OMRON Corporation

C/CV Series HOST Link Driver

Introduction

This manual describes how to connect the Display (GP3000 series) 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 This section describes how to select a driver corresponding to the External Device to be connected.	☞ "2 Selection of External Device" (page 8)
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 9)
4	Communication Settings Perform the communication settings between the Display and the External Device. Set communication settings of the Display with GP-Pro EX or in off-line mode.	☞ "4 Setup Items" (page 64)
5	Cable Diagram This section shows cables and adapters for connecting the Display and the External Device.	☞ "5 Cable Diagram" (page 69)

Operation

1 System Configuration

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

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
SYSMAC C	C200H	C200H-LK202[*1] C120-LK201-V1 [*2]	RS232C	Setting Example 1 (page 9)	Cable Diagram 1 (page 69)
		C200H-LK202[*1] C120-LK202-V1[*2]	RS422/485 (4wire)	Setting Example 2 (page 13)	Cable Diagram 2 (page 70)
	C200HS	C200H-LK201[*1] C120-LK201-V1[*2]	RS232C	Setting Example 1 (page 9)	Cable Diagram 1 (page 69)
		C200H-LK202[*1]	RS422/485 (4wire)	Setting Example 2 (page 13)	Cable Diagram 2 (page 70)
		Link I/F on the CPU unit[*3]	RS232C	Setting Example 3 (page 16)	Cable Diagram 3 (page 74)
		Peripheral port on the CPU unit	RS232C	Setting Example 4 (page 18)	Cable Diagram 4 (page 75) [*4]
	C500 C500F C1000H C2000 C2000H	C120-LK201-V1[*2]	RS232C	Setting Example 1 (page 9)	Cable Diagram 1 (page 69)
		C120-LK202-V1[*2]	RS422/485 (4wire)	Setting Example 2 (page 13)	Cable Diagram 2 (page 70)
		C500-LK201-V1[*2]	RS232C	Setting Example 5 (page 20)	Cable Diagram 1 (page 69)
			RS422/485 (4wire)	Setting Example 6 (page 23)	Cable Diagram 2 (page 70)
		C500-LK203[*2]	RS232C	Setting Example 5 (page 20)	Cable Diagram 1 (page 69)
			RS422/485 (4wire)	Setting Example 6 (page 23)	Cable Diagram 5 (page 76)
	C1000HF	C500-LK201-V1[*2]	RS232C	Setting Example 5 (page 20)	Cable Diagram 1 (page 69)
			RS422/485 (4wire)	Setting Example 6 (page 23)	Cable Diagram 2 (page 70)
		C500-LK203[*2]	RS232C	Setting Example 5 (page 20)	Cable Diagram 1 (page 69)
			RS422/485 (4wire)	Setting Example 6 (page 23)	Cable Diagram 5 (page 76)
	C20H C28H C40H	Link I/F on the CPU unit[*3]	RS232C	Setting Example 7 (page 26)	Cable Diagram 6 (page 80)

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Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
SYSMAC C	C20PF C28PF C40PF C60PF	C120-LK201-V1 *2	RS232C	Setting Example 1 (page 9)	Cable Diagram 1 (page 69)
		C120-LK202-V1 *2	RS422/485 (4wire)	Setting Example 2 (page 13)	Cable Diagram 2 (page 70)
	C120 C120F	C120-LK201-V1 *2	RS232C	Setting Example 1 (page 9)	Cable Diagram 1 (page 69)
		C120-LK202-V1 *2	RS422/485 (4wire)	Setting Example 2 (page 13)	Cable Diagram 2 (page 70)
	CQM1-CPU11	Peripheral port on the CPU unit	RS232C	Setting Example 8 (page 28)	Cable Diagram 4 (page 75) *4
	CQM1-CPU21 CQM1-CPU41 CQM1-CPU42 CQM1-CPU43 CQM1-CPU44 CQM1-CPU41-V1 CQM1-CPU42-V1 CQM1-CPU43-V1 CQM1-CPU44-V1	RS232C port on the CPU unit	RS232C	Setting Example 9 (page 30)	Cable Diagram 3 (page 74)
		Peripheral port on the CPU unit	RS232C	Setting Example 8 (page 28)	Cable Diagram 4 (page 75) *4
	CPM1 CPM1A CPM1A-V1	Peripheral port on the CPU unit	RS232C	Setting Example 8 (page 28)	Cable Diagram 4 (page 75) *4
		CPM1-CIF01	RS232C	Setting Example 10 (page 32)	Cable Diagram 3 (page 74)
		CPM1-CIF11	RS422/485 (4wire)	Setting Example 11 (page 34)	Cable Diagram 7 (page 81)
	SRM1-C02 CPM2A	RS232C port on the CPU unit	RS232C	Setting Example 9 (page 30)	Cable Diagram 3 (page 74)
		CPM1-CIF01		Setting Example 10 (page 32)	
		CPM1-CIF11	RS422/485 (4wire)	Setting Example 11 (page 34)	Cable Diagram 7 (page 81)

