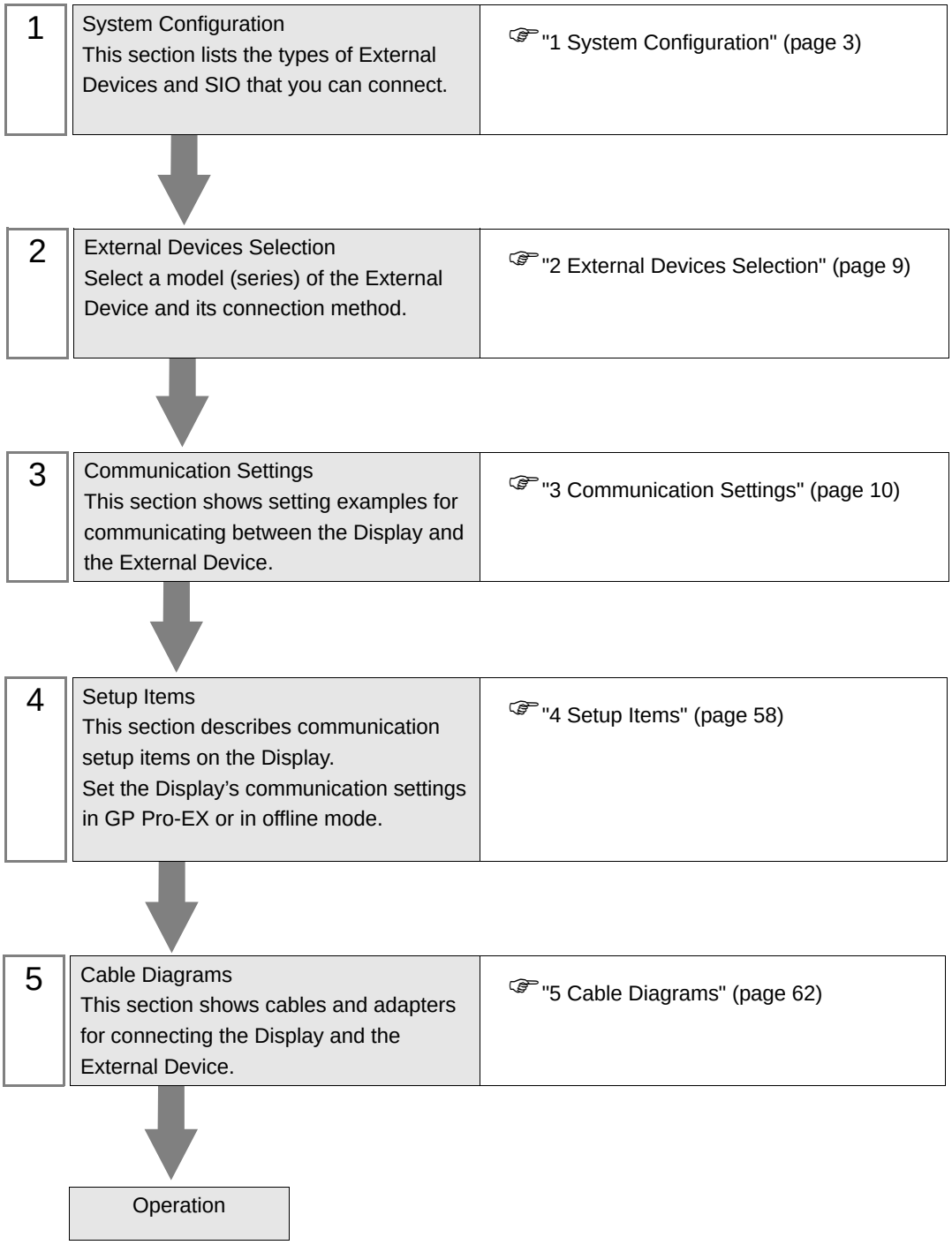
Mitsubishi Electric Corporation

FREQROL Inverter Driver

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 offline.

Series	Inverter[*1]	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 67)
			RS-422/485 (2 wire)	"Setting Example 3" (page 14)	" Cable Diagram 3" (page 74)
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 67)
			RS-422/485 (2 wire)	"Setting Example 3" (page 14)	" Cable Diagram 3" (page 74)
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 67)
			RS-422/485 (2 wire)	"Setting Example 6" (page 20)	" Cable Diagram 3" (page 74)
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 86)[*2]
			RS-422/485 (2 wire)	"Setting Example 8" (page 24)	" Cable Diagram 5" (page 100)
		RS-485 terminal on FR-E7TR	RS-422/485 (4 wire)	"Setting Example 7" (page 22)	" Cable Diagram 8" (page 141)
			RS-422/485 (2 wire)	"Setting Example 8" (page 24)	" Cable Diagram 9" (page 148)
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 86)[*2]
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 10" (page 28)	" Cable Diagram 7" (page 134)

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 86)[*2]
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 10" (page 28)	" Cable Diagram 7" (page 134)
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 86)[*2]
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 12" (page 32)	" Cable Diagram 7" (page 134)
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 86)[*2]
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 12" (page 32)	" Cable Diagram 7" (page 134)
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 86)[*2]
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 14" (page 36)	" Cable Diagram 7" (page 134)
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 86)[*2]
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 14" (page 36)	" Cable Diagram 7" (page 134)
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 86)[*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 86)[*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 86)[*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 122)
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 86)[*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 86)[*2]
		Terminal on FR-A5NR	RS-422/485 (4 wire)	"Setting Example 21" (page 50)	" Cable Diagram 7" (page 134)

Series	Inverter*1	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 67)
			RS-422/485 (2 wire)	"Setting Example 24" (page 56)	" Cable Diagram 3" (page 74)

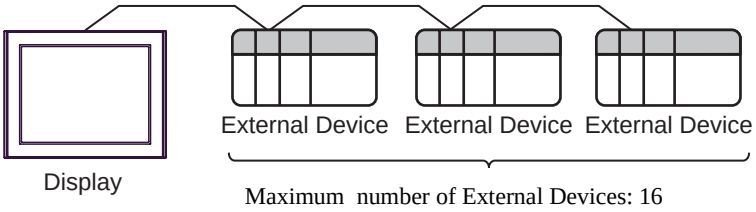
*1 □ varies depending on each inverter's capacity.

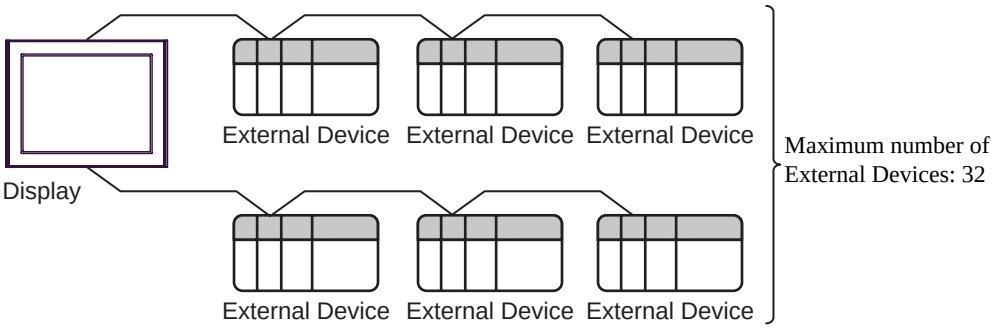
*2 Cable Diagram 1 can be used for 1:1 Connection.

■ 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*1 , COM2, COM3*1, COM4	-	-
PS-3450A, PS-3451A, PS3000-BA, PS3001-BD	COM1, COM2*1*2	COM2*1*2	COM2*1*2
PS-3650A (T41 model), PS-3651A (T41 model)	COM1*1	-	-
PS-3650A (T42 model), PS-3651A (T42 model)	COM1*1*2, COM2	COM1*1*2	COM1*1*2
PS-3700A (Pentium®4-M) PS-3710A	COM1*1, COM2*1, COM3*2 , COM4	COM3*2	COM3*2
PS-3711A	COM1*1, COM2*2	COM2*2	COM2*2
PS4000*3	COM1, COM2	-	-
PL3000	COM1*1*2, COM2*1, COM3, COM4	COM1*1*2	COM1*1*2

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

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

*3 When making communication between an External Device and COM port on the Expansion slot, only RS-232C is supported. However, ER (DTR/CTS) control cannot be executed because of the specification of COM port.
For connection with External Device, use user-created cables and disable Pin Nos. 1, 4, 6 and 9.
Please refer to the IPC manual for details of pin layout.

DIP Switch setting: RS-232C

DIP Switch	Setting	Description
1	OFF*1	Reserved (always OFF)
2	OFF	SIO type: RS-232C
3	OFF	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA (RXA): Not available
8	OFF	Short-circuit of SDB (TXB) and RDB (RXB): Not available
9	OFF	RS (RTS) Auto control mode: Disabled
10	OFF	

*1 When using PS-3450A, PS-3451A, PS3000-BA and PS3001-BD, turn ON the set value.

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

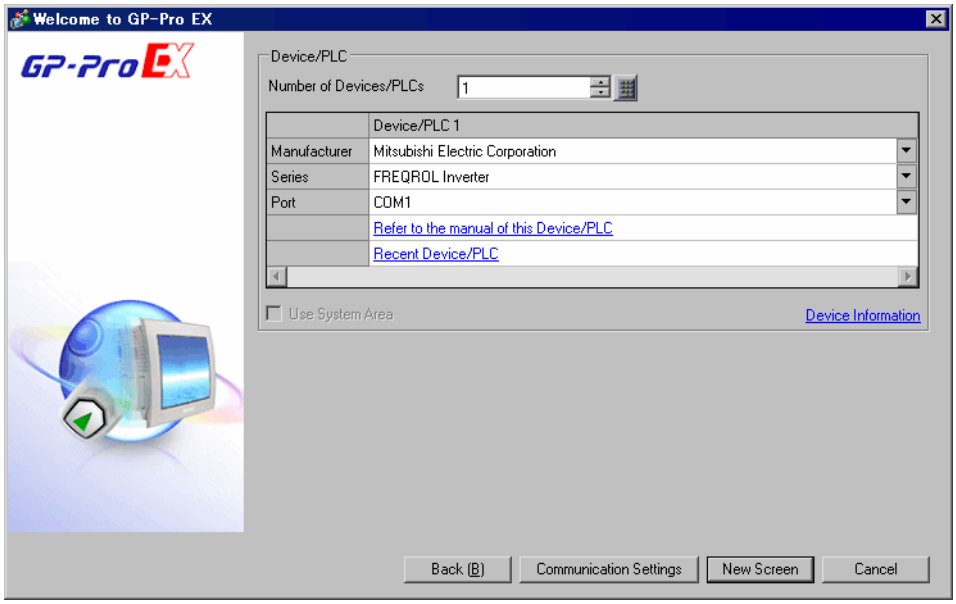
DIP Switch	Setting	Description
1	OFF	Reserved (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA (RXA): Not available
8	OFF	Short-circuit of SDB (TXB) and RDB (RXB): Not available
9	OFF	RS (RTS) Auto control mode: Disabled
10	OFF	

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

DIP Switch	Setting	Description
1	OFF	Reserved (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	ON	Short-circuit of SDA (TXA) and RDA (RXA): Available
8	ON	Short-circuit of SDB (TXB) and RDB (RXB): Available
9	ON	RS (RTS) Auto control mode: Enabled
10	ON	

2 External Devices Selection

Select the External Device to be connected to the Display.



Setup Items	Setup Description
Number of Devices/PLCs	Enter an integer from 1 to 4 to define the number of Devices/PLCs to connect to the display.
Manufacturer	Select the manufacturer of the External Device to connect. Select "Mitsubishi Electric Corporation".
Series	Select the External Device model (series) and the connection method. Select "FREQROL Inverter". In System configuration, make sure the External Device you are connecting is supported by "FREQROL Inverter". ☞ "1 System Configuration" (page 3)
Port	Select the Display port to be connected to the External Device.
Use System Area	Not available in this driver.

3 Communication Settings

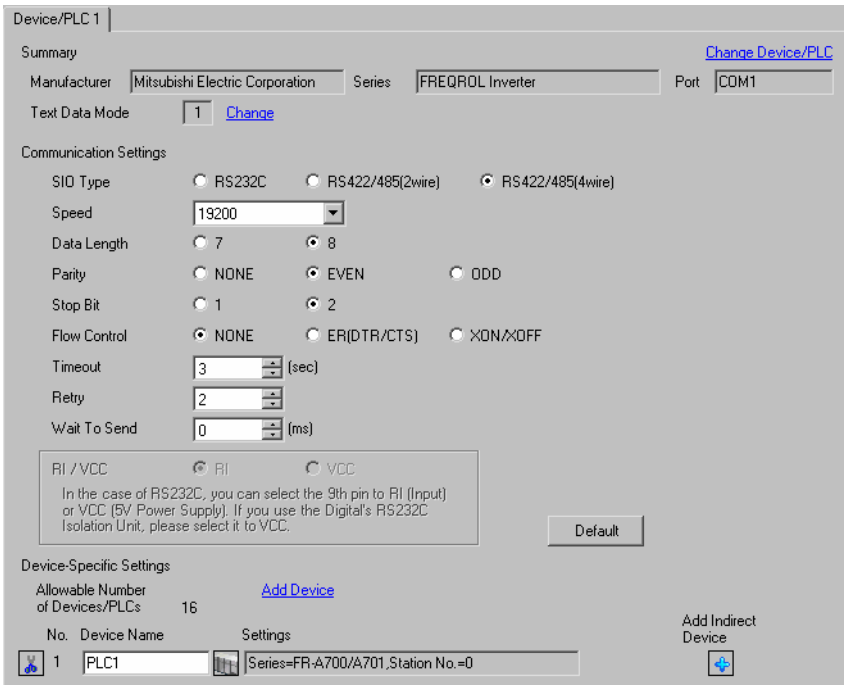
This section provides examples of communication settings recommended by Pro-face for the Display and the External Device.

3.1 Setting Example 1

■ GP Pro-EX Settings

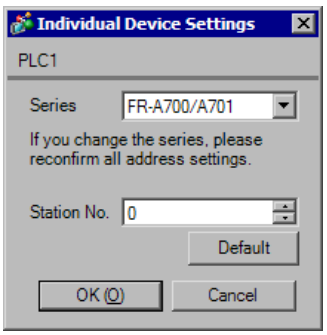
◆ Communication Settings

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



◆ Device Setting

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



■ 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

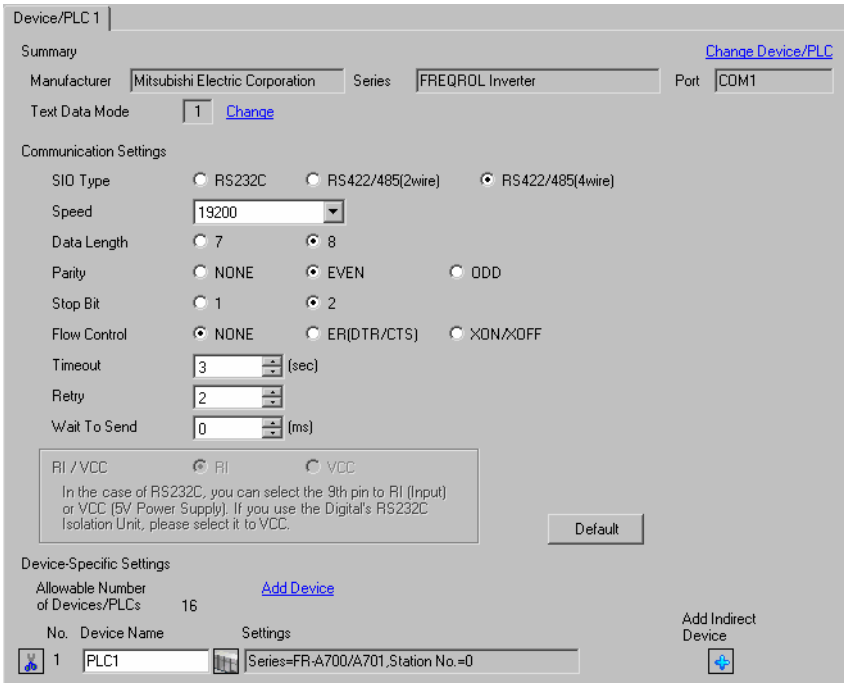
- Always restart the Eternal Device after changing parameters.

3.2 Setting Example 2

■ GP Pro-EX Settings

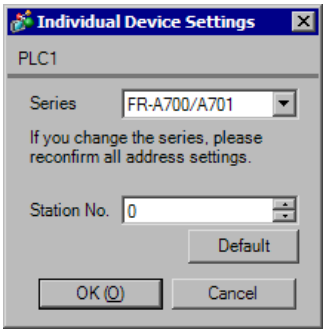
◆ Communication Settings

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



◆ Device Setting

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



■ 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

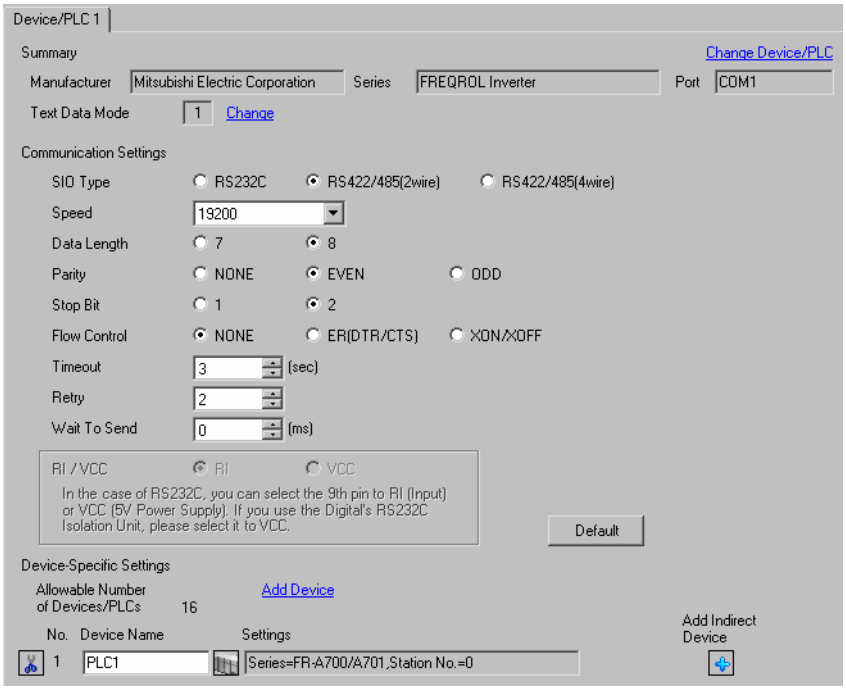
- Always restart the Eternal Device after changing parameters.

3.3 Setting Example 3

■ GP Pro-EX Settings

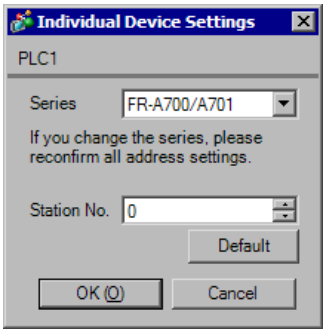
◆ Communication Settings

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



◆ Device Setting

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



■ 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

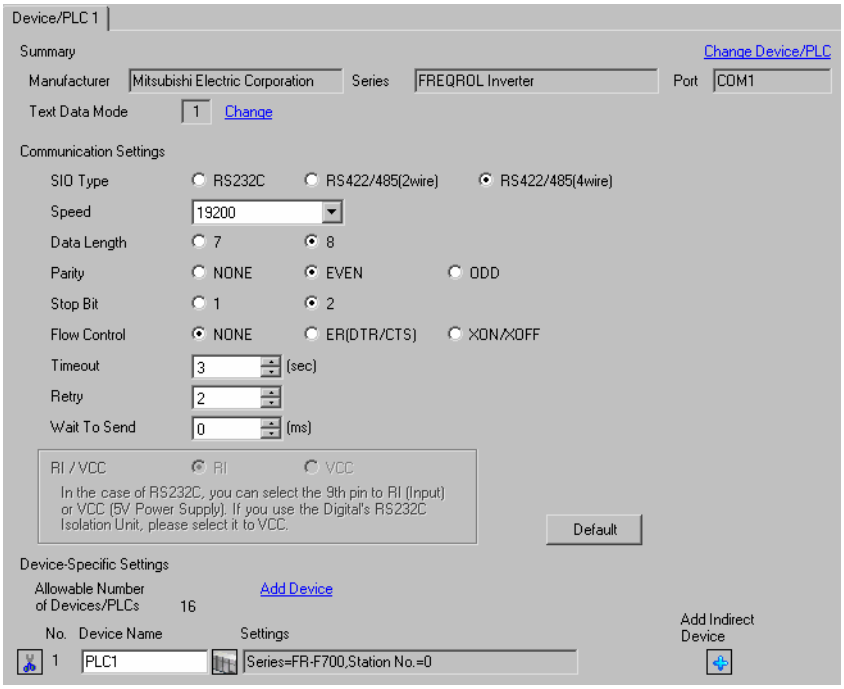
- Always restart the Eternal Device after changing parameters.

3.4 Setting Example 4

■ GP Pro-EX Settings

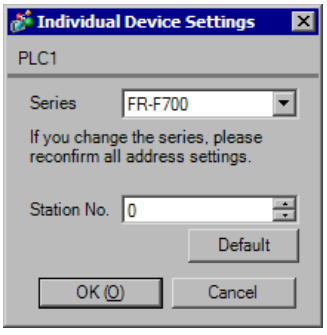
◆ Communication Settings

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



◆ Device Setting

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



■ 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

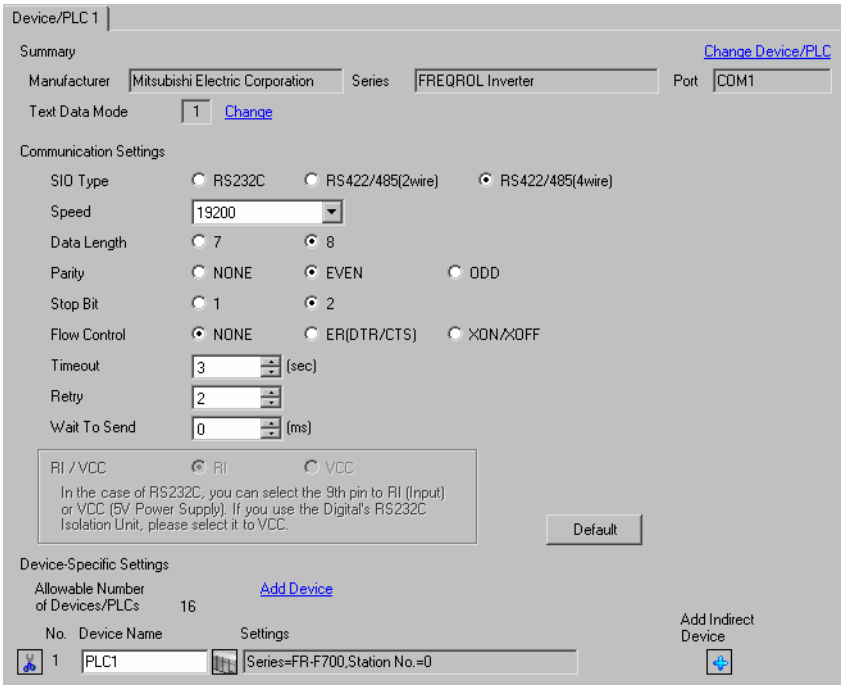
- Always restart the Eternal Device after changing parameters.

3.5 Setting Example 5

■ GP Pro-EX Settings

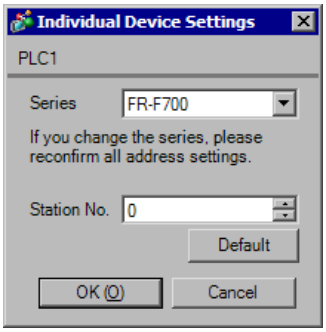
◆ Communication Settings

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



◆ Device Setting

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



■ 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

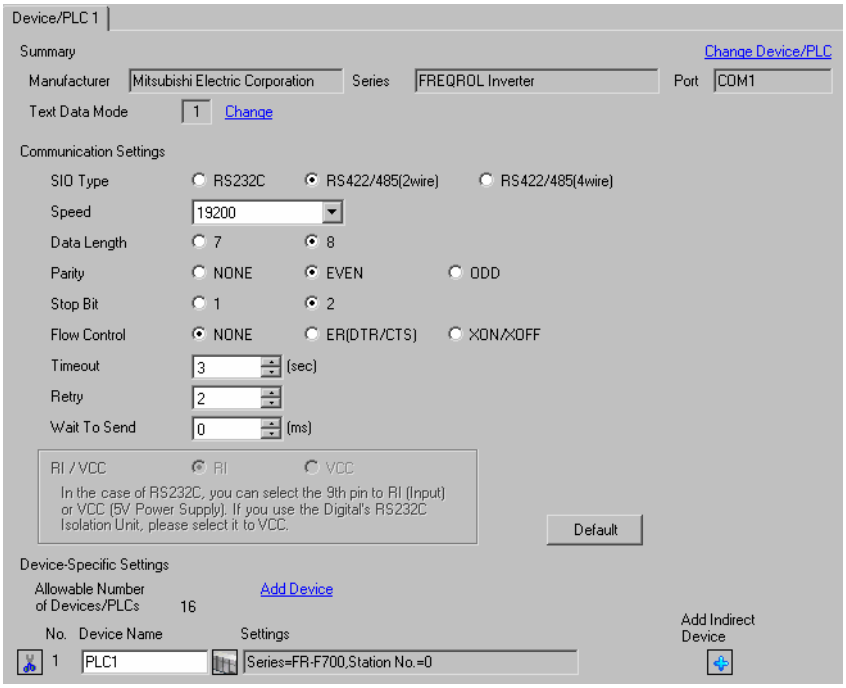
- Always restart the Eternal Device after changing parameters.

3.6 Setting Example 6

■ GP Pro-EX Settings

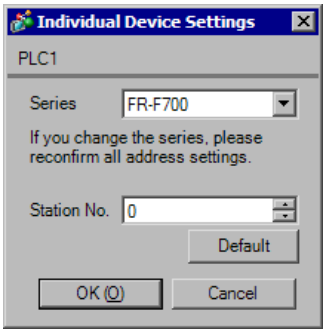
◆ Communication Settings

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



◆ Device Setting

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



■ 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

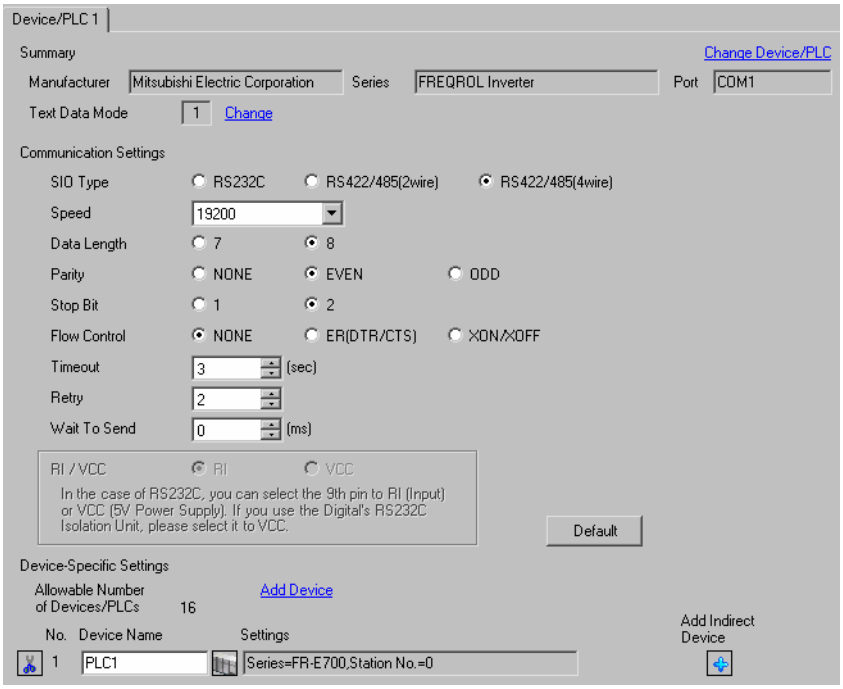
- Always restart the Eternal Device after changing parameters.

3.7 Setting Example 7

■ GP Pro-EX Settings

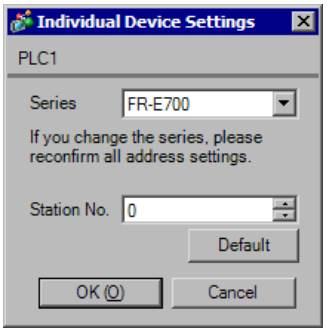
◆ Communication Settings

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



◆ Device Setting

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



■ 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

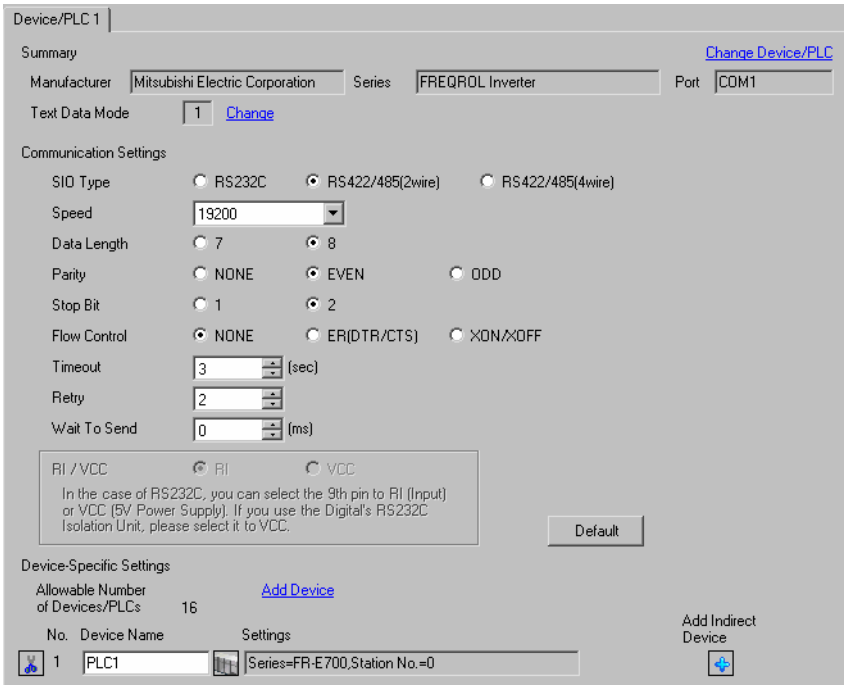
- Always restart the Eternal Device after changing parameters.

3.8 Setting Example 8

■ GP Pro-EX Settings

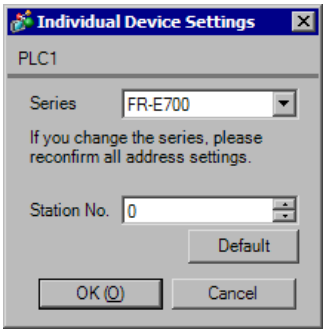
◆ Communication Settings

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



◆ Device Setting

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



■ 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

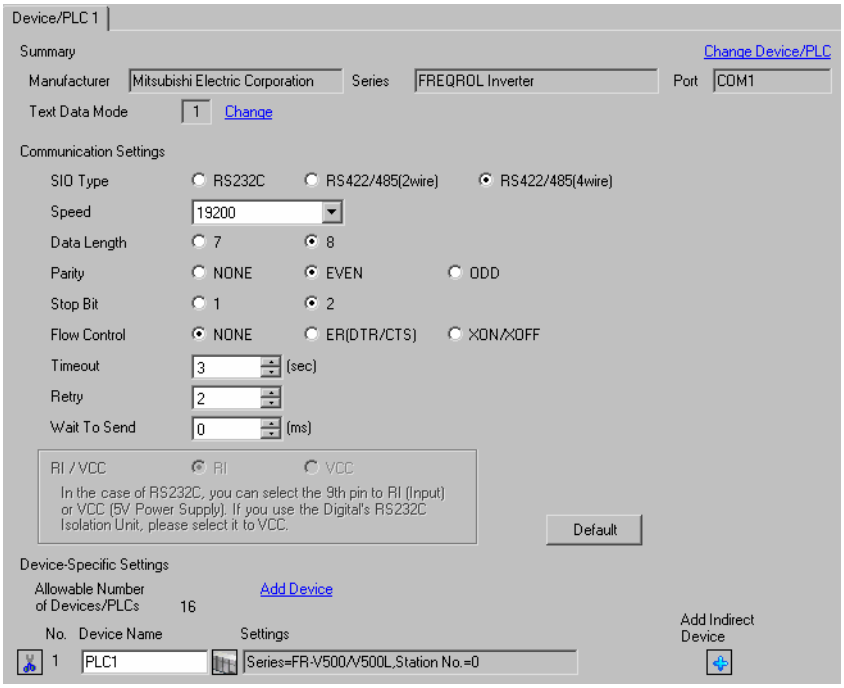
- Always restart the Eternal Device after changing parameters.

3.9 Setting Example 9

■ GP Pro-EX Settings

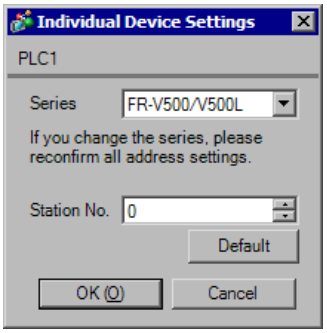
◆ Communication Settings

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



◆ Device Setting

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



■ 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

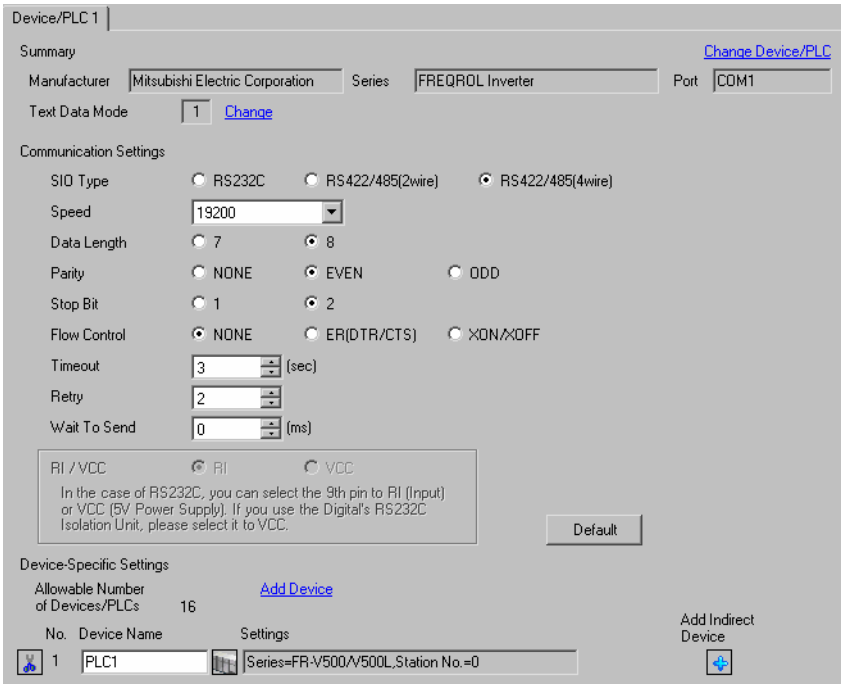
- Always restart the Eternal Device after changing parameters.

3.10 Setting Example 10

■ GP Pro-EX Settings

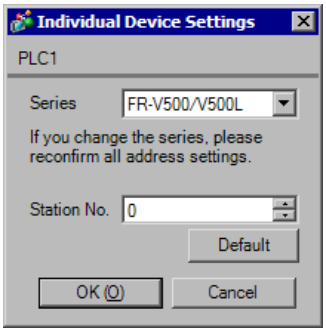
◆ Communication Settings

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



◆ Device Setting

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



■ 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

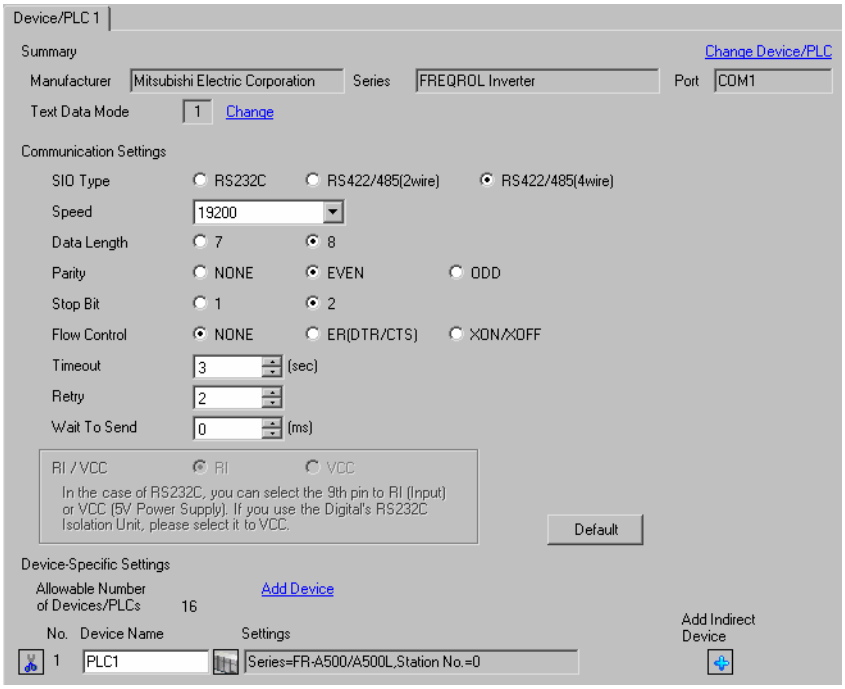
- Always restart the Eternal Device after changing parameters.

3.11 Setting Example 11

■ GP Pro-EX Settings

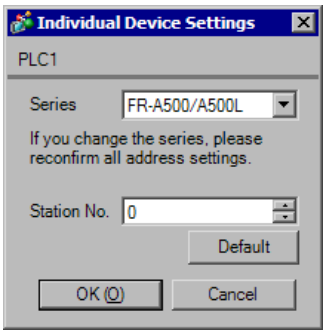
◆ Communication Settings

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



◆ Device Setting

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



■ 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

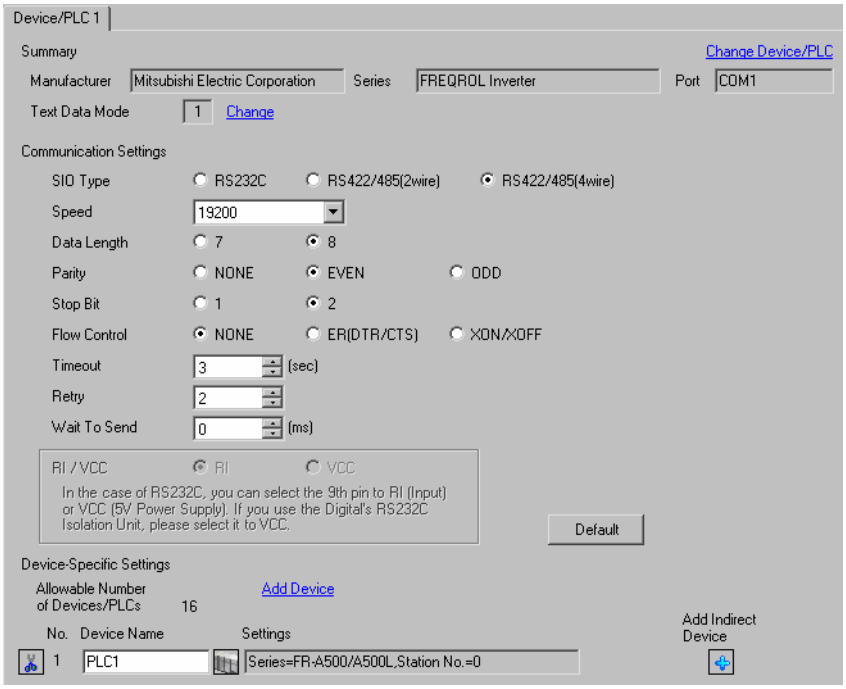
- Always restart the Eternal Device after changing parameters.

3.12 Setting Example 12

■ GP Pro-EX Settings

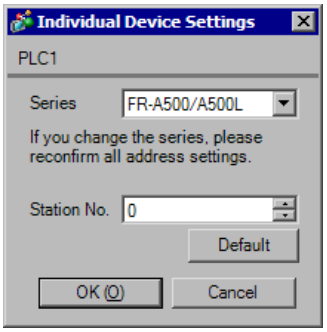
◆ Communication Settings

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



◆ Device Setting

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



■ 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

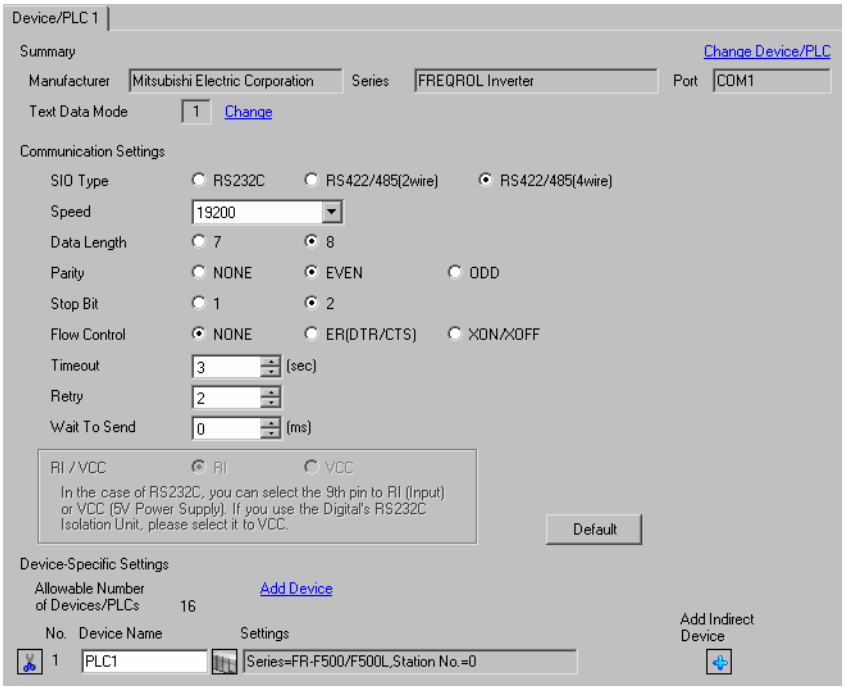
- Always restart the Eternal Device after changing parameters.

3.13 Setting Example 13

■ GP Pro-EX Settings

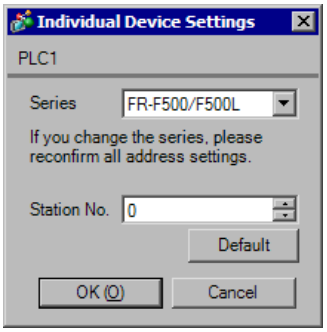
◆ Communication Settings

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



◆ Device Setting

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



■ 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

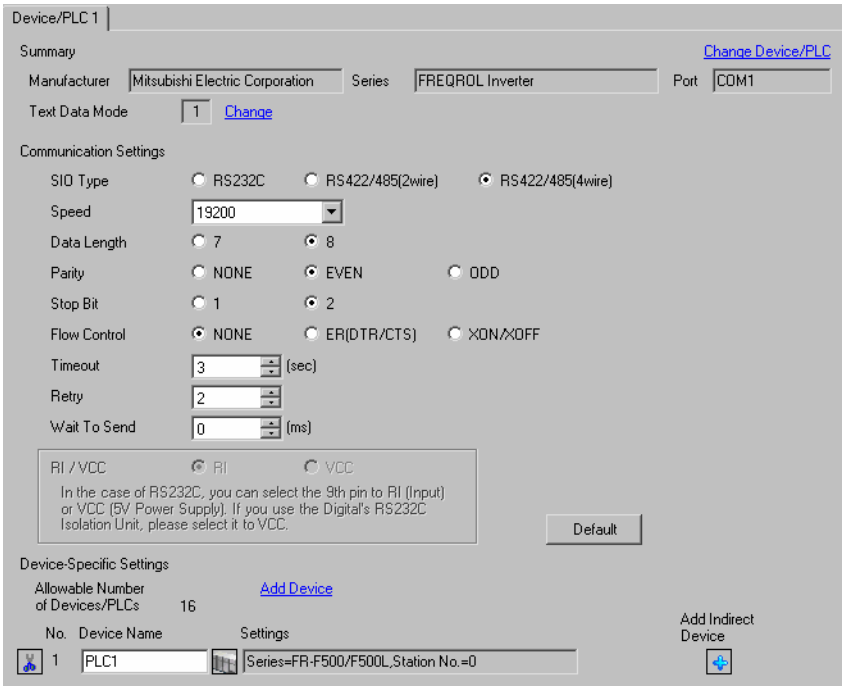
- Always restart the Eternal Device after changing parameters.

3.14 Setting Example 14

■ GP Pro-EX Settings

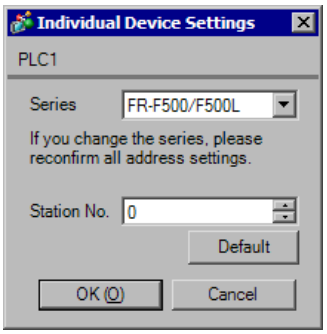
◆ Communication Settings

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



◆ Device Setting

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



■ 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

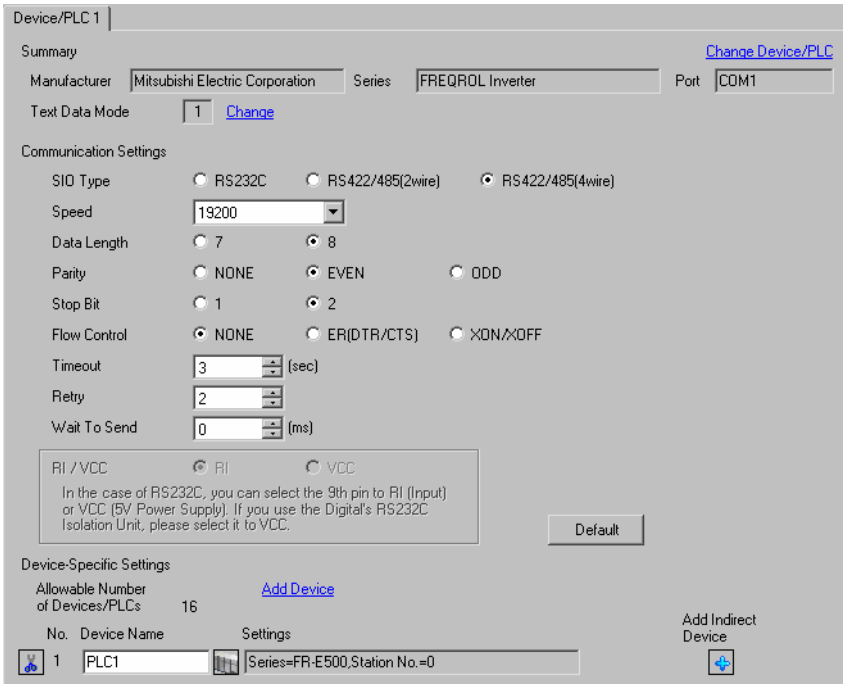
- Always restart the Eternal Device after changing parameters.

3.15 Setting Example 15

■ GP Pro-EX Settings

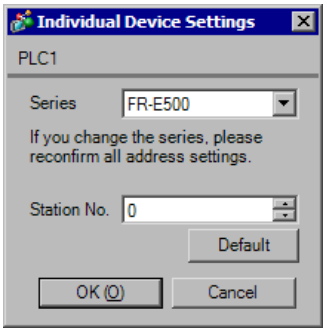
◆ Communication Settings

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



◆ Device Setting

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



■ 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

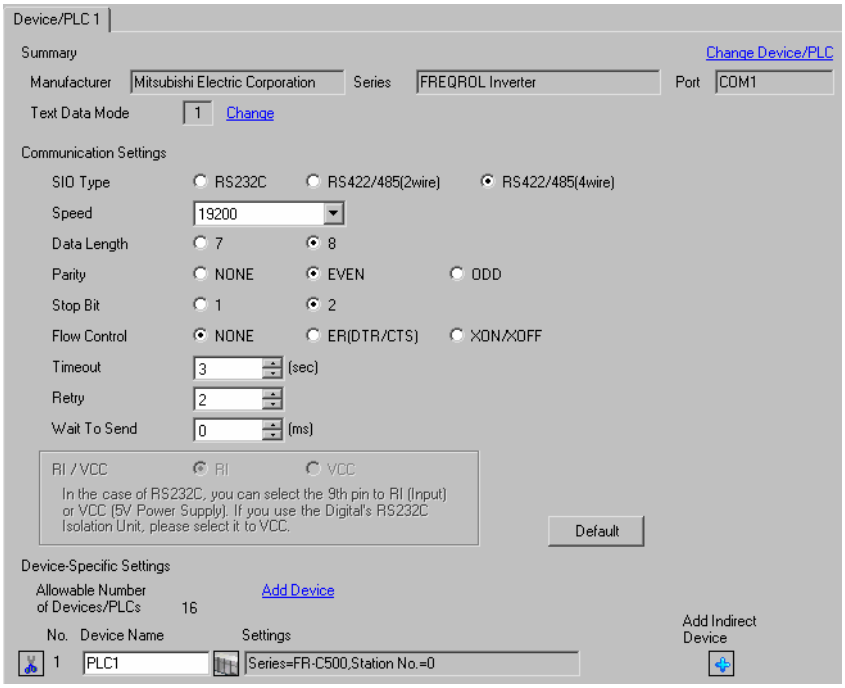
- Always restart the Eternal Device after changing parameters.

3.16 Setting Example 16

■ GP Pro-EX Settings

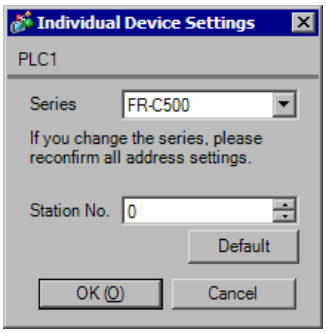
◆ Communication Settings

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



◆ Device Setting

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



■ 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

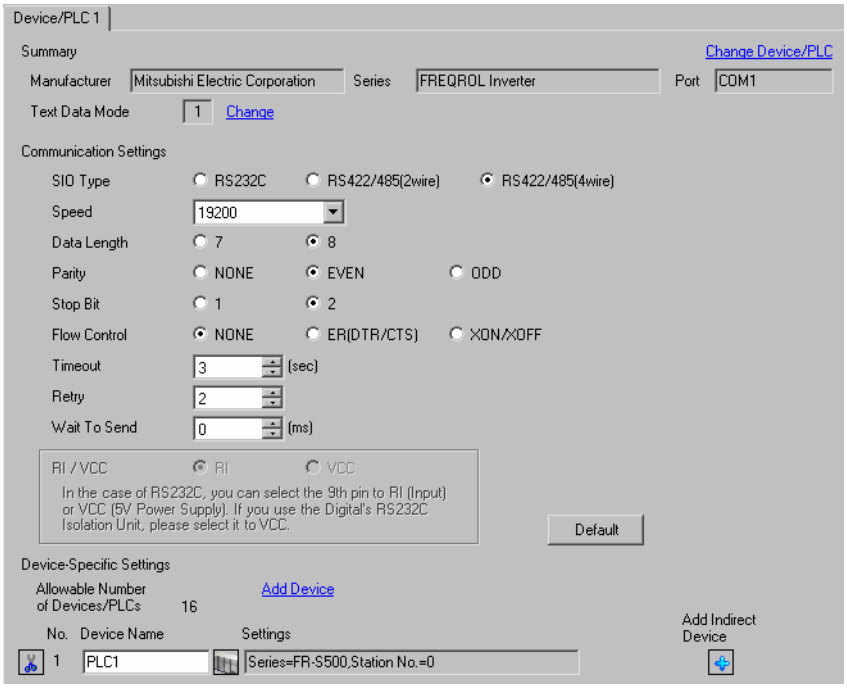
- Always restart the Eternal Device after changing parameters.

3.17 Setting Example 17

■ GP Pro-EX Settings

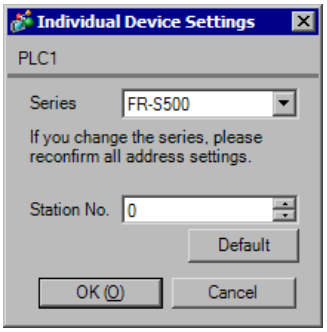
◆ Communication Settings

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



◆ Device Setting

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



■ 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

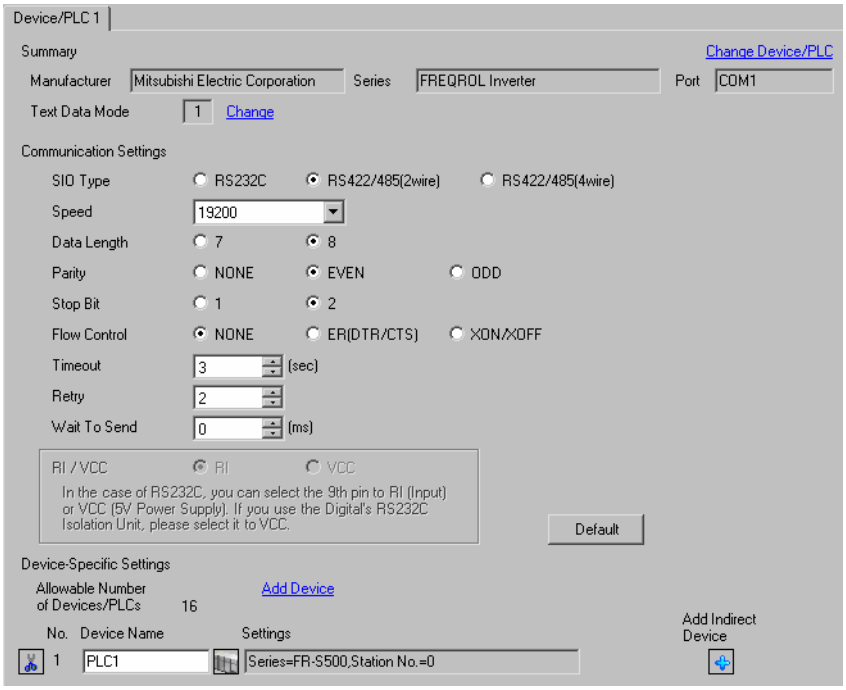
- Always restart the Eternal Device after changing parameters.

3.18 Setting Example 18

■ GP Pro-EX Settings

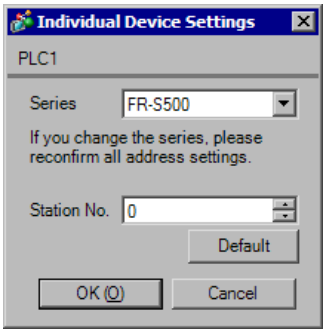
◆ Communication Settings

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



◆ Device Setting

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



■ 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

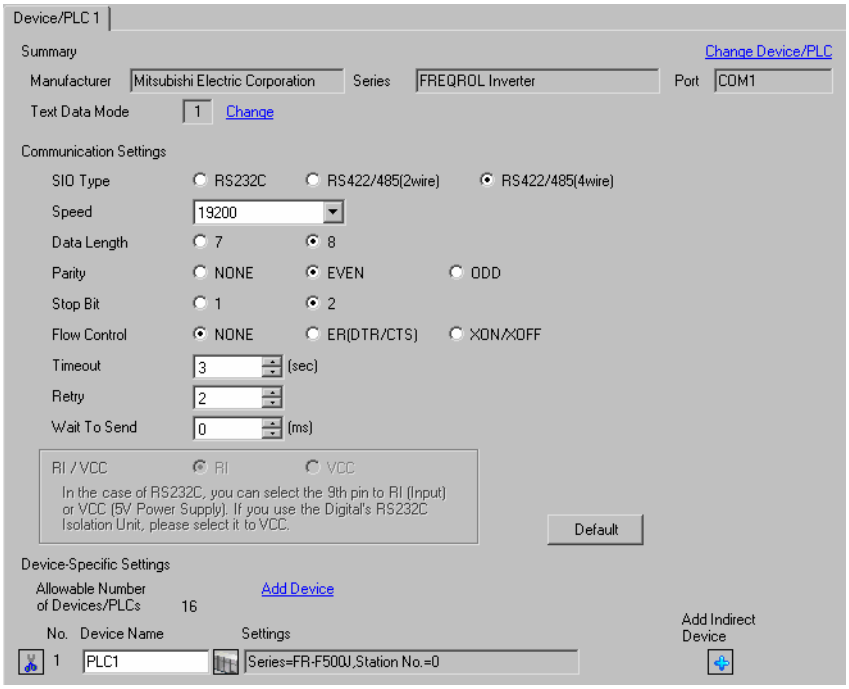
- Always restart the Eternal Device after changing parameters.

3.19 Setting Example 19

■ GP Pro-EX Settings

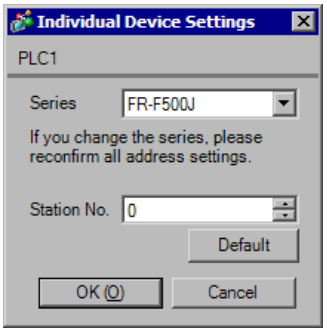
◆ Communication Settings

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



◆ Device Setting

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



■ 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

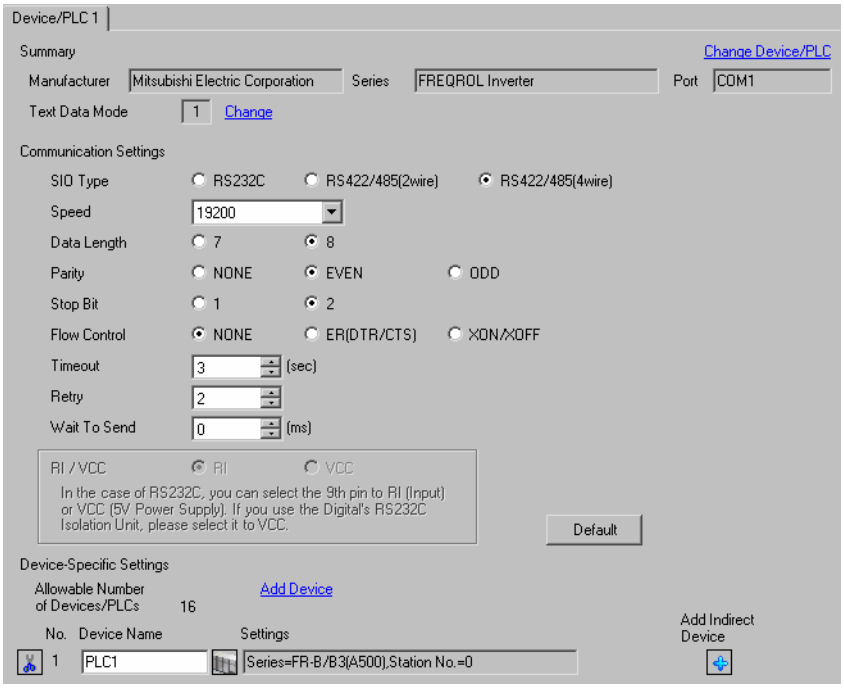
- Always restart the Eternal Device after changing parameters.

3.20 Setting Example 20

■ GP Pro-EX Settings

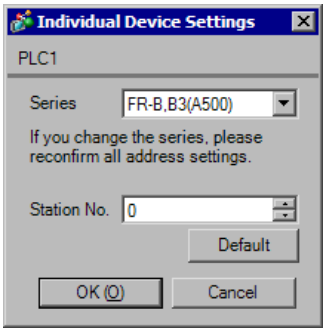
◆ Communication Settings

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



◆ Device Setting

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



■ 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

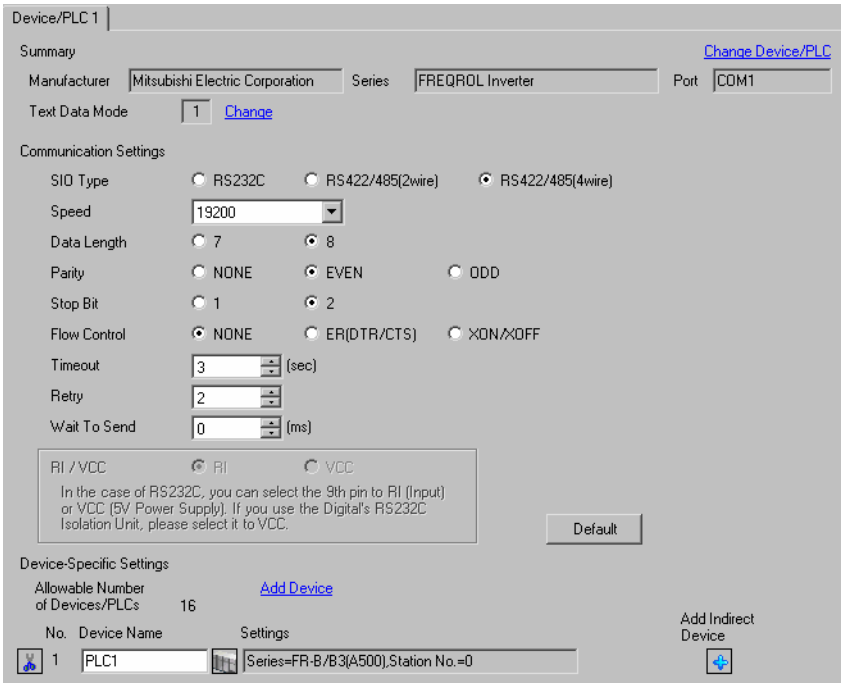
- Always restart the Eternal Device after changing parameters.

3.21 Setting Example 21

■ GP Pro-EX Settings

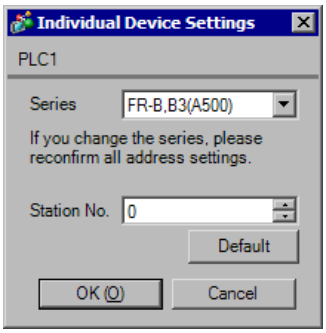
◆ Communication Settings

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



◆ Device Setting

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



■ 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

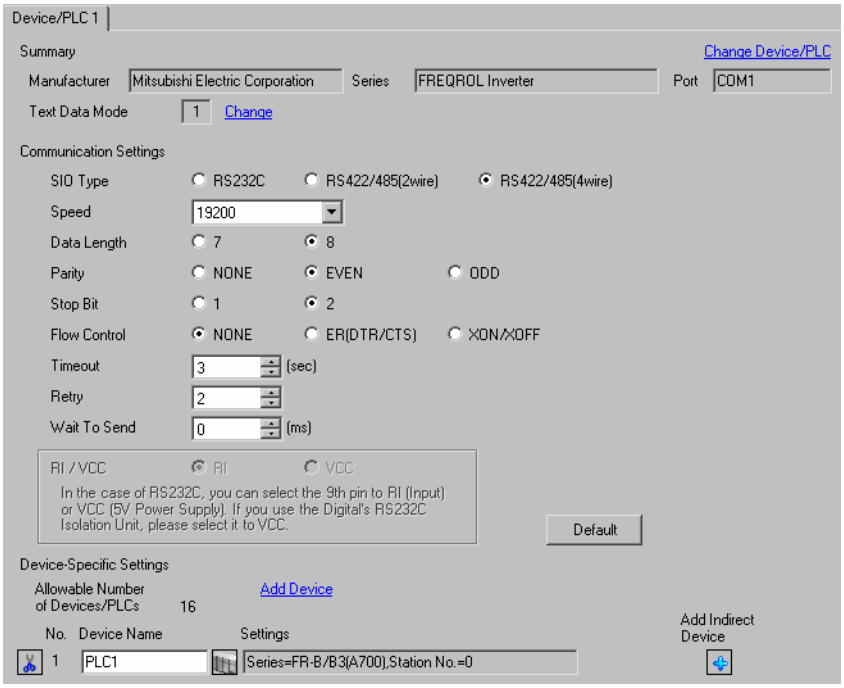
- Always restart the Eternal Device after changing parameters.

3.22 Setting Example 22

■ GP Pro-EX Settings

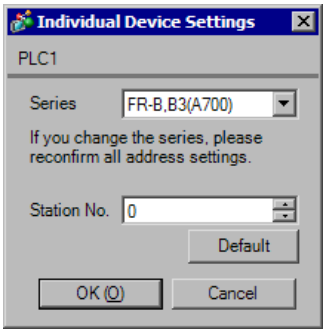
◆ Communication Settings

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



◆ Device Setting

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



■ 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

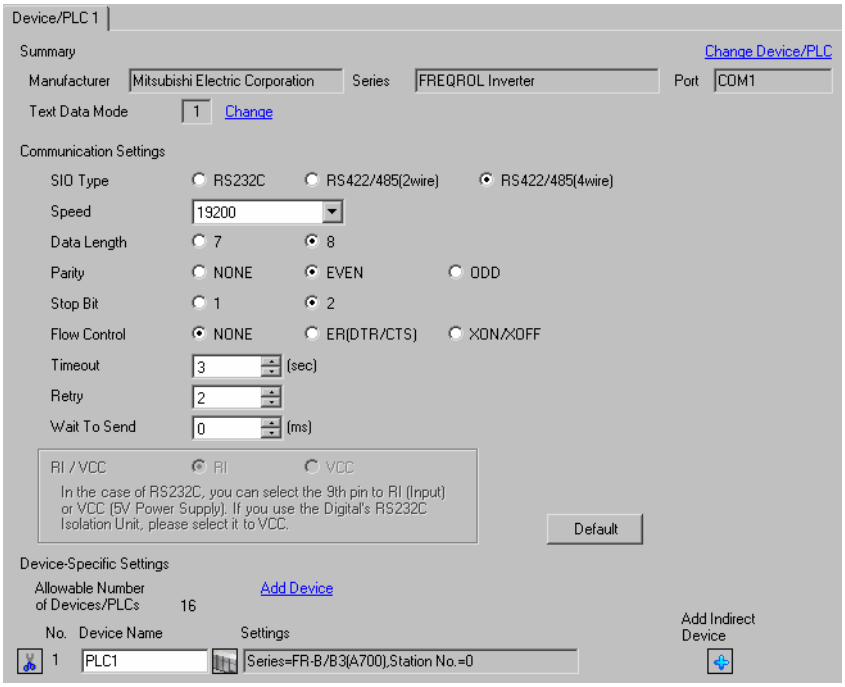
- Always restart the Eternal Device after changing parameters.

3.23 Setting Example 23

■ GP Pro-EX Settings

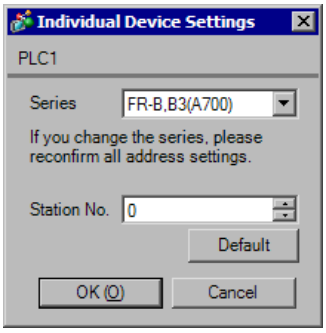
◆ Communication Settings

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



◆ Device Setting

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



■ 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

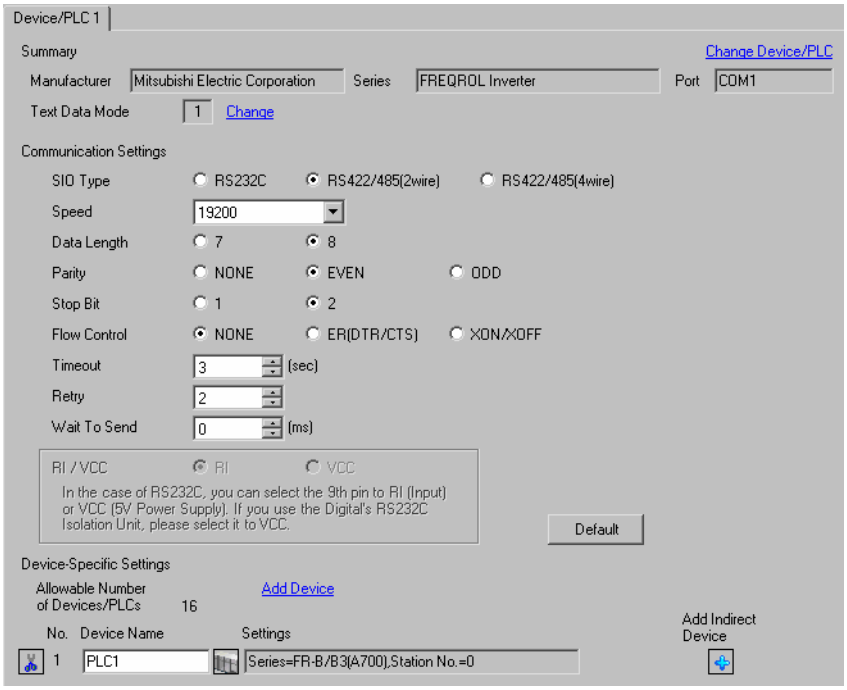
- Always restart the Eternal Device after changing parameters.

3.24 Setting Example 24

■ GP Pro-EX Settings

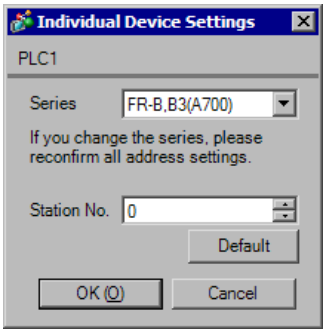
◆ Communication Settings

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



◆ Device Setting

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



■ 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 Eternal Device after changing parameters.

4 Setup Items

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

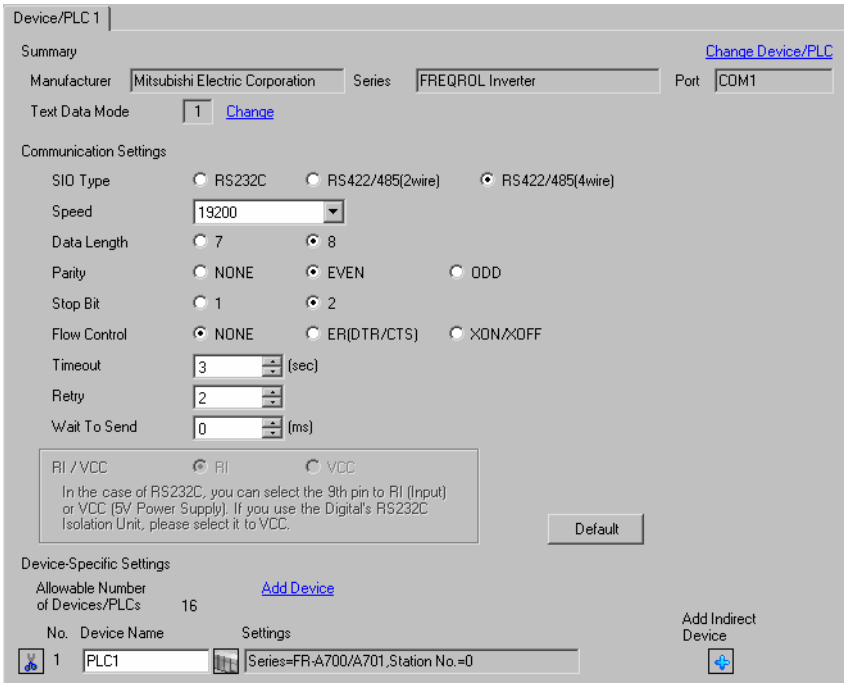
The setting of each parameter must match that of the External Device.

☞"3 Communication Settings" (page 10)

4.1 Setup Items in GP Pro-EX

■ Communication Settings

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



Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. IMPORTANT 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 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.

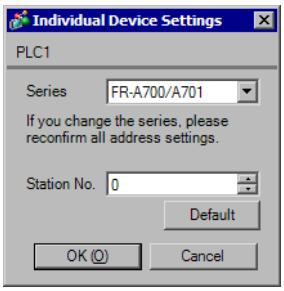
NOTE

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

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

■ Device Setting

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



Setup Items	Setup Description
Series	Select 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 Offline Mode

NOTE

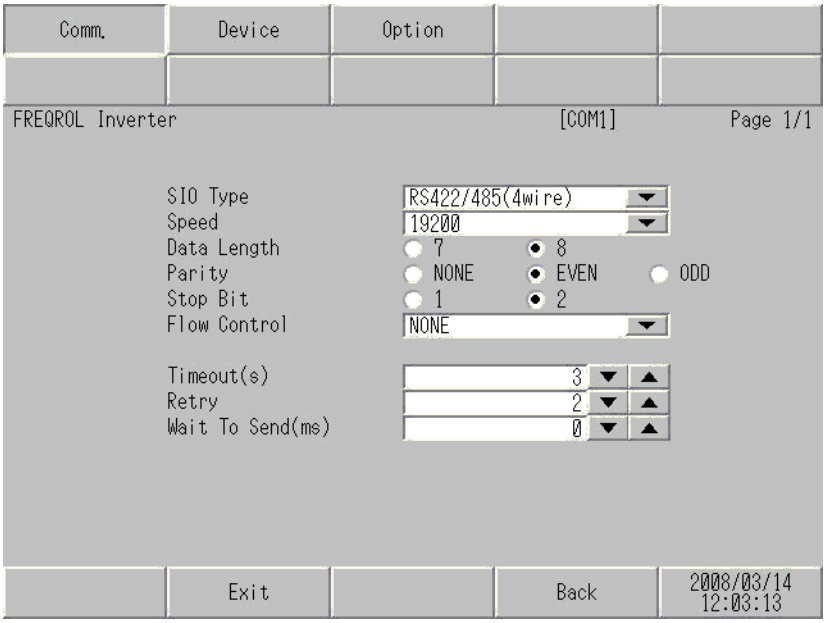
- Refer to the Maintenance/Troubleshooting guide for information on how to enter offline mode or about the operation.

  Cf. Maintenance/Troubleshooting Guide "Offline Mode"

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

■ Communication Settings

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



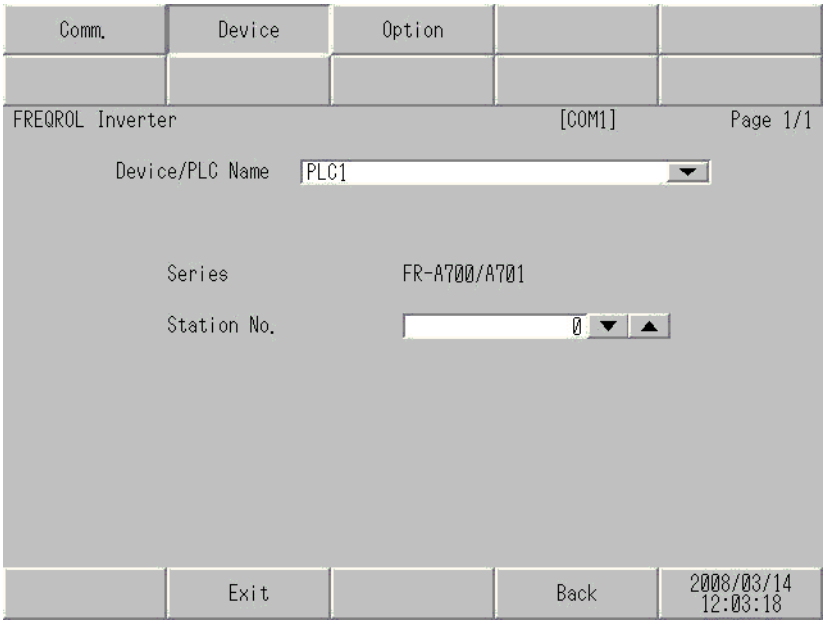
Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. **IMPORTANT** In the communication setting, confirm the serial interface specifications of the Display and set [SIO Type] correctly. If you select an SIO type the serial interface does not support, we 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.

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 (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.
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].



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
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST[*2] (COM2) LT3000 (COM1) IPC[*3]	1A	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
	1B	User-created cable	
GP3000[*4] (COM2)	1C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	1D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	1E	User-created cable	
GP4000[*5] (COM2) GP-4201T (COM1)	1F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*6] + User-created cable	
	1B	User-created cable	

*1 All GP3000 models except AGP-3302B

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

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

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

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

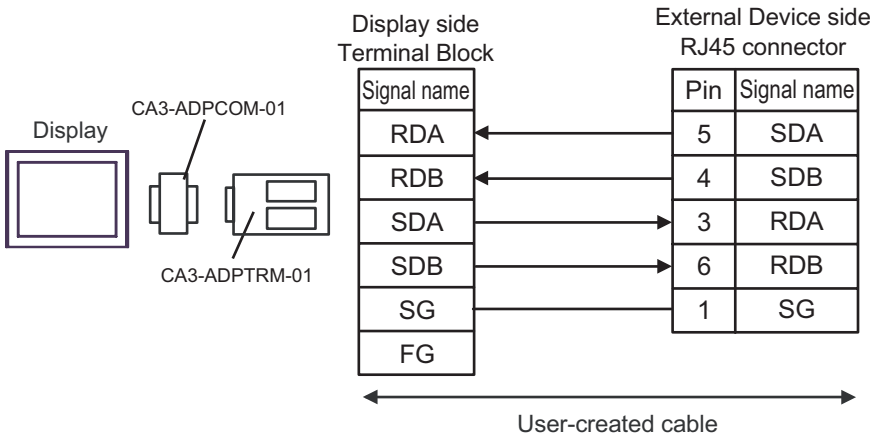
*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 1A.

Recommended cables and connectors

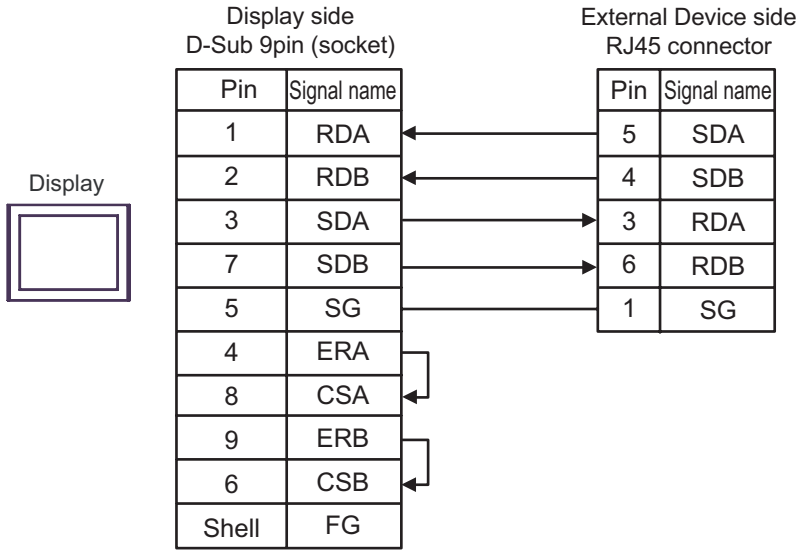
Item	Type	Manufacturer
10BASE-T cable	SGLPEV-T 0.5mmx4P*1	Mitsubishi Electric Corporation
RJ45 connector	5-554720-3	Tyco Electronics AMP K.K.

*1 Do not use pin number 2 or 8.

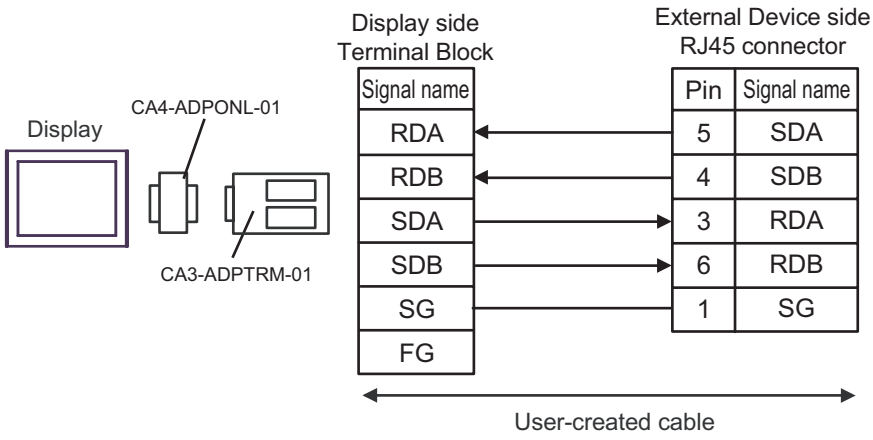
1A)


Display side
Terminal Block
External Device side
RJ45 connector
Display
CA3-ADPCOM-01
CA3-ADPTRM-01
Signal name
RDA
RDB
SDA
SDB
SG
FG
Pin
Signal name
5
SDA
4
SDB
3
RDA
6
RDB
1
SG
User-created cable

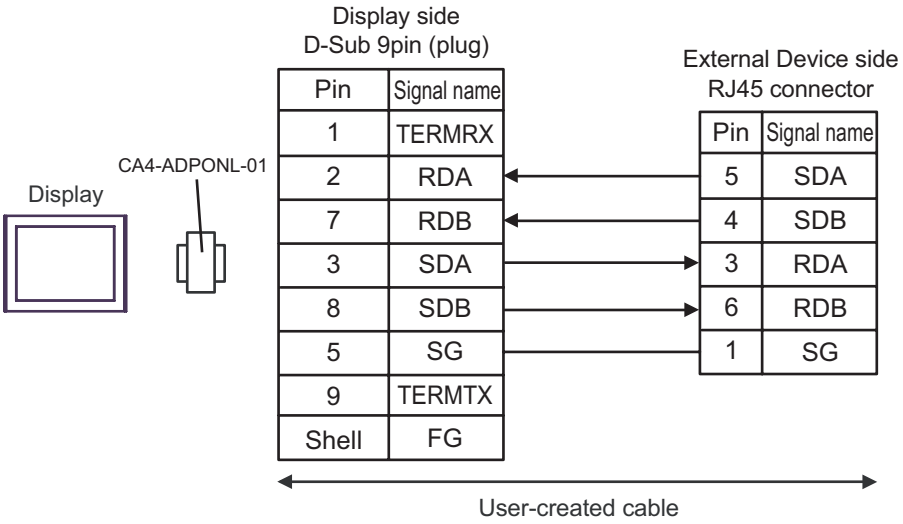
1B)


Display side
D-Sub 9pin (socket)
External Device side
RJ45 connector
Display
Pin
Signal name
1
RDA
2
RDB
3
SDA
7
SDB
5
SG
4
ERA
8
CSA
9
ERB
6
CSB
Shell
FG
Pin
Signal name
5
SDA
4
SDB
3
RDA
6
RDB
1
SG

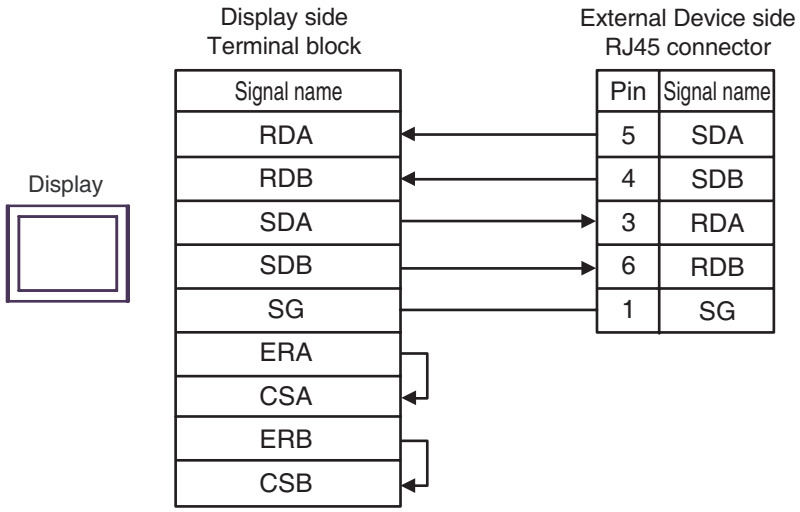
1C)


Display side
Terminal Block
External Device side
RJ45 connector
Display
CA4-ADPONL-01
CA3-ADPTRM-01
Signal name
RDA
RDB
SDA
SDB
SG
FG
Pin
Signal name
5
SDA
4
SDB
3
RDA
6
RDB
1
SG
User-created cable

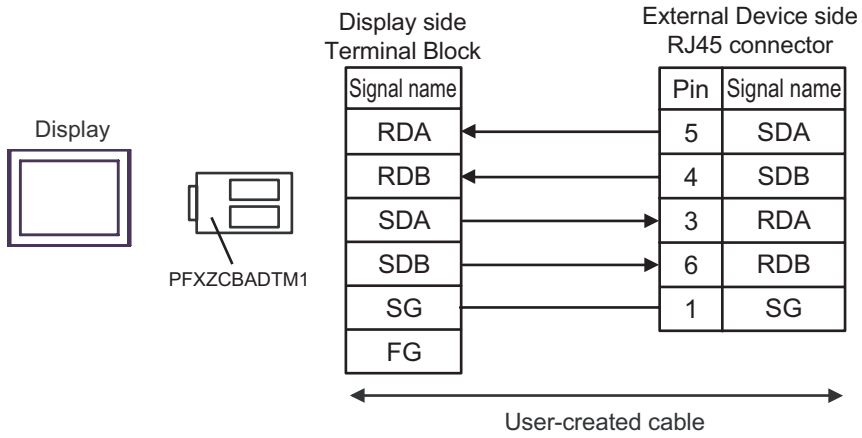
1D)


Display side
D-Sub 9pin (plug)
External Device side
RJ45 connector
Display
CA4-ADPONL-01
Pin
Signal name
1
TERMRX
2
RDA
7
RDB
3
SDA
8
SDB
5
SG
9
TERMTX
Shell
FG
Pin
Signal name
5
SDA
4
SDB
3
RDA
6
RDB
1
SG
User-created cable

1E)


Display side
Terminal block
External Device side
RJ45 connector
Signal name
RDA
RDB
SDA
SDB
SG
ERA
CSA
ERB
CSB
Pin
Signal name
5
SDA
4
SDB
3
RDA
6
RDB
1
SG
Display

1F)


Display side
Terminal Block
External Device side
RJ45 connector
Signal name
RDA
RDB
SDA
SDB
SG
FG
Pin
Signal name
5
SDA
4
SDB
3
RDA
6
RDB
1
SG
Display
PFXZCBADTM1
User-created cable

Cable Diagram 2

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST[*2] (COM2) LT3000 (COM1) IPC[*3]	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	2B	User-created cable	
GP3000[*4] (COM2)	2C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	2D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	2E	User-created cable	
GP4000[*5] (COM2) GP-4201T (COM1)	2F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*6] + User-created cable	
	2B	User-created cable	

*1 All GP3000 models except AGP-3302B

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

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

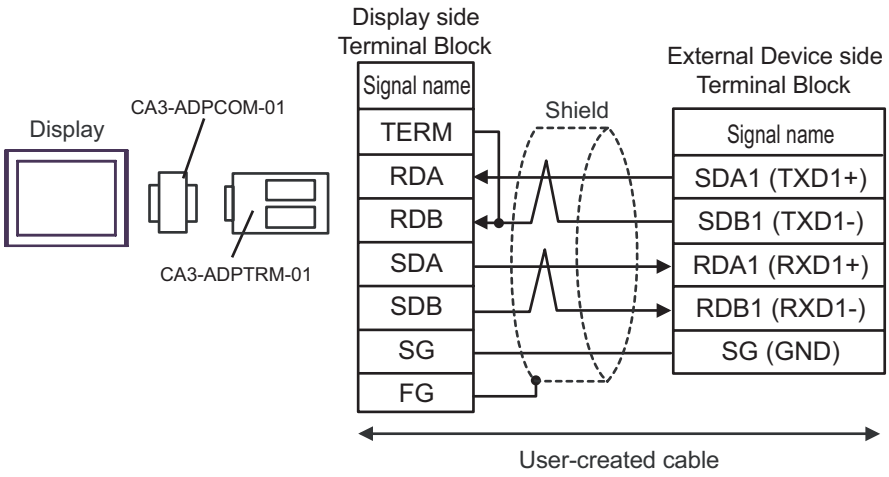
*4 All GP3000 models except GP-3200 series and AGP-3302B

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

*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 2A.

2A)

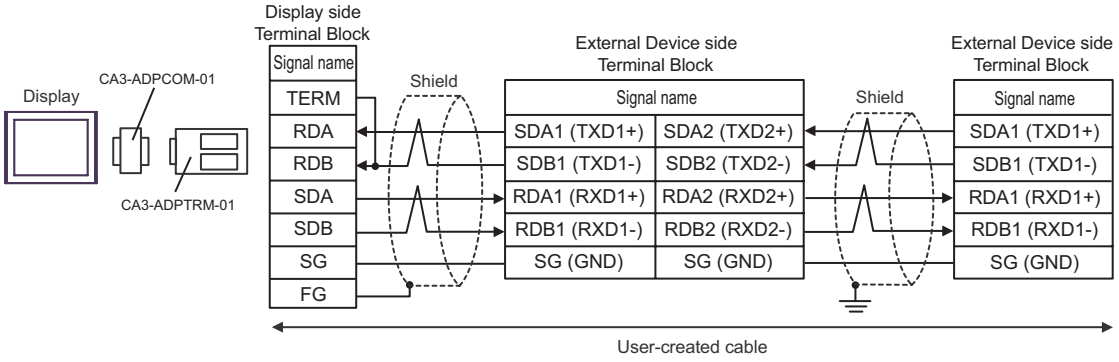
- 1:1 Connection



NOTE

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

- 1:n Connection

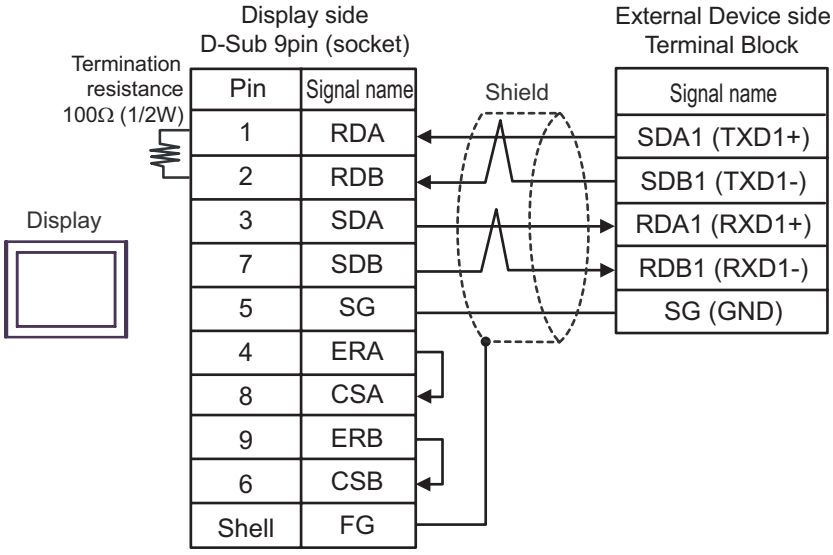


NOTE

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

2B)

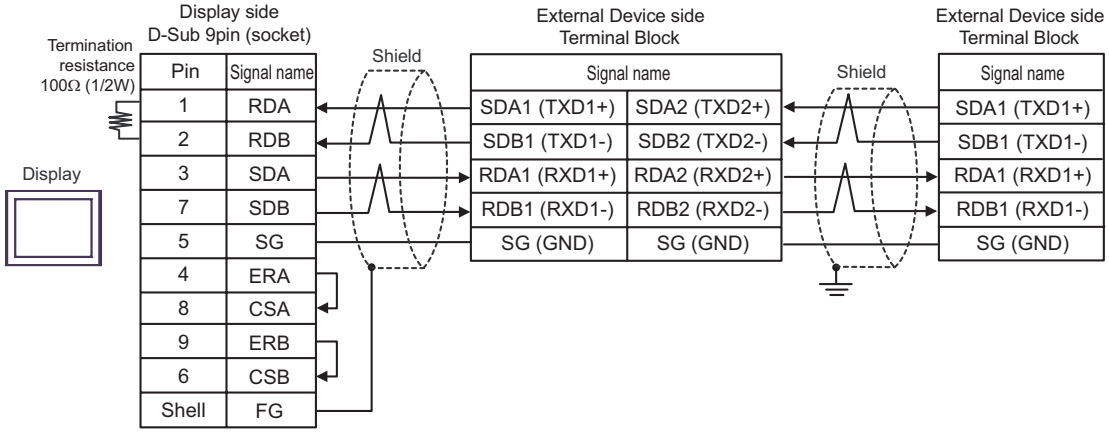
- 1:1 Connection



NOTE

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

- 1:n Connection

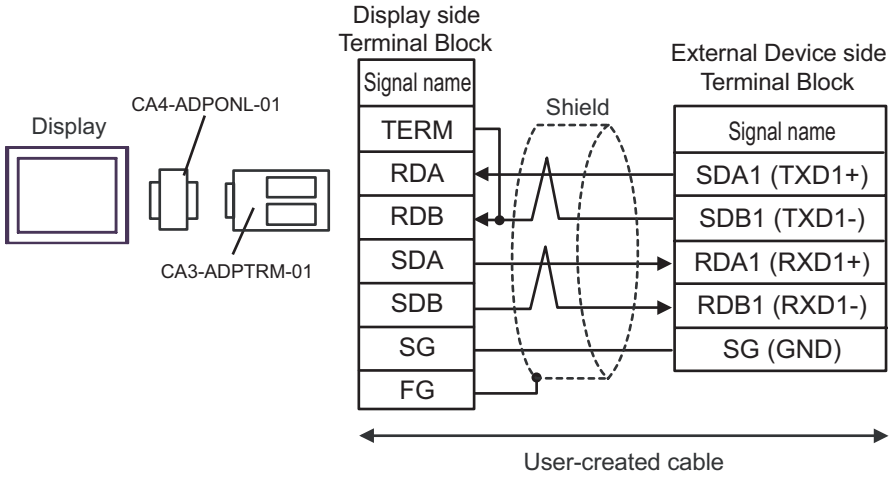


NOTE

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

2C)

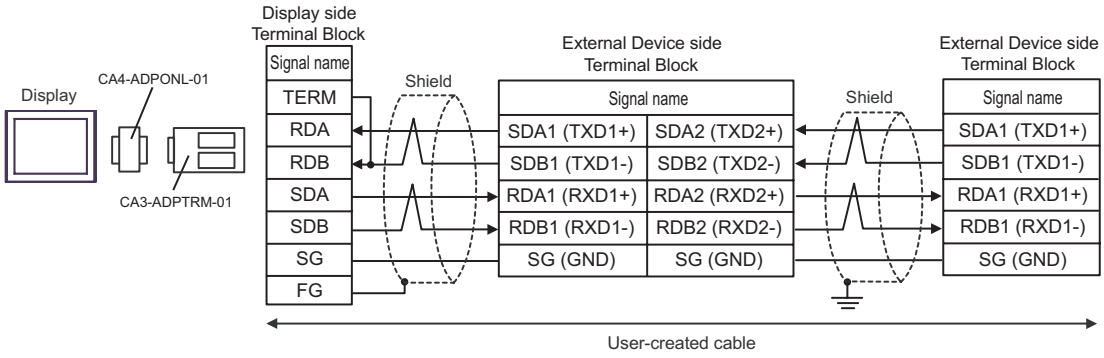
- 1:1 Connection



NOTE

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

- 1:n Connection

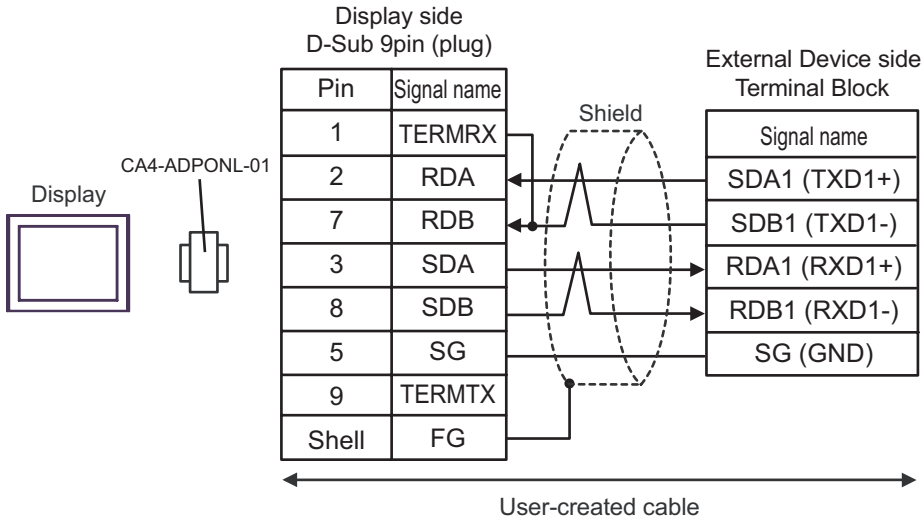


NOTE

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

2D)

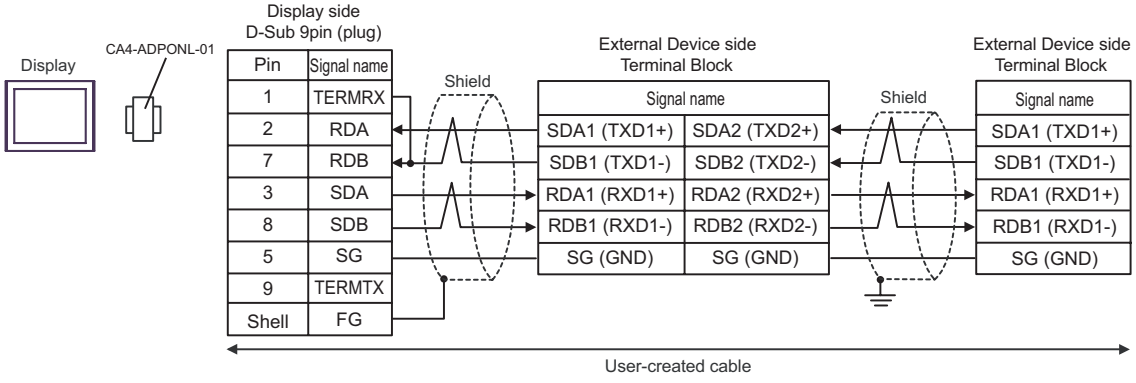
- 1:1 Connection



NOTE

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

- 1:n Connection

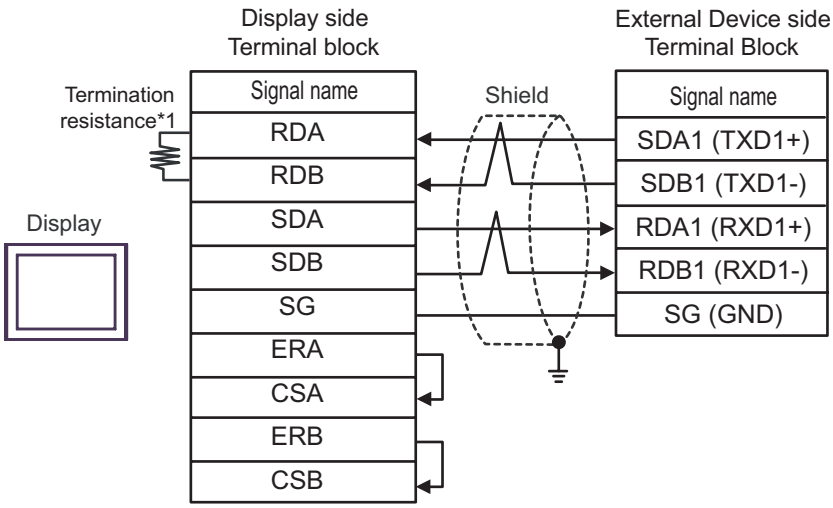


NOTE

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

2E)

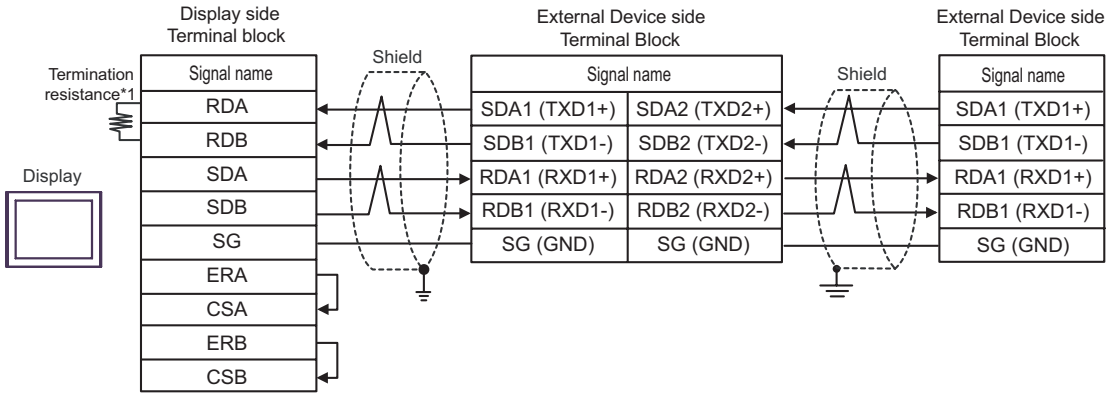
- 1:1 Connection



NOTE

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

- 1:n Connection



NOTE

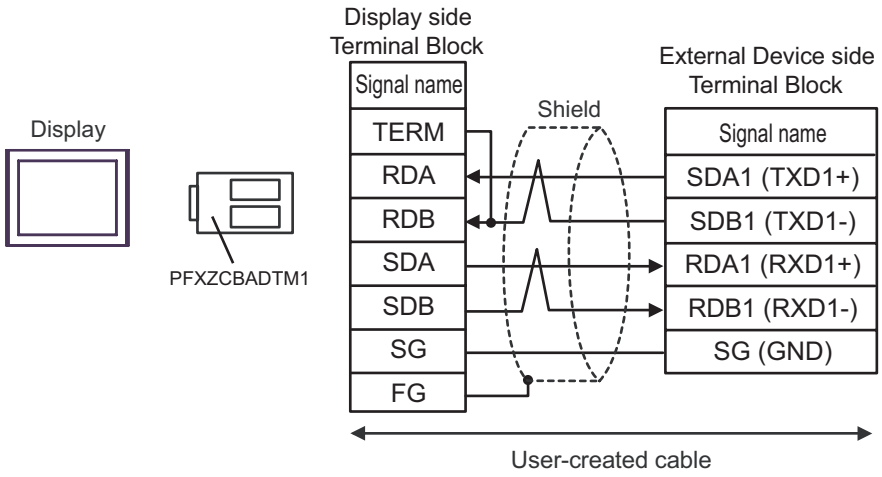
- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

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

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

2F)

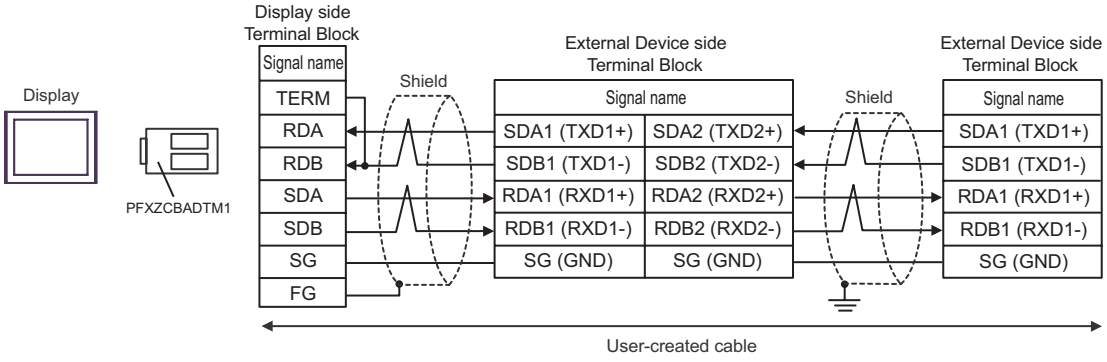
- 1:1 Connection



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
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST[*2] (COM2) LT3000 (COM1)	3A	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
	3B	User-created cable	
GP3000[*3] (COM2)	3C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	3D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	3E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	3F	User-created cable	
GP-4106 (COM1)	3G	User-created cable	
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	3H	User-created cable	
GP4000[*6] (COM2) GP-4201T (COM1)	3I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*7] + User-created cable	
	3B	User-created cable	
LT-4*01TM (COM1)	3J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

*1 All GP3000 models except AGP-3302B

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

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

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

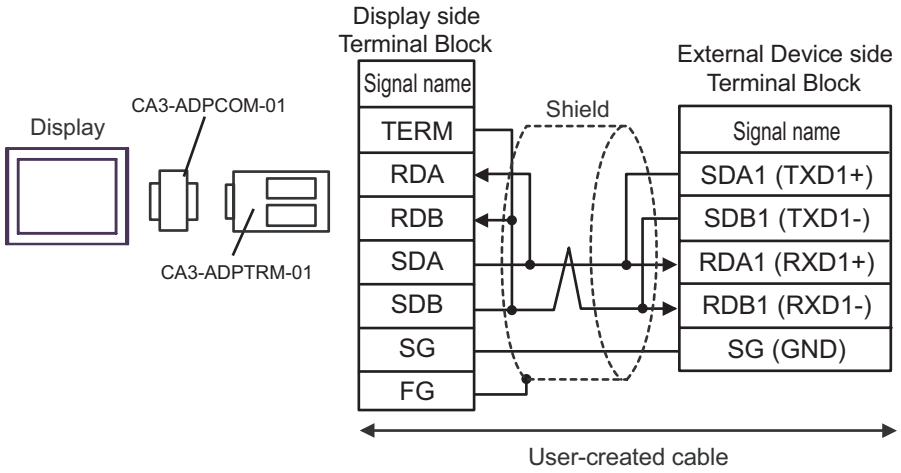
*5 Except GP-4203T

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

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

3A)

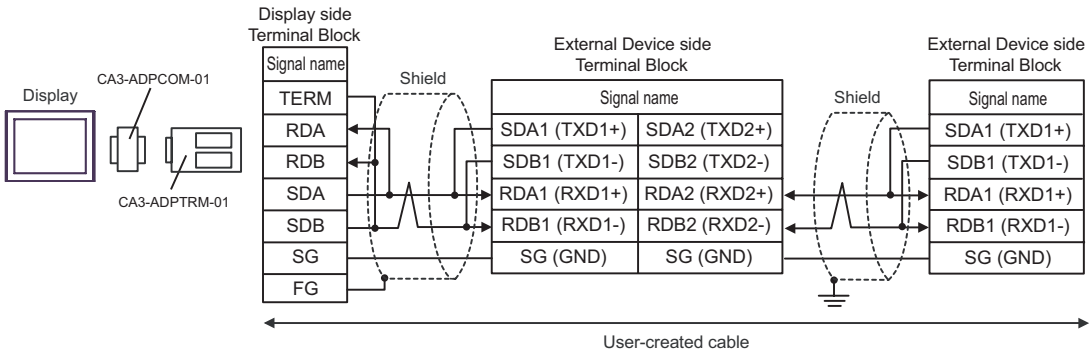
- 1:1 Connection



NOTE

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

- 1:n Connection

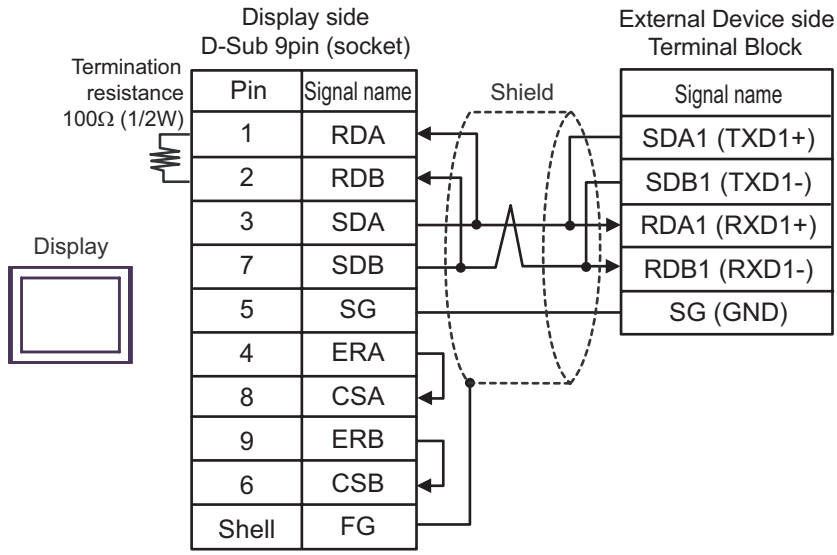


NOTE

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

3B)

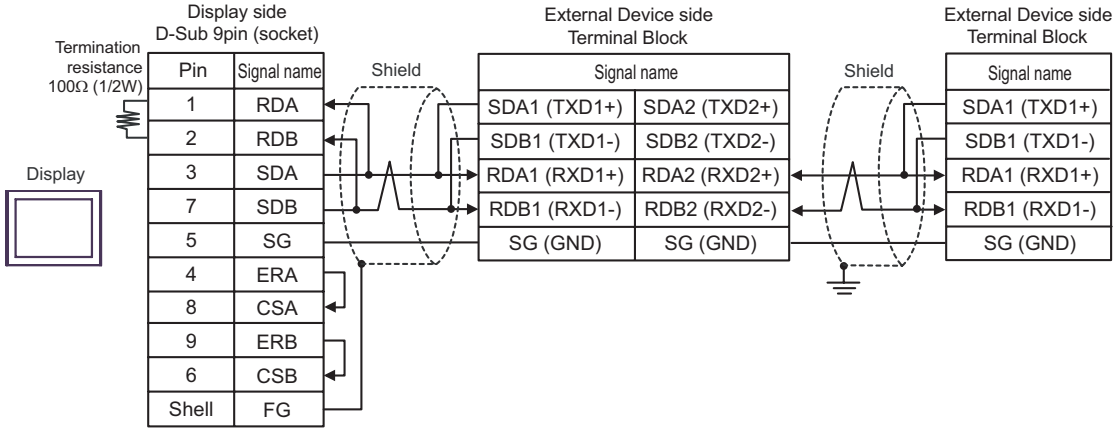
- 1:1 Connection



NOTE

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

- 1:n Connection

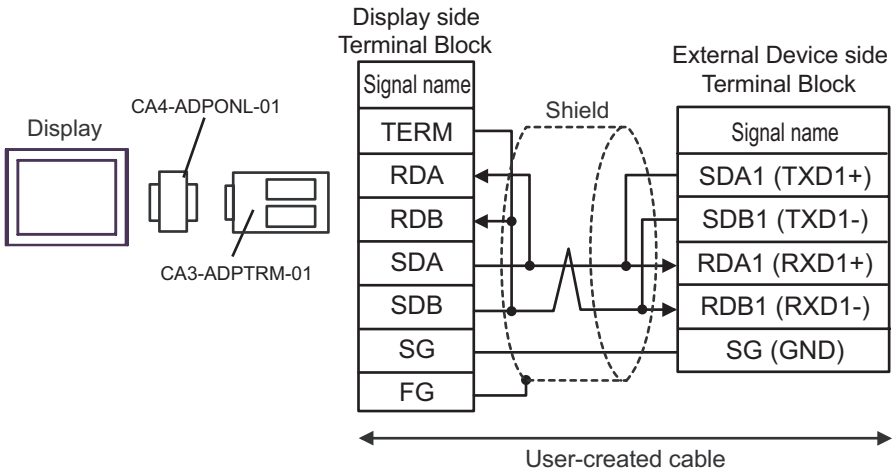


NOTE

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

3C)

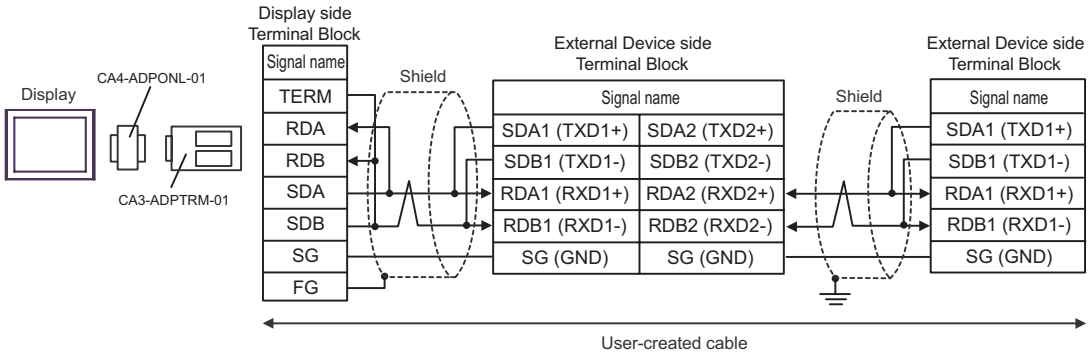
- 1:1 Connection



NOTE

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

- 1:n Connection

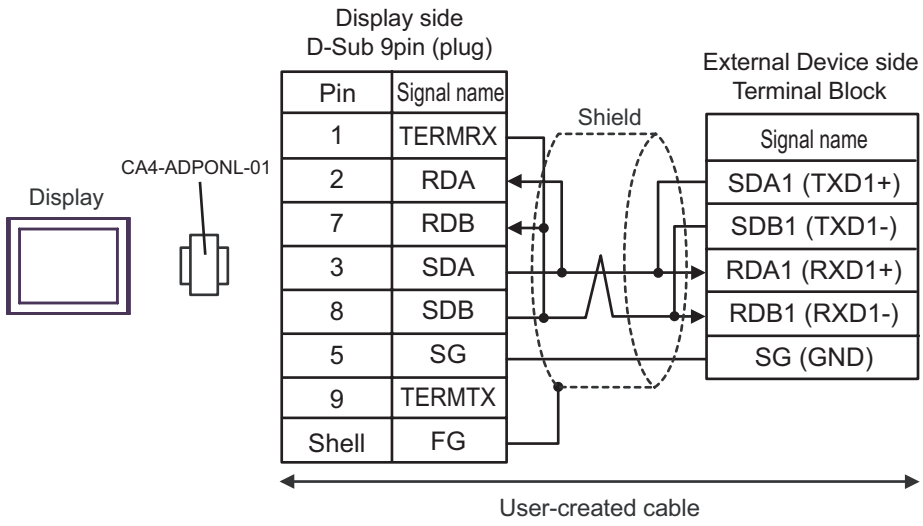


NOTE

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

3D)

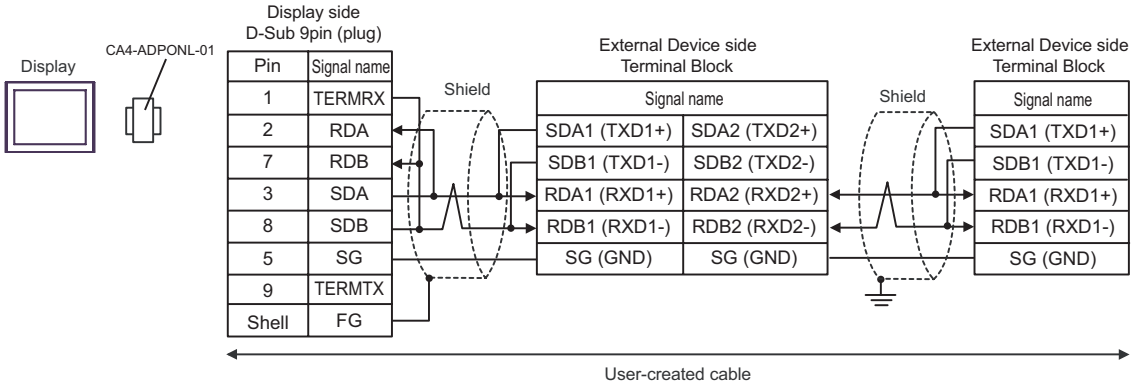
- 1:1 Connection



NOTE

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

- 1:n Connection

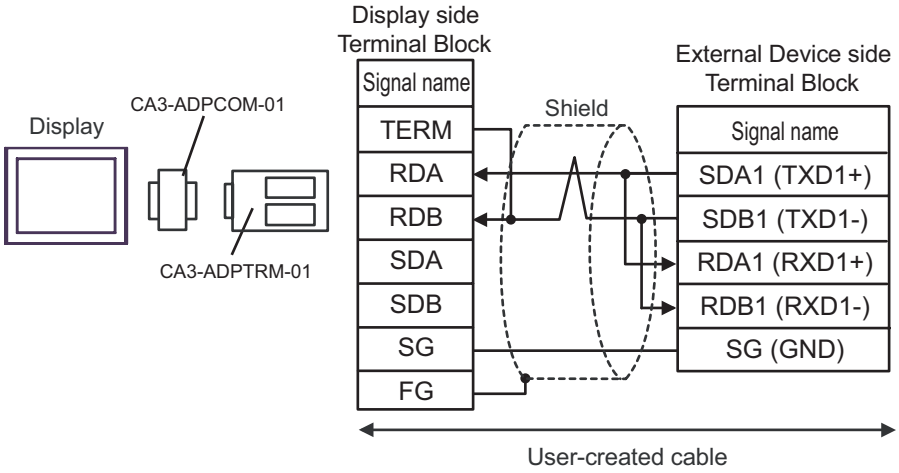


NOTE

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

3E)

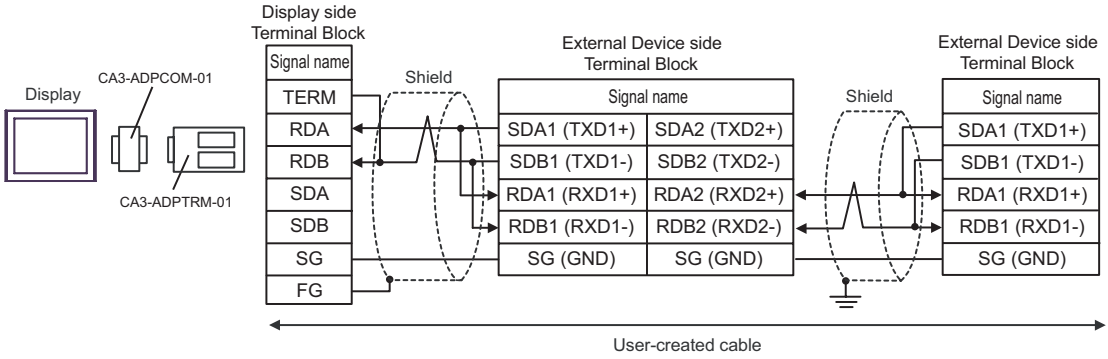
- 1:1 Connection



NOTE

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

- 1:n Connection

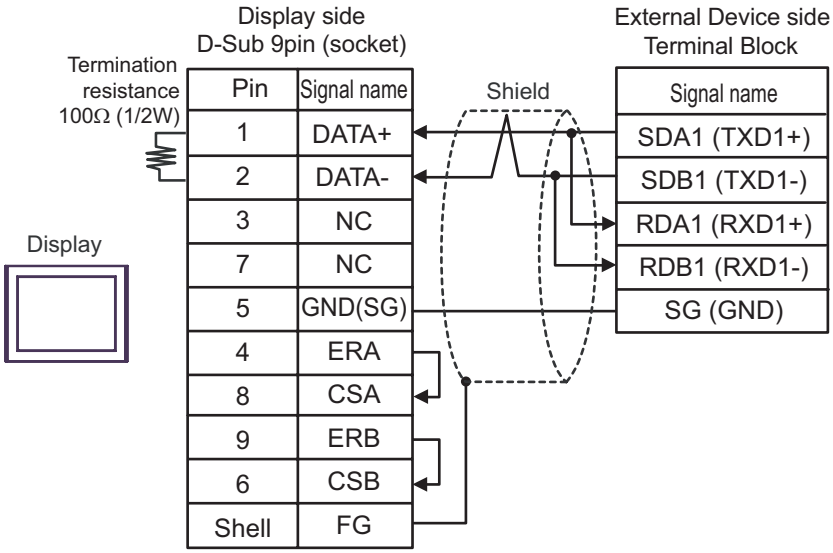


NOTE

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

3F)

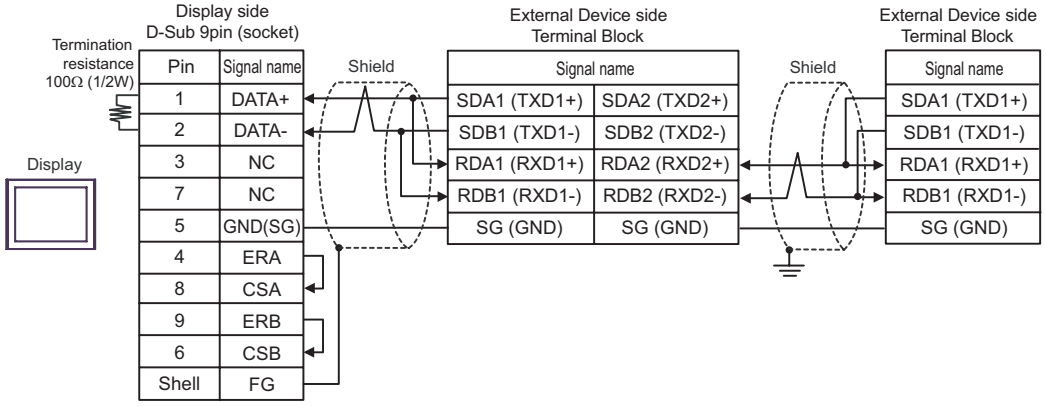
- 1:1 Connection



NOTE

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

- 1:n Connection

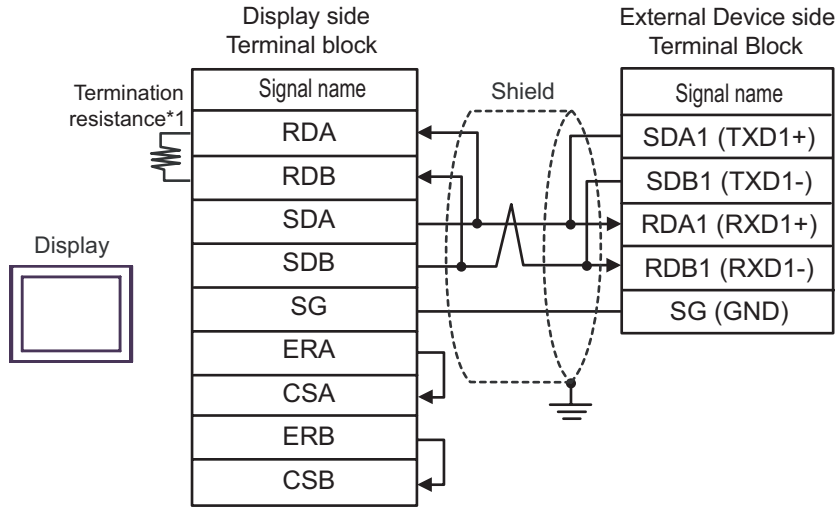


NOTE

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

3G)

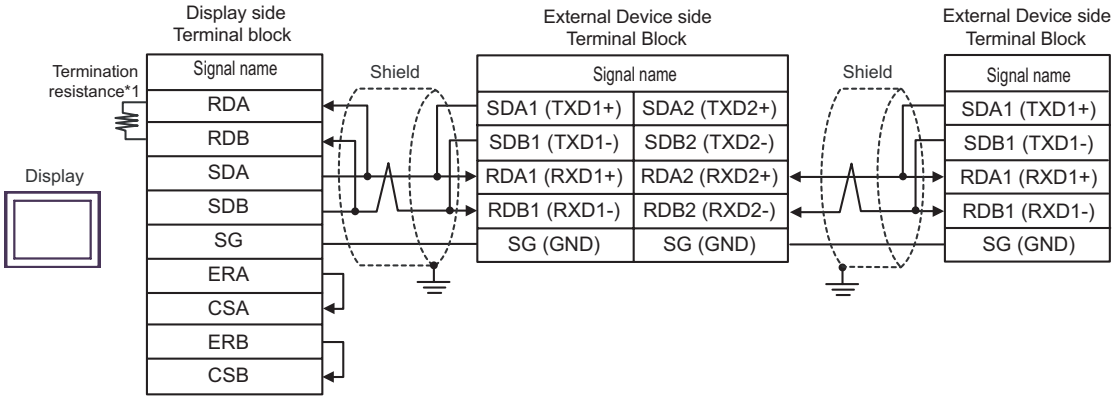
- 1:1 Connection



NOTE

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

- 1:n Connection



NOTE

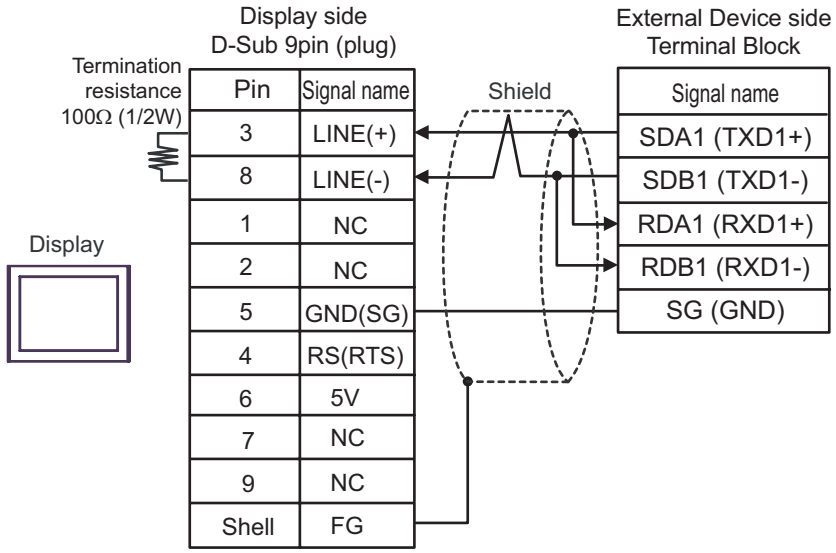
- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

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

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

3H)

- 1:1 Connection



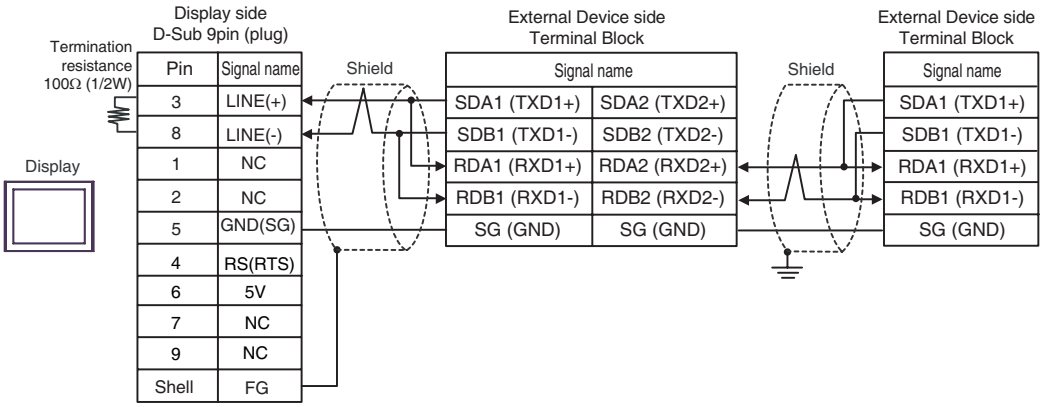
IMPORTANT

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

NOTE

- Please set the terminating resistor switch of the External Device to the "100Ω" position.
- In COM on the GP-4107, the SG and FG terminals are isolated.

