Yokogawa Electric Corporation

Personal Computer Link SIO Driver

Introduction

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

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

1	System Configuration This section shows the types of External Devices which can be connected and SIO type.	☞"1 System Configuration" (page 3)
2	Selection of External Device Select a model (series) of the External Device to be connected and connection method.	☞"2 Selection of External Device" (page 11)
3	Example of Communication Settings This section shows setting examples for communicating between the Display and the External Device.	☞"3 Example of Communication Setting" (page 12)
4	Communication Settings This section describes communication setup items on the Display. Set communication settings of the Display with GP-Pro EX or in offline mode.	☞"4 Setup Items" (page 71)
5	Cable Diagram This section shows cables and adapters for connecting the Display and the External Device.	☞"5 Cable Diagram" (page 77)

Operation

1 System Configuration

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

IMPORTANT
- You cannot connect more than 2 Display units simultaneously by using CPU Direct and Personal Computer Link Module.
- Pass-Through Function can be used only when the display is connected to the programming port on the CPU.

1.1 CPU Direct

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
FA-M3	F3SP08-0P F3SP21-0N F3SP25-2N F3SP28-3N F3SP35-5N F3SP38-6N F3SP53-4H F3SP58-6H F3SP28-3S F3SP38-6S F3SP53-4S F3SP58-6S F3SP59-7S	Programming port on CPU	RS232C	Setting Example 1 (page 12)	Cable Diagram1 (page 77)
	F3SP22-0S	Programming port on CPU	RS232C	Setting Example 29 (page 69)	Cable Diagram1 (page 77)
	F3SP66-4S F3SP67-6S	SIO port on CPU unit	RS232C	Setting Example 20 (page 50)	Cable Diagram 9 (page 135)
FCN	NFCP100-S00	Serial port on CPU unit	RS232C	Setting Example 21 (page 52)	Cable Diagram 10 (page 136)
FCJ	NFJT100-S100	Serial port on CONTROL UNIT	RS232C	Setting Example 21 (page 52)	Cable Diagram 10 (page 136)

1.2 Personal Computer Link Module

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
FA-M3	F3SP08-0P F3SP20-0N F3SP21-0N F3SP25-2N F3SP28-3N F3SP30-0N F3SP35-5N F3SP36-3N F3SP38-6N F3SP53-4H F3SP58-6H F3SP28-3S F3SP38-6S F3SP53-4S F3SP58-6S F3SP59-7S F3SP66-4S F3SP67-6S	RS232C port on F3LC11-1N, F3LC11-1F, F3LC12-1F	RS232C	Setting Example 4 (page 18)	Cable Diagram 3 (page 87)
		RS422/485 (4Wire) port on F3LC11-2N, F3LC11-2F	RS422/485 (4wire)	Setting Example 3 (page 16)	Cable Diagram 2 (page 79)
			RS422/ 485(4Wire) Multilink	Setting Example 22 (page 55)	Cable Diagram 11 (page 137)
		RS422/485 (2Wire) port on F3LC11-2N, F3LC11-2F	RS422/485 (2wire)	Setting Example 2 (page 14)	Cable Diagram 4 (page 88)
	F3SP22-0S F3SP71-4N F3SP76-7N F3SP71-4S F3SP76-7S	RS232C port on F3LC11-1F, F3LC12-1F	RS232C	Setting Example 4 (page 18)	Cable Diagram 3 (page 87)
		RS422/485 (4Wire) port on F3LC11-2F	RS422/485 (4wire)	Setting Example 3 (page 16)	Cable Diagram 2 (page 79)
			RS422/ 485(4Wire) Multilink	Setting Example 22 (page 55)	Cable Diagram 11 (page 137)
		RS422/485 (2Wire) port on F3LC11-2F	RS422/485 (2wire)	Setting Example 2 (page 14)	Cable Diagram 4 (page 88)

1.3 M&C Controllers

Series	CPU*1	Link I/F	SIO Type	Setting Example	Cable Diagram
Temperature Controllers (UT100 Series)	UT130-☐☐/RS	Terminal Block on the controller	RS422/485 (2wire)	Setting Example 5 (page 20)	Cable Diagram 5 (page 99)
	UT150-☐☐/RS	Terminal Block on the controller	RS422/485 (2wire)	Setting Example 6 (page 22)	Cable Diagram 5 (page 99)
	UT152-☐☐/RS	Terminal Block on the controller	RS422/485 (2wire)	Setting Example 7 (page 24)	Cable Diagram 5 (page 99)
	UT155-☐☐/RS	Terminal Block on the controller	RS422/485 (2wire)	Setting Example 8 (page 26)	Cable Diagram 5 (page 99)
	UP150-☐☐/RS	Terminal Block on the controller	RS422/485 (2wire)	Setting Example 9 (page 28)	Cable Diagram 5 (page 99)
Digital Indicating Controllers	UT320-☐1	Terminal Block on the controller	RS422/485 (4wire)	Setting Example 10 (page 30)	Cable Diagram 6 (page 110)
			RS422/ 485(4Wire) Multilink	Setting Example 23 (page 57)	Cable Diagram 12 (page 144)
			RS422/485 (2wire)	Setting Example 11 (page 32)	Cable Diagram 7 (page 117)
	UT350-☐1	Terminal Block on the controller	RS422/485 (4wire)	Setting Example 12 (page 34)	Cable Diagram 6 (page 110)
			RS422/ 485(4Wire) Multilink	Setting Example 24 (page 59)	Cable Diagram 12 (page 144)
			RS422/485 (2wire)	Setting Example 13 (page 36)	Cable Diagram 7 (page 117)
	UT420-☐7	Terminal Block on the controller	RS422/485 (4wire)	Setting Example 14 (page 38)	Cable Diagram 6 (page 110)
			RS422/ 485(4Wire) Multilink	Setting Example 25 (page 61)	Cable Diagram 12 (page 144)
			RS422/485 (2wire)	Setting Example 15 (page 40)	Cable Diagram 7 (page 117)
	UT450-☐1 UT450-☐2	Terminal Block on the controller	RS422/485 (4wire)	Setting Example 16 (page 42)	Cable Diagram 6 (page 110)
			RS422/ 485(4Wire) Multilink	Setting Example 26 (page 63)	Cable Diagram 12 (page 144)
			RS422/485 (2wire)	Setting Example 17 (page 44)	Cable Diagram 7 (page 117)

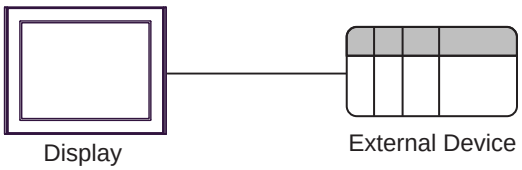
continued to next page

Series	CPU*1	Link I/F	SIO Type	Setting Example	Cable Diagram
UT2000	UT2400-☐	Terminal Block on the controller	RS422/485 (4wire)	Setting Example 18 (page 46)	Cable Diagram 8 (page 128)
			RS422/ 485(4Wire) Multilink	Setting Example 27 (page 65)	Cable Diagram 12 (page 144)
	UT2800-☐	Terminal Block on the controller	RS422/485 (4wire)	Setting Example 19 (page 48)	Cable Diagram 8 (page 128)
			RS422/ 485(4Wire) Multilink	Setting Example 28 (page 67)	Cable Diagram 12 (page 144)

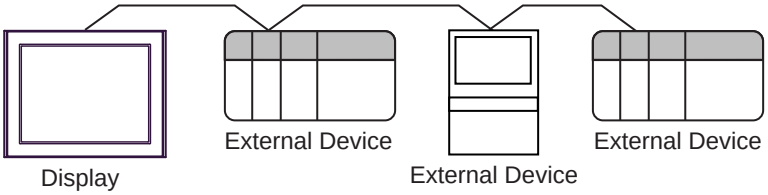
*1 Model number of external device, "☐" differs depending on the specification of external device.

■ Connection Configuration

- 1:1 Connection



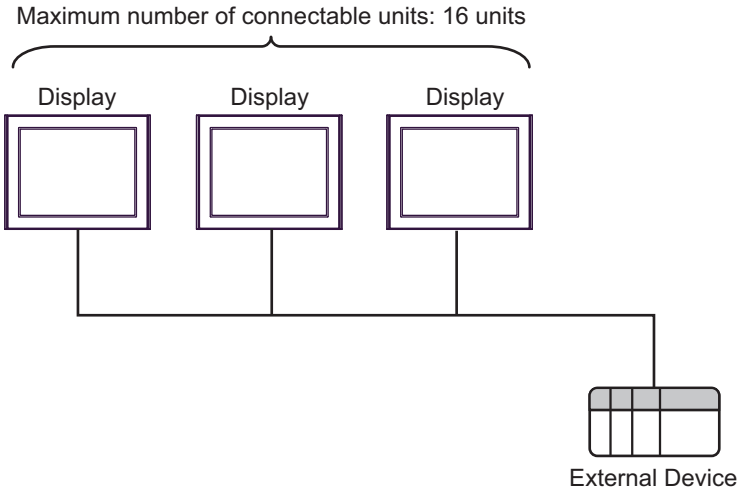
- 1:n Connection



NOTE

- FA-M3 or M&C controller (PA device) supported by this driver can be connected up to 16 at 1:n connection.
- When Sequence Control is not required, the system can be composed only of M&C controller.

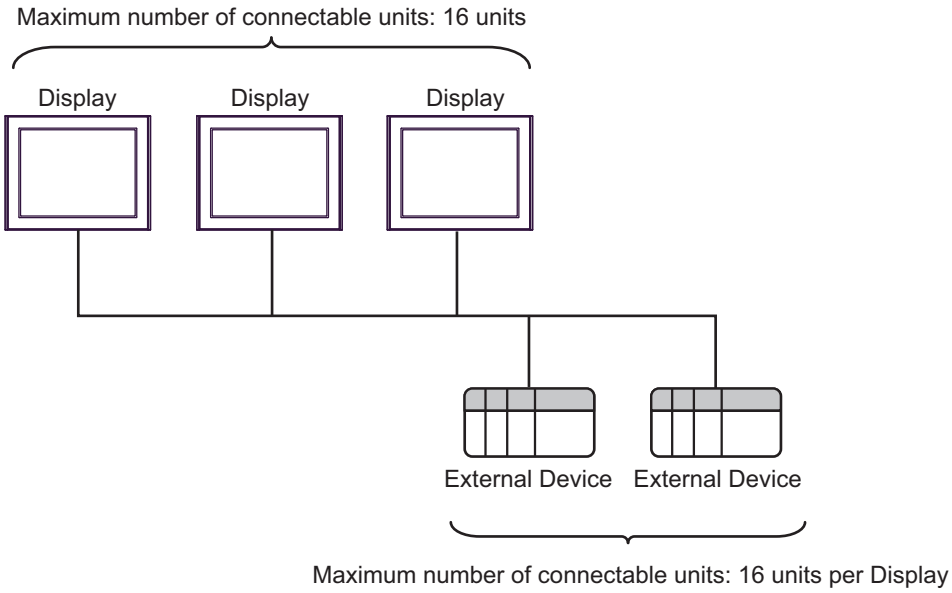
- n:1 Connection (Multilink connection)



NOTE

- Can be used only with the FACTORY ACE Series.
- The maximum number of connectable Displays is 16 units. However, keeping performance in consideration, the number of Displays that can be substantially used is up to 4.

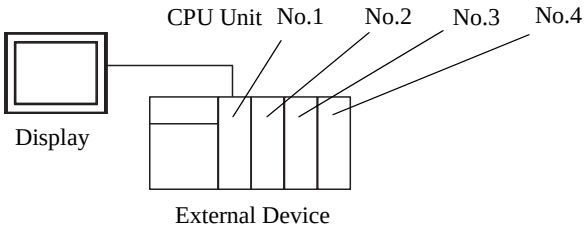
- n:m Connection (Multilink connection)



NOTE

- The maximum number of connectable Displays is 16 units. However, keeping performance in consideration, the number of Displays that can be substantially used is up to 4.
- M&C Controllers can be included in the multilink network, but cannot be used as External Devices for storing communication information.

- Multi CPU



NOTE

- Can be used only with the FACTORY ACE Series.
- For the CPU unit numbers, the number "1" is assigned to the unit closest to the power supply module, and any subsequent units are assigned "2", "3", and "4", in order.
- With Multi CPU, it's possible to access a CPU unit that is not directly connected.
  Regarding the external devices that can be used for Multi CPU, please refer to the manual of the External Device.

■ 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*1	RS (RTS) Auto control mode: Disabled
10	OFF*1	

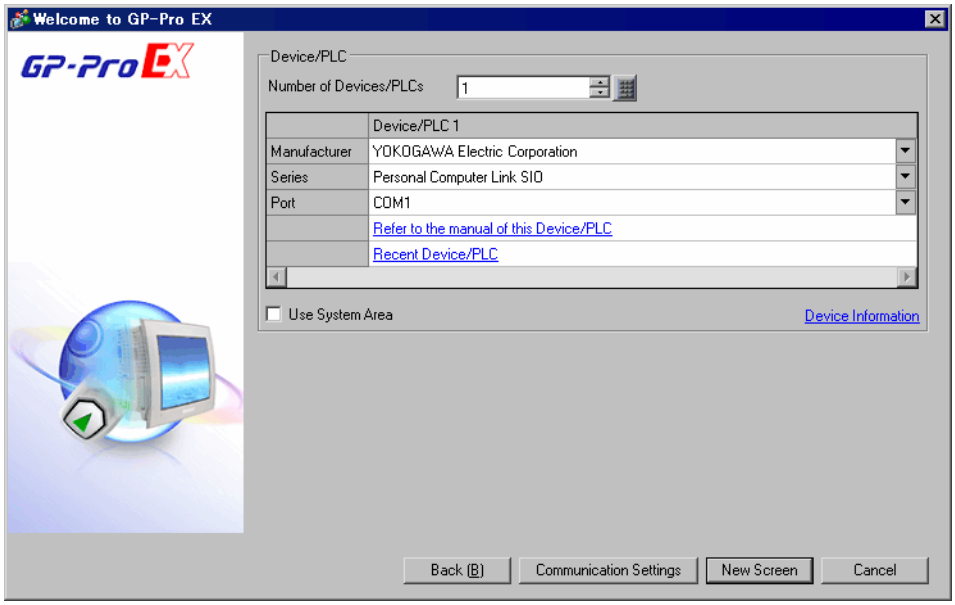
*1 When the connection configuration are the n:1 and n:m connections (both Multilink connections), turn ON the set value.

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

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

2 Selection of External Device

Select the External Device to be connected to the Display.



Setup Items	Setup Description
Number of Devices/ PLCs	Enter an integer from 1 to 4 to define the number of Devices/PLCs to connect to the display.
Manufacturer	Select the manufacturer of the External Device to connect. Select "YOKOGAWA Electric Corporation".
Series	Select the External Device model (series) and the connection method. Select "Personal Computer Link SIO". In System configuration, make sure the External Device you are connecting is supported by "Personal Computer Link SIO". ☞ "1 System Configuration" (page 3)
Port	Select the Display port to be connected to the External Device.
Use System Area	Check this option to synchronize the system data area of the Display and the device (memory) of the External Device. When synchronized, you can use the External Device's ladder program to switch the display or display the window on the Display. Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)" This feature can also be set in GP-Pro EX or in the Display's offline mode. Cf. GP-Pro EX Reference Manual "System Settings [Display Unit] - [System Area] Settings Guide" Cf. Maintenance/Troubleshooting Guide "Main Unit - System Area Settings"

3 Example of Communication Setting

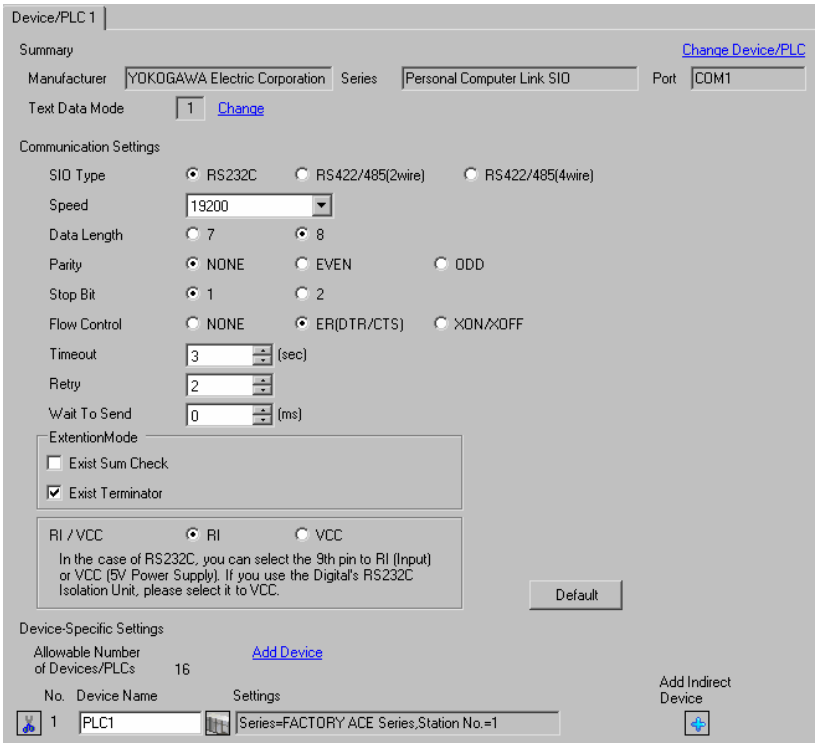
Examples of communication settings of the Display and the External Device, recommended by Pro-face, are shown.

3.1 Setting Example 1

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

■ Setting of External Device

Execute [Configuration] from the [Project] menu in the ladder tool and set as below. Please refer to each maker's manual of the External Device for more detail on ladder tool.

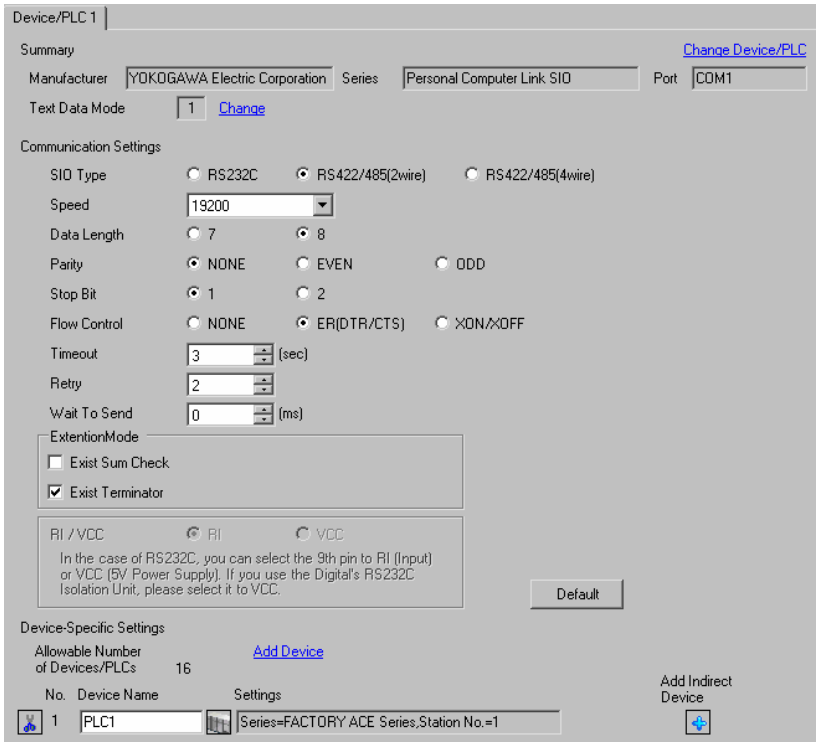
Setup Items	Settings
Speed	19200
Data Length	8 (Fixed)
Parity	None
Stop Bit	1 (Fixed)
Exist Sum Check	None
Exist Terminator	Exists
Protect	None

3.2 Setting Example 2

■ Setting of GP-Pro EX

◆ Communication Settings

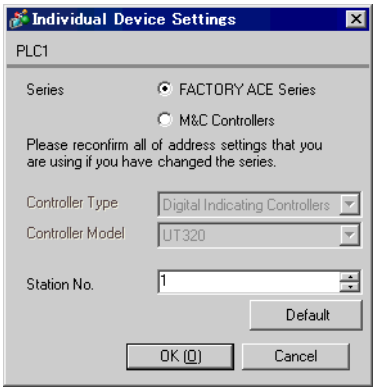
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

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

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



■ Setting of External Device

Set the computer link module as below. Please refer to each maker's manual of the External Device for more detail.

◆ Transmission Speed Setting Switch

Setup Items	Settings
Speed	19200

◆ Data Code Setting Switch

DIP Switch	Settings	Setup Description
SW1	ON	Data Length
SW2	OFF	Parity Bit
SW3	OFF	-
SW4	OFF	Stop Bit
SW5	OFF	Exist Sum Check
SW6	ON	Exist Terminator
SW7	OFF	Protect
SW8	OFF	Always OFF

◆ Station No. Setting Switch

Setup Items	Settings
Station No.	No.1 station

NOTE

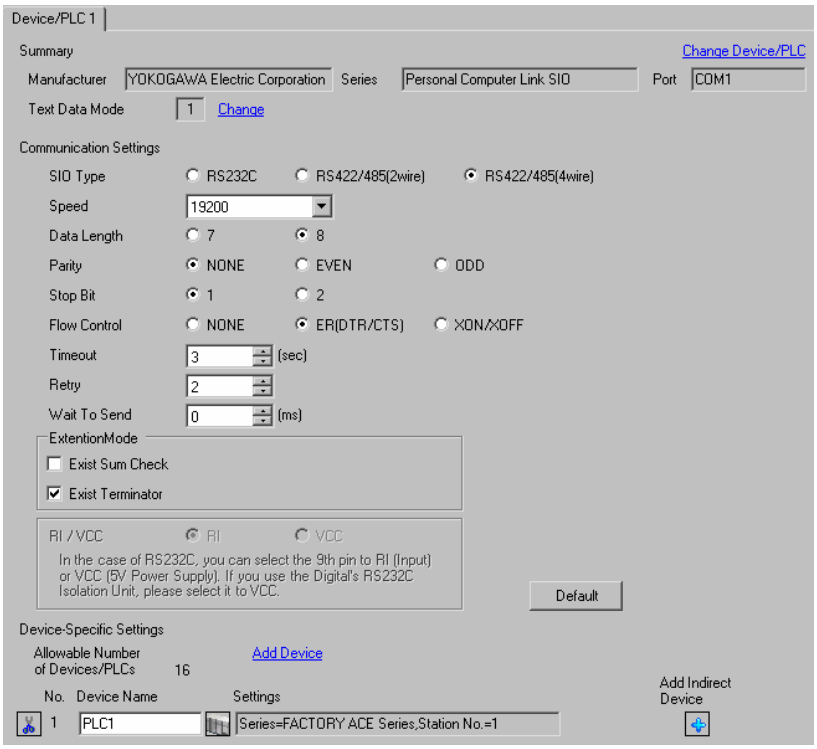
- Set the termination resistance switch of only the module which terminates the connection to 2-WIRE. Set other switches to OFF.

3.3 Setting Example 3

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

■ Setting of External Device

Set the computer link module as below. Please refer to each maker's manual of the External Device for more detail.

◆ Transmission Speed Setting Switch

Setup Items	Settings
Speed	19200

◆ Data Code Setting Switch

DIP Switch	Settings	Setup Description
SW1	ON	Data Length
SW2	OFF	Parity Bit
SW3	OFF	-
SW4	OFF	Stop Bit
SW5	OFF	Exist Sum Check
SW6	ON	Exist Terminator
SW7	OFF	Protect
SW8	OFF	Always OFF

◆ Station No. Setting Switch

Setup Items	Settings
Station No.	No.1 station

NOTE

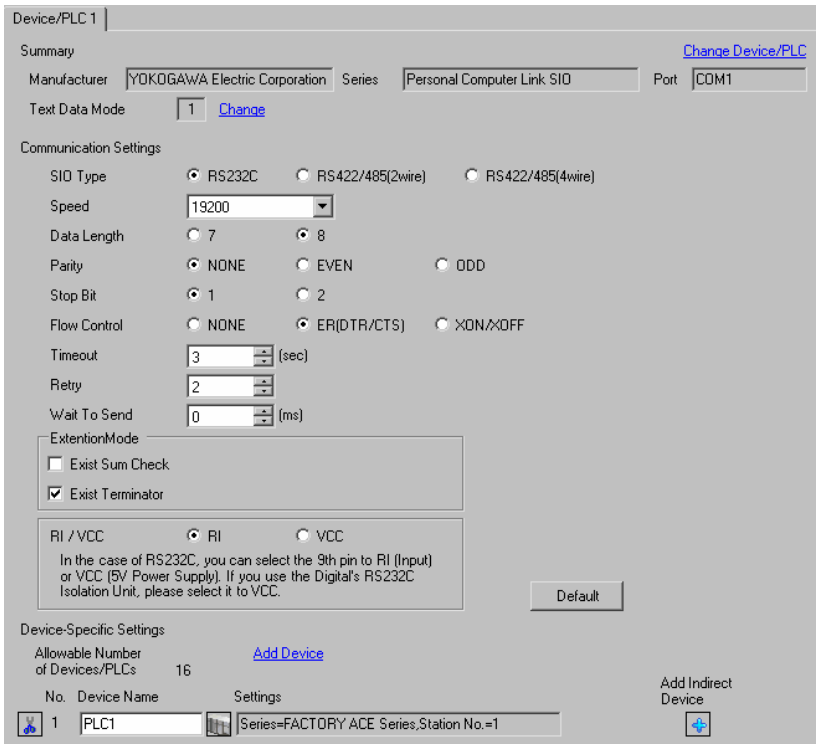
- Set the termination resistance switch of only the module which terminates the connection to 4-WIRE. Set other switches to OFF.

3.4 Setting Example 4

■ Setting of GP-Pro EX

◆ Communication Settings

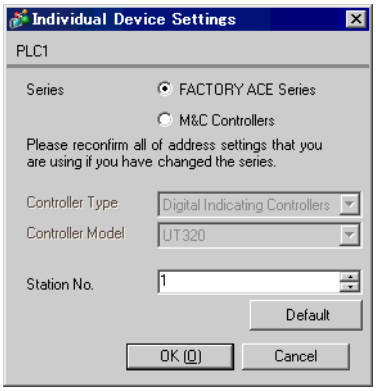
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

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

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



■ Setting of External Device

Set the computer link module as below. Please refer to each maker's manual of the External Device for more detail.

◆ Transmission Speed Setting Switch

Setup Items	Settings
Speed	19200

◆ Data Code Setting Switch

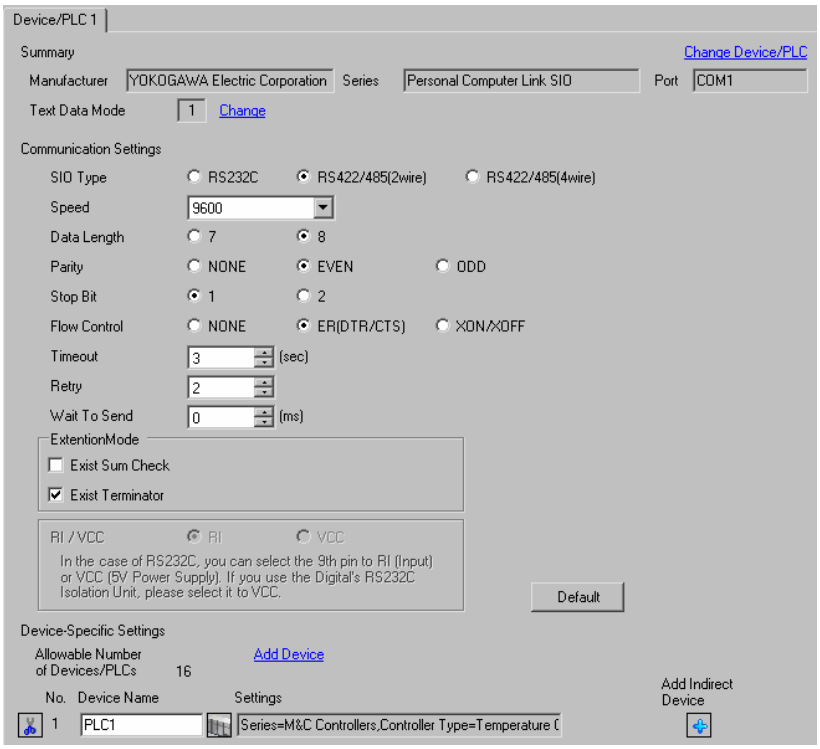
DIP Switch	Settings	Setup Description
SW1	ON	Data Length
SW2	OFF	Parity Bit
SW3	OFF	-
SW4	OFF	Stop Bit
SW5	OFF	Exist Sum Check
SW6	ON	Exist Terminator
SW7	OFF	Protect
SW8	OFF	Always OFF

3.5 Setting Example 5

■ Setting of GP-Pro EX

◆ Communication Settings

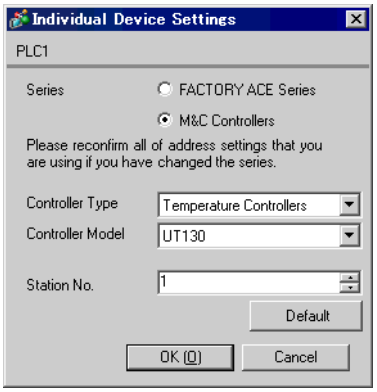
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device 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.



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press SET/ENT key several times to display [LOC].

4 Set "-1" to [LOC] and press SET/ENT key.
Display changes to [Setup Parameter Setting Display].

5 Press SET/ENT key several times to display communication setup items.

6 Enter set value using UP or DOWN key and press SET/ENT key.

7 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

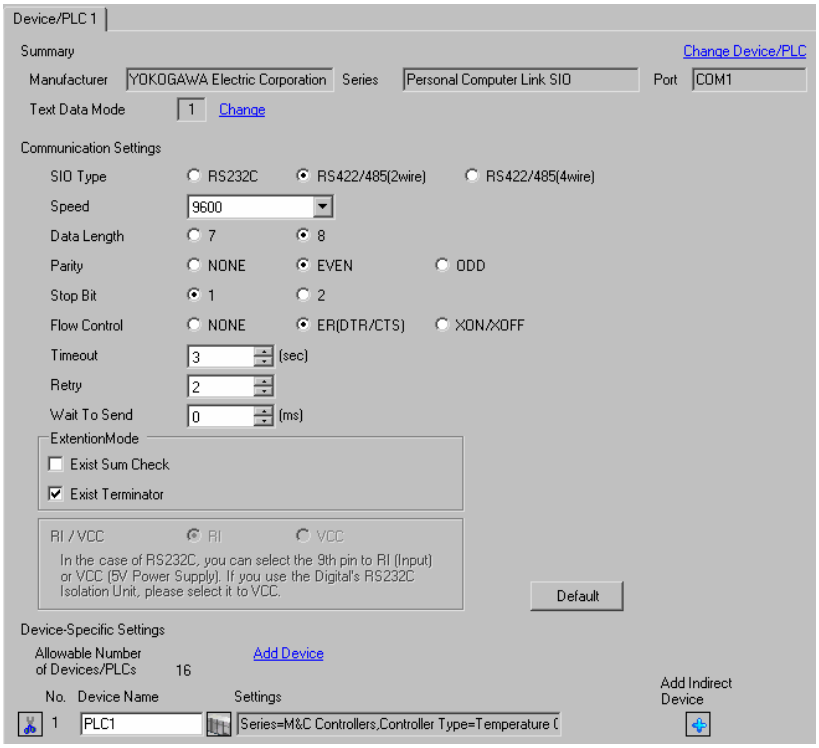
Setup Items	Settings
PSL	0: PC-link communication
Adr	1
bPS	9.6: 9600bps
PrI	Evn
StP	1
dLn	8

3.6 Setting Example 6

■ Setting of GP-Pro EX

◆ Communication Settings

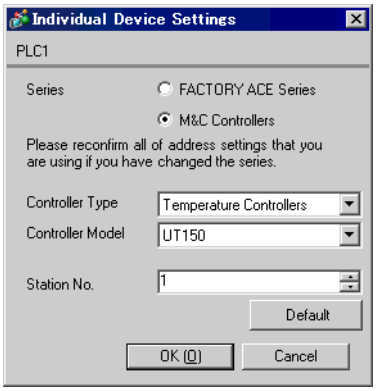
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press SET/ENT key several times to display [LOC].

4 Set "-1" to [LOC] and press SET/ENT key.
Display changes to [Setup Parameter Setting Display].

5 Press SET/ENT key several times to display communication setup items.

6 Enter set value using UP or DOWN key and press SET/ENT key.

7 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

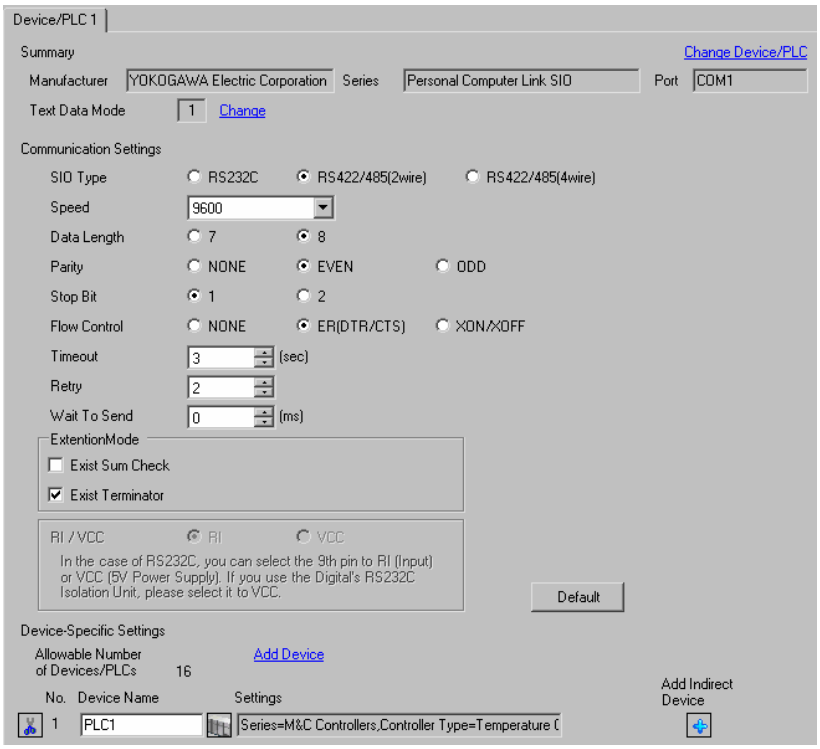
Setup Items	Settings
PSL	0: PC-link communication
Adr	1
bPS	9.6: 9600bps
PrI	Evn
StP	1
dLn	8

3.7 Setting Example 7

■ Setting of GP-Pro EX

◆ Communication Settings

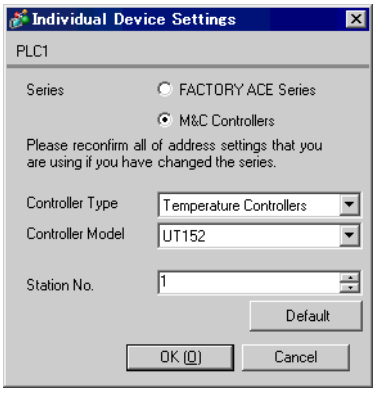
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

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

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



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press SET/ENT key several times to display [LOC].

4 Set "-1" to [LOC] and press SET/ENT key.
Display changes to [Setup Parameter Setting Display].

5 Press SET/ENT key several times to display communication setup items.

6 Enter set value using UP or DOWN key and press SET/ENT key.

7 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

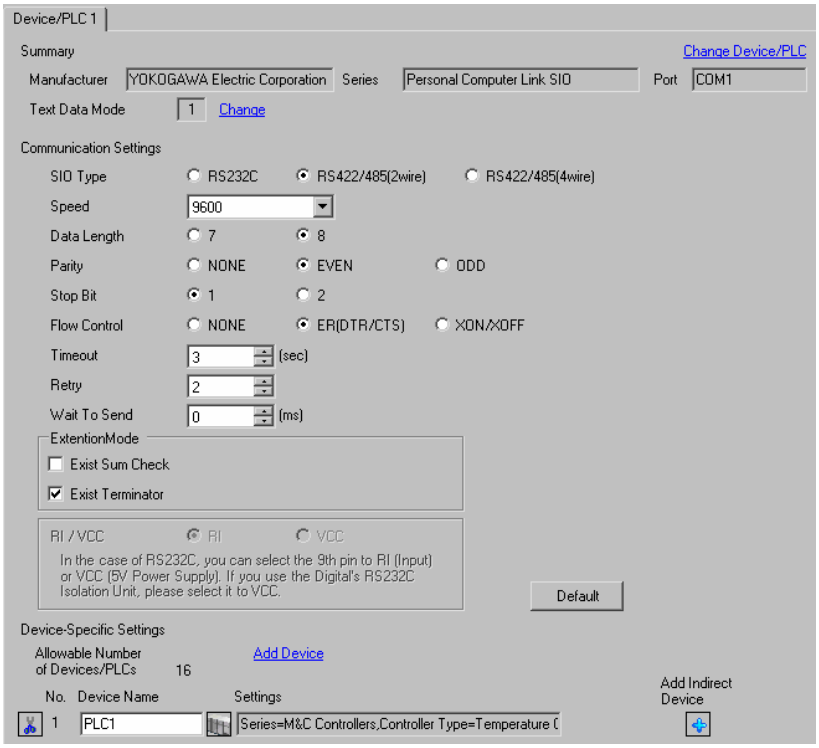
Setup Items	Settings
PSL	0: PC-link communication
Adr	1
bPS	9.6: 9600bps
PrI	Evn
StP	1
dLn	8

3.8 Setting Example 8

■ Setting of GP-Pro EX

◆ Communication Settings

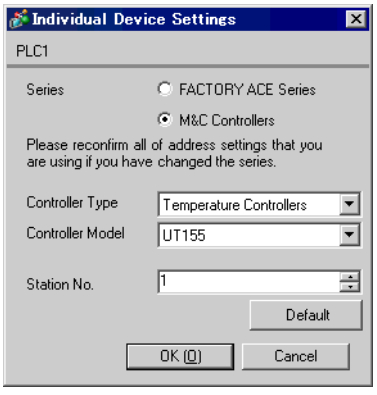
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press SET/ENT key several times to display [LOC].

4 Set "-1" to [LOC] and press SET/ENT key.
Display changes to [Setup Parameter Setting Display].

5 Press SET/ENT key several times to display communication setup items.

6 Enter set value using UP or DOWN key and press SET/ENT key.

7 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

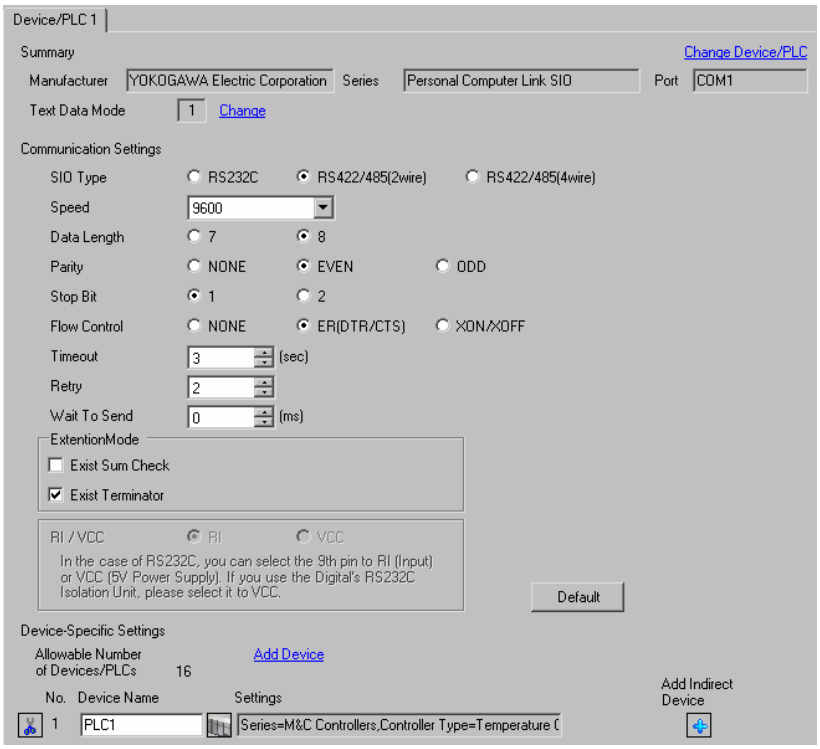
Setup Items	Settings
PSL	0: PC-link communication
Adr	1
bPS	9.6: 9600bps
PrI	Evn
StP	1
dLn	8

3.9 Setting Example 9

■ Setting of GP-Pro EX

◆ Communication Settings

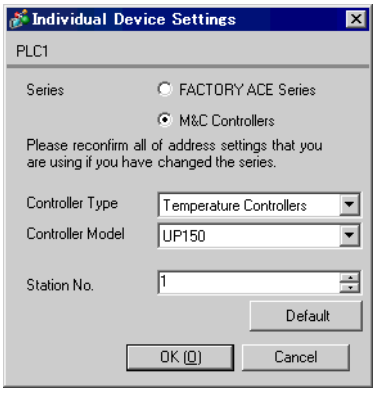
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ 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.



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press SET/ENT key several times to display [LOC].

4 Set "-1" to [LOC] and press SET/ENT key.
Display changes to [Setup Parameter Setting Display].

5 Press SET/ENT key several times to display communication setup items.

6 Enter set value using UP or DOWN key and press SET/ENT key.

7 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

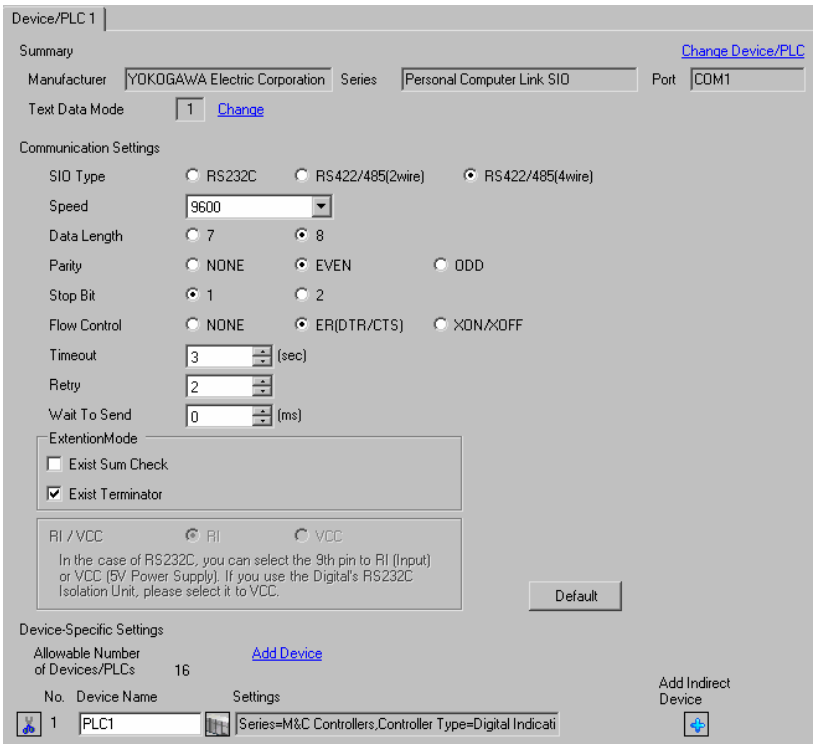
Setup Items	Settings
PSL	0: PC-link communication
Adr	1
bPS	9.6: 9600bps
PrI	Evn
StP	1
dLn	8

3.10 Setting Example 10

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press SET/ENT key several times to display communication setup items.

4 Enter set value using UP or DOWN key and press SET/ENT key.

5 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

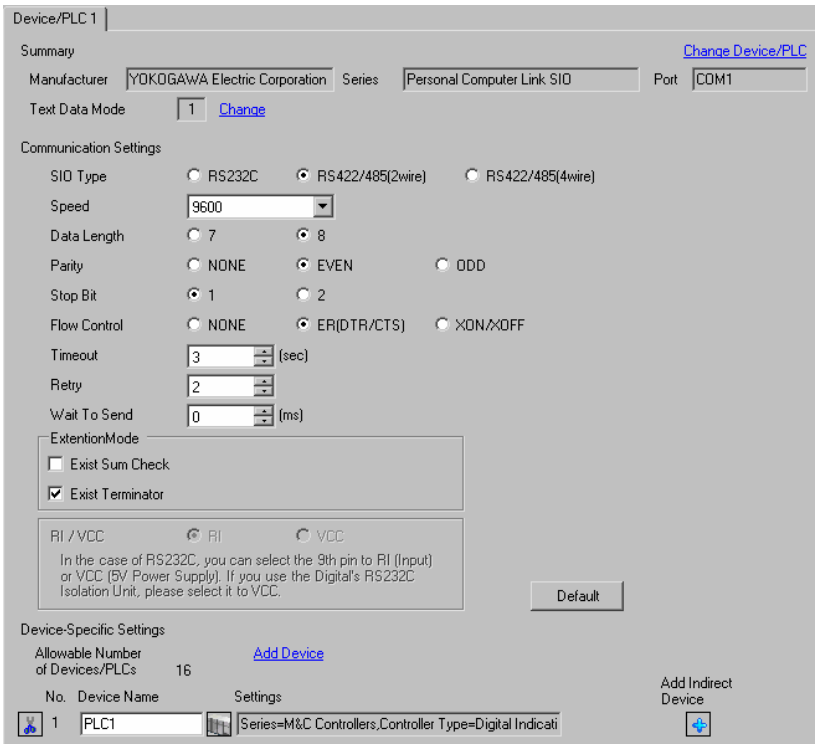
Setup Items	Settings
P.SL	0: PC link communication
bPS	4: 9600 (bps)
PrI	1: Even
StP	1
dLn	8
Adr	1

3.11 Setting Example 11

■ Setting of GP-Pro EX

◆ Communication Settings

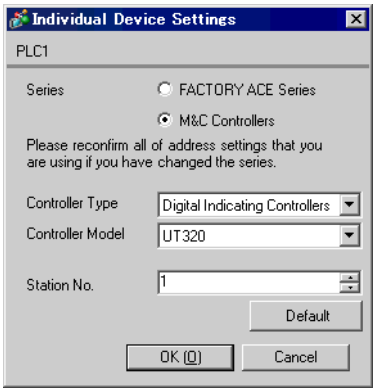
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

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

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



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press SET/ENT key several times to display communication setup items.

4 Enter set value using UP or DOWN key and press SET/ENT key.

5 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

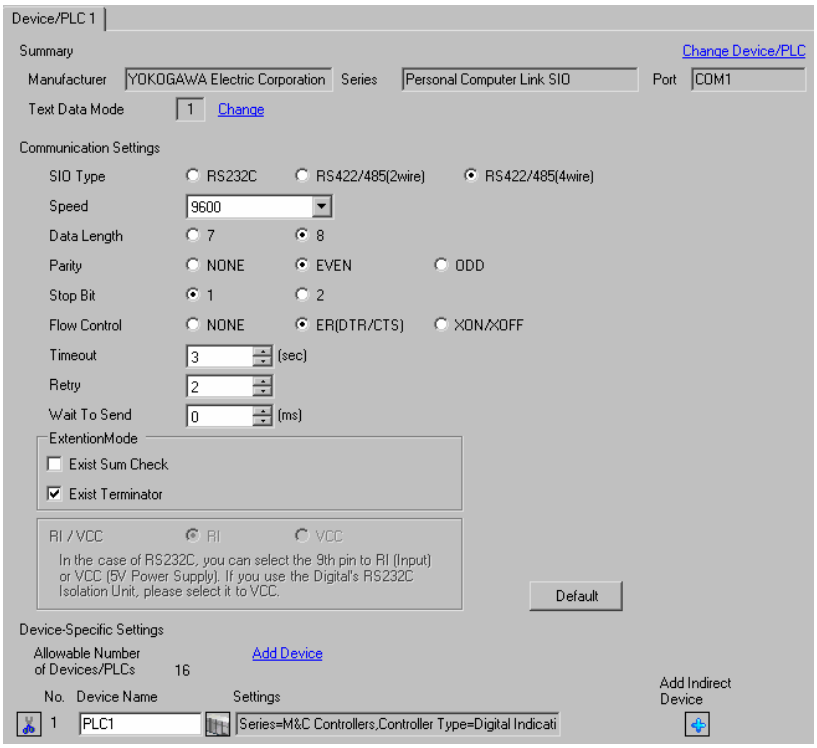
Setup Items	Settings
P.SL	0: PC link communication
bPS	4: 9600 (bps)
PrI	1: Even
StP	1
dLn	8
Adr	1

3.12 Setting Example 12

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press SET/ENT key several times to display communication setup items.

4 Enter set value using UP or DOWN key and press SET/ENT key.

5 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

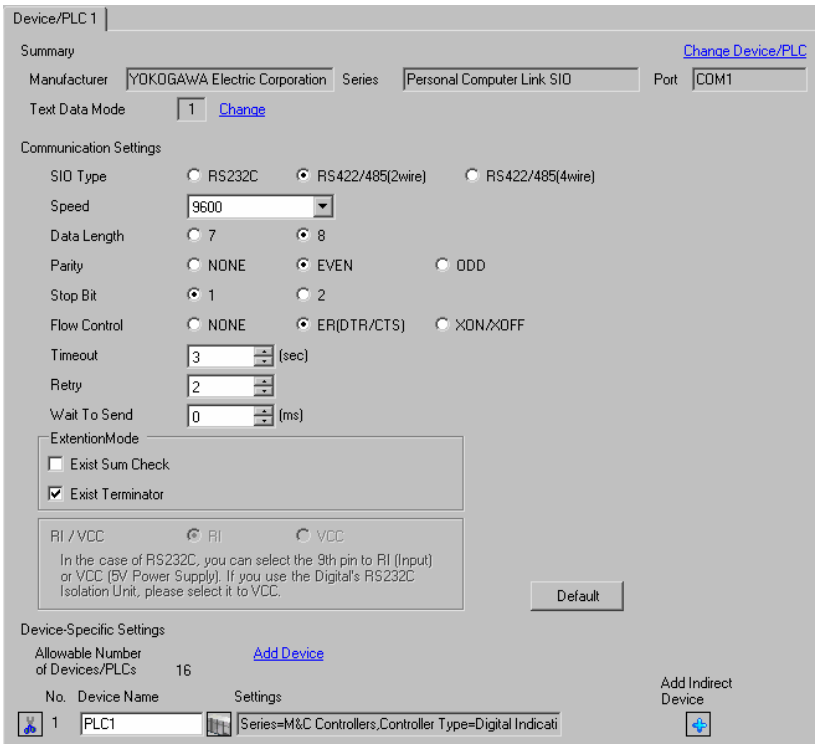
Setup Items	Settings
P.SL	0: PC link communication
bPS	4: 9600 (bps)
PrI	1: Even
StP	1
dLn	8
Adr	1

3.13 Setting Example 13

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press SET/ENT key several times to display communication setup items.

4 Enter set value using UP or DOWN key and press SET/ENT key.

5 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

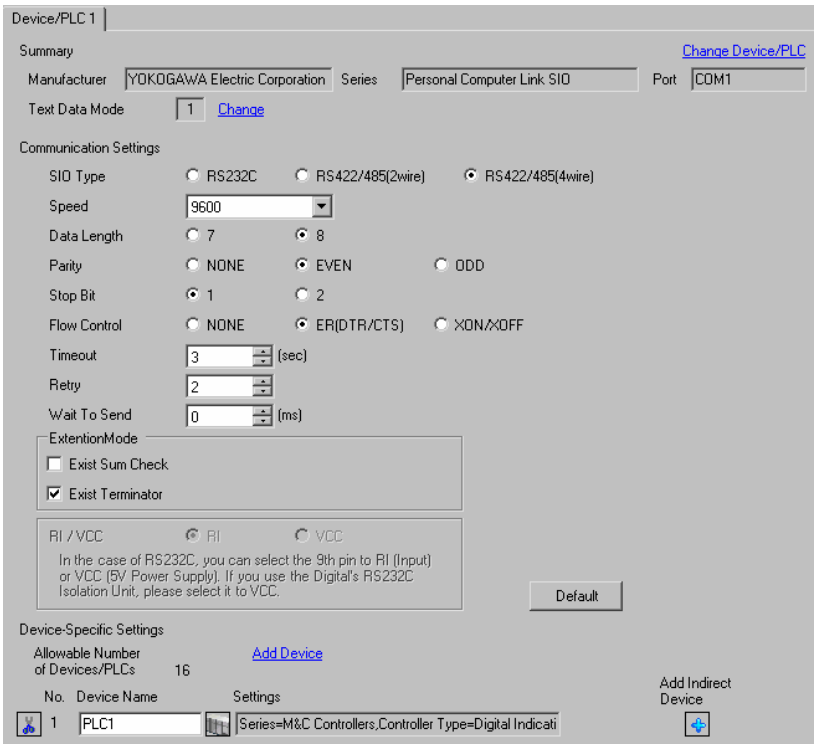
Setup Items	Settings
P.SL	0: PC link communication
bPS	4: 9600 (bps)
PrI	1: Even
StP	1
dLn	8
Adr	1

3.14 Setting Example 14

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press UP or DOWN key several times to display [r485].

4 Press SET/ENT key several times to display communication setup items.

5 Enter set value using UP or DOWN key and press SET/ENT key.

6 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

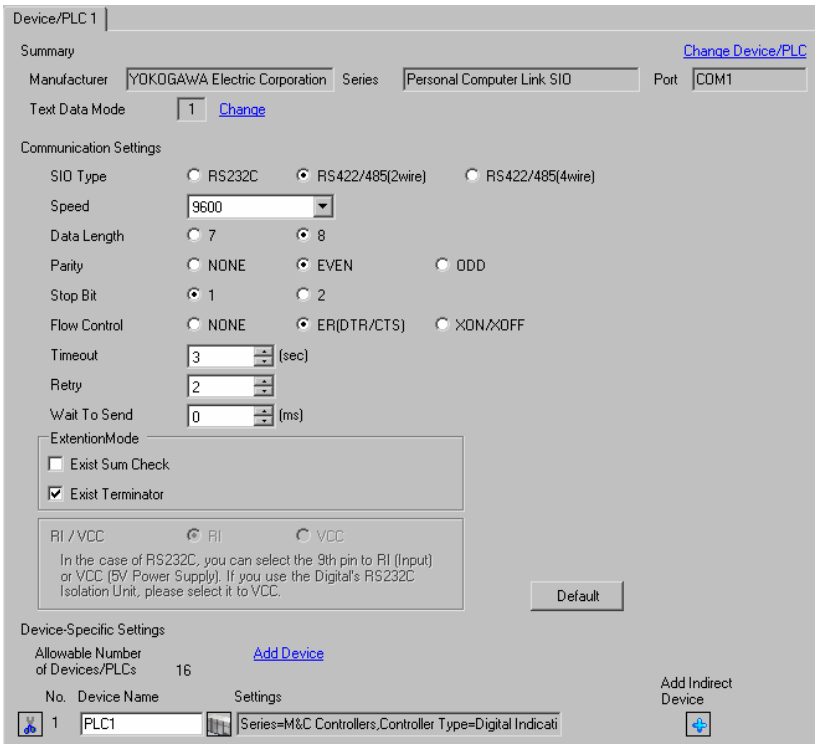
Setup Items	Settings
PSL	0: PC link communication
bPS	9600
PrI	EVEN
StP	1
dLn	8
Adr	1
rP.t	0: 0 × 10ms

3.15 Setting Example 15

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press UP or DOWN key several times to display [r485].

4 Press SET/ENT key several times to display communication setup items.

5 Enter set value using UP or DOWN key and press SET/ENT key.

6 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

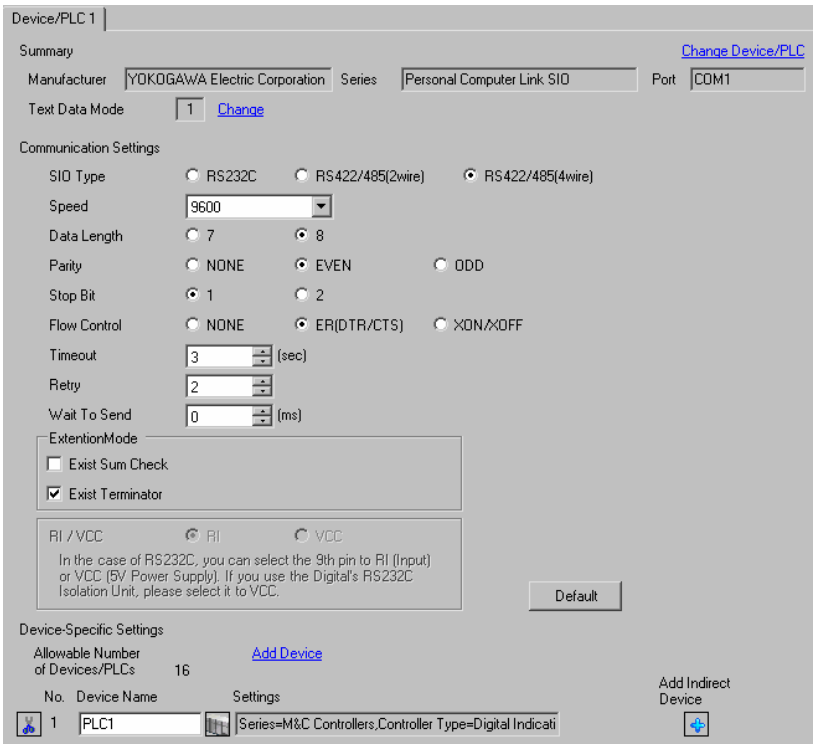
Setup Items	Settings
PSL	0: PC link communication
bps	9600
Pri	EVEN
StP	1
dLn	8
Adr	1
rP.t	0: 0 × 10ms

3.16 Setting Example 16

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press UP or DOWN key several times to display [r485].

4 Press SET/ENT key several times to display communication setup items.

5 Enter set value using UP or DOWN key and press SET/ENT key.

6 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

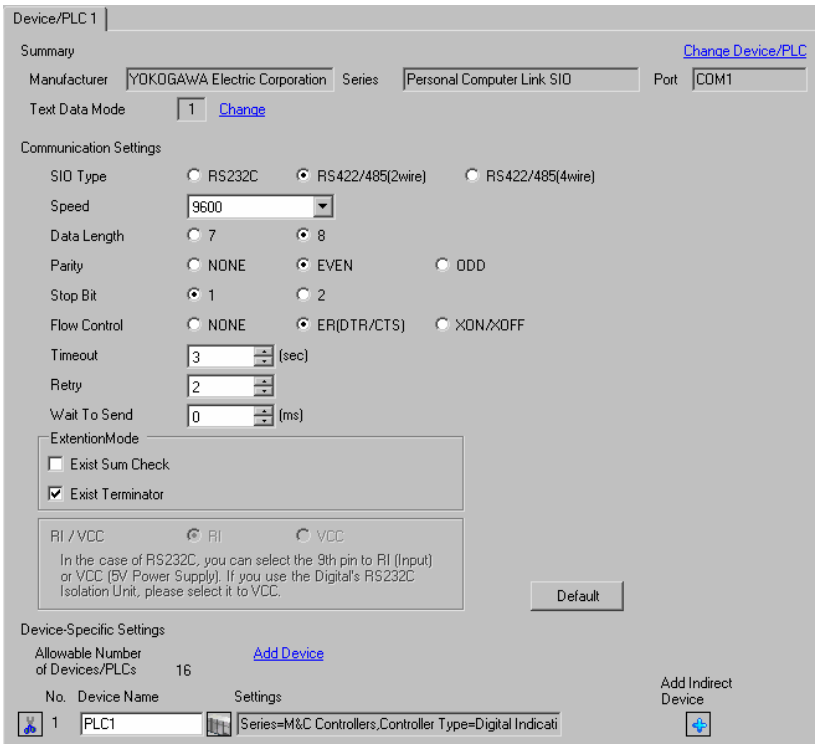
Setup Items	Settings
PSL	0: PC link communication
bPS	9600
PrI	EVEN
StP	1
dLn	8
Adr	1
rP.t	0: 0 × 10ms

3.17 Setting Example 17

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press UP or DOWN key several times to display [r485].

4 Press SET/ENT key several times to display communication setup items.

5 Enter set value using UP or DOWN key and press SET/ENT key.

6 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

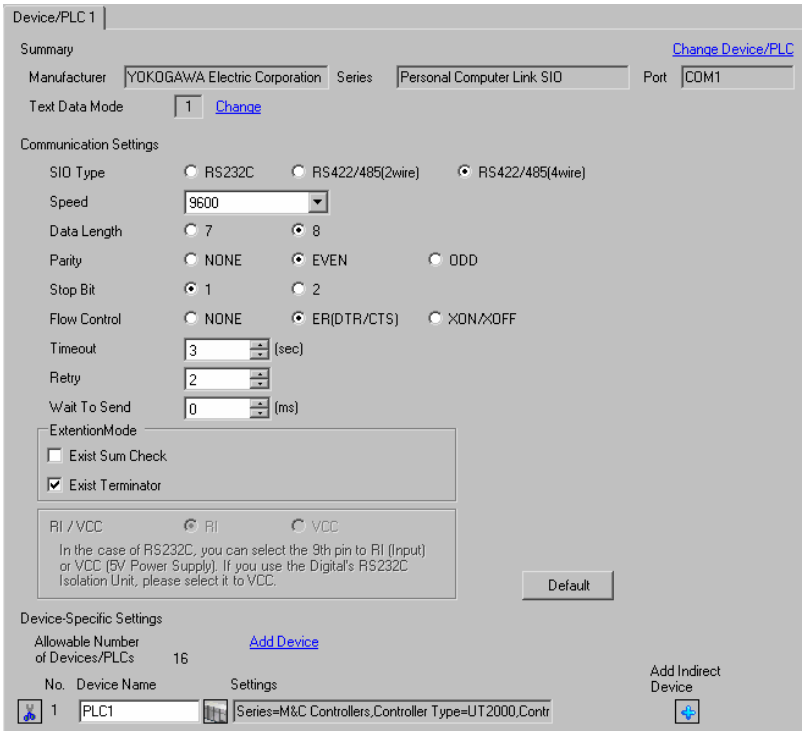
Setup Items	Settings
PSL	0: PC link communication
bps	9600
Pri	EVEN
StP	1
dLn	8
Adr	1
rP.t	0: 0 × 10ms

3.18 Setting Example 18

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.
- Remove the check from the [Extension Mode]-[Exist Sum Check] of the communication setting.

■ Setting of External Device

Use the DIP switch for protocol selection, rotary switch for communication setting and rotary switch for station number selection in front of the controller for communication settings of the External Device.
Please refer to the manual of the controller for more details.

◆ Procedure

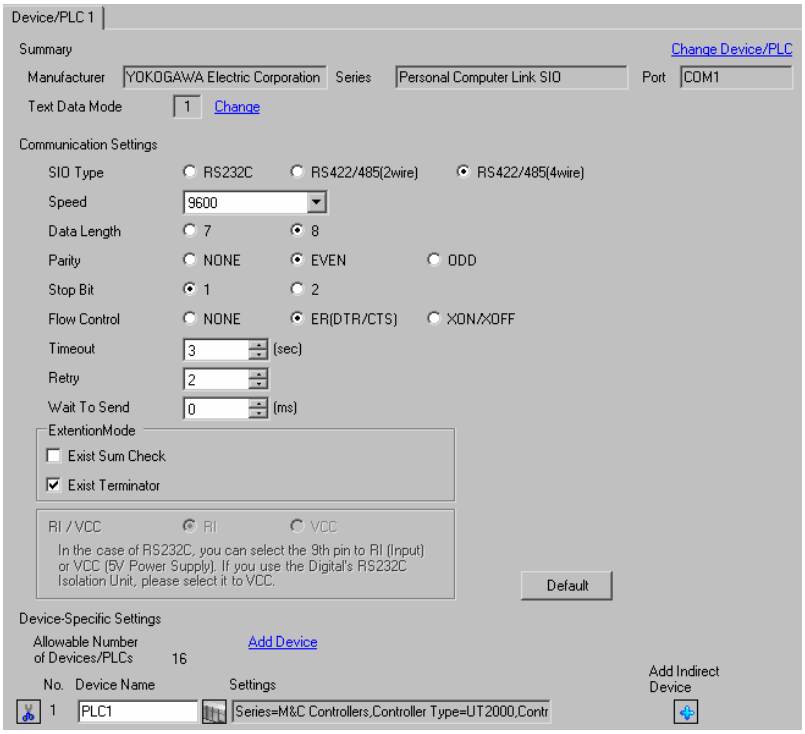
1 Turn DIP switch for protocol selection "ON (PC-link communication)."
2 Set "2" to rotary switch for communication setting.
3 Set "0" to rotary switch for station number selection.

3.19 Setting Example 19

■ Setting of GP-Pro EX

◆ Communication Settings

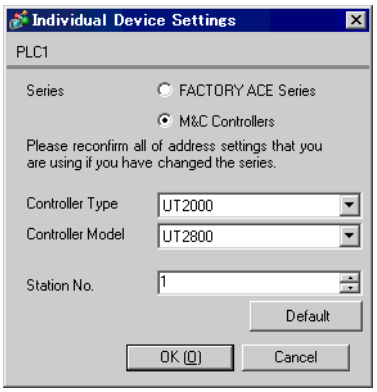
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

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

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



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.
- Remove the check from the [Extension Mode]-[Exist Sum Check] of the communication setting.

■ Setting of External Device

Use the DIP switch for protocol selection, rotary switch for communication setting and rotary switch for station number selection in front of the controller for communication settings of the External Device.
Please refer to the manual of the controller for more details.

◆ Procedure

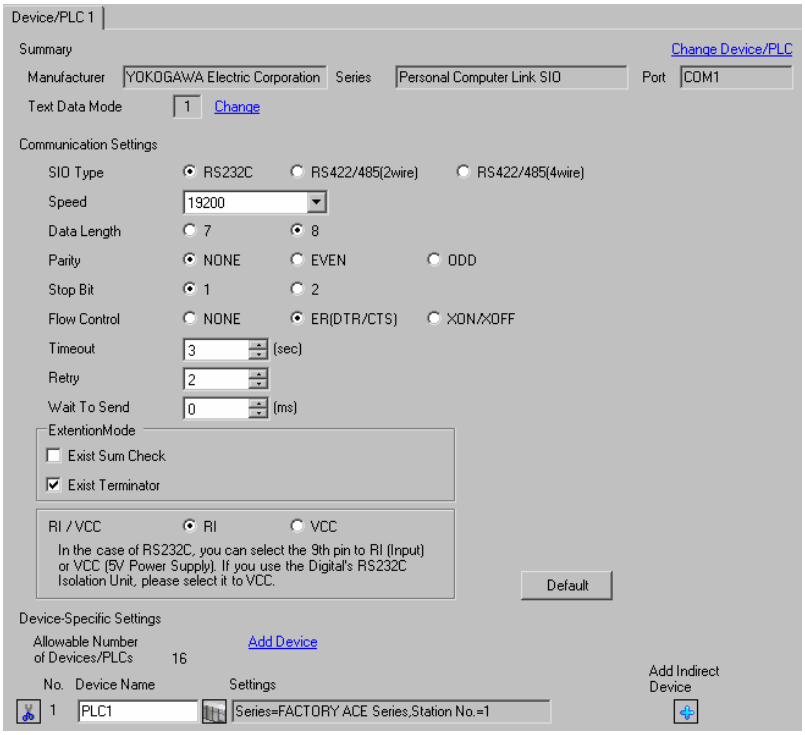
1 Turn DIP switch for protocol selection "ON (PC-link communication)."
2 Set "2" to rotary switch for communication setting.
3 Set "0" to rotary switch for station number selection.

3.20 Setting Example 20

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

■ Setting of External Device

Use the ladder software (Wide Field2) for communication settings of the External Device.
Please refer to each maker's manual of the External Device for more detail.

◆ Procedure

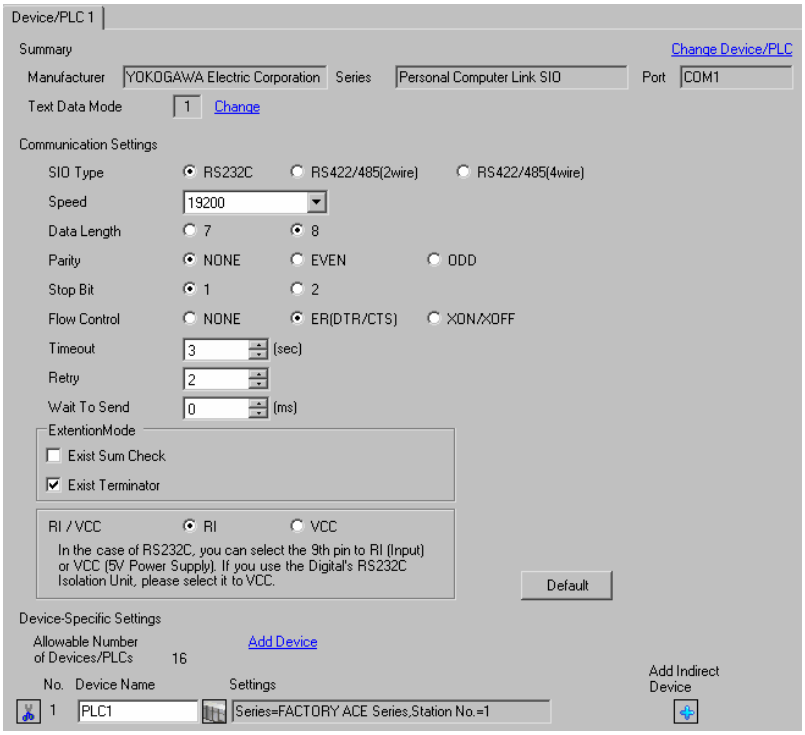
1 Start the ladder software.
2 Create a ladder program in the [New] dialog box.
3 Insert the ladder program in the [Define Program Components] dialog box.
4 Double-clink [Configuration] in the tree view to display the [Configuration] dialog box.
5 Select "19200bps No Parity" in [Communication Mode] of the [Communications Setup] tab.
6 Check the "Use Personal Computer Link" and "End Character" check boxes in the [CPU Personal Computer Link] of the [Communications Setup] tab.
7 Click [OK].
8 From the [Online] menu, select [Connect] and transfer the communication settings to the external device.
Then the communication setting is finished.

3.21 Setting Example 21

■ Setting of GP-Pro EX

◆ Communication Settings

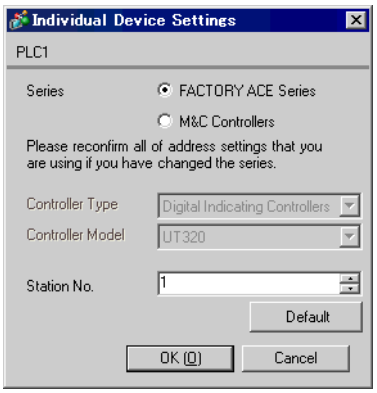
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

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

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



■ Settings of External Device

Use the Web browser and ladder software (Logic Designer) for communication settings. Refer to your External Device manual for details.

◆ Procedure

<Communication Settings for the Serial Port>

1 Set IP address of the External Device to "192.168.1.1".

NOTE

- For more details on how to set IP address of the External Device, refer to the online help of the dedicated tool for the FCN/FCJ basic settings (Resource Configurator).

2 Connect both the Ethernet ports between a PC and the External Device using the LAN cable. (Connect via HUB.)

3 Start up the Web browser.

4 Enter "http://192.168.1.1/mnt" in the address input box.

5 Enter [User Name] and [Password] in the displayed dialog box to login.

6 Click [Maintenance Menu] to display the [FCX Maintenance Menu] screen.

7 Click [Reboot] to display the [Reboot FCX] screen.

8 Check the [Reboot(Maintenance Mode)] option.

9 Click [OK] to display the [Reboot] screen.

10 The External Device is rebooted. Confirm the reboot is complete.

11 Click [Maintenance Homepage] to display the [STARDOM FCX Maintenance Page] screen.

12 Click [OK] to display the [FCX Maintenance Menu] screen.

13 Click [Edit] to display the [Edit System Setting Files] screen.

14 Check the [COM1 Port Setting File] option and click [OK].

15 Set each item as follows:

Setup Items	Setup Description
Baudrate	19200
DataBitLength	8
StopBitLength	1
Parity	NONE

16 Click [OK] to display the [Edit System Setting Files(RESULT)] screen.

17 Click [Maintenance Menu] to display the [FCX Maintenance Menu] screen.

18 Click [Reboot] to display the [Reboot FCX] screen.

19 Check the [Reboot(Online Mode)] option and click [OK].

Reboot the External Device.

<Control Logic Download Procedures>

1 Start up the ladder software.

2 Create the control logic in order to start the FA-M3 emulation task. For the example of control logic, refer to "◆ Control Logic Example".

☞ ◆ Control Logic Example (page 54)

3 Double-click [UNIT#1] next to [PORT] to display the [Variable Properties] dialog box.

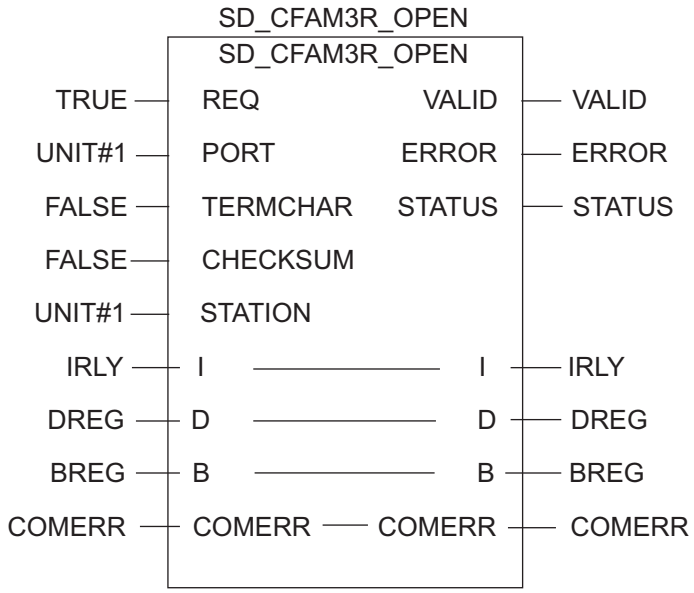
4 Enter the connecting port name in [Name], and click [OK].

5 Double-click [UNIT#1] next to [STATION] to display the [Variable Properties] dialog box.

6 Enter the connecting station name in [Name], and click [OK].
7 Double-click [FALSE] next to [TERMCHAR] to display the [Variable Properties] dialog box.
8 Enter "TRUE" in [Name], and click [OK].
9 Double-click [FALSE] next to [CHECKSUM] to display the [Variable Properties] dialog box.
10 Enter "FALSE" in [Name], and click [OK].
11 Select [Rebuild Project] from the [Build] menu.
12 Double-click [Target Setting] in the project tree window to display the [Target] dialog box.
13 Enter "192.168.1.1" in [Host Name/IP Address].
14 Click [OK].
15 Download the communication settings to the External Device.
16 Reboot the External Device.

◆ Control Logic Example

To connect the Display to the External Device, the control logic is required.
The control logic example is shown below.

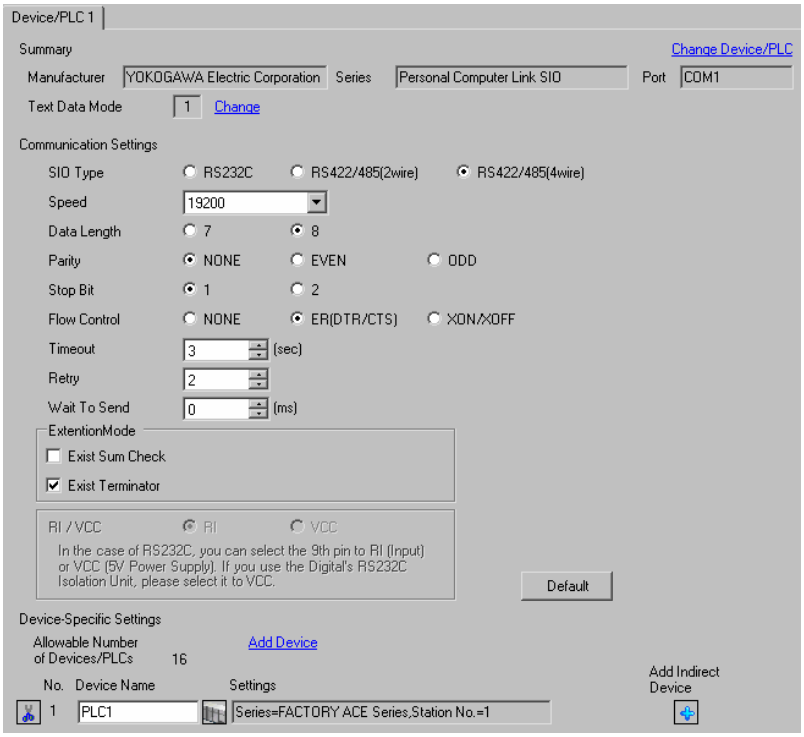


3.22 Setting Example 22

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

◆ Caution

- When simultaneously using GP2000 Series during multilink connection, remove a check on the [Exist Sum Check] in [Extension Mode] and put a check on the [Exist Terminator]. If other settings than this are made, the communication error occurs.

■ Setting of External Device

Set the computer link module as below. Please refer to each maker's manual of the External Device for more detail.

◆ Transmission Speed Setting Switch

Setup Items	Settings
Speed	19200

◆ Data Code Setting Switch

DIP Switch	Settings	Setup Description
SW1	ON	Data Length
SW2	OFF	Parity Bit
SW3	OFF	-
SW4	OFF	Stop Bit
SW5	OFF	Exist Sum Check
SW6	ON	Exist Terminator
SW7	OFF	Protect
SW8	OFF	Always OFF

◆ Station No. Setting Switch

Setup Items	Settings
Station No.	No.1 station

NOTE

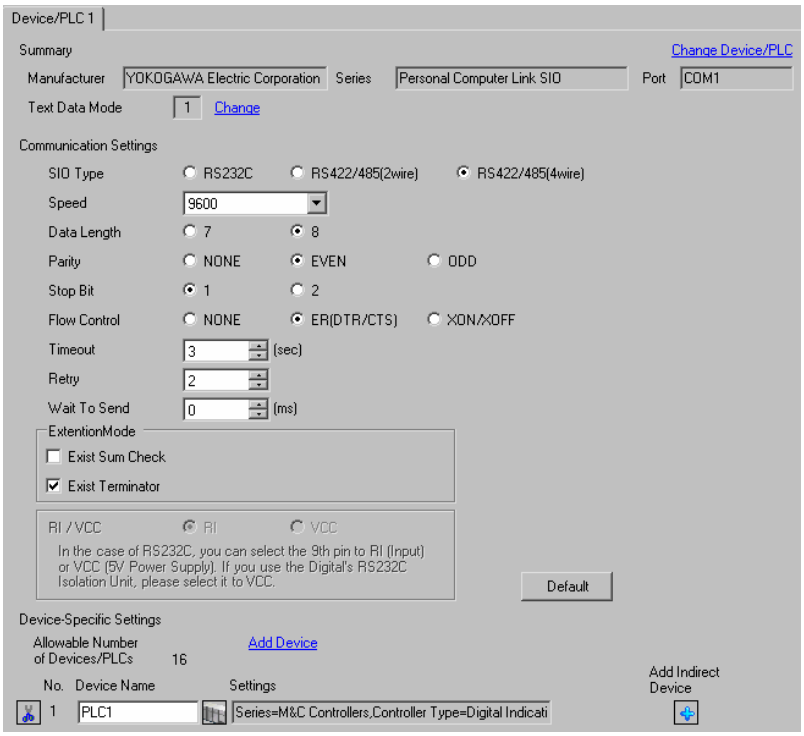
- Set the termination resistance switch of only the module which terminates the connection to 4-WIRE. Set other switches to OFF.

3.23 Setting Example 23

■ Setting of GP-Pro EX

◆ Communication Settings

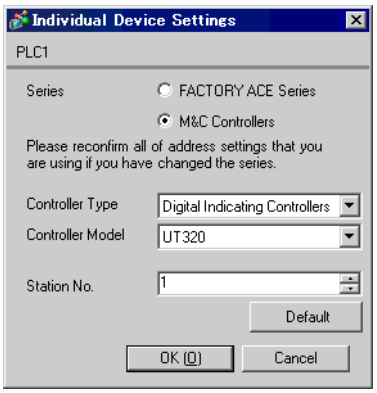
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

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

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



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.
- When simultaneously using GP2000 Series during multilink connection, remove a check on the [Exist Sum Check] in [Extension Mode] and put a check on the [Exist Terminator]. If other settings than this are made, the communication error occurs.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press SET/ENT key several times to display communication setup items.

4 Enter set value using UP or DOWN key and press SET/ENT key.

5 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

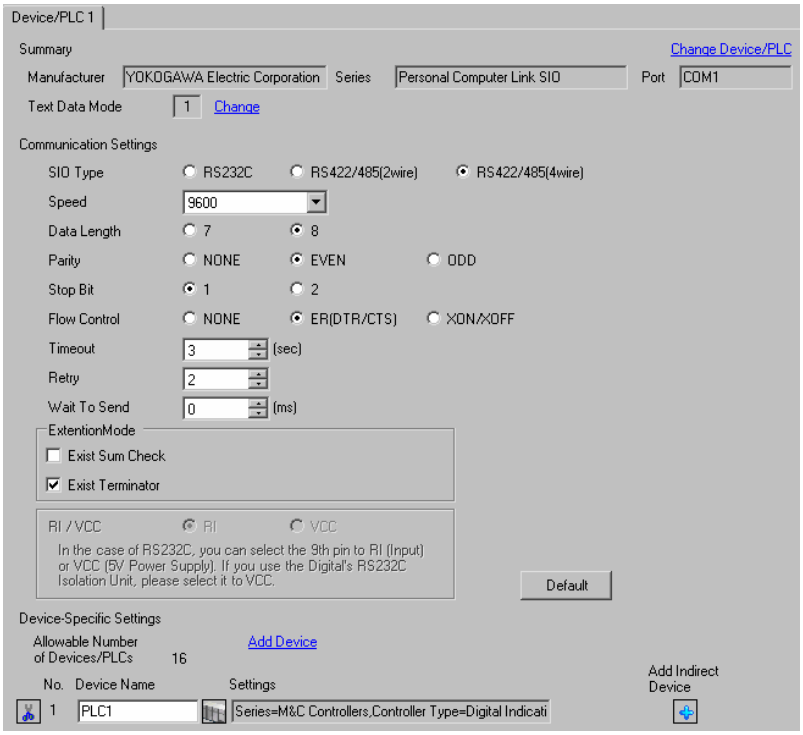
Setup Items	Settings
P.SL	0: PC link communication
bPS	4: 9600 (bps)
PrI	1: Even
StP	1
dLn	8
Adr	1

3.24 Setting Example 24

■ Setting of GP-Pro EX

◆ Communication Settings

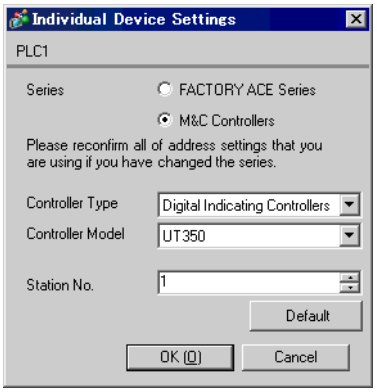
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

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

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



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.
- When simultaneously using GP2000 Series during multilink connection, remove a check on the [Exist Sum Check] in [Extension Mode] and put a check on the [Exist Terminator]. If other settings than this are made, the communication error occurs.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press SET/ENT key several times to display communication setup items.