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Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
SYSMAC C	CPM2C	Peripheral port on the CPU unit	RS232C	Setting Example 8 (page 28)	Cable Diagram 4 (page 75) *4
				Setting Example 8 (page 28)	Cable Diagram 8 (page 85)
		Peripheral port on CPM2C-CIF01	RS232C	Setting Example 12 (page 36)	Cable Diagram 9 (page 86)
		RS232C port on CPM2C-CIF01	RS232C	Setting Example 13 (page 38)	Cable Diagram 3 (page 74)
		RS232C port on CPM2C- CIF11	RS232C	Setting Example 14 (page 40)	Cable Diagram 3 (page 74)
		Terminal block on CPM2C-CIF11	RS422/485 (4wire)	Setting Example 15 (page 42)	Cable Diagram 10 (page 87)
	CQM1H-CPU11 CQM1H-CPU21	Peripheral port on the CPU unit	RS232C	Setting Example 8 (page 28)	Cable Diagram 4 (page 75) *4
				Setting Example 8 (page 28)	Cable Diagram 8 (page 85)
		RS232C port on the CPU unit	RS232C	Setting Example 9 (page 30)	Cable Diagram 3 (page 74)
	CQM1H-CPU51 CQM1H-CPU61	Peripheral port on the CPU unit	RS232C	Setting Example 8 (page 28)	Cable Diagram 4 (page 75) *4
				Setting Example 8 (page 28)	Cable Diagram 8 (page 85)
		RS232C port on the CPU unit	RS232C	Setting Example 9 (page 30)	Cable Diagram 3 (page 74)
		RS232C port on CQM1H-SCB41	RS232C	Setting Example 16 (page 44)	Cable Diagram 3 (page 74)
		RS422A/485 port on CQM1H-SCB41	RS422/485 (4wire)	Setting Example 17 (page 46)	Cable Diagram 11 (page 91) *5

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Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
SYSMAC α	C200HE-CPU42 C200HG-CPU63 C200HG-CPU43 C200HX-CPU64 C200HX-CPU44 C200HE-CPU42-Z C200HG-CPU63-Z C200HG-CPU43-Z C200HX-CPU85-Z C200HX-CPU65-Z C200HX-CPU64-Z C200HX-CPU44-Z	RS232C port on the CPU unit	RS232C	Setting Example 18 (page 48)	Cable Diagram 3 (page 74)
		C200HW-COM02-V1	RS232C	Setting Example 19 (page 50)	Cable Diagram 3 (page 74)
		C200HW-COM03-V1	RS422 (4wire)	Setting Example 20 (page 52)	Cable Diagram 11 (page 91)
		C200HW-COM04-V1	RS232C	Setting Example 19 (page 50)	Cable Diagram 3 (page 74)
		C200HW-COM05-V1	RS232C	Setting Example 19 (page 50)	Cable Diagram 3 (page 74)
		C200HW-COM06-V1	RS232C	Setting Example 19 (page 50)	Cable Diagram 3 (page 74)
			RS422 (4wire)	Setting Example 20 (page 52)	Cable Diagram 11 (page 91)
		C200H-LK201-V1	RS232C	Setting Example 1 (page 9)	Cable Diagram 1 (page 69)
		C200H-LK202-V1	RS422 (4wire)	Setting Example 2 (page 13)	Cable Diagram 2 (page 70)
	C200HX-CPU34 C200HX-CPU54 C200HX-CPU34-Z C200HX-CPU54-Z C200HE-CPU32 C200HE-CPU32-Z C200HG-CPU33 C200HG-CPU33-Z C200HG-CPU53 C200HG-CPU53-Z	C200HW-COM02-V1	RS232C	Setting Example 19 (page 50)	Cable Diagram 3 (page 74)
		C200HW-COM03-V1	RS422 (4wire)	Setting Example 20 (page 52)	Cable Diagram 11 (page 91)
		C200HW-COM04-V1	RS232C	Setting Example 19 (page 50)	Cable Diagram 3 (page 74)
		C200HW-COM05-V1	RS232C	Setting Example 19 (page 50)	Cable Diagram 3 (page 74)
		C200HW-COM06-V1	RS232C	Setting Example 19 (page 50)	Cable Diagram 3 (page 74)
			RS422 (4wire)	Setting Example 20 (page 52)	Cable Diagram 11 (page 91)
		C200H-LK201-V1	RS232C	Setting Example 1 (page 9)	Cable Diagram 1 (page 69)
		C200H-LK202-V1	RS422 (4wire)	Setting Example 2 (page 13)	Cable Diagram 2 (page 70)
	C200HE-CPU11 C200HE-CPU11-Z	C200H-LK201-V1	RS232C	Setting Example 1 (page 9)	Cable Diagram 1 (page 69)
		C200H-LK202-V1	RS422 (4wire)	Setting Example 2 (page 13)	Cable Diagram 2 (page 70)

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
SYSMAC CV	CV500 CV1000 CV2000 CVM1 CVM1D	CV500-LK201	RS232C (connecting port 2)	Setting Example 21 (page 54)	Cable Diagram 1 (page 69)
			RS232C (connecting port 2)	Setting Example 22 (page 56)	Cable Diