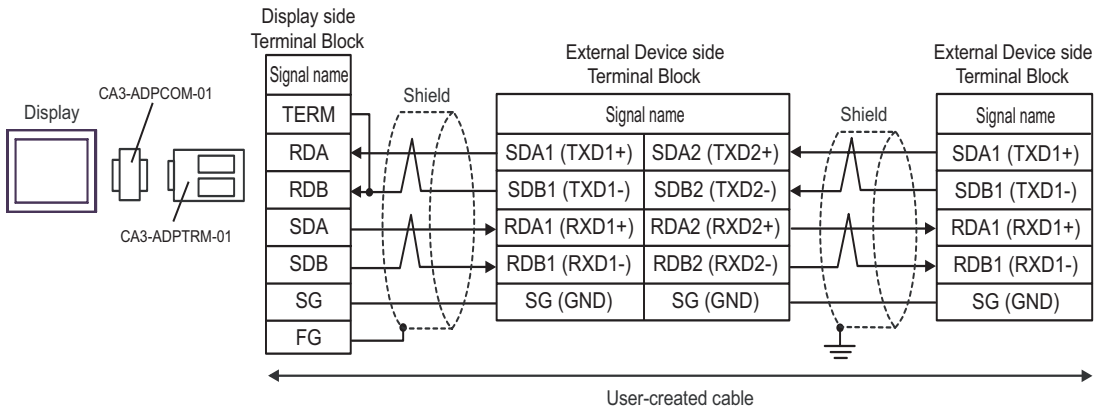
A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection



**NOTE** • Please set the terminating resistor switch of the External Device to the "100Ω" position.

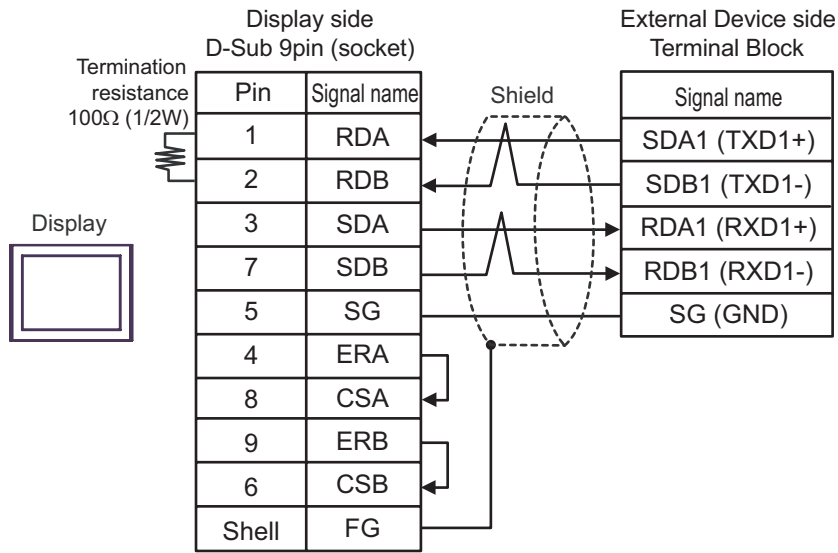
- 1:n Connection



**NOTE** • Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

B) When using a user-created cable

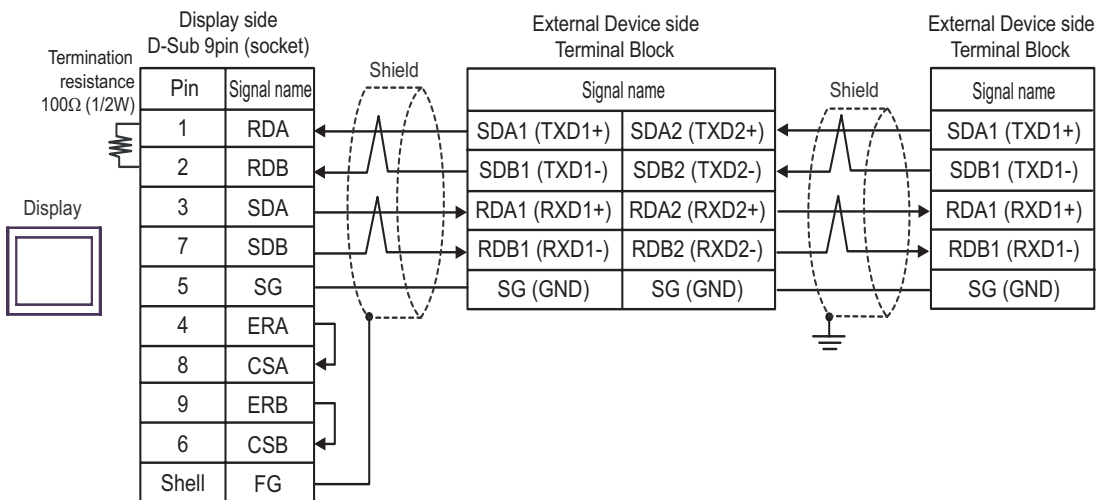
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection

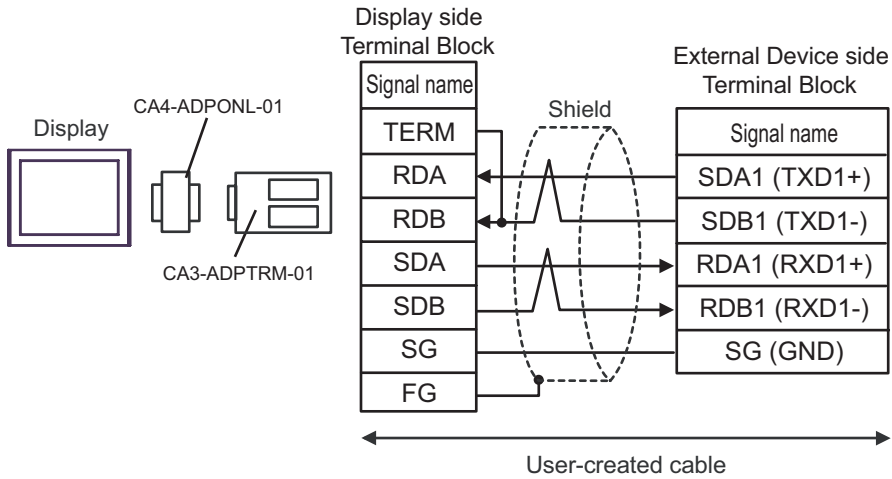


**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

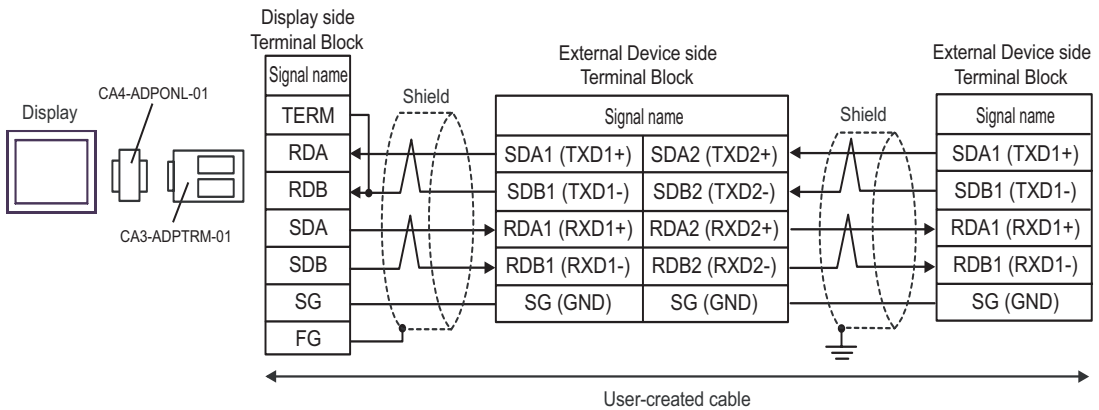
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection

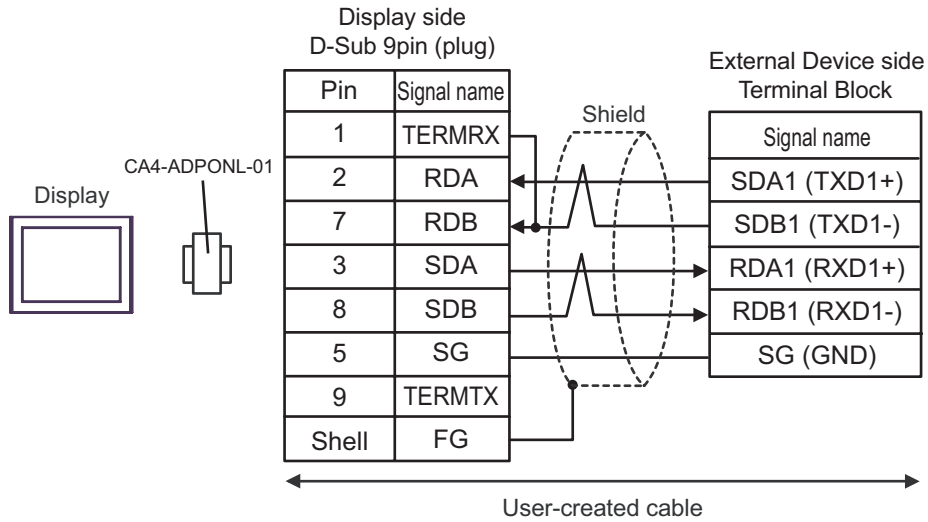


**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

D) When using the online adapter (CA4-ADPONL-01) by Pro-face and a user-created cable

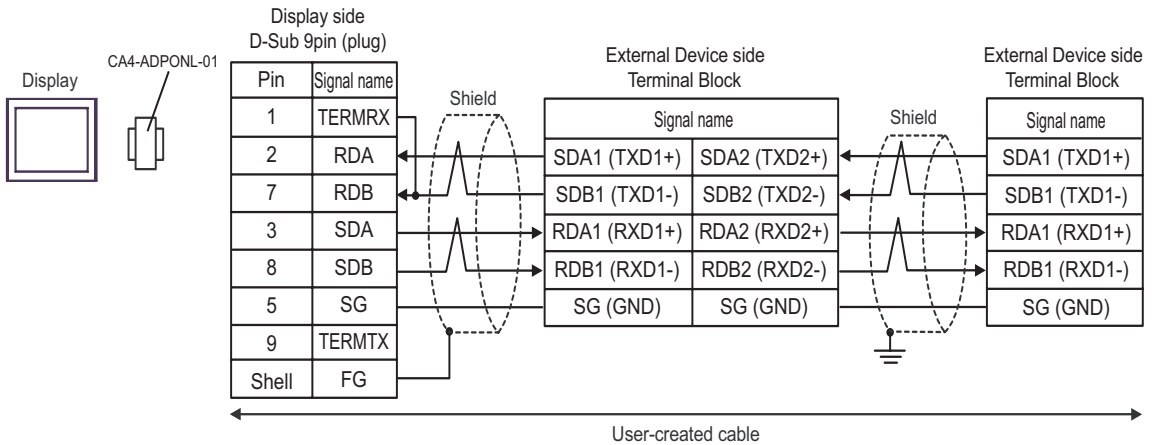
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection



**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.


Cable Diagram 3

Display (Connection Port)	Cable		Notes
GP* <sup>1</sup> (COM1) AGP-3302B (COM2) ST* <sup>2</sup> (COM2) LT (COM1)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	B	User-created cable	
GP* <sup>3</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC* <sup>4</sup>	E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	F	User-created cable	

\*1 All GP models except AGP-3302B

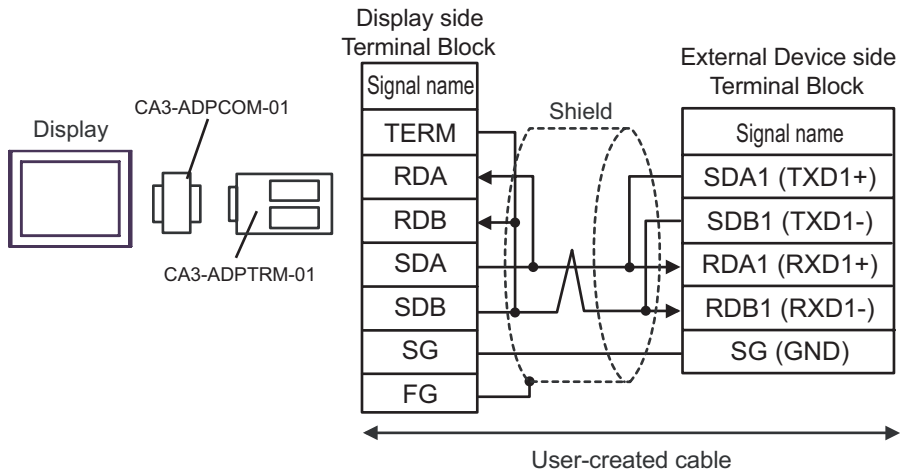
\*2 All ST models except AST-3211A

\*3 All GP 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 7)

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

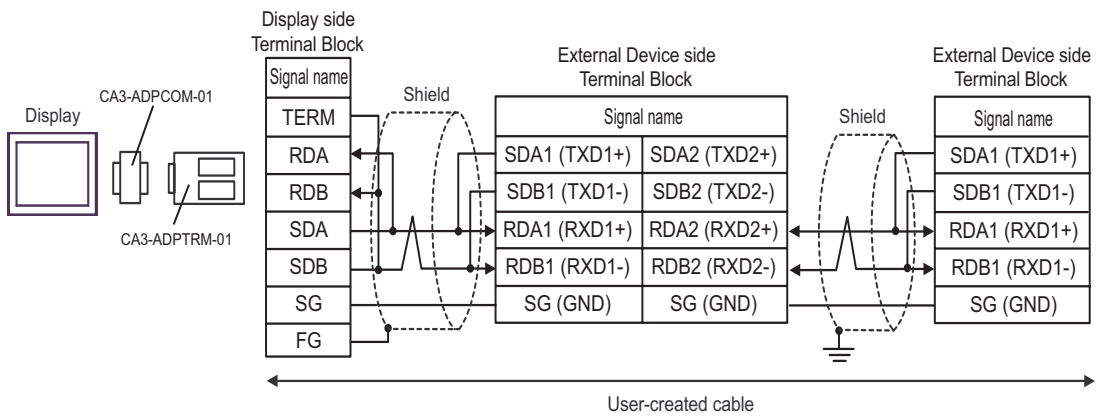
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection

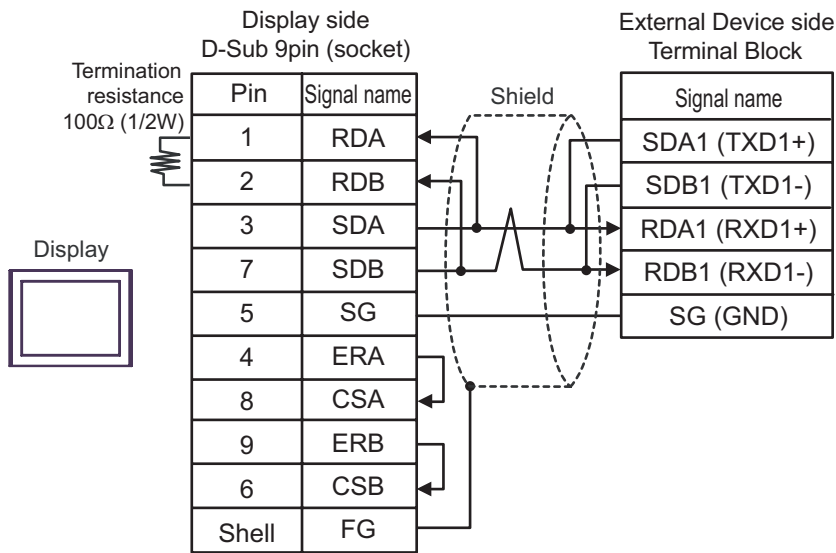


**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

B) When using a user-created cable

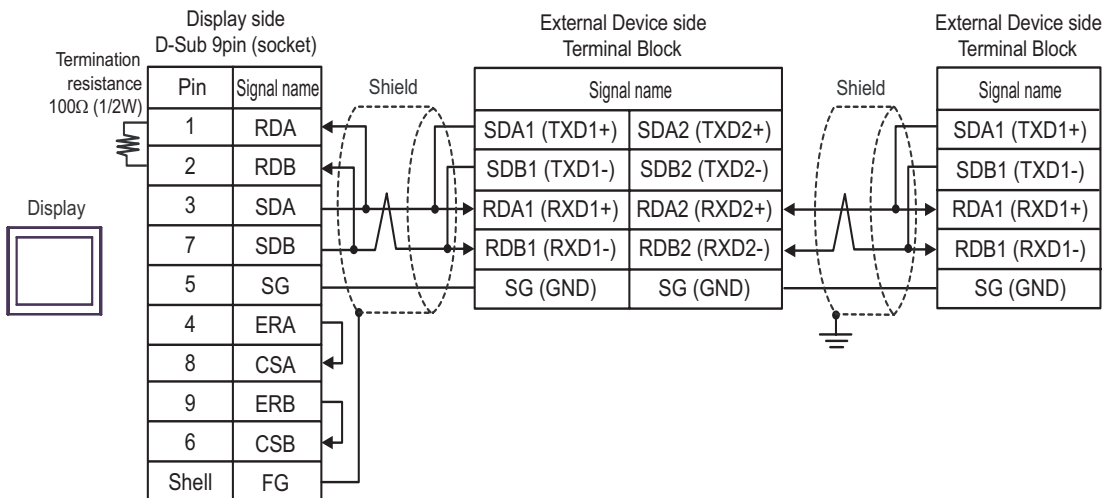
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection



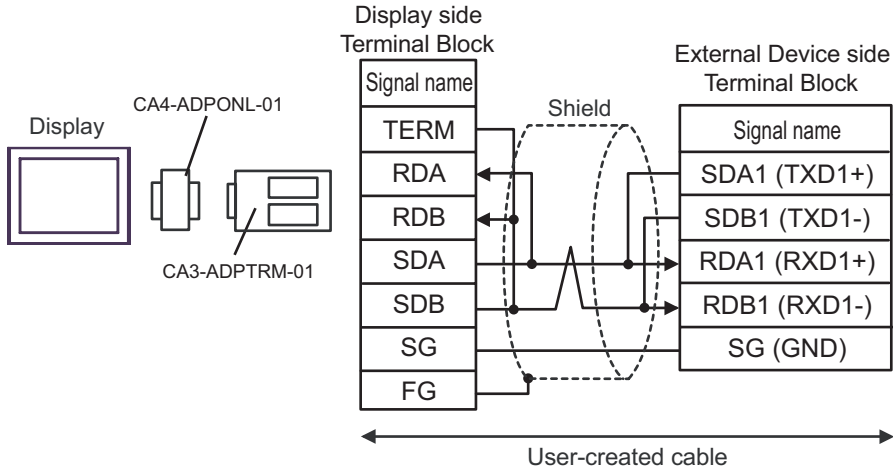
**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.



C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

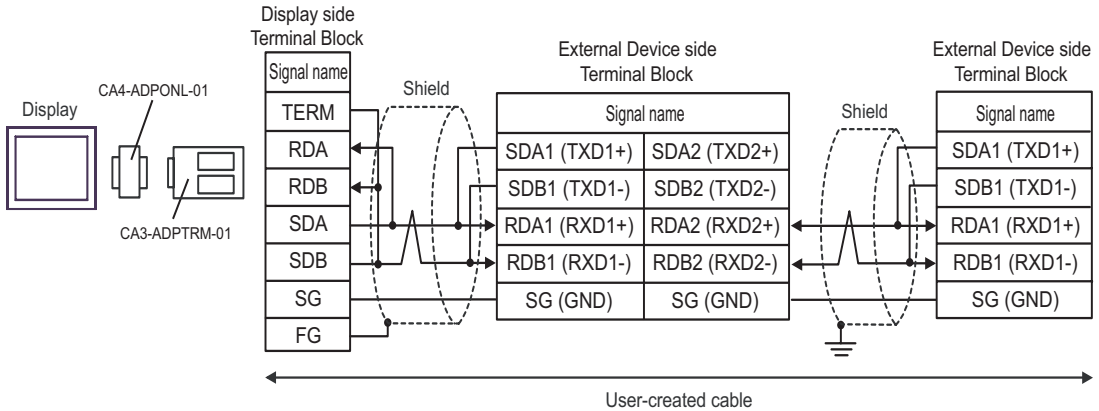
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection

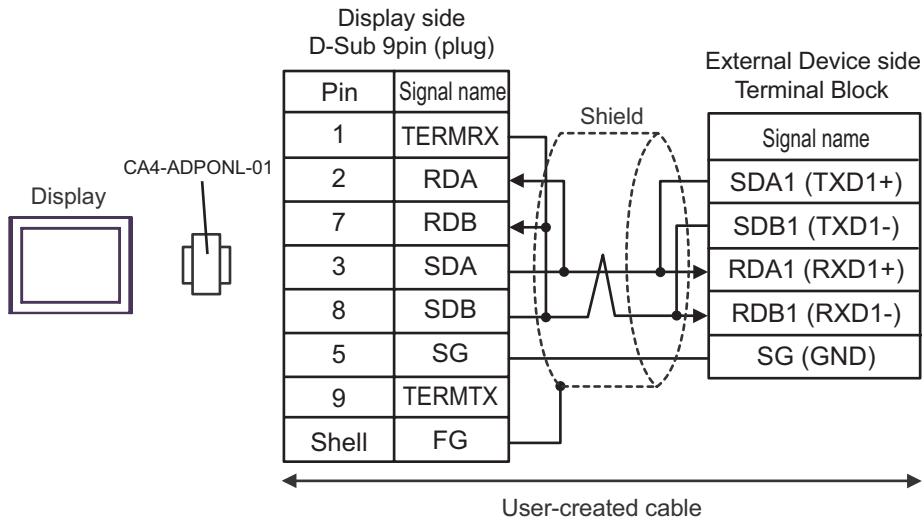


**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

D) When using the online adapter (CA4-ADPONL-01) by Pro-face and a user-created cable

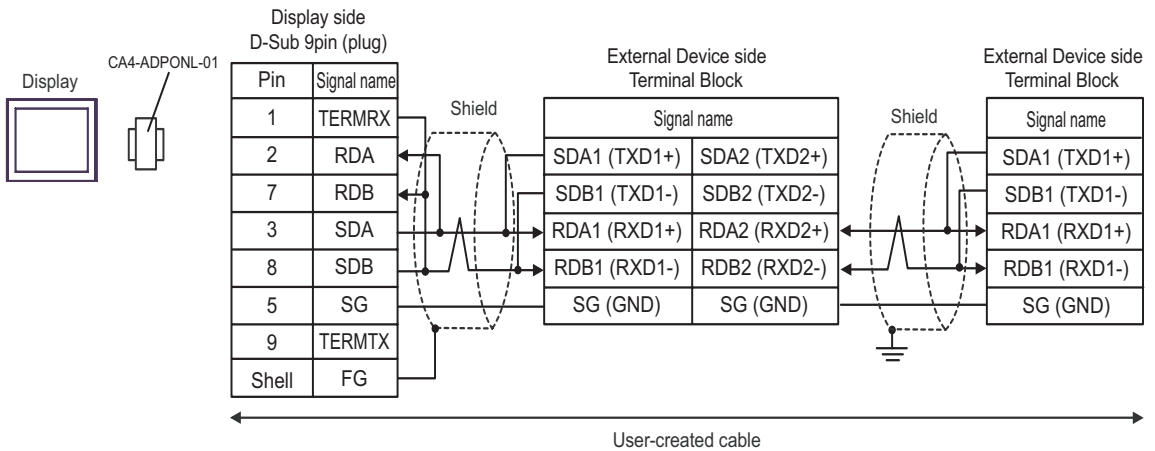
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection

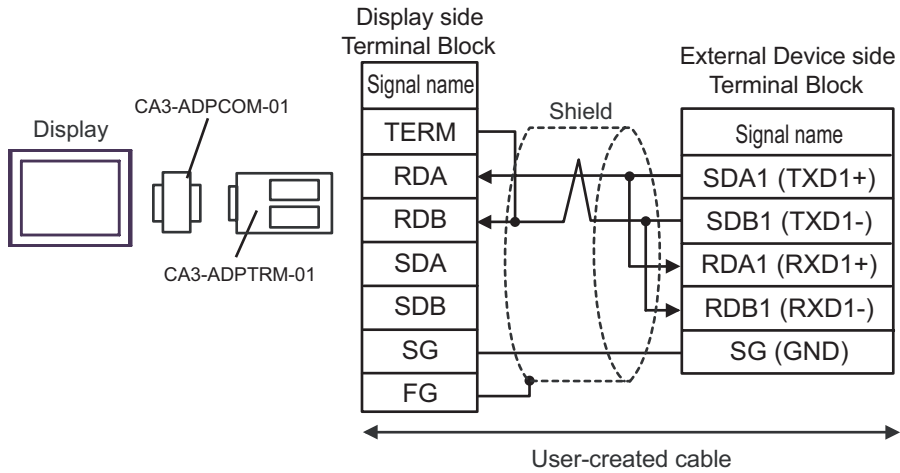


**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

E) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

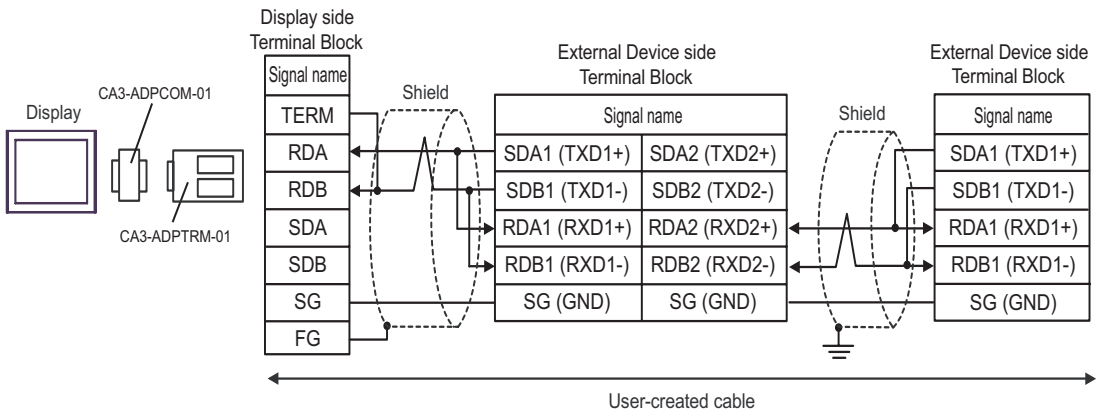
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection

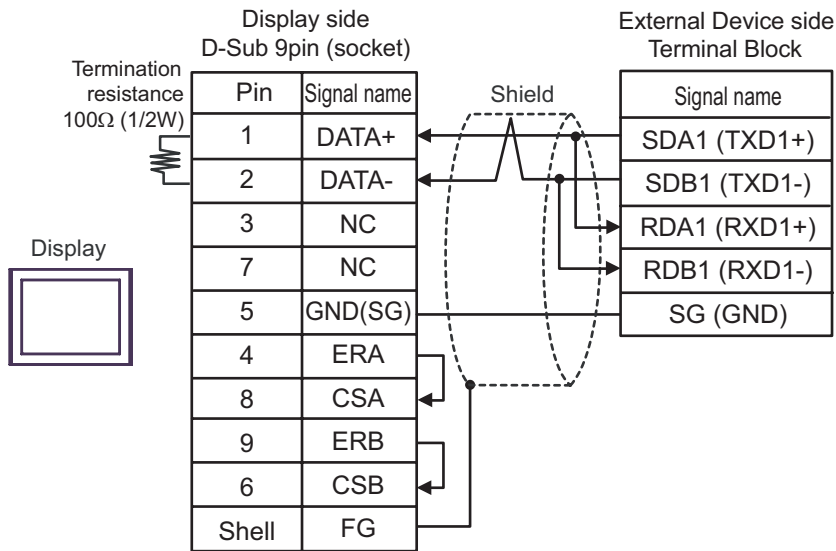


**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

F) When using a user-created cable

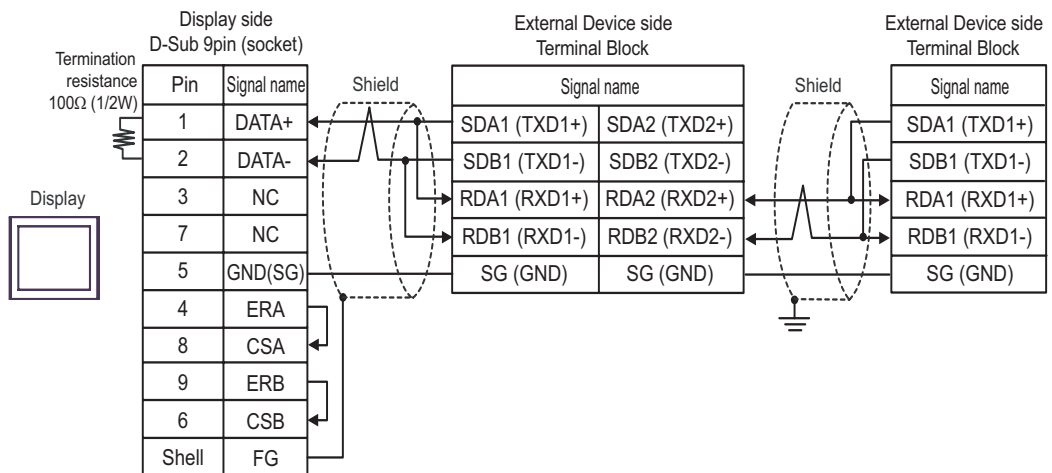
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection



**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

Cable Diagram 4

Display (Connection Port)	Cable		Notes
GP* <sup>1</sup> (COM1) AGP-3302B (COM2) ST* <sup>2</sup> (COM2) LT (COM1) IPC* <sup>3</sup>	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	B	User-created cable	
GP* <sup>4</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	

\*1 All GP models except AGP-3302B

\*2 All ST models except AST-3211A

\*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.  
☞ "■ IPC COM Port" (page 7)

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

Recommended cables and connectors

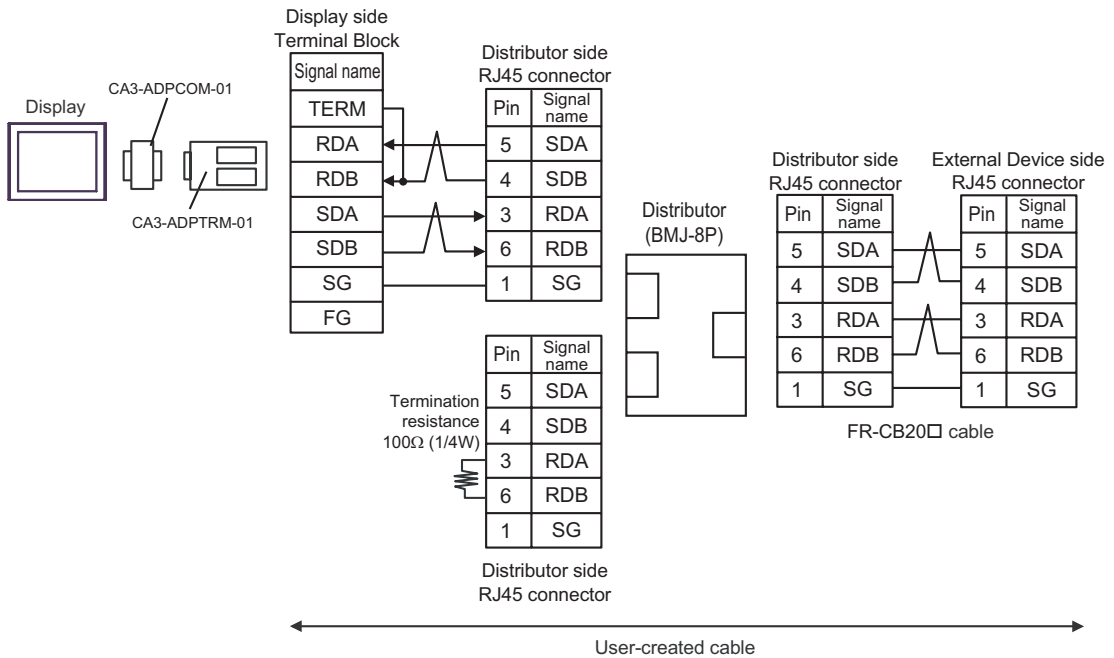
Item	Type	Manufacturer
Cable	FR-CB20□* <sup>1</sup>	Mitsubishi Electric Corporation
10BASE-T cable	SGLPEV-T0.5mmx4P* <sup>2</sup>	Mitsubishi Electric Corporation
RJ45 connector	5-554720-3	Tyco Electronics AMP K.K.
RS-485 distributor	BMJ-8	HACHIKO ELECTRIC CO.,LTD
	BMJ-8P	

\*1 Different figure (1, 3, or 5) is set in the □ depending on the cable length.

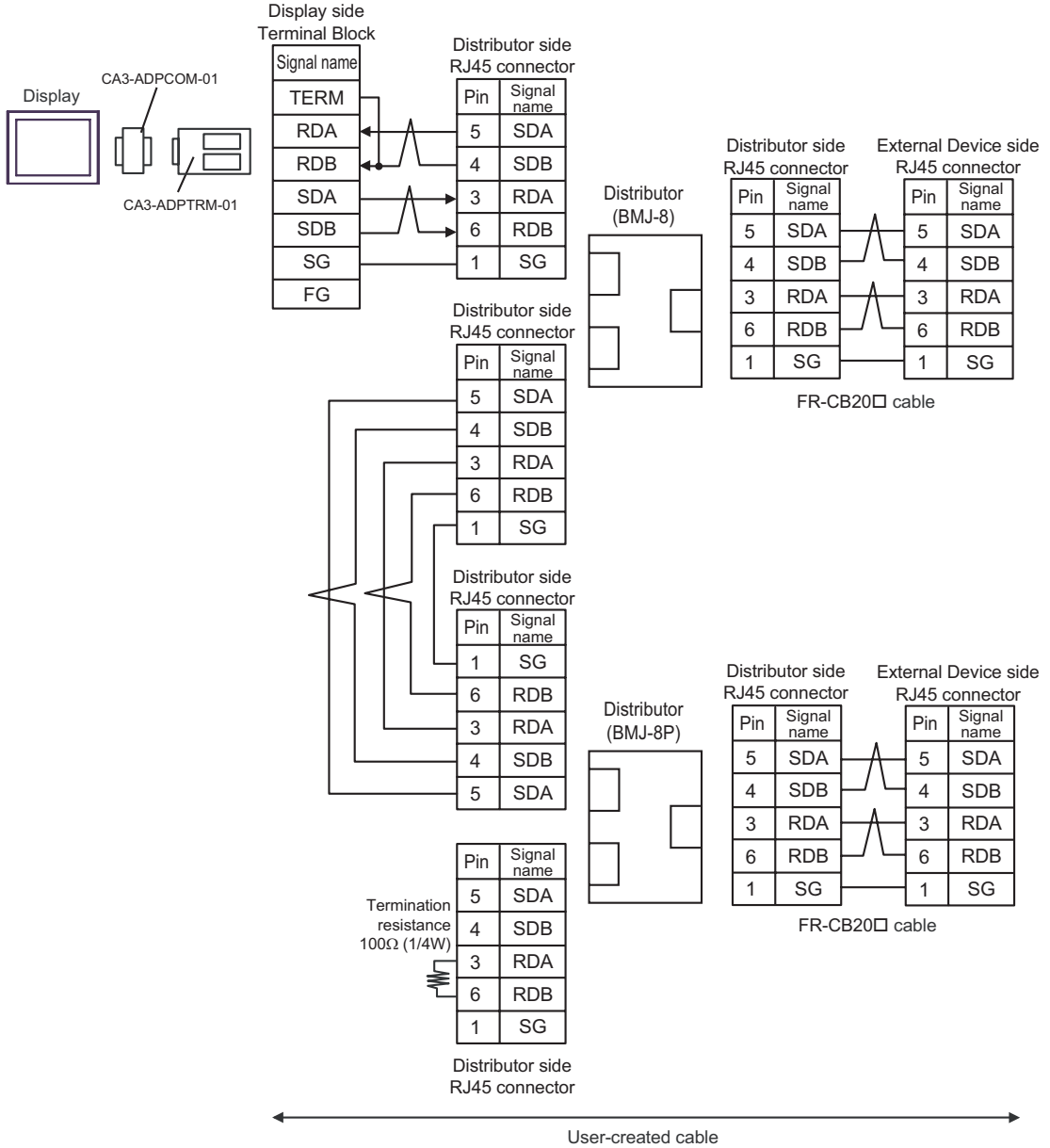
\*2 Do not use pin number 2 or 8.