4 Enter set value using UP or DOWN key and press SET/ENT key.

5 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

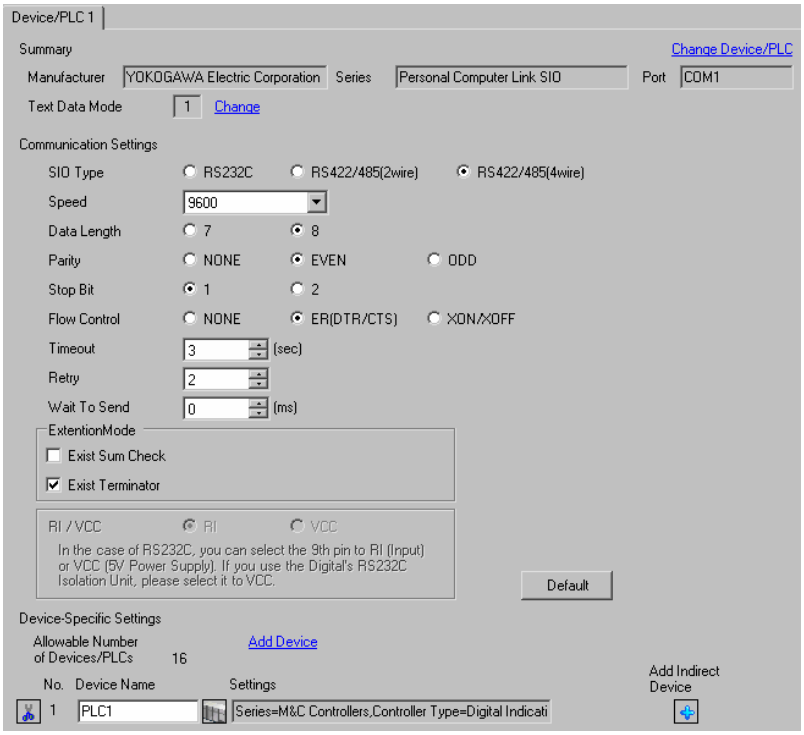
Setup Items	Settings
P.SL	0: PC link communication
bPS	4: 9600 (bps)
PrI	1: Even
StP	1
dLn	8
Adr	1

3.25 Setting Example 25

■ Setting of GP-Pro EX

◆ Communication Settings

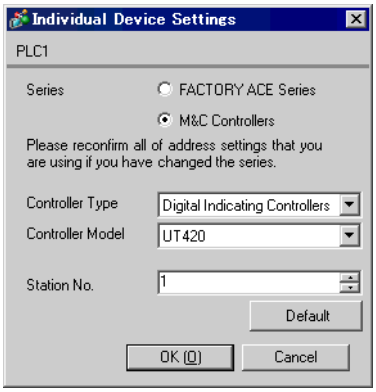
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

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

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



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.
- When simultaneously using GP2000 Series during multilink connection, remove a check on the [Exist Sum Check] in [Extension Mode] and put a check on the [Exist Terminator]. If other settings than this are made, the communication error occurs.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press UP or DOWN key several times to display [r485].

4 Press SET/ENT key several times to display communication setup items.

5 Enter set value using UP or DOWN key and press SET/ENT key.

6 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

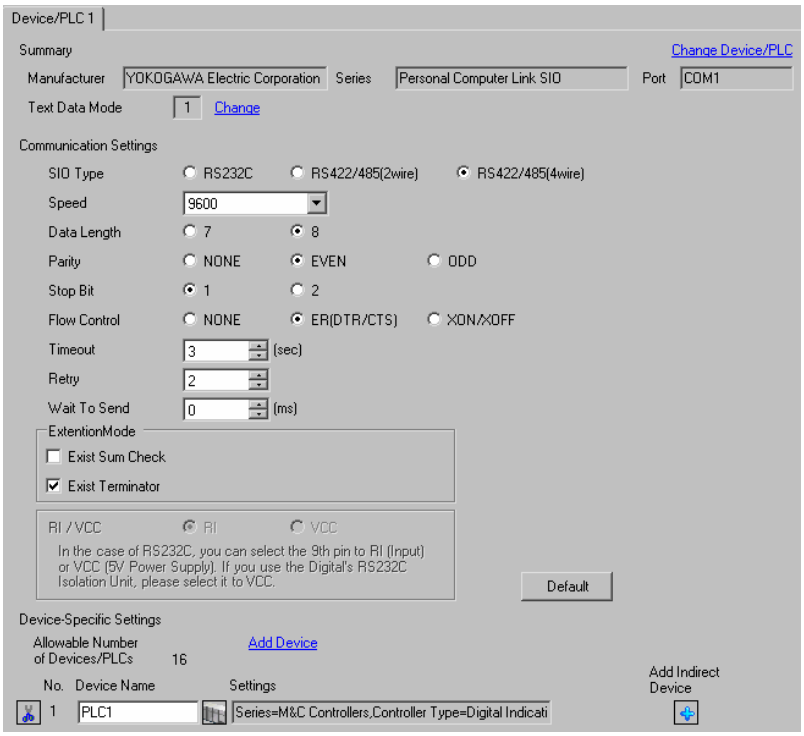
Setup Items	Settings
PSL	0: PC link communication
bPS	9600
PrI	EVEN
StP	1
dLn	8
Adr	1
rP.t	0: 0 × 10ms

3.26 Setting Example 26

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.
- When simultaneously using GP2000 Series during multilink connection, remove a check on the [Exist Sum Check] in [Extension Mode] and put a check on the [Exist Terminator]. If other settings than this are made, the communication error occurs.

■ Setting of External Device

Use the SET/ENT key, UP key and DOWN key in front of the controller for communication settings of the External Device.

Please refer to the manual of the controller for more details.

◆ Procedure

1 Turn ON the power supply.
Change to [Operating Display].

2 Depress SET/ENT key on the [Operating Display] for 3 seconds or longer.
Change to [Operating Parameter Setting Display].

3 Press UP or DOWN key several times to display [r485].

4 Press SET/ENT key several times to display communication setup items.

5 Enter set value using UP or DOWN key and press SET/ENT key.

6 Depress SET/ENT key for 3 seconds or longer to return to [Operating Display].
Then the communication setting is finished.

◆ Setting Value

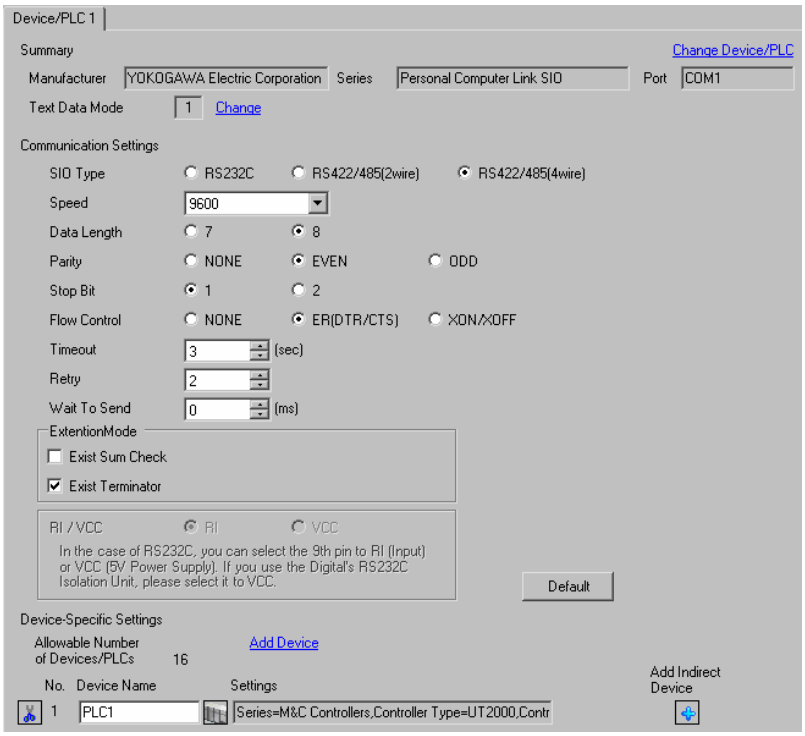
Setup Items	Settings
PSL	0: PC link communication
bPS	9600
PrI	EVEN
StP	1
dLn	8
Adr	1
rP.t	0: 0 × 10ms

3.27 Setting Example 27

■ Setting of GP-Pro EX

◆ Communication Settings

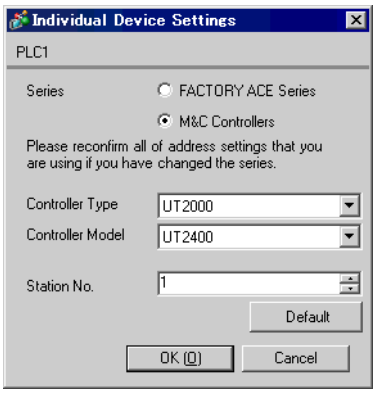
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

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

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



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.
- Remove the check from the [Extension Mode]-[Exist Sum Check] of the communication setting.
- When simultaneously using GP2000 Series during multilink connection, remove a check on the [Exist Sum Check] in [Extension Mode] and put a check on the [Exist Terminator]. If other settings than this are made, the communication error occurs.

■ Setting of External Device

Use the DIP switch for protocol selection, rotary switch for communication setting and rotary switch for station number selection in front of the controller for communication settings of the External Device.
Please refer to the manual of the controller for more details.

◆ Procedure

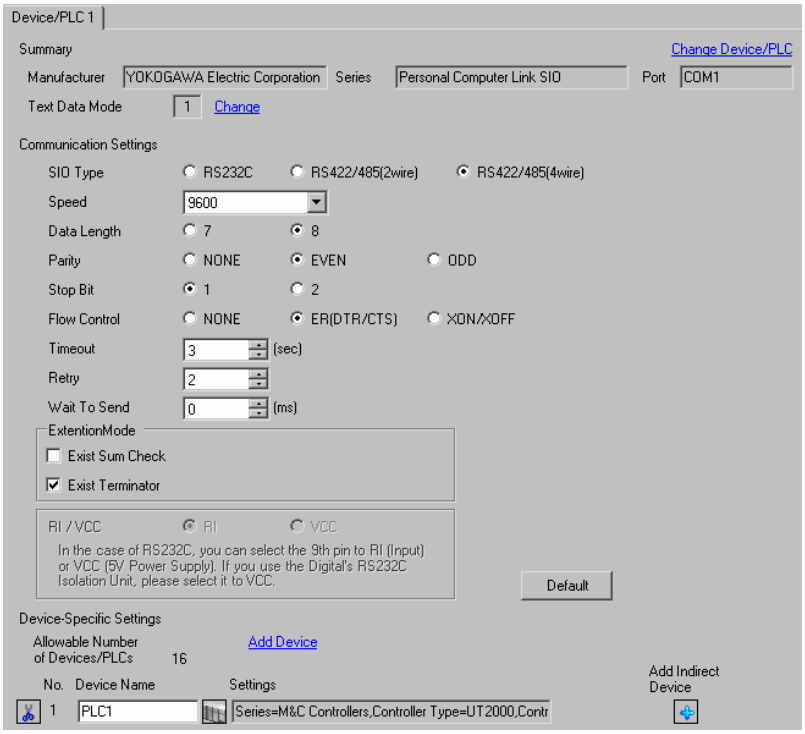
1 Turn DIP switch for protocol selection "ON (PC-link communication)."
2 Set "2" to rotary switch for communication setting.
3 Set "0" to rotary switch for station number selection.

3.28 Setting Example 28

■ Setting of GP-Pro EX

◆ Communication Settings

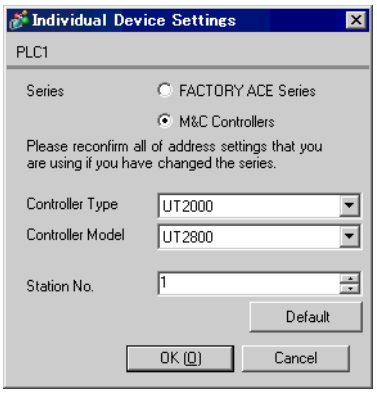
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



◆ Device Setting

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

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



◆ Caution

- Always put a check on the [Extension Mode]-[Exist Terminator] of the communication setting.
- Remove the check from the [Extension Mode]-[Exist Sum Check] of the communication setting.
- When simultaneously using GP2000 Series during multilink connection, remove a check on the [Exist Sum Check] in [Extension Mode] and put a check on the [Exist Terminator]. If other settings than this are made, the communication error occurs.

■ Setting of External Device

Use the DIP switch for protocol selection, rotary switch for communication setting and rotary switch for station number selection in front of the controller for communication settings of the External Device.
Please refer to the manual of the controller for more details.

◆ Procedure

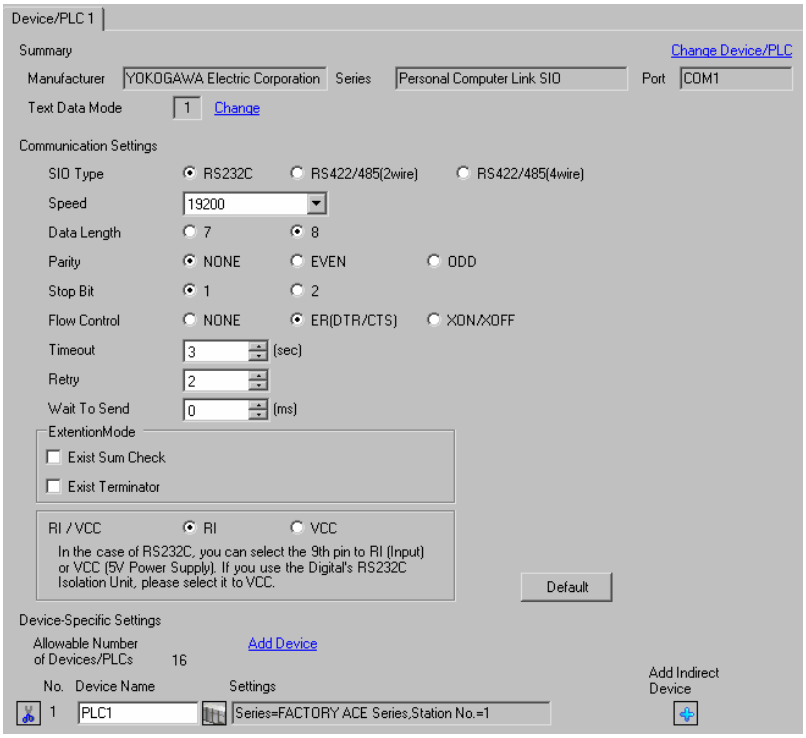
1 Turn DIP switch for protocol selection "ON (PC-link communication)."
2 Set "2" to rotary switch for communication setting.
3 Set "0" to rotary switch for station number selection.

3.29 Setting Example 29

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

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

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

■ Setting of External Device

The ladder software (WideField3) configures the External Device's communication settings.

Refer to your External Device manual for communication setting details.

1 Start up the ladder software.
2 Create a Project.
3 Select [Project Settings] from [Project] menu to display [Project Settings/Configuration] window.
4 Select [Internal Functions Setup] from [Configuration].
5 Set the following [PROGRAMMER/SIO Port Setup].

Setup Items	Settings
Communication Mode	19200bps None Parity
Personal Computer Link Function	Check only [Use].

6 Download the setting CPU property file and the project file to the External Device.
7 Reboot the External Device.

4 Setup Items

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

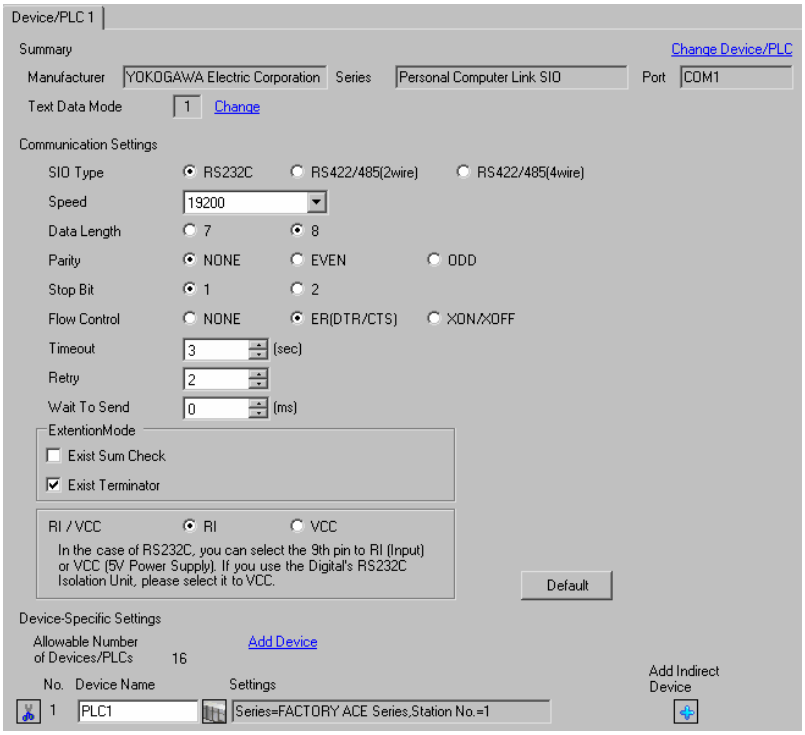
The setting of each parameter must be identical to that of External Device.

☞"3 Example of Communication Setting" (page 12)

4.1 Communication Setting with GP-Pro EX

■ Communication Settings

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



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

Continues to the next page.

Setup Items	Setup Description
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.
Exist Sum Check (Extension Mode)	Set whether you perform the sum check. **NOTE** When simultaneously using GP2000 Series during multilink connection, remove a check on the [Exist Sum Check].
Exist Terminator (Extension Mode)	Set whether you specify the data terminator. **NOTE** When simultaneously using GP2000 Series during multilink connection, put a check on the [Exist Terminator].
RI/VCC	You can switch RI/VCC of the 9th pin when you select RS232C for SIO type. It is necessary to change RI/5V by changeover switch of IPC when connect with IPC. Please refer to the manual of the IPC for more detail.

NOTE

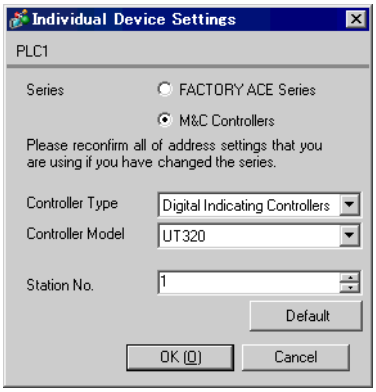
- Refer to the GP-Pro EX Reference Manual for Indirect Device.

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

■ Device Setting

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

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



Setup Items	Setup Description
Series	Select the External Device series.
Controller Type	Select the controller type. This can be set only by selecting “M & C Controllers” of [Series].
Controller Model	Select the controller model. This can be set only by selecting “M & C Controllers” of [Series].
Station No.	Use an integer 0 to 32 to enter the station number of the External Device to communicate.

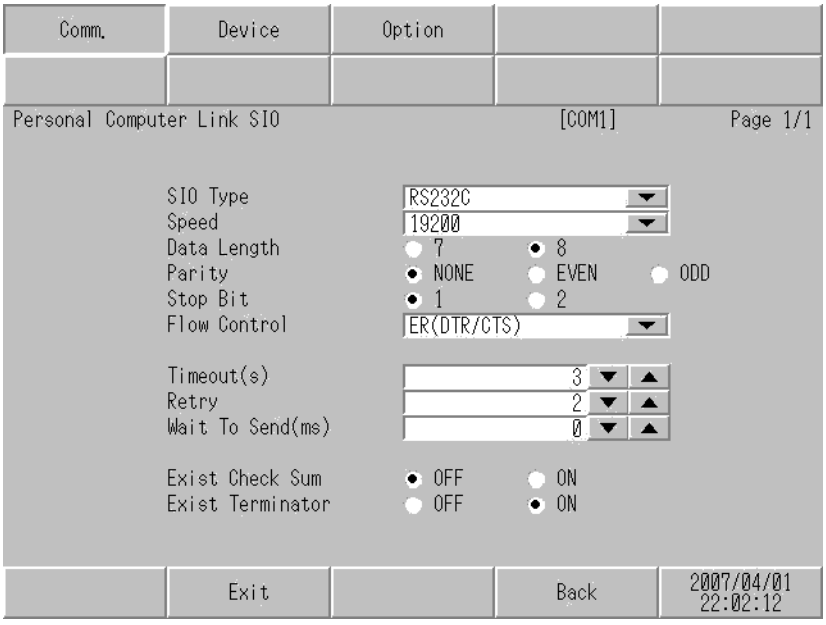
4.2 Communication Settings in Offline Mode

NOTE

- Refer to the Maintenance/Troubleshooting guide for information on how to enter offline mode and how to operate offline mode.
  Cf. Maintenance/Troubleshooting Guide "Offline Mode"
- The number of the setup items to be displayed for 1 page in the offline mode depends on the Display in use. Please refer to the Reference manual for details.

■ Communication Settings

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



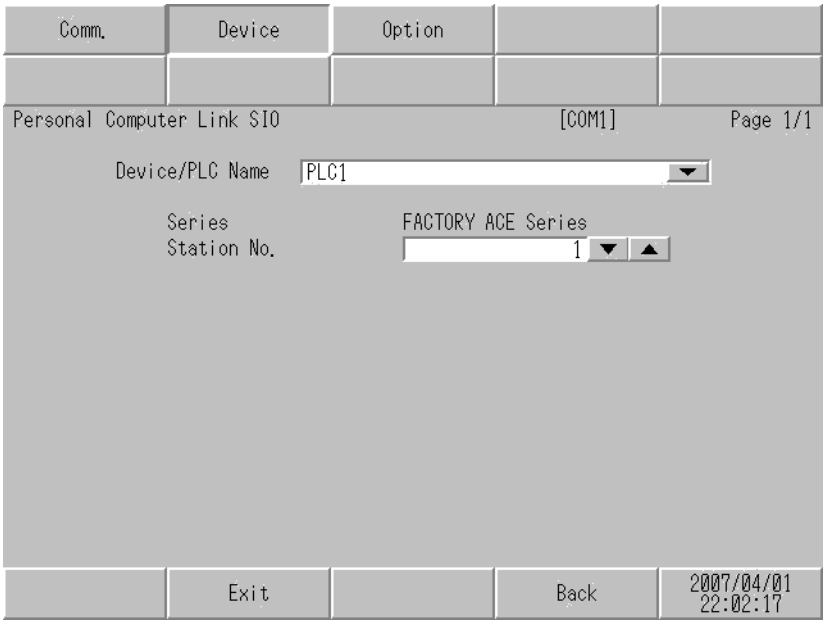
Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. **IMPORTANT** To make the communication settings correctly, confirm the serial interface specifications of Display unit for [SIO Type]. We cannot guarantee the operation if a communication type that the serial interface does not support is specified. For details concerning the serial interface specifications, refer to the manual for Display unit.
Speed	Select speed between the External Device and the Display.
Data Length	Select data length.
Parity	Select how to check parity.
Stop Bit	Select stop bit length.
Flow Control	Select the communication control method to prevent overflow of transmission and reception data.

Continues to the next page.

Setup Items	Setup Description
Timeout	Use an integer from 1 to 127 to enter the time (sec) 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.
Exist Check Sum	Set whether you perform the check sum. **NOTE** When simultaneously using GP2000 Series during multilink connection, remove a check on the [Exist Sum Check].
Exist Terminator	Set whether you specify the data terminator. **NOTE** When simultaneously using GP2000 Series during multilink connection, put a check on the [Exist Terminator].

■ Device Setting

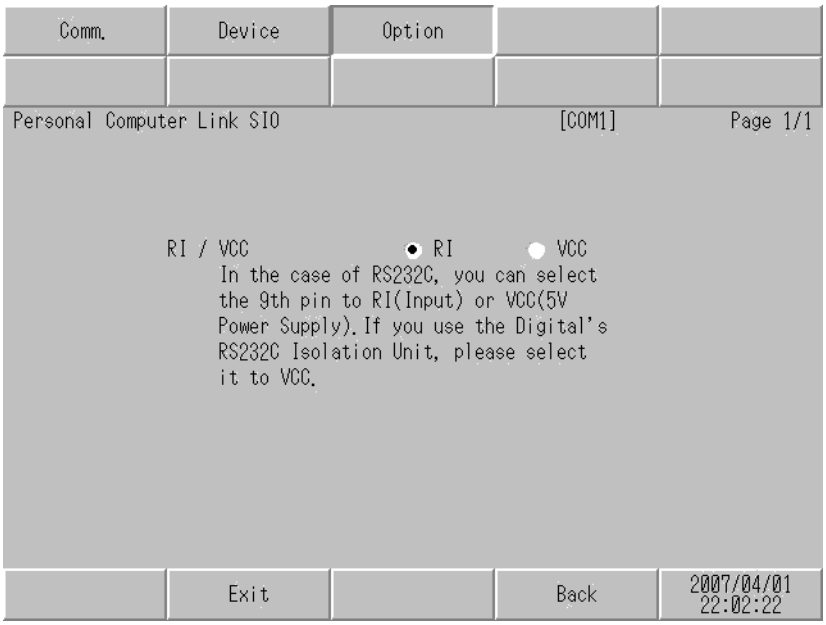
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings]. Touch the External Device you want to set from the displayed list, and touch [Device].



Setup Items	Setup Description
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])
Series	Display the External Device series.
Station No.	Use an integer 0 to 32 to enter the station number of the External Device to communicate.

■ Option

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



Setup Items	Setup Description
RI/VCC	You can switch RI/VCC of the 9th pin when you select RS232C for SIO type. It is necessary to change RI/5V by changeover switch of IPC when connect with IPC. Please refer to the manual of the IPC for more detail.

NOTE

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

5 Cable Diagram

The cable diagram shown below may be different from the cable diagram recommended by Yokogawa Electric Corporation . Please be assured there is no operational problem in applying the cable diagram 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, when communication is not stabilized under the influence of a noise etc..

Cable Diagram1

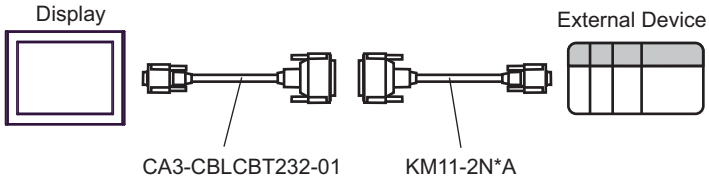
Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) SP5000 (COM1/2) ST (COM1) LT3000 (COM1) IPC*2 PC/AT	1A	9-pin-to-25-pin RS-232C Conversion Cable by Pro-face CA3-CBLCBT232-01 + Programming tool cable by Yokogawa Electric Corporation KM11-2N*A	The cable length must be 15m or less.
	1B	Monitor cable by Yokogawa Electric Corporation KM21-2B	
GP-4105 (COM1)	1C	User-created cable + Programming tool cable by Yokogawa Electric Corporation KM11-2N*A	The cable length must be 15m or less.
	1D	User-created cable + Monitor cable by Yokogawa Electric Corporation KM21-2B	

*1 All GP4000 models except GP-4100 Series and GP-4203T

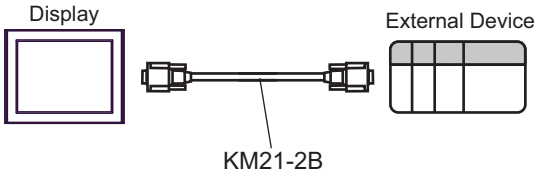
*2 Only the COM port which can communicate by RS-232C can be used.

☞■ IPC COM Port (page 9)

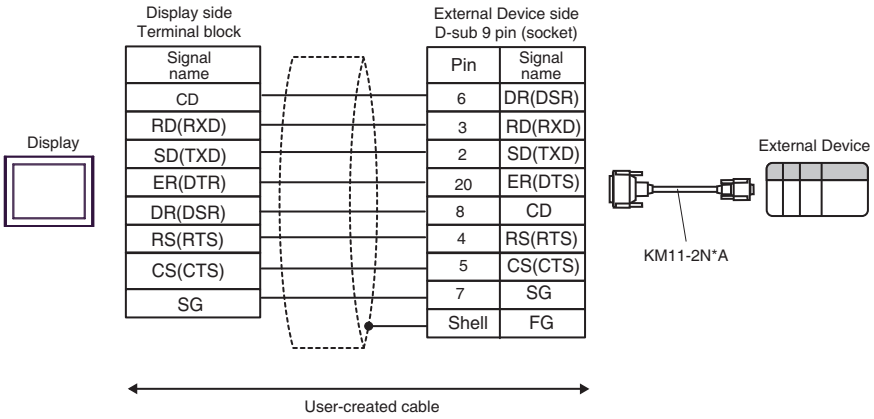
1A)


Display
External Device
CA3-CBLCBT232-01
KM11-2N*A

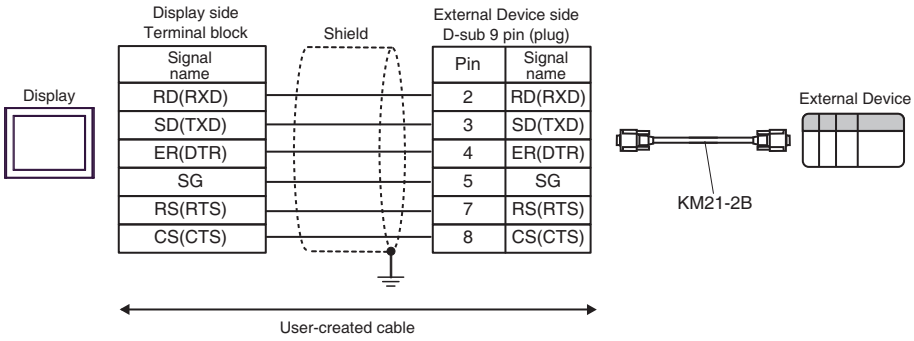
1B)


Display
External Device
KM21-2B

1C)


Display side
Terminal block
Signal name
CD
RD(RXD)
SD(TXD)
ER(DTR)
DR(DSR)
RS(RTS)
CS(CTS)
SG
External Device side
D-sub 9 pin (socket)
Pin
Signal name
6 DR(DSR)
3 RD(RXD)
2 SD(TXD)
20 ER(DTS)
8 CD
4 RS(RTS)
5 CS(CTS)
7 SG
Shell FG
Display
External Device
KM11-2N*A
User-created cable

1D)


Display side
Terminal block
Signal name
RD(RXD)
SD(TXD)
ER(DTR)
SG
RS(RTS)
CS(CTS)
Shield
External Device side
D-sub 9 pin (plug)
Pin
Signal name
2 RD(RXD)
3 SD(TXD)
4 ER(DTR)
5 SG
7 RS(RTS)
8 CS(CTS)
Display
External Device
KM21-2B
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	—
	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) SP5000 (COM1/2)	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 9)

*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

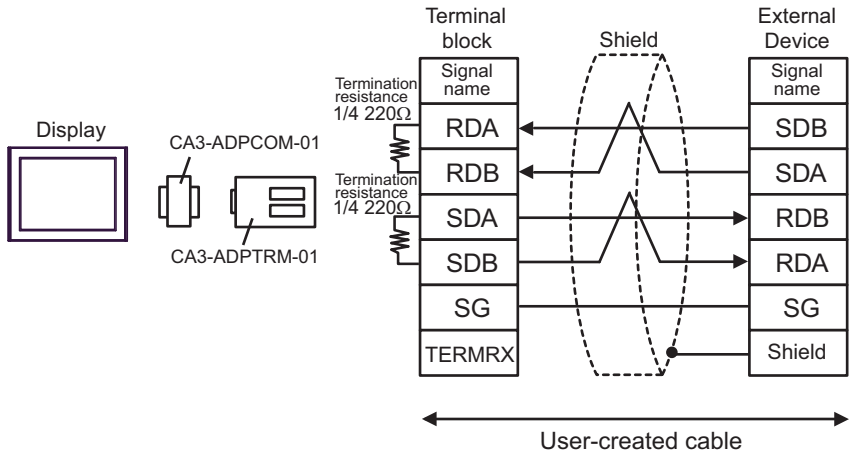
*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 2A.

NOTE

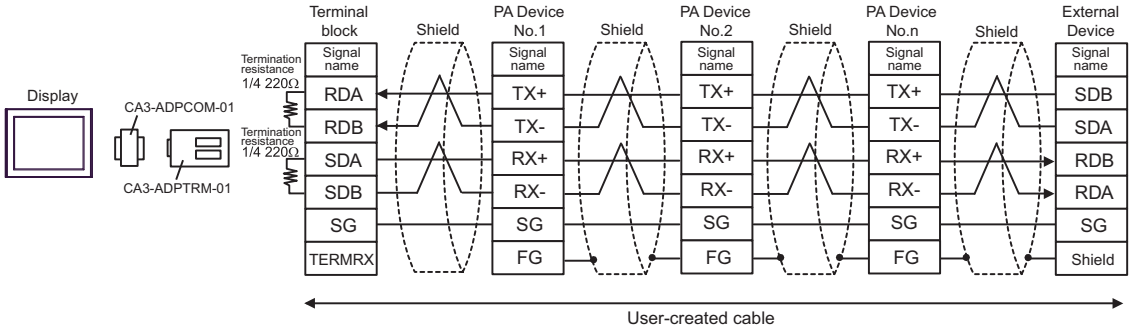
- Attach the termination resistance to the devices on both ends.
- Note that pole A and pole B are reversely named for the Display and the External Device.
- When the PA device has SG, connect it.
- Set the last resistance switch of the personal computer link module for the External Device which terminates the connection to 4-WIRE.
- We recommend CO-SPEU-SB(A)3P x 0.5SQ by Hitachi Cable, Ltd. for the connection cable.
- Total cable length is 1000m.
- Set the station No. for the personal computer link module to 2 to 32.
- You must set the different station No. of all PA devices connected to the Display. If there are more than 2 PA devices with the same station No., error occurs.
- Perform the identical communication settings for both the Display (m units) and the PA device (n units).

2A)

- 1:1 Connection



- 1:n Connection

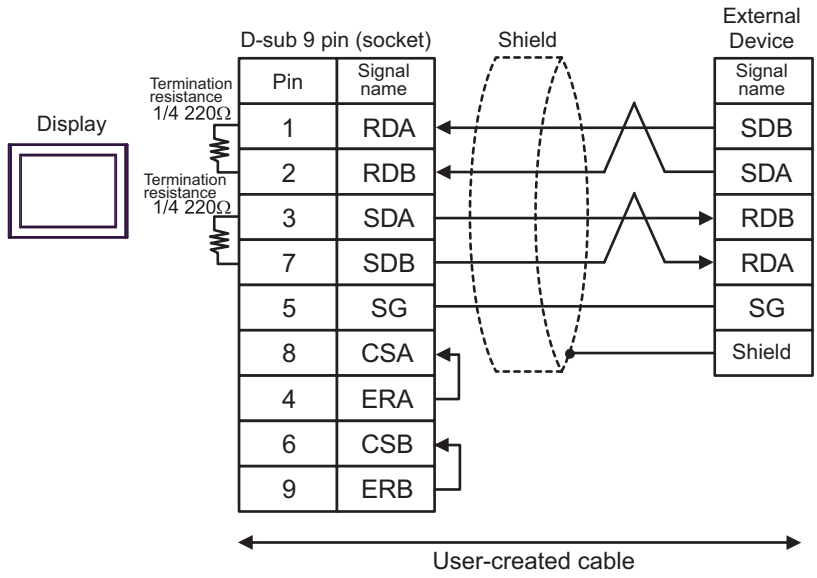


NOTE

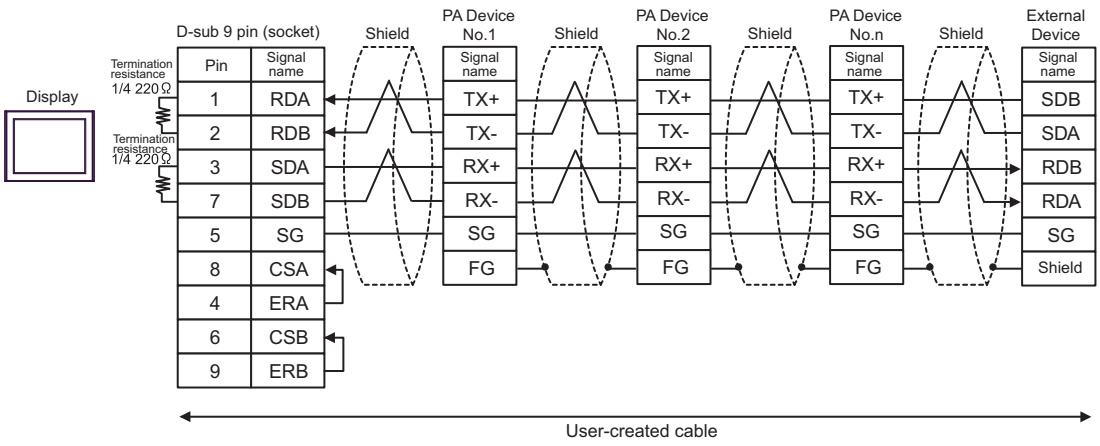
- When the PA device has SG, connect it.
- Even if the PA device has no SG, SG connection between the Display and the External Device is necessary.
- When the display unit you use is an IPC, turn ON the DIP switches 5 and 6 to insert the termination resistance.

2B)

- 1:1 Connection



- 1:n Connection

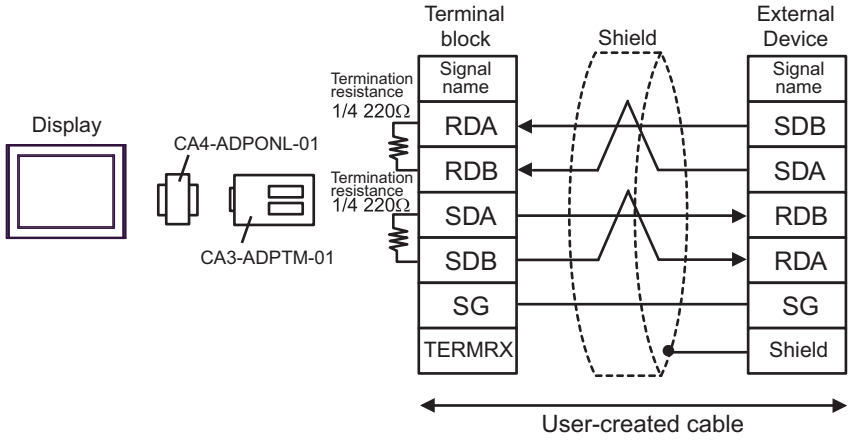


NOTE

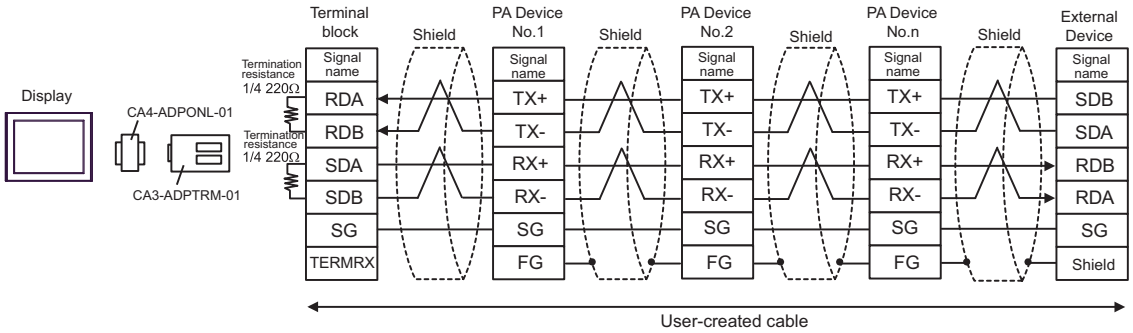
- When the PA device has SG, connect it.
- Even if the PA device has no SG, SG connection between the Display and the External Device is necessary.
- When the display unit you use is an IPC, turn ON the DIP switches 5 and 6 to insert the termination resistance.

2C)

- 1:1 Connection



- 1:n Connection

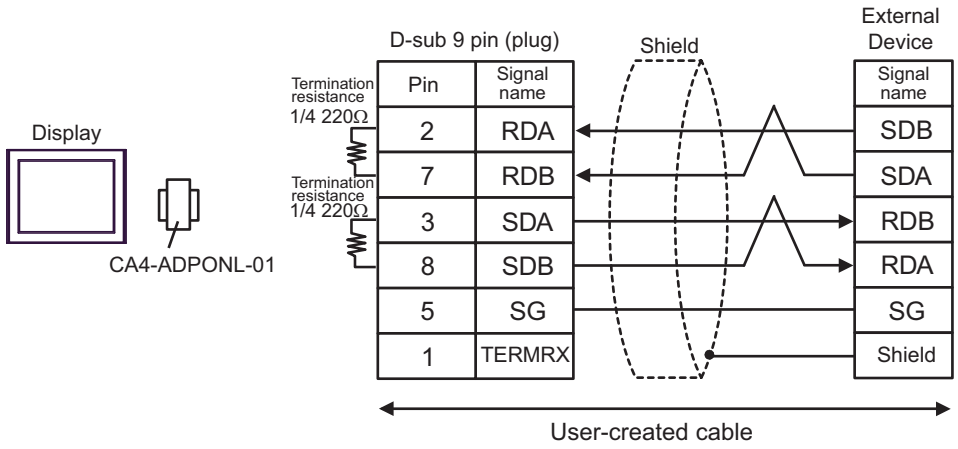


NOTE

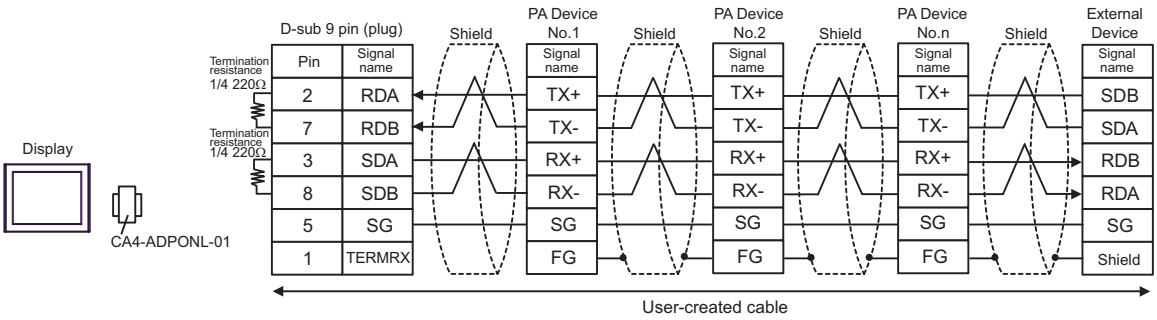
- When the PA device has SG, connect it.
- Even if the PA device has no SG, SG connection between the Display and the External Device is necessary.

2D)

- 1:1 Connection



- 1:n Connection

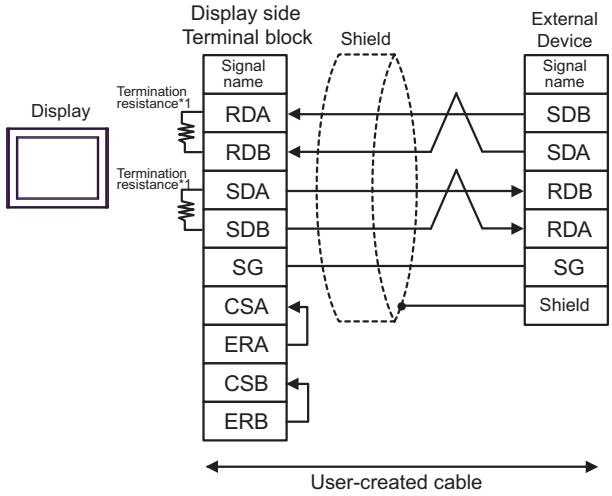


NOTE

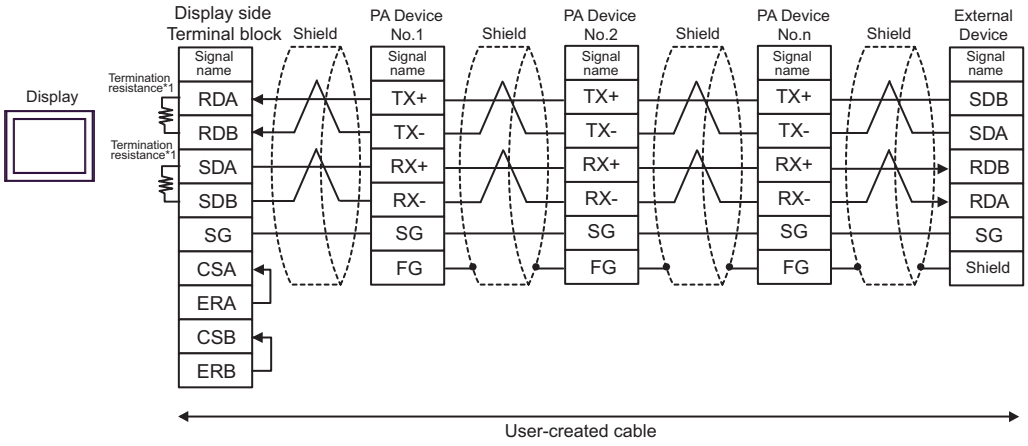
- When the PA device has SG, connect it.
- Even if the PA device has no SG, SG connection between the Display and the External Device is necessary.

2E)

- 1:1 Connection



- 1:n Connection



NOTE

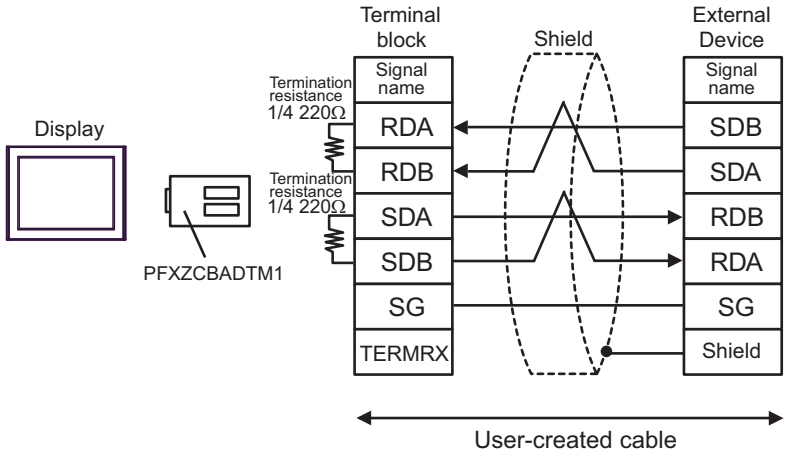
- When the PA device has SG, connect it.
- Even if the PA device has no SG, SG connection between the Display and the External Device is necessary.

*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.

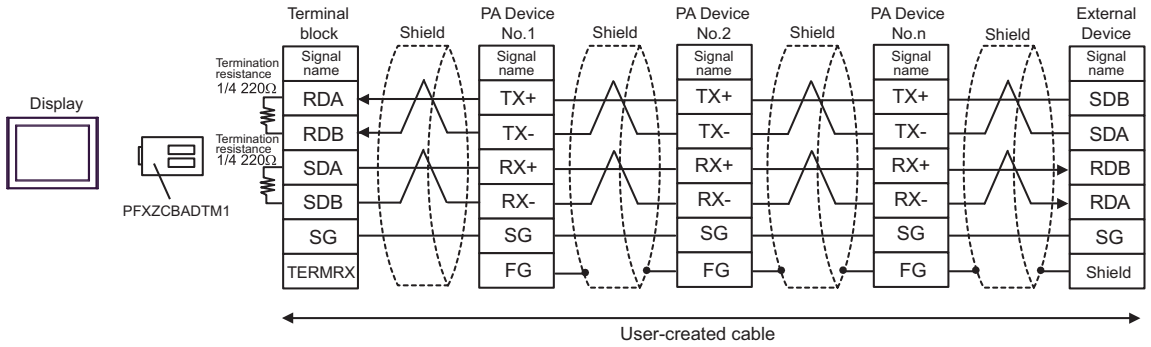
DIP Switch No.	Set Value
1	OFF
2	ON
3	OFF
4	ON

2F)

- 1:1 Connection



- 1:n Connection



NOTE

- When the PA device has SG, connect it.
- Even if the PA device has no SG, SG connection between the Display and the External Device is necessary.

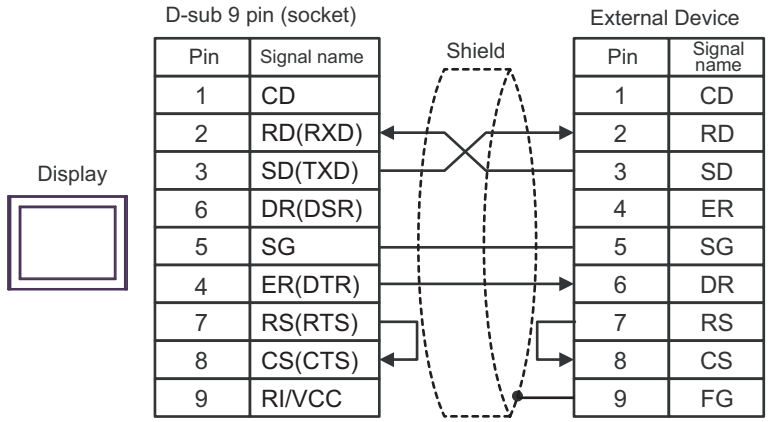
Cable Diagram 3

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) SP5000 (COM1/2) ST (COM1) LT3000 (COM1) IPC*2 PC/AT	3A	User-created cable	The cable length must be 15m or less.
GP-4105 (COM1)	3B	User-created cable	The cable length must be 15m or less.

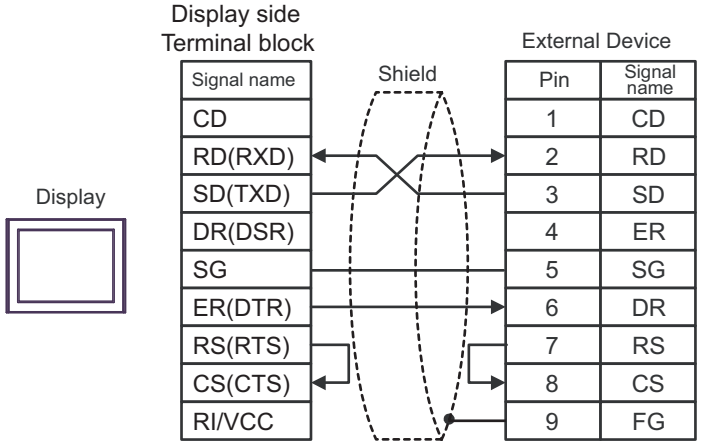
*1 All GP4000 models except GP-4100 Series and GP-4203T

*2 Only the COM port which can communicate by RS-232C can be used.
☞ ■ IPC COM Port (page 9)

3A)



3B)



Cable Diagram 4

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST[*2] (COM2) LT3000 (COM1)	4A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	—
	4B	User-created cable	
GP3000[*3] (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	
IPC[*4]	4E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	—
	4F	User-created cable	
GP-4106 (COM1)	4G	User-created cable	—
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	4H	User-created cable	—
GP4000[*6] (COM2) GP-4201T (COM1) SP5000 (COM1/2)	4I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*7] + User-created cable	—
	4B	User-created cable	
LT-4*01TM (COM1) LT-Rear Module (COM1)	4J	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 9)

*5 Except GP-4203T

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

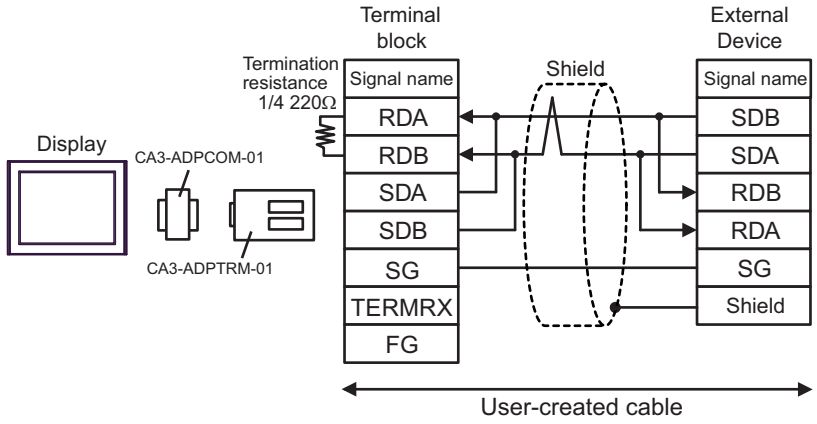
*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 4A.

NOTE

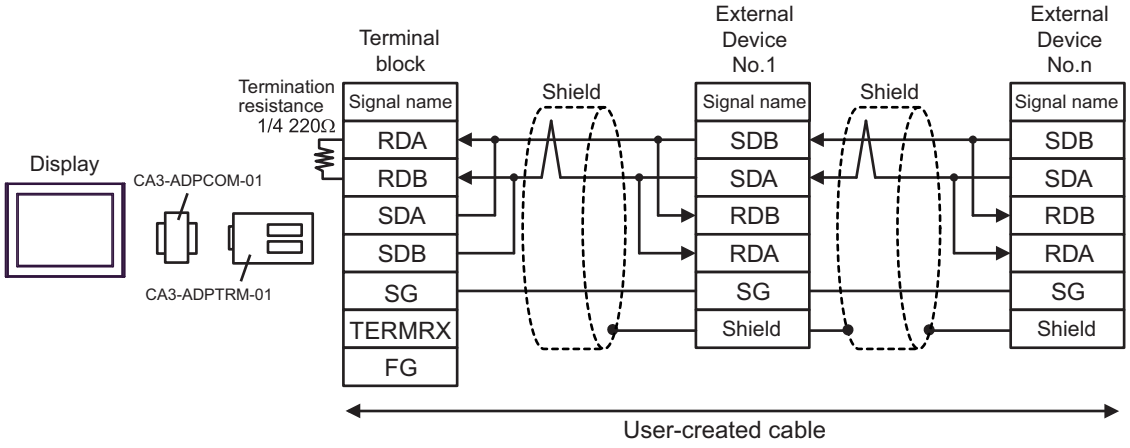
- Note that pole A and pole B are reversely named for the Display and the External Device.
- When the PA device has SG, connect it.
- Set the last resistance switch of the personal computer link module for the External Device which terminates the connection to 2-WIRE.
- We recommend CO-SPEU-SB(A)3P x 0.5SQ by Hitachi Cable, Ltd. for the connection cable.
- Total cable length is 1000m.

4A)

- 1:1 Connection

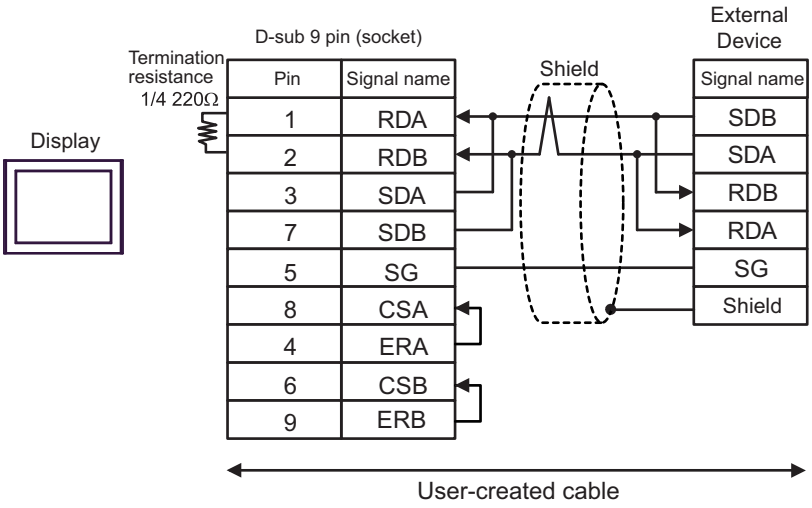


- 1:n Connection

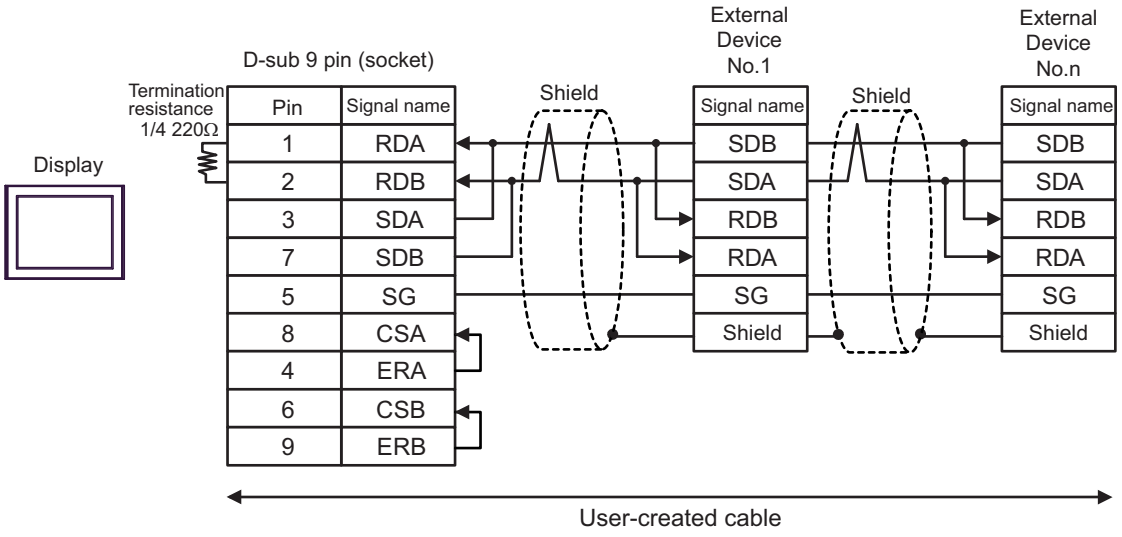


4B)

- 1:1 Connection

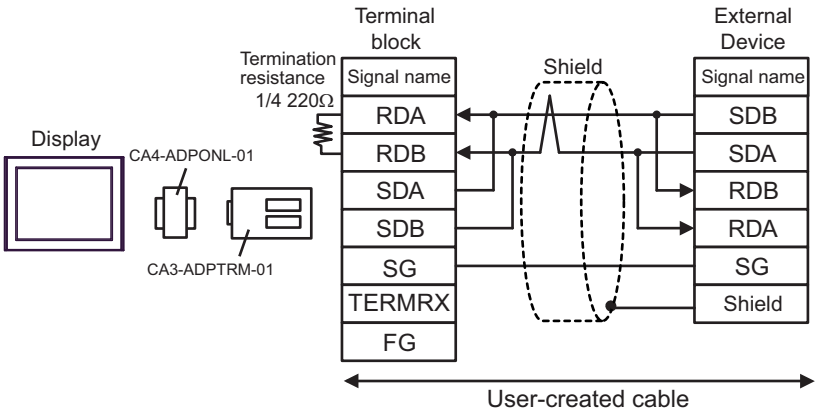


- 1:n Connection

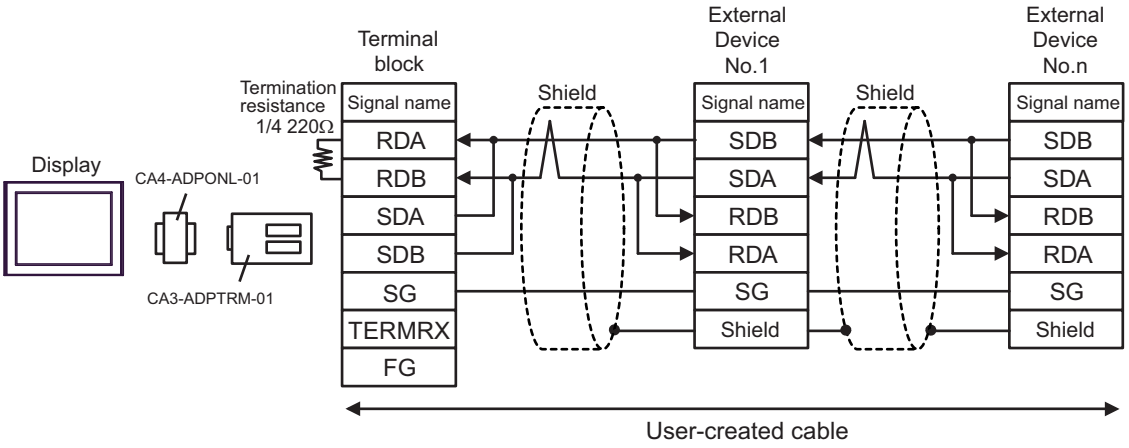


4C)

- 1:1 Connection

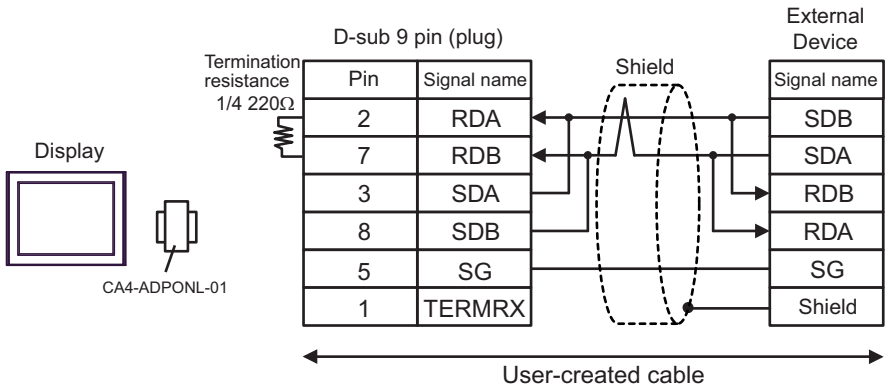


- 1:n Connection

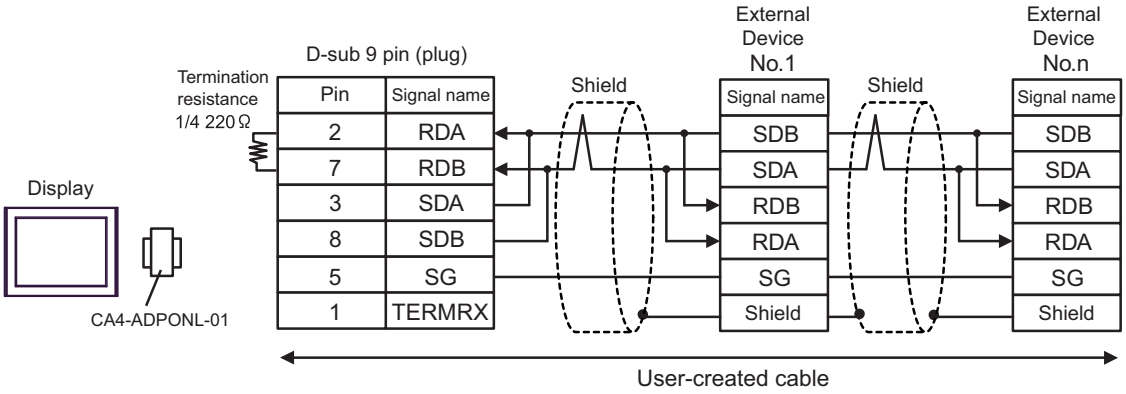


4D)

- 1:1 Connection

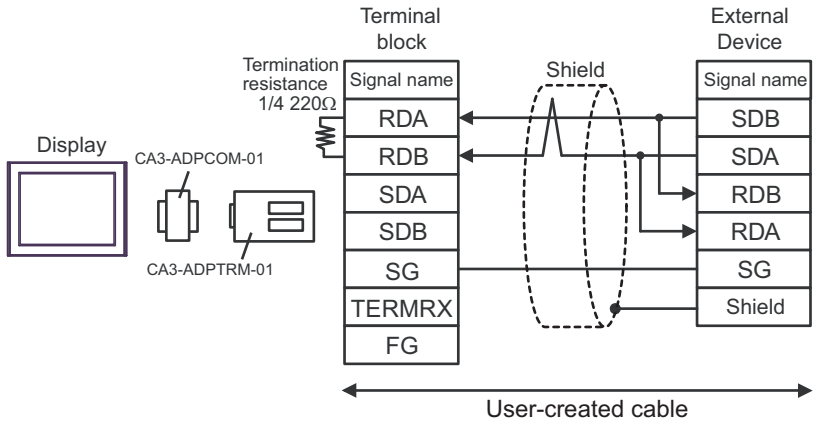


- 1:n Connection

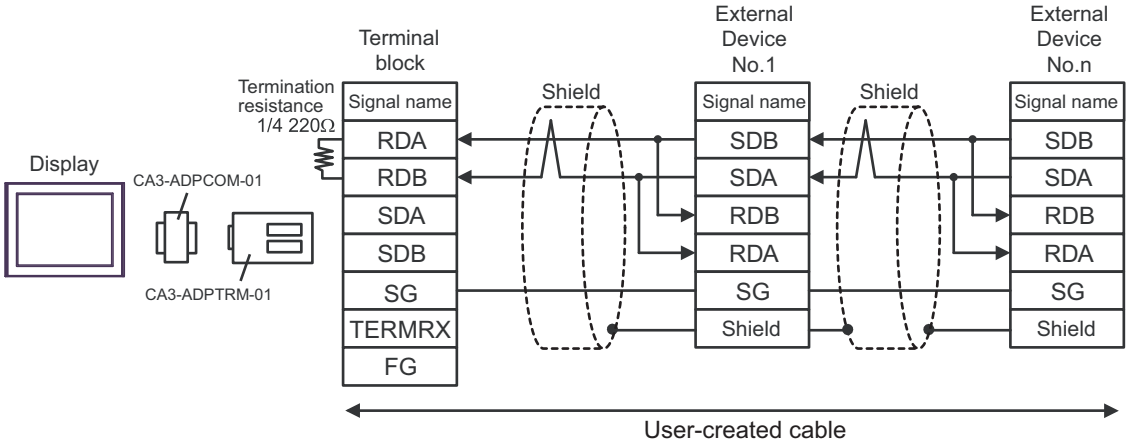


4E)

- 1:1 Connection



- 1:n Connection

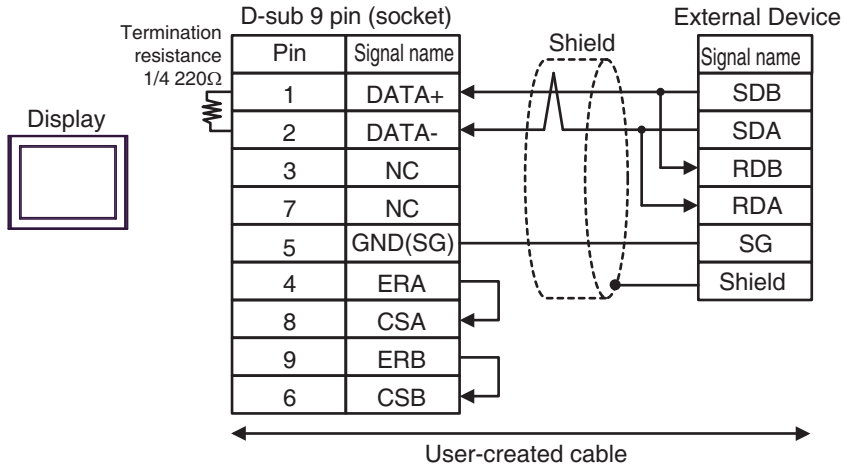


NOTE

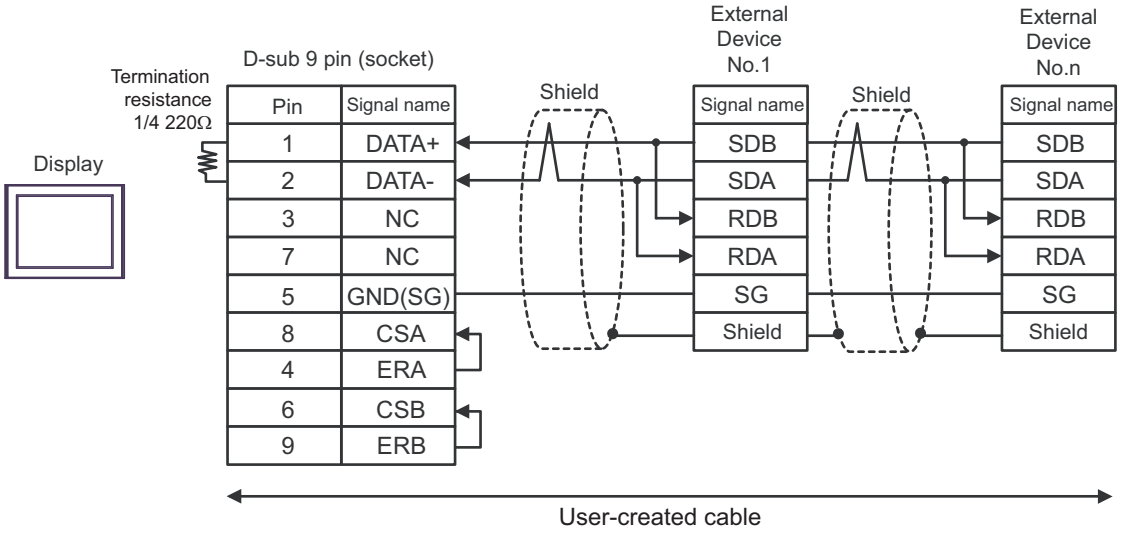
- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.

4F)

- 1:1 Connection



- 1:n Connection

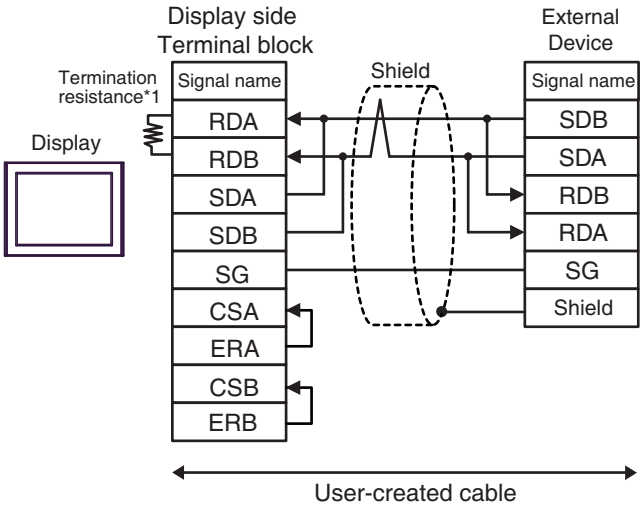


NOTE

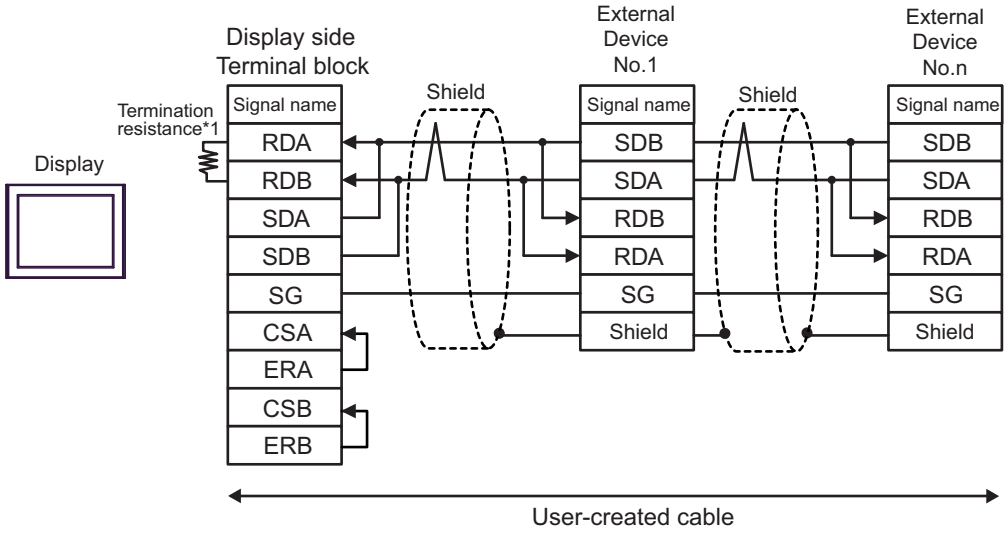
- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.

4G)

- 1:1 Connection



- 1:n Connection

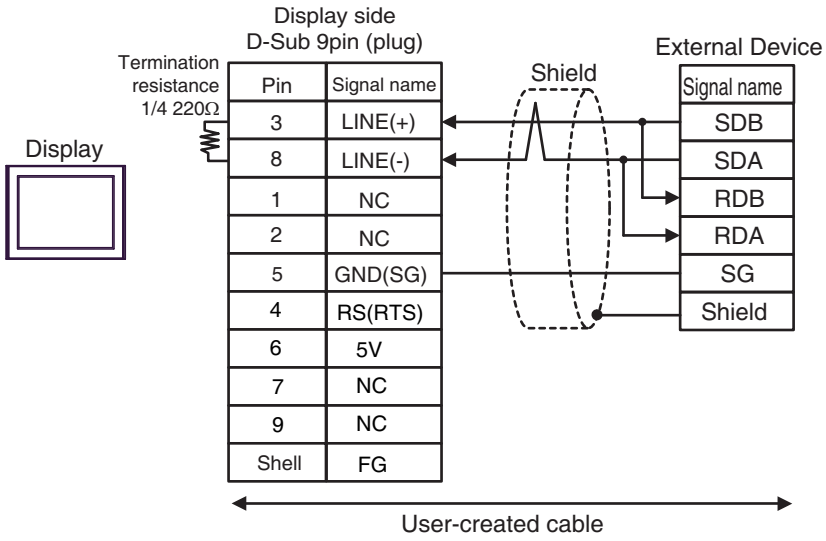


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

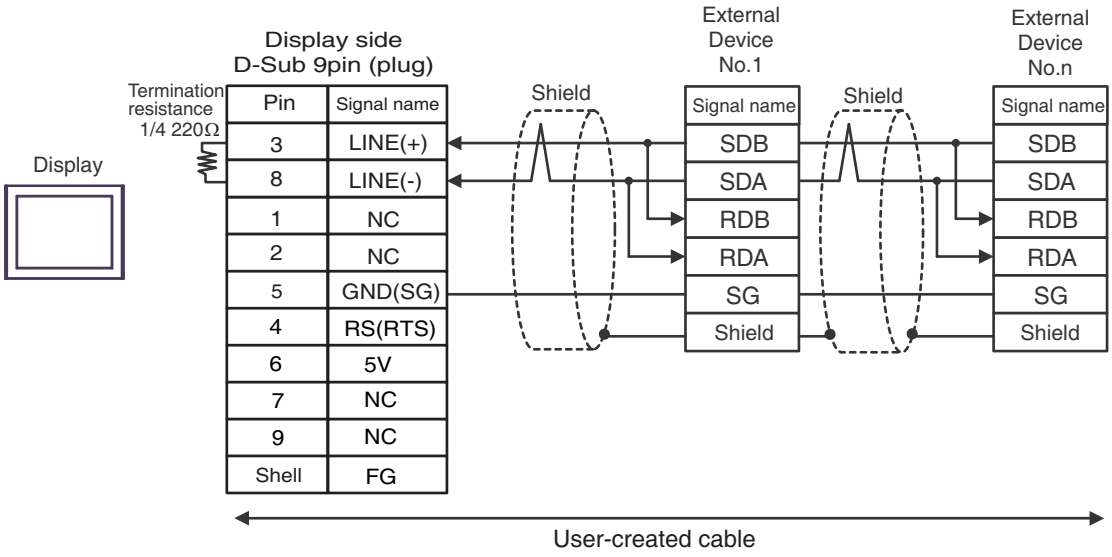
DIP Switch No.	Set Value
1	OFF
2	OFF
3	OFF
4	ON

4H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

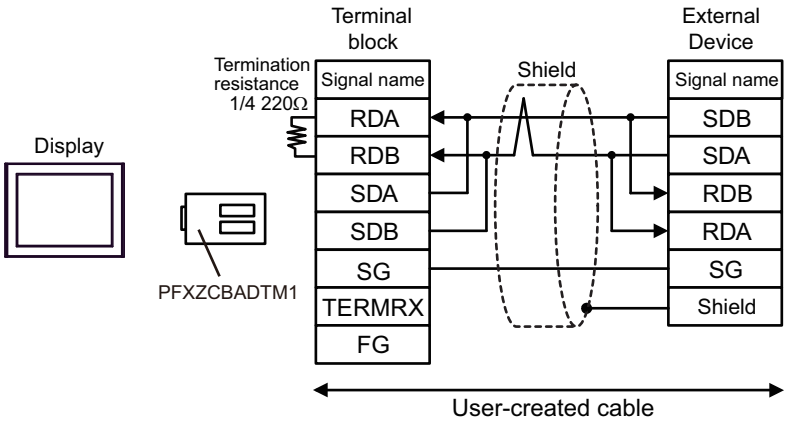
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

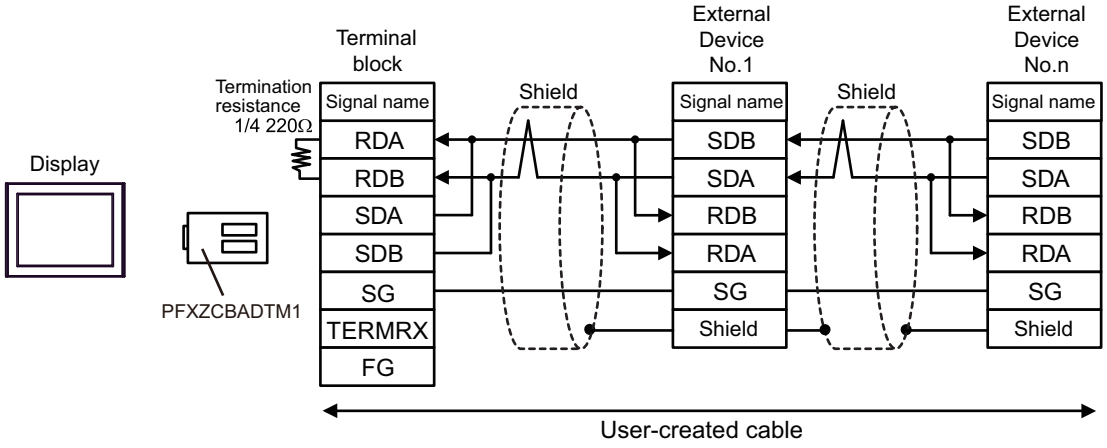
- In COM on the GP-4107, the SG and FG terminals are isolated.

4I)

- 1:1 Connection

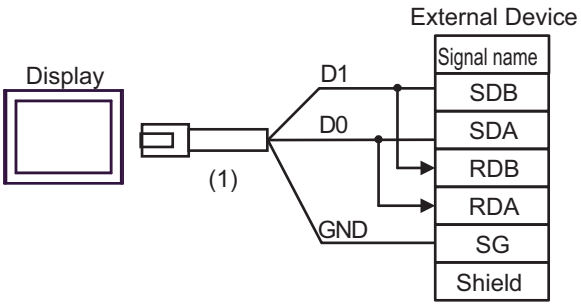


- 1:n Connection

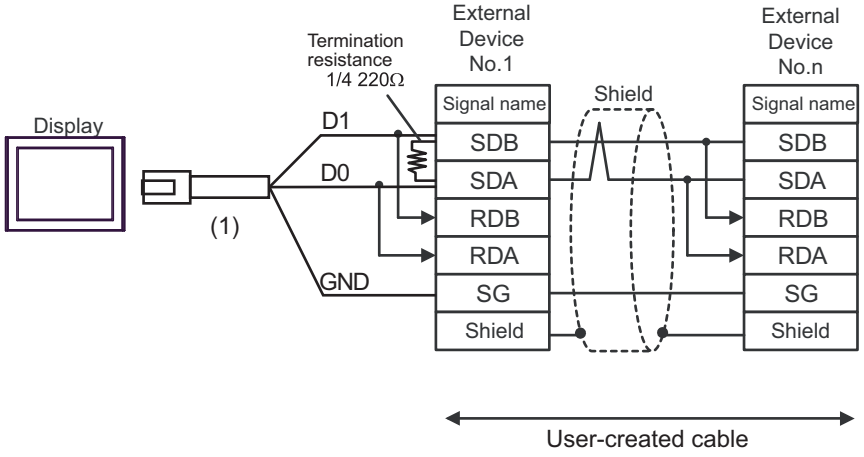


4J)

- 1:1 Connection



- 1:n Connection



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

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	The cable length must be 1000m 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	The cable length must be 1000m or less.
	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	The cable length must be 1000m or less.
	5F	User-created cable	
GP-4106 (COM1)	5G	User-created cable	The cable length must be 1000m or less.
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	5H	User-created cable	The cable length must be 1000m or less.
GP4000[*6] (COM2) GP-4201T (COM1) SP5000 (COM1/2)	5I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*7] + User-created cable	The cable length must be 1000m or less.
	5B	User-created cable	
LT-4*01TM (COM1) LT-Rear Module (COM1)	5J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	The cable length must be 200m or less.

*1 All GP3000 models except AGP-3302B

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

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

*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
☞■ IPC COM Port (page 9)

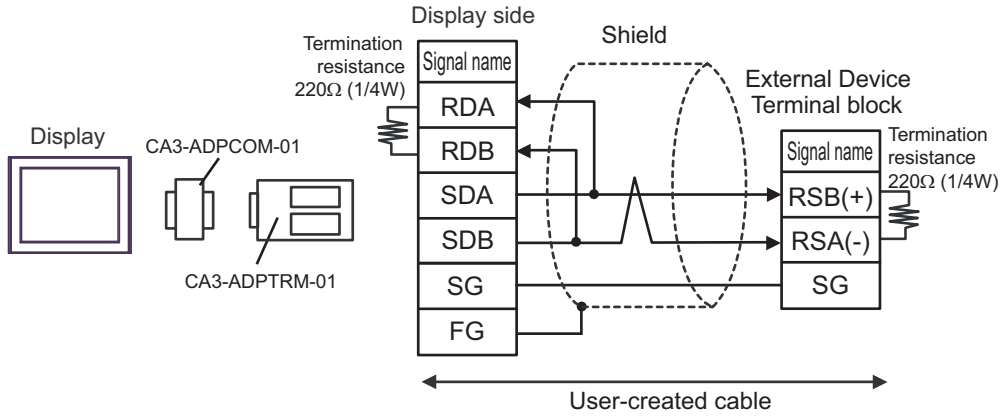
*5 Except GP-4203T

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

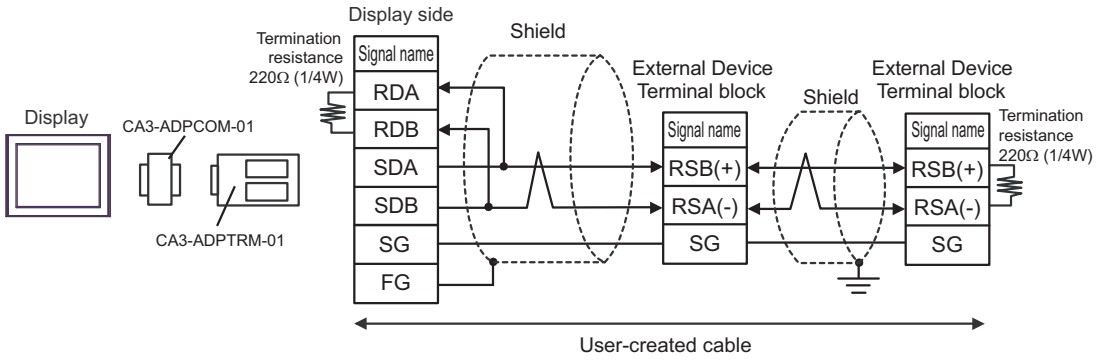
*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 5A.

5A)

- 1:1 Connection

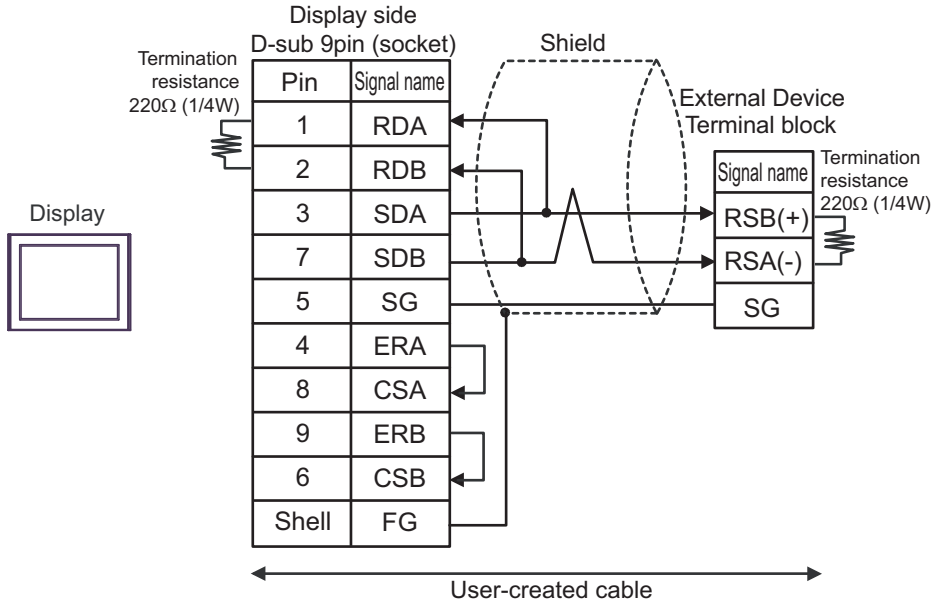


- 1:n Connection

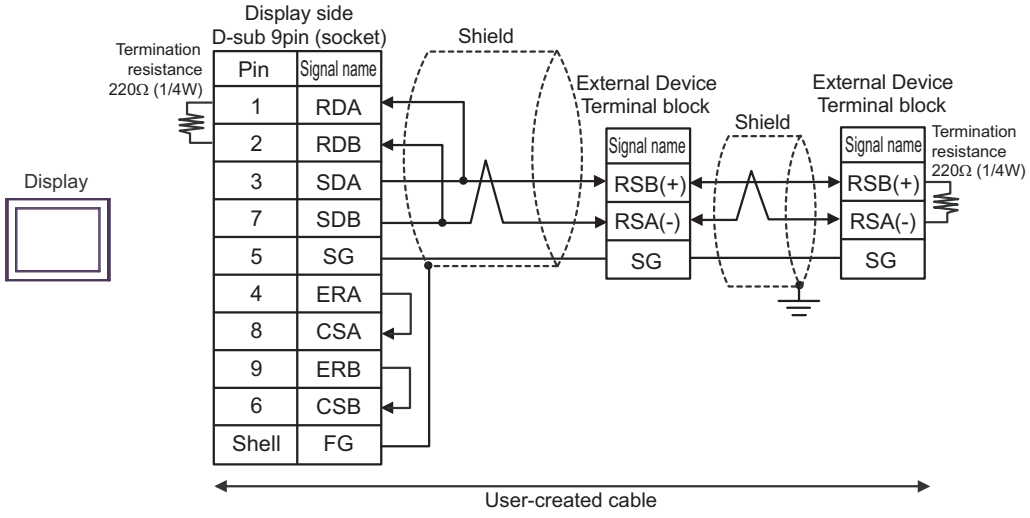


5B)

- 1:1 Connection

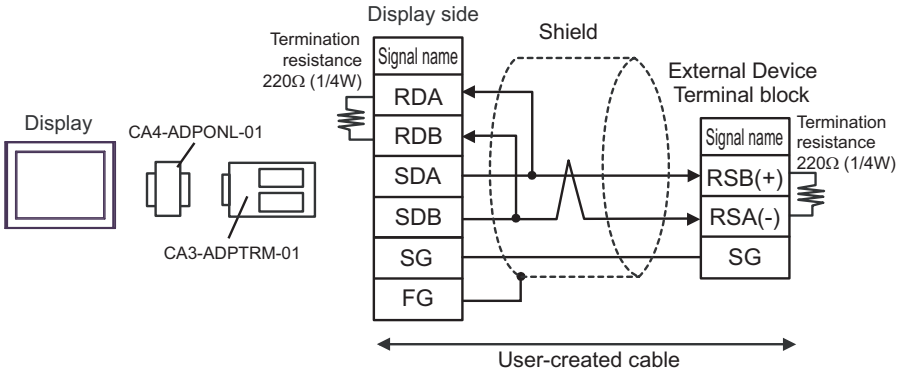


- 1:n Connection

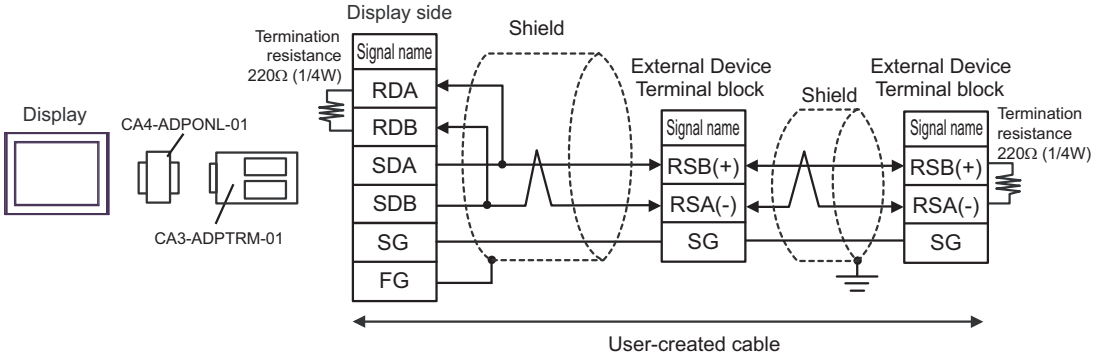


5C)

- 1:1 Connection

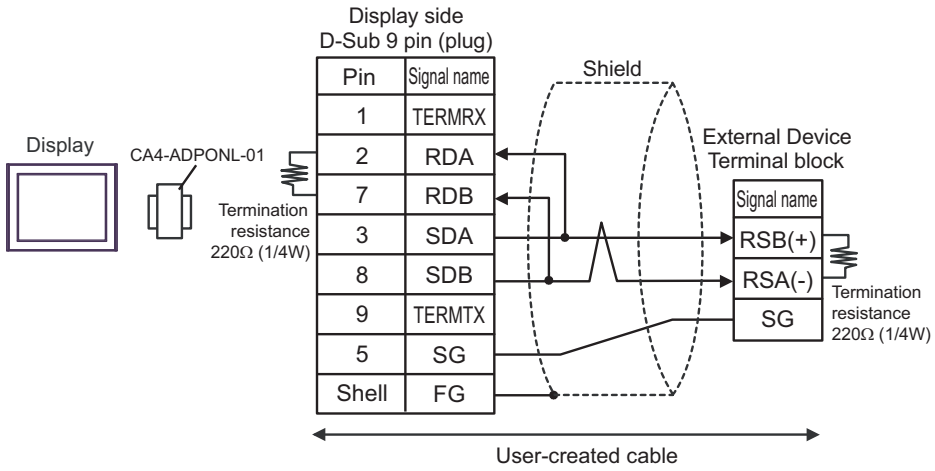


- 1:n Connection

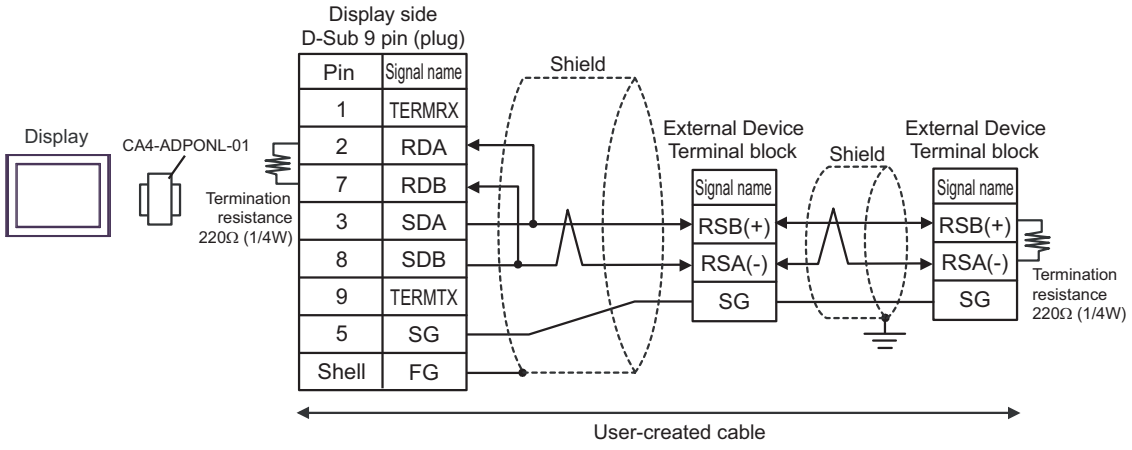


5D)

- 1:1 Connection

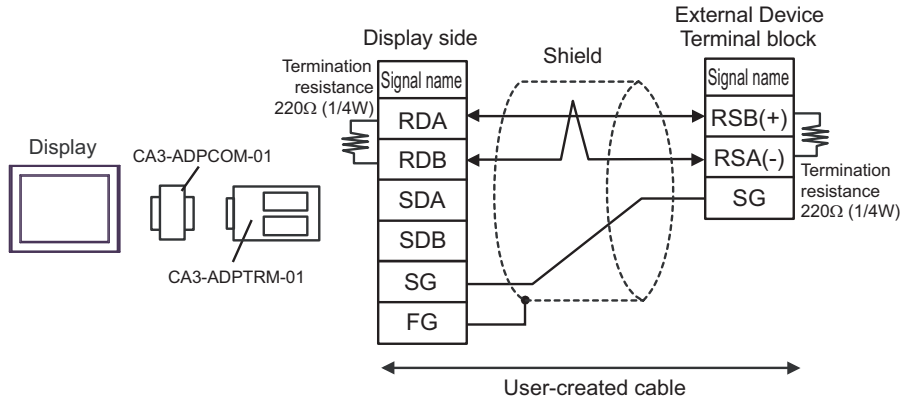


- 1:n Connection

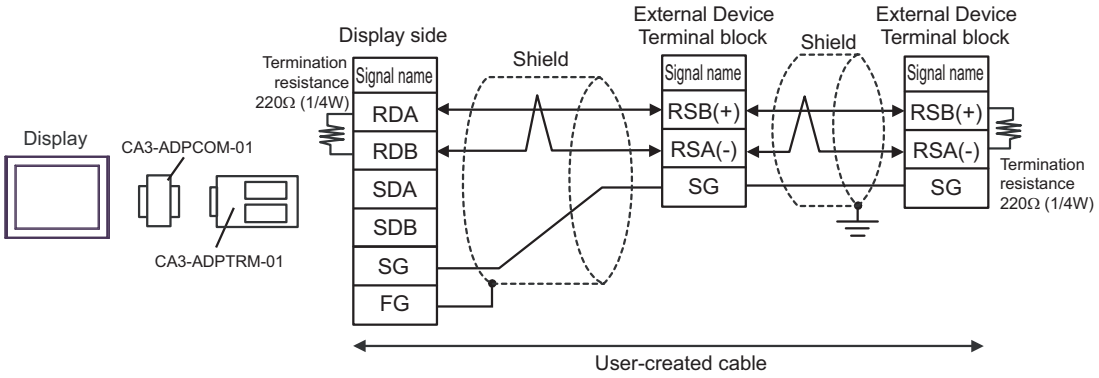


5E)

- 1:1 Connection



- 1:n Connection

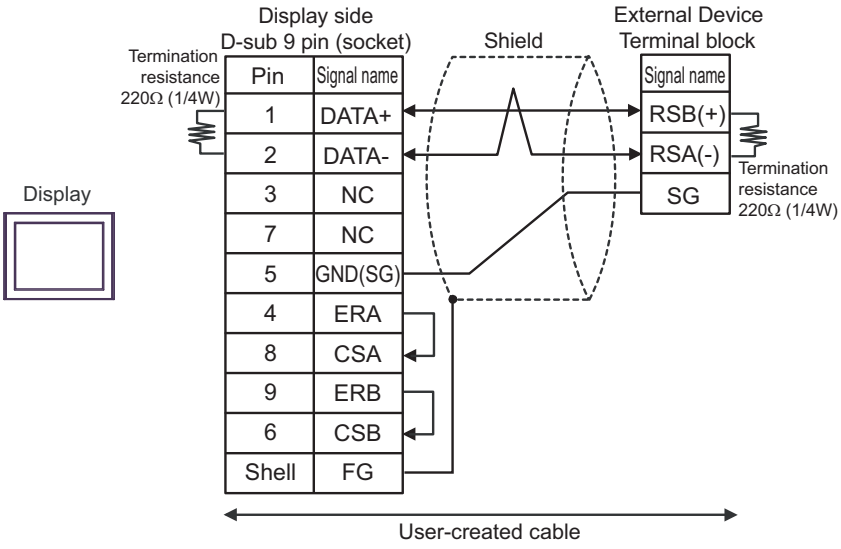


NOTE

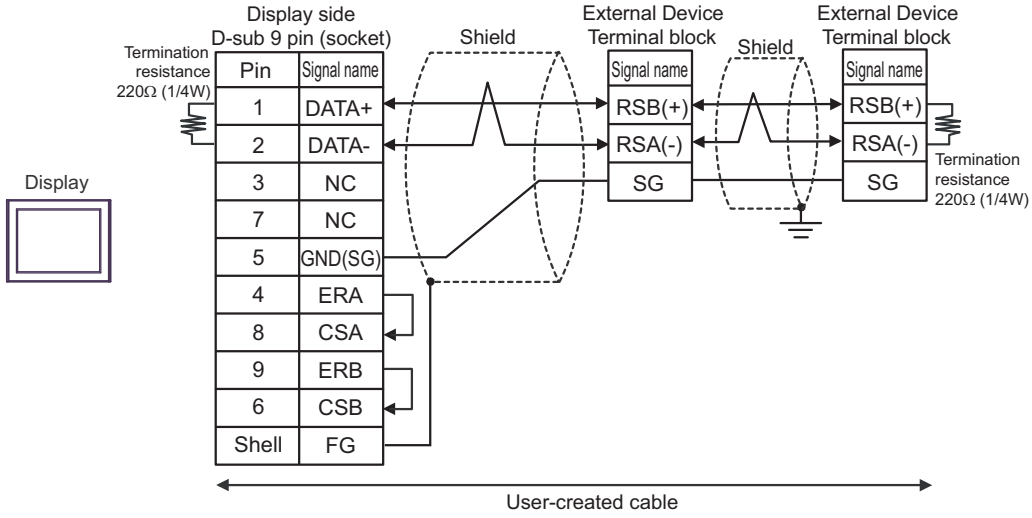
- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.

5F)

- 1:1 Connection



- 1:n Connection

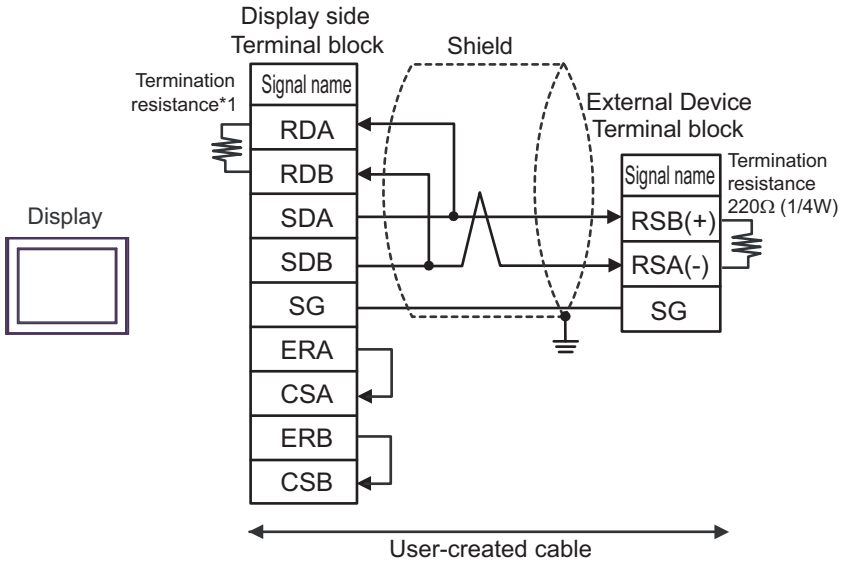


NOTE

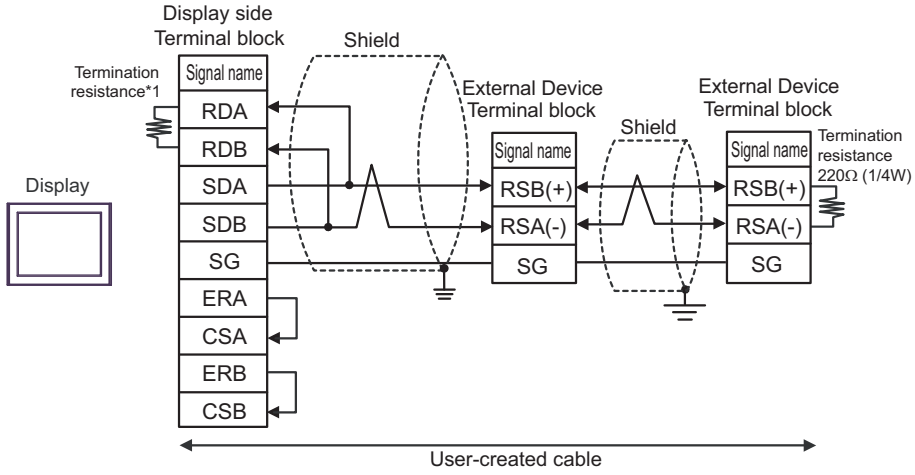
- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.

5G)

- 1:1 Connection



- 1:n Connection

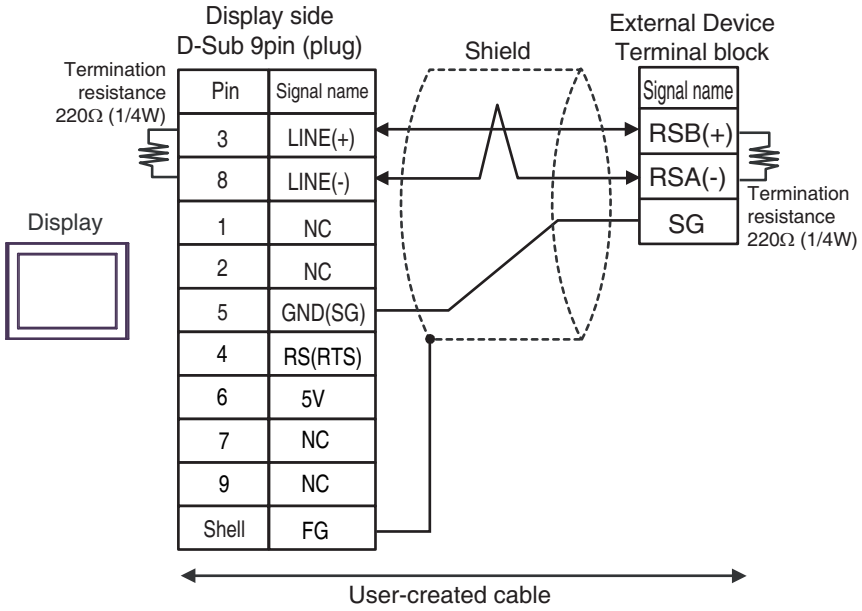


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

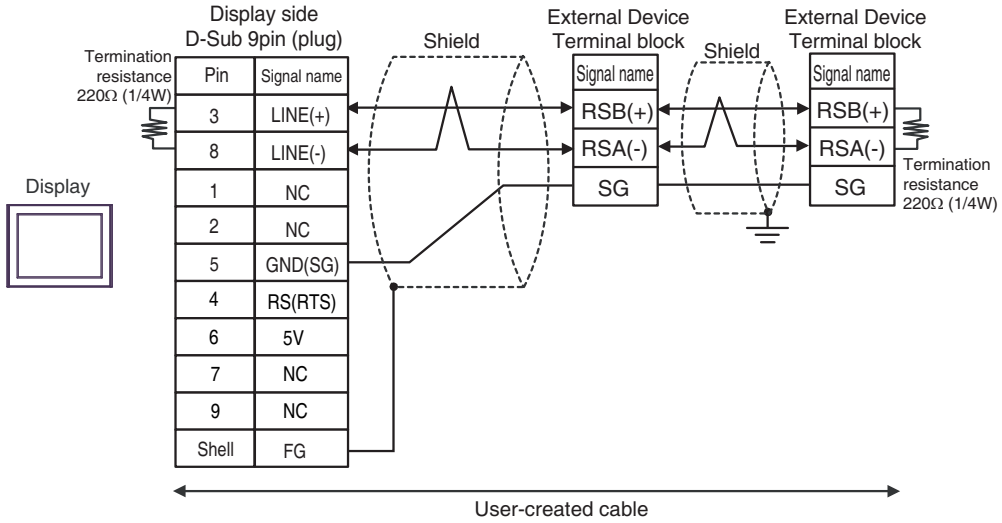
DIP Switch No.	Set Value
1	OFF
2	OFF
3	OFF
4	ON

5H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

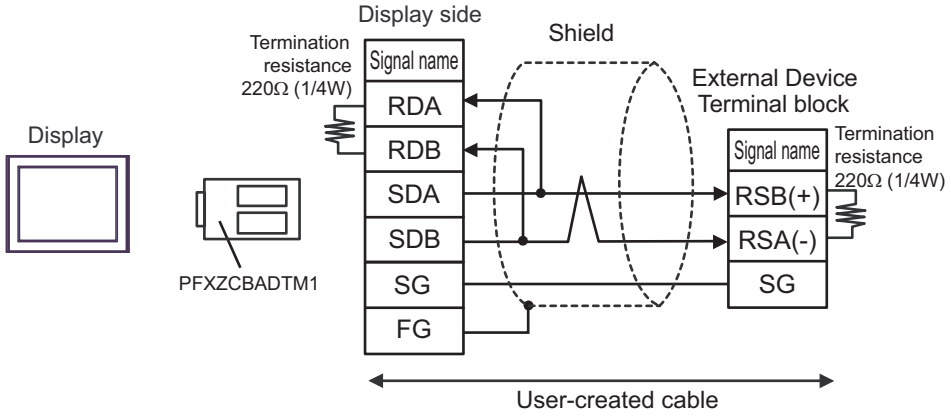
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

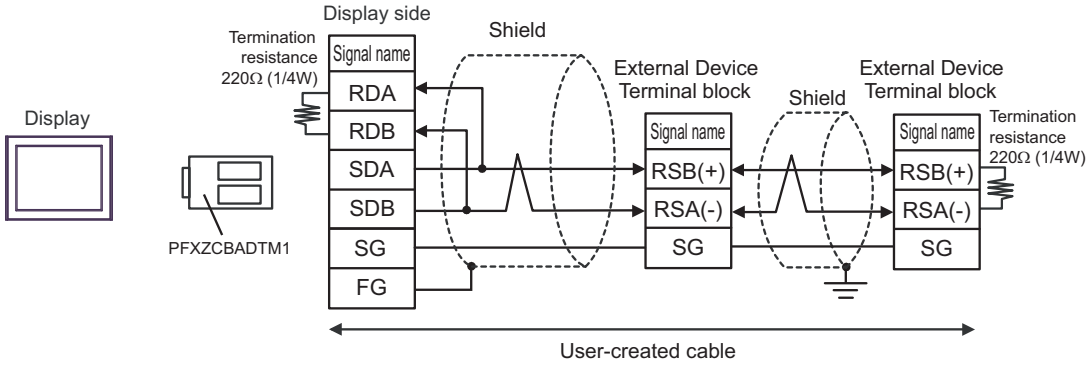
- In COM on the GP-4107, the SG and FG terminals are isolated.

5I)

- 1:1 Connection

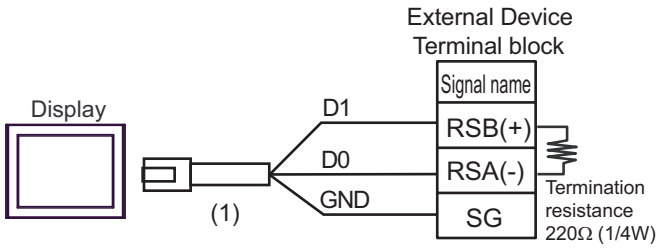


- 1:n Connection

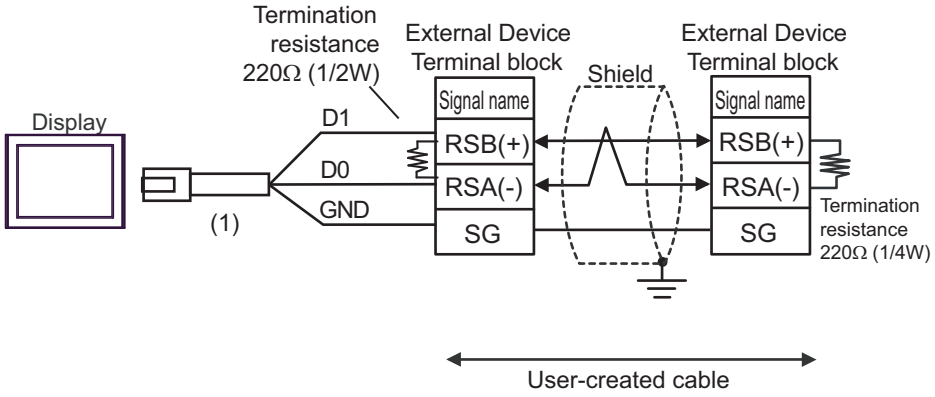


5J)

- 1:1 Connection



- 1:n Connection



Legend	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) IPC[*3]	6A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	6B	User-created cable	
GP3000[*4] (COM2)	6C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	6D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	6E	User-created cable	The cable length must be 1000m or less.
GP4000[*5] (COM2) GP-4201T (COM1) SP5000 (COM1/2)	6F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*6] + User-created cable	The cable length must be 1000m or less.
	6B	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 9)

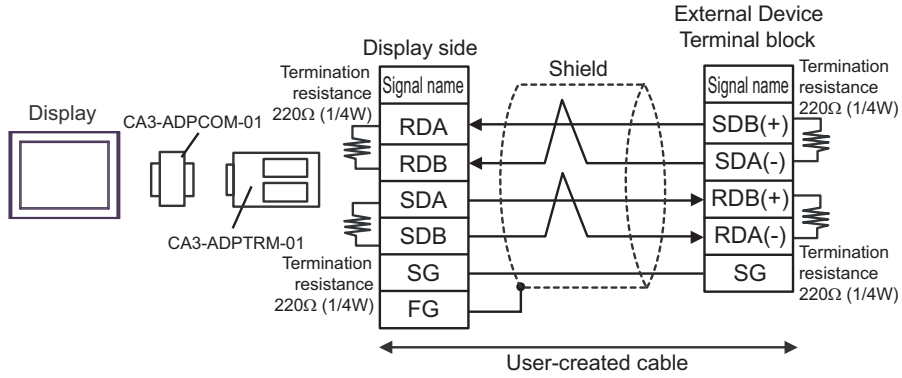
*4 All GP3000 models except GP-3200 series and AGP-3302B

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

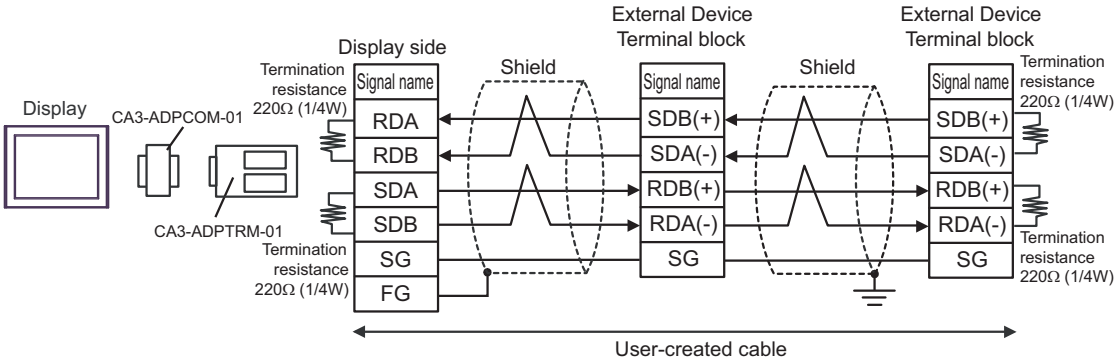
*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 6A.

6A)

- 1:1 Connection



- 1:n Connection

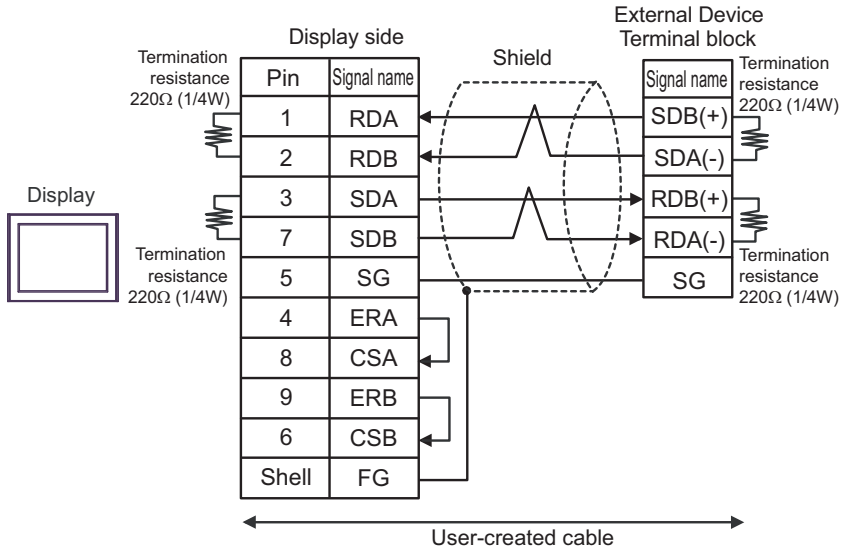


NOTE

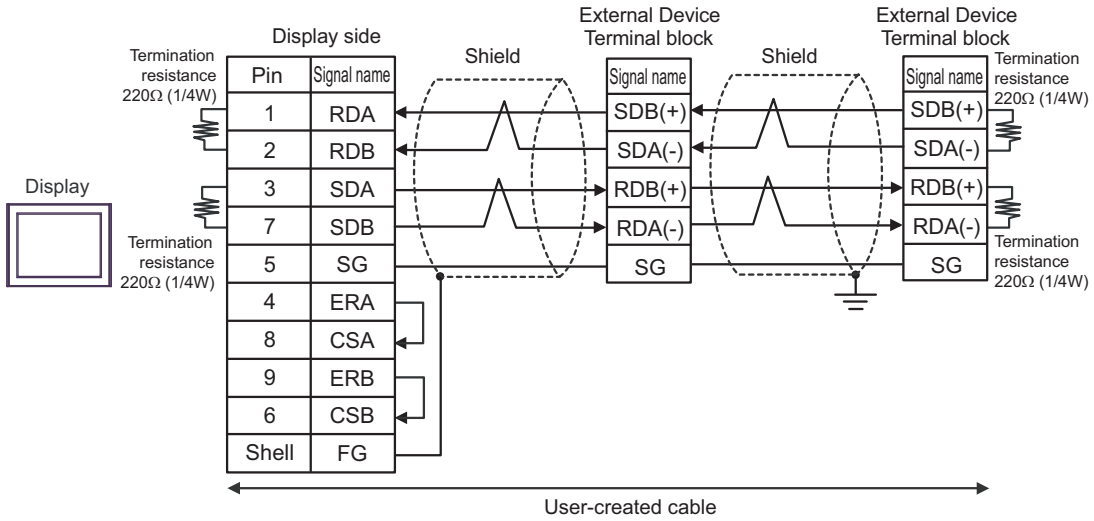
- When the display unit you use is an IPC, turn ON the DIP switches 5 and 6 to insert the termination resistance.

6B)

- 1:1 Connection



- 1:n Connection

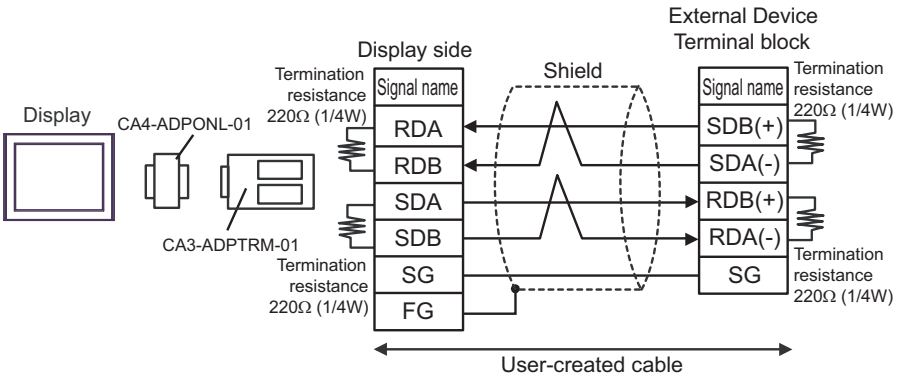


NOTE

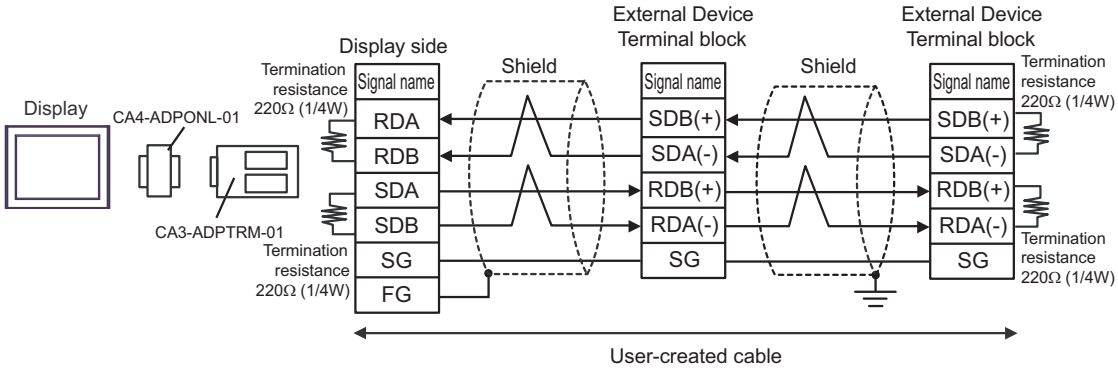
- When the display unit you use is an IPC, turn ON the DIP switches 5 and 6 to insert the termination resistance.

6C)

- 1:1 Connection

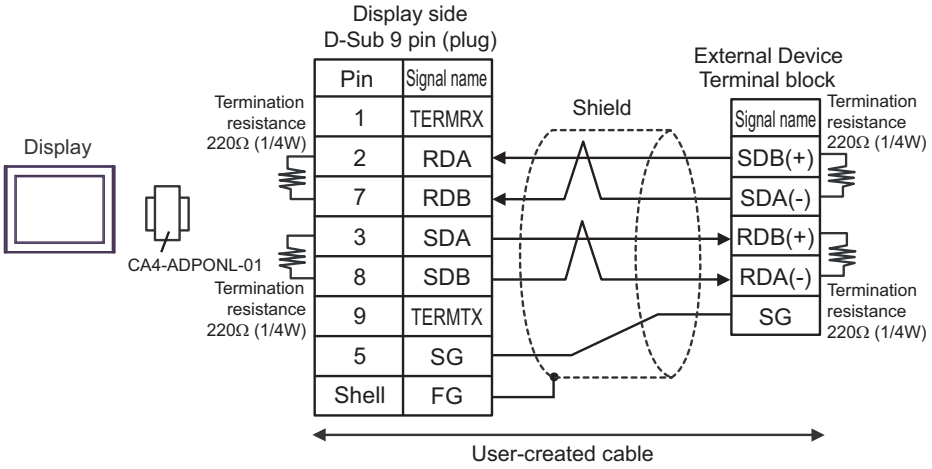


- 1:n Connection

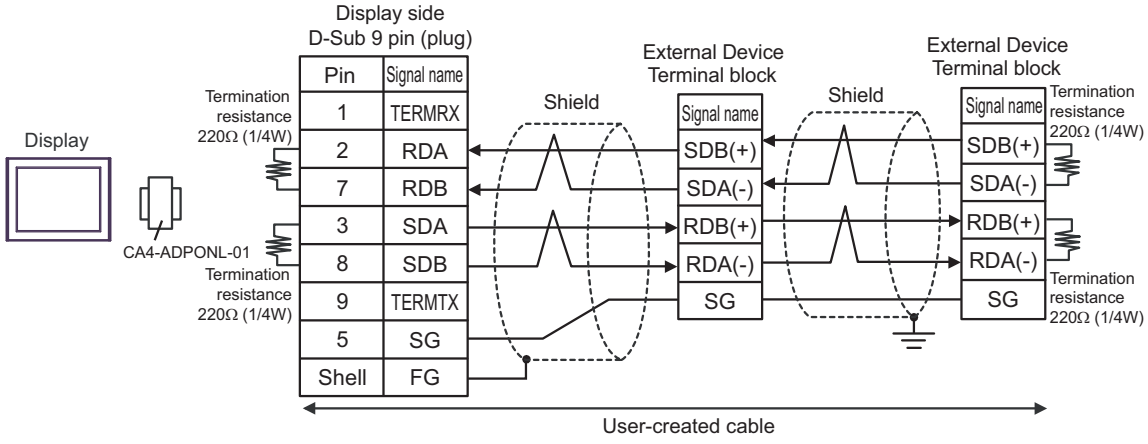


6D)

- 1:1 Connection

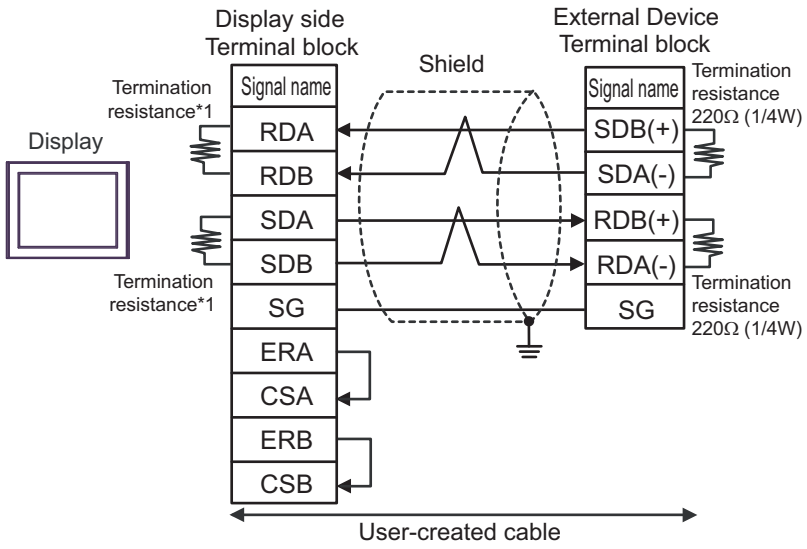


- 1:n Connection

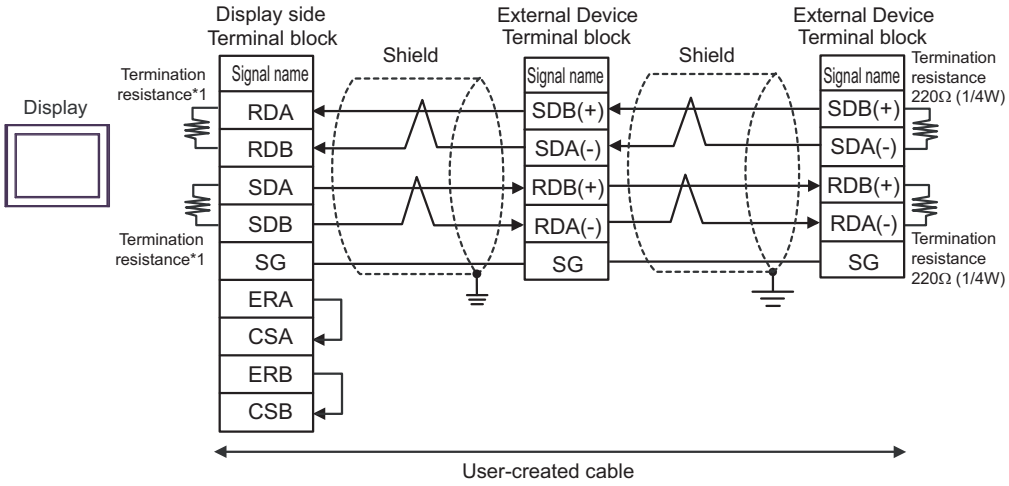


6E)

- 1:1 Connection



- 1:n Connection

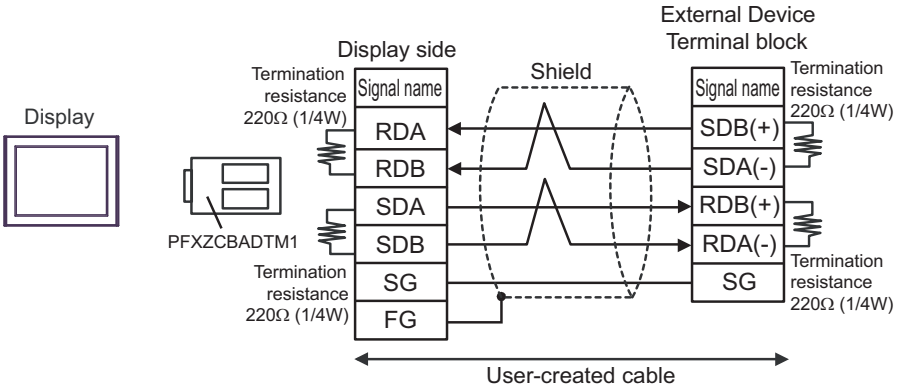


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

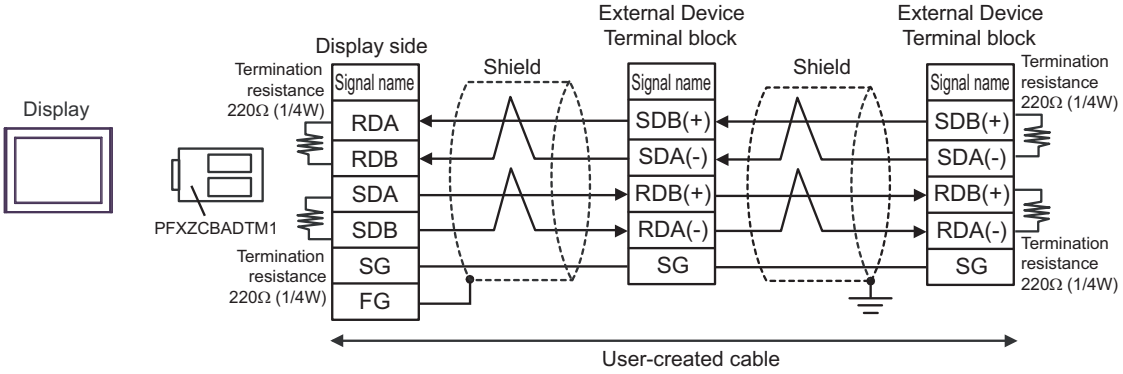
DIP Switch No.	Set Value
1	OFF
2	ON
3	OFF
4	ON

6F)

- 1:1 Connection



- 1:n Connection



Cable Diagram 7

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST[*2] (COM2) LT3000 (COM1)	7A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	7B	User-created cable	
GP3000[*3] (COM2)	7C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	7D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
IPC[*4]	7E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	7F	User-created cable	
GP-4106 (COM1)	7G	User-created cable	The cable length must be 1000m or less.
GP-4107 (COM1) GP-4*03T[*5] (COM2) GP-4203T (COM1)	7H	User-created cable	The cable length must be 1000m or less.
GP4000[*6] (COM2) GP-4201T (COM1) SP5000 (COM1/2)	7I	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*7] + User-created cable	The cable length must be 1000m or less.
	7B	User-created cable	
LT-4*01TM (COM1) LT-Rear Module (COM1)	7J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	The cable length must be 200m or less.

*1 All GP3000 models except AGP-3302B

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

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

*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
☞■ IPC COM Port (page 9)

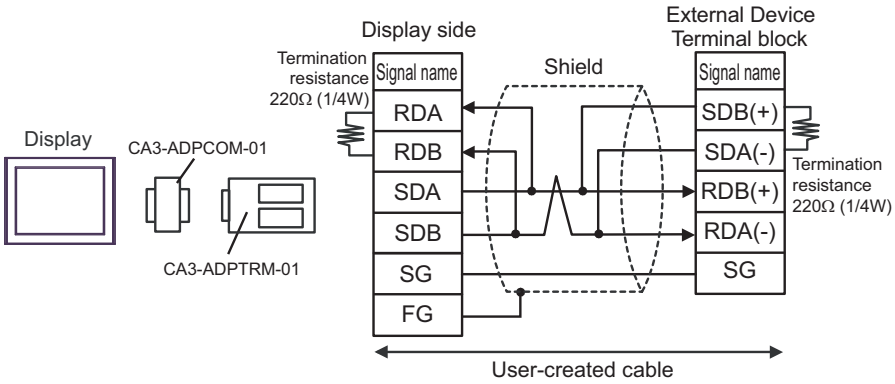
*5 Except GP-4203T

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

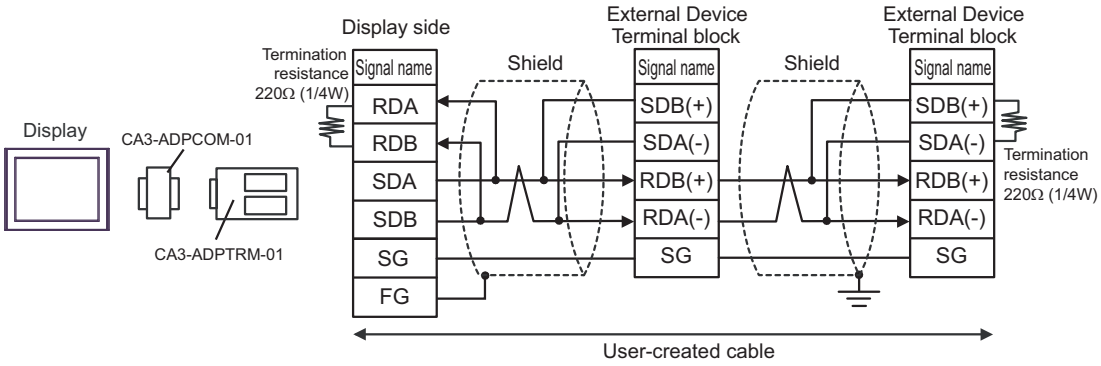
*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 7A.

7A)

- 1:1 Connection

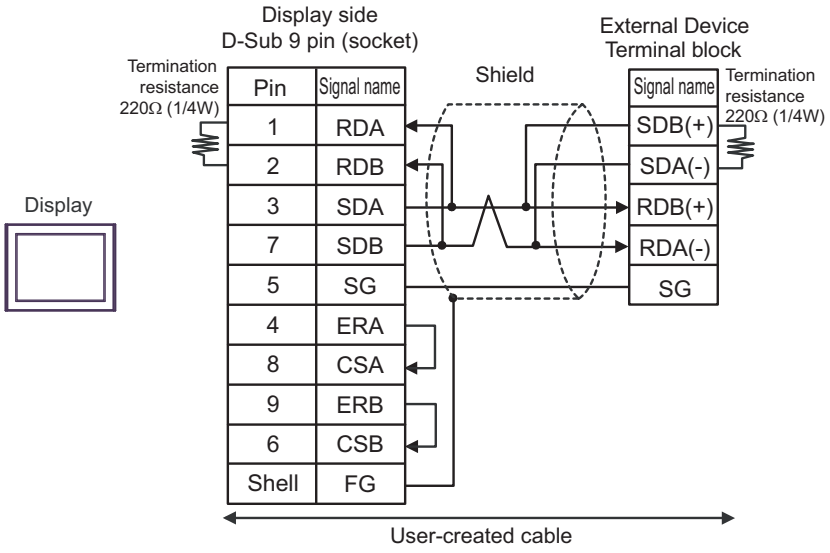


- 1:n Connection

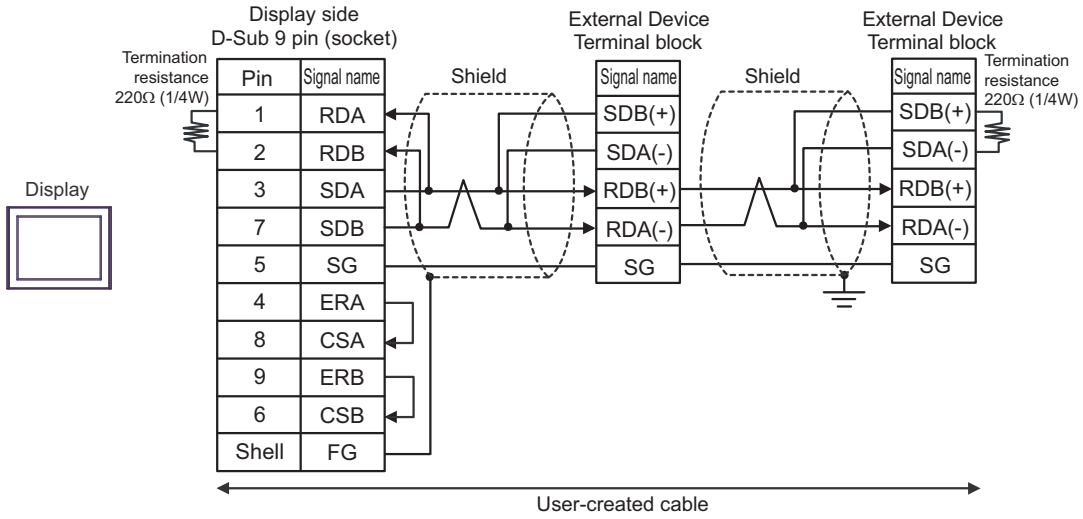


7B)

- 1:1 Connection

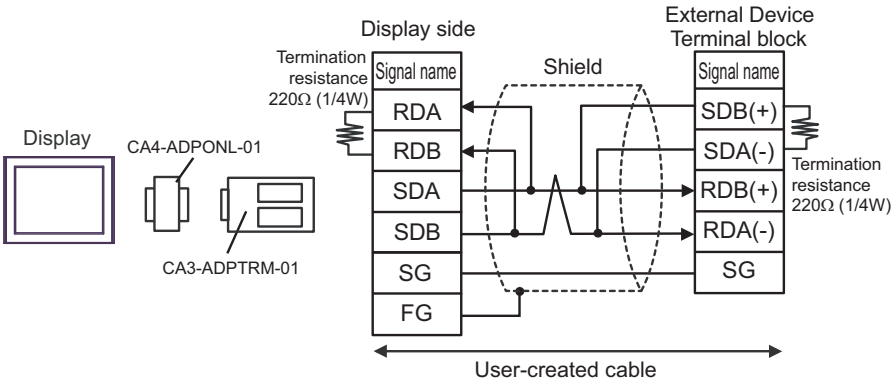


- 1:n Connection

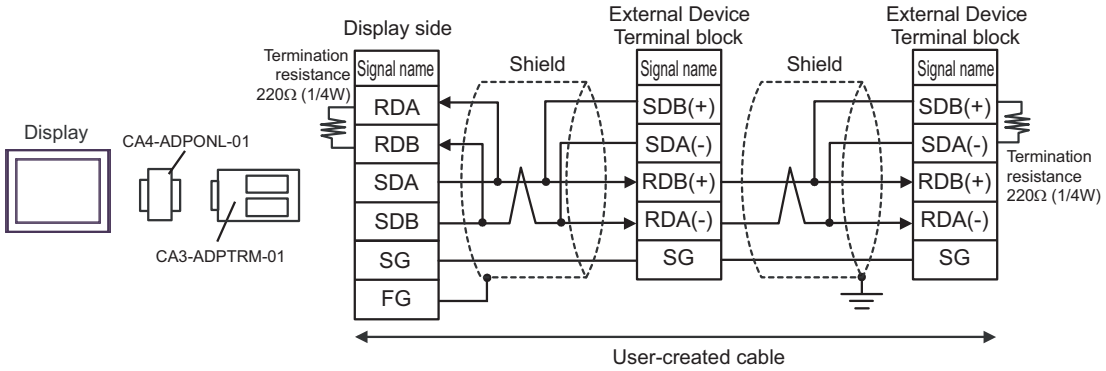


7C)

- 1:1 Connection

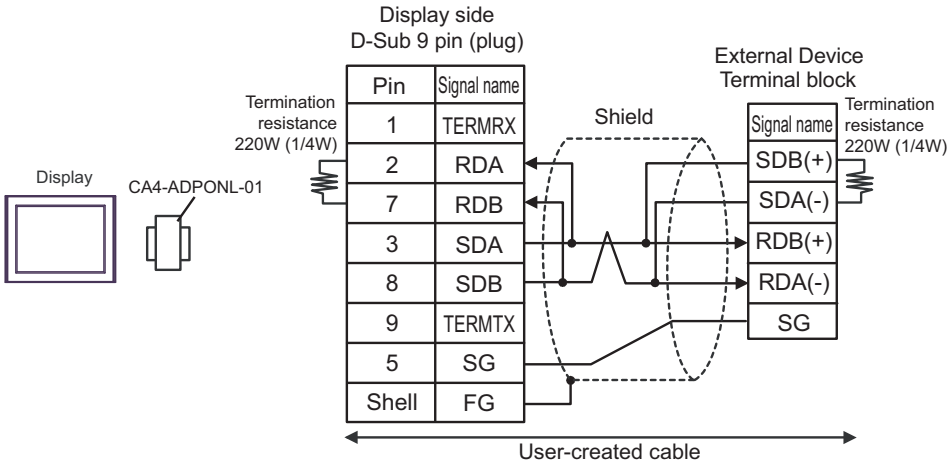


- 1:n Connection

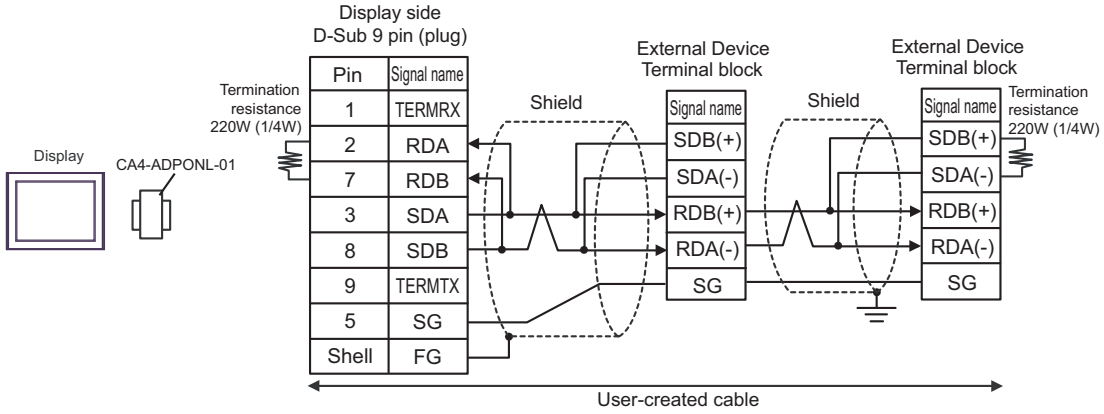


7D)

- 1:1 Connection

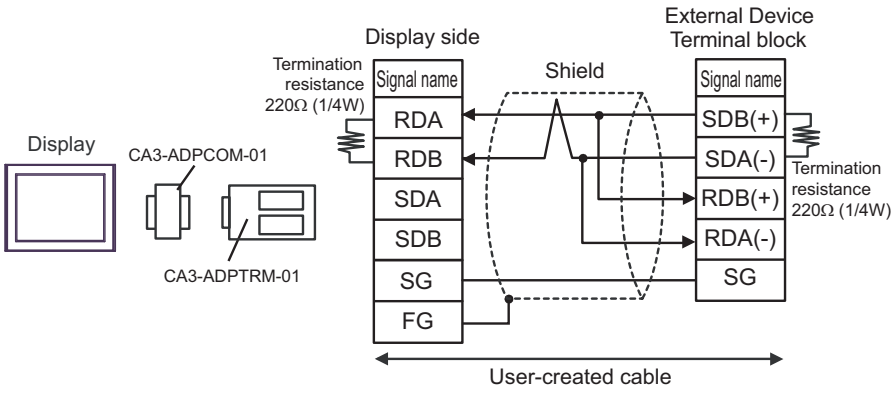


- 1:n Connection

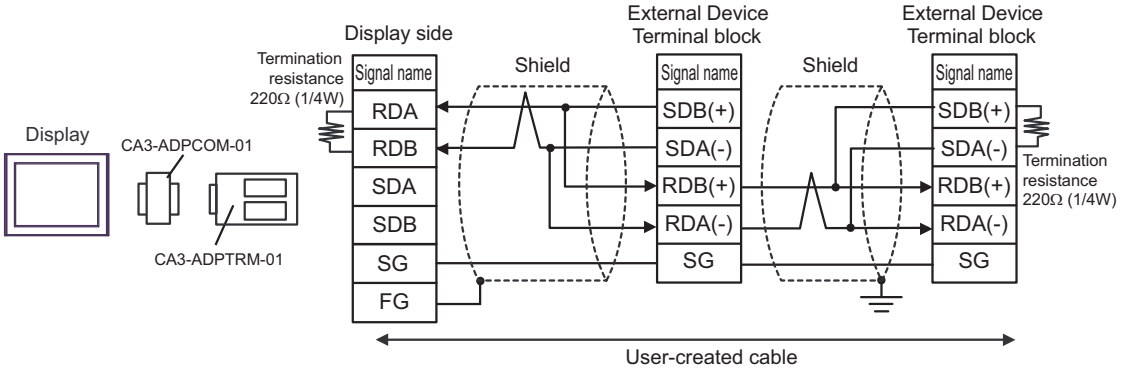


7E)

- 1:1 Connection



- 1:n Connection

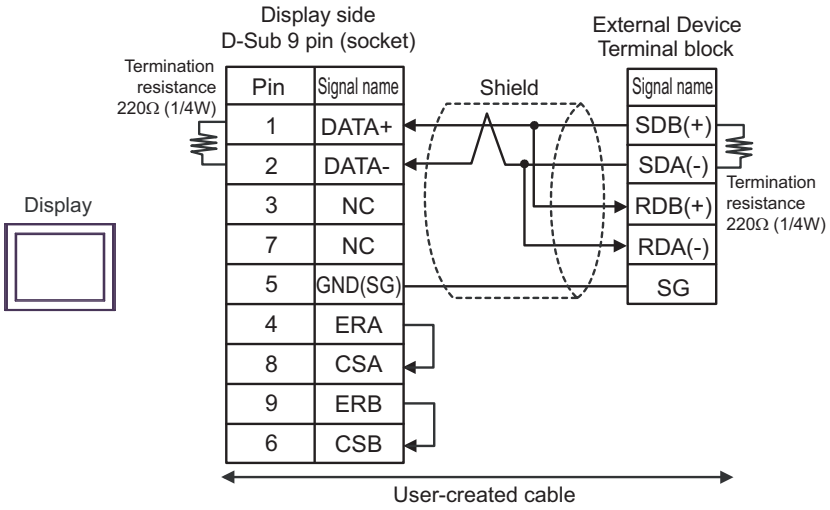


NOTE

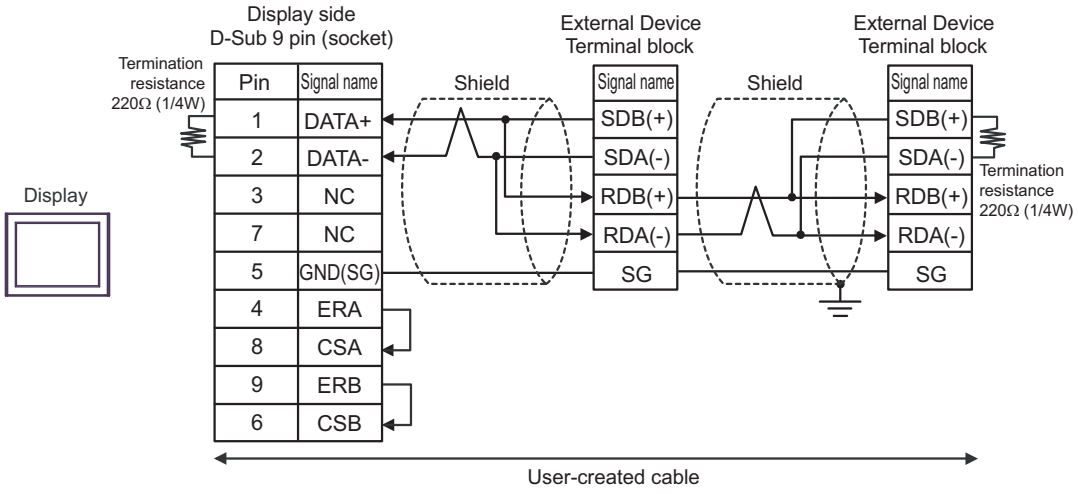
- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.

7F)

- 1:1 Connection



- 1:n Connection

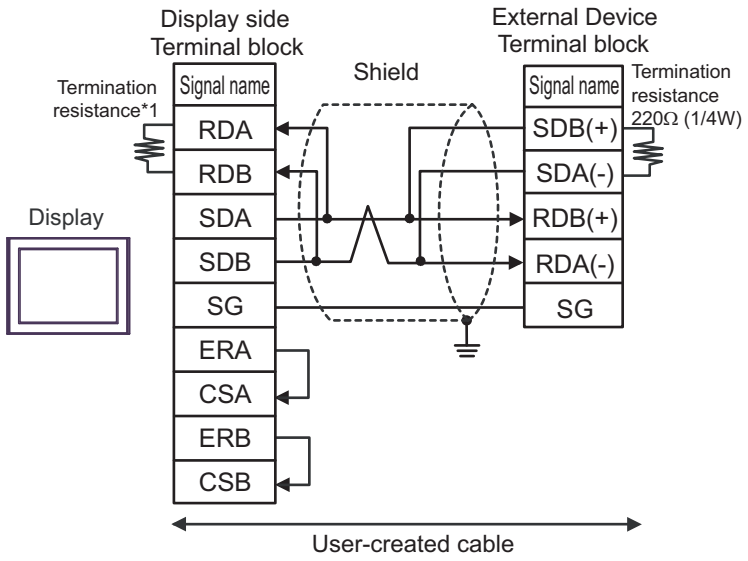


NOTE

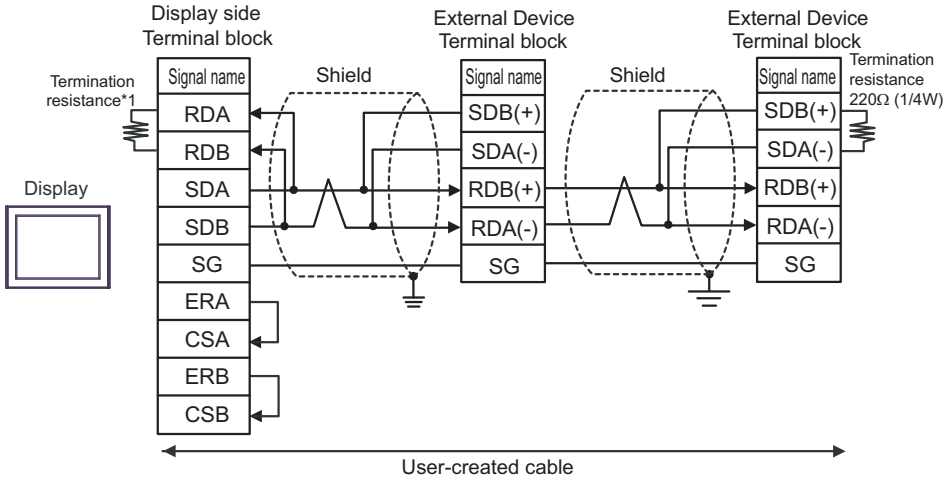
- When the display unit you use is an IPC, turn ON the DIP switch 6 to insert the termination resistance.

7G)

- 1:1 Connection



- 1:n Connection

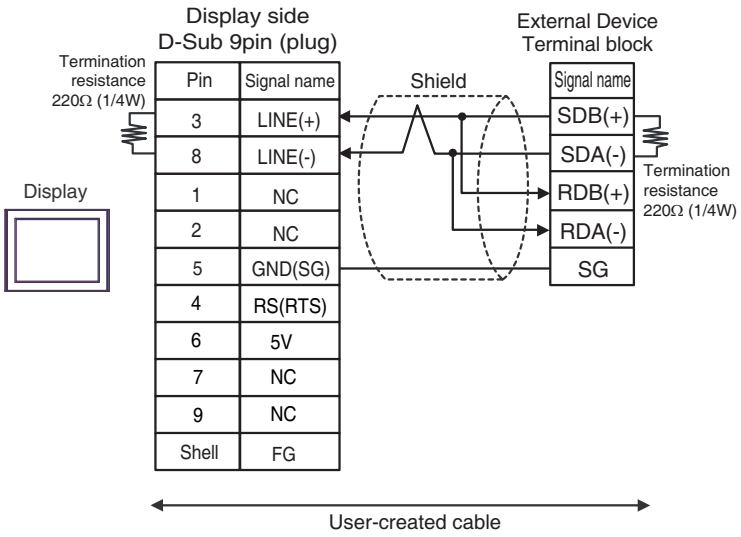


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

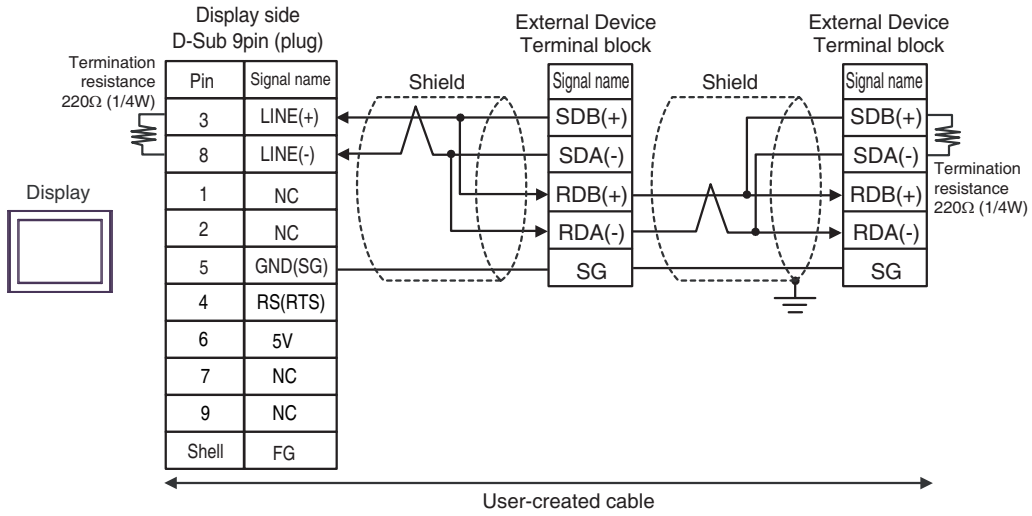
DIP Switch No.	Set Value
1	OFF
2	OFF
3	OFF
4	ON

7H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

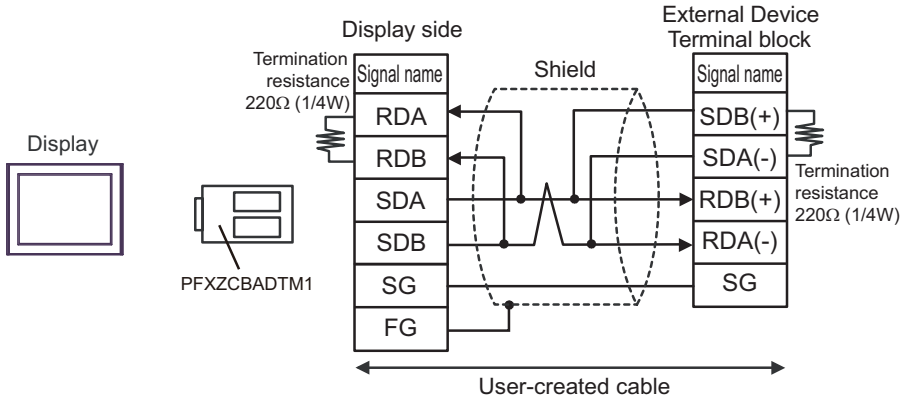
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

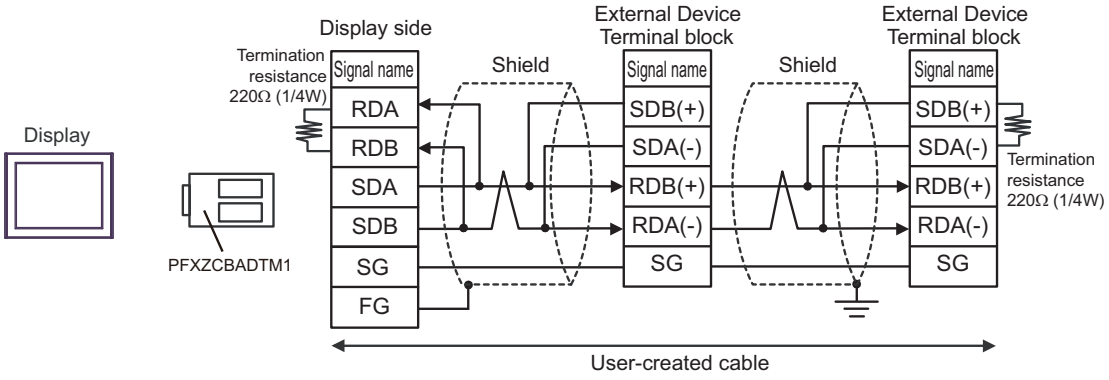
- In COM on the GP-4107, the SG and FG terminals are isolated.

7I)

- 1:1 Connection

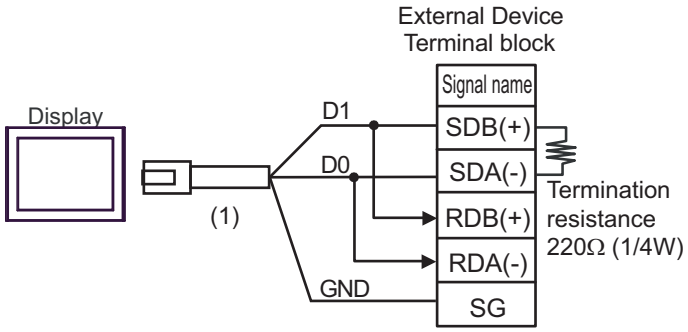


- 1:n Connection

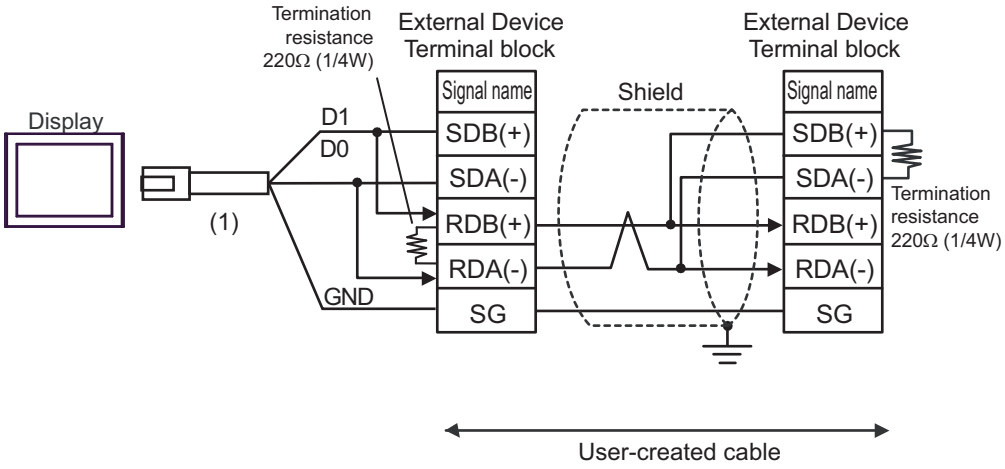


7J)

- 1:1 Connection



- 1:n Connection



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

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	The cable length must be 1000m 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	The cable length must be 1000m or less.
	8D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	8E	User-created cable	The cable length must be 1000m or less.
GP4000*5 (COM2) GP-4201T (COM1) SP5000 (COM1/2)	8F	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1*6 + User-created cable	The cable length must be 1000m or less.
	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 9)

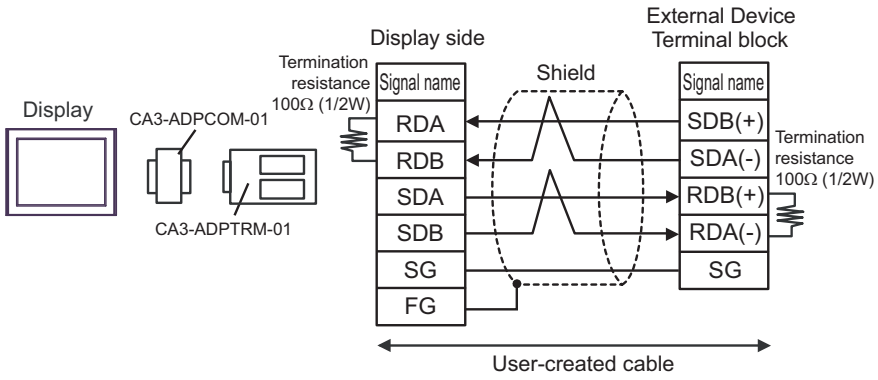
*4 All GP3000 models except GP-3200 series and AGP-3302B

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

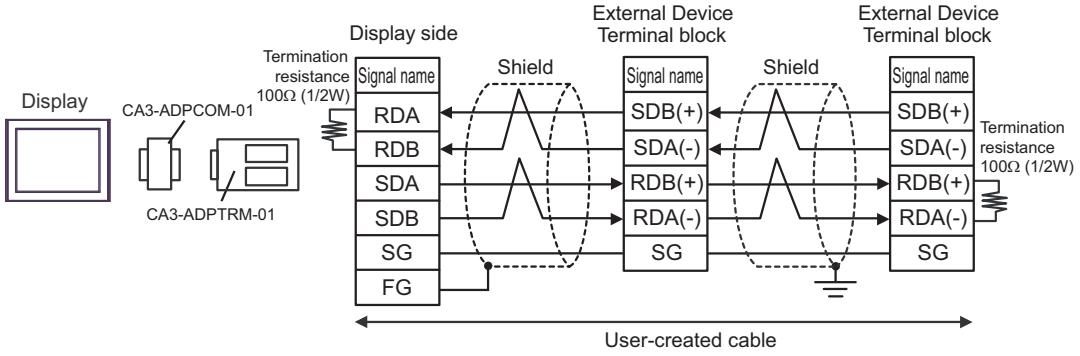
*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 8A.

8A)

- 1:1 Connection

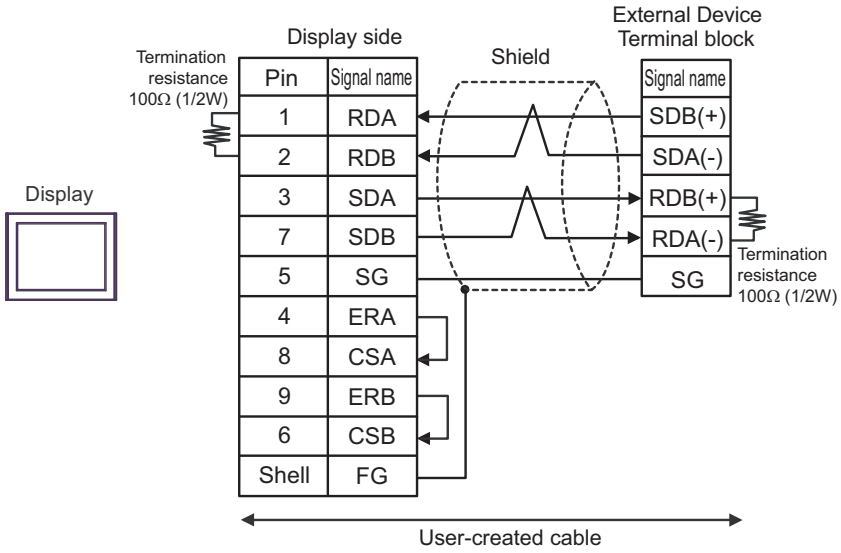


- 1:n Connection

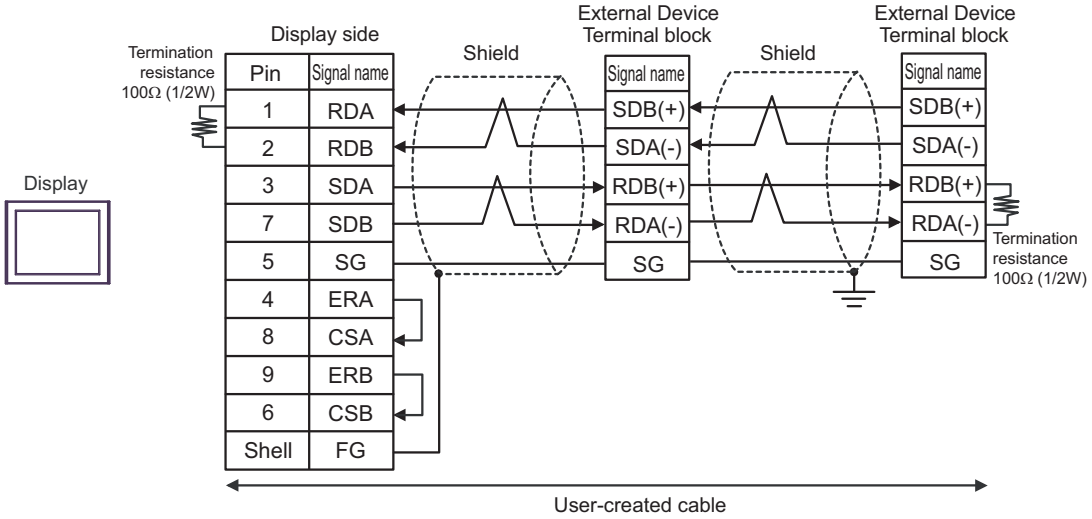


8B)

- 1:1 Connection

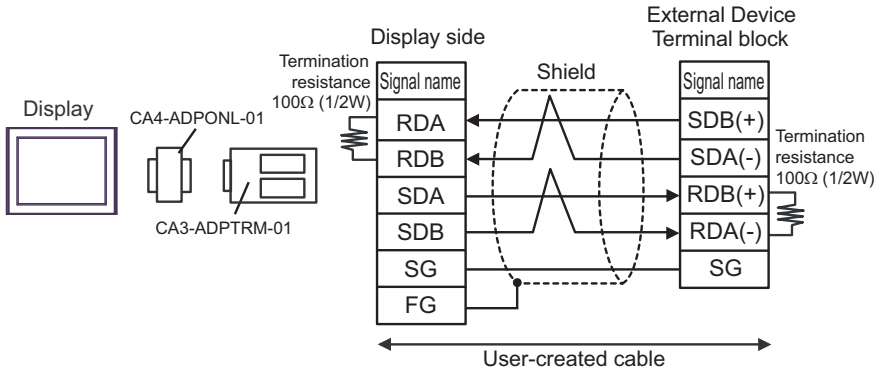


- 1:n Connection

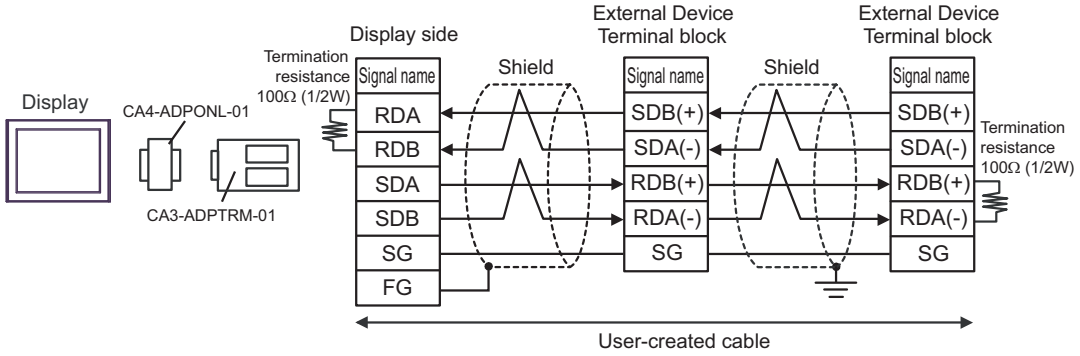


8C)

- 1:1 Connection

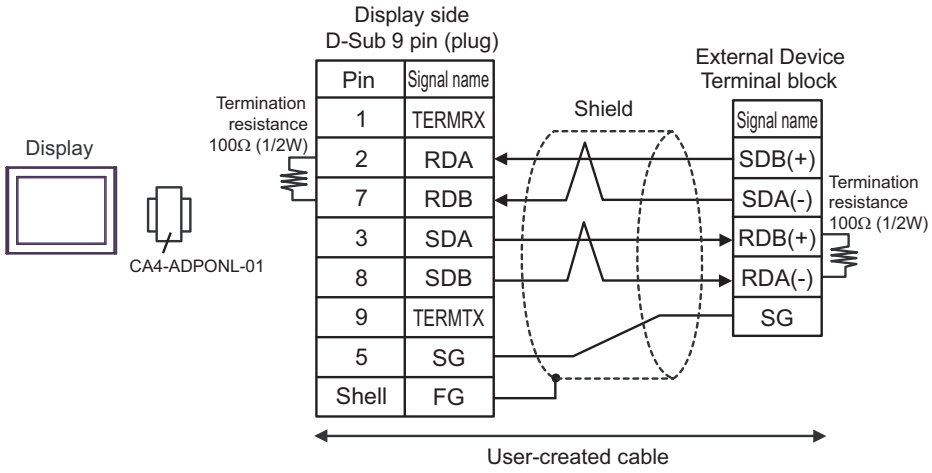


- 1:n Connection

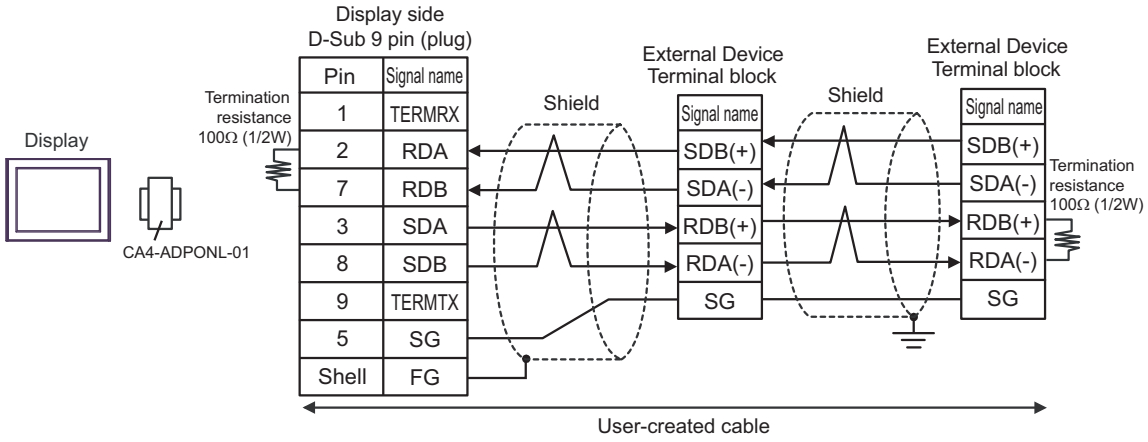


8D)

- 1:1 Connection

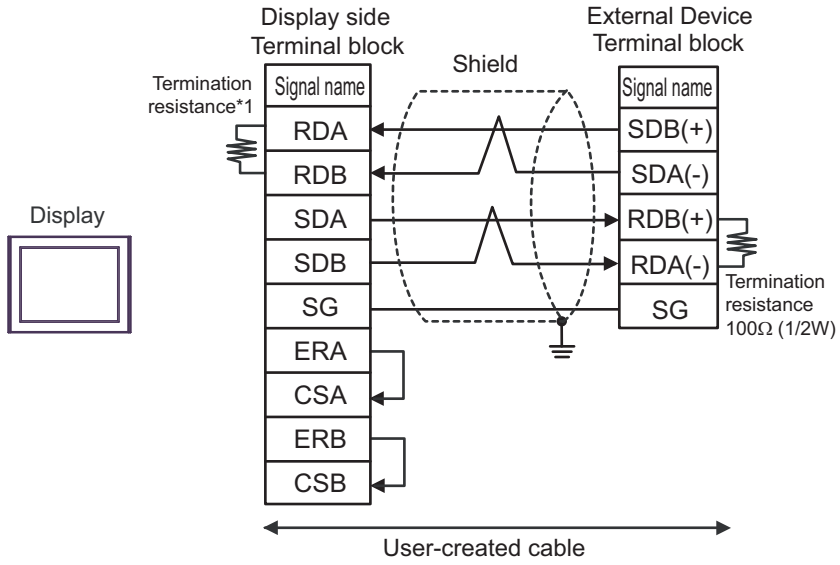


- 1:n Connection

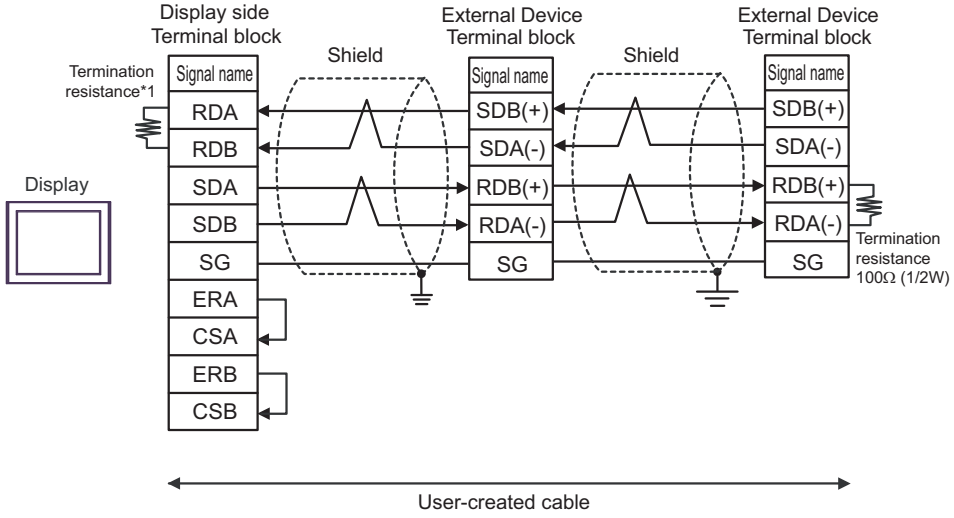


8E)

- 1:1 Connection



- 1:n Connection]

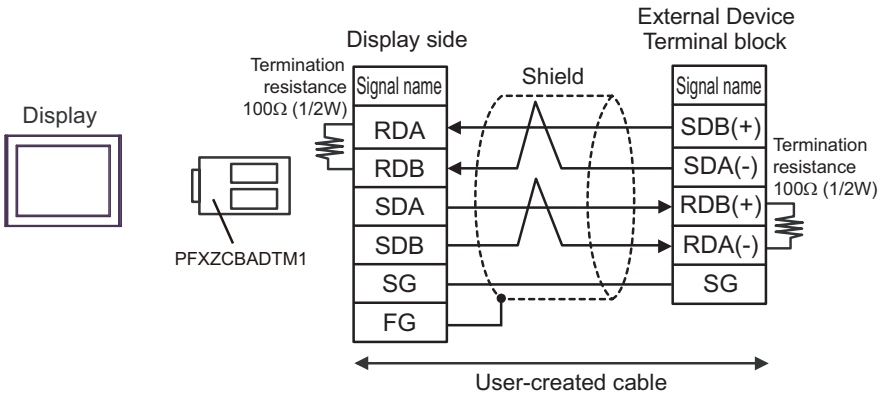


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

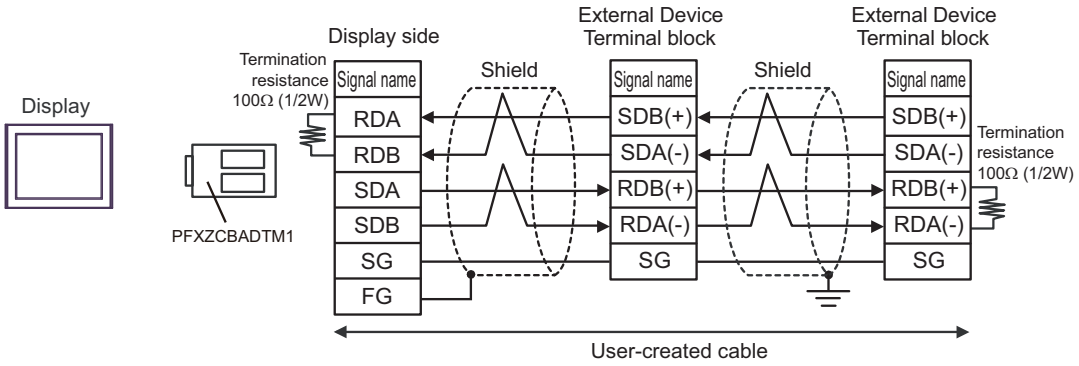
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

8F)

- 1:1 Connection



- 1:n Connection



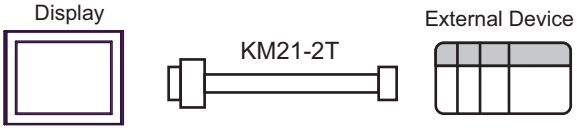
Cable Diagram 9

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) SP5000 (COM1/2) ST (COM1) LT3000 (COM1) IPC*2 PC/AT	9A	Monitor cable by Yokogawa Electric Corporation KM21-2T	—
GP-4105 (COM1)	9B	User-created cable + Monitor cable by Yokogawa Electric Corporation KM21-2T	—

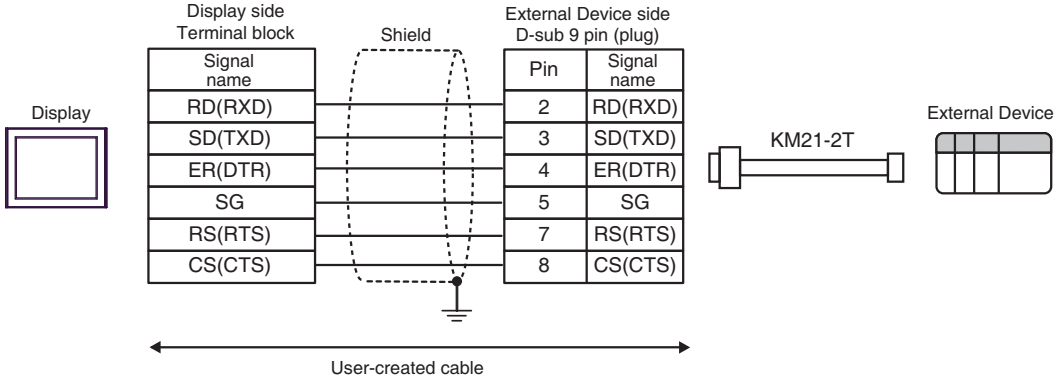
*1 All GP4000 models except GP-4100 Series and GP-4203T

*2 Only the COM port which can communicate by RS-232C can be used.
☞ ■ IPC COM Port (page 9)

9A)



9B)



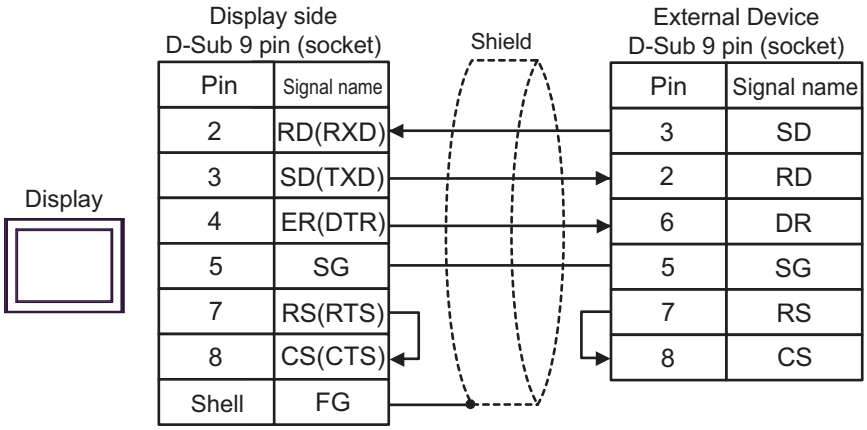
Cable Diagram 10

Display (Connection Port)	Cable		Notes
GP3000 (COM1) GP4000*1 (COM1) SP5000 (COM1/2) ST (COM1) LT3000 (COM1) IPC*2 PC/AT	10A	User-created cable	The cable length must be 15m or less.
GP-4105 (COM1)	10B	User-created cable	The cable length must be 15m or less.

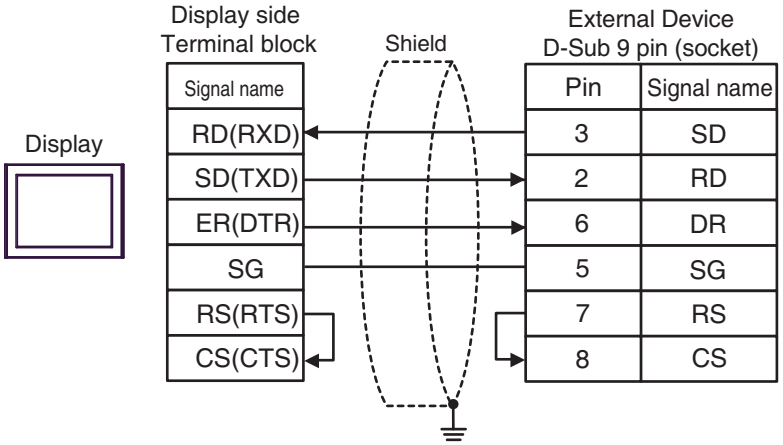
*1 All GP4000 models except GP-4100 Series and GP-4203T

*2 Only the COM port which can communicate by RS-232C can be used.
☞■ IPC COM Port (page 9)

10A)



10B)



Cable Diagram 11

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST [*2] (COM2) LT3000 (COM1) IPC[*3]	11A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	11B	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Multilink cable by Pro-face CA3-CBLMLT-01 + User-created cable	
	11C	User-created cable	
GP3000 [*4] (COM2)	11D	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	11E	Online adapter by Pro-face CA4-ADPONL-01 + Multilink cable by Pro-face CA3-CBLMLT-01 + User-created cable	
	11F	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	11G	User-created cable	The cable length must be 1000m or less.
GP4000[*5] (COM2) GP-4201T (COM1) SP5000 (COM1/2)	11H	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*6] + User-created cable	The cable length must be 1000m or less.
	11I	Multilink cable by Pro-face PFXZCBCBML1[*7] + User-created cable	
	11C	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 9)

*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

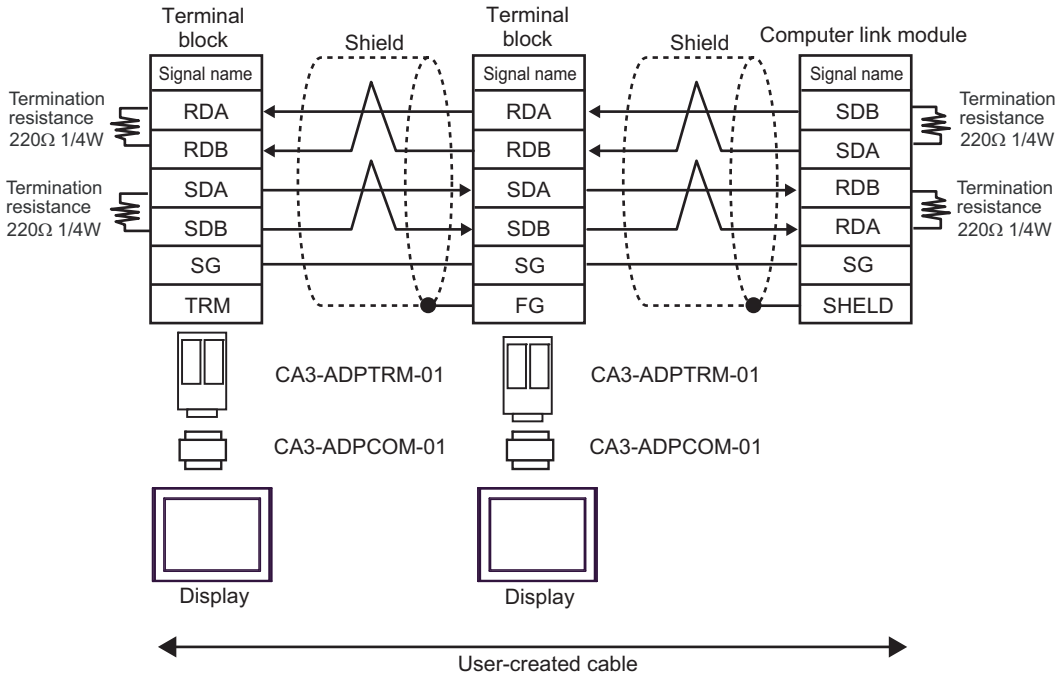
*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 11A.

*7 When using a Multilink Cable (CA3-CBLMLT-01) instead of the Multilink Cable, refer to Cable Diagram 11B.

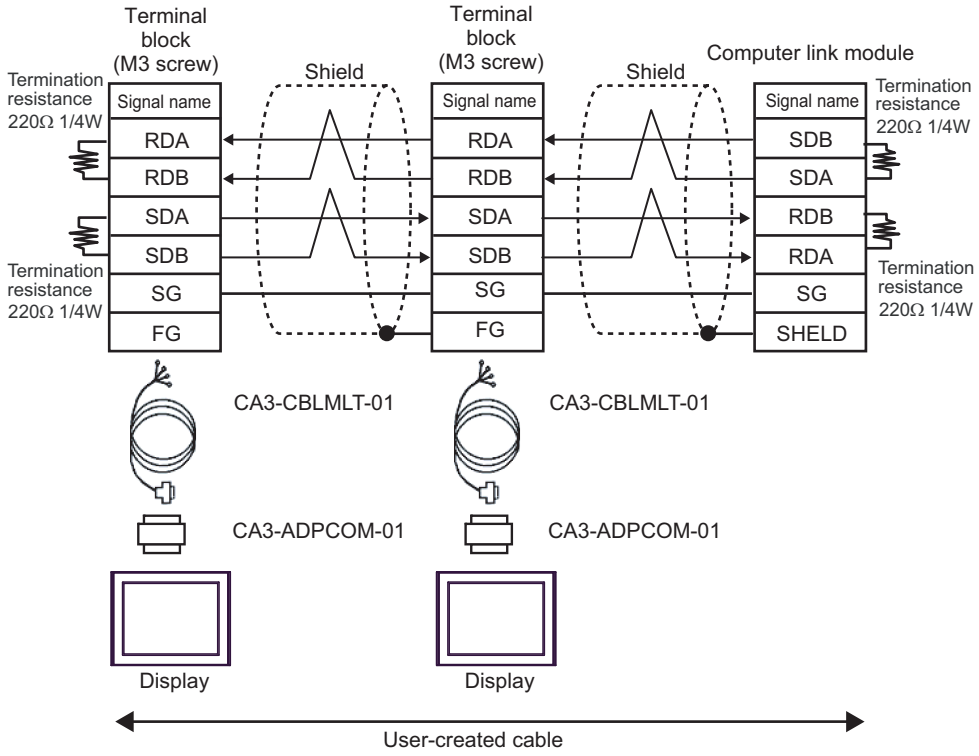
NOTE

- Attach the termination resistance to the devices on both ends.
- Note that pole A and pole B are reversely named for the Display and the External Device.
- When the PA device has SG, connect it.
- Set the last resistance switch of the personal computer link module for the External Device which terminates the connection to 4-WIRE.
- We recommend CO-SPEU-SB(A)3P x 0.5SQ by Hitachi Cable, Ltd. for the connection cable.
- Total cable length is 1000m.
- You must set the different station No. of all PA devices connected to the Display. If there are more than 2 PA devices with the same station No., error occurs.
- Perform the identical communication settings for both the Display (m units) and the PA device (n units).

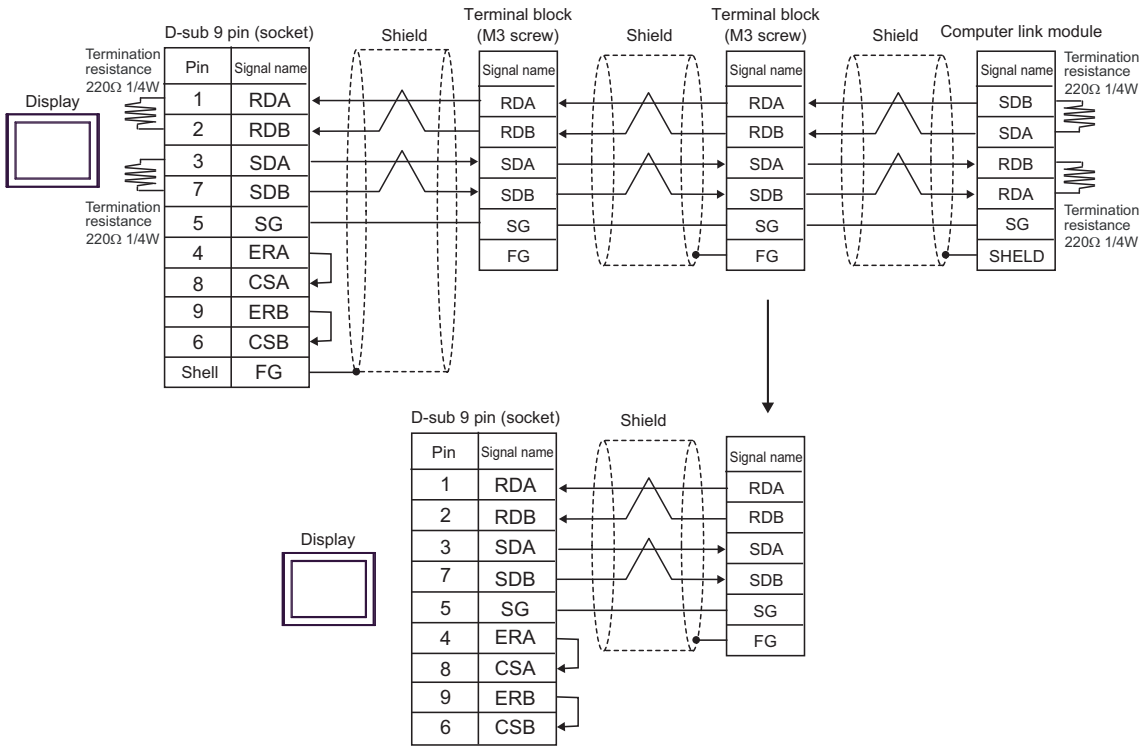
11A)


Terminal block
Shield
Terminal block
Shield
Computer link module
Signal name
RDA
RDB
SDA
SDB
SG
TRM
FG
SHELD
Termination resistance 220Ω 1/4W
CA3-ADPTRM-01
CA3-ADPCOM-01
Display
User-created cable

11B)

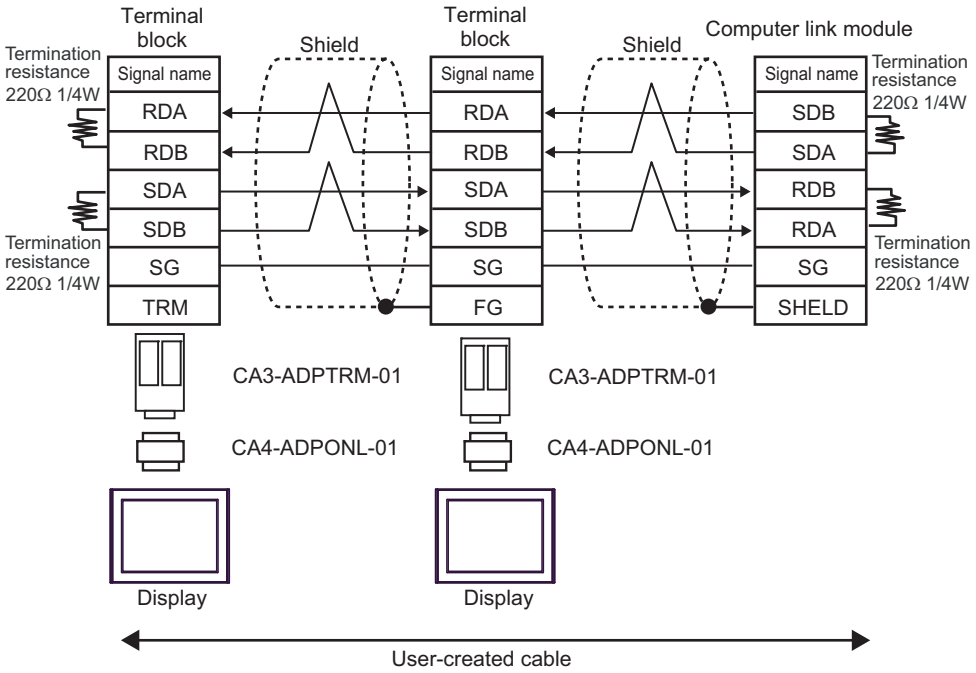

Terminal block (M3 screw)
Shield
Terminal block (M3 screw)
Shield
Computer link module
Signal name
RDA
RDB
SDA
SDB
SG
FG
SHELD
Termination resistance 220Ω 1/4W
CA3-CBLMLT-01
CA3-ADPCOM-01
Display
User-created cable

11C)

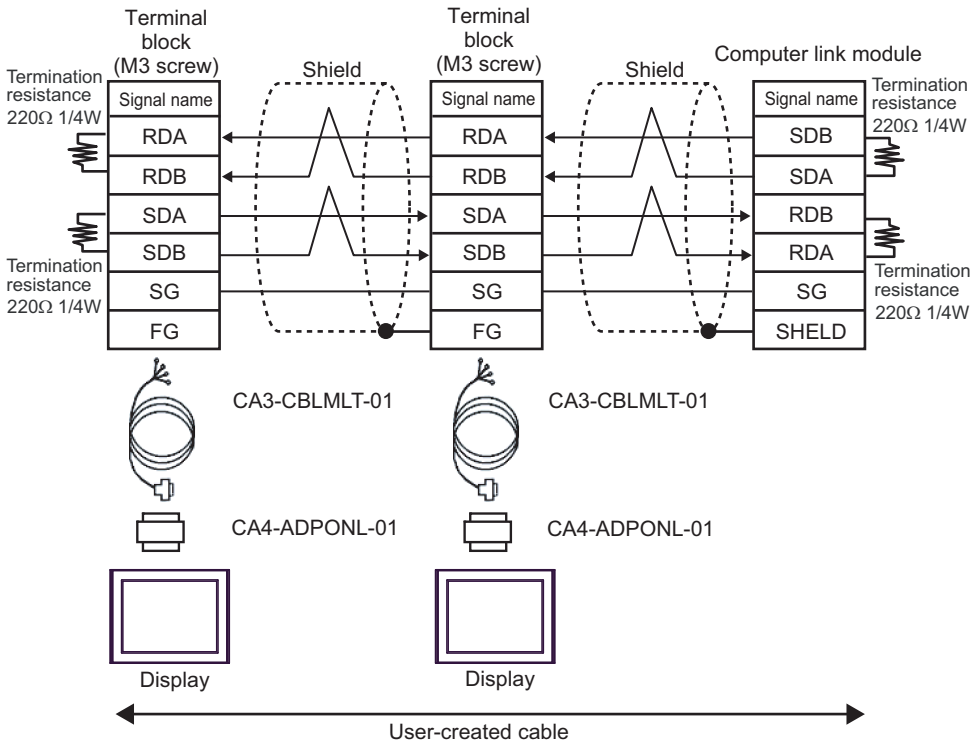

D-sub 9 pin (socket)
Shield
Terminal block (M3 screw)
Shield
Terminal block (M3 screw)
Shield
Computer link module
Termination resistance 220Ω 1/4W
Display
Pin
Signal name
1 RDA
2 RDB
3 SDA
7 SDB
5 SG
4 ERA
8 CSA
9 ERB
6 CSB
Shell FG
RDA
RDB
SDA
SDB
SG
FG
SDB
SDA
RDB
RDA
SG
SHELD

D-sub 9 pin (socket)
Shield
Display
Pin
Signal name
1 RDA
2 RDB
3 SDA
7 SDB
5 SG
4 ERA
8 CSA
9 ERB
6 CSB
RDA
RDB
SDA
SDB
SG
FG

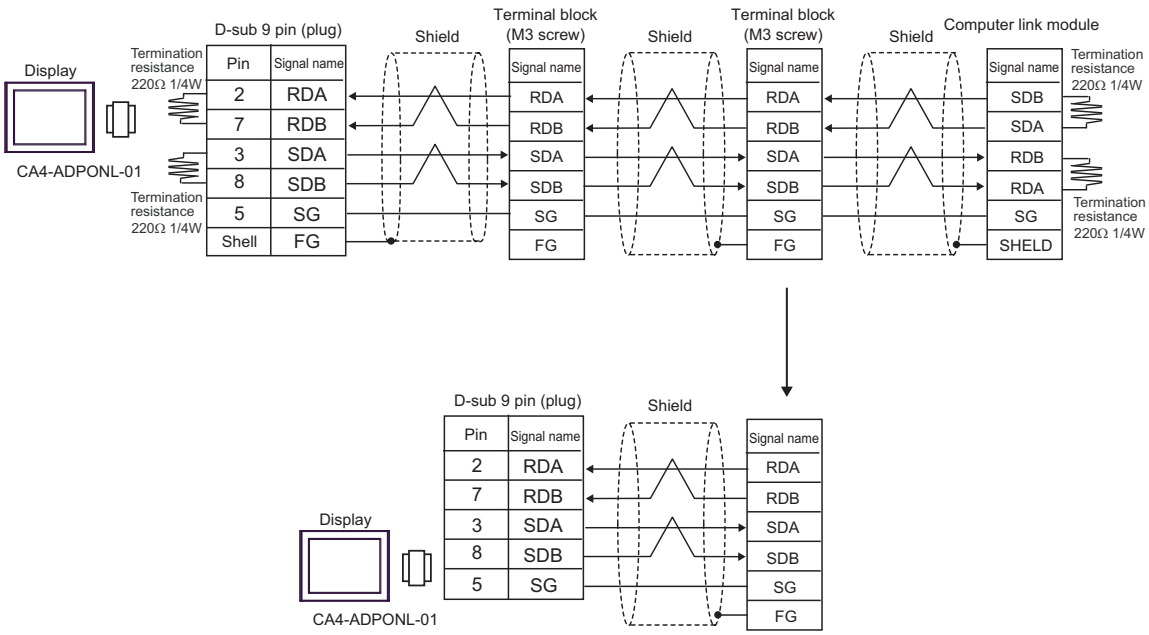
11D)


Terminal block
Shield
Terminal block
Shield
Computer link module
Termination resistance 220Ω 1/4W
Signal name
RDA
RDB
SDA
SDB
SG
TRM
FG
SDB
SDA
RDB
RDA
SG
SHELD
CA3-ADPTRM-01
CA4-ADPONL-01
Display
User-created cable

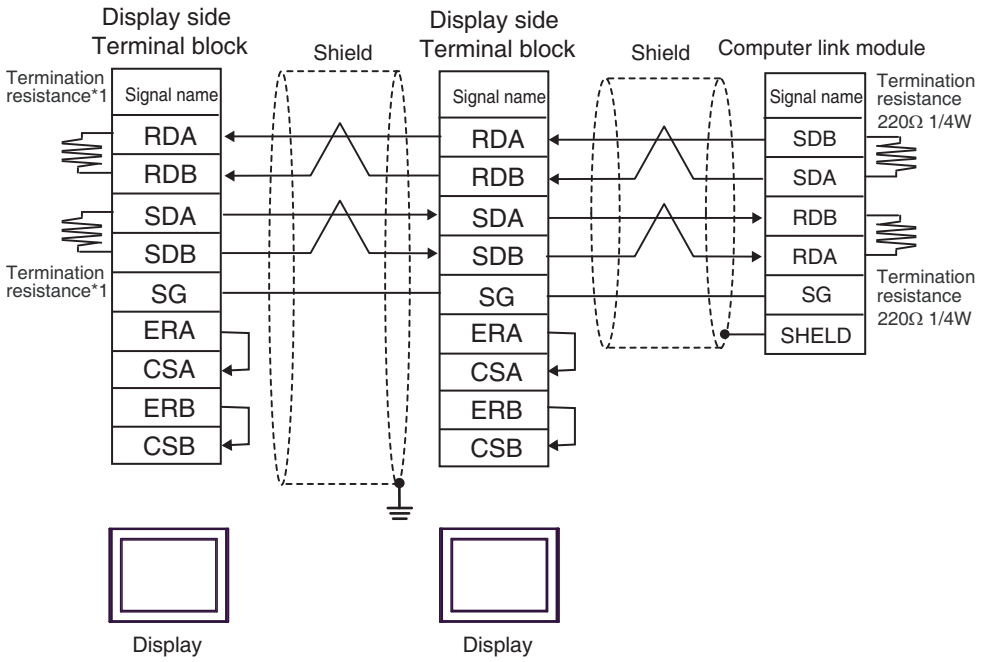
11E)


Terminal block (M3 screw)
Shield
Terminal block (M3 screw)
Shield
Computer link module
Termination resistance 220Ω 1/4W
Signal name
RDA
RDB
SDA
SDB
SG
FG
SHELD
Termination resistance 220Ω 1/4W
CA3-CBLMLT-01
CA4-ADPONL-01
Display
User-created cable

11F)


D-sub 9 pin (plug)
Pin
Signal name
Shield
Terminal block (M3 screw)
Computer link module
Termination resistance 220Ω 1/4W
Display
CA4-ADPONL-01
2
7
3
8
5
Shell
RDA
RDB
SDA
SDB
SG
FG
SHELD

11G)

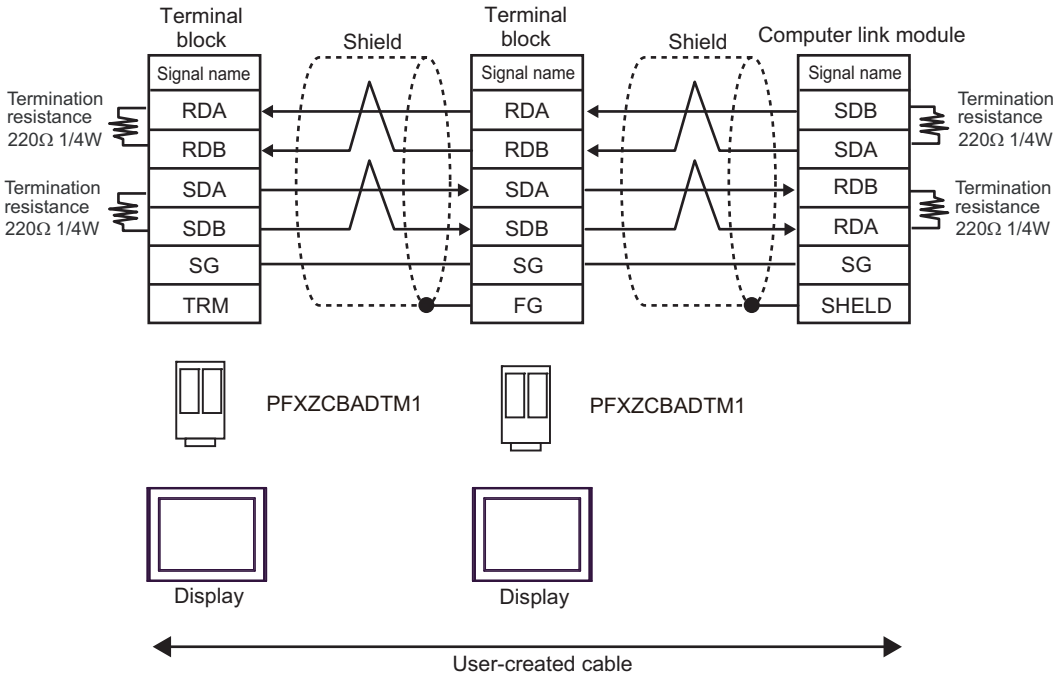


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

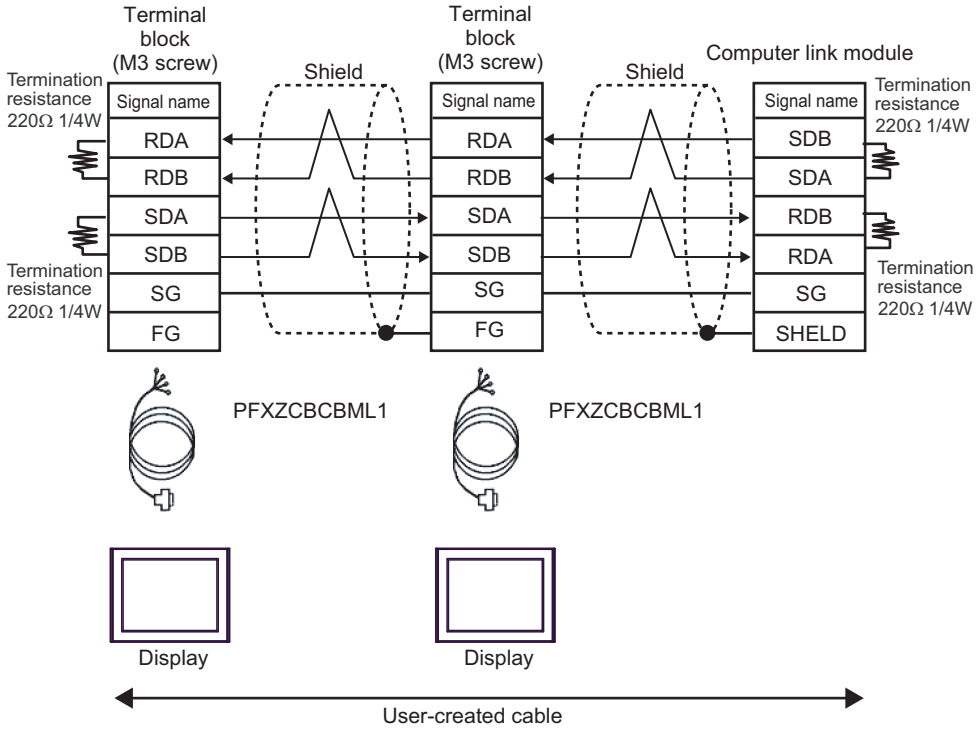
DIP Switch No.	Set Value
1	OFF
2	ON
3	OFF
4	ON

For the Displays other than that used as the terminal, set the DIP Switch 1-4 on the rear of the Display to OFF in the n:1 connection.

11H)


Terminal block
Shield
Terminal block
Shield
Computer link module
Signal name
RDA
RDB
SDA
SDB
SG
TRM
FG
SDB
SDA
RDB
RDA
SG
SHELD
Termination resistance 220Ω 1/4W
Termination resistance 220Ω 1/4W
Termination resistance 220Ω 1/4W
Termination resistance 220Ω 1/4W
PFXZCBADTM1
PFXZCBADTM1
Display
Display
User-created cable

11I)


Terminal block (M3 screw)
Shield
Terminal block (M3 screw)
Shield
Computer link module
Signal name
RDA
RDB
SDA
SDB
SG
FG
SDB
SDA
RDB
RDA
SG
SHELD
Termination resistance 220Ω 1/4W
Termination resistance 220Ω 1/4W
Termination resistance 220Ω 1/4W
Termination resistance 220Ω 1/4W
PFXZCBCBML1
PFXZCBCBML1
Display
Display
User-created cable

Cable Diagram 12

Display (Connection Port)	Cable		Notes
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST [*2] (COM2) LT3000 (COM1) IPC[*3]	12A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	12B	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Multilink cable by Pro-face CA3-CBLMLT-01 + User-created cable	
	12C	User-created cable	
GP3000 [*4] (COM2)	12D	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 1000m or less.
	12E	Online adapter by Pro-face CA4-ADPONL-01 + Multilink cable by Pro-face CA3-CBLMLT-01 + User-created cable	
	12F	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	12G	User-created cable	The cable length must be 1000m or less.
GP4000[*5] (COM2) GP-4201T (COM1) SP5000 (COM1/2)	12H	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1[*6] + User-created cable	The cable length must be 1000m or less.
	12I	Multilink cable by Pro-face PFXZCBCBML1[*7] + User-created cable	
	12C	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 9)

*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

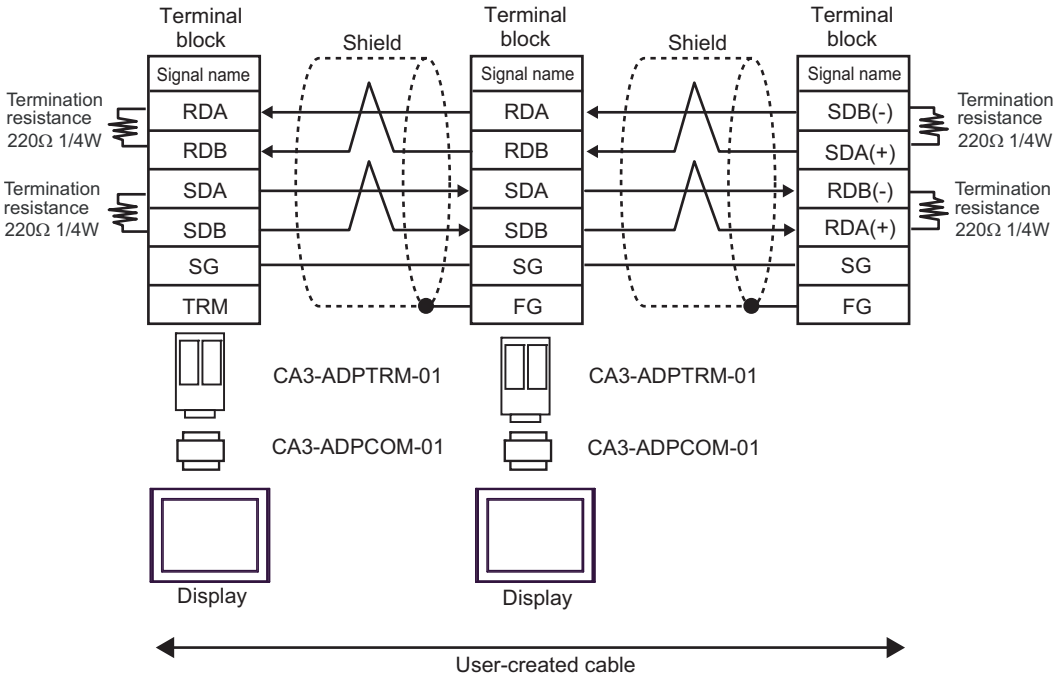
*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 12A.