- 1:n Connection



IMPORTANT

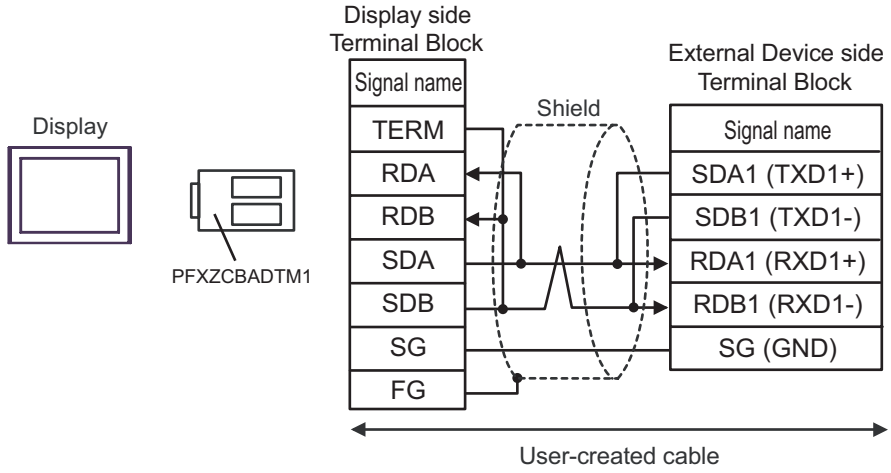
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.
- In COM on the GP-4107, the SG and FG terminals are isolated.

3I)

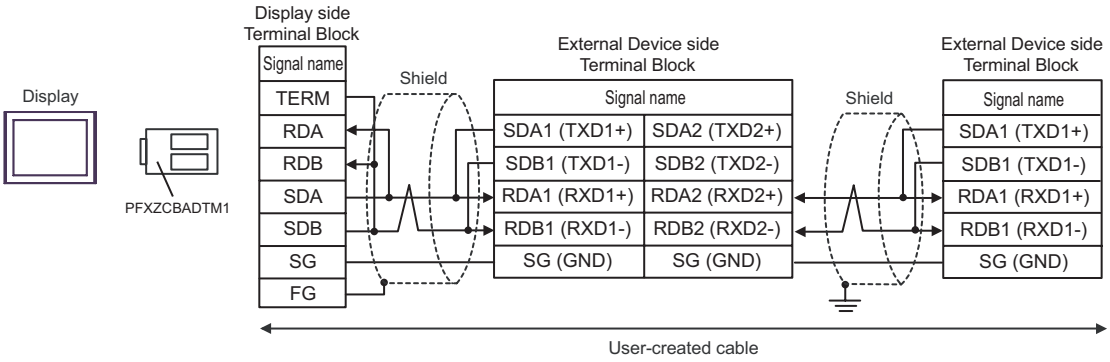
- 1:1 Connection



NOTE

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

- 1:n Connection

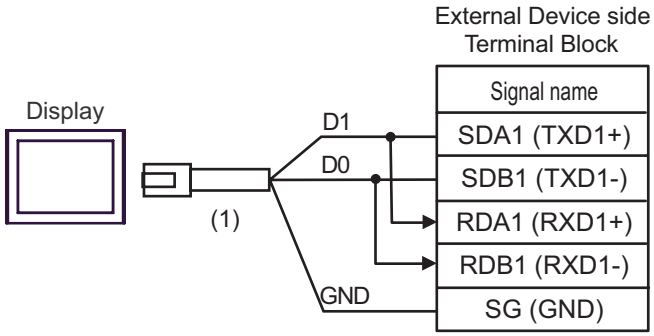


NOTE

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

3J)

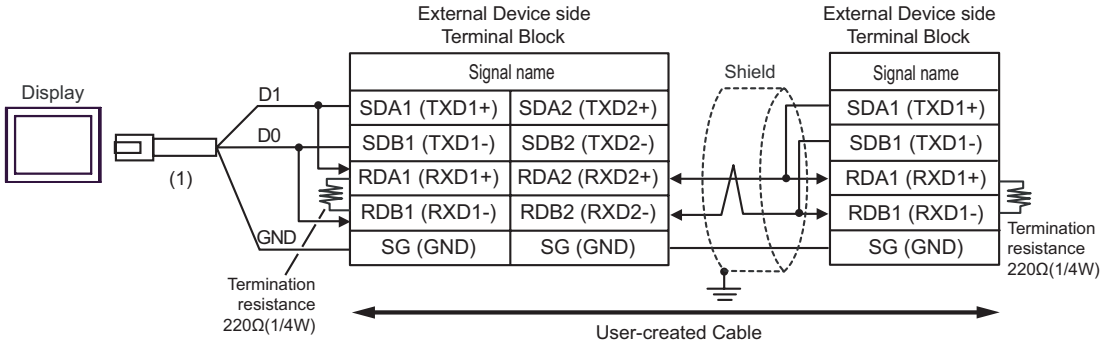
- 1:1 Connection



NOTE

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

- 1:n Connection



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

Cable Diagram 4

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST[*2] (COM2) LT3000 (COM1) IPC[*3]	4A	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
	4B	User-created cable	
GP3000[*4] (COM2)	4C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	4D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	4E	User-created cable	
GP4000[*5] (COM2) GP-4201T (COM1)	4F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*6] + User-created cable	
	4B	User-created cable	

*1 All GP3000 models except AGP-3302B

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

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

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

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

*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 4A.

Recommended cables and connectors

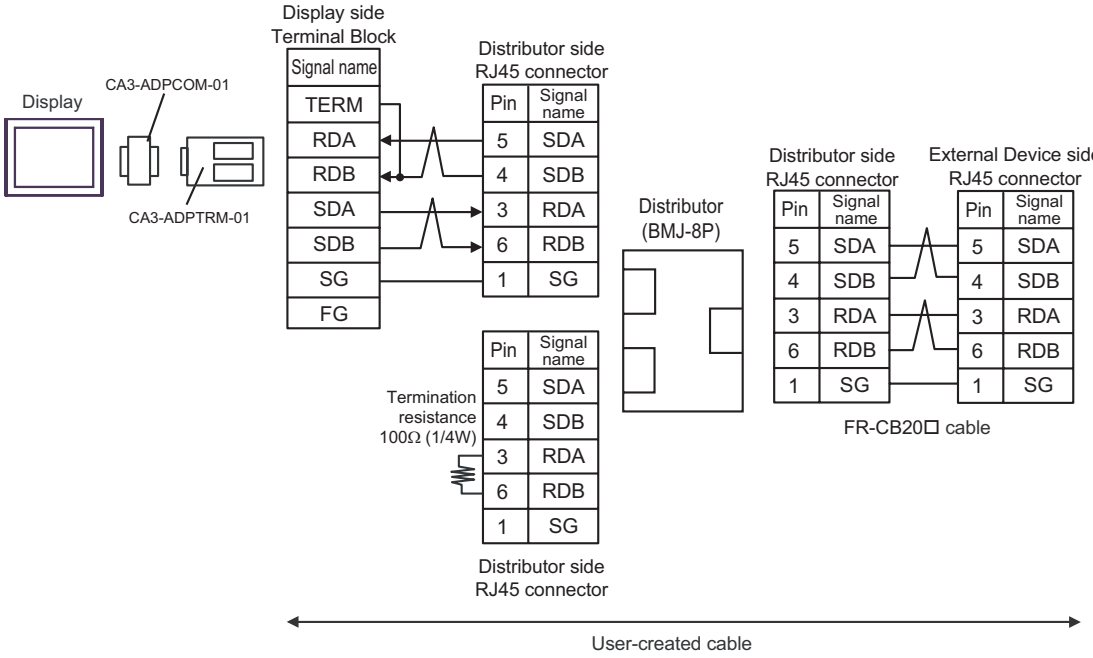
Item	Type	Manufacturer
Cable	FR-CB20□[*1]	Mitsubishi Electric Corporation
10BASE-T cable	SGLPEV-T0.5mmx4P[*2]	Mitsubishi Electric Corporation
RJ45 connector	5-554720-3	Tyco Electronics AMP K.K.
RS-485 distributor	BMJ-8	HACHIKO ELECTRIC CO.,LTD
	BMJ-8P	

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

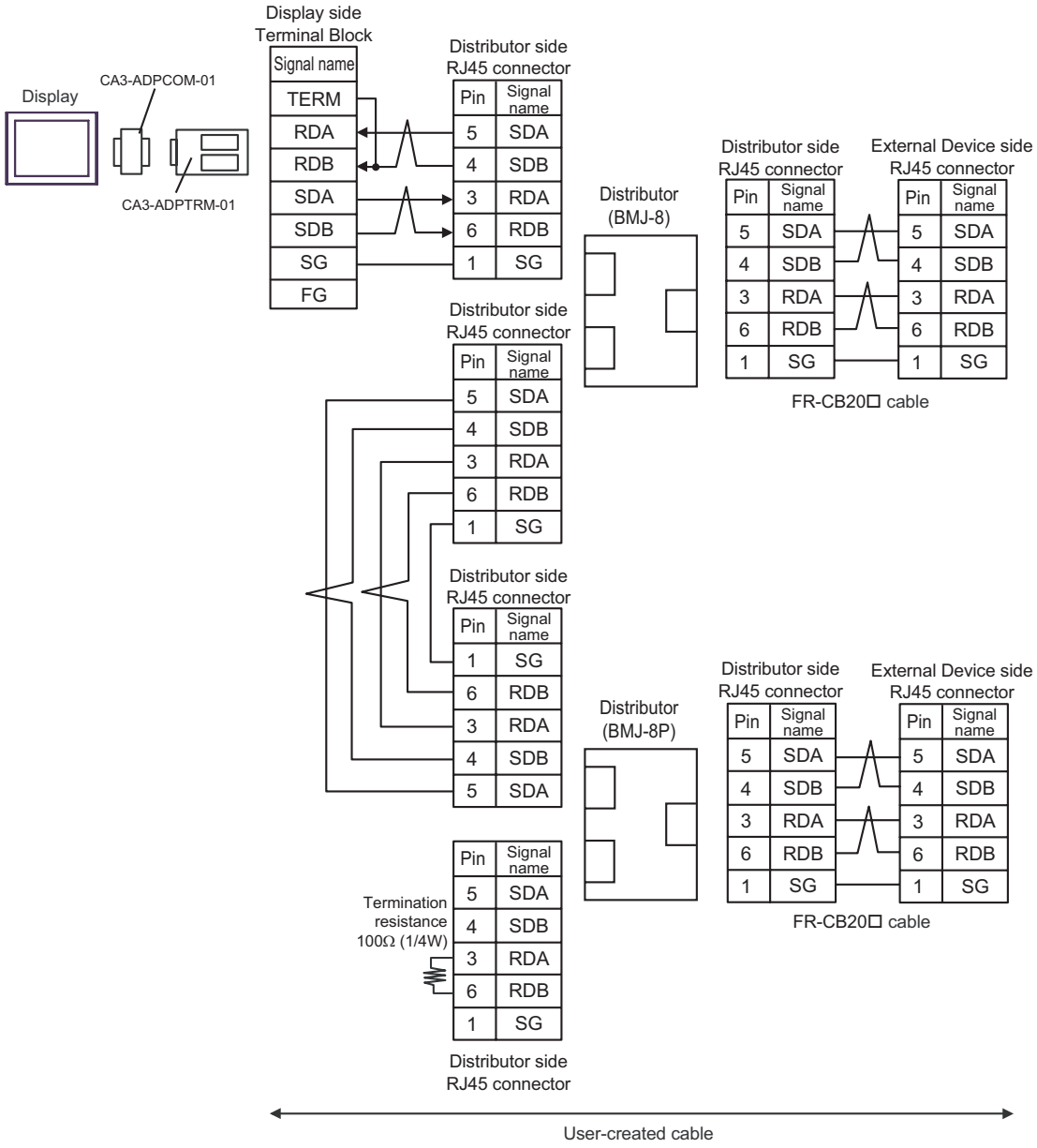
*2 Do not use pin number 2 or 8.

4A)

- 1:1 Connection

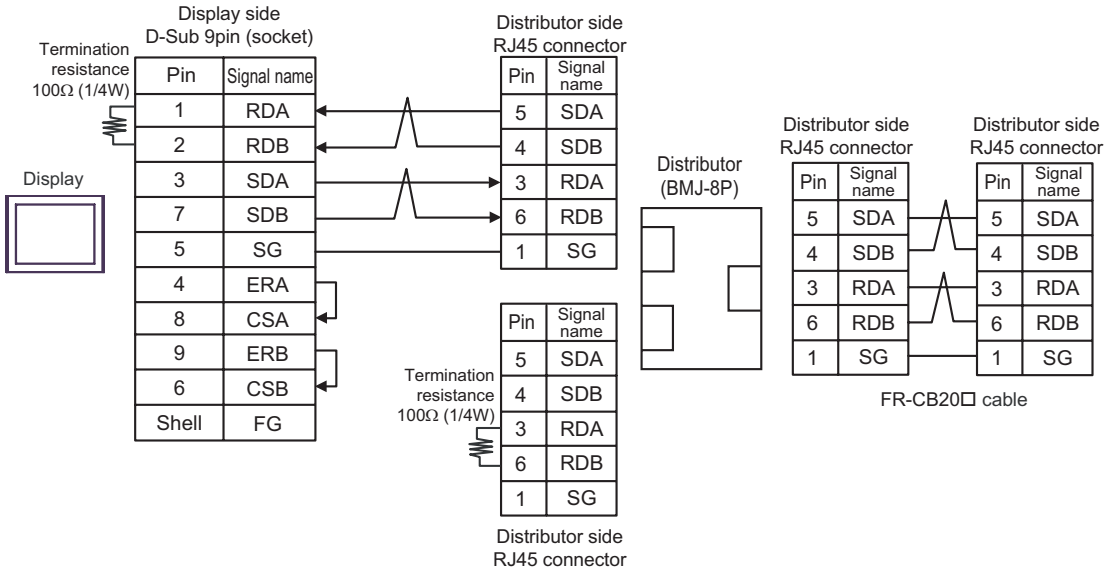


- 1:n Connection

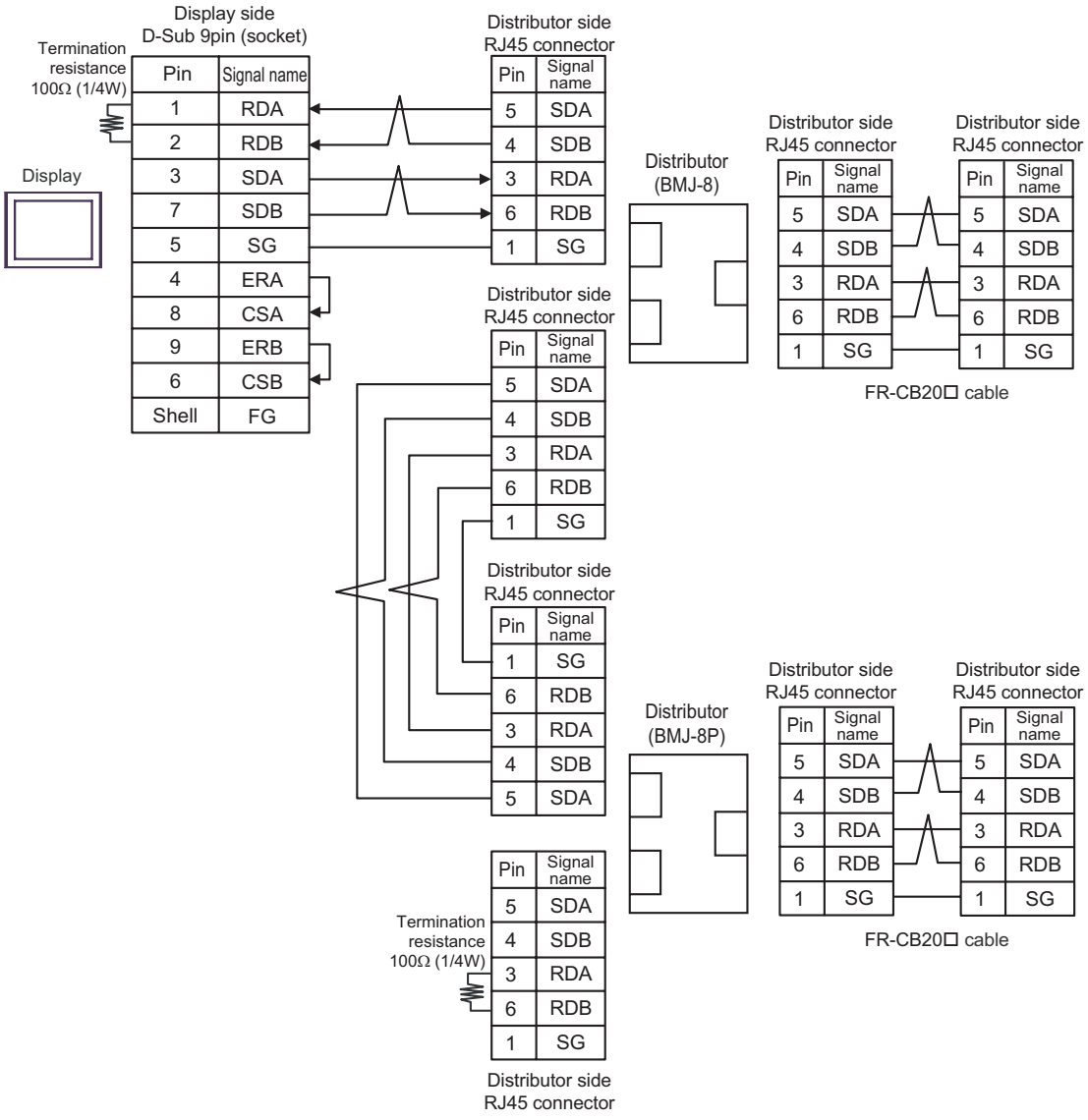


4B)

- 1:1 Connection

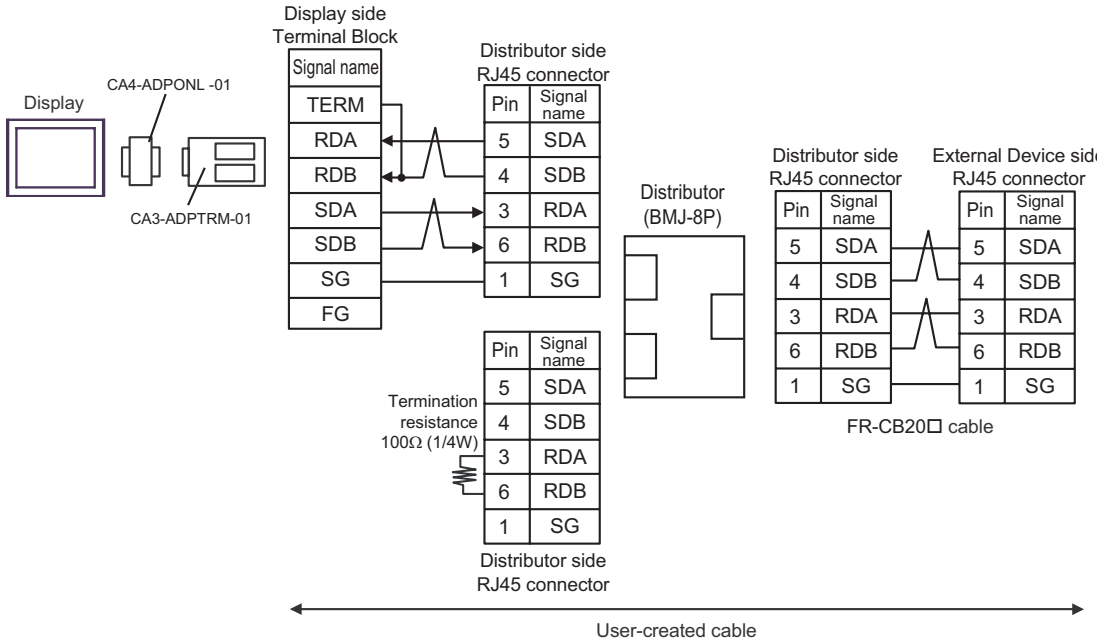


- 1:n Connection

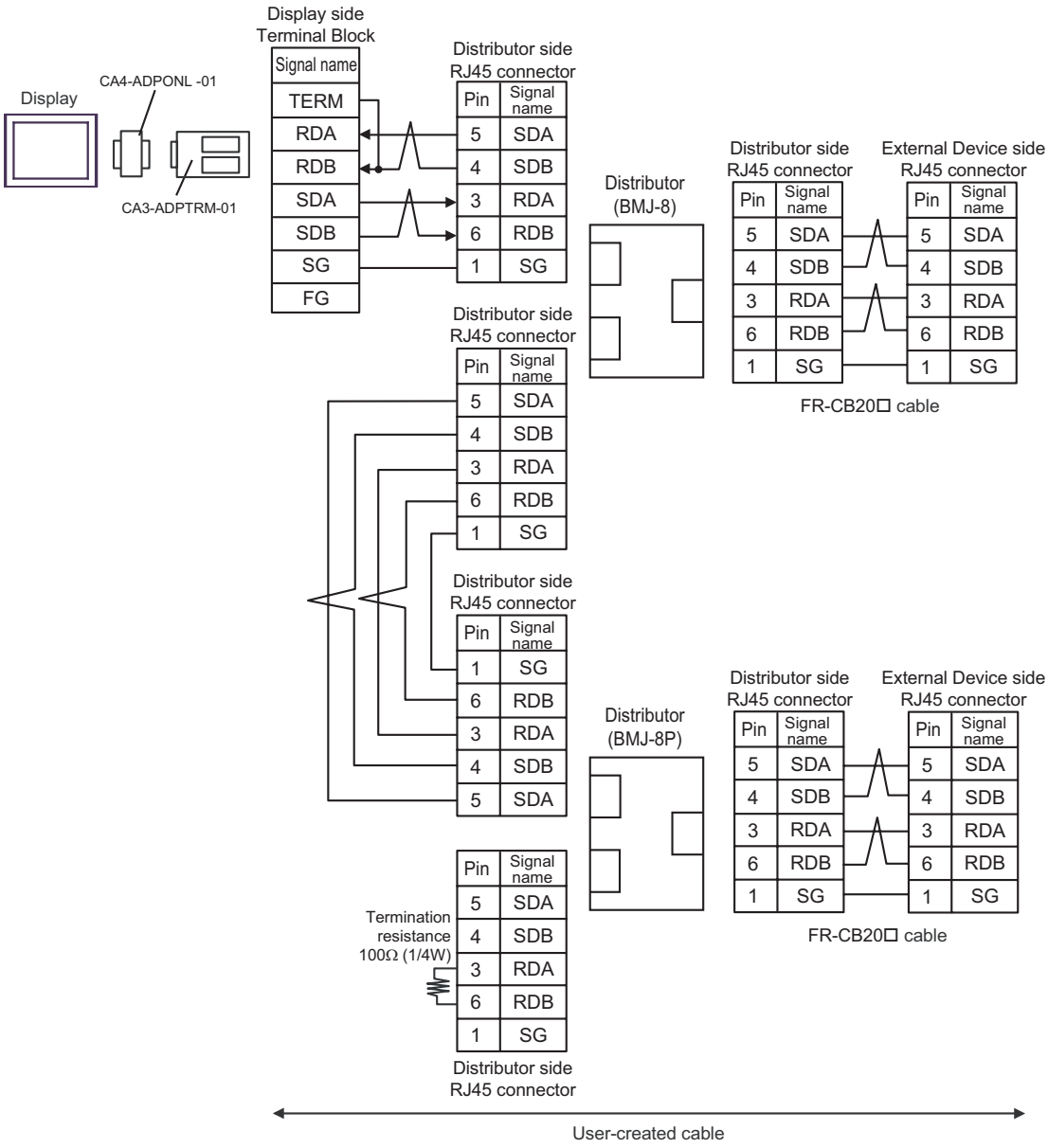


4C)

- 1:1 Connection

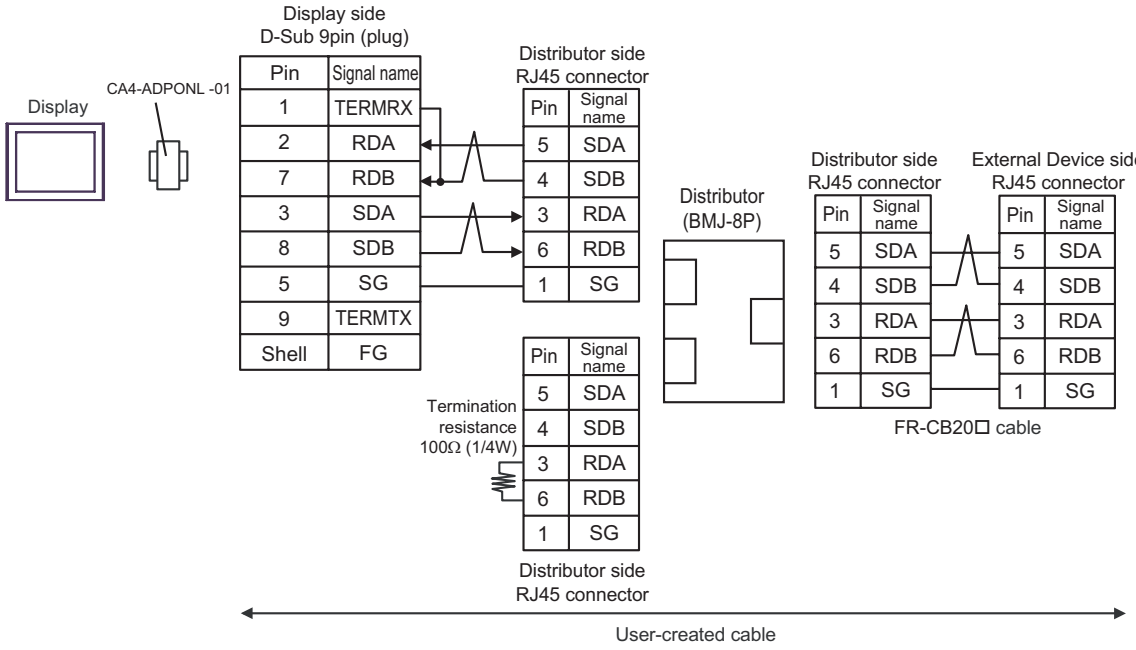


- 1:n Connection

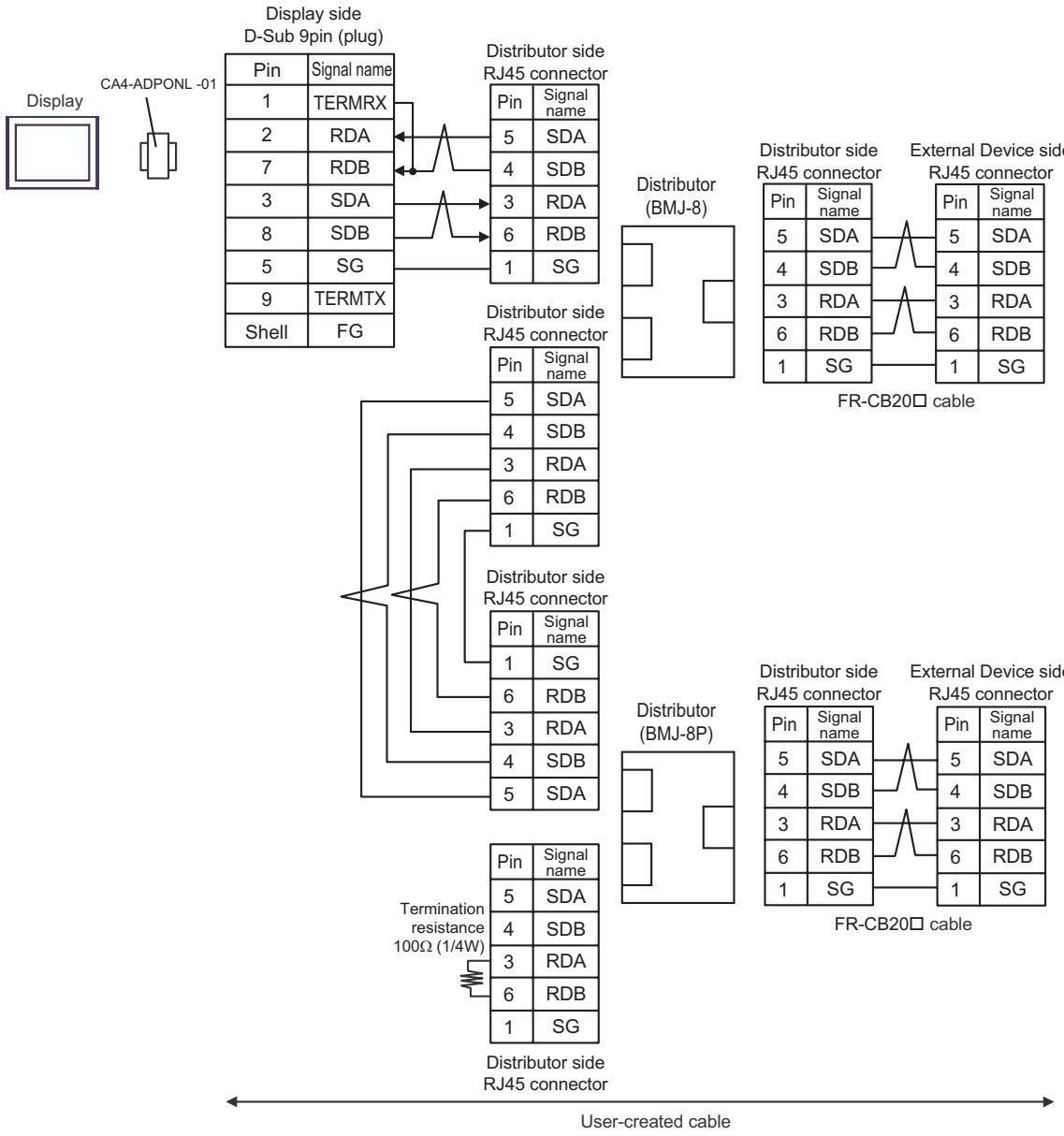


4D)

- 1:1 Connection

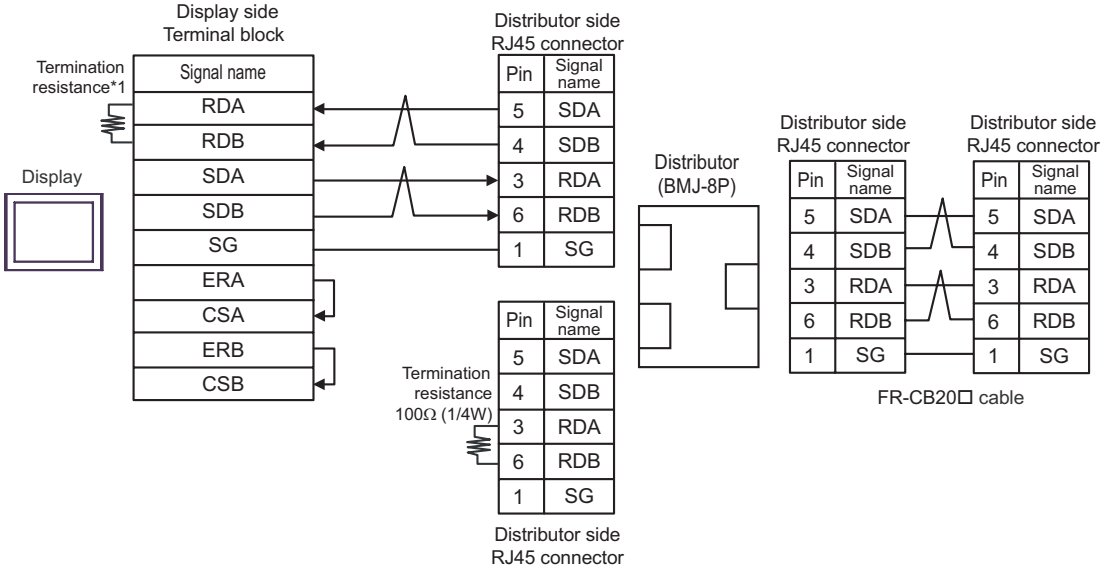


- 1:n Connection

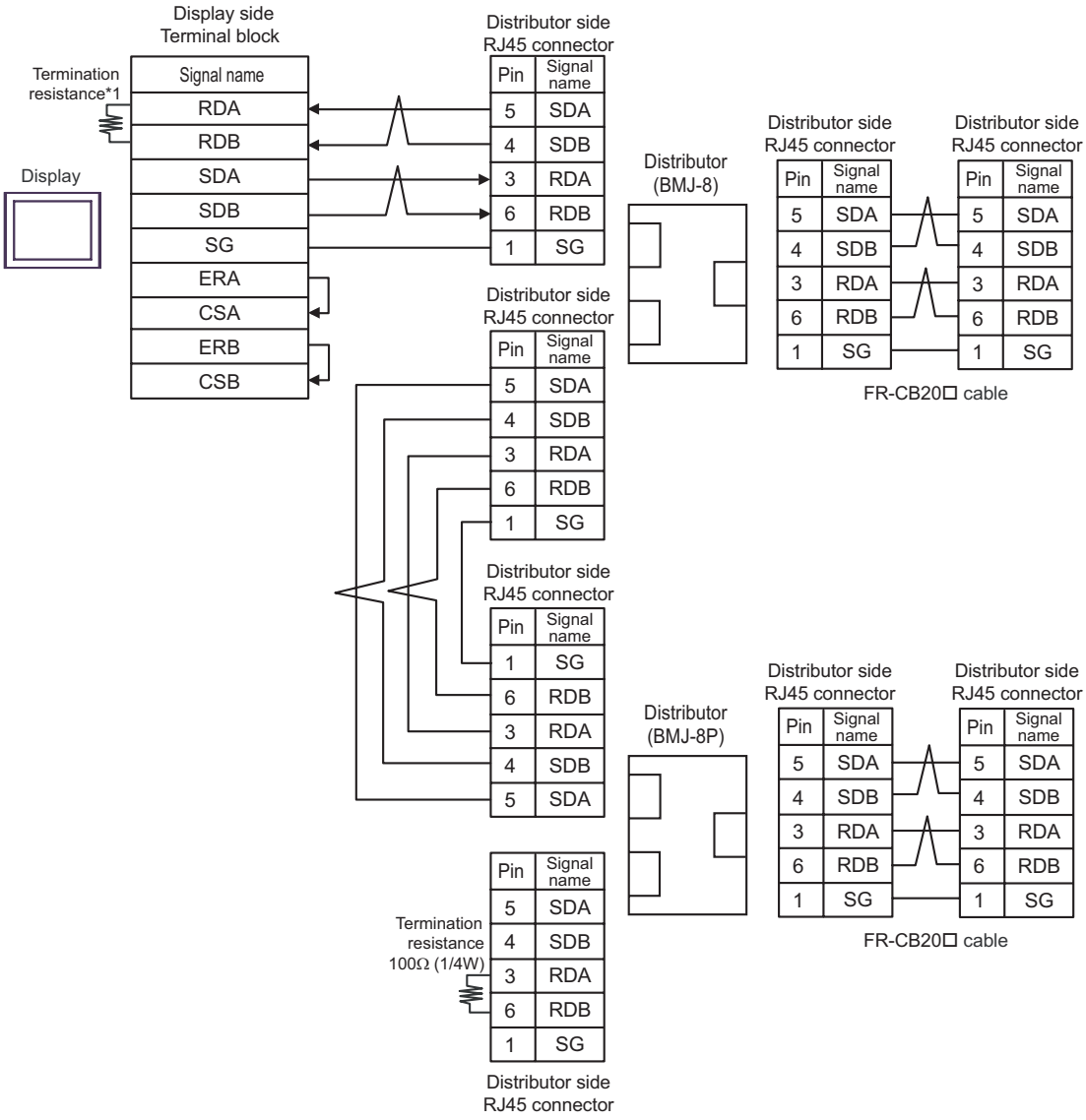


4E)

- 1:1 Connection



- 1:n Connection

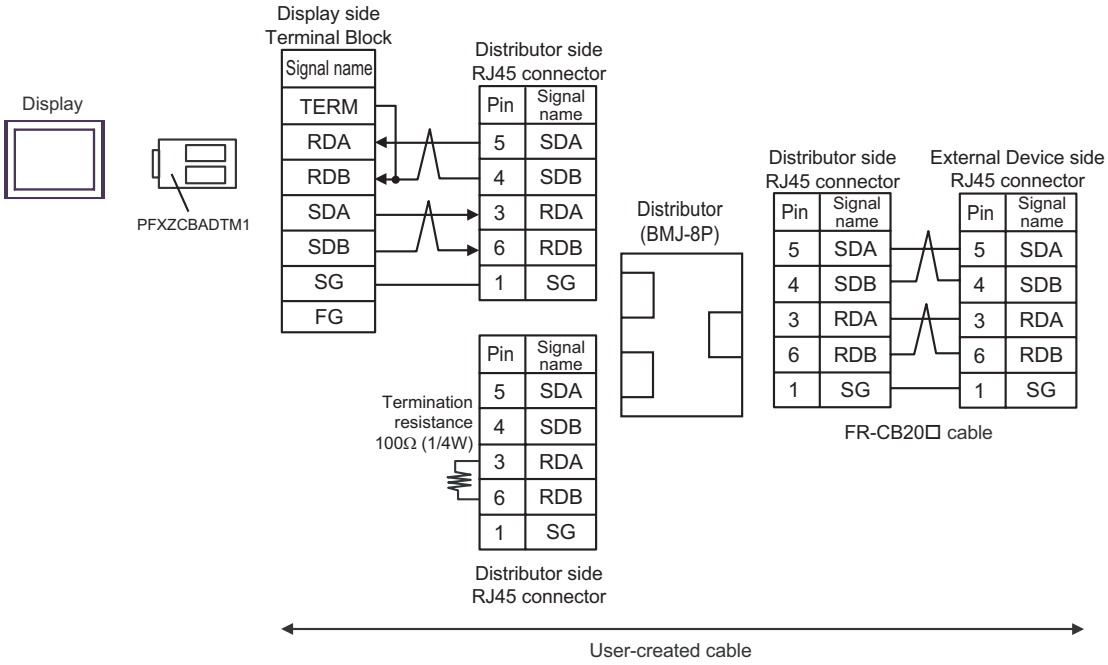


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

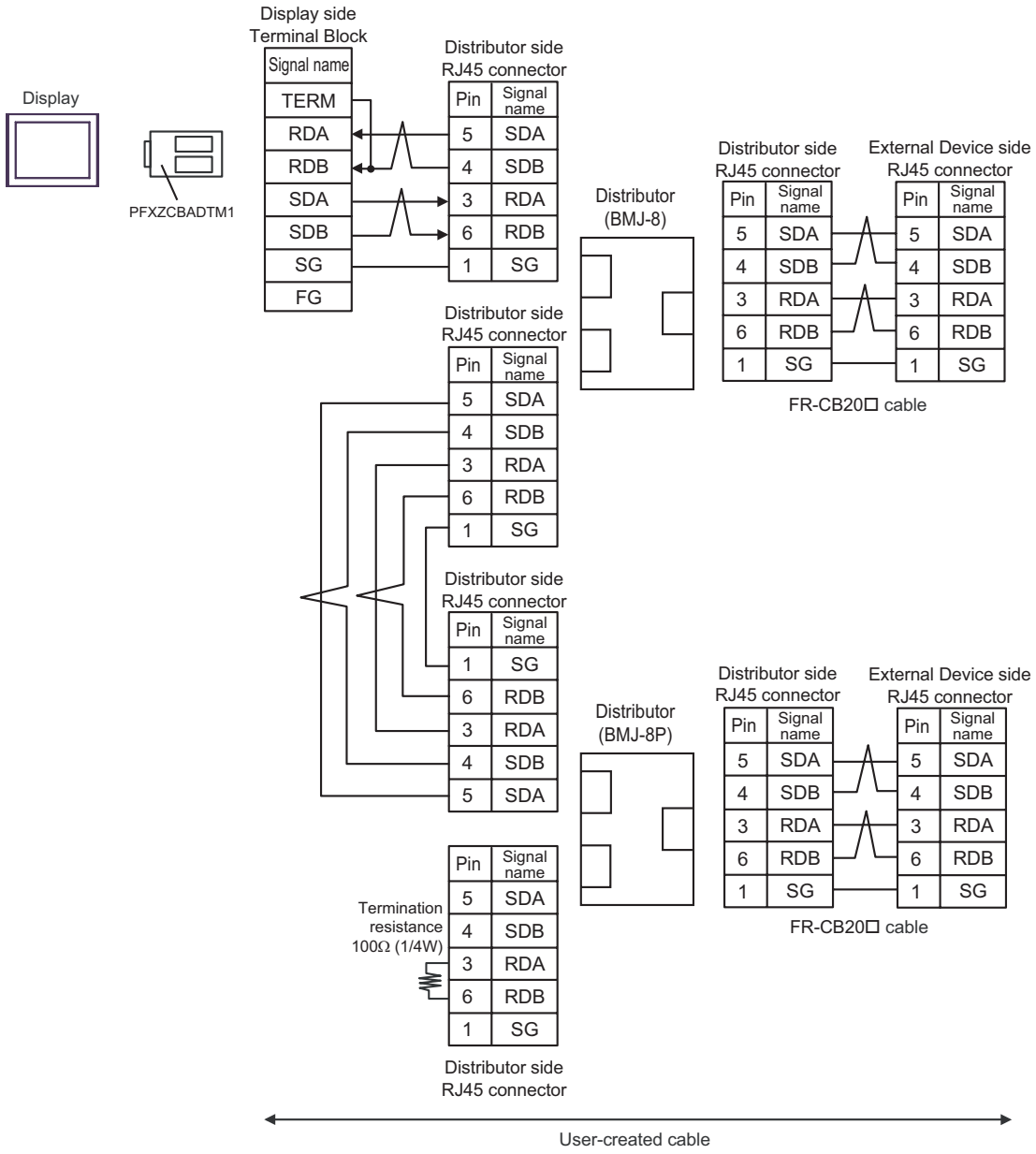
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

4F)

- 1:1 Connection



- 1:n Connection



Cable Diagram 5

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST[*2] (COM2) LT3000 (COM1)	5A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	5B	User-created cable	
GP3000[*3] (COM2)	5C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	5D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	5E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	5F	User-created cable	
GP-4106 (COM1)	5G	User-created cable	
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	5H	User-created cable	
GP4000[*6] (COM2) GP-4201T (COM1)	5I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*7] + User-created cable	
	5B	User-created cable	
LT-4*01TM (COM1)	5J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

*1 All GP3000 models except AGP-3302B

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

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

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

*5 Except GP-4203T

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

*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 5A.

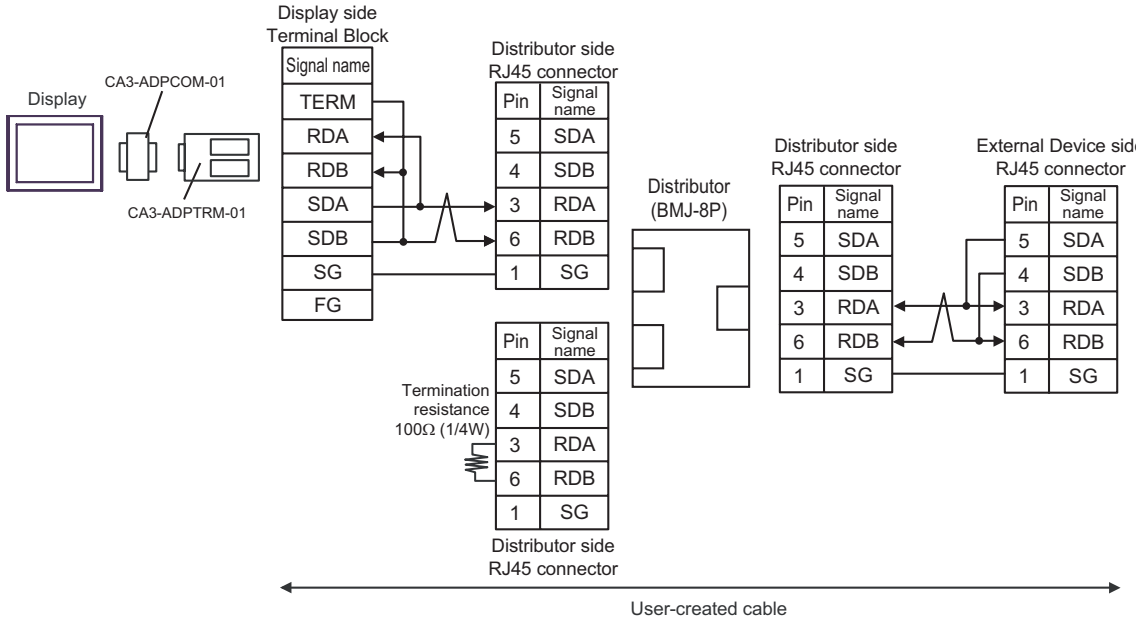
Recommended cables and connectors

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	

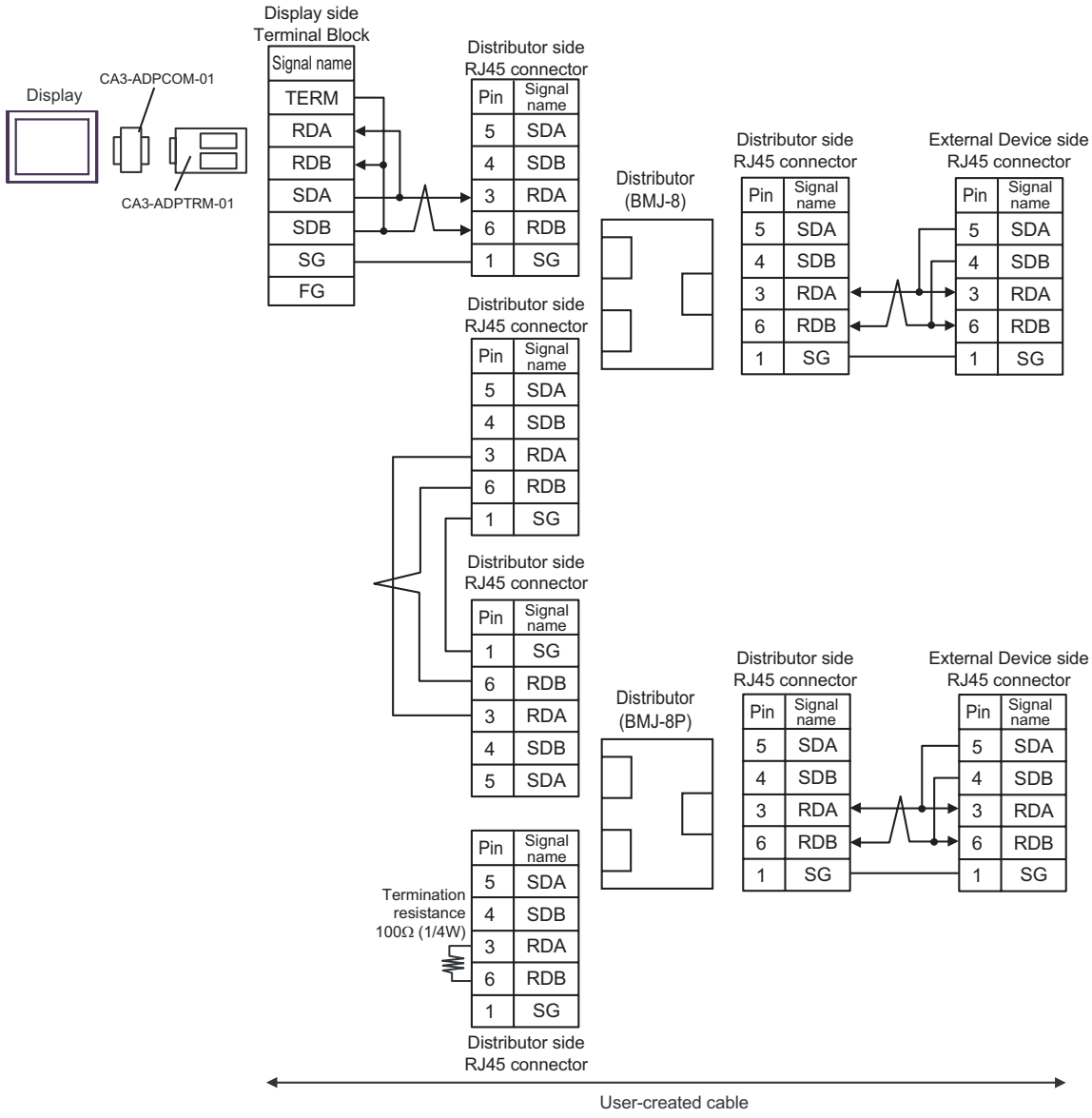
*1 Do not use pin number 2 or 8.

5A)

- 1:1 Connection

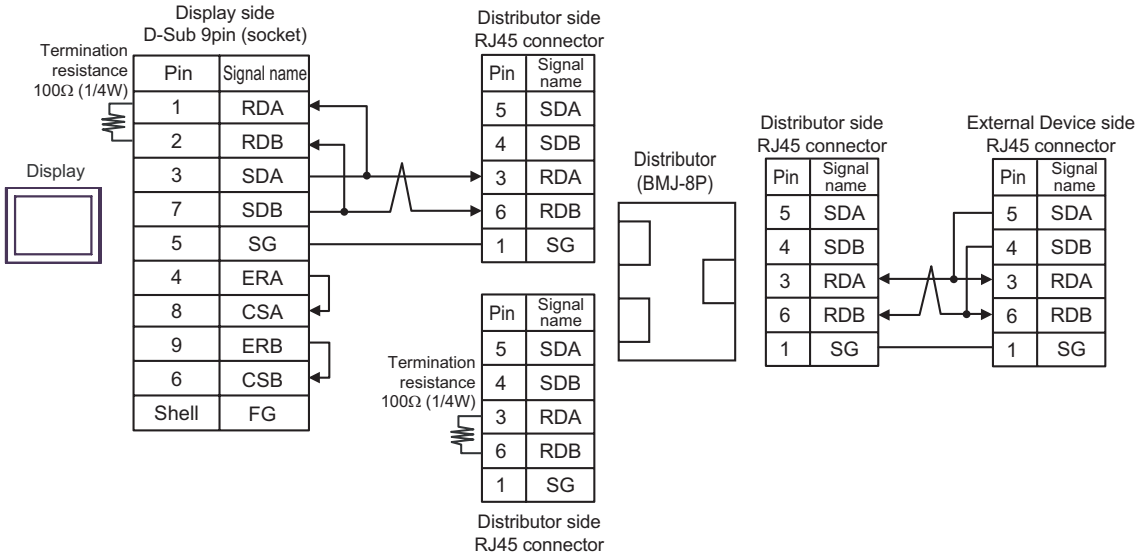


- 1:n Connection

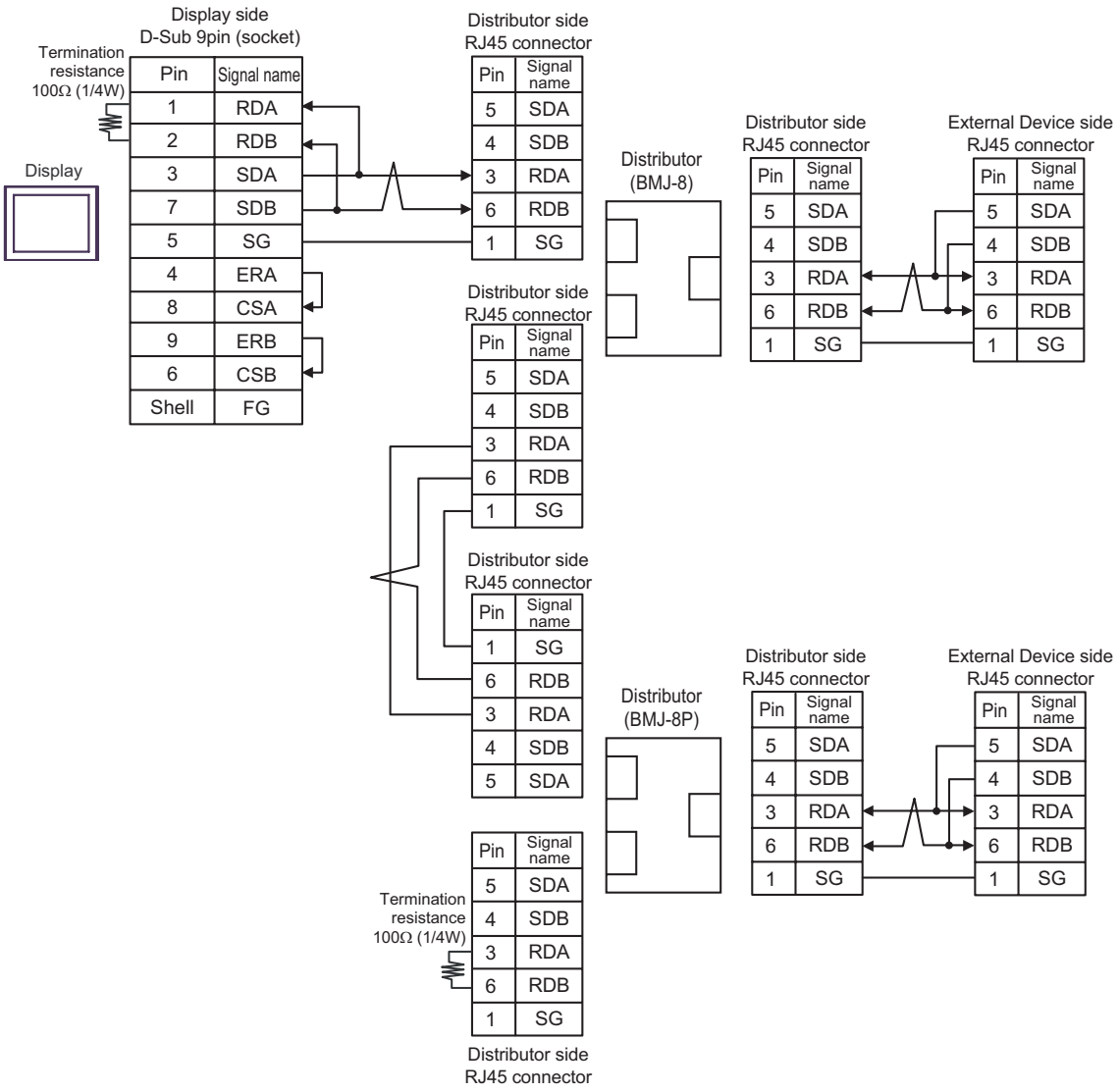


5B)

- 1:1 Connection

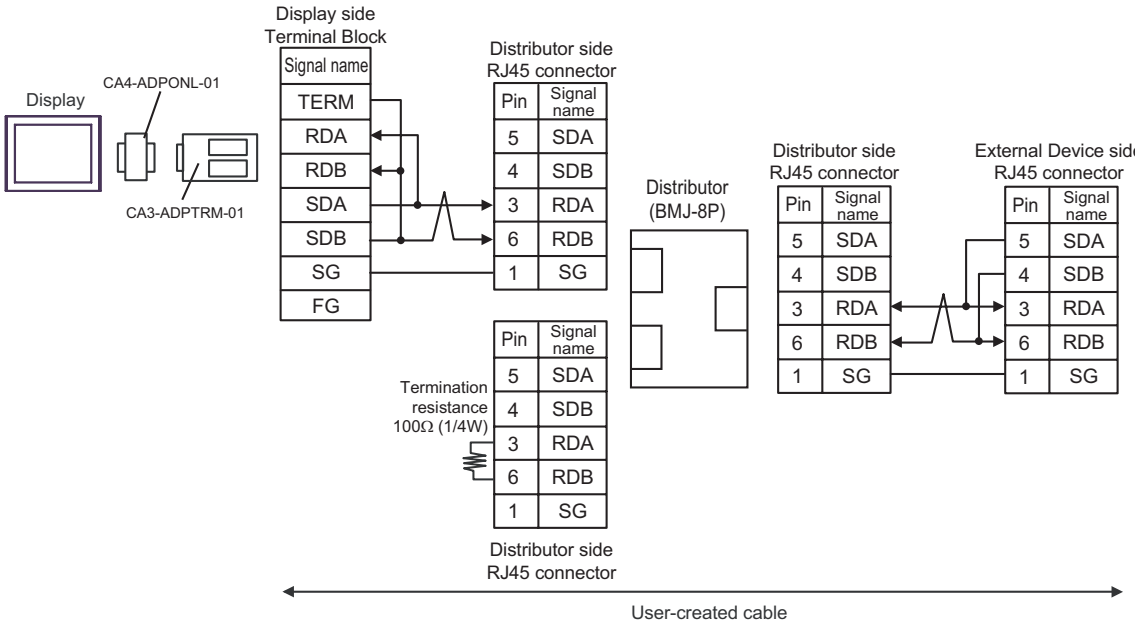


- 1:n Connection

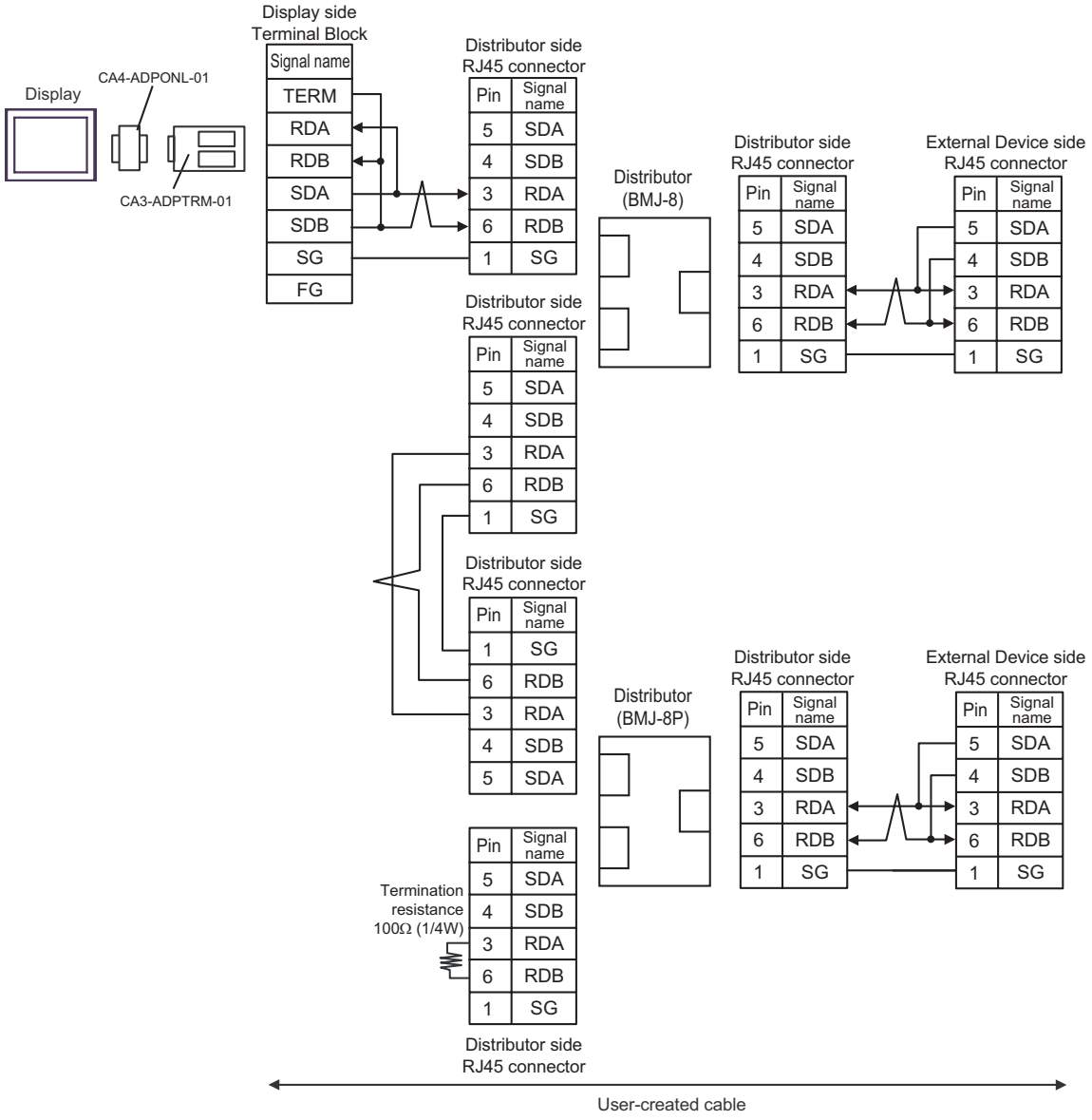


5C)

- 1:1 Connection

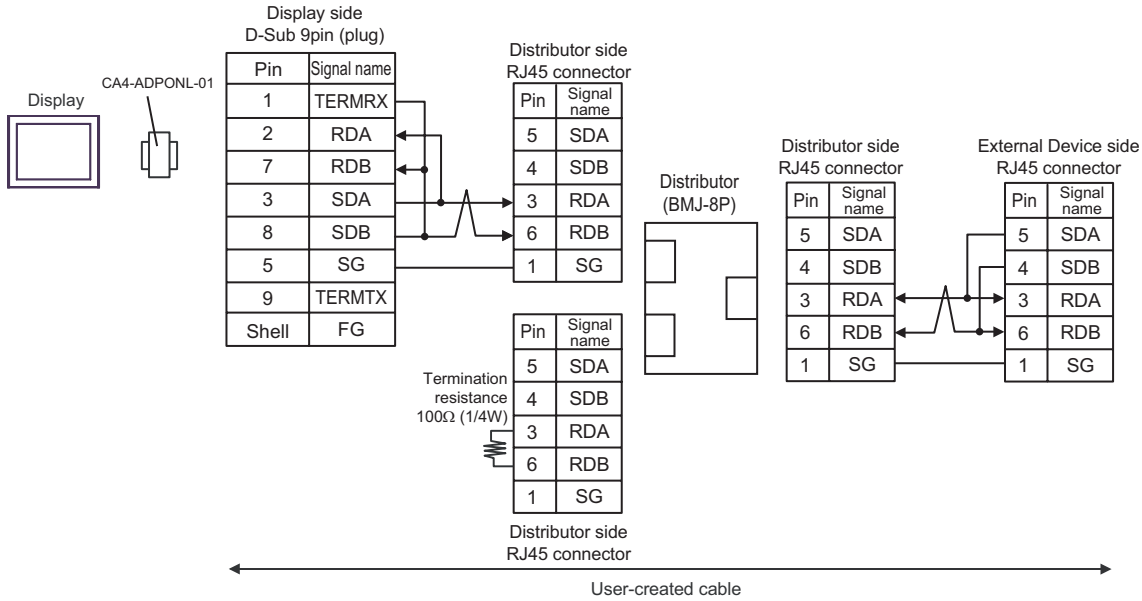


- 1:n Connection

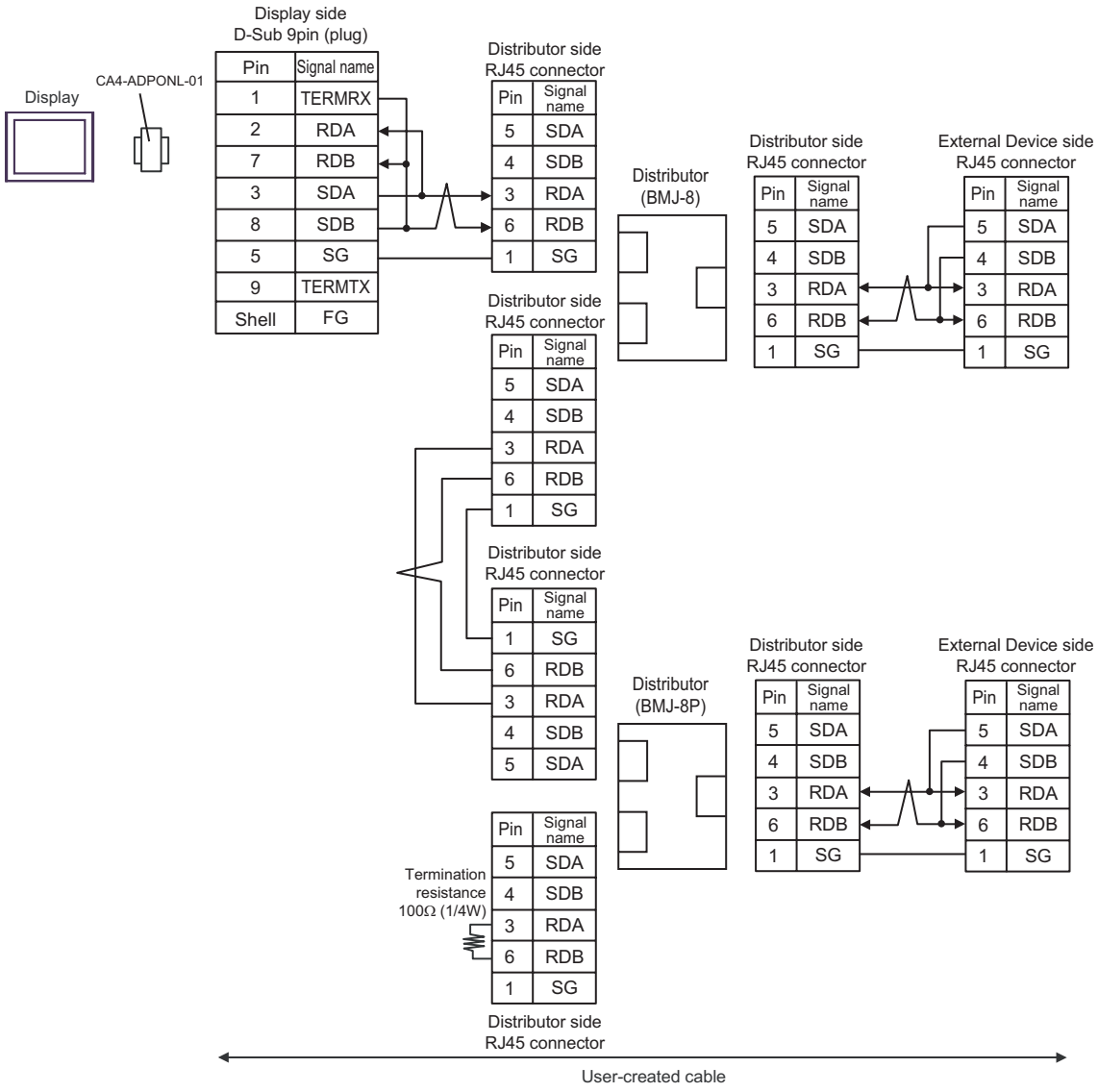


5D)

- 1:1 Connection

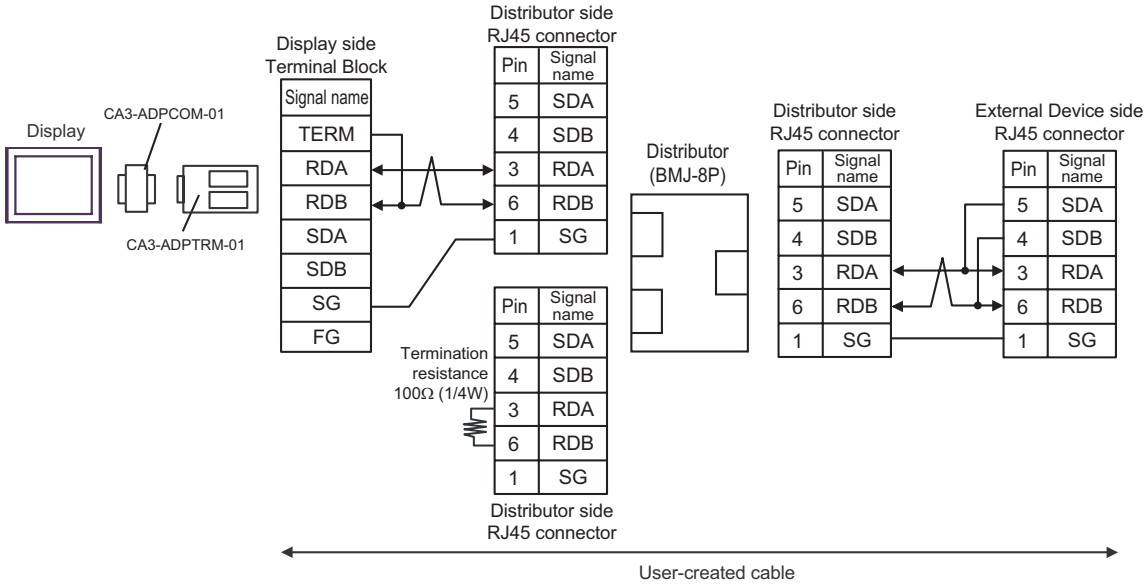


- 1:n Connection

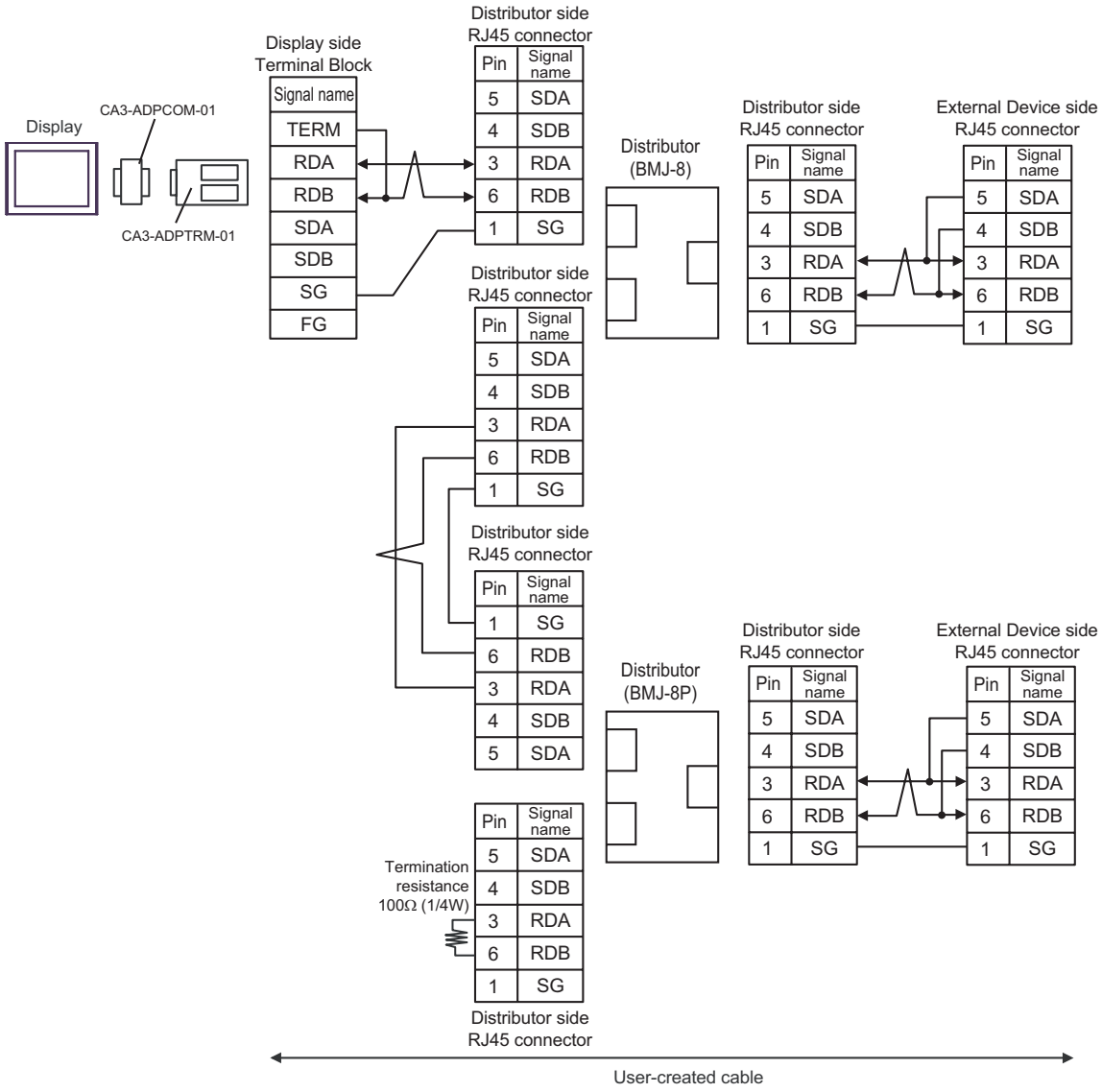


5E)

- 1:1 Connection

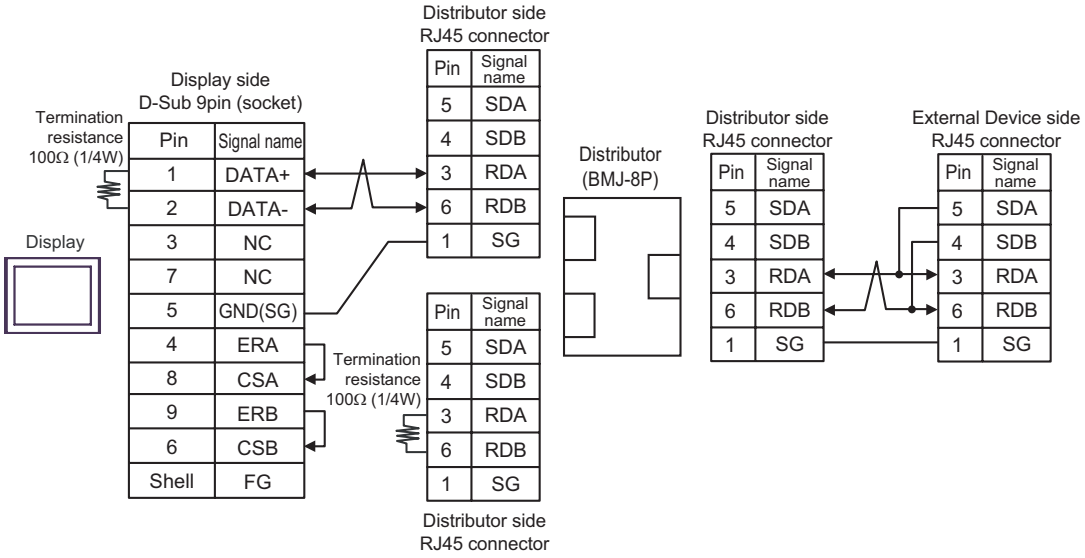


- 1:n Connection

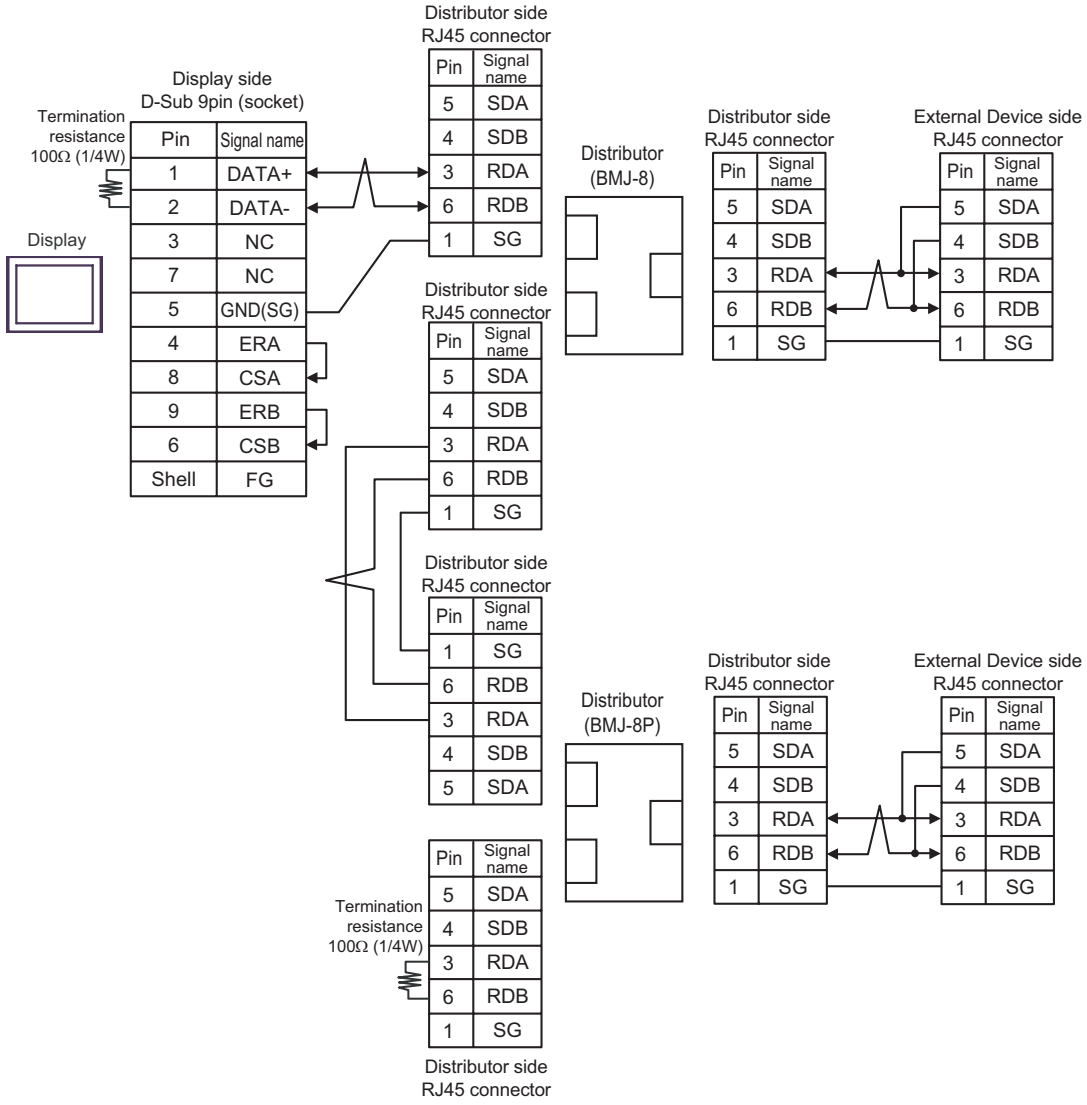


5F)

- 1:1 Connection

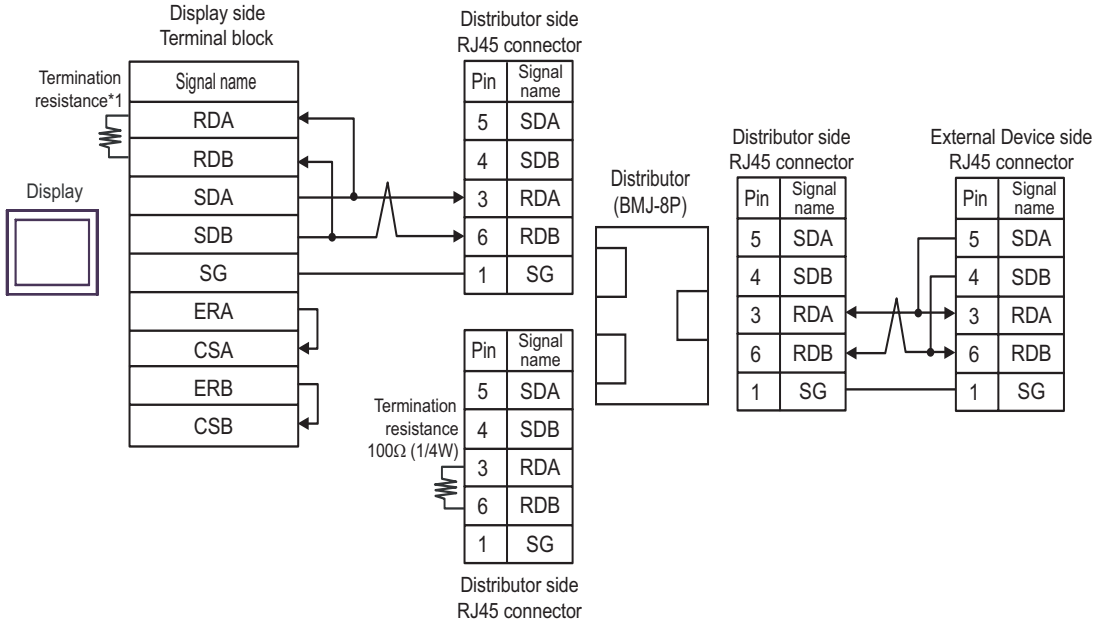


- 1:n Connection

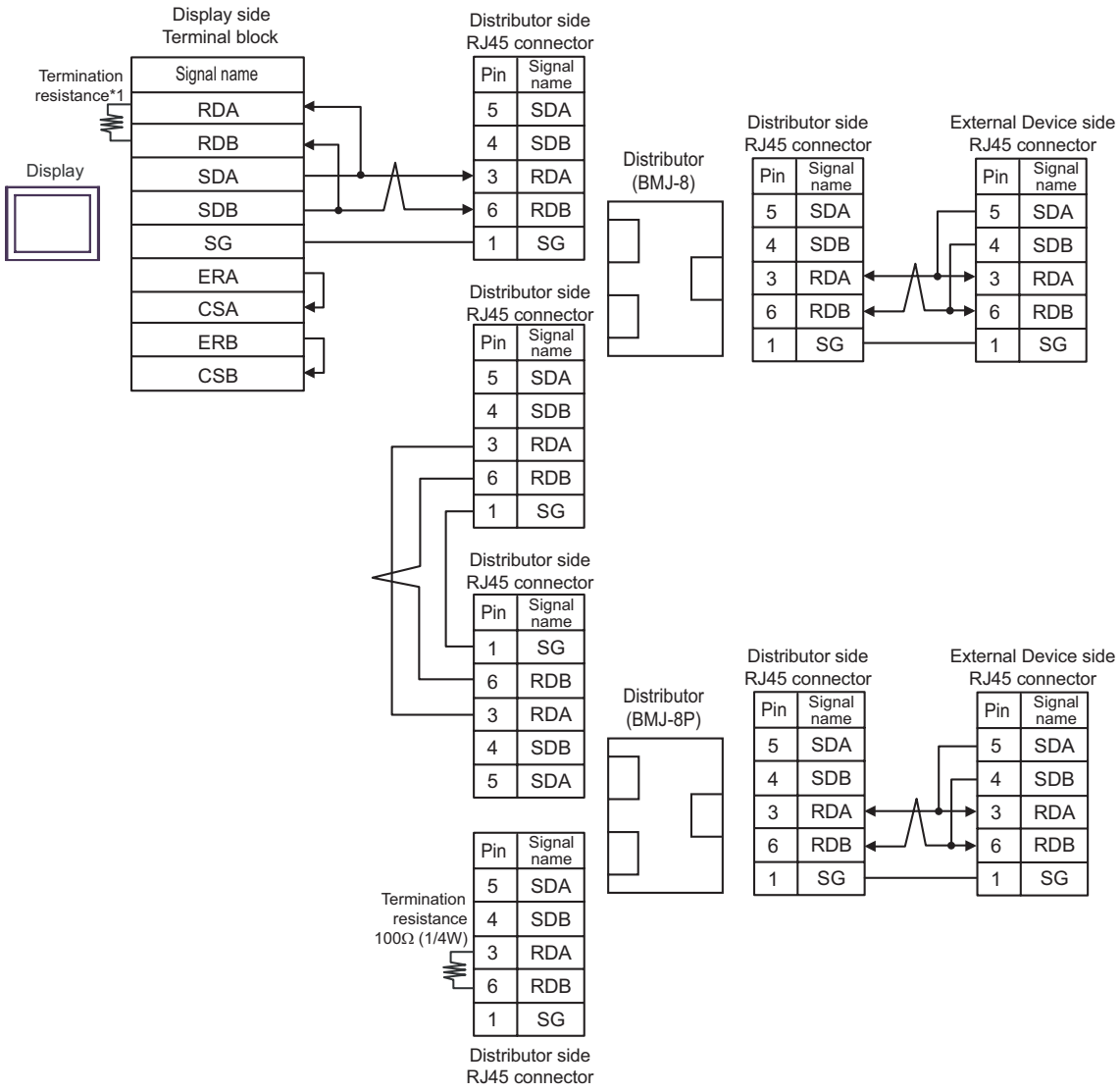


5G)

- 1:1 Connection



- 1:n Connection

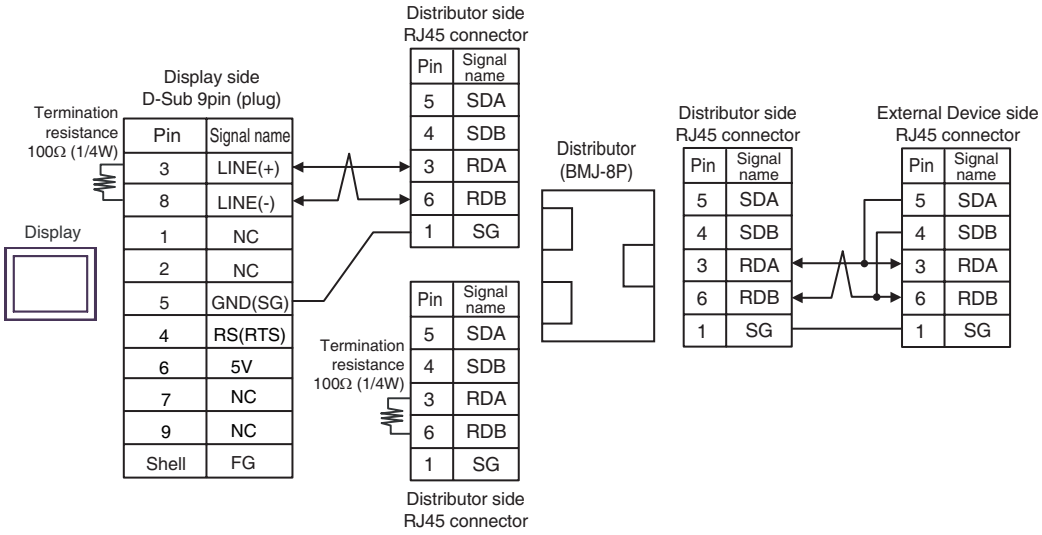


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

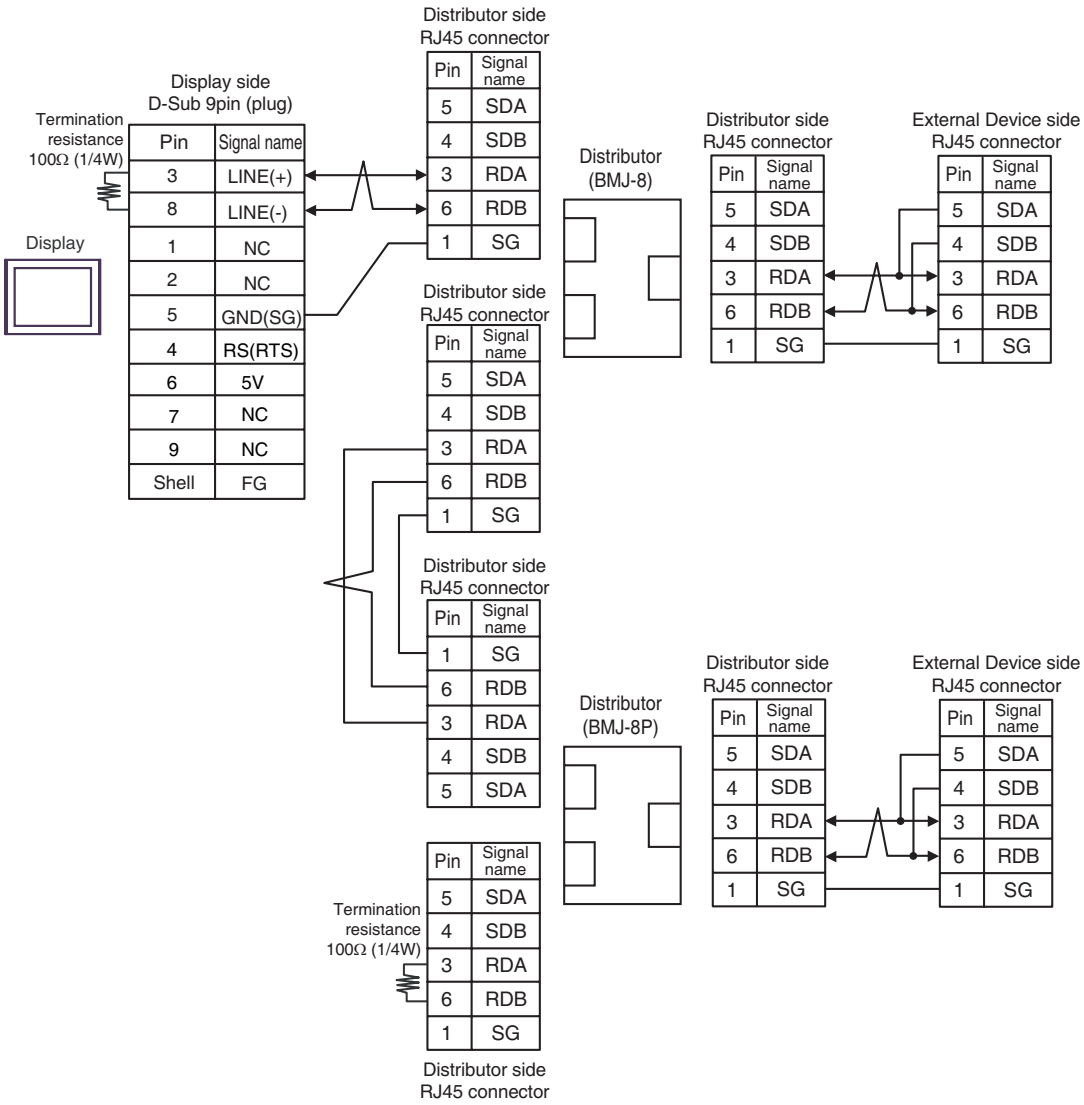
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

5H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

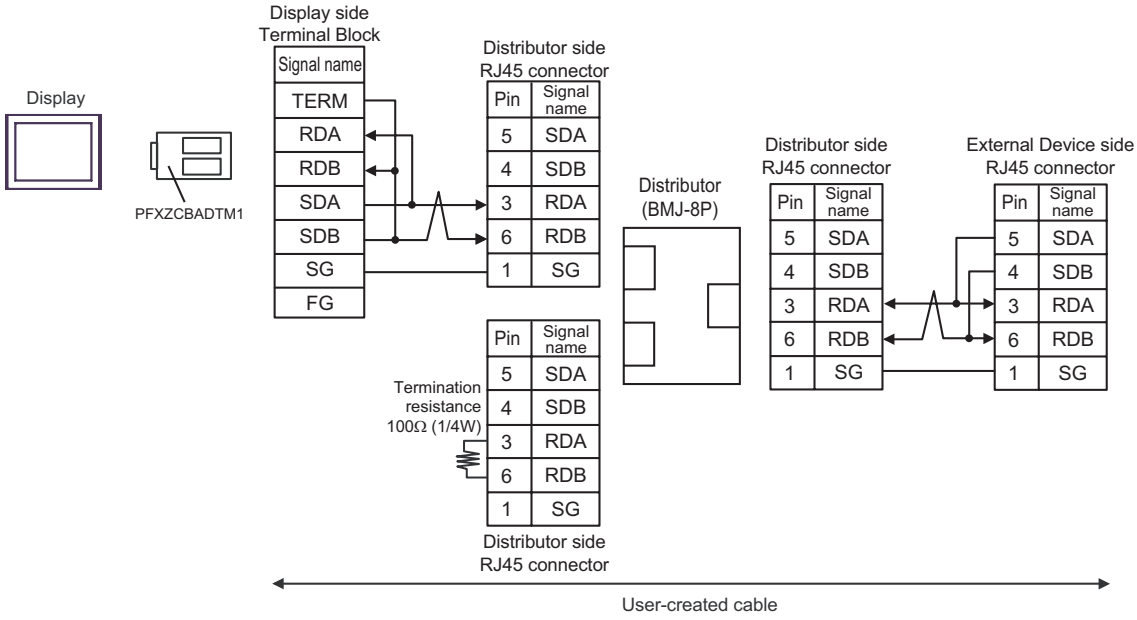
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

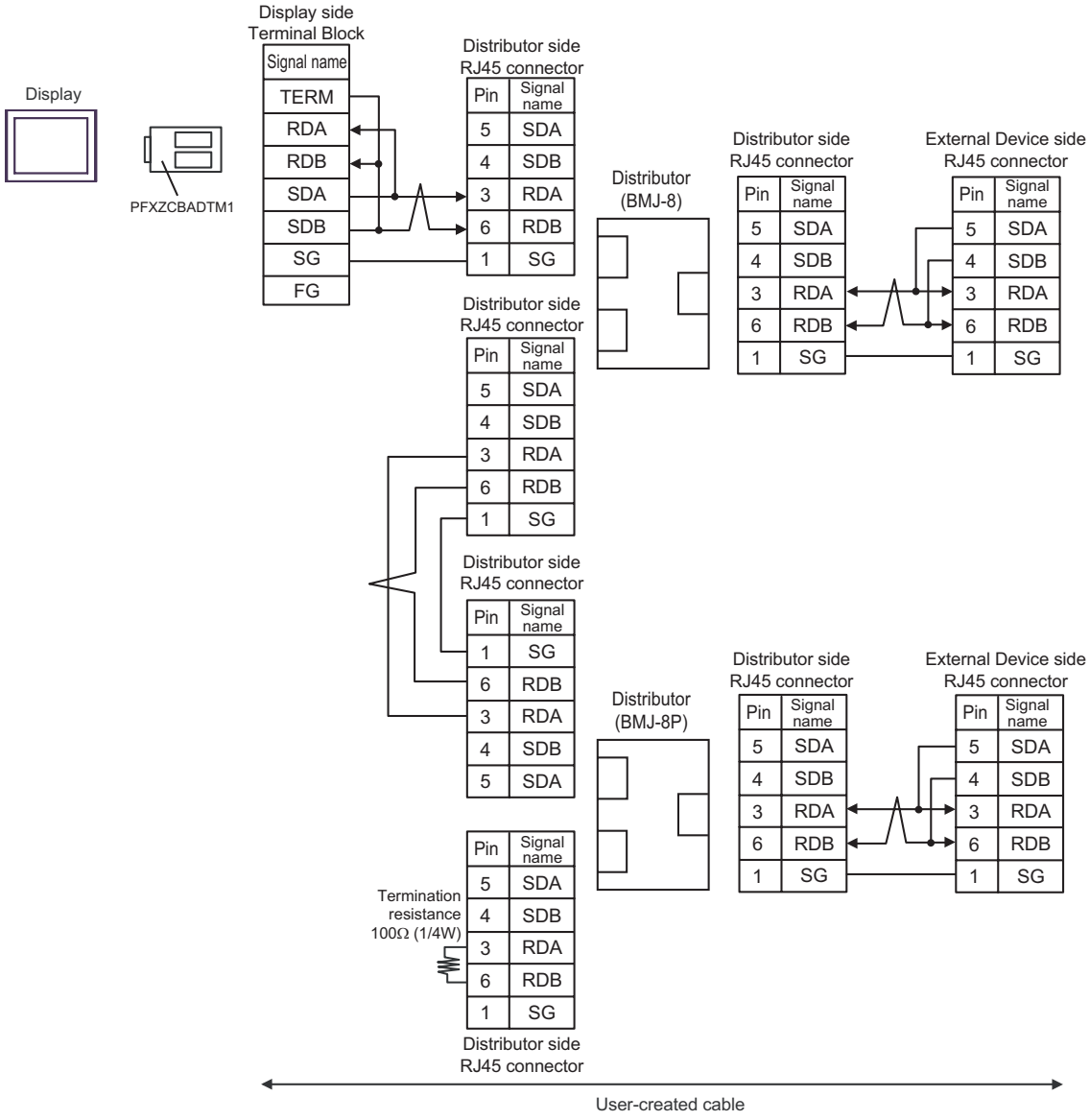
- In COM on the GP-4107, the SG and FG terminals are isolated.

5I)

- 1:1 Connection

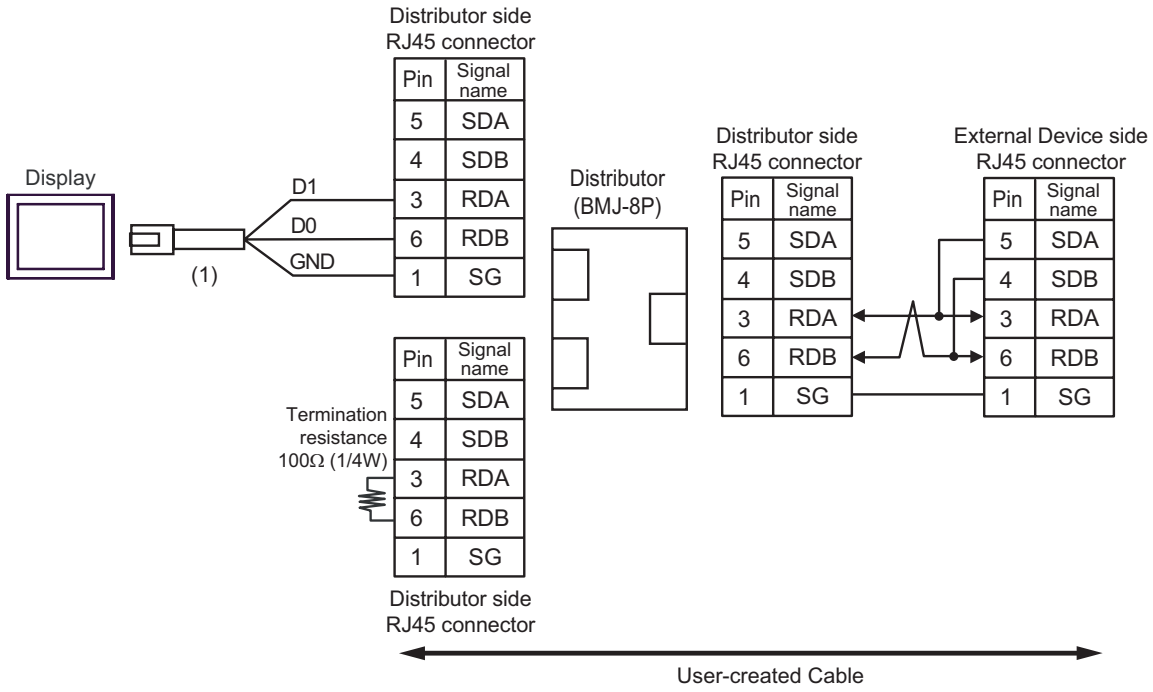


- 1:n Connection

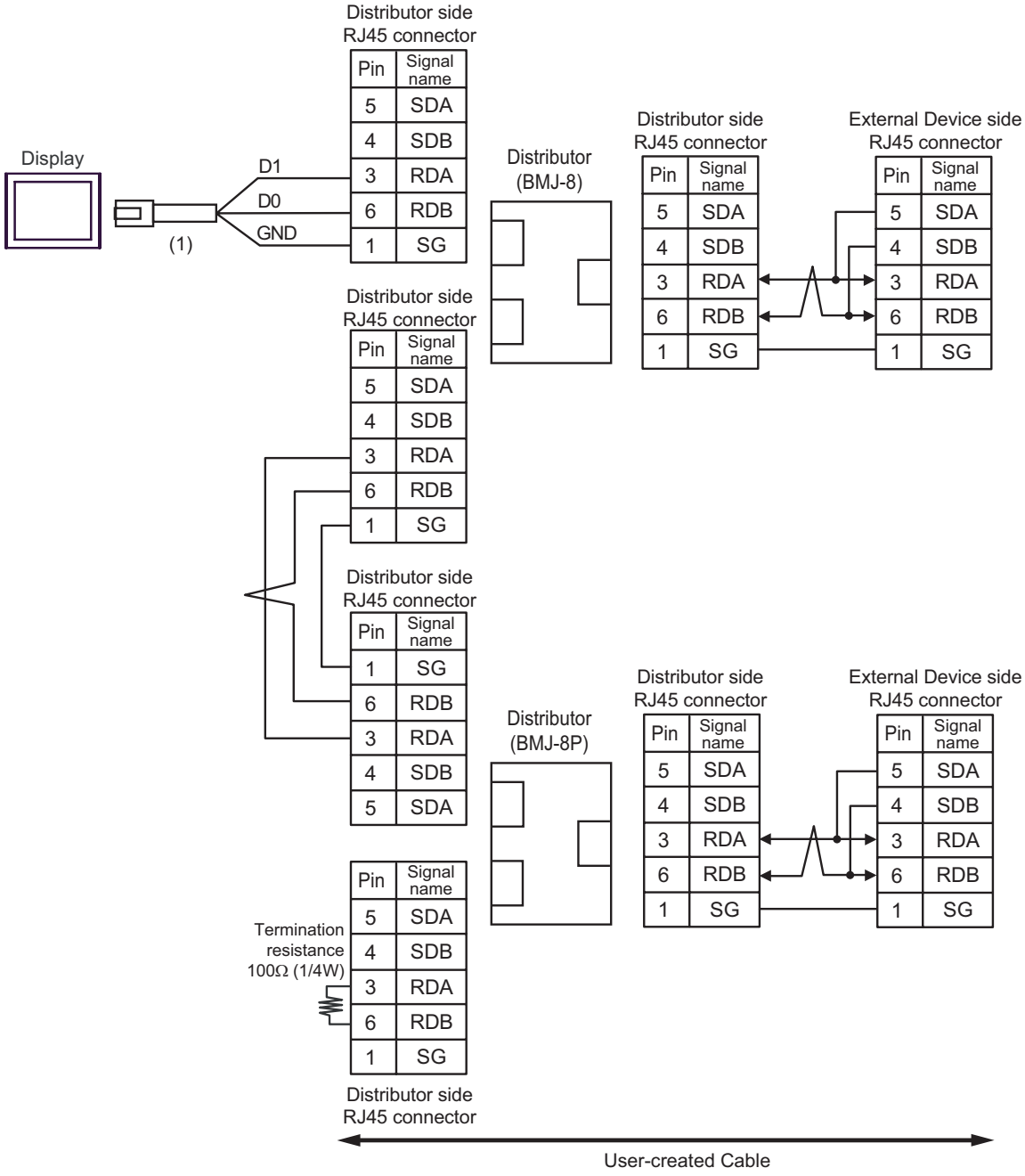


5J)

- 1:1 Connection



- 1:n Connection



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

Cable Diagram 6

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST[*2] (COM2) LT3000 (COM1)	6A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	6B	User-created cable	
GP3000[*3] (COM2)	6C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	6D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	6E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	6F	User-created cable	
GP-4106 (COM1)	6G	User-created cable	
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	6H	User-created cable	
GP4000[*6] (COM2) GP-4201T (COM1)	6I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*7] + User-created cable	
	6B	User-created cable	
LT-4*01TM (COM1)	6J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

*1 All GP3000 models except AGP-3302B

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

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

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

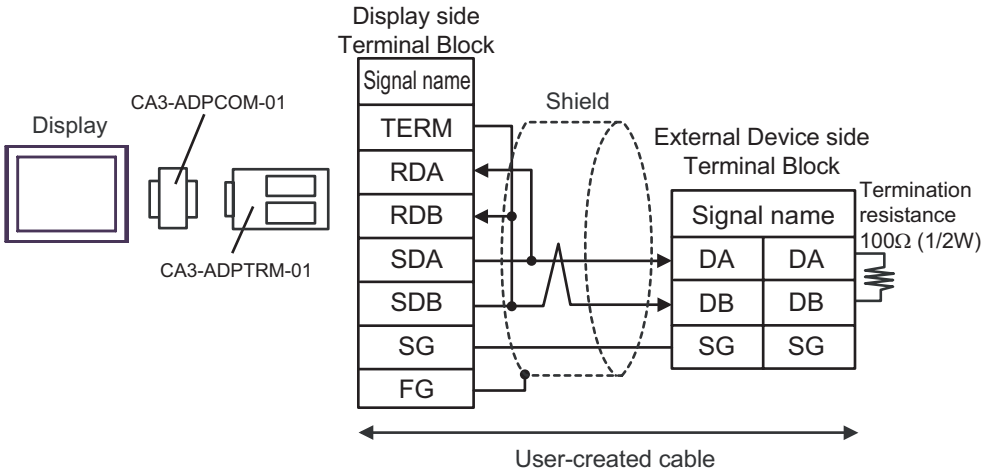
*5 Except GP-4203T

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

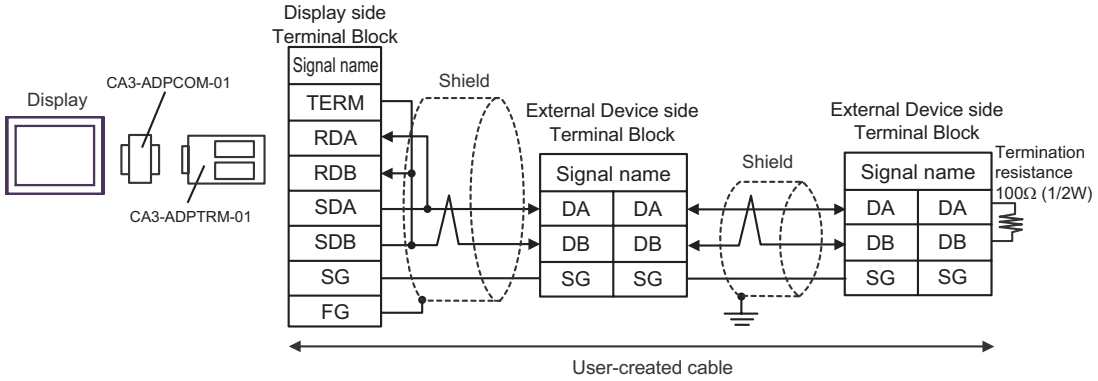
*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 6A.

6A)

- 1:1 Connection

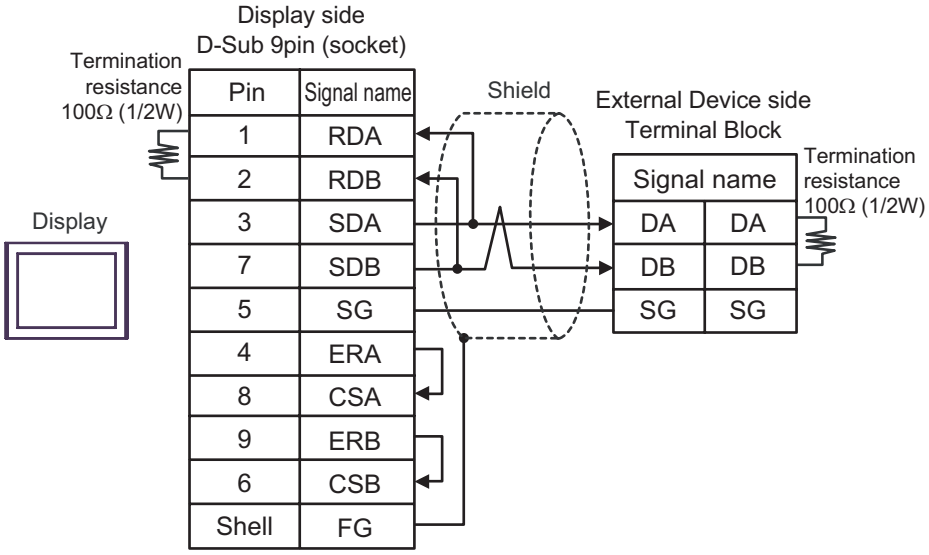


- 1:n Connection

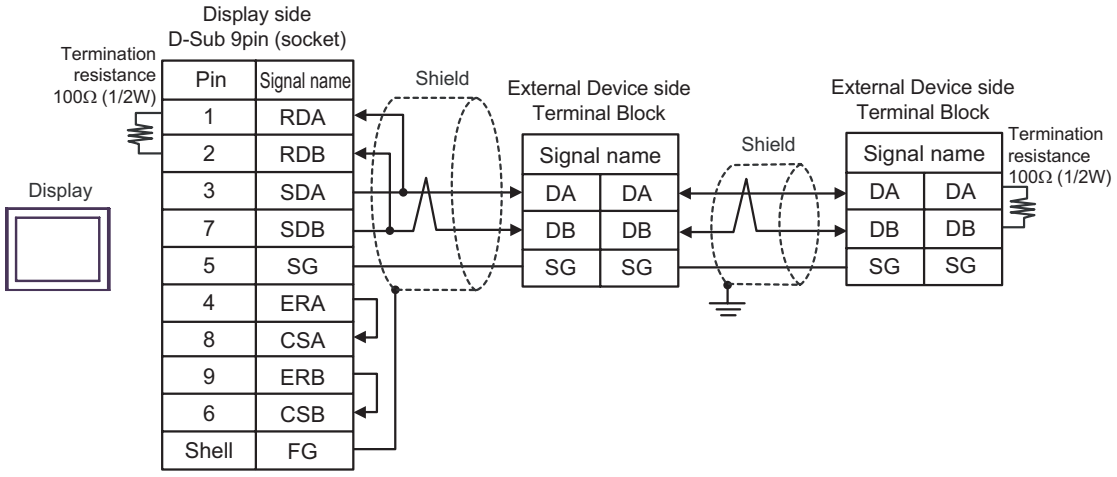


6B)

- 1:1 Connection

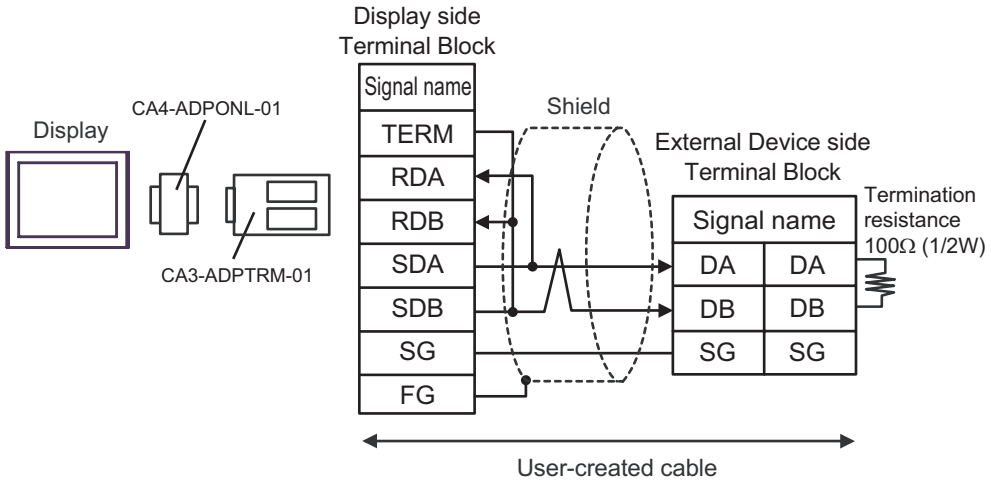


- 1:n Connection

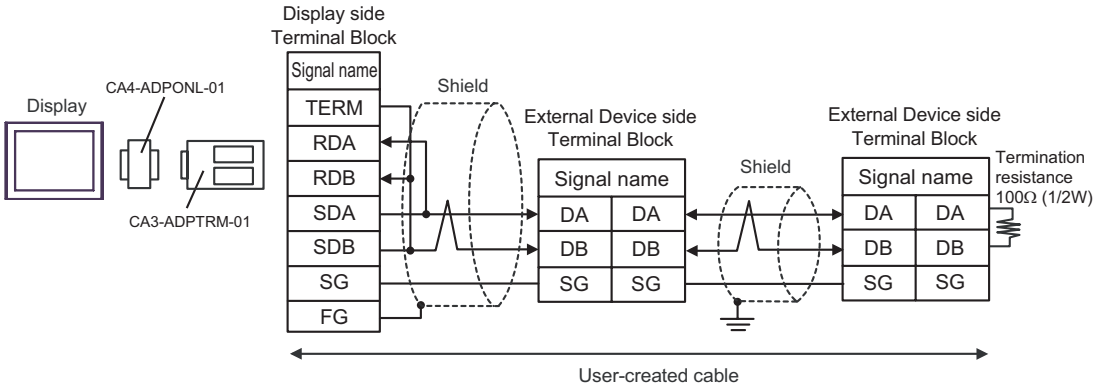


6C)

- 1:1 Connection

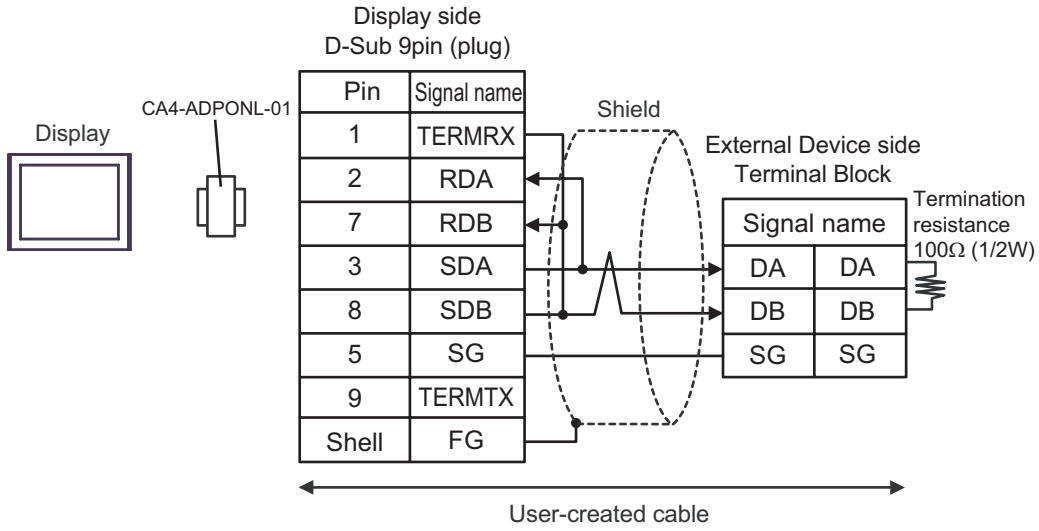


- 1:n Connection

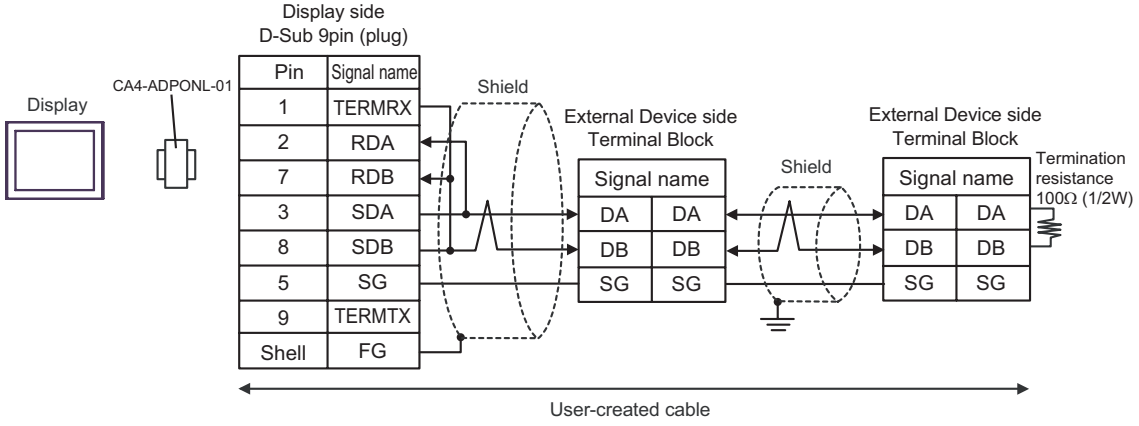


6D)

- 1:1 Connection

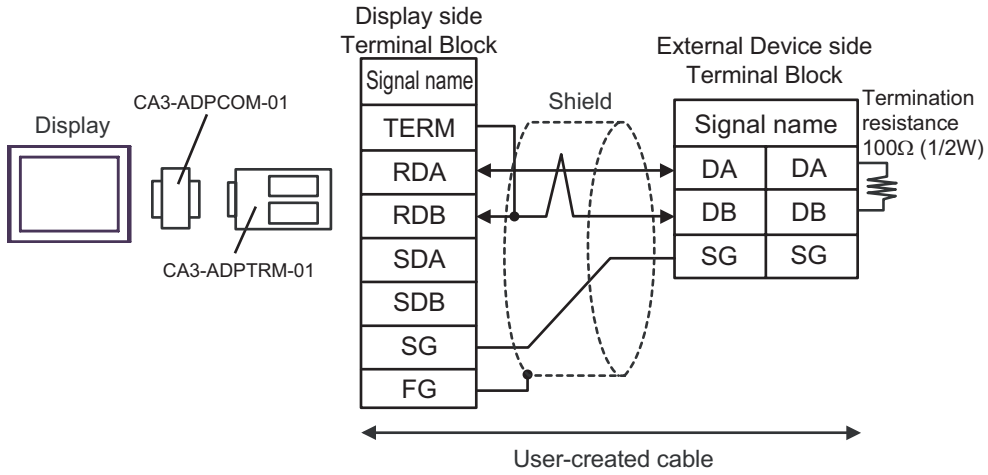


- 1:n Connection

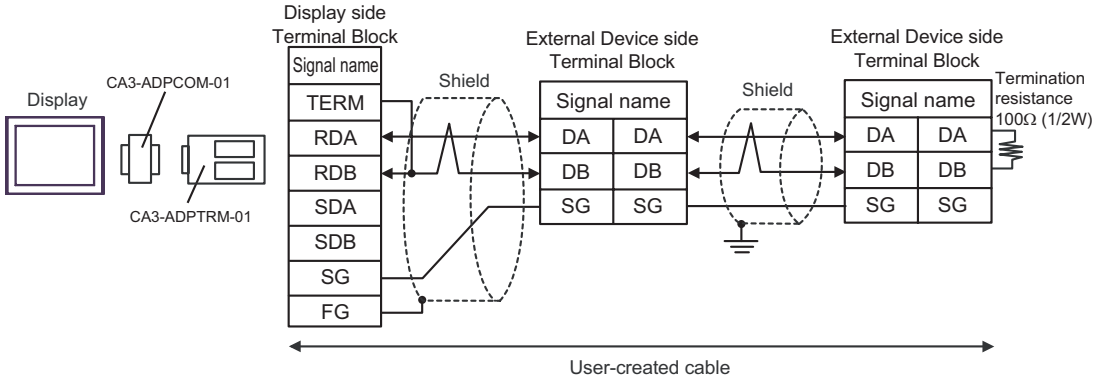


6E)

- 1:1 Connection

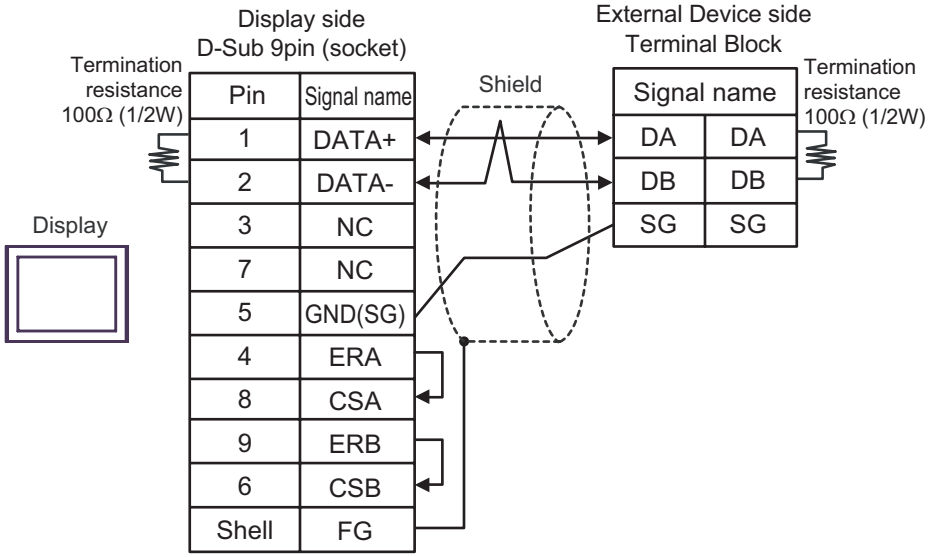


- 1:n Connection

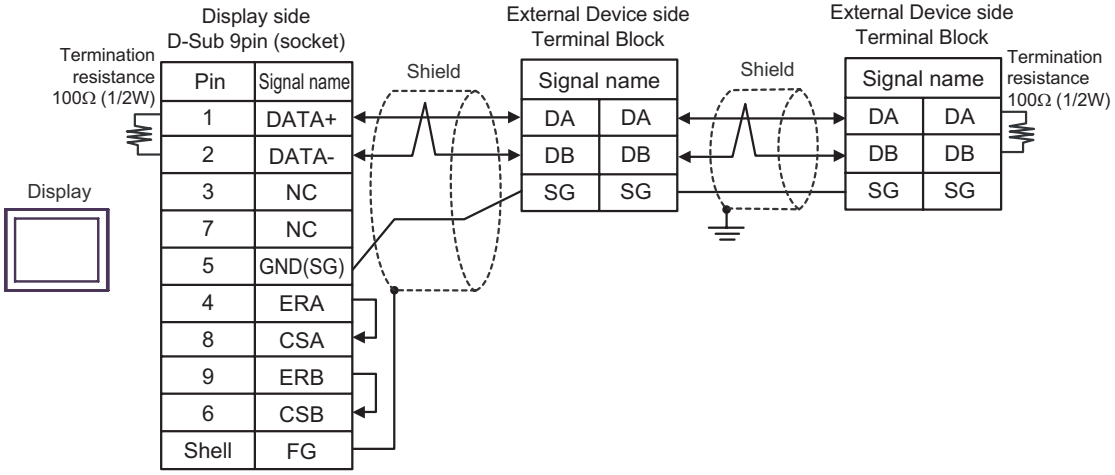


6F)

- 1:1 Connection

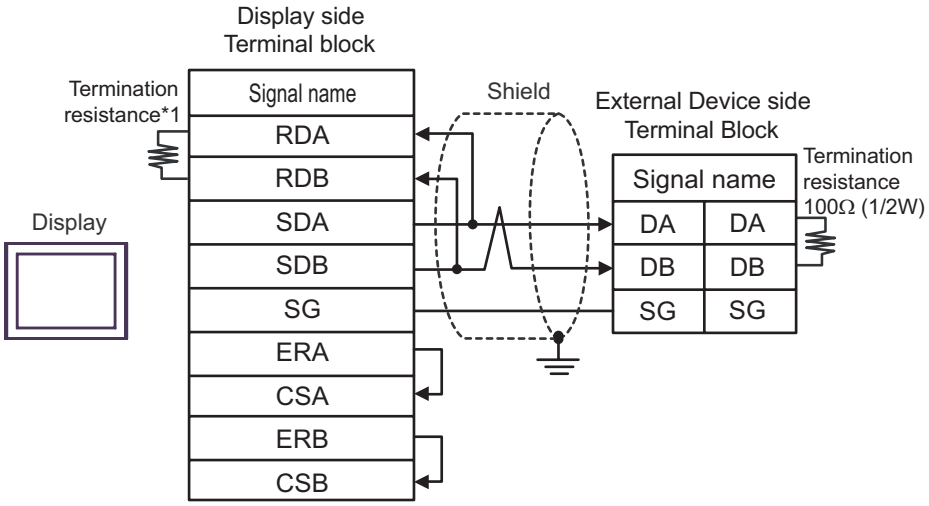


- 1:n Connection

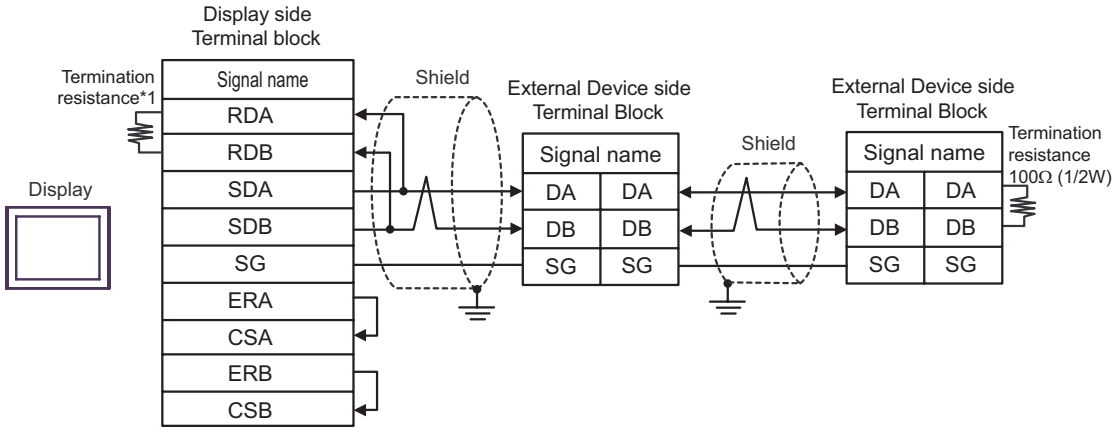


6G)

- 1:1 Connection



- 1:n Connection

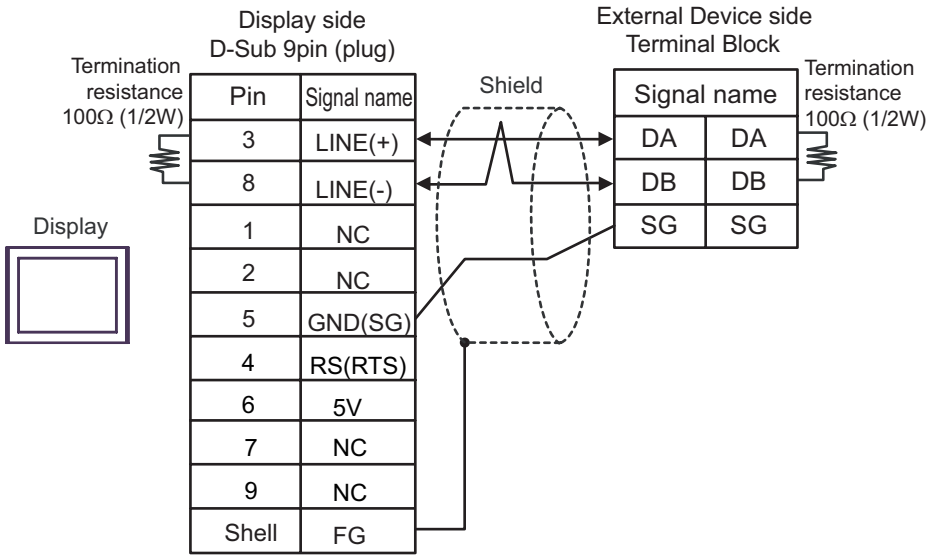


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

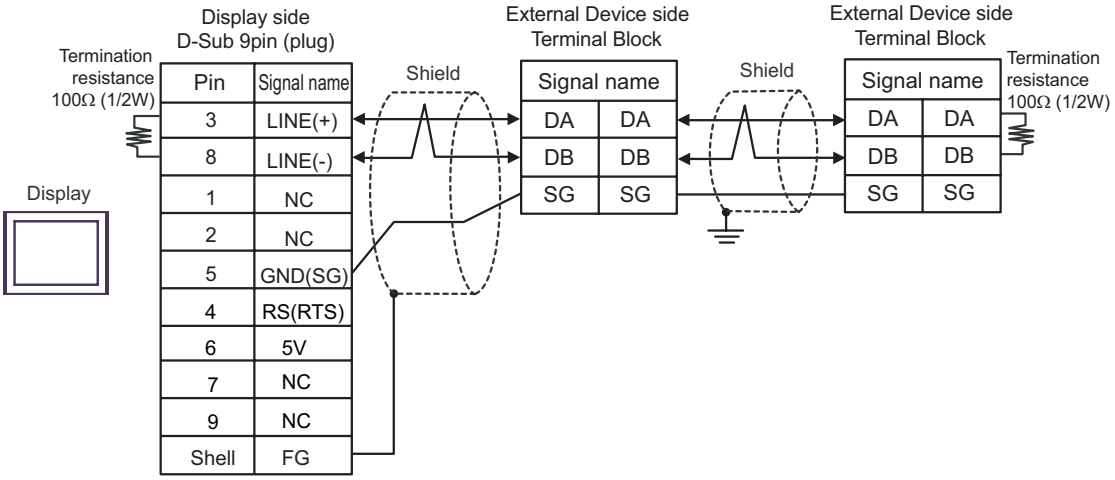
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

6H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

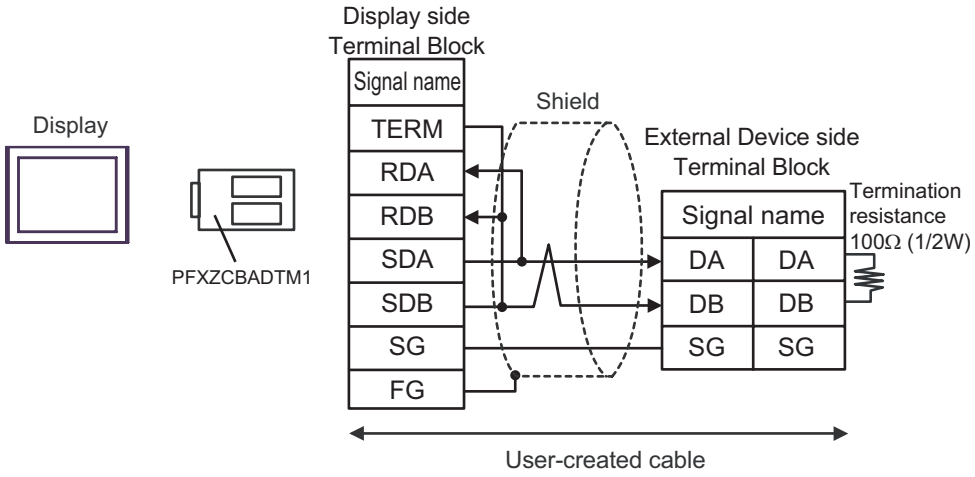
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

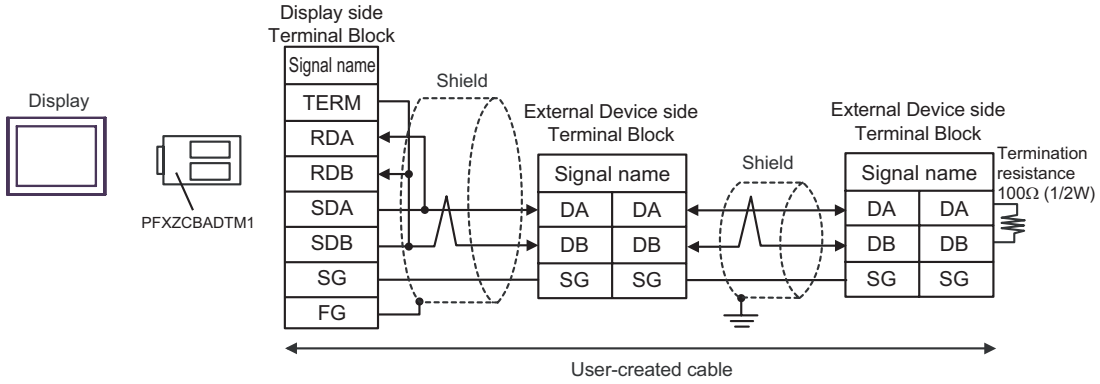
- In COM on the GP-4107, the SG and FG terminals are isolated.