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection

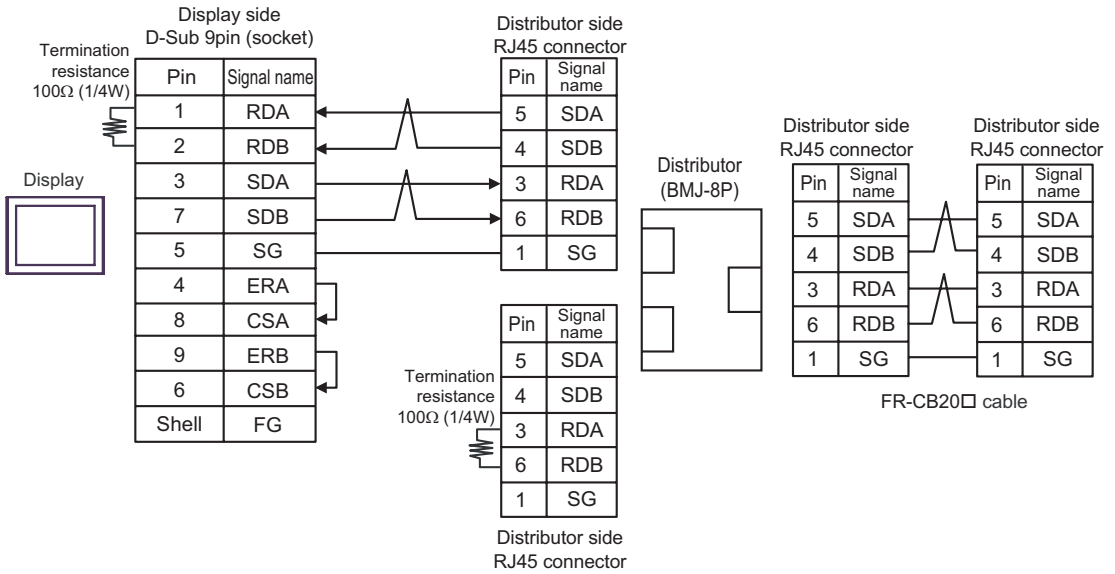


• 1:n Connection



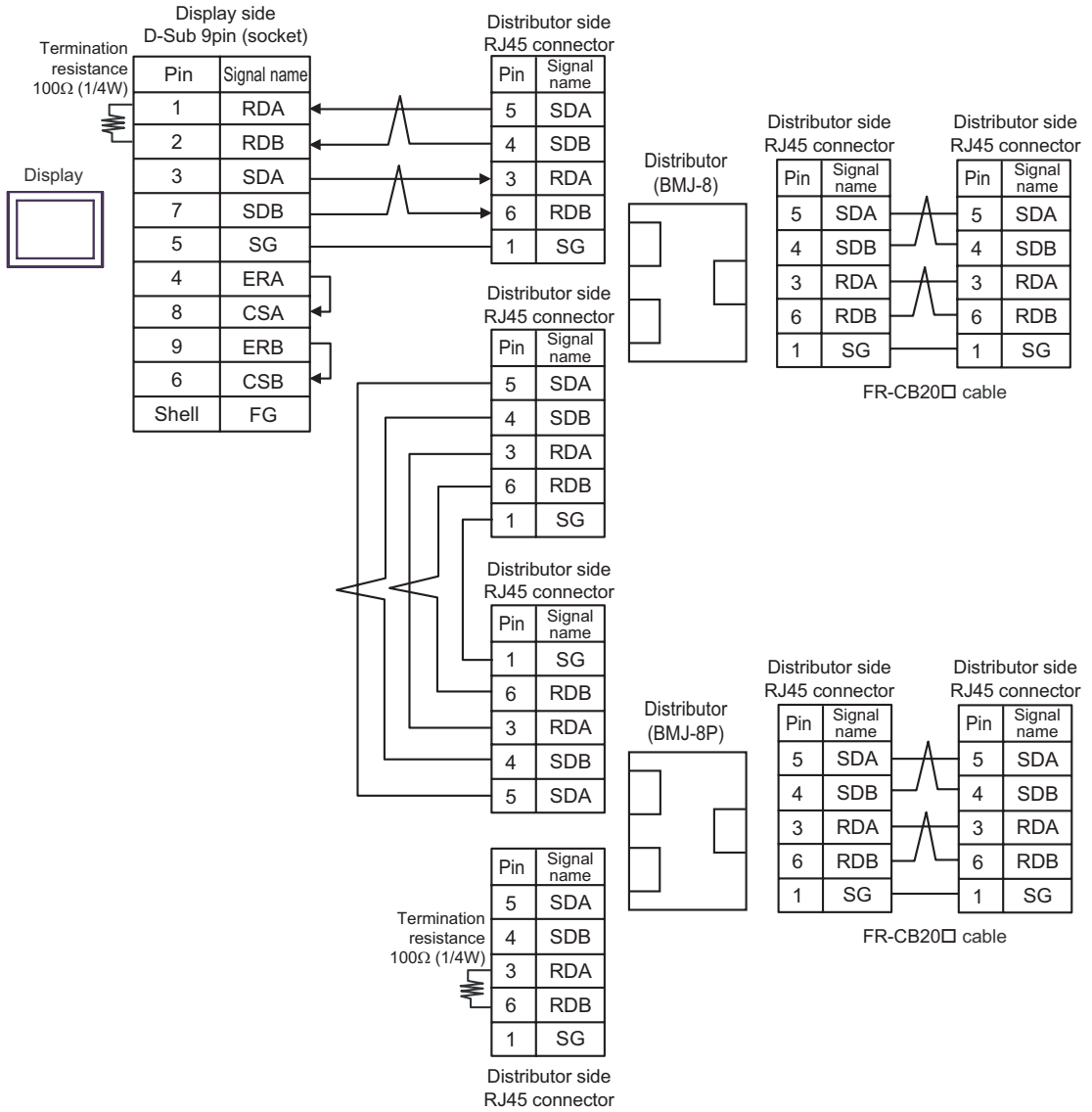
B) When using a user-created cable

- 1:1 Connection



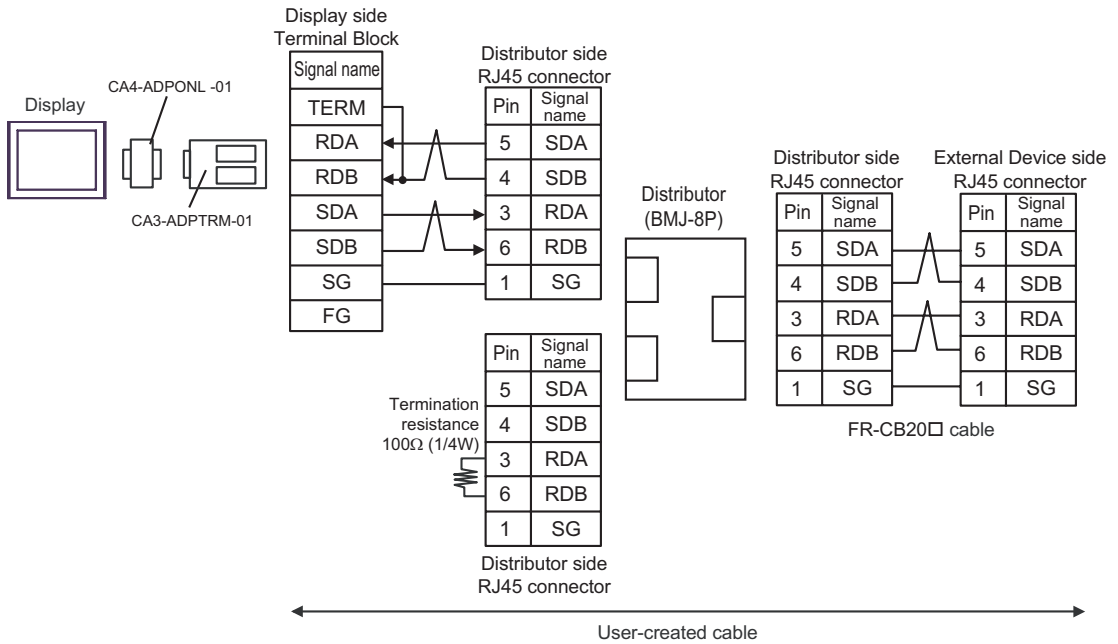


• 1:n Connection

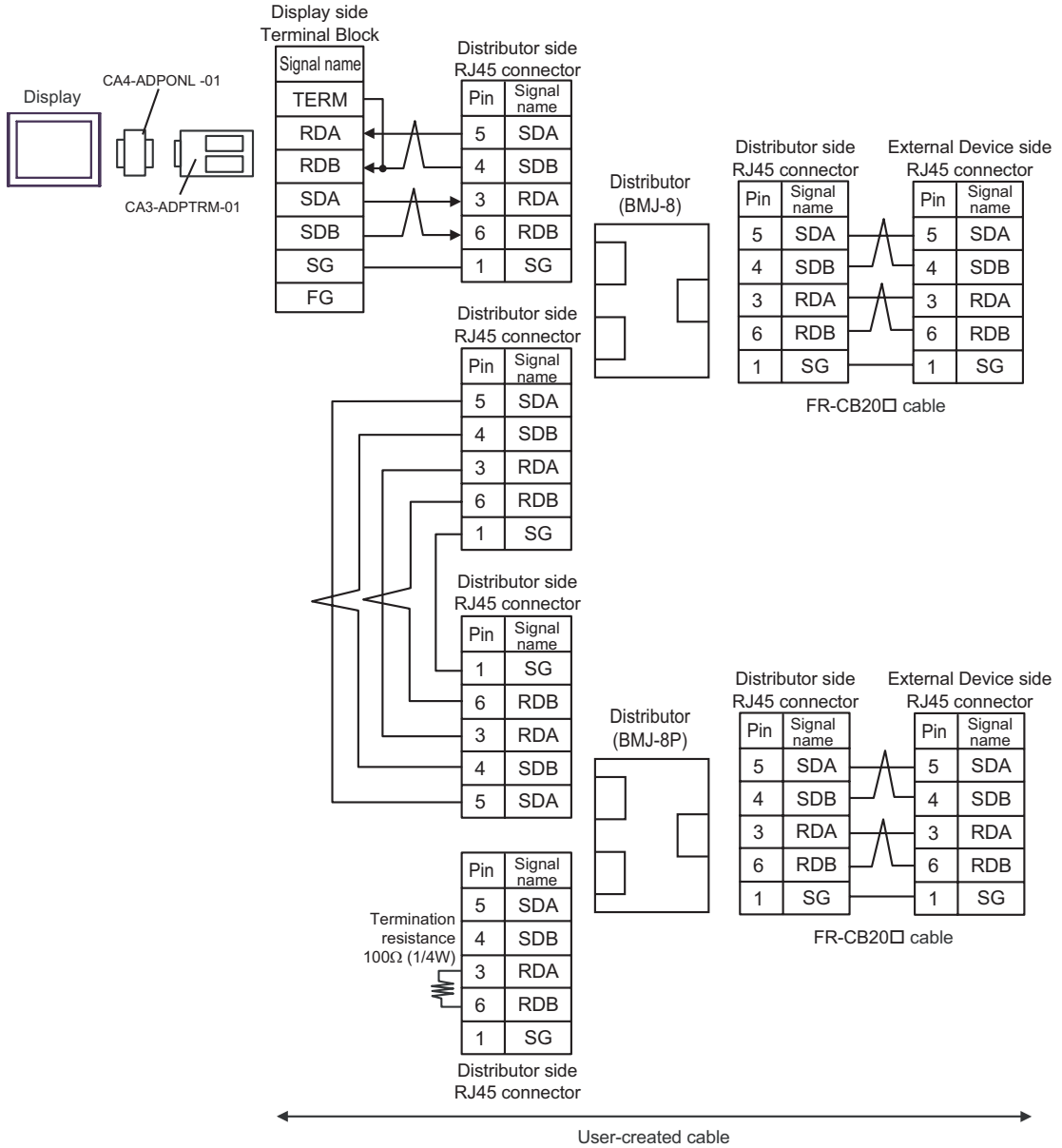


C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection

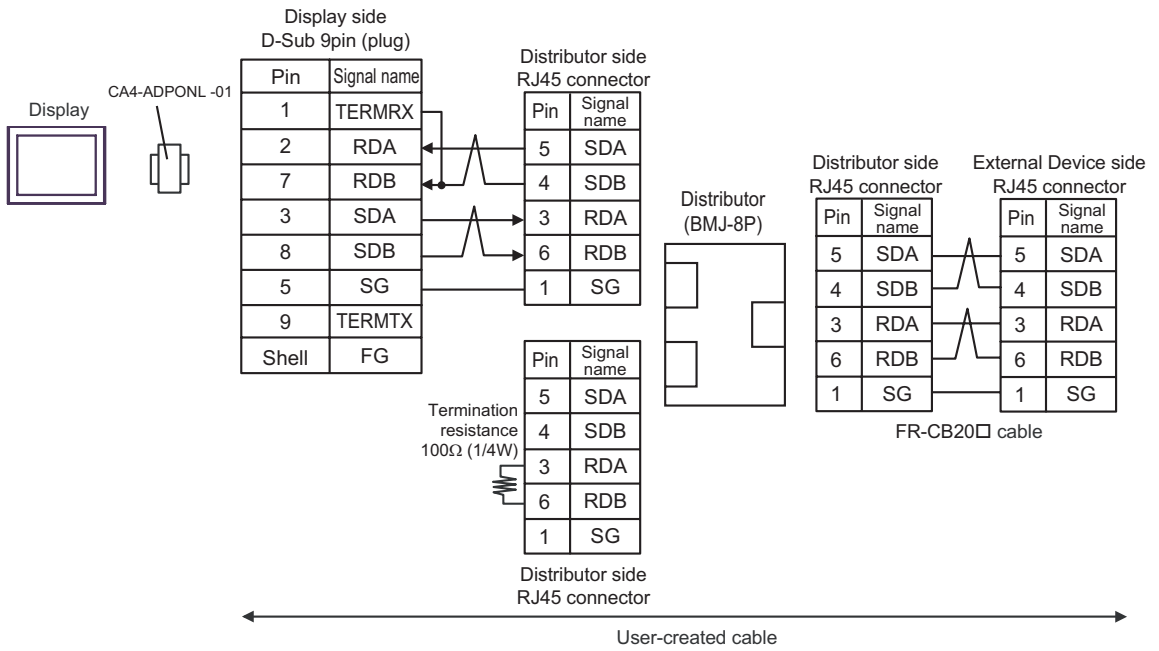


• 1:n Connection

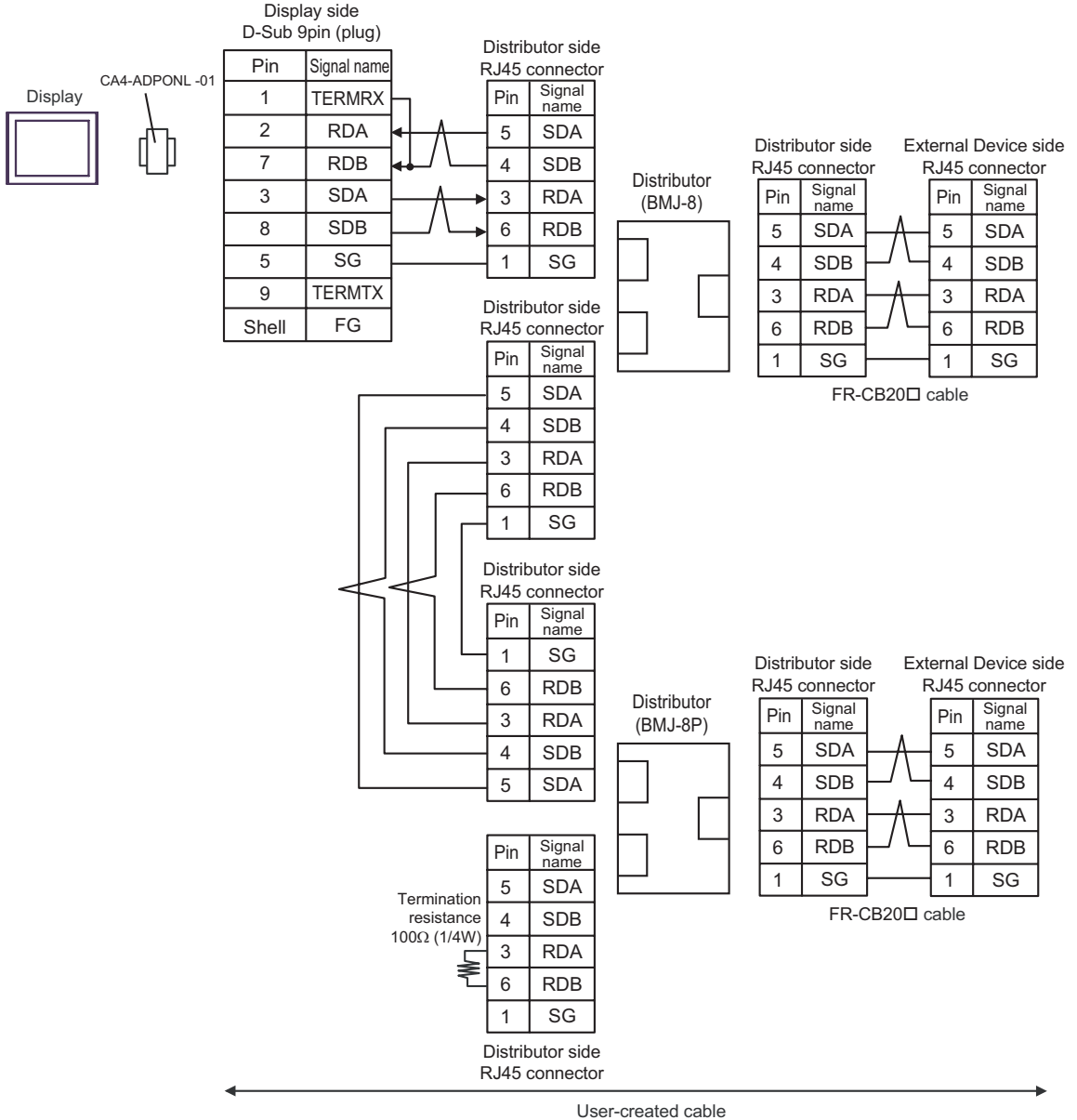


D) When using the online adapter (CA4-ADP0NL-01) by Pro-face and a user-created cable

- 1:1 Connection



• 1:n Connection




Cable Diagram 5

Display (Connection Port)	Cable		Notes
GP*1 (COM1) AGP-3302B (COM2) ST*2 (COM2) LT (COM1)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	B	User-created cable	
GP*3 (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC*4	E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	F	User-created cable	

\*1 All GP models except AGP-3302B

\*2 All ST models except AST-3211A

\*3 All GP 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 7)

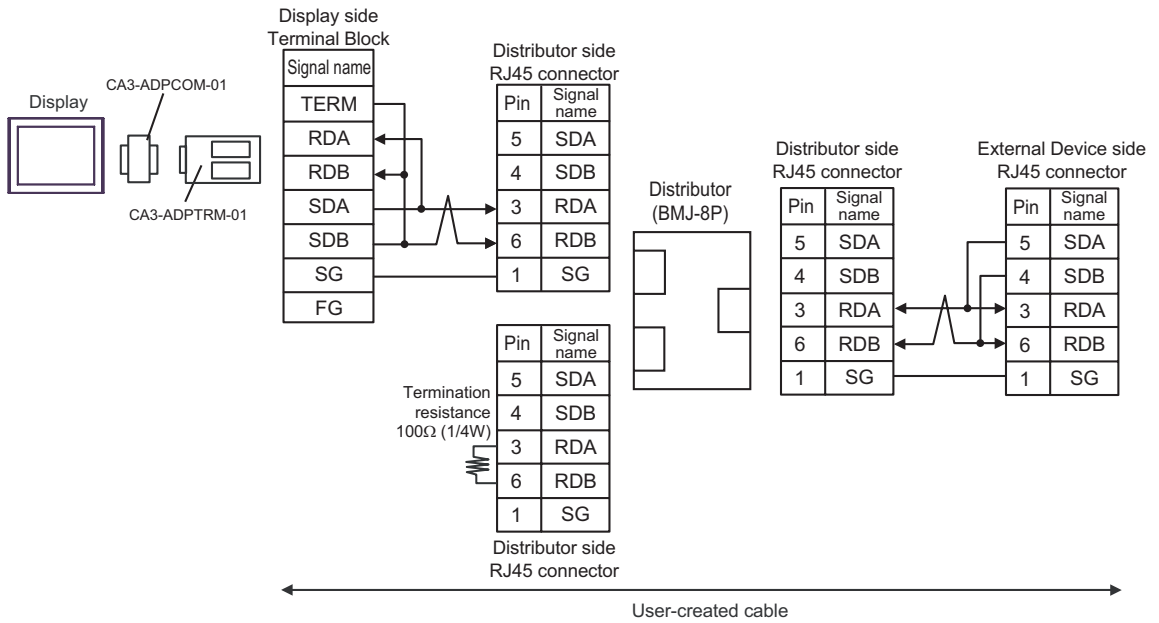
Recommended cables and connectors

Item	Type	Manufacturer
10BASE-T cable	SGLPEV-T0.5mmx4P*1	Mitsubishi Electric Corporation
RJ45 connector	5-554720-3	Tyco Electronics AMP K.K.
RS-485 distributor	BMJ-8	HACHIKO ELECTRIC CO.,LTD
	BMJ-8P	

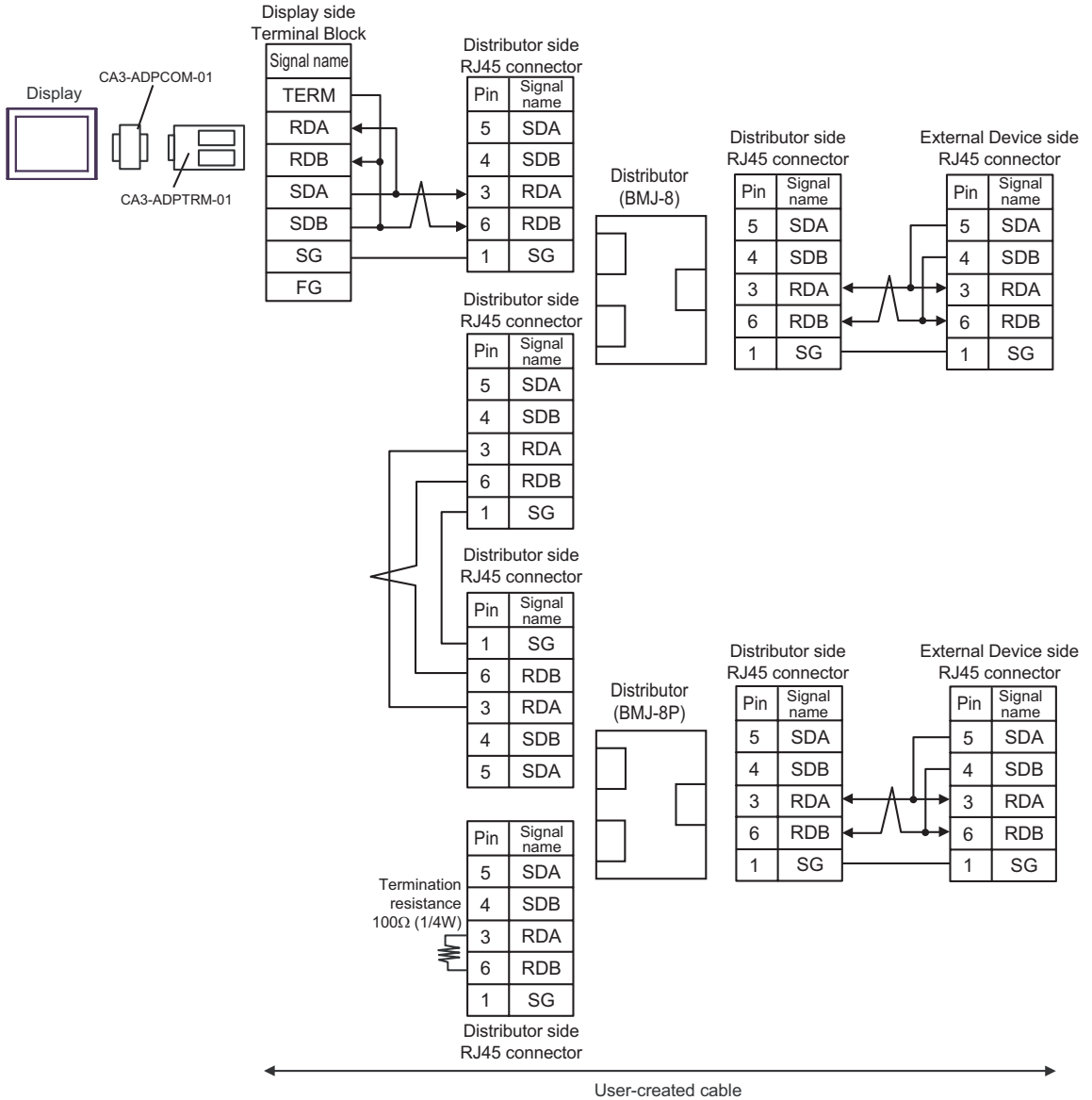
\*1 Do not use pin number 2 or 8.

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection



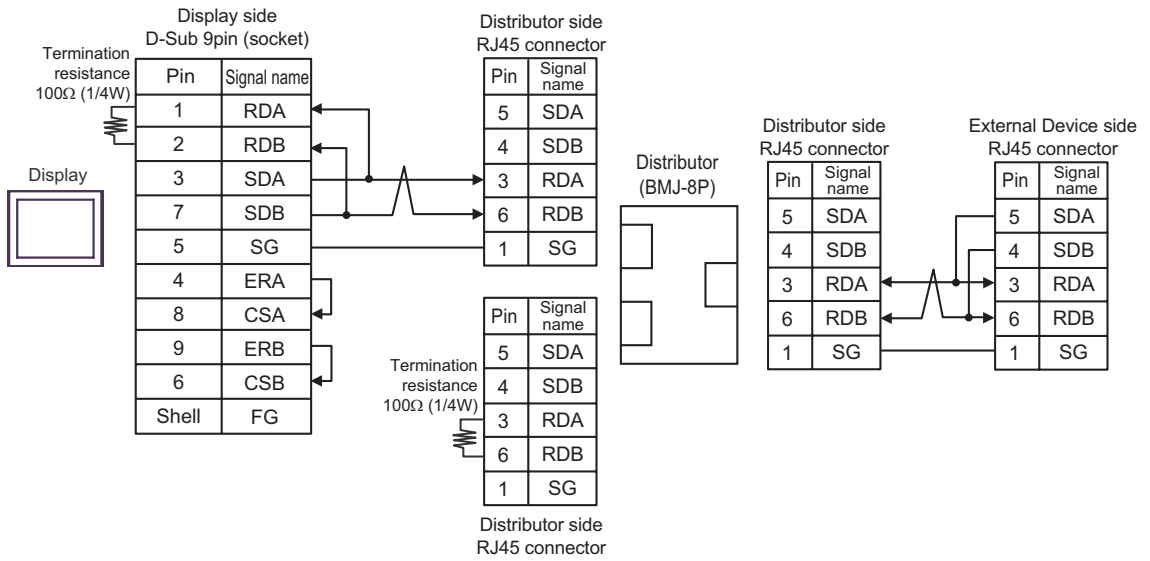
- 1:n Connection



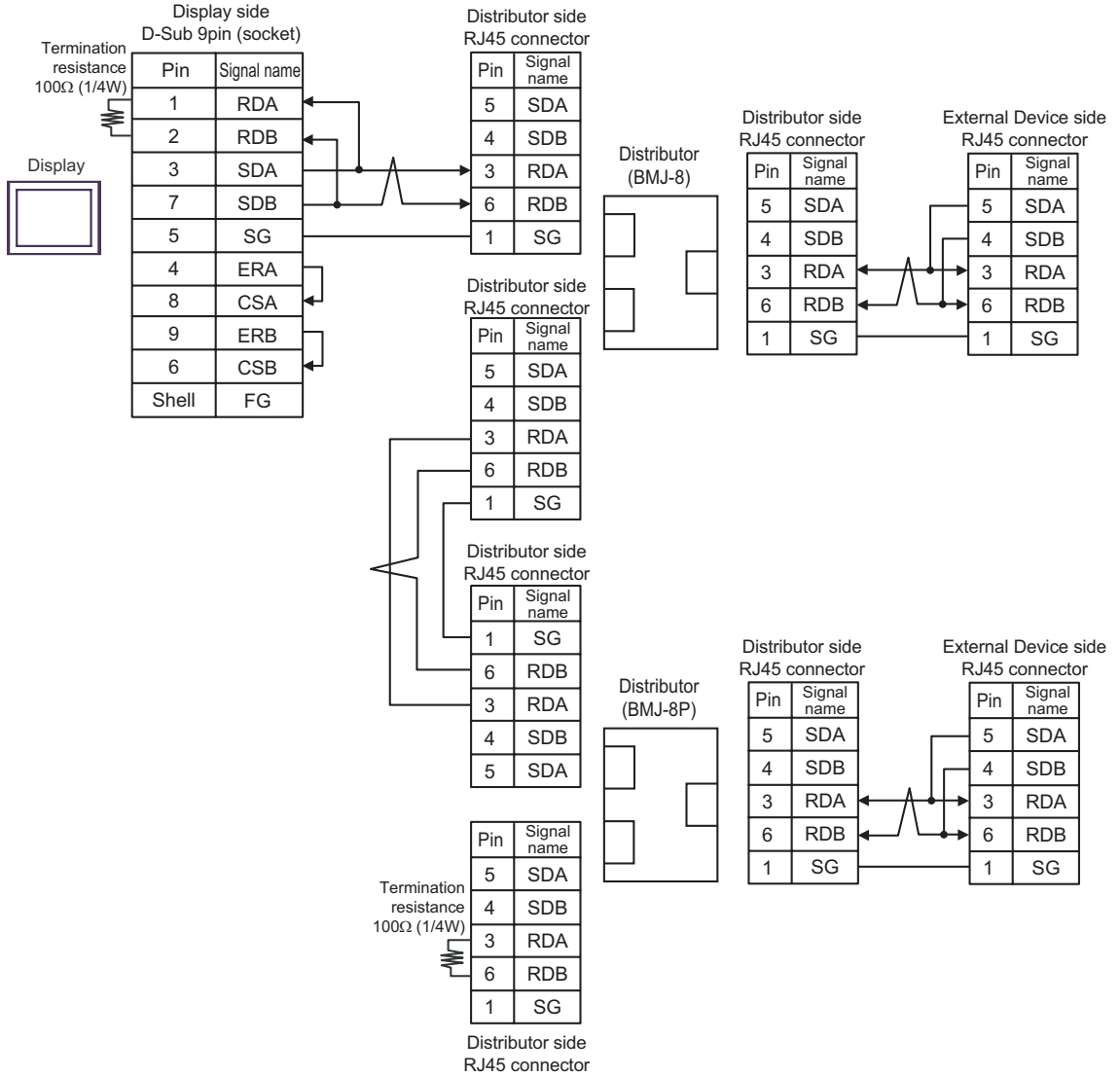


B) When using a user-created cable

- 1:1 Connection

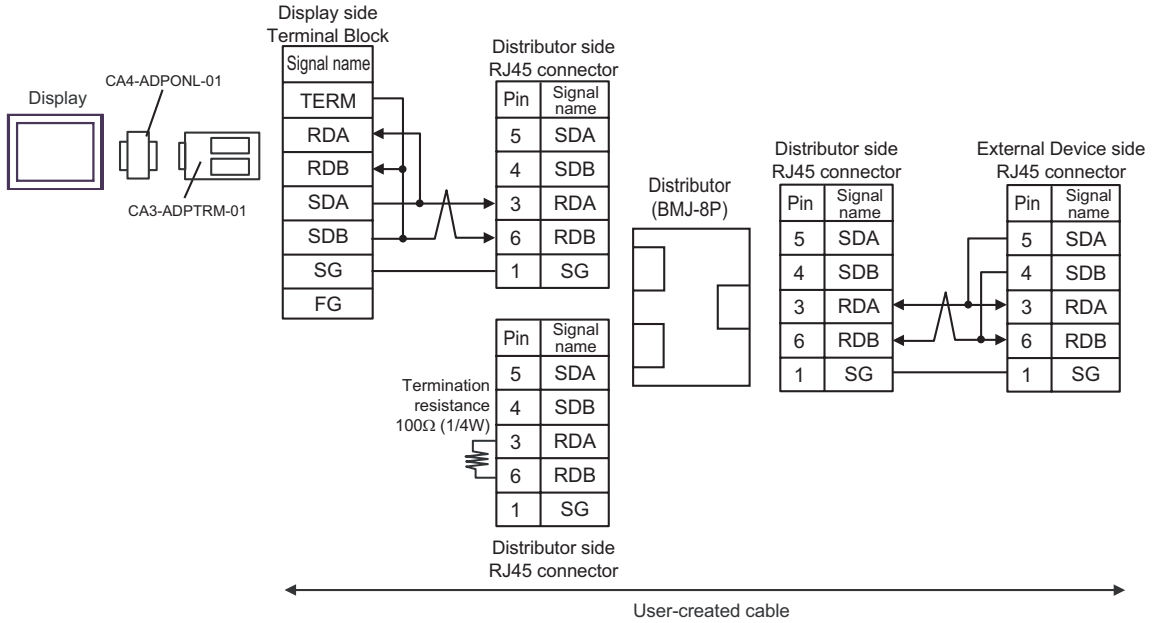


• 1:n Connection

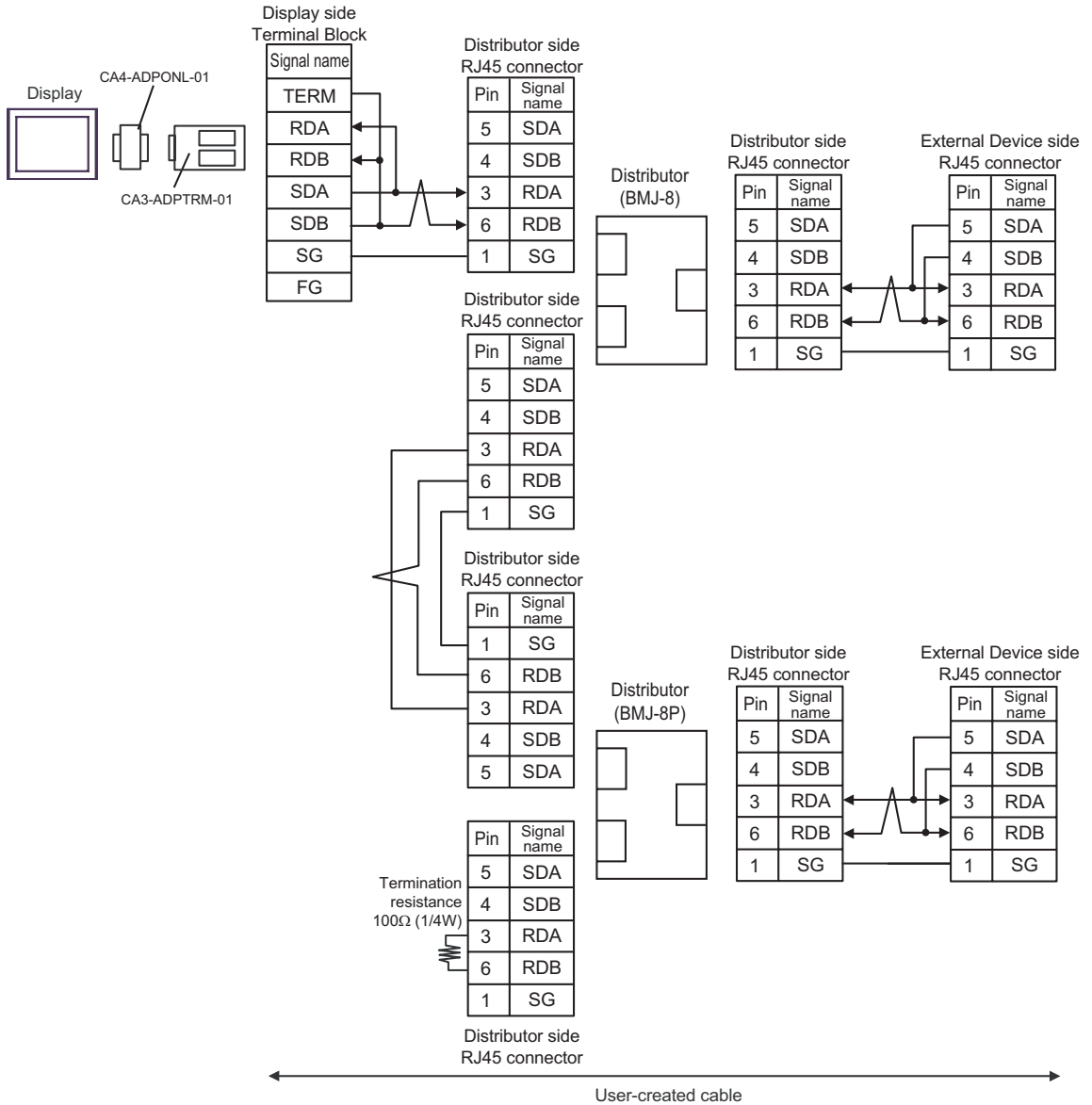


C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection

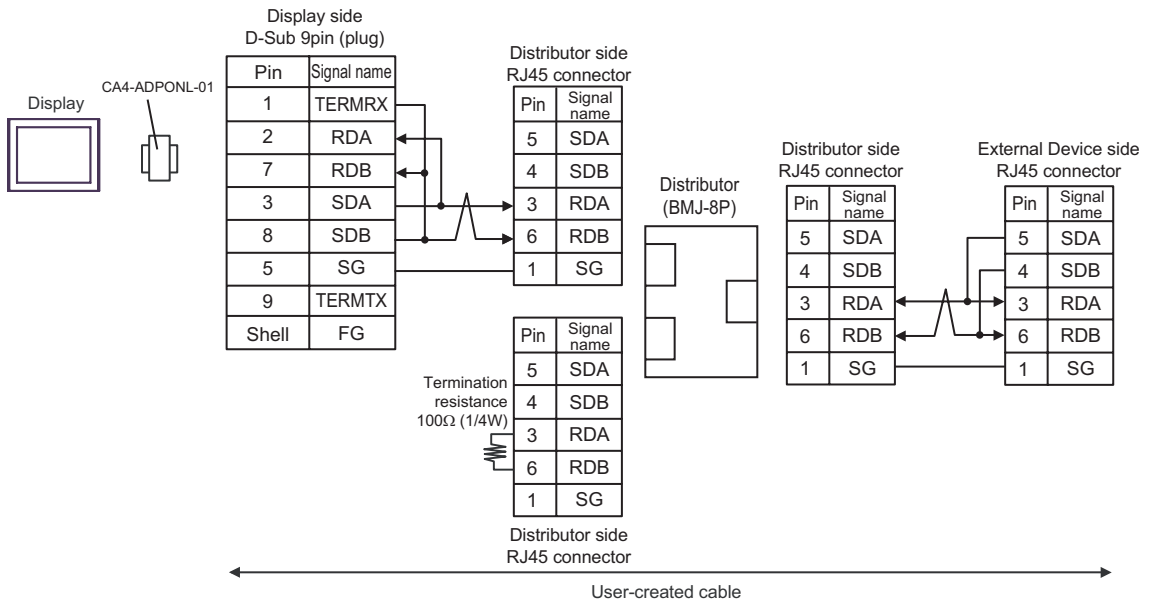


- 1:n Connection

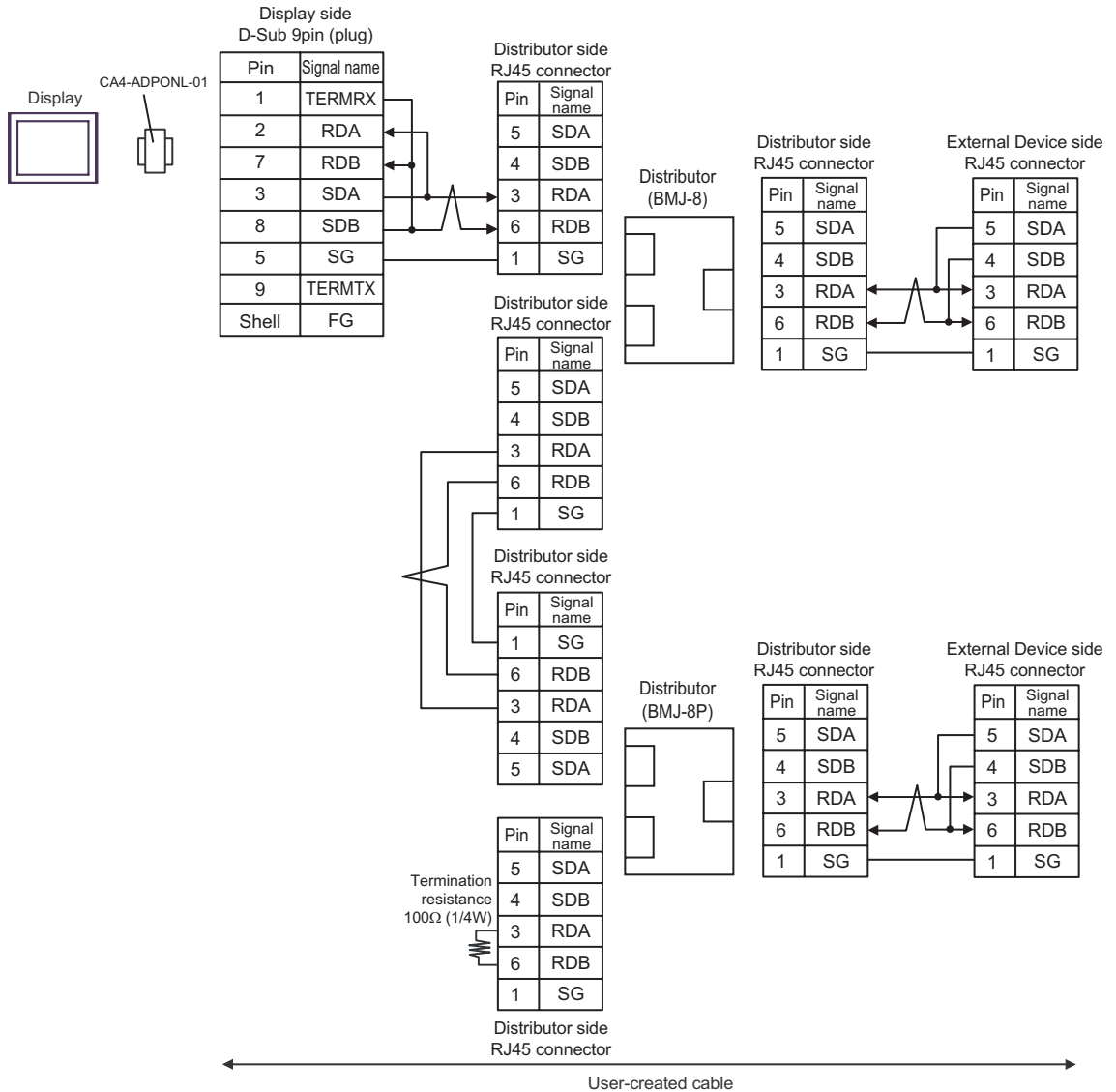


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and a user-created cable

- 1:1 Connection

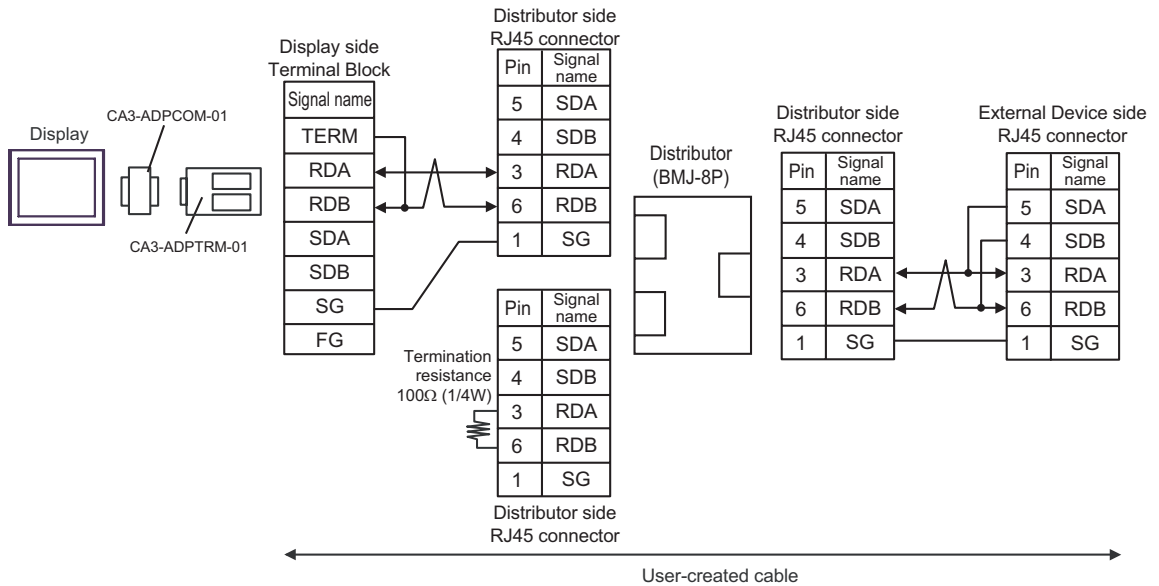


• 1:n Connection

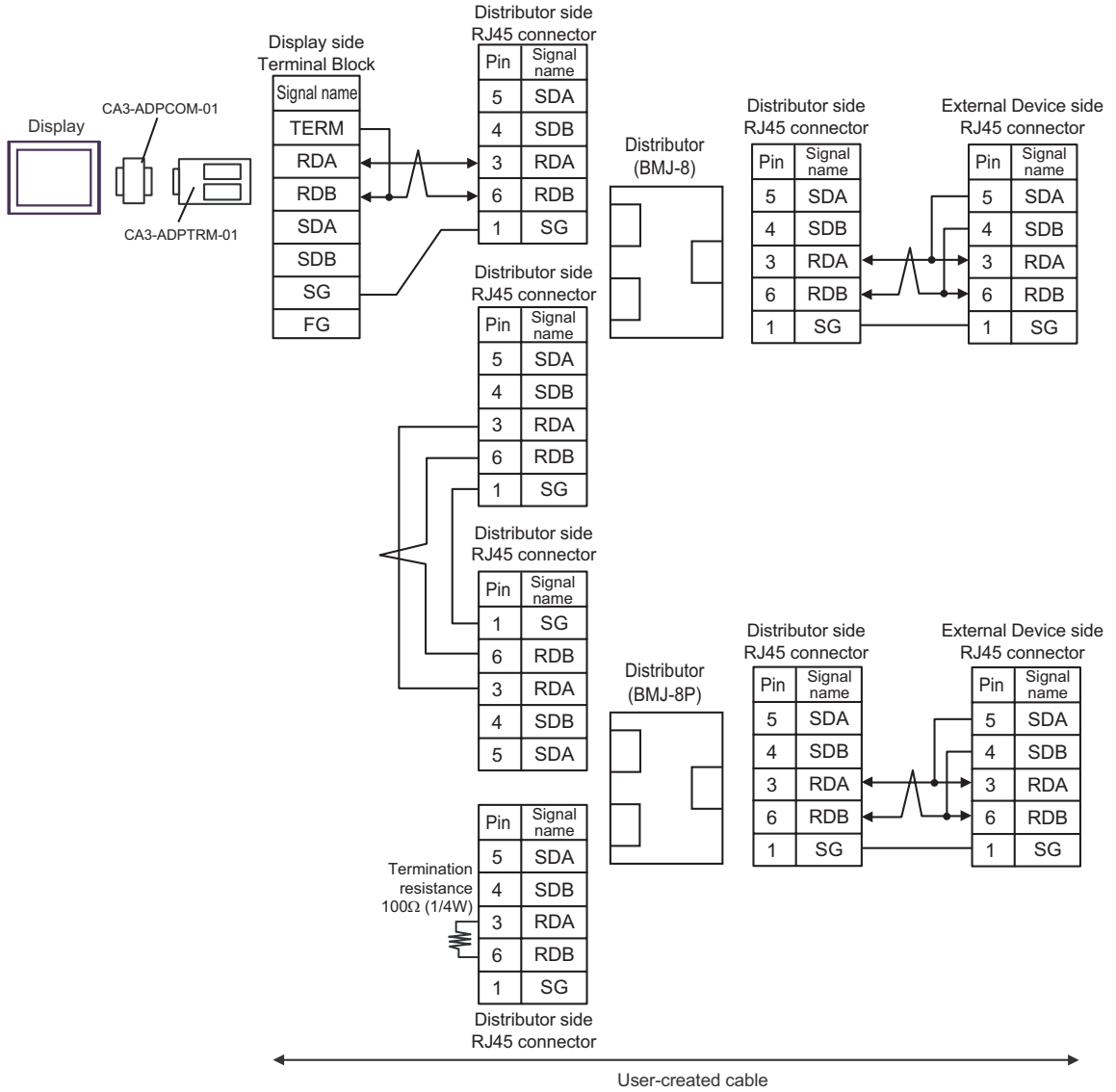


E) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection



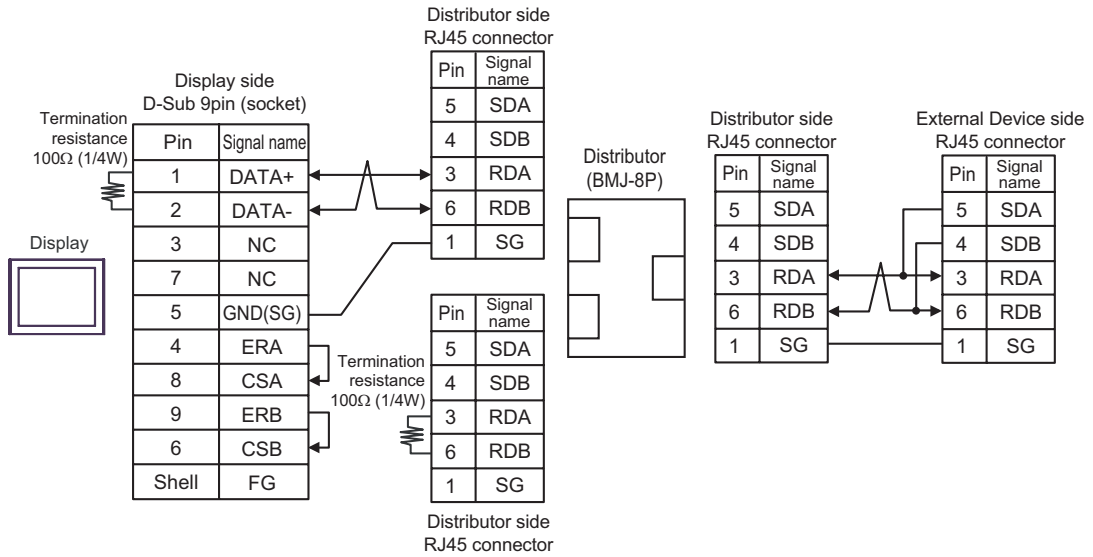
• 1:n Connection



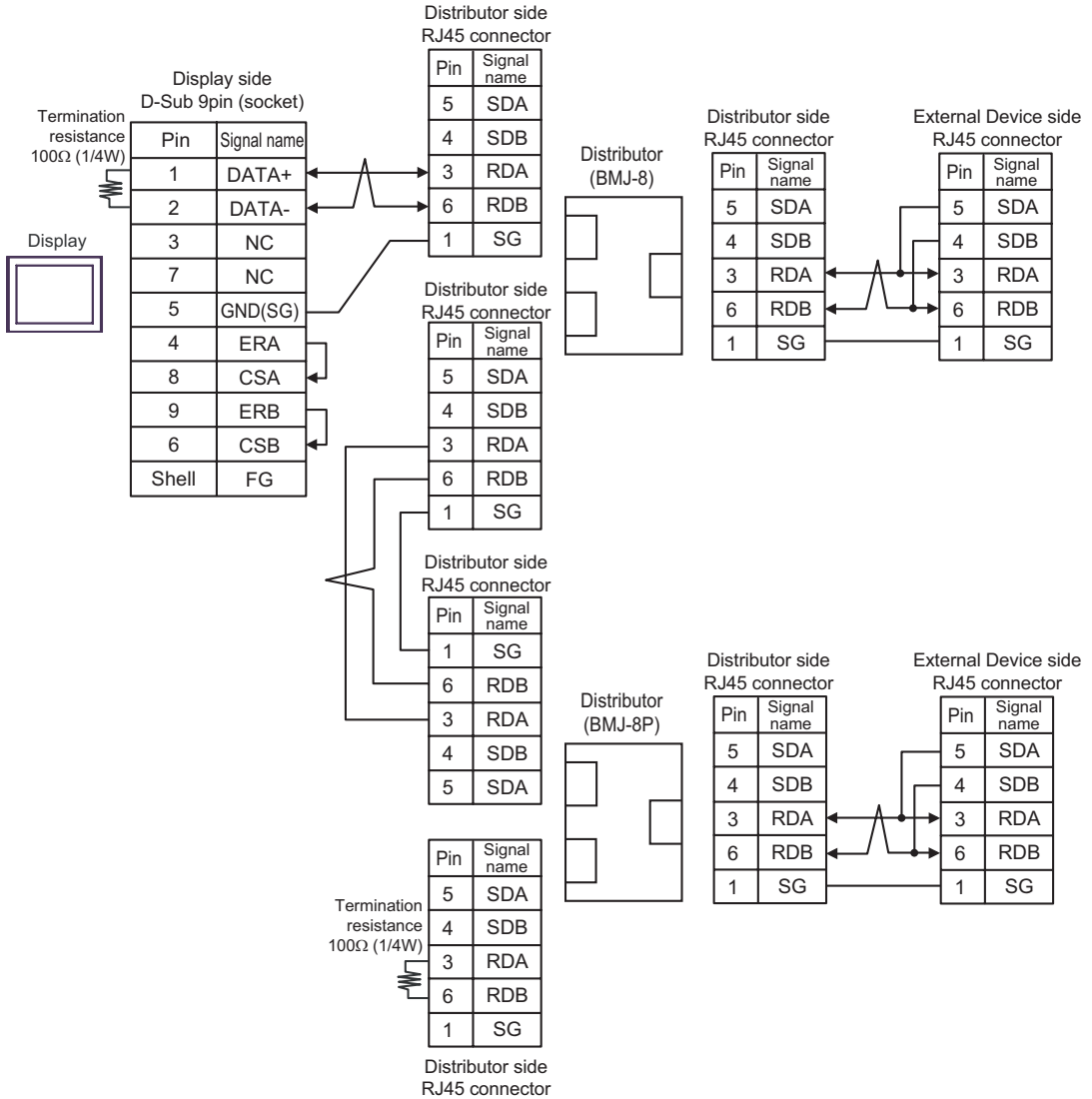


F) When using a user-created cable

- 1:1 Connection



• 1:n Connection




Cable Diagram 6

Display (Connection Port)	Cable		Notes
GP* <sup>1</sup> (COM1) AGP-3302B (COM2) ST* <sup>2</sup> (COM2) LT (COM1)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	B	User-created cable	
GP* <sup>3</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC* <sup>4</sup>	E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	F	User-created cable	

\*1 All GP models except AGP-3302B

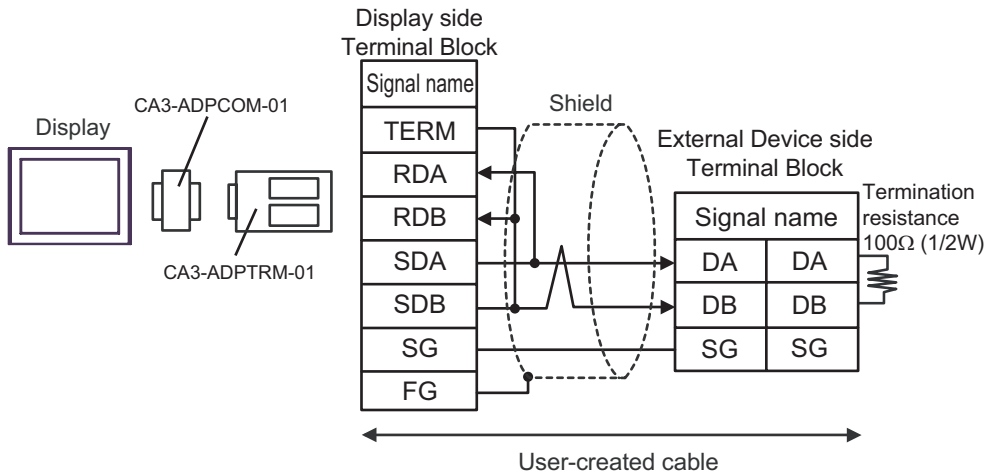
\*2 All ST models except AST-3211A

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

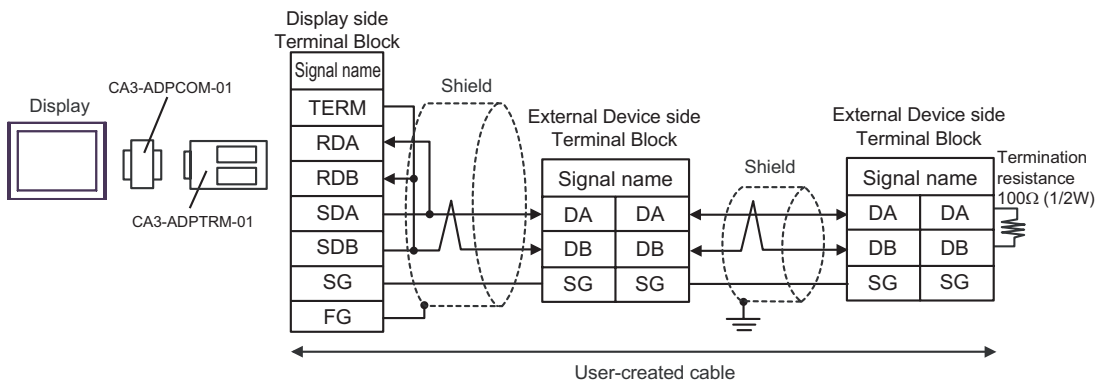
\*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.  
 "■ IPC COM Port" (page 7)

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection

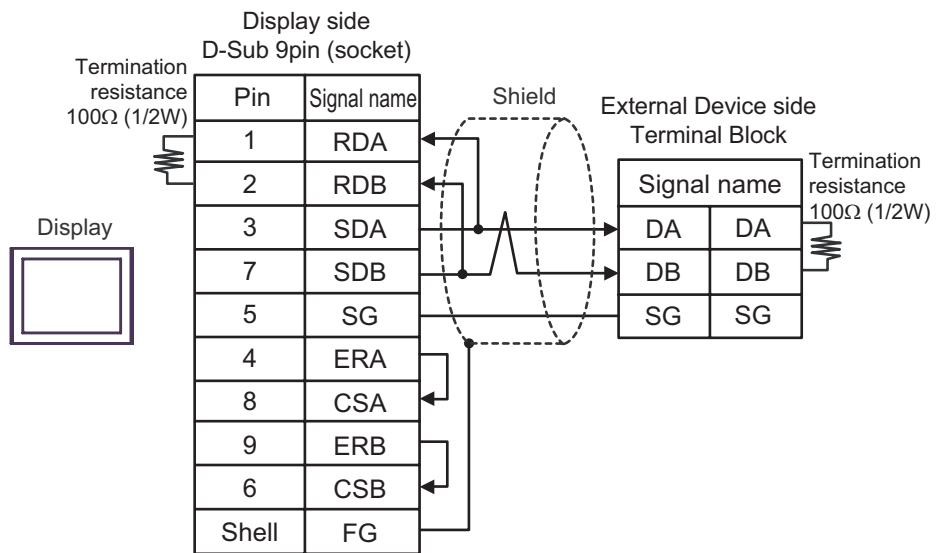


- 1:n Connection

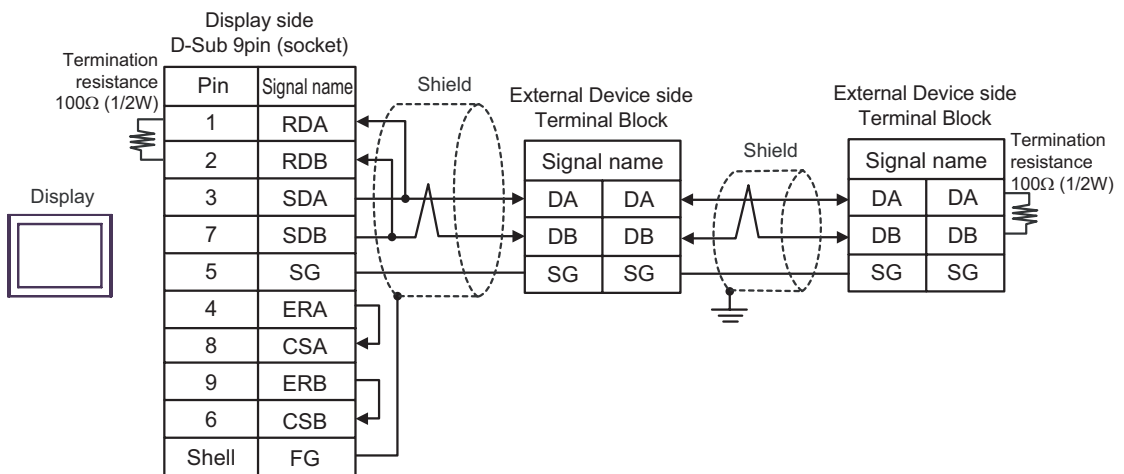


B) When using a user-created cable

- 1:1 Connection

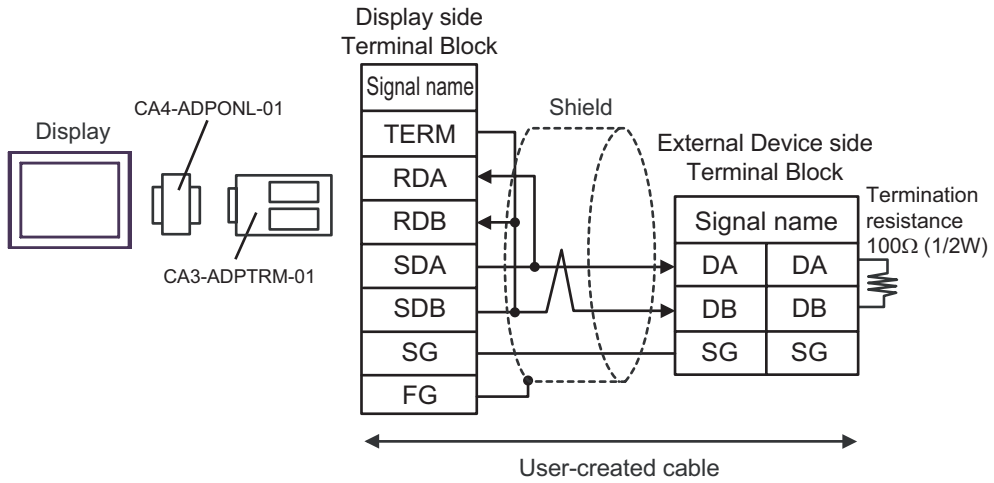


- 1:n Connection

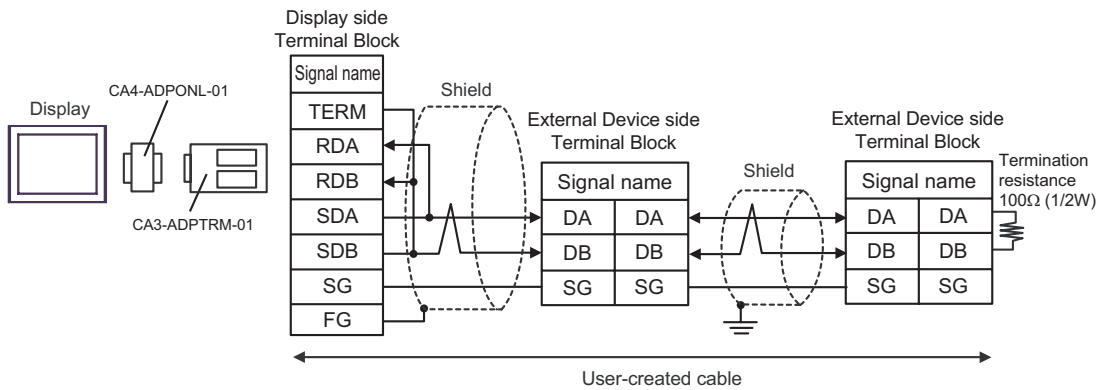


C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection

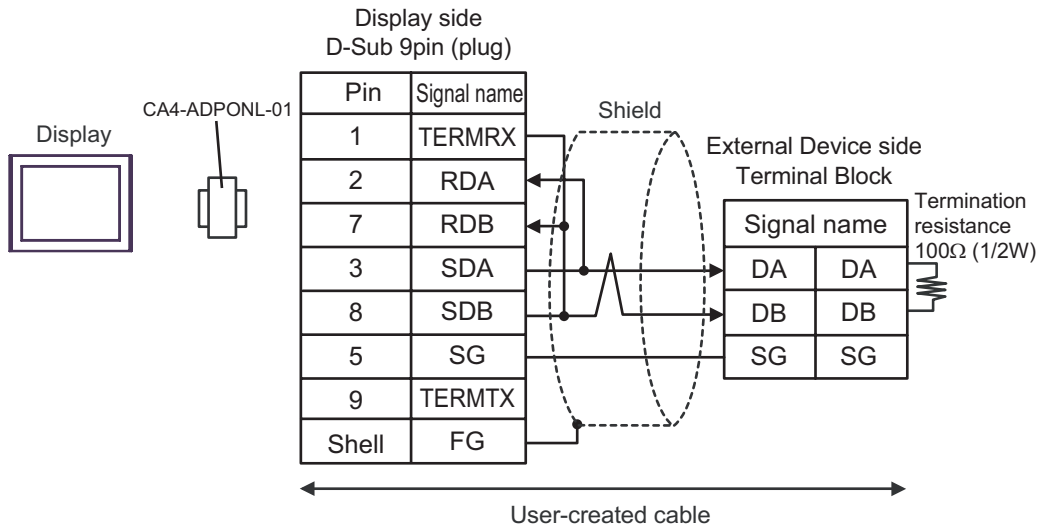


- 1:n Connection

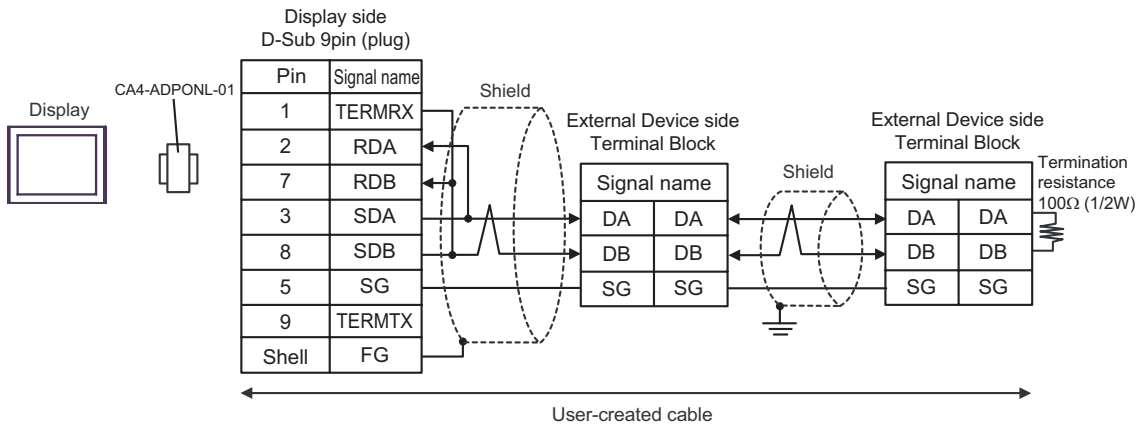


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and a user-created cable

- 1:1 Connection

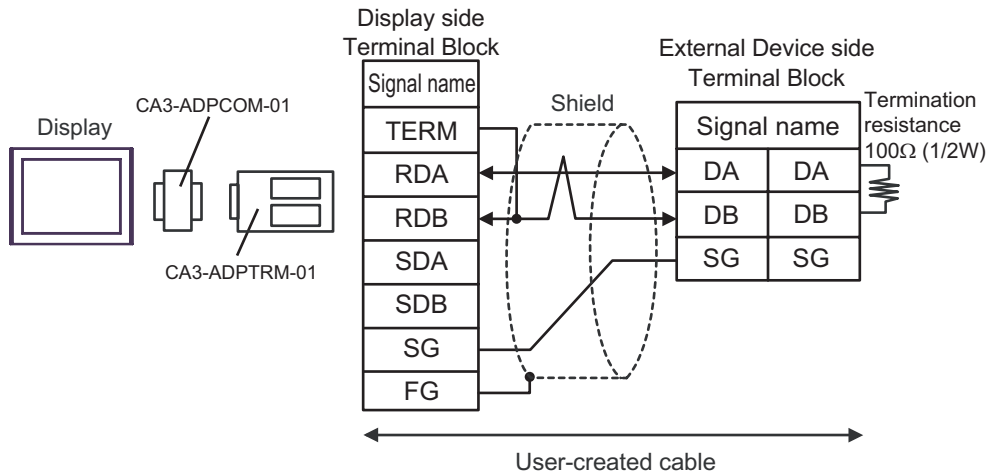


- 1:n Connection

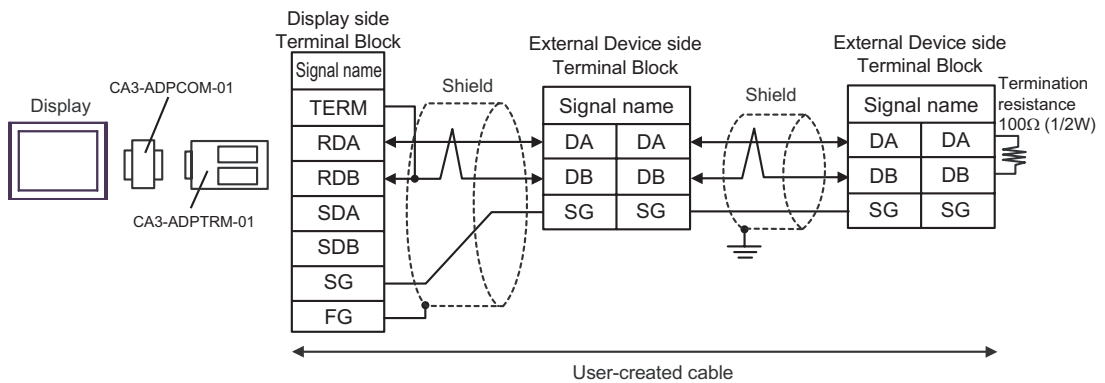


E) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection



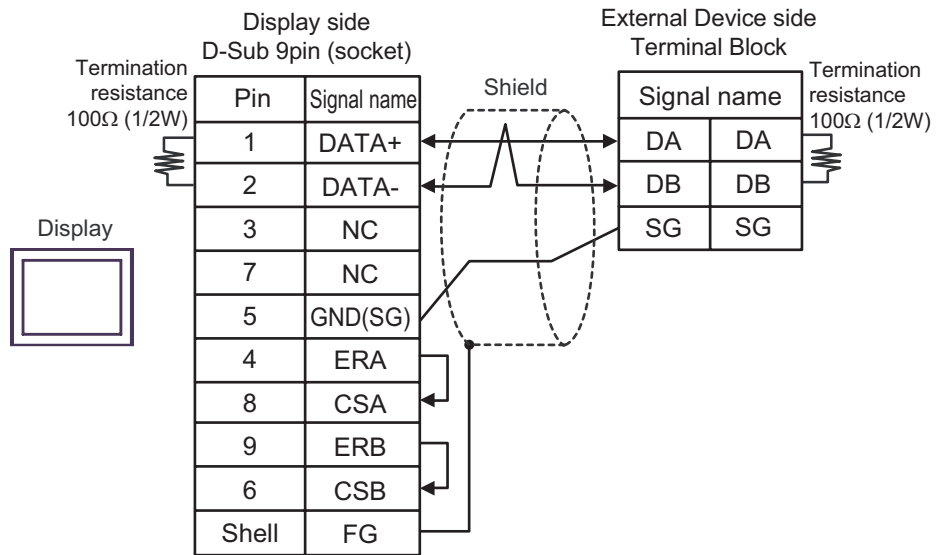
- 1:n Connection



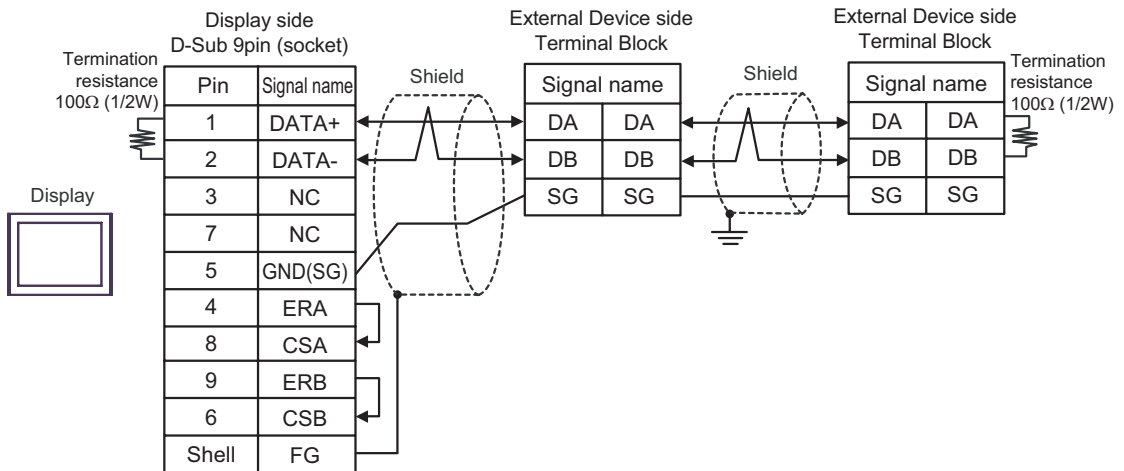


F) When using a user-created cable

- 1:1 Connection



- 1:n Connection




Cable Diagram 7

Display (Connection Port)	Cable		Notes
GP* <sup>1</sup> (COM1) AGP-3302B (COM2) ST* <sup>2</sup> (COM2) LT (COM1) IPC* <sup>3</sup>	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	B	User-created cable	
GP* <sup>4</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	

\*1 All GP models except AGP-3302B

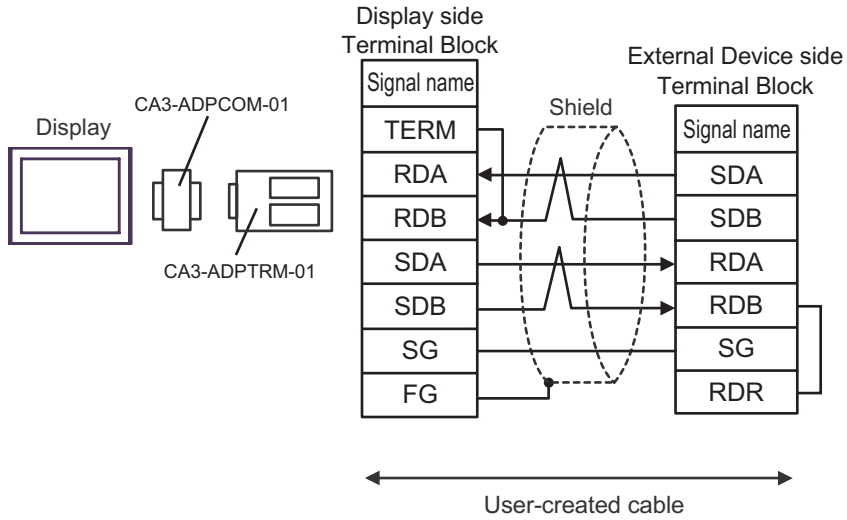
\*2 All ST models except AST-3211A

\*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.  
 "■ IPC COM Port" (page 7)

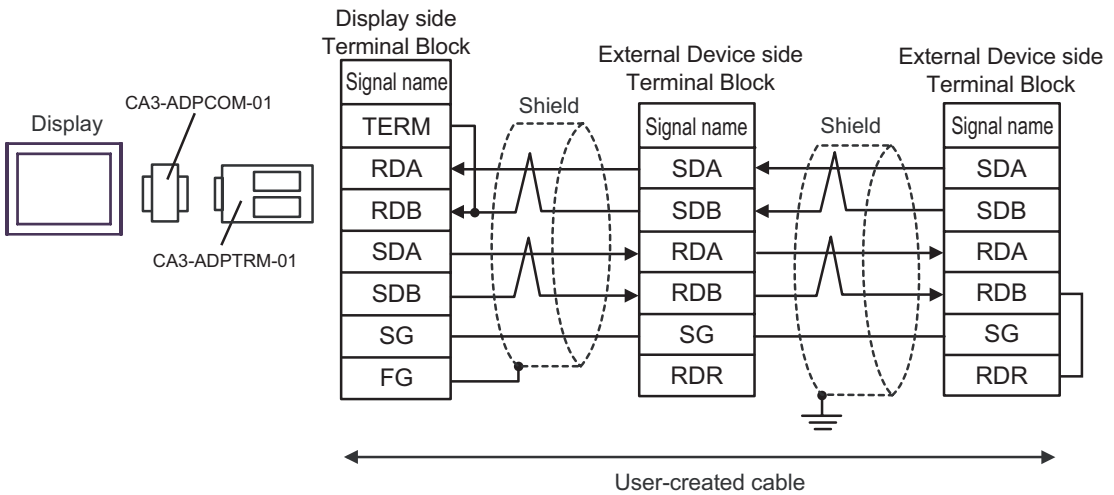
\*4 All GP models except GP-3200 series and AGP-3302B

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection

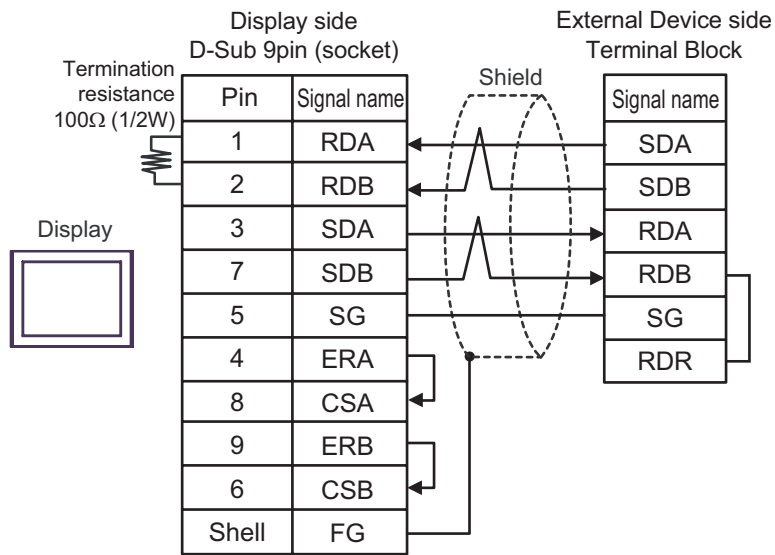


- 1:n Connection

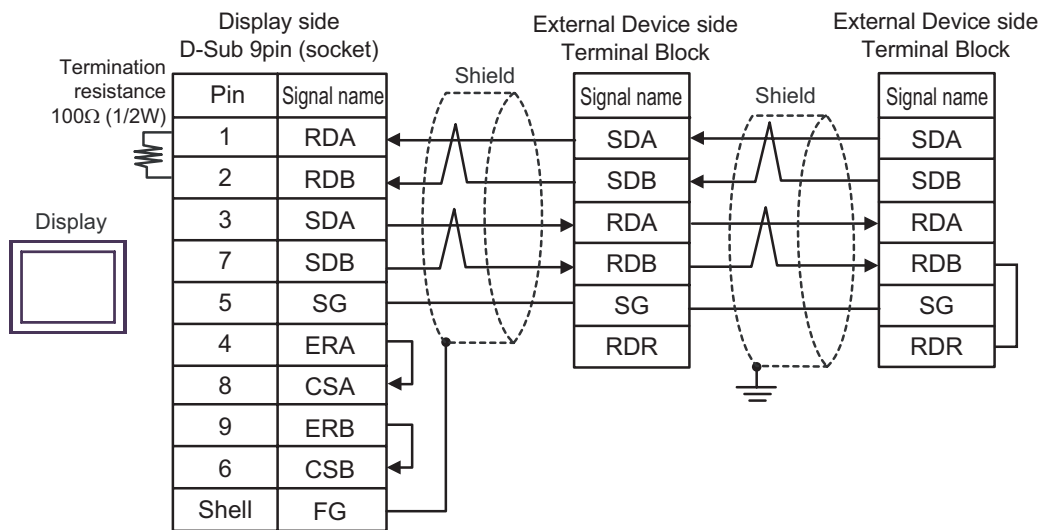


B) When using a user-created cable

- 1:1 Connection

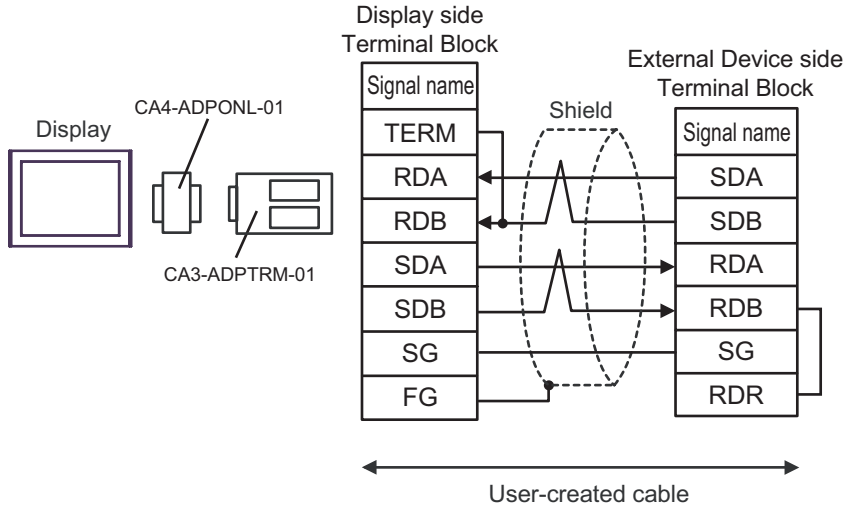


- 1:n Connection

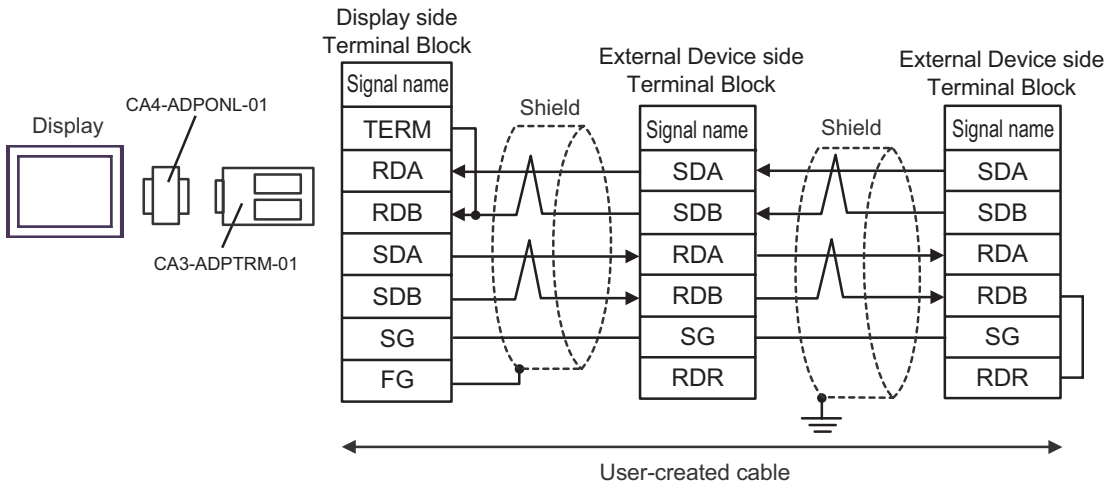


C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection

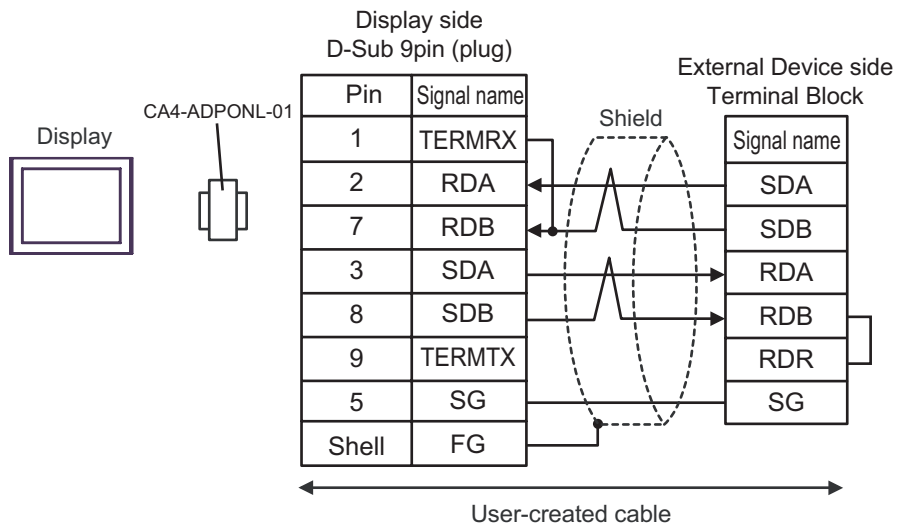


- 1:n Connection

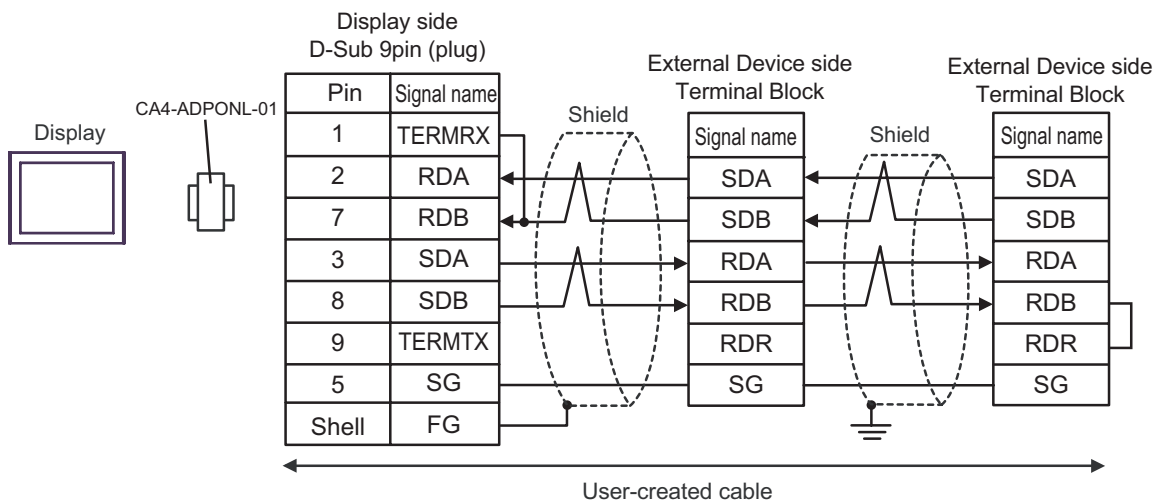


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and a user-created cable

- 1:1 Connection



- 1:n Connection



Cable Diagram 8

Display (Connection Port)	Cable		Notes
GP* <sup>1</sup> (COM1) AGP-3302B (COM2) ST* <sup>2</sup> (COM2) LT (COM1) IPC* <sup>3</sup>	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	B	User-created cable	
GP* <sup>4</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	

\*1 All GP models except AGP-3302B

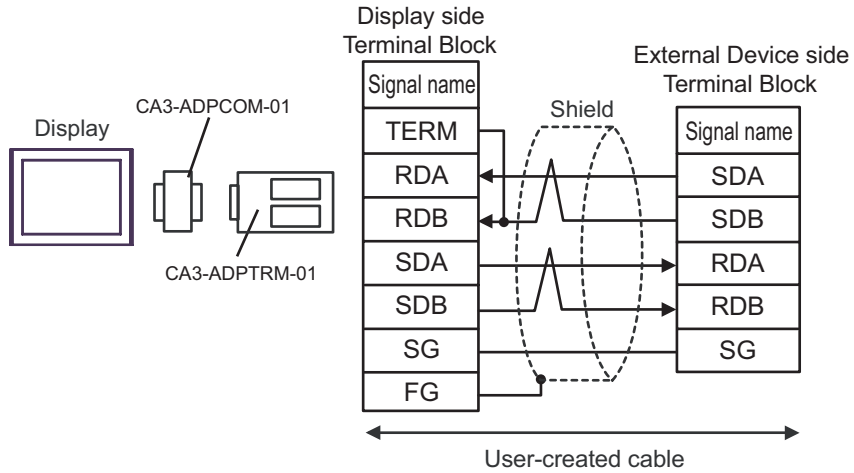
\*2 All ST models except AST-3211A

\*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.  
 "■ IPC COM Port" (page 7)

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

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

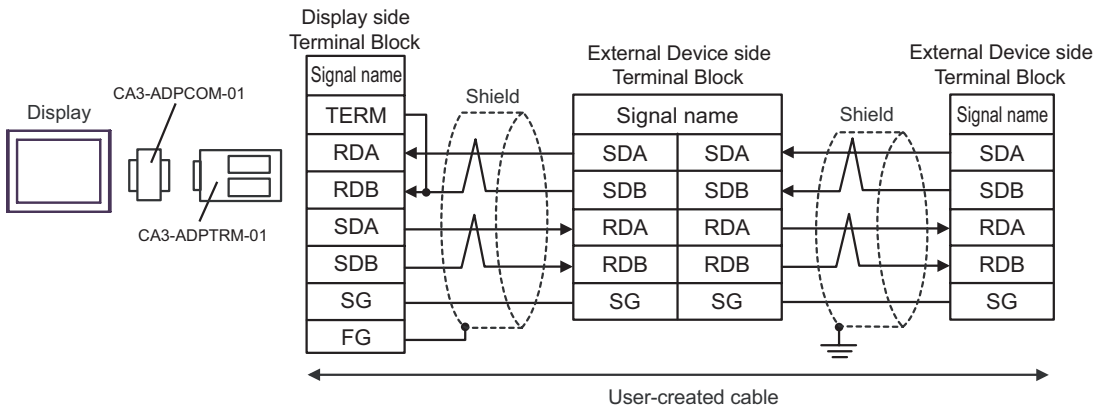
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection



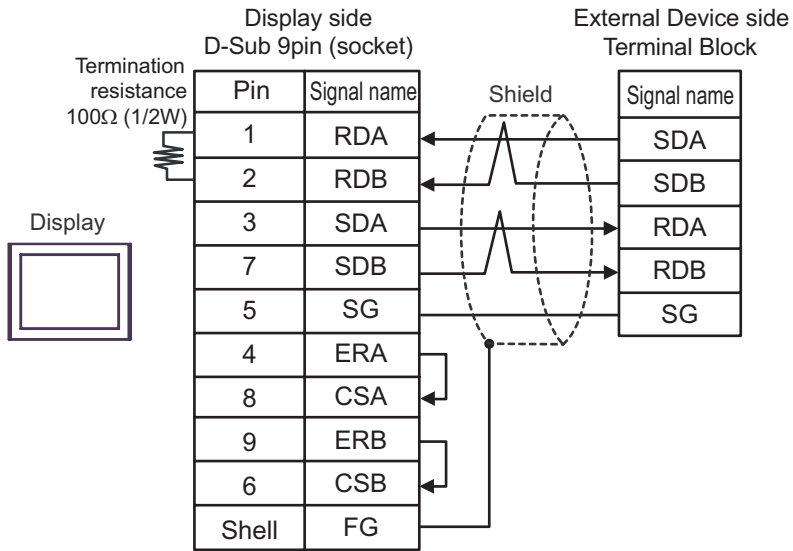
**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.