*7 When using a Multilink Cable (CA3-CBLMLT-01) instead of the Multilink Cable, refer to Cable Diagram 12B.

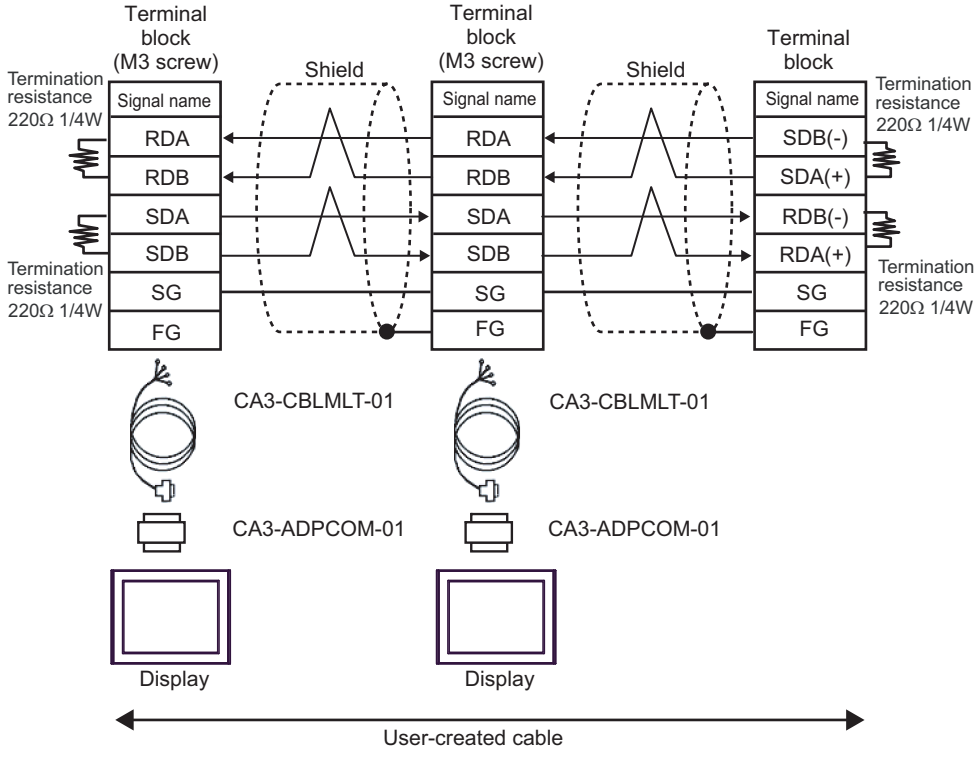
NOTE

- Attach the termination resistance to the devices on both ends.
- Note that pole A and pole B are reversely named for the Display and the External Device.
- When the PA device has SG, connect it.
- Even if the PA device has no SG, SG connection between the Display and the External Device is necessary.
- Set the last resistance switch of the personal computer link module for the External Device which terminates the connection to 4-WIRE.
- We recommend CO-SPEU-SB(A)3P x 0.5SQ by Hitachi Cable, Ltd. for the connection cable.
- You must set the different station No. of all PA devices connected to the Display. If there are more than 2 PA devices with the same station No., error occurs.
- Perform the identical communication settings for both the Display (m units) and the PA device (n units).

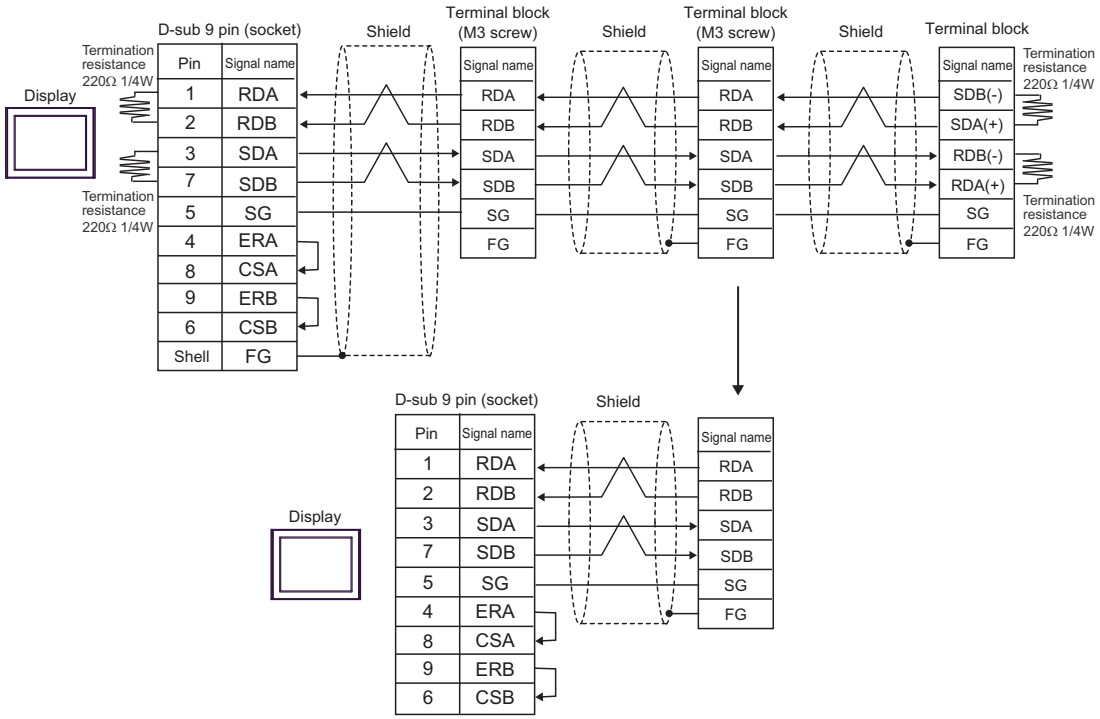
12A)


Terminal block
Shield
Terminal block
Shield
Terminal block
Signal name
RDA
RDB
SDA
SDB
SG
TRM
FG
SDB(-)
SDA(+)
RDB(-)
RDA(+)
Termination resistance 220Ω 1/4W
CA3-ADPTRM-01
CA3-ADPCOM-01
Display
User-created cable

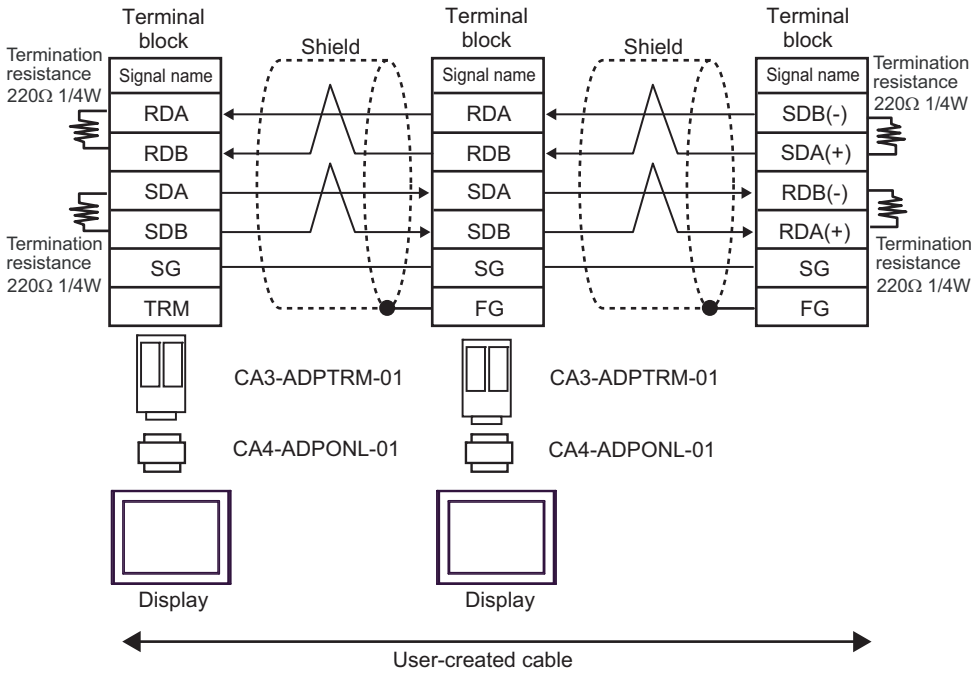
12B)


Terminal block (M3 screw)
Shield
Terminal block (M3 screw)
Shield
Terminal block
Signal name
RDA
RDB
SDA
SDB
SG
FG
SDB(-)
SDA(+)
RDB(-)
RDA(+)
Termination resistance 220Ω 1/4W
CA3-CBLMLT-01
CA3-ADPCOM-01
Display
User-created cable

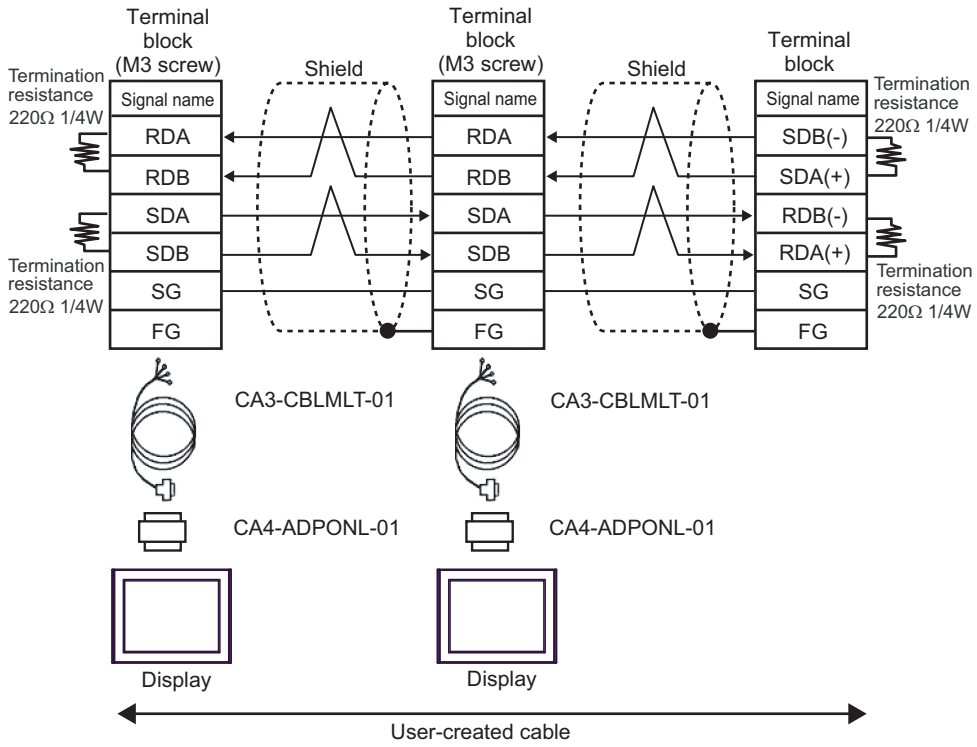
12C)


D-sub 9 pin (socket)
Shield
Terminal block (M3 screw)
Shield
Terminal block (M3 screw)
Shield
Terminal block
Termination resistance 220Ω 1/4W
Display
Pin
Signal name
1 RDA
2 RDB
3 SDA
7 SDB
5 SG
4 ERA
8 CSA
9 ERB
6 CSB
Shell FG
RDA
RDB
SDA
SDB
SG
FG
SDB(-)
SDA(+)
RDB(-)
RDA(+)
Termination resistance 220Ω 1/4W
D-sub 9 pin (socket)
Shield
Display

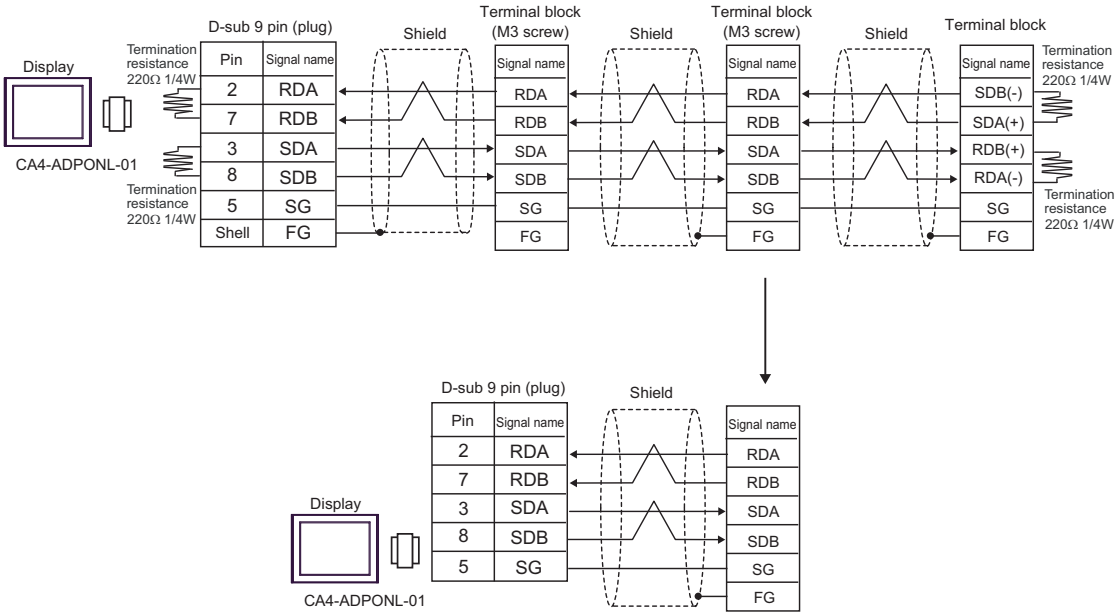
12D)


Terminal block
Shield
Terminal block
Shield
Terminal block
Termination resistance 220Ω 1/4W
Signal name
RDA
RDB
SDA
SDB
SG
TRM
FG
SDB(-)
SDA(+)
RDB(-)
RDA(+)
CA3-ADPTRM-01
CA4-ADPONL-01
Display
User-created cable

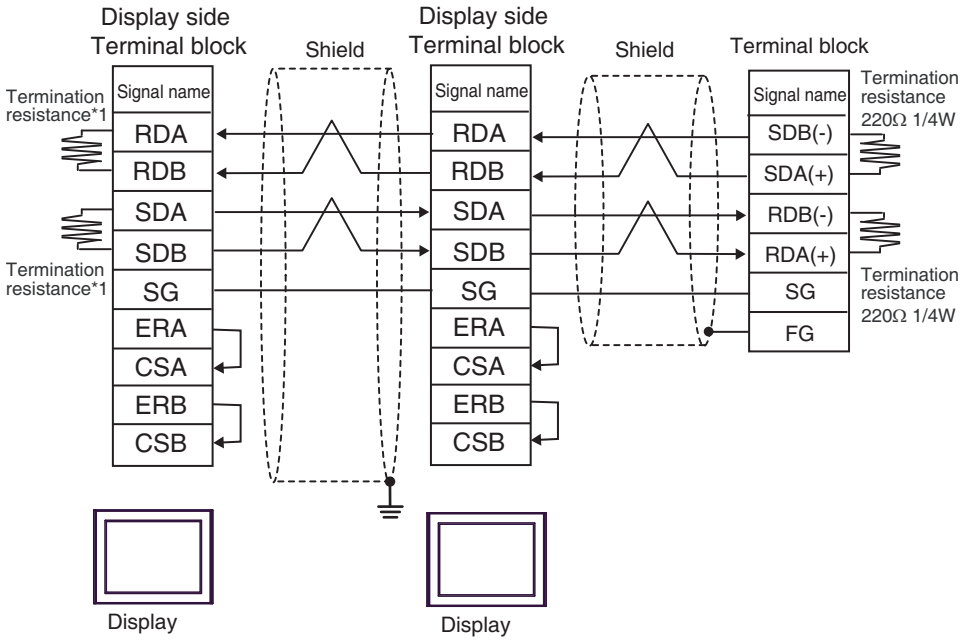
12E)


Terminal block (M3 screw)
Shield
Terminal block (M3 screw)
Shield
Terminal block
Termination resistance 220Ω 1/4W
Signal name
RDA
RDB
SDA
SDB
SG
FG
SDB(-)
SDA(+)
RDB(-)
RDA(+)
CA3-CBLMLT-01
CA4-ADPONL-01
Display
User-created cable

12F)


D-sub 9 pin (plug)
Terminal block (M3 screw)
Shield
Terminal block
Display
CA4-ADPONL-01
Termination resistance 220Ω 1/4W
Pin
Signal name
2
7
3
8
5
Shell
RDA
RDB
SDA
SDB
SG
FG
SDB(-)
SDA(+)
RDB(+)
RDA(-)

12G)

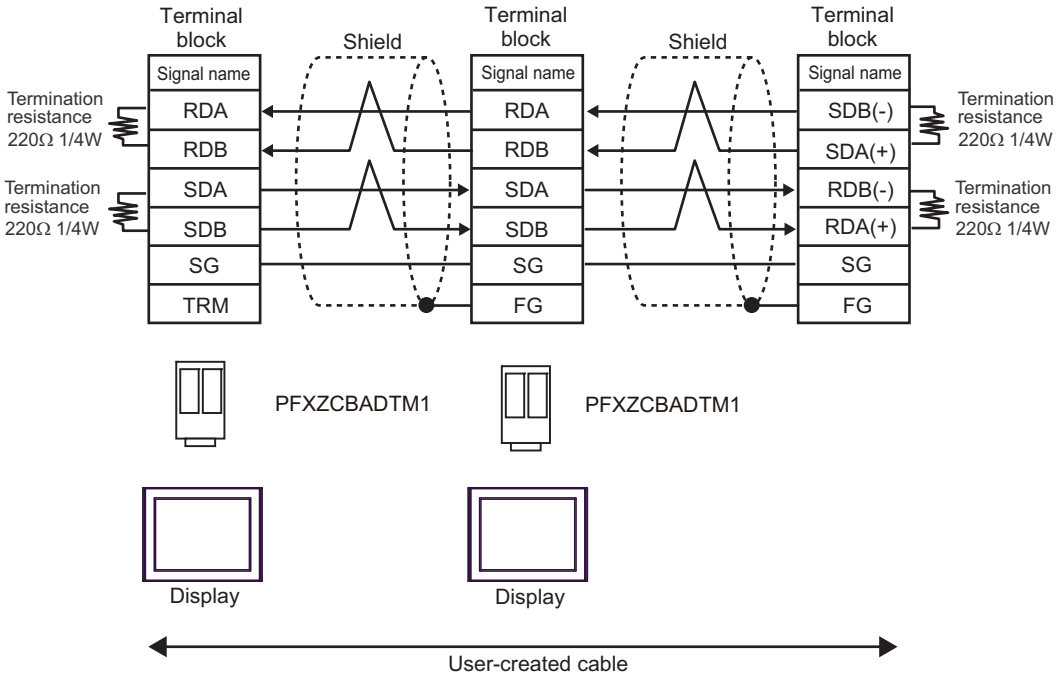


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

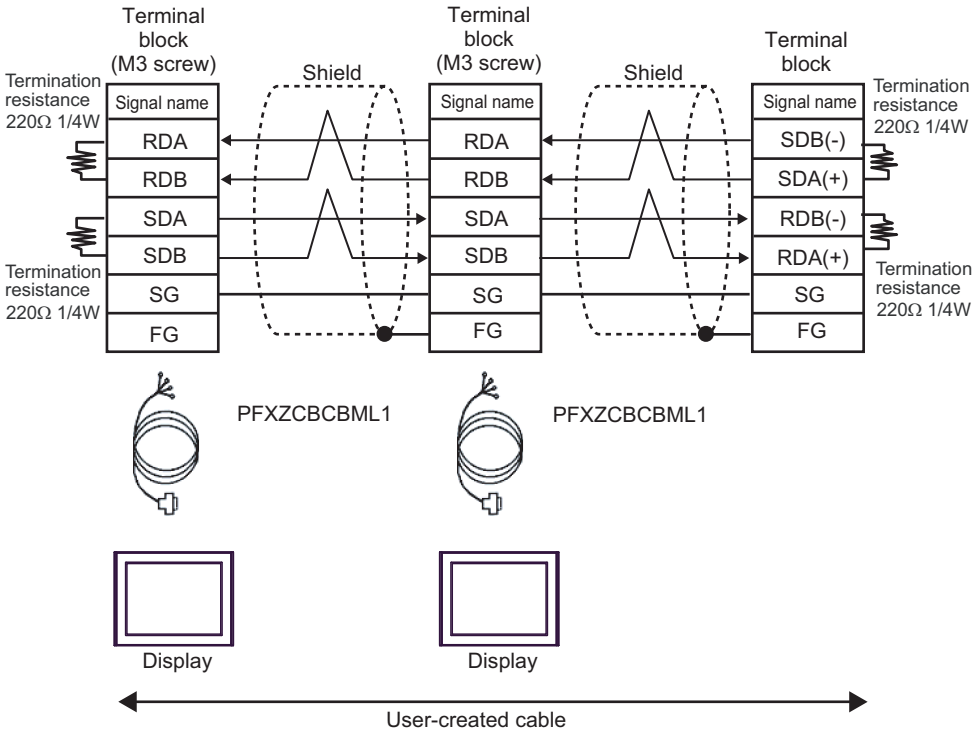
DIP Switch No.	Set Value
1	OFF
2	ON
3	OFF
4	ON

For the Displays other than that used as the terminal, set the DIP Switch 1-4 on the rear of the Display to OFF in the n:1 connection.

12H)


Terminal block
Shield
Terminal block
Shield
Terminal block
Signal name
RDA
RDB
SDA
SDB
SG
TRM
FG
SDB(-)
SDA(+)
RDB(-)
RDA(+)
Termination resistance 220Ω 1/4W
PFXZCBADTM1
PFXZCBADTM1
Display
Display
User-created cable

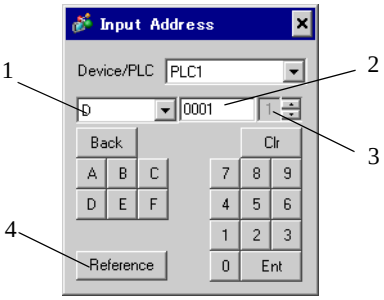
12I)


Terminal block (M3 screw)
Shield
Terminal block (M3 screw)
Shield
Terminal block
Signal name
RDA
RDB
SDA
SDB
SG
FG
SDB(-)
SDA(+)
RDB(-)
RDA(+)
Termination resistance 220Ω 1/4W
PFXZCBCBML1
PFXZCBCBML1
Display
Display
User-created cable

6 Supported Device

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

Enter the External Device address in the dialog below.



1. Device	Select the Device.
2. Address	Enter the address.
3. CPU number	Enter the CPU number of the External Device with which to communicate, using the number from 1 to 4 (FACTORY ACE Series) or from 1 to 2 (UT2800). For other series, "1" is fixed.
4. Reference	Available parameter list is displayed. Click the parameter to use and press “Select”, then the address is entered. [Reference] is displayed when “M & C Controllers” of the series of the external device is selected.

- Address notation

  The address notation varies depending on the series you select in [Device Settings].

  - Series where the CPU number can be selected:

    1 D 0010
    - Address
    - Device
    - CPU number

  - Series where the CPU number is fixed as "1":

    D 0010
    - Address
    - Device

6.1 FACTRY ACE series

This address can be specified as system data area.

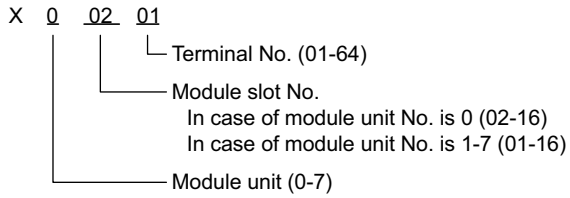
Device	Bit Address	Word Address	32bits	Notes
Input Relay	X00201 - X71664	X00201 - X71649		1 *1 *2
Output Relay	Y00201 - Y71664	Y00201 - Y71649		1 *1
Internal Relay	I00001 - I65535	I00001 - I65521		1
Joint Relay	E0001 - E4096	E0001 - E4081		1
Special Relay	M0001 - M9984	M0001 - M9969		1
Link Relay	L00001 - L78192	L00001 - L78177		1 *3
Time-up Relay	TU0001 - TU3072	------		
Count-up Relay	CU0001 - CU3072	------		
Timer present value	------	TP0001 - TP3072		
Timer present value (count-up)	------	TI0001 - TI3072		
Timer preset value	------	TS0001 - TS3072		*2
Counter present value	------	CP0001 - CP3072		
Counter present value (count-up)	------	CI0001 - CI3072		
Counter preset value	------	CS0001 - CS3072		*2
Data Register	D00001.00 - D65535.15	D00001 - D65535	L / H	
Common Register	B000001.00 - B262144.15	B000001 - B262144		*4
Cache Register	F000001.00 - F524288.15	F000001 - F524288		*5
Joint Register	R0001.00 - R4096.15	R0001 - R4096		
Special Register	Z0001.00 - Z1024.15	Z0001 - Z1024		
Link Register	W00001.00 - W78192.15	W00001 - W78192		*3
Special Module	------	SW0010000 - SW7169999		*2 *6
Information	------	INF100 - INF101		*2 *7
	------	INF200 - INF214		*2 *7
	------	INF30010 - INF37163		*2 *7
	INF4100.00 - INF4215.15	INF4100 - INF4215		*2 *7
	------	INF500		*7

Device	Bit Address	Word Address	32bits	Notes
Program Information	------	PRI00000 - PRI99913	L / H	*2 *8
User Log Read	------	ULR000000 - ULR064128		*2 *9
Error History Read	------	ERH000000 - ERH128000		*2 *10

*1 Address input area for input relay (X) and output relay (Y) is shown below.

When you specify the word address, specify the terminal number with the value of (a multiple of 16) + 1.

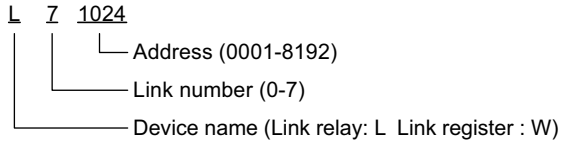
Example: X00201



*2 Write disable

*3 In link relay (L) and link register (W), the upper 1st digit on address input area shows the link number, and lower 4th digit shows the address. Specify the word address for link relay (L) and link register (W) with the value of (a multiple of 16) + 1.

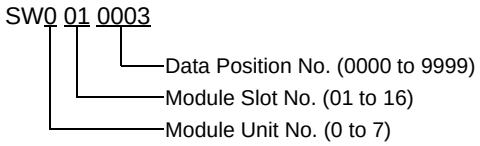
Example: When specifying L71024 of link relay



*4 When using the personal computer link module for connection, you can use up to B99999.

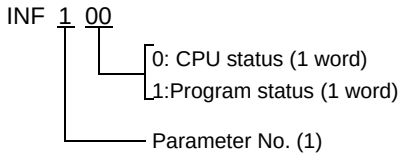
*5 Only the F3SP71-4N, F3SP76-7N, F3SP71-4S and F3SP76-7S can be used.

*6 Information of Special Module Read/Write

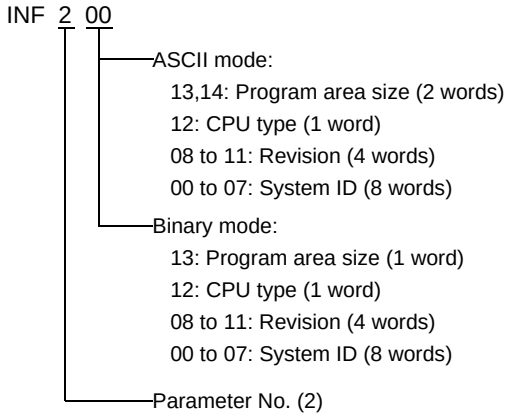


*7 Information Read

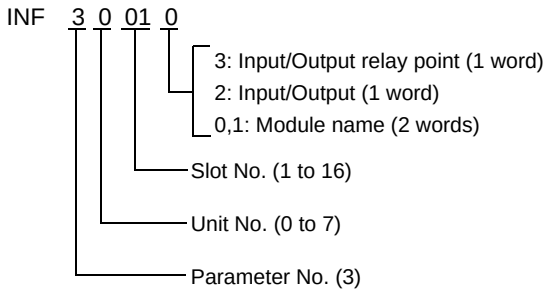
1. Read the status of CPU module and program



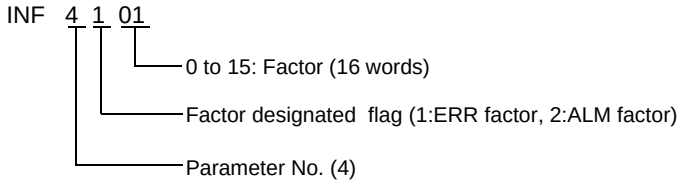
2. Read the information of system ID, CPU type and area size



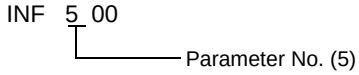
3. Read the mounting module name



4. Read the ERR LED of CPU module or the ALM LED lighting factor



5. Delete the current alarm information of CPU module (write only)



*8 Program Information Read

When 000 is written in Read information

PRI 000 00

- ASCII mode:
  - Creation date: 7 to 13 (7 words)
  - Size step No.: 4 to 6 (3 words)
  - Program name: 0 to 3 (4 words)
- Binary mode:
  - Creation date: 6 to 10 (5 words)
  - Size step No.: 4 to 5 (2 words)
  - Program name: 0 to 3 (4 words)
- Read information (000: Program name, Creation date)

When one of the numbers from 001 to 999 is written in Read information

PRI 000 00

- ASCII mode:
  - Size step No.: 4 to 6 (3 words)
  - Program name: 0 to 3 (4 words)
- Binary mode:
  - Size step No.: 4 to 5 (2 words)
  - Program name: 0 to 3 (4 words)
- Read information (001 to 999: Reading such as the block names of No.n)

*9 User Log Read

ULR 000 000

- User log: 0 to 128 (word)
- User log reading point
  - 000: Latest user log
  - 001 to 064: No.n user log from new data

*10 Error History Read

ERH 000 000

- ASCII mode:
  - 0: Error information
    (00: System error, 01: BASIC error, 02: Sequence error, 03: I/O error)
  - 1, 2: Error code (Charactor string)
  - 3 to 6: Date (YY/MM/DD) charactor string
  - 7 to 10: Time (HH:MM:SS) charactor string
  - 11 to 22: Added information (Charactor string)
- Binary mode:
  - 0: Error information
    (0000: System error, 0001: BASIC error, 0002: Sequence error, 0003: I/O error)
  - 1: Error code
  - 2 to 4: Date (YYYY/MMMM/DDDD)
  - 5 to 7: Time (HHHH:MMMM:SSSS)
  - 8 to 18: Added information
- Error history reading point
  - 000: Latest user log
  - 001 to 128: No.n user log from new data

NOTE

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

6.2 FCN/FCJ series

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
Internal Relay	I00001 - I32752*1	I00001 - I32737	L/H	÷16+1 *2
Data Register	------	D00001 - D32767		Bit 15 *2
Common Register	------	B000001 - B032767		Bit 15 *2

*1 Up to I32767 can be accessed only when you write in bit units.

*2 Address 0 in the External Device cannot be accessed.

NOTE

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

6.3 Temperature Controllers (UT100 Series)

■ UT130/UT150/UT152/UT155

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
I Relay	I0001 - I0048	I0001 - I0033	L/H	+16+1 *1
D Register	------	D0001 - D0420		Bit15 *1, *2

*1 There are write-protected areas and usage- disabled areas within the displayed addresses. Please check the controllers' manuals to get the description of function and usage of the registers for detail.

*2 Only D401 to D420 may be allocated as system area memory for the controller. Be careful of this point when the system area is set in GP-Pro EX or OFFLINE mode.

NOTE

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

■ UP150

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
I Relay	I0001 - I0054	I0001 - I0049	L/H	+16+1 *1
D Register	------	D0001 - D0420		Bit15 *1, *2

*1 There are write-protected areas and usage- disabled areas within the displayed addresses. Please check the controllers' manuals to get the description of function and usage of the registers for detail.

*2 Only D401 to D420 may be allocated as system area memory for the controller. Be careful of this point when the system area is set in GP-Pro EX or OFFLINE mode.

NOTE

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

6.4 Digital Indicating Controllers

■ UT320/UT350

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
I Relay	I0001 - I0784	I0001 - I0769	L / H	÷16+1 *1
D Register	------	D0001 - D1300		Bit15 *1, *2

*1 There are write-protected areas and usage- disabled areas within the displayed addresses. Please check the controllers' manuals to get the description of function and usage of the registers for detail.

*2 Only D50 to D100 may be allocated as system area memory for the controller. Be careful of this point when the system area is set in GP-Pro EX or OFFLINE mode.

NOTE

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

■ UT420/UT450

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
I Relay	I0001 - I2048	I0001 - I2033	L / H	÷16+1 *1
D Register	------	D0001 - D1300		Bit15 *1, *2

*1 There are write-protected areas and usage- disabled areas within the displayed addresses. Please check the controllers' manuals to get the description of function and usage of the registers for detail.

*2 Only D50 to D100 may be allocated as system area memory for the controller. Be careful of this point when the system area is set in GP-Pro EX or OFFLINE mode.

NOTE

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

6.5 UT2000

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
I Relay	I0001 - I1024	I0001 - I1009	L/H	÷16+1 *1
D Register	------	D0001 - D1024		Bit 15 *1

*1 There are write-protected areas and usage- disabled areas within the displayed addresses. Please check the controllers' manuals to get the description of function and usage of the registers for detail.

NOTE

- Of the system area settings, only reading area size can be used by the controller.
  Please refer to the GP-Pro EX Reference Manual for reading area size.
  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
  ☞ "Manual Symbols and Terminology"

7 Device Code and Address Code

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

7.1 FACTORY ACE Series

Device	Device Name	Device Code (HEX)	Address Code
Input Relay	1X	0080	(Module unit No. x 0x40) + ((Module slot No. - 1) x 0x4) + ((Terminal No. - 1) divided by 16)*1
	2X	0180	
	3X	0280	
	4X	0380	
Output Relay	1Y	0081	(Module unit No. x 0x40) + ((Module slot No. - 1) x 0x4) + ((Terminal No. - 1) divided by 16)*1
	2Y	0181	
	3Y	0281	
	4Y	0381	
Internal Relay	1I	0082	Value of (word address - 1) divided by 16
	2I	0182	
	3I	0282	
	4I	0382	
Joint Relay	1E	0084	Value of (word address - 1) divided by 16
	2E	0184	
	3E	0284	
	4E	0384	
Special Relay	1M	0083	Value of (word address - 1) divided by 16
	2M	0183	
	3M	0283	
	4M	0383	
Link Relay	1L	0088	(Link No. x 0x10000) + ((Word Address - 1) divided by 16) *2
	2L	0188	
	3L	0288	
	4L	0388	
Timer present value	1TP	0060	Word Address - 1
	2TP	0160	
	3TP	0260	
	4TP	0360	

Device	Device Name	Device Code (HEX)	Address Code
Timer present value (count-up)	1TI	006D	Word Address - 1
	2TI	016D	
	3TI	026D	
	4TI	036D	
Timer preset value	1TS	0063	Word Address - 1
	2TS	0163	
	3TS	0263	
	4TS	0363	
Counter present value	1CP	0061	Word Address - 1
	2CP	0161	
	3CP	0261	
	4CP	0361	
Counter present value (count-up)	1CI	006E	Word Address - 1
	2CI	016E	
	3CI	026E	
	4CI	036E	
Counter preset value	1CS	0064	Word Address - 1
	2CS	0164	
	3CS	0264	
	4CS	0364	
Data Register	1D	0000	Word Address - 1
	2D	0100	
	3D	0200	
	4D	0300	
Common Register	1B	0004	Word Address - 1
	2B	0104	
	3B	0204	
	4B	0304	
Cache Register[*3]	1F	0006	Word Address - 1
	2F	0106	
	3F	0206	
	4F	0306	

Device	Device Name	Device Code (HEX)	Address Code
Joint Register	1R	0003	Word Address - 1
	2R	0103	
	3R	0203	
	4R	0303	
Special Register	1Z	0001	Word Address - 1
	2Z	0101	
	3Z	0201	
	4Z	0301	
Link Register	1W	0002	(Link No. x 0x10000) + ((Word Address - 1) divided by 16)*2
	2W	0102	
	3W	0202	
	4W	0302	
Special Module	1SW	0065	Word address
	2SW	0165	
	3SW	0265	
	4SW	0365	

Device	Device Name	Device Code (HEX)	Address Code
Information	1INF1	0066	Word address (Read only)
	2INF1	0166	
	3INF1	0266	
	4INF1	0366	
	1INF2	006a	Word address (Read only)
	2INF2	016a	
	3INF2	026a	
	4INF2	036a	
	1INF3	006b	Word address (Read only)
	2INF3	016b	
	3INF3	026b	
	4INF3	036b	
	1INF4	0005	Word address (Read only)
	2INF4	0105	
	3INF4	0205	
	4INF4	0305	
	1INF5	006c	Word address (Write only)
	2INF5	016c	
	3INF5	026c	
	4INF5	036c	
Program Information	1PRI	0067	Word address (Read only)
	2PRI	0167	
	3PRI	0267	
	4PRI	0367	
User Log Read	1ULR	0068	Word address (Read only)
	2ULR	0168	
	3ULR	0268	
	4ULR	0368	
Error History Read	1ERH	0069	Word address (Read only)
	2ERH	0169	
	3ERH	0269	
	4ERH	0369	

*1 Please refer to "6 Supported Device *1" for each name.

*2 Please refer to "6 Supported Device *4" for each name.

*3 Only the F3SP71-4N, F3SP76-7N, F3SP71-4S and F3SP76-7S can be used.

7.2 FCN/FCJ Series

Device	Device Name	Device Code (HEX)	Address Code
Internal Relay	1I	0082	Value of (word address - 1) divided by 16
	2I	0182	
	3I	0282	
	4I	0382	
Data Register	1D	0000	Value of word Address - 1
	2D	0100	
	3D	0200	
	4D	0300	
Common Register	1B	0004	Value of word Address - 1
	2B	0104	
	3B	0204	
	4B	0304	

7.3 Temperature Controllers (UT100 Series)

Device	Device Name	Device Code (HEX)	Address Code
I Relay	I	0082	Value of (word address - 1) divided by 16
D Register	D	0000	Value of word Address - 1

7.4 Digital Indicating Controllers

Device	Device Name	Device Code (HEX)	Address Code
I Relay	I	0082	Value of (word address - 1) divided by 16
D Register	D	0000	Value of word Address - 1

7.5 UT2000

■ UT2400

Device	Device Name	Device Code (HEX)	Address Code
I Relay	I	0082	Value of (word address - 1) divided by 16
D Register	D	0000	Value of word Address - 1

■ UT2800

Device	Device Name	Device Code (HEX)	Address Code
I Relay	1I	0082	Value of (word address - 1) divided by 16
	2I	0182	
D Register	1D	0000	Value of word Address - 1
	2D	0100	

8 Error Messages

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

Item	Description
No.	Error No.
Device Name	Name of External Device where error occurs. Device name is a title of External Device set with GP-Pro EX. (Initial value [PLC1])
Error Message	Displays messages related to the error which occurs.
Error Occurrence Area	Displays IP address or device address of External Device where error occurs, or error codes received from External Device. **NOTE** • IP address is displayed such as "IP address (Decimal): MAC address (Hex)". • Device address is displayed such as "Address: Device address". • Received error codes are displayed such as "Decimal [Hex]".

Display Examples of Error Messages

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

NOTE

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