6I)

- 1:1 Connection

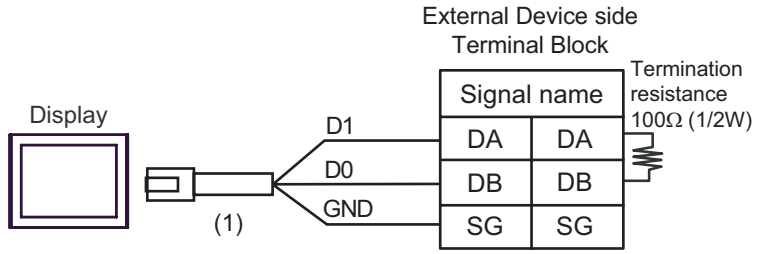


- 1:n Connection

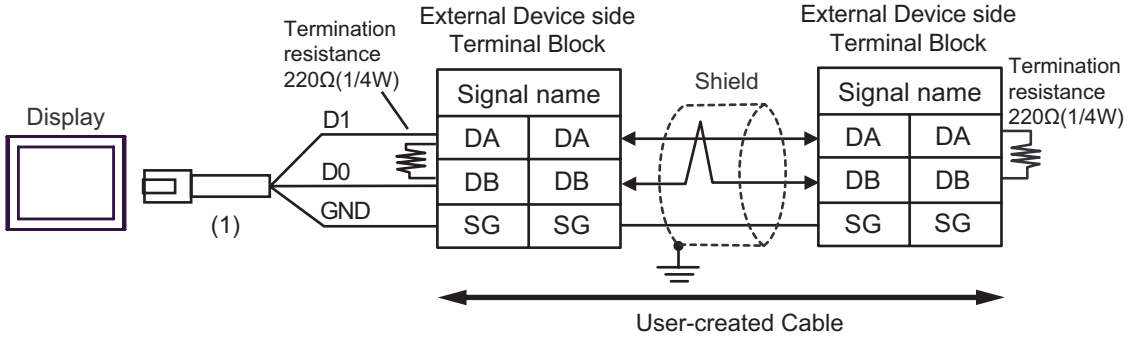


6J)

- 1:1 Connection



- 1:n Connection



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

Cable Diagram 7

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST[*2] (COM2) LT3000 (COM1) IPC[*3]	7A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	7B	User-created cable	
GP3000[*4] (COM2)	7C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	7D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	7E	User-created cable	
GP4000[*5] (COM2) GP-4201T (COM1)	7F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*6] + User-created cable	
	7B	User-created cable	

*1 All GP3000 models except AGP-3302B

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

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

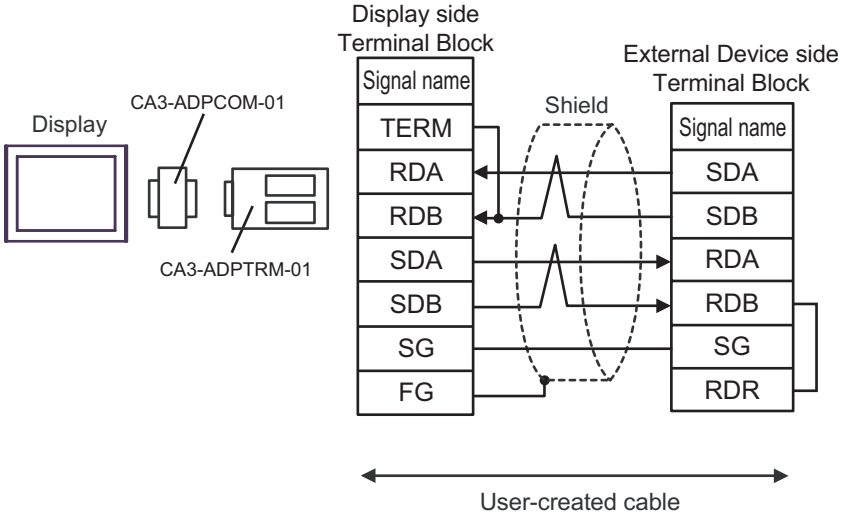
*4 All GP3000 models except GP-3200 series and AGP-3302B

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

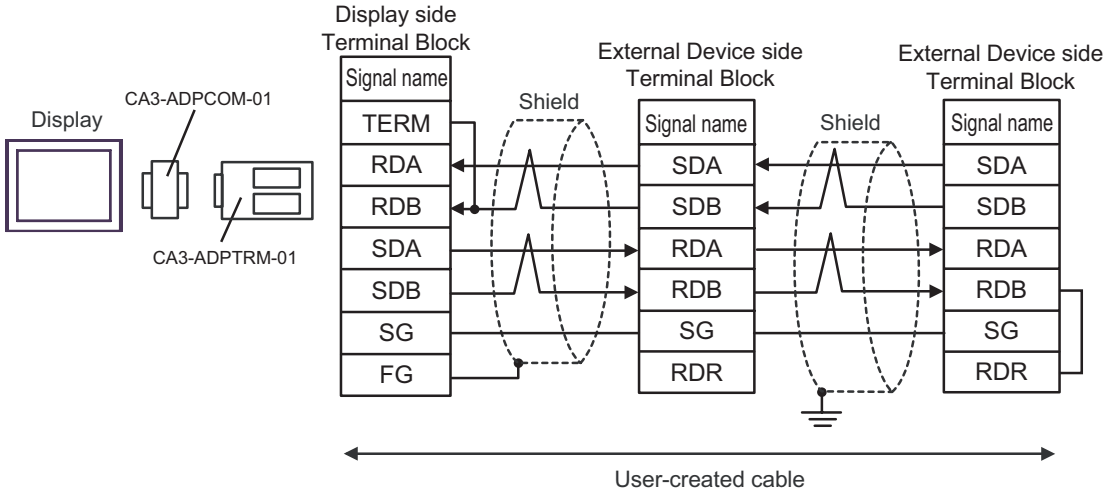
*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 7A.

7A)

- 1:1 Connection

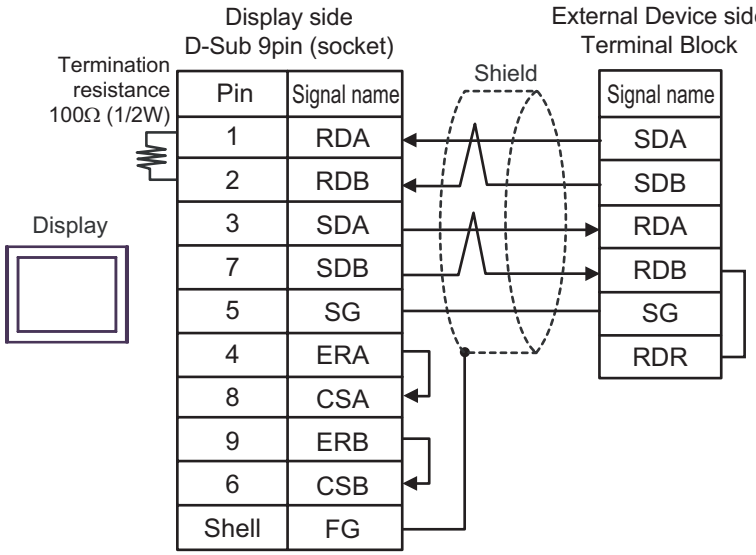


- 1:n Connection

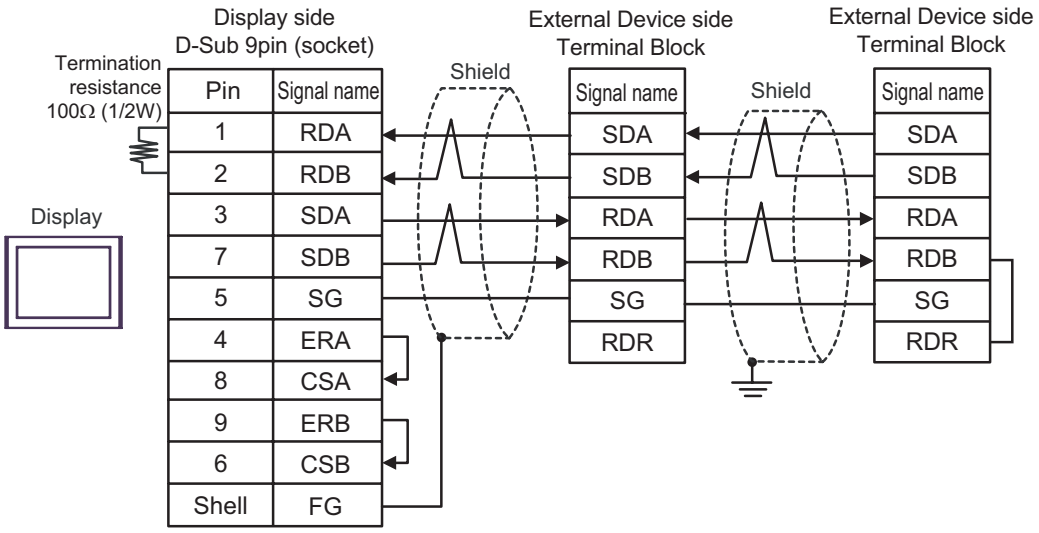


7B)

- 1:1 Connection

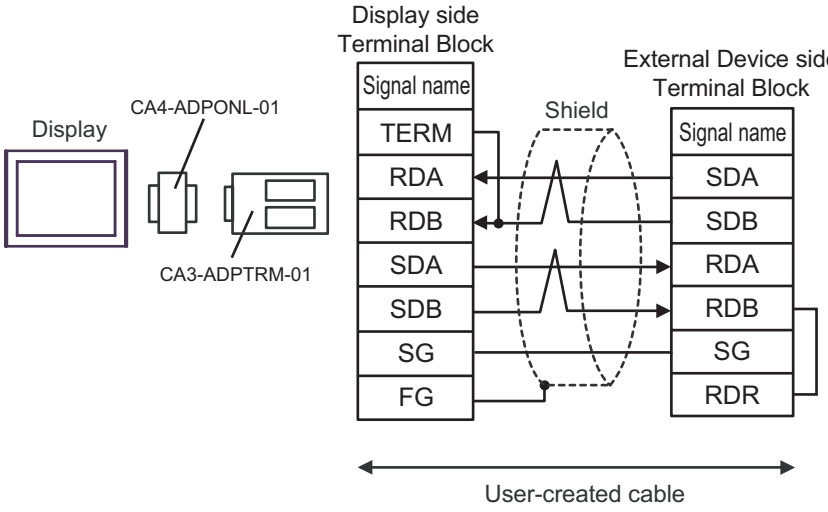


- 1:n Connection

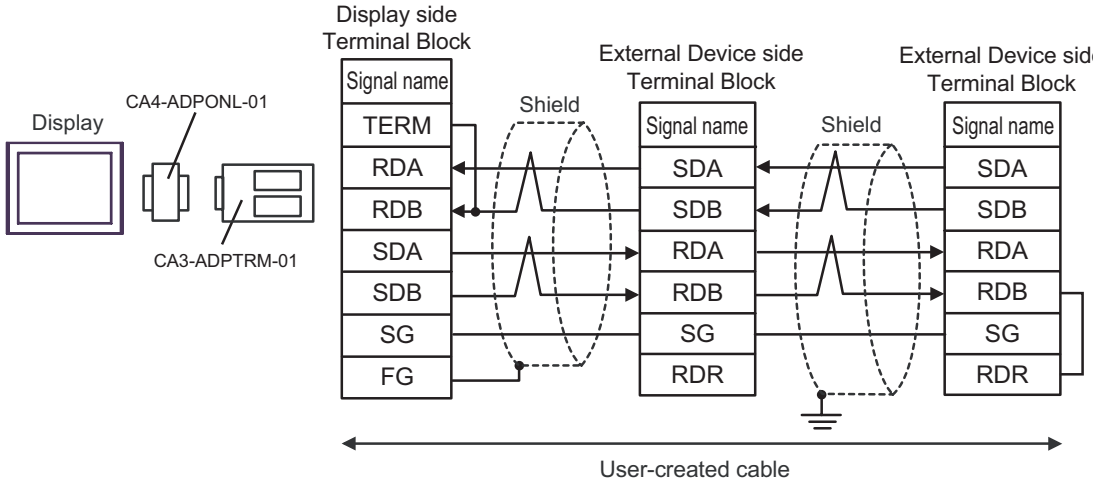


7C)

- 1:1 Connection

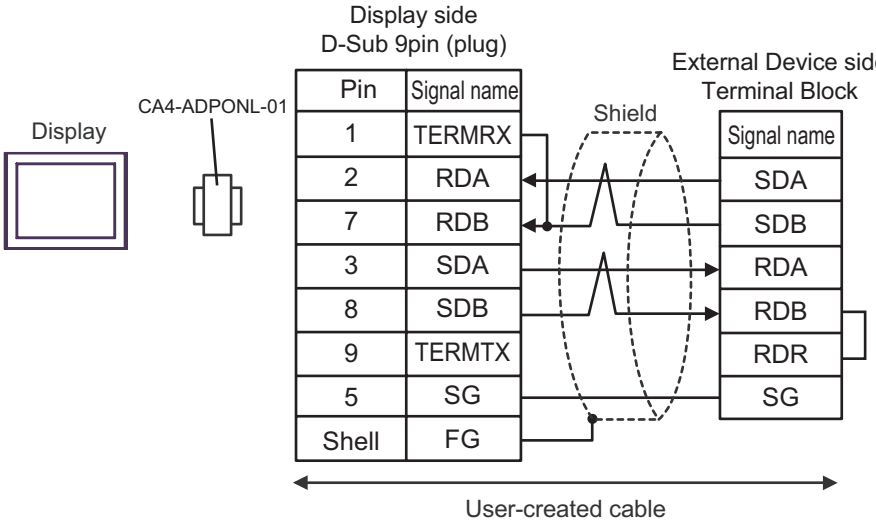


- 1:n Connection

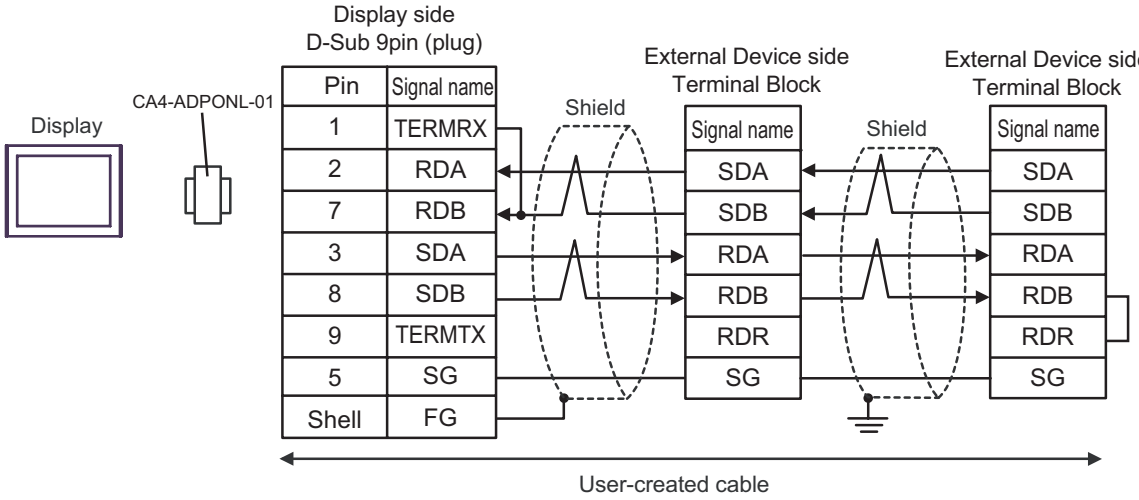


7D)

- 1:1 Connection

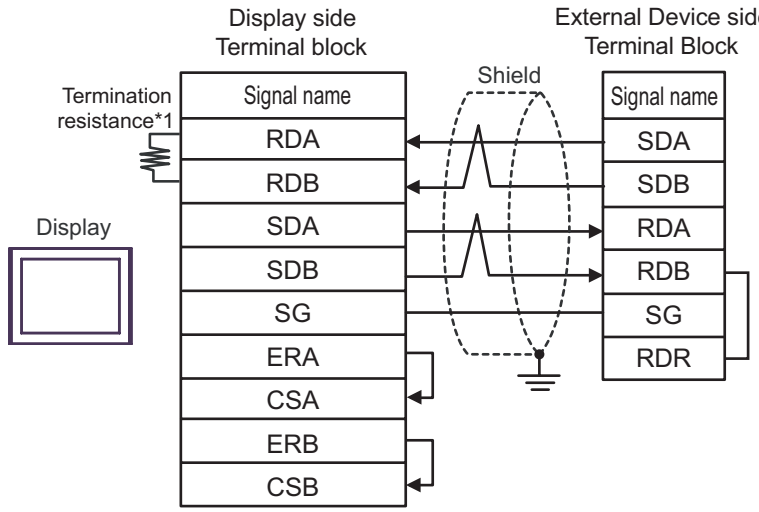


- 1:n Connection

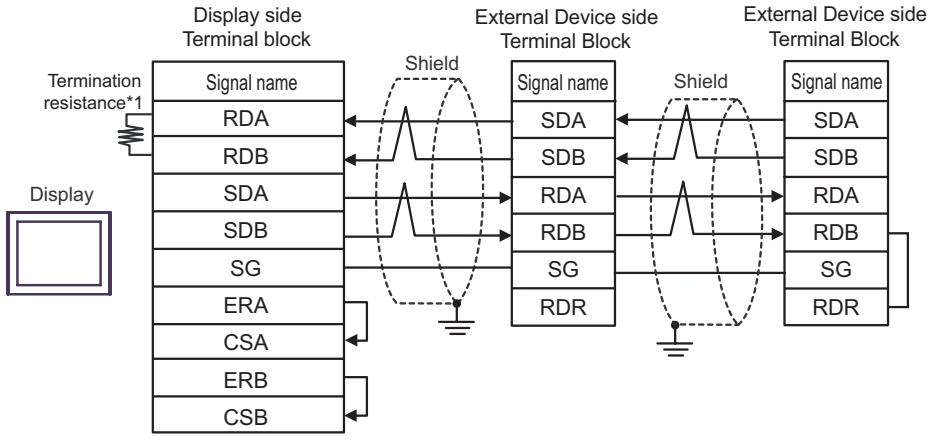


7E)

- 1:1 Connection



- 1:n Connection

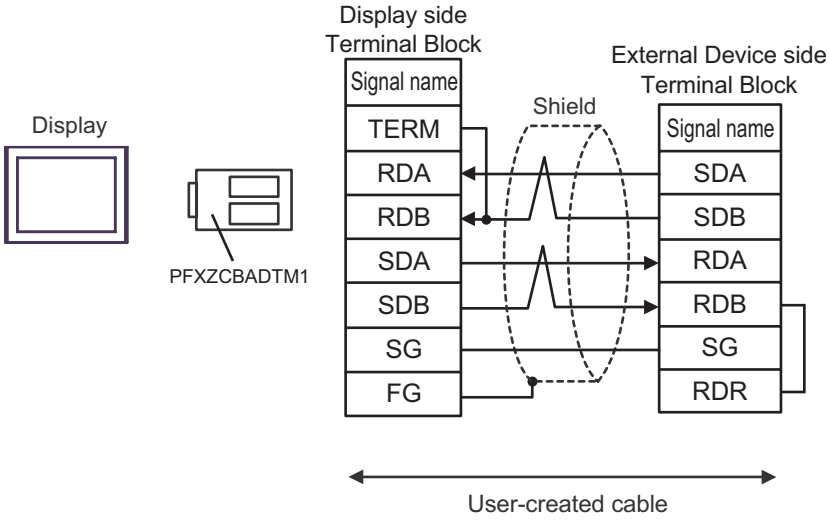


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

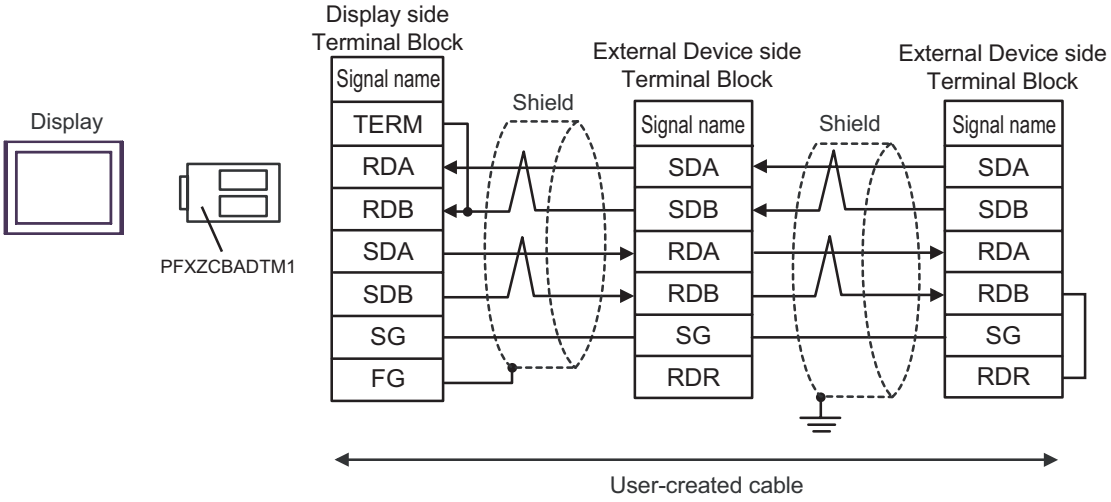
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

7F)

- 1:1 Connection



- 1:n Connection



Cable Diagram 8

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST[*2] (COM2) LT3000 (COM1) IPC[*3]	8A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	8B	User-created cable	
GP3000[*4] (COM2)	8C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	8D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	8E	User-created cable	
GP4000[*5] (COM2) GP-4201T (COM1)	8F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*6] + User-created cable	
	8B	User-created cable	

*1 All GP3000 models except AGP-3302B

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

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

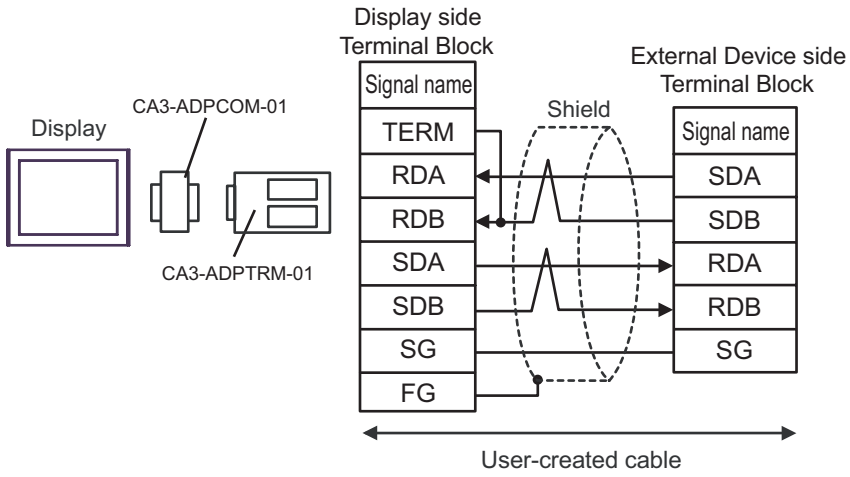
*4 All GP3000 models except GP-3200 series and AGP-3302B

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

*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 8A.

8A)

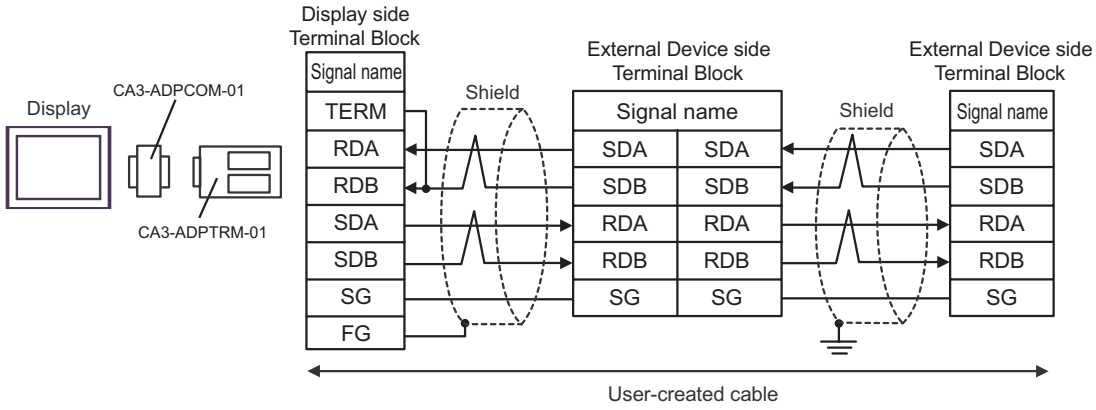
- 1:1 Connection



NOTE

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

- 1:n Connection

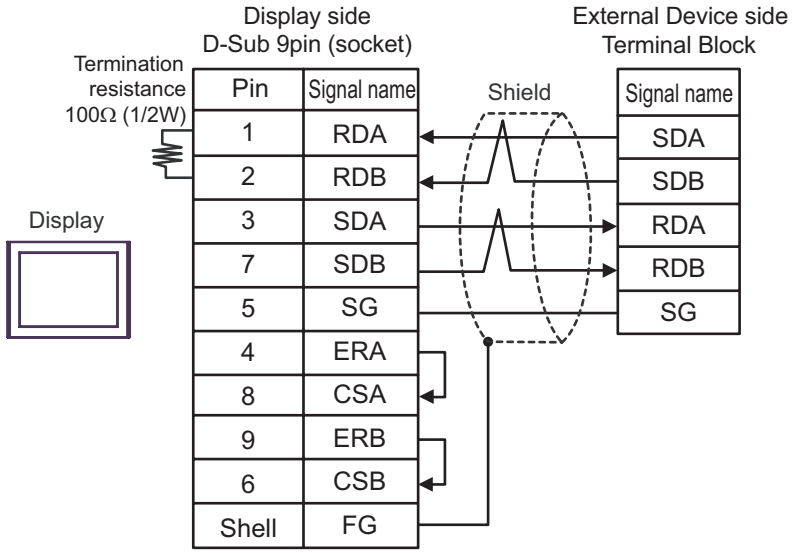


NOTE

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

8B)

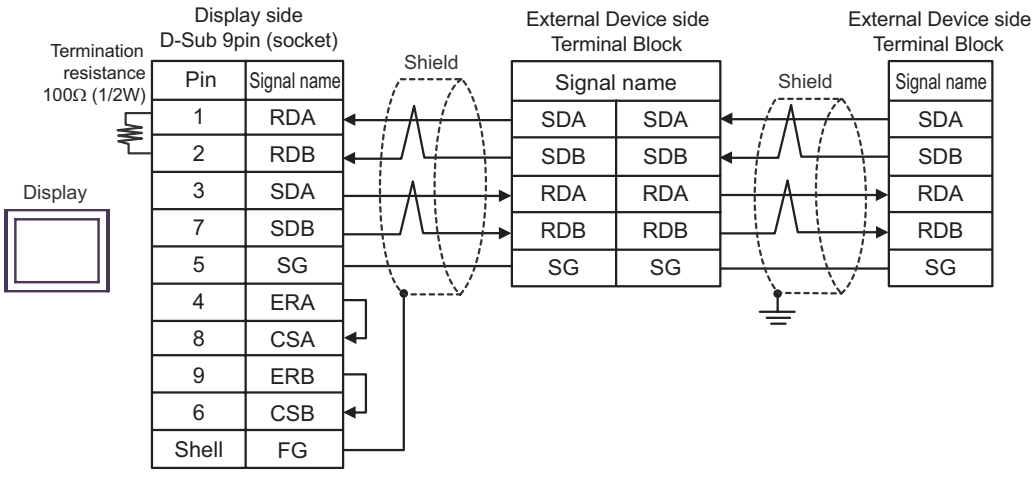
- 1:1 Connection



NOTE

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

- 1:n Connection

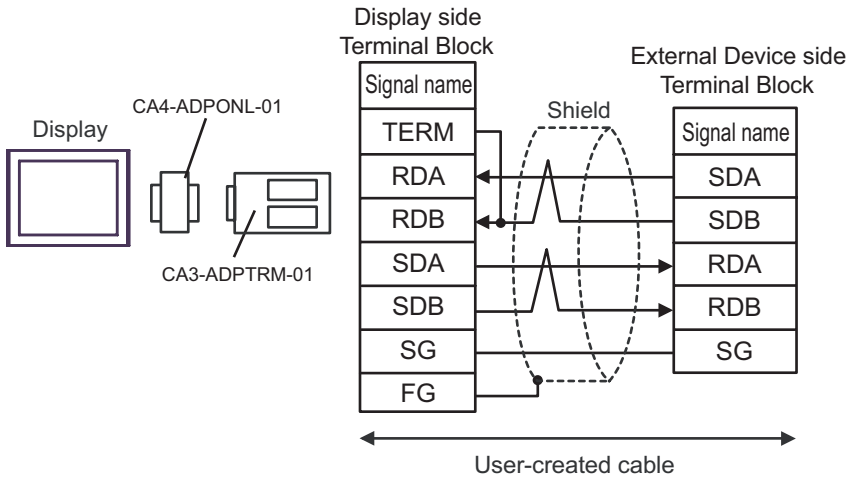


NOTE

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

8C)

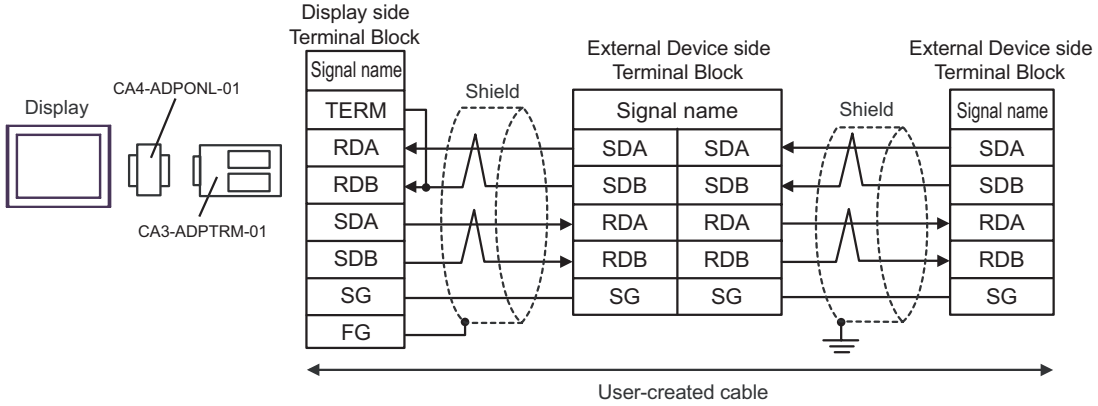
- 1:1 Connection



NOTE

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

- 1:n Connection

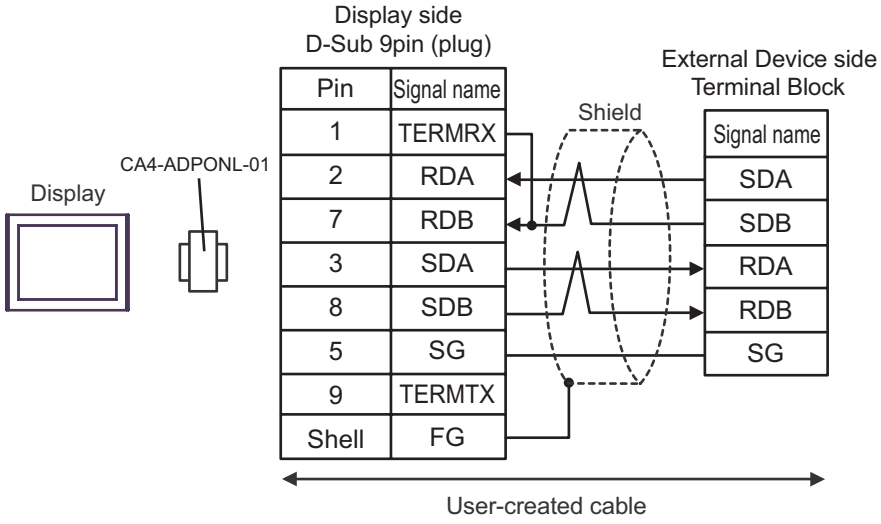


NOTE

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

8D)

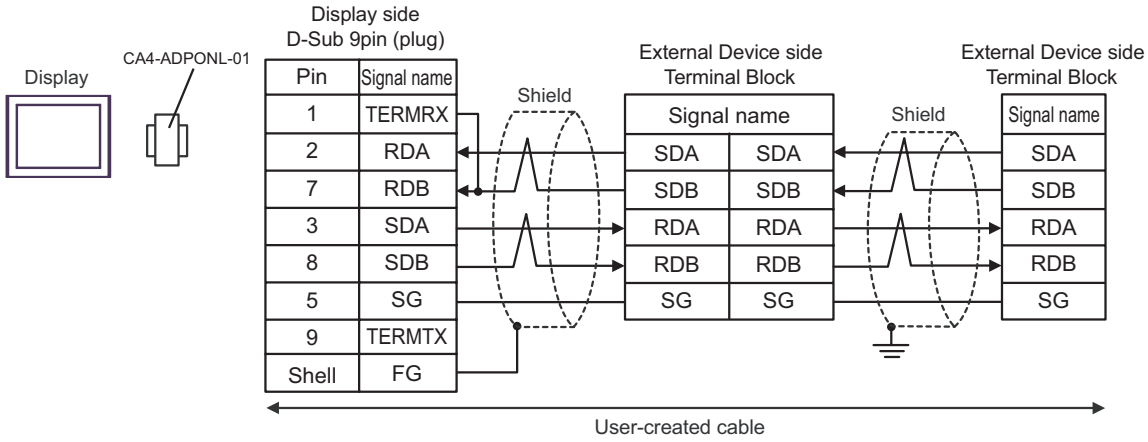
- 1:1 Connection



NOTE

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

- 1:n Connection

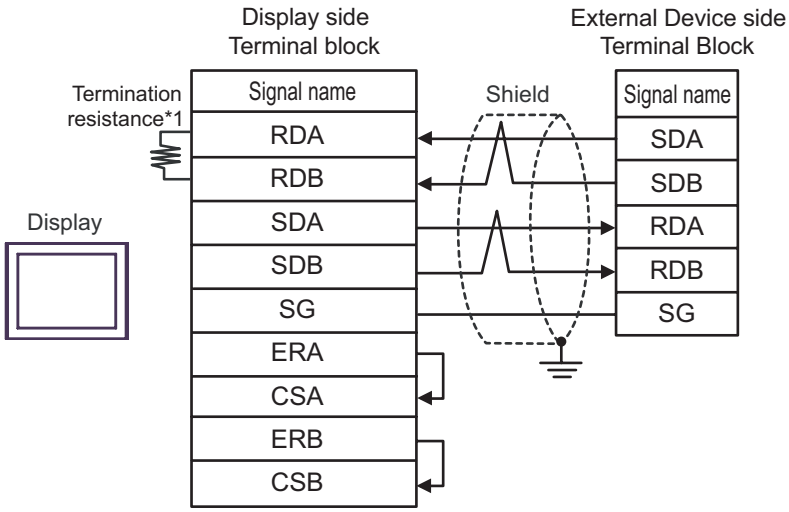


NOTE

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

8E)

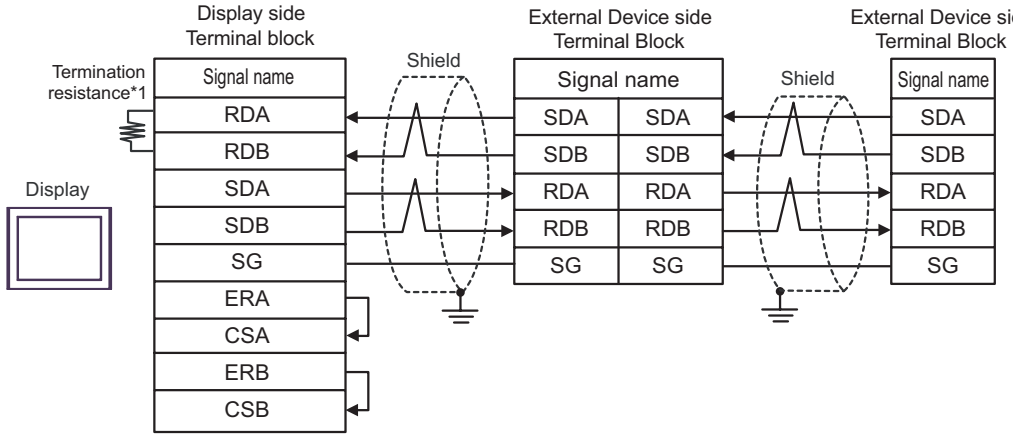
- 1:1 Connection



NOTE

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

- 1:n Connection



NOTE

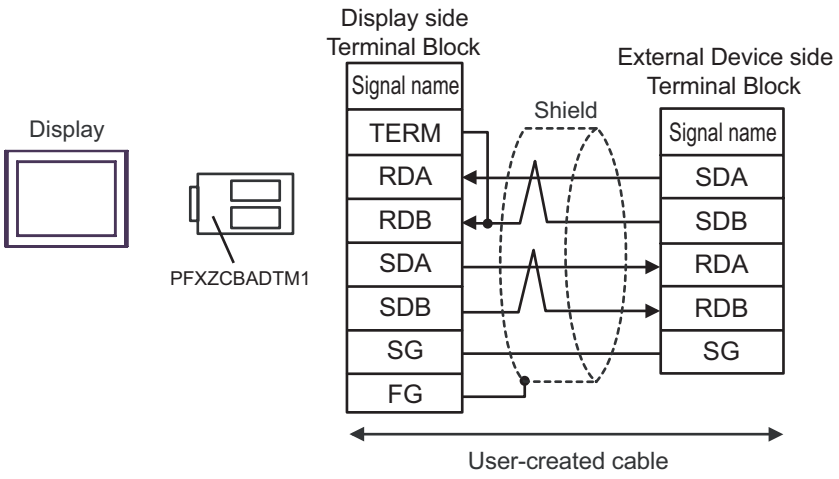
- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

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

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

8F)

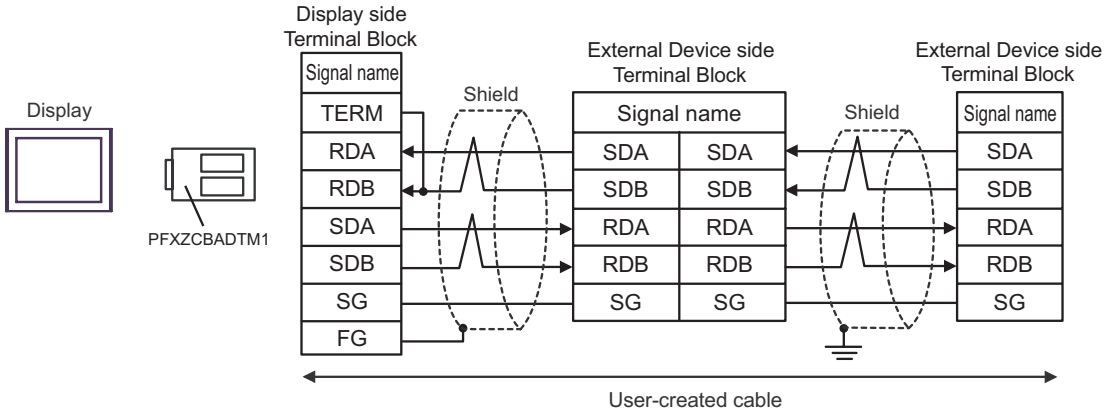
- 1:1 Connection



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
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST[*2] (COM2) LT3000 (COM1)	9A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 500m or less
	9B	User-created cable	
GP3000[*3] (COM2)	9C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	9D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	9E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	9F	User-created cable	
GP-4106 (COM1)	9G	User-created cable	
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	9H	User-created cable	
GP4000[*6] (COM2) GP-4201T (COM1)	9I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*7] + User-created cable	
	9B	User-created cable	
LT-4*01TM (COM1)	9J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

*1 All GP3000 models except AGP-3302B

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

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

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

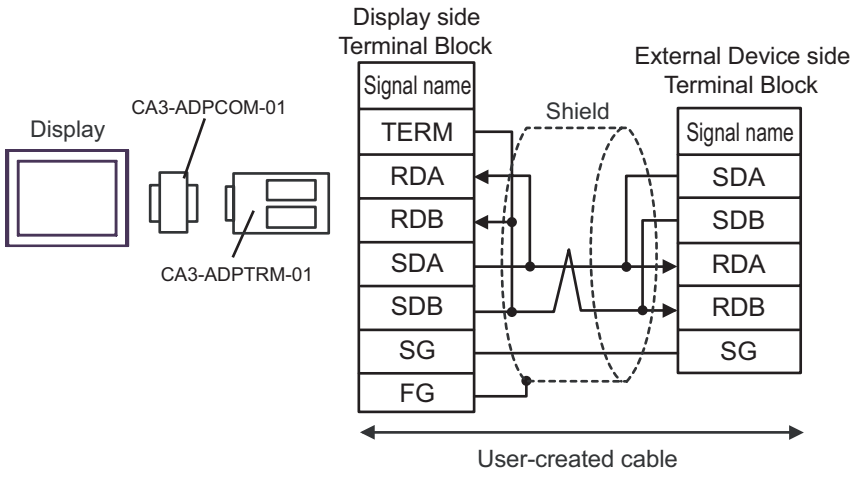
*5 Except GP-4203T

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

*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 9A.