B) When using a user-created cable

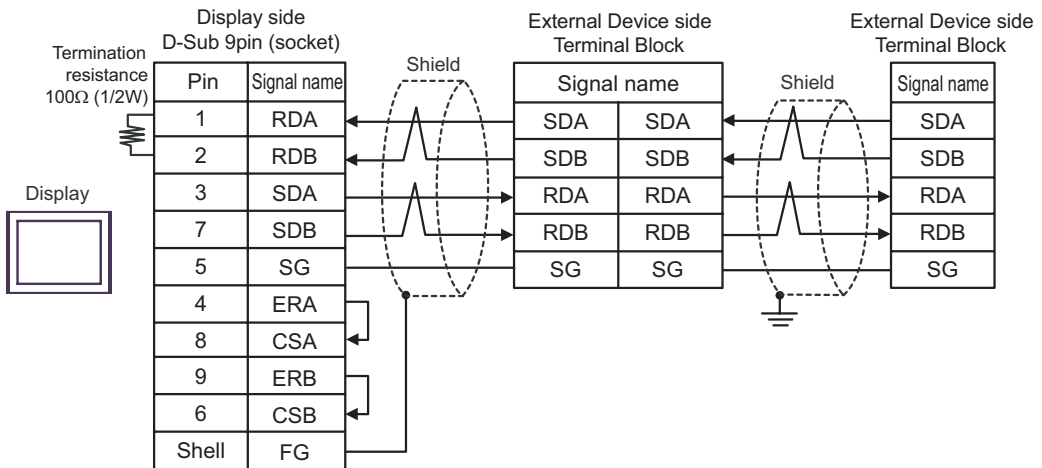
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection

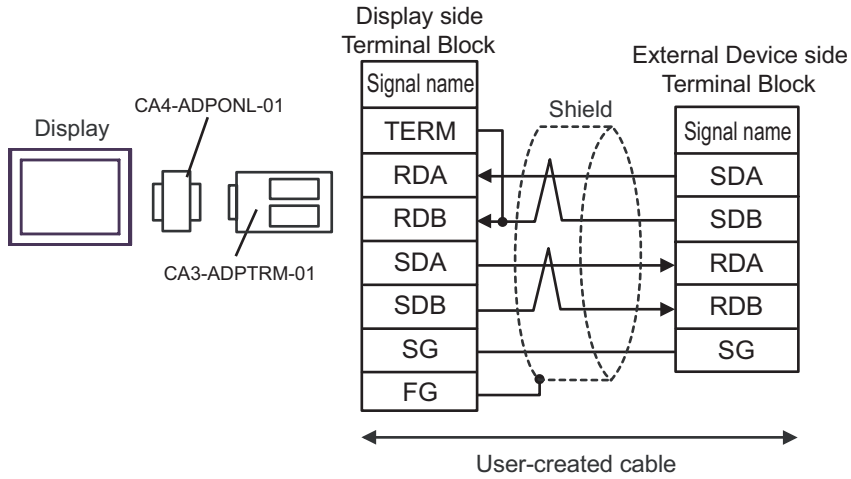


**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

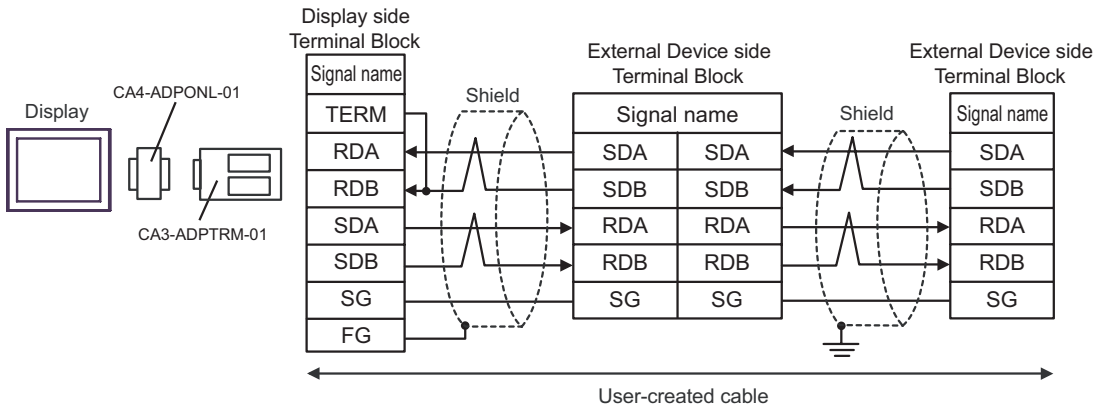
C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection



**NOTE** • Please set the terminating resistor switch of the External Device to the "100Ω" position.

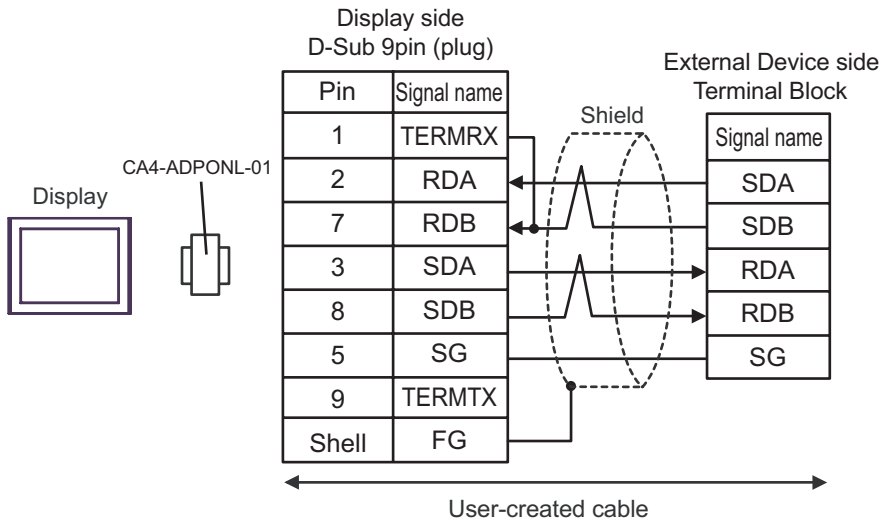
- 1:n Connection



**NOTE** • Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

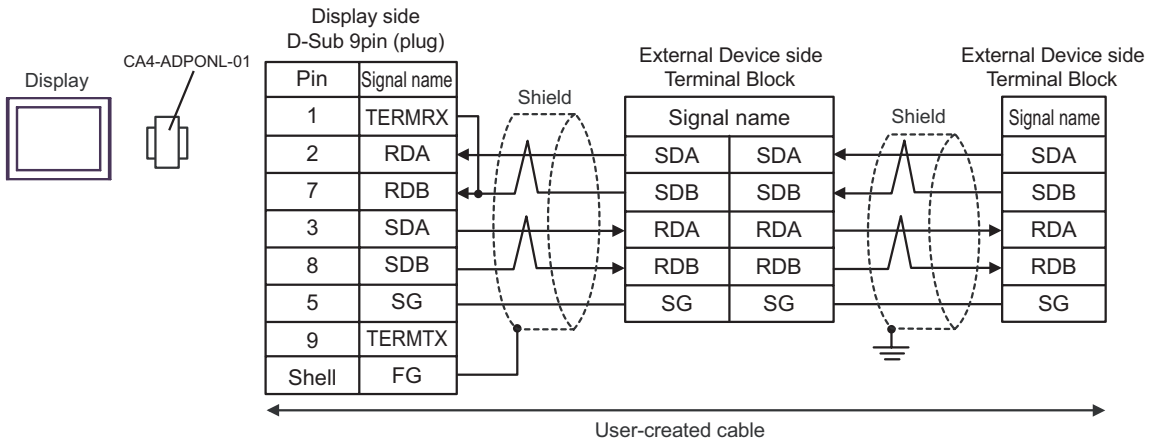
D) When using the online adapter (CA4-ADPONL-01) by Pro-face and a user-created cable

- 1:1 Connection



**NOTE** • Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection



**NOTE** • Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

Cable Diagram 9

Display (Connection Port)	Cable		Notes
GP* <sup>1</sup> (COM1) AGP-3302B (COM2) ST* <sup>2</sup> (COM2) LT (COM1)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	B	User-created cable	
GP* <sup>3</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC* <sup>4</sup>	E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	F	User-created cable	

\*1 All GP models except AGP-3302B

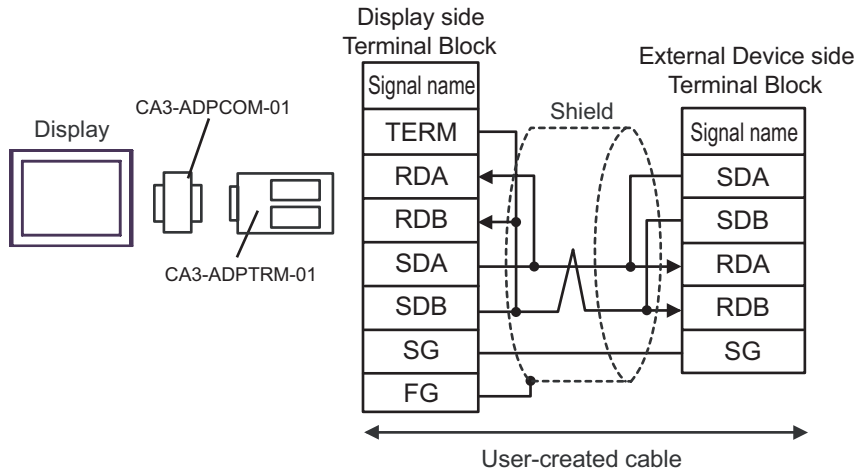
\*2 All ST models except AST-3211A

\*3 All GP 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 7)

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

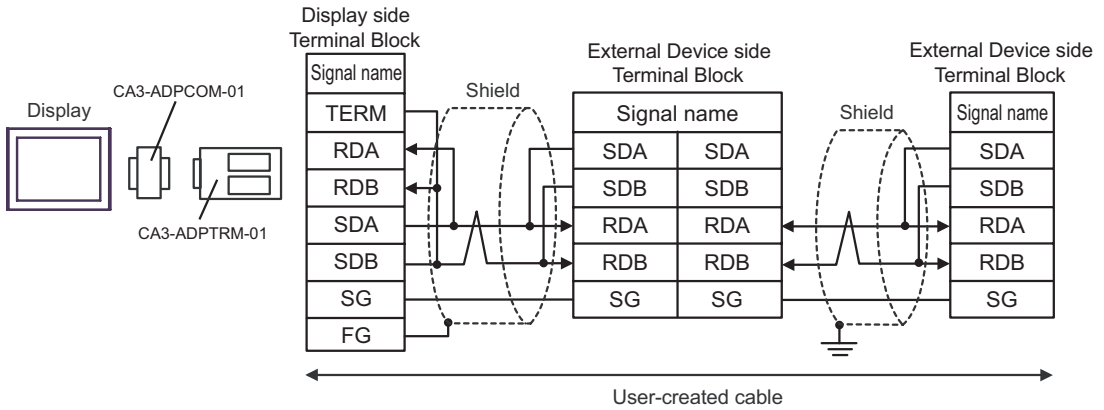
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection

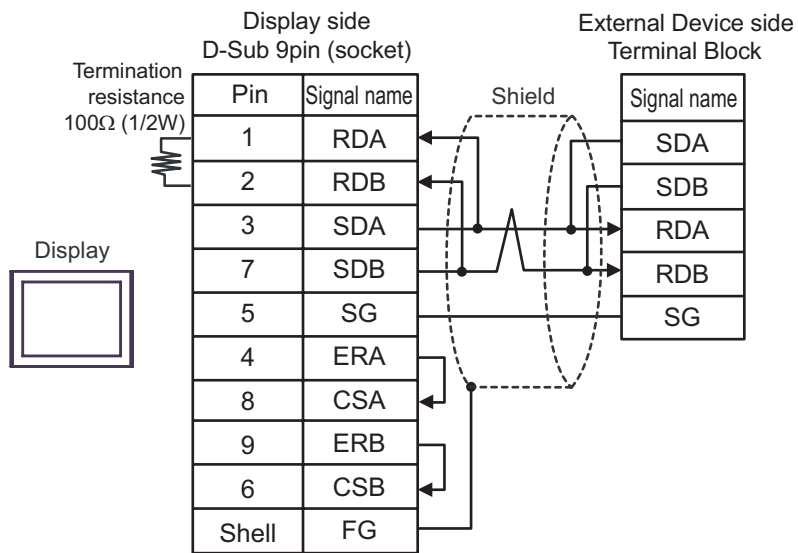


**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

B) When using a user-created cable

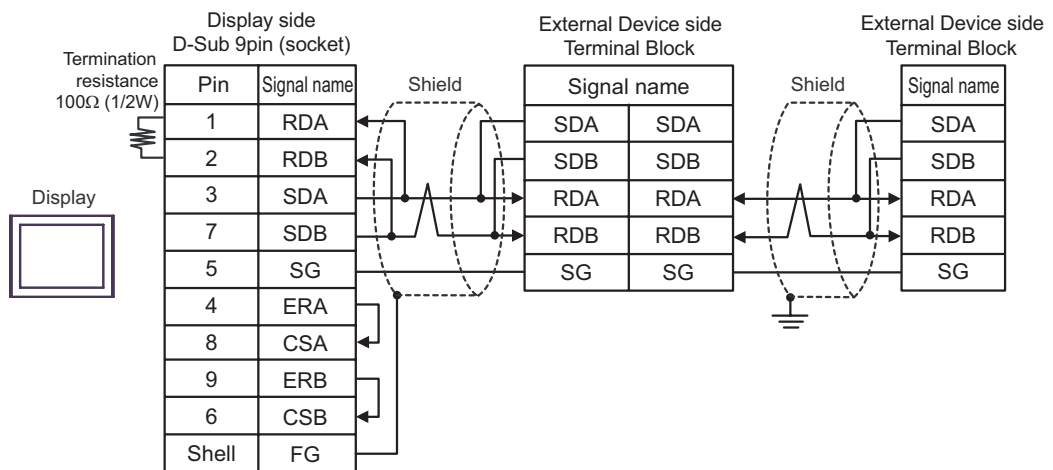
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection

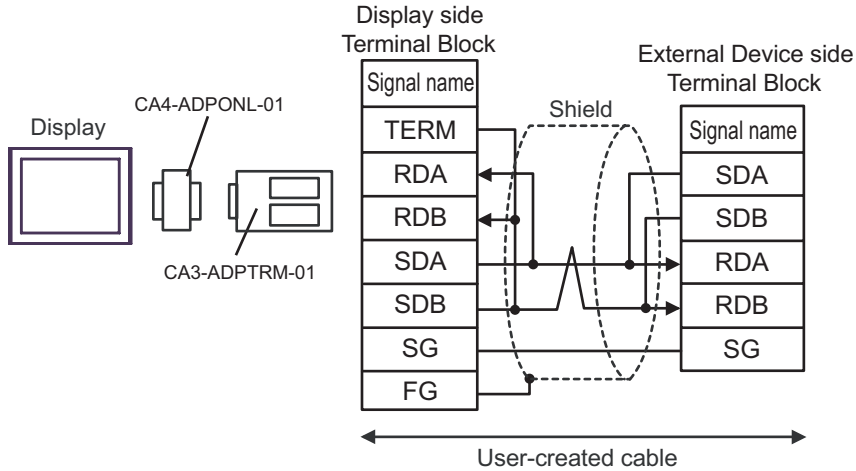


**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

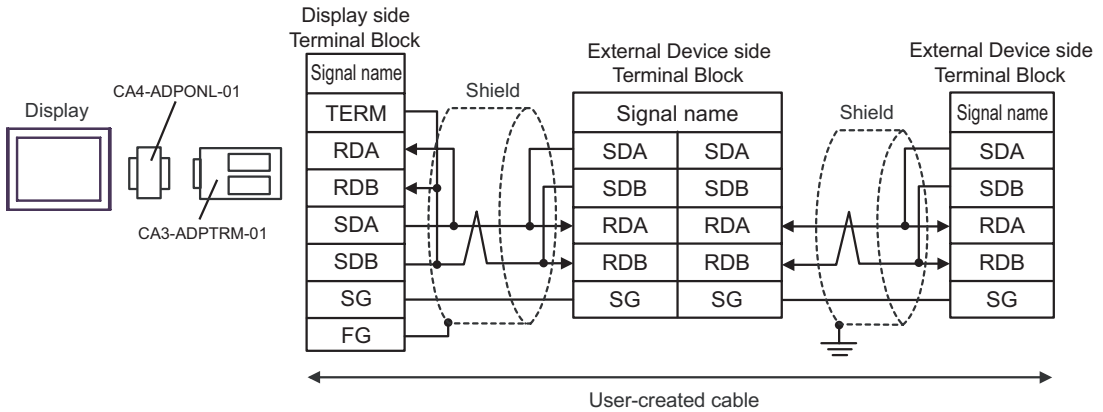
C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

- 1:1 Connection



**NOTE** • Please set the terminating resistor switch of the External Device to the "100Ω" position.

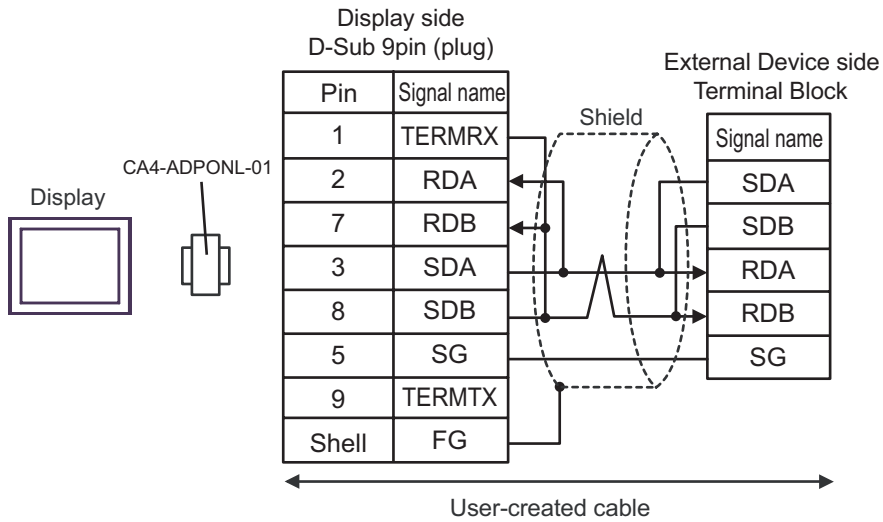
- 1:n Connection



**NOTE** • Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

D) When using the online adapter (CA4-ADPONL-01) by Pro-face and a user-created cable

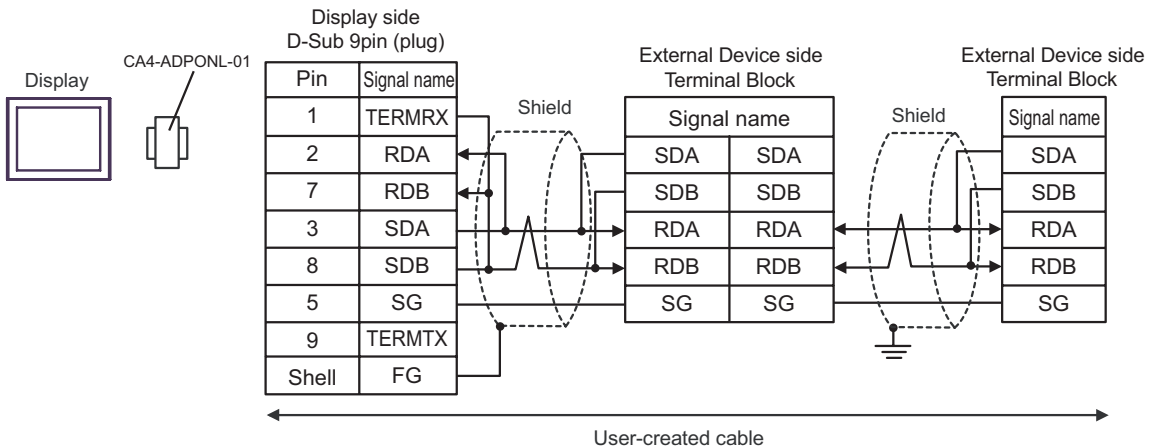
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection



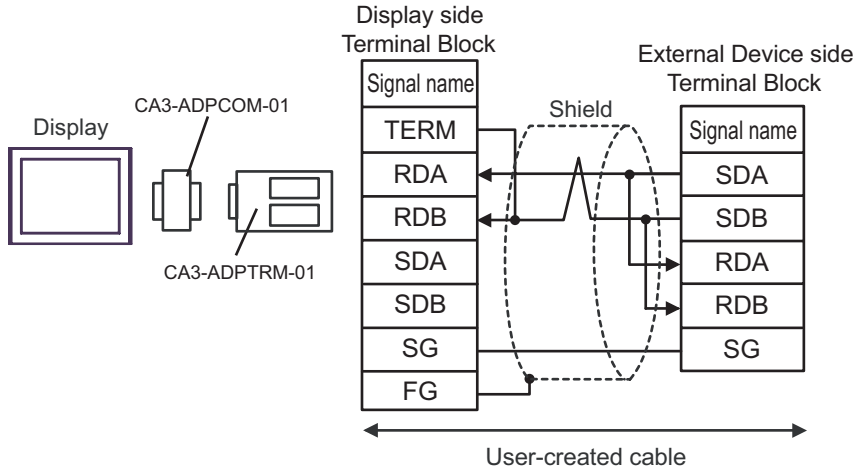
**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.



E) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and a user-created cable

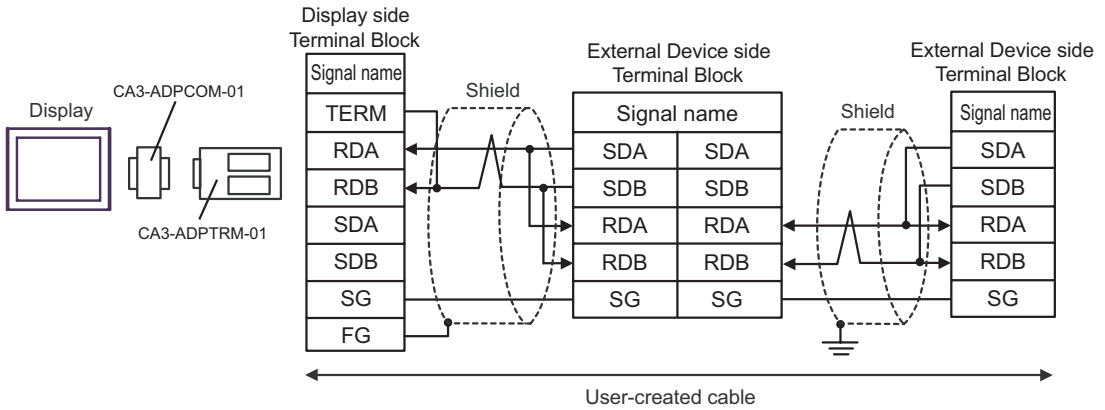
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection

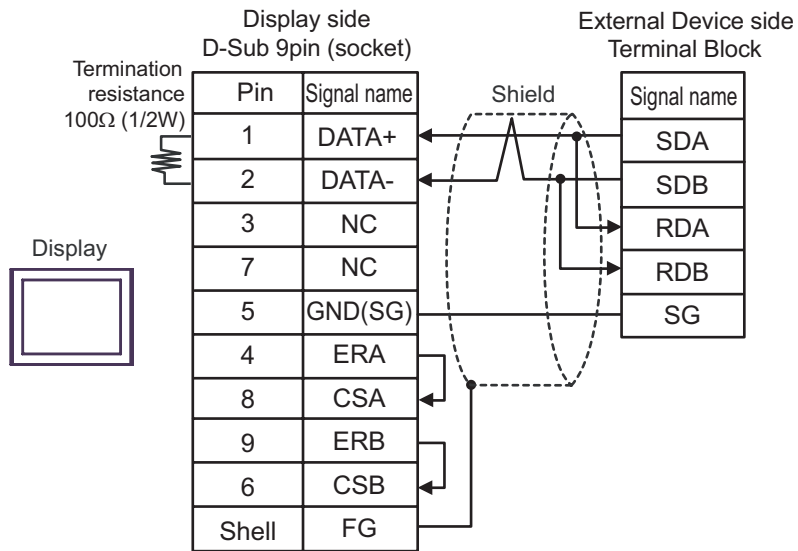


**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

F) When using a user-created cable

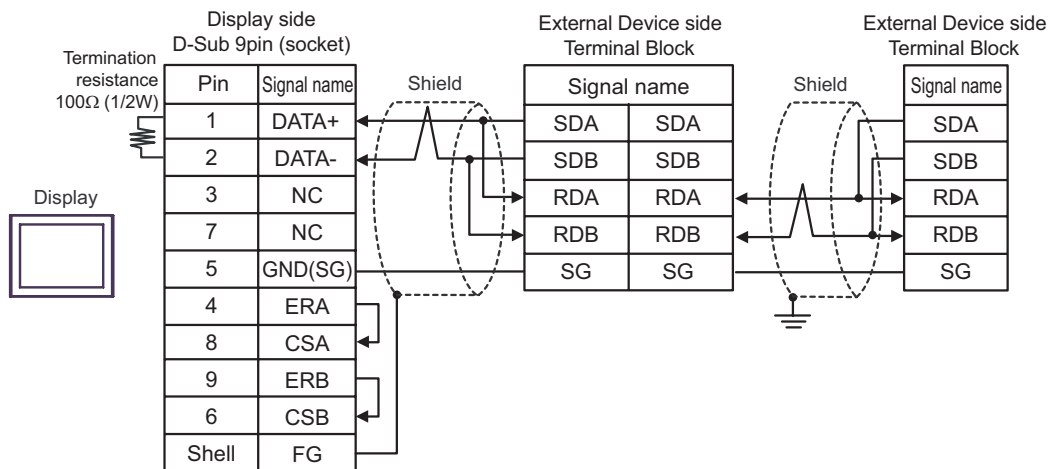
- 1:1 Connection



**NOTE**

- Please set the terminating resistor switch of the External Device to the "100Ω" position.

- 1:n Connection



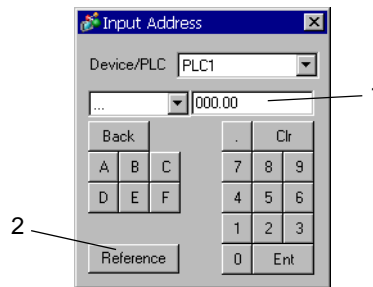
**NOTE**

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

## 6 Supported Devices

The following table shows the range of supported device addresses. 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.

Input address of external device in the dialog below.






1. Address      Enter the address.
2. Reference    Available parameter list is displayed.  
Click the parameter to use and press “Select”, then the address is entered.

**IMPORTANT**

- As shown in the following table, you may need to enter “9999” (meaning an invalid parameter setting or the like) depending upon the parameter types. In this case, the data written and read from the Display is as follows:

Inverter Series	Inverter Setting	Written Data	Read Data
FR-S500/FR-F500J series	---	-1    (0xFFFF)	-1    (0xFFFF)
	888	-16   (0xFFF0)	-16   (0xFFF0)
Series other than above	9999	-1    (0xFFFF)	-1    (0xFFFF)
	8888	-16   (0xFFF0)	-16   (0xFFF0)

 This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
Parameter*1	000.00 - 991.15	000 - 991		*2 *3
	000.00 - 993.15	000 - 993		
Parameter*4	P037.00 - P037.31	P037	-	*3 *5
Setting Items and Set Data	S00.00 - S59.15	S00 - S59		*3 *6
	S00.00 - S59.31		-	*7 *8

- \*1 Exception is parameter 37 of FR-E500 series, FR-S500 series, FR-F500J series, and FR-E700 series.
- \*2 The range, “000 to 993”, can be used for the External Device of FR-C500 series, FR-S500 series, and FR-F500J series.
- \*3 When you write to the bit address, the Display reads the entire word, sets the defined bit, then returns the new word value to the External Device. If the ladder program writes data to this word address during the bit write process, the resulting data may be incorrect.
- \*4 Parameter 37 of FR-E500 series, FR-S500 series, FR-F500J series, and FR-E700 series.
- \*5 Specify “P037” (32 bit External Device) for Parameter 37 of FR-E500 series, FR-S500 series, FR-F500J series, and FR-E700 series. When “037” is used, an unexpected error occurs.
- \*6 FR-V500/V500L series is 32 bit External Device. Other series are 16 bit External Device.
- \*7 Setting item differs depending on the series. Check for the setting item list before reading or writing a setting item.
- \*8 There are some items that are only for reading or writing among the setting items. Refer to the table below before reading/writing a setting item.

Setting Items	Read/Write
S01 to S04, S06 to S46, S49 to S52	Read only
S47 to S48, S53 to S57	Write only
S00, S05, S58 to S59	Read and Write

## ■ Setting Items List

◆ FR-A700/FR-A701 series, FR-F700 series, FR-E700 series, FR-B,B3(A700) series

Word Address	FR-A700/FR-A701 series	FR-F700 series	FR-E700 series	FR-B,B3(A700) series
S00	Operation mode	Operation mode	Operation mode	Operation mode
S01	Output frequency/speed	Output frequency/speed	Output frequency/speed	Output frequency/speed
S02	Output current	Output current	Output current	Output current
S03	Output voltage	Output voltage	Output voltage	Output voltage
S04	Special monitor	Special monitor	Special monitor	Special monitor
S05	Special monitor selection No.	Special monitor selection No.	Special monitor selection No.	Special monitor selection No.
S06	Output frequency	Output frequency	Output frequency	Output frequency
S07	Output current	Output current	Output current	Output current
S08	Output voltage	Output voltage	Output voltage	Output voltage
S09	Frequency setting	Frequency setting	Frequency setting	Frequency setting

Continues to the next page.

Word Address	FR-A700/FR-A701 series	FR-F700 series	FR-E700 series	FR-B,B3(A700) series
S10	Running speed	Running speed	-	Running speed
S11	Motor torque	-	Motor torque	Motor torque
S12	Converter output voltage	Converter output voltage	Converter output voltage	Converter output voltage
S13	Regenerative brake duty	Regenerative brake duty	Regenerative brake duty	Regenerative brake duty
S14	Electronic thermal relay function load factor	Electronic thermal relay function load factor	Electronic thermal relay function load factor	Electronic thermal relay function load factor
S15	Output current peak value	Output current peak value	Output current peak value	Output current peak value
S16	Converter output voltage peak value	Converter output voltage peak value	Converter output voltage peak value	Converter output voltage peak value
S17	Input power	Input power	-	Input power
S18	Output power	Output power	Output power	Output power
S19	Input terminal status	Input terminal status	Input terminal status	Input terminal status
S20	Output terminal status	Output terminal status	Output terminal status	Output terminal status
S21	Load meter	Load meter	-	Load meter
S22	Motor excitation current	-	-	Motor excitation current
S23	Position pulse	-	-	Position pulse
S24	Cumulative energization time	Cumulative energization time	Cumulative energization time	Cumulative energization time
S25	Orientation status	-	-	Orientation status
S26	Actual operation time	Actual operation time	Actual operation time	Actual operation time
S27	Motor load factor	Motor load factor	Motor load factor	Motor load factor
S28	Cumulative power	Cumulative power	Cumulative power	Cumulative power
S29	Torque command	-	-	-
S30	Torque current command	-	-	-
S31	Motor output	-	-	Motor output
S32	Feedback pulse	-	-	-
S33	Power saving effect	Power saving effect	-	Power saving effect
S34	Cumulative saving power	Cumulative saving power	-	Cumulative saving power
S35	PID set point	PID set point	PID set point	PID set point
S36	PID measured value	PID measured value	PID measured value	PID measured value
S37	PID deviation value	PID deviation value	PID deviation value	PID deviation value
S38	Option input terminal status1	-	Option input terminal status1	Option input terminal status1
S39	Option input terminal status2	-	Option input terminal status2	Option input terminal status2
S40	Option output terminal status	-	Option output terminal status	Option output terminal status
S41	-	-	Motor thermal load factor	-
S42	-	-	Inverter thermal load factor	-
S43	Alarm definition (Latest Nos. 1&2)	Alarm definition (Latest Nos. 1&2)	Alarm definition (Latest Nos. 1&2)	Alarm definition (Latest Nos. 1&2)
S44	Alarm definition (Latest Nos. 3&4)	Alarm definition (Latest Nos. 3&4)	Alarm definition (Latest Nos. 3&4)	Alarm definition (Latest Nos. 3&4)
S45	Alarm definition (Latest Nos. 5&6)	Alarm definition (Latest Nos. 5&6)	Alarm definition (Latest Nos. 5&6)	Alarm definition (Latest Nos. 5&6)
S46	Alarm definition (Latest Nos. 7&8)	Alarm definition (Latest Nos. 7&8)	Alarm definition (Latest Nos. 7&8)	Alarm definition (Latest Nos. 7&8)
S47	Run command (extended)	Run command (extended)	Run command (extended)	Run command (extended)
S48	Run command	Run command	Run command	Run command
S49	Inverter status monitor (extended)	Inverter status monitor (extended)	Inverter status monitor (extended)	Inverter status monitor (extended)
S50	Inverter status monitor	Inverter status monitor	Inverter status monitor	Inverter status monitor
S51	Set frequency read (RAM)	Set frequency read (RAM)	Set frequency read (RAM)	Set frequency read (RAM)
S52	Set frequency read (EEPROM)	Set frequency read (EEPROM)	Set frequency read (EEPROM)	Set frequency read (EEPROM)

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Word Address	FR-A700/FR-A701 series	FR-F700 series	FR-E700 series	FR-B,B3(A700) series
S53	Set frequency write (RAM)	Set frequency write (RAM)	Set frequency write (RAM)	Set frequency write (RAM)
S54	Set frequency write (RAM, EEPROM)	Set frequency write (RAM, EEPROM)	Set frequency write (RAM, EEPROM)	Set frequency write (RAM, EEPROM)
S55	Inverter reset	Inverter reset	Inverter reset	Inverter reset
S56	Alarm definition all clear	Alarm definition all clear	Alarm definition all clear	Alarm definition all clear
S57	All parameter clear	All parameter clear	All parameter clear	All parameter clear
S58	Link parameter extended setting	Link parameter extended setting	Link parameter extended setting	Link parameter extended setting
S59	Second parameter changing	Second parameter changing	Second parameter changing	Second parameter changing

## ◆ FR-V500/FR-V500L series, FR-A500/FR-A500L series, FR-F500/FR-F500L series, FR-E500 series

Word Address	FR-V500/FR-V500L series	FR-A500/FR-A500L series	FR-F500/FR-F500L series	FR-E500 series
S00	Operation mode	Operation mode	Operation mode	Operation mode
S01	Speed	Output frequency[speed]	Output frequency[speed]	Output frequency[speed]
S02	Output current	Output current	Output current	Output current
S03	Output voltage	Output voltage	Output voltage	Output voltage
S04	Special monitor	Special monitor	Special monitor	-
S05	Special monitor selection No.	Special monitor selection No.	Special monitor selection No.	-
S06	Output frequency	Output frequency	Output frequency	-
S07	Output current	Output current	Output current	-
S08	Output voltage	Output voltage	Output voltage	-
S09	Speed setting	Speed setting	Speed setting	-
S10	Running speed	Running speed	Running speed	-
S11	Motor torque	Motor torque	-	-
S12	Converter output voltage	Converter output voltage *1	Converter output voltage *2	-
S13	Regenerative brake	Regenerative brake duty	-	-
S14	Electronic thermal relay function load factor	Electronic thermal relay function load factor	Electronic thermal relay function load factor	-
S15	Output current peak value	Output current peak value	Output current peak value	-
S16	Converter output voltage peak value	Converter output voltage peak value	Converter output voltage peak value	-
S17	-	Input power	Input power	-
S18	-	Output power	Output power	-
S19	Input terminal status	-	-	-
S20	Output terminal status	-	-	-
S21	Load meter	-	-	-
S22	Motor excitation current	-	-	-
S23	Position pulse	-	-	-
S24	Cumulative energization time	-	-	-
S25	-	-	-	-
S26	Actual operation time	-	-	-
S27	Motor load factor	-	-	-
S28	-	-	-	-
S29	Torque command	-	-	-
S30	Torque current command	-	-	-
S31	Motor output	-	-	-
S32	Feedback pulse	-	-	-
S33	-	-	-	-
S34	-	-	-	-
S35	-	-	-	-
S36	-	-	-	-
S37	-	-	-	-
S38	-	-	-	-
S39	-	-	-	-
S40	-	-	-	-
S41	-	-	-	-
S42	-	-	-	-
S43	Alarm definition (Latest Nos. 1&2)	Alarm definition (Latest Nos. 1&2)	Alarm definition (Latest Nos. 1&2)	Alarm definition (Latest Nos. 1&2)

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Word Address	FR-V500/FR-V500L series	FR-A500/FR-A500L series	FR-F500/FR-F500L series	FR-E500 series
S44	Alarm definition (Latest Nos. 3&4)	Alarm definition (Latest Nos. 3&4)	Alarm definition (Latest Nos. 3&4)	Alarm definition (Latest Nos. 3&4)
S45	Alarm definition (Latest Nos. 5&6)	Alarm definition (Latest Nos. 5&6)	Alarm definition (Latest Nos. 5&6)	Alarm definition (Latest Nos. 5&6)
S46	Alarm definition (Latest Nos. 7&8)	Alarm definition (Latest Nos. 7&8)	Alarm definition (Latest Nos. 7&8)	Alarm definition (Latest Nos. 7&8)
S47	-	-	-	-
S48	Run command	Run command	Run command	Run command
S49	-	-	-	-
S50	Inverter status monitor	Inverter status monitor	Inverter status monitor	Inverter status monitor
S51	Set speed read (RAM)	Set frequency read (RAM) *1	Set frequency read (RAM) *2	Set frequency read (RAM)
S52	Set speed read (EEPROM)	Set speed read (EEPROM) *1	Set frequency read (EEPROM) *2	Set frequency read (EEPROM)
S53	Set speed write (RAM)	Set frequency write (RAM) *1	Set frequency write (RAM) *2	Set frequency write (RAM)
S54	Set speed write (EEPROM)	Set frequency write (EEPROM)	Set speed write (EEPROM)	Set frequency write (EEPROM)
S55	Inverter reset	Inverter reset	Inverter reset	Inverter reset
S56	Alarm definition all clear	Alarm definition all clear *1	Alarm definition batch clear *2	Alarm definition batch clear
S57	Parameter all clear	Parameter all clear/User clear	All clear/User clear	All parameter clear
S58	Link parameter expansion setting	Link parameter expansion setting	Link parameter expansion setting	Link parameter expansion setting
S59	Second parameter changing	Second parameter changing	Second parameter changing	Second parameter changing

\*1 Not supported by FR-A500L series.

\*2 Not supported by FR-F500L series.



## ◆ FR-C500 series, FR-S500 series, FR-F500J series, FR-B,B3(A500) series


Word Address	FR-C500 series	FR-S500 series	FR-F500J series	FR-B,B3(A500) series
S00	Operation mode	Operation mode	Operation mode	Operation mode
S01	Output frequency[speed]	Output frequency[speed]	Output frequency[speed]	Output frequency[speed]
S02	Output current	Output current	Output current	Output current
S03	-	-	-	Output voltage
S04	-	-	-	Special monitor
S05	-	-	-	Special monitor selection No.
S06	-	-	-	Output frequency
S07	-	-	-	Output current
S08	-	-	-	Output voltage
S09	-	-	-	Frequency setting
S10	-	-	-	Running speed
S11	-	-	-	Motor torque
S12	-	-	-	Converter output voltage
S13	-	-	-	Regenerative brake
S14	-	-	-	Electronic overcurrent protection load factor
S15	-	-	-	Output current peak value
S16	-	-	-	Converter output voltage peak value
S17	-	-	-	Input power
S18	-	-	-	Output power
S19	-	-	-	-
S20	-	-	-	-
S21	-	-	-	-
S22	-	-	-	-
S23	-	-	-	-
S24	-	-	-	-
S25	-	-	-	-
S26	-	-	-	-
S27	-	-	-	-
S28	-	-	-	-
S29	-	-	-	-
S30	-	-	-	-
S31	-	-	-	-
S32	-	-	-	-
S33	-	-	-	-
S34	-	-	-	-
S35	-	-	-	-
S36	-	-	-	-
S37	-	-	-	-
S38	-	-	-	-
S39	-	-	-	-
S40	-	-	-	-
S41	-	-	-	-
S42	-	-	-	-
S43	Alarm definition (Latest Nos. 1&2)	Alarm definition (Latest Nos. 1&2)	Alarm definition (Latest Nos. 1&2)	Alarm definition (Latest Nos. 1&2)
S44	Alarm definition (Latest Nos. 3&4)	Alarm definition (Latest Nos. 3&4)	Alarm definition (Latest Nos. 3&4)	Alarm definition (Latest Nos. 3&4)

Continues to the next page.

Word Address	FR-C500 series	FR-S500 series	FR-F500J series	FR-B,B3(A500) series
S45	-	-	-	Alarm definition (Latest Nos. 5&6)
S46	-	-	-	Alarm definition (Latest Nos. 7&8)
S47	-	-	-	-
S48	Run command	Run command	Run command	Run command
S49	-	-	-	-
S50	Inverter status monitor	Inverter status monitor	Inverter status monitor	Inverter status monitor
S51	Set frequency read (RAM)	Set frequency read (RAM)	Set speed read (RAM)	Set frequency read (RAM)
S52	Set frequency read (EEPROM)	Set frequency read (EEPROM)	Set speed read (EEPROM)	Set frequency read (EEPROM)
S53	Set frequency write (RAM)	Set frequency write (RAM)	Set speed write (RAM)	Set frequency write (RAM)
S54	Set frequency write (RAM,EEPROM)	Set frequency write (RAM,EEPROM)	Set frequency write (RAM,EEPROM)	Set frequency write (EEPROM)
S55	Inverter reset	Inverter reset	Inverter reset	Inverter reset
S56	Alarm definition batch clear	Alarm definition batch clear	Alarm definition batch clear	Alarm definition batch clear
S57	All parameter clear	All parameter clear	All parameter clear	All clear/User clear
S58	Link parameter expansion setting	Link parameter expansion setting	Link parameter expansion setting	Link parameter expansion setting
S59	-	Second parameter changing	Second parameter changing	Second parameter changing

**NOTE**

- You can only set the Read Area Size for the system area available to use in the Temperature Controller. Please refer to the GP Pro-EX Reference Manual for Read Area Size.  
Cf. GP Pro-EX Reference Manual "Appendix 1.4 LS Area (Direct Access Method)"
- 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 set "Device Type & Address" for the address type of the data display or other devices.

Device	Device Name	Device Code (HEX)	Address Code
Parameter <sup>*1</sup>	-	0080	Word Address
Parameter <sup>*2</sup>	P	0082	Word Address
Setting Items and set data <sup>*3</sup>	S	0081	Word Address
Setting Items and set data <sup>*4</sup>	S	0083	Word Address

\*1 Exception is parameter 37 of FR-E500 series, FR-S500 series, FR-F500J series, and FR-E700 series.

\*2 Parameter 37 of FR-E500 series, FR-S500 series, FR-F500J series, and FR-E700 series

\*3 Series except for FR-V500 series and FR-V500Lseries.

\*4 FR-V500 series and FR-V500Lseries.

## 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 number
Device Name	Name of the External Device where an error has occurred. Device/PLC name is the title of the External Device set with GP Pro-EX. (Initial value [PLC1])
Error Message	Displays messages related to an error that has occurred.
Error Occurrence Area	Displays the IP address or device address of the External Device where an error has occurred, or error codes received from the External Device. <b>NOTE</b> <ul style="list-style-type: none"> <li>• IP address is displayed as "IP address (Decimal): MAC address (Hex)".</li> <li>• Device address is displayed as "Address: Device address".</li> <li>• Received error codes are displayed 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 "When an error is displayed (Error Code List)" in "Maintenance/Troubleshooting Manual" for details on the error messages common to the driver.

### ■ Error Codes Unique to External Device

Error Code	Description
H0	Computer NAK error
H2	Sum check error
HA	Mode error
HB	Instruction code error
HC	Data range error