9A)

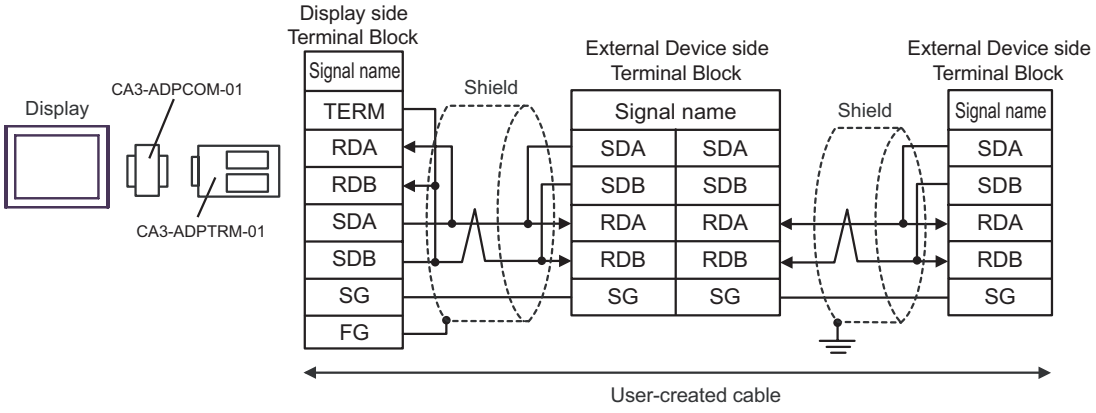
- 1:1 Connection



NOTE

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

- 1:n Connection

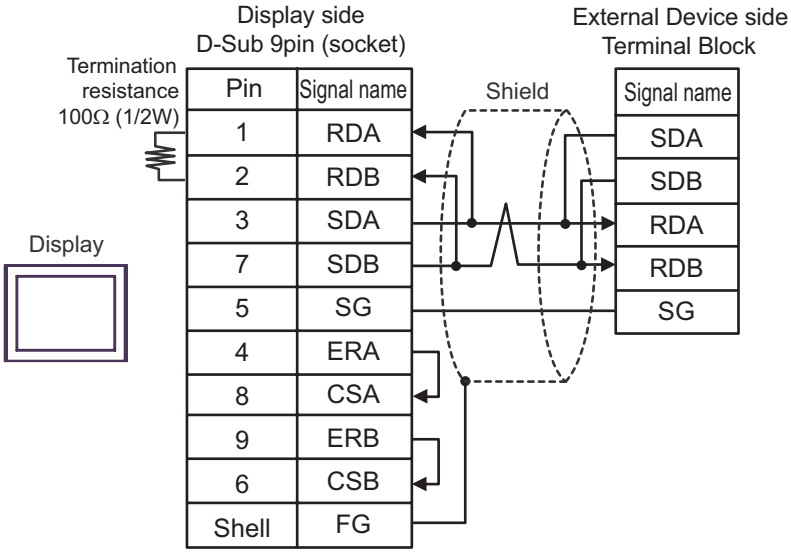


NOTE

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

9B)

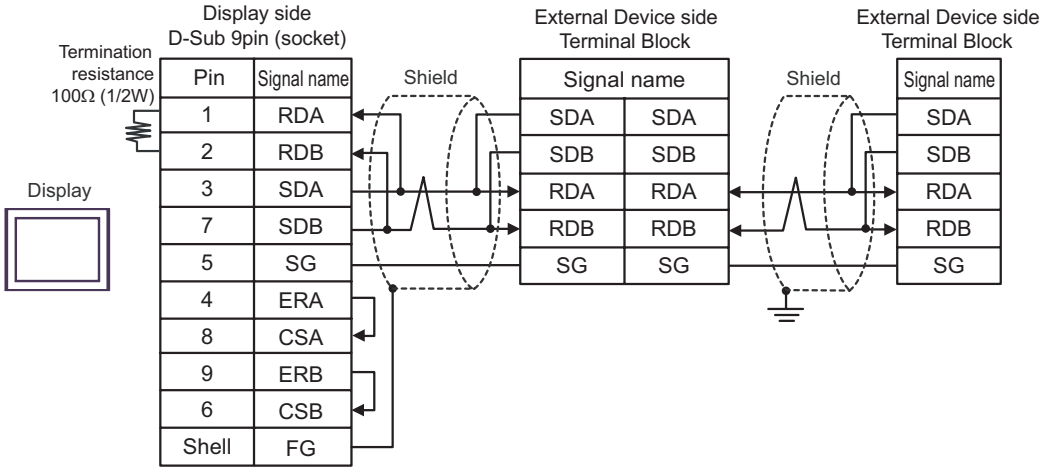
- 1:1 Connection



NOTE

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

- 1:n Connection

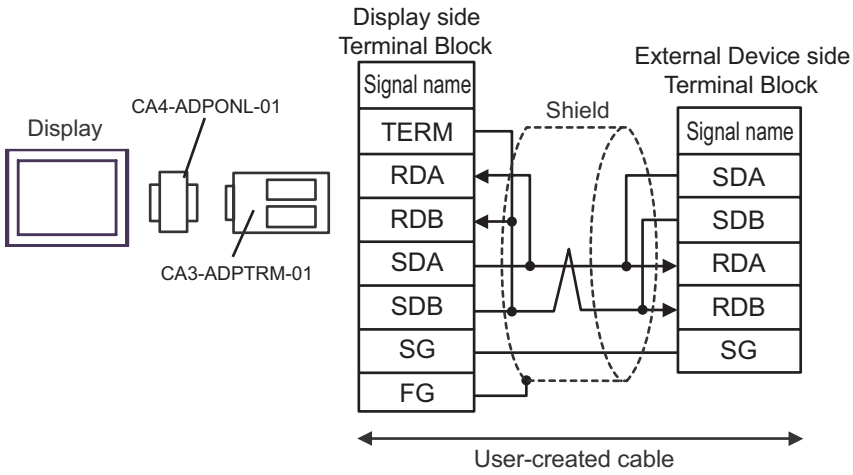


NOTE

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

9C)

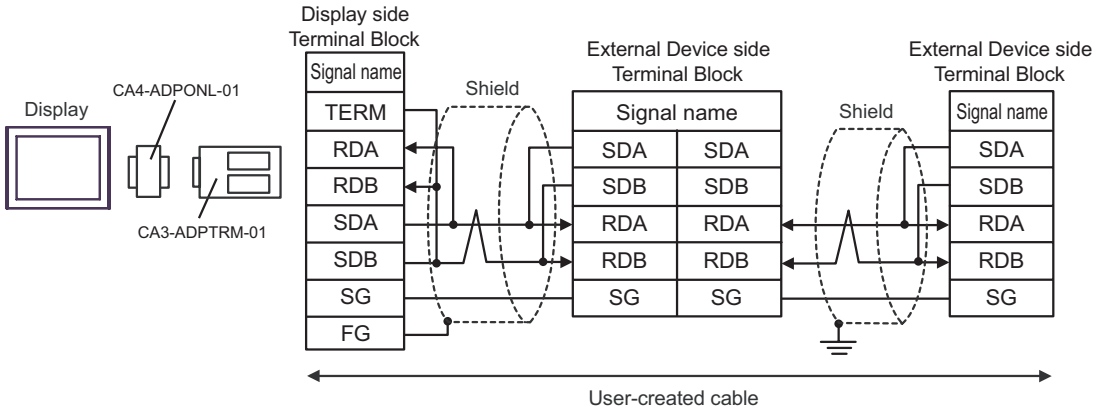
- 1:1 Connection



NOTE

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

- 1:n Connection

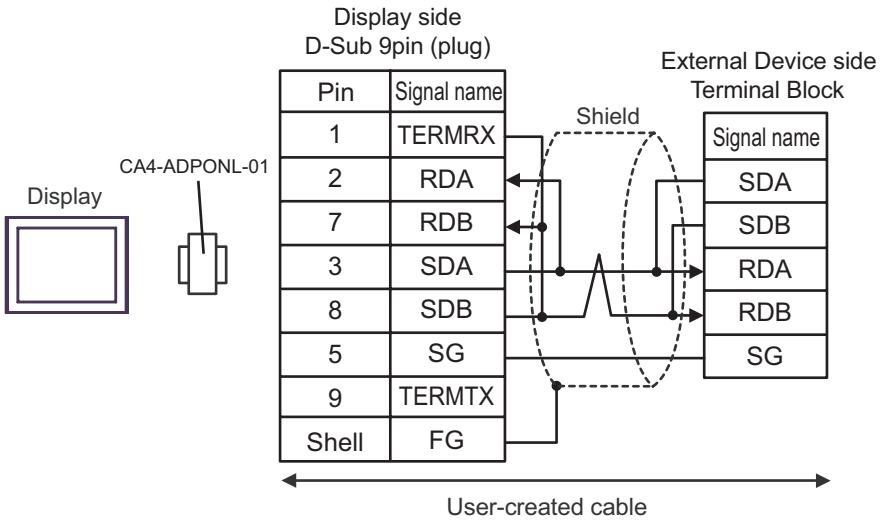


NOTE

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

9D)

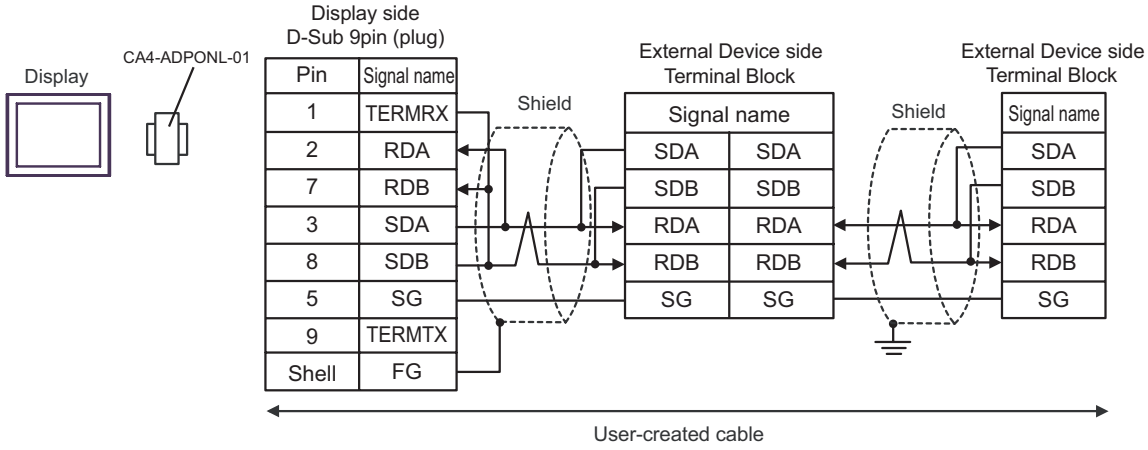
- 1:1 Connection



NOTE

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

- 1:n Connection

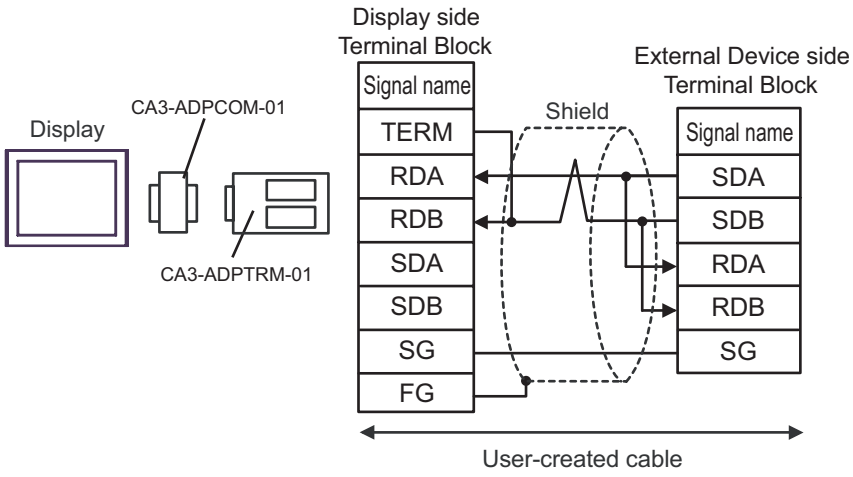


NOTE

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

9E)

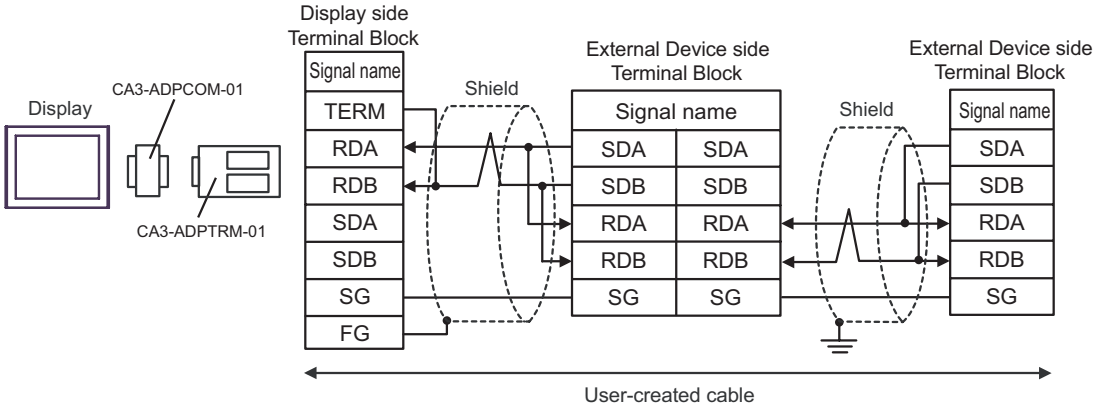
- 1:1 Connection



NOTE

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

- 1:n Connection

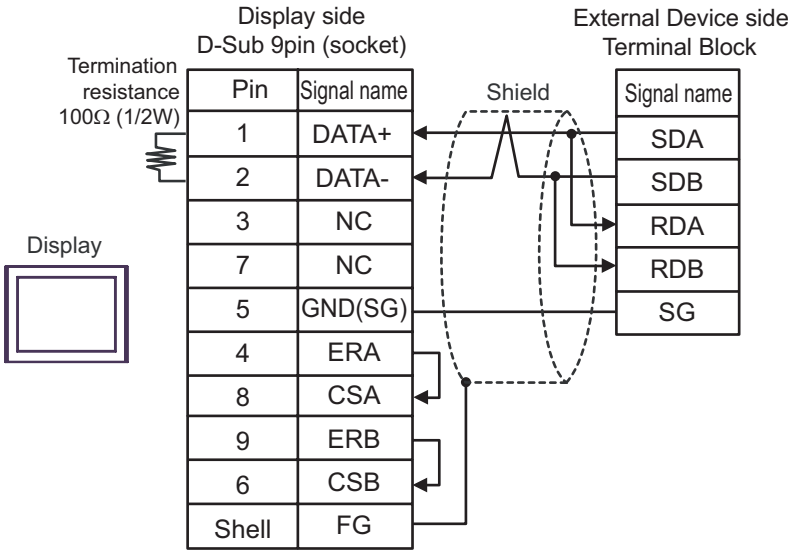


NOTE

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

9F)

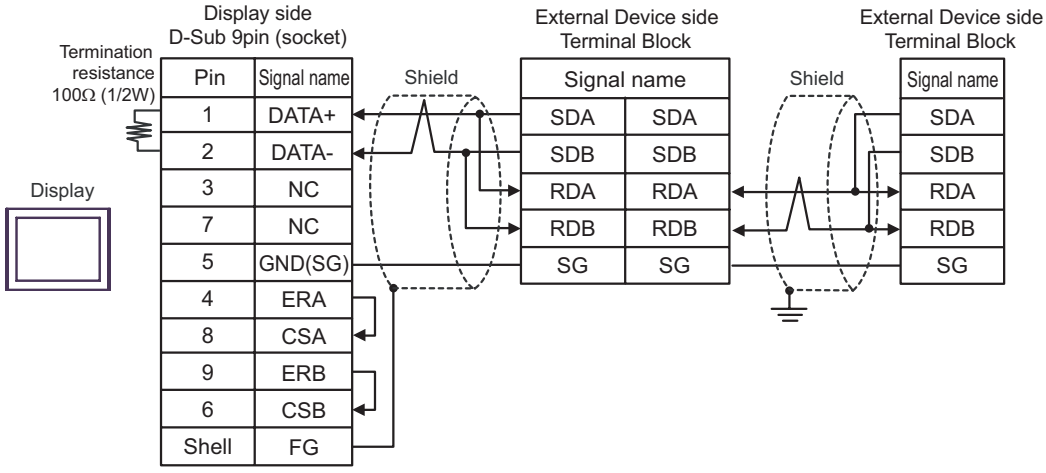
- 1:1 Connection



NOTE

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

- 1:n Connection

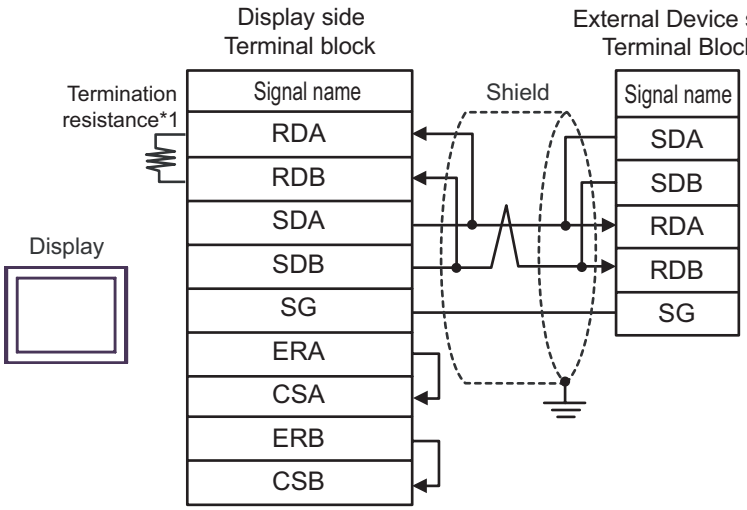


NOTE

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

9G)

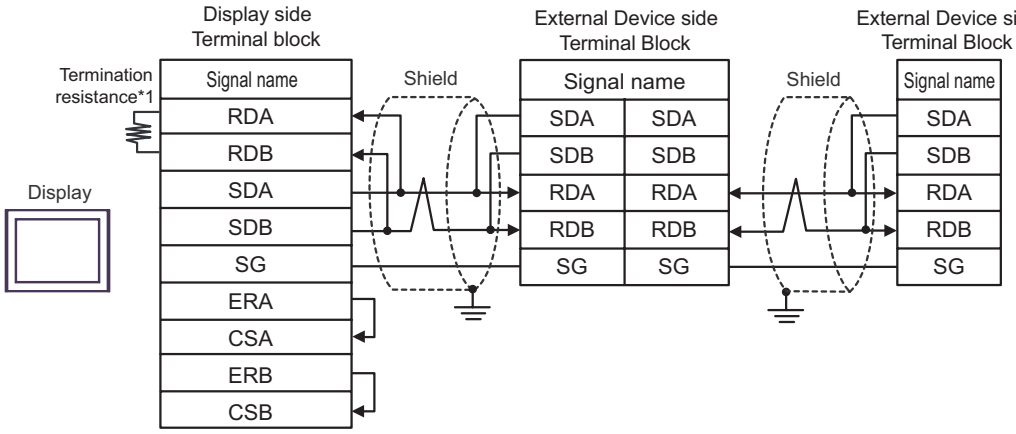
- 1:1 Connection



NOTE

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

- 1:n Connection



NOTE

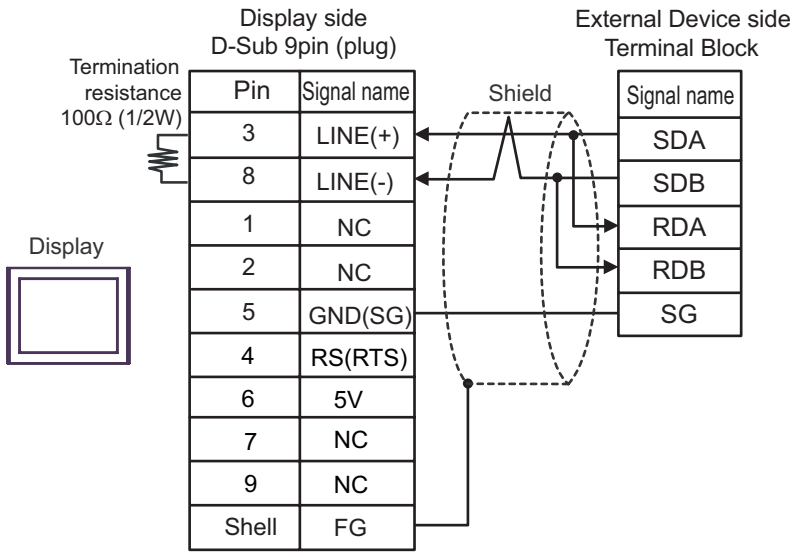
- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.

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

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

9H)

- 1:1 Connection



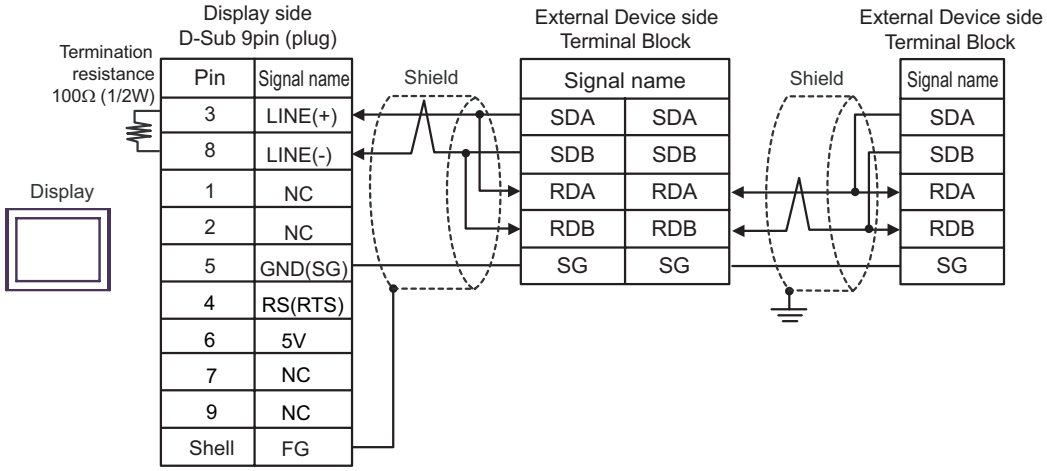
IMPORTANT

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

NOTE

- Please set the terminating resistor switch of the External Device to the "100Ω" position.
- In COM on the GP-4107, the SG and FG terminals are isolated.

- 1:n Connection



IMPORTANT

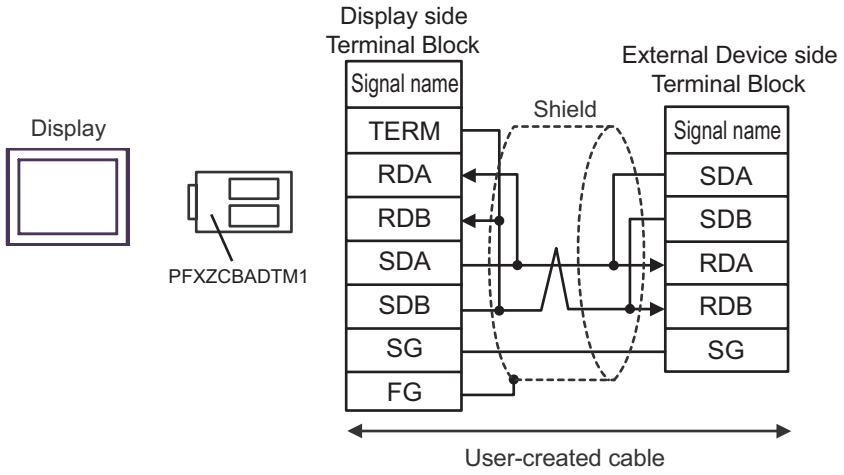
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

- Please set the terminating resistor switch to the "100Ω" position only on the last External Device in the chain.
- In COM on the GP-4107, the SG and FG terminals are isolated.

9I)

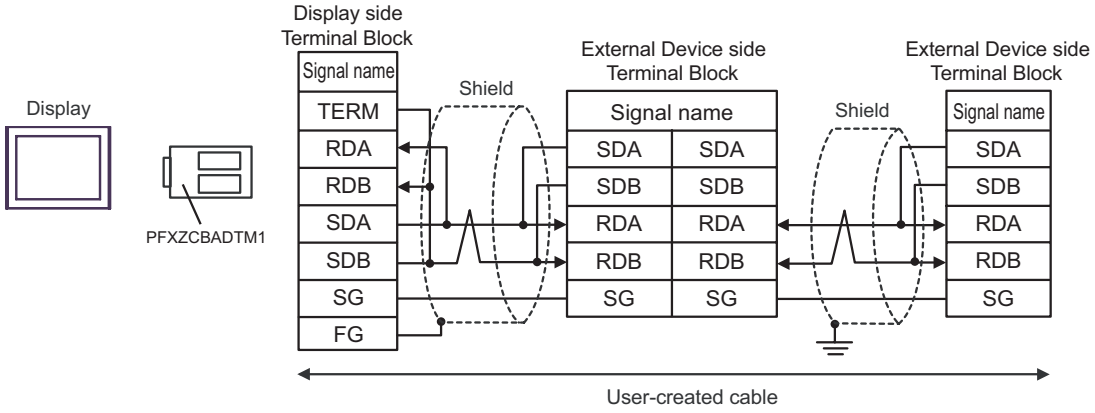
- 1:1 Connection



NOTE

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

- 1:n Connection

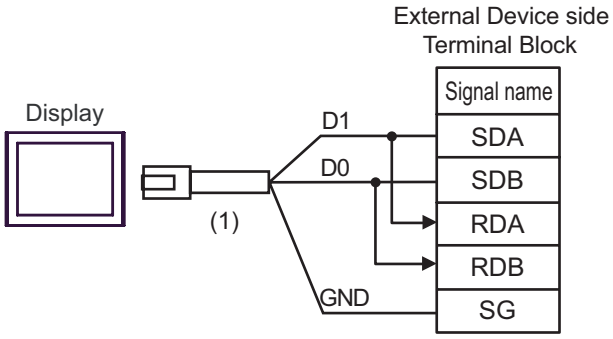


NOTE

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

9J)

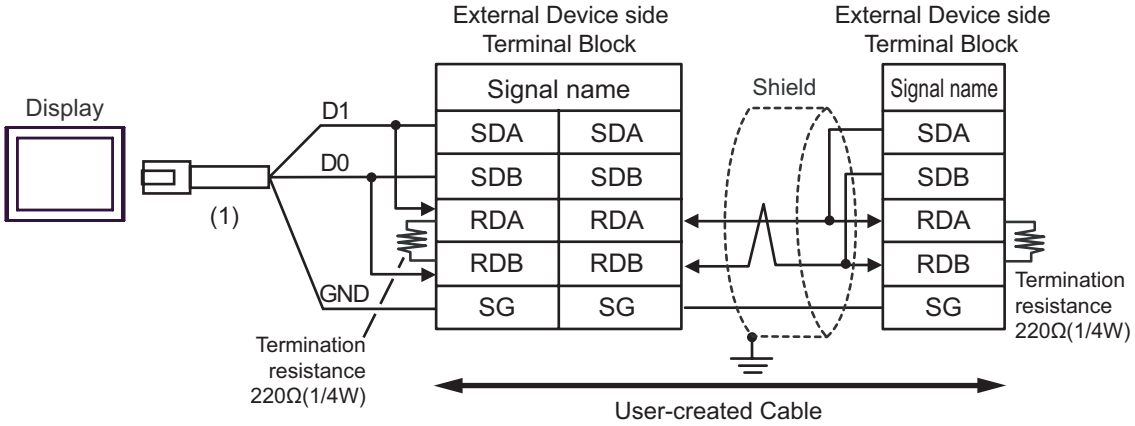
- 1:1 Connection



NOTE

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

- 1:n Connection

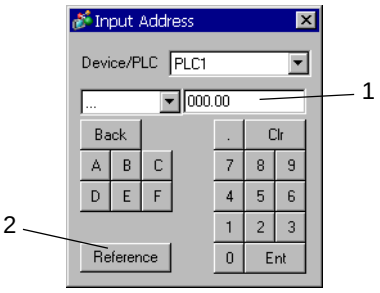


Number	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

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	H/L	*2 *3
	000.00 - 993.15	000 - 993		
Parameter*4	P037.00 - P037.31	P037	-	*3 *5
Setting Items and Set Data*6	S00.00 - S59.15	S00 - S59	H/L	*3 *7 *8
Setting Items and Set Data*9	SL00.00 - SL59.31	SL00 - SL59	-	*3 *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 Setting items and set data of the series except for FR-V500/FR-V500L series.

*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 SL01 to SL04, SL06 to SL46, SL49 to SL52	Read only
S47 to S48, S53 to S57 SL47 to SL48, SL53 to SL57	Write only
S00, S05, S58 to S59 SL00, SL05, SL58 to SL59	Read and Write

*9 Setting items and set data of the FR-E500 series, FR-S500 series, FR-F500J series, FR-E700 series and FR-V500/FR-V500L.

■ Setting Items List

◆ FR-E700 series, FR-E500 series, FR-S500 series, FR-F500J series

Word Address	FR-E700 series	FR-E500 series	FR-S500 series	FR-F500J series
S00	Operation mode	Operation mode	Operation mode	Operation mode
S01/ SL01*1	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	-	-
S04/ SL04*1	Special monitor	-	-	-
S05	Special monitor selection No.	-	-	-
S06/ SL06*1	Output frequency	-	-	-
S07	Output current	-	-	-
S08	Output voltage	-	-	-
S09/ SL09*1	Frequency setting	-	-	-
S10	-	-	-	-
S11	Motor torque	-	-	-
S12	Converter output voltage	-	-	-
S13	Regenerative brake duty	-	-	-
S14	Electronic thermal relay function load factor	-	-	-
S15	Output current peak value	-	-	-
S16	Converter output voltage peak value	-	-	-
S17	-	-	-	-
S18	Output power	-	-	-
S19	Input terminal status	-	-	-
S20	Output terminal status	-	-	-
S21	-	-	-	-
S22	-	-	-	-
S23	-	-	-	-
S24	Cumulative energization time	-	-	-
S25	-	-	-	-
S26	Actual operation time	-	-	-
S27	Motor load factor	-	-	-
S28	Cumulative power	-	-	-
S29	-	-	-	-
S30	-	-	-	-
S31	-	-	-	-
S32	-	-	-	-
S33	-	-	-	-
S34	-	-	-	-
S35	PID set point	-	-	-
S36	PID measured value	-	-	-
S37	PID deviation value	-	-	-
S38	Option input terminal status1	-	-	-
S39	Option input terminal status2	-	-	-
S40	Option output terminal status	-	-	-
S41	Motor thermal load factor	-	-	-

Word Address	FR-E700 series	FR-E500 series	FR-S500 series	FR-F500J series
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)	-	-
S46	Alarm definition (Latest Nos. 7&8)	Alarm definition (Latest Nos. 7&8)	-	-
S47	Run command (extended)	-	-	-
S48	Run command	Run command	Run command	Run command
S49	Inverter status monitor (extended)	-	-	-
S50	Inverter status monitor	Inverter status monitor	Inverter status monitor	Inverter status monitor
S51/ SL51*1	Set frequency read (RAM)	Set frequency read (RAM)	Set frequency read (RAM)	Set frequency read (RAM)
S52/ SL52*1	Set frequency read (EEPROM)	Set frequency read (EEPROM)	Set frequency read (EEPROM)	Set frequency read (EEPROM)
S53/ SL53*1	Set frequency write (RAM)	Set frequency write (RAM)	Set frequency write (RAM)	Set frequency write (RAM)
S54/ SL54*1	Set frequency write (RAM, EEPROM)	Set frequency write (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 batch clear	Alarm definition batch clear	Alarm definition batch clear
S57	All parameter clear	All parameter clear	All parameter clear	All parameter clear
S58	Link parameter extended 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 Available device differs depending on the settings of the External Device. Use the S device and the SL device for 4-byte data length and 6-byte data length, respectively.
For details concerning the settings of the External Device, refer to the External Device manual.

◆ FR-A700/FR-A701 series, FR-F700 series, FR-B,B3(A700) series, FR-B,B3(A500) series

Word Address	FR-A700/FR-A701 series	FR-F700 series	FR-B,B3(A700) 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	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
S10	Running speed	Running speed	Running speed	Running speed
S11	Motor torque	-	Motor torque	Motor torque
S12	Converter output voltage	Converter output voltage	Converter output voltage	-
S13	Regenerative brake duty	Regenerative brake duty	Regenerative brake duty	Regenerative brake
S14	Electronic thermal relay function load factor	Electronic thermal relay function load factor	Electronic thermal relay function load factor	Electronic overcurrent protection 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	Input power
S18	Output power	Output power	Output power	Output power
S19	Input terminal status	Input terminal status	Input terminal status	-
S20	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	-
S25	Orientation status	-	Orientation status	-
S26	Actual operation time	Actual operation time	Actual operation time	-
S27	Motor load factor	Motor load factor	Motor load factor	-
S28	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	-
S36	PID measured value	PID measured value	PID measured value	-
S37	PID deviation value	PID deviation value	PID deviation value	-
S38	Option input terminal status1	-	Option input terminal status1	-
S39	Option input terminal status2	-	Option input terminal status2	-
S40	Option output terminal status	-	Option output terminal status	-
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)

Word Address	FR-A700/FR-A701 series	FR-F700 series	FR-B,B3(A700) series	FR-B,B3(A500) series
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)	-
S48	Run command	Run command	Run command	Run command
S49	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)
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 (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 batch clear
S57	All parameter clear	All parameter clear	All parameter clear	All clear/User clear
S58	Link parameter extended setting	Link parameter extended setting	Link parameter extended setting	Link parameter expansion setting
S59	Second parameter changing	Second parameter changing	Second parameter changing	Second parameter changing

◆ FR-A500/FR-A500L series, FR-F500/FR-F500L series, FR-C500 series

Word Address	FR-A500/FR-A500L series	FR-F500/FR-F500L series	FR-C500 series
S00	Operation mode	Operation mode	Operation mode
S01	Output frequency[speed]	Output frequency[speed]	Output frequency[speed]
S02	Output current	Output current	Output current
S03	Output voltage	Output voltage	-
S04	Special monitor	Special monitor	-
S05	Special monitor selection No.	Special monitor selection No.	-
S06	Output frequency	Output frequency	-
S07	Output current	Output current	-
S08	Output voltage	Output voltage	-
S09	Frequency setting	Frequency setting	-
S10	Running speed	Running speed	-
S11	Motor torque	-	-
S12	Converter output voltage *1	Converter output voltage *2	-
S13	Regenerative brake duty	-	-
S14	Electronic thermal relay function load factor	Electronic thermal relay function load factor	-
S15	Output current peak value	Output current peak value	-
S16	Converter output voltage peak value	Converter output voltage peak value	-
S17	Input power	Input power	-
S18	Output power	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)
S44	Alarm definition (Latest Nos. 3&4)	Alarm definition (Latest Nos. 3&4)	Alarm definition (Latest Nos. 3&4)

Word Address	FR-A500/FR-A500L series	FR-F500/FR-F500L series	FR-C500 series
S45	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)	-
S47	-	-	-
S48	Run command	Run command	Run command
S49	-	-	-
S50	Inverter status monitor	Inverter status monitor	Inverter status monitor
S51	Set frequency read (RAM) *1	Set frequency read (RAM) *2	Set frequency read (RAM)
S52	Set frequency read (EEPROM) *1	Set frequency read (EEPROM) *2	Set frequency read (EEPROM)
S53	Set frequency write (RAM) *1	Set frequency write (RAM) *2	Set frequency write (RAM)
S54	Set frequency write (EEPROM)	Set frequency write (EEPROM)	Set frequency write (RAM,EEPROM)
S55	Inverter reset	Inverter reset	Inverter reset
S56	Alarm definition all clear *1	Alarm definition batch clear *2	Alarm definition batch clear
S57	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
S59	Second parameter changing	Second parameter changing	-

*1 Not supported by FR-A500L series.

*2 Not supported by FR-F500L series.

◆ FR-V500/FR-V500L series

Word Address	FR-V500/FR-V500L series
SL00	Operation mode
SL01	Speed
SL02	Output current
SL03	Output voltage
SL04	Special monitor
SL05	Special monitor selection No.
SL06	Output frequency
SL07	Output current
SL08	Output voltage
SL09	Speed setting
SL10	Running speed
SL11	Motor torque
SL12	Converter output voltage
SL13	Regenerative brake
SL14	Electronic thermal relay function load factor
SL15	Output current peak value
SL16	Converter output voltage peak value
SL17	-
SL18	-
SL19	Input terminal status
SL20	Output terminal status
SL21	Load meter
SL22	Motor excitation current
SL23	Position pulse
SL24	Cumulative energization time
SL25	-
SL26	Actual operation time
SL27	Motor load factor
SL28	-
SL29	Torque command
SL30	Torque current command
SL31	Motor output
SL32	Feedback pulse
Sl33	-
SL34	-
SL35	-
SL36	-
SL37	-
SL38	-
SL39	-
SL40	-
SL41	-
SL42	-
SL43	Alarm definition (Latest Nos. 1&2)
SL44	Alarm definition (Latest Nos. 3&4)

Word Address	FR-V500/FR-V500L series
SL45	Alarm definition (Latest Nos. 5&6)
SL46	Alarm definition (Latest Nos. 7&8)
SL47	-
SL48	Run command
SL49	-
SL50	Inverter status monitor
SL51	Set speed read (RAM)
SL52	Set speed read (EEPROM)
SL53	Set speed write (RAM)
SL54	Set speed write (EEPROM)
SL55	Inverter reset
SL56	Alarm definition all clear
SL57	Parameter all clear
SL58	Link parameter expansion setting
SL59	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 "LS Area (Direct Access Method Area)"
- 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*1	-	0080	Word Address
Parameter*2	P	0082	Word Address
Setting Items and set data*3	S	0081	Word Address
Setting Items and set data*4	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-E500 Series, FR-S500 Series, FR-F500J Series, FR-E700 Series, FR-V500 series and FR-V500L series.

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. **NOTE** • IP address is displayed as "IP address (Decimal): MAC address (Hex)". • Device address is displayed as "Address: Device address". • Received error codes are displayed as "Decimal [Hex]".

Display Examples of Error Messages

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

NOTE

- Refer to your External Device manual for details on received error codes.
- Refer to "Display-related errors" in "Maintenance/Troubleshooting Guide" for details on the error messages common to the driver.

■ 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

■ Error Messages Unique to External Device

Error No.	Error Message	Description
RHxx128	(Node Name): Invalid Parameter is used (Address: (Device Address))	Displayed when Parameter 700-799 and 906-916 are used.
RHxx129	(Node Name): The Setting value for (Device Address) is illegal. Please check the inverter manuals.	Displayed when the out-of-range value is written in the External Device.

Error No.	Error Message	Description
RHxx130	(Node Name): Please change to use (Device Address) to read the Setting Items/data.	Displayed when the incorrect device is used. When the External Device data length is 4-byte and 6-byte, use the S device and the SL device, respectively. ☞ " ■ Setting Items List" (page 162)
RHxx131	(Node Name): Please change to use (Device Address) to write the Setting Items/data.	Displayed when the incorrect device is used. When the External Device data length is 4-byte and 6-byte, use the S device and the SL device, respectively. ☞ " ■ Setting Items List" (page 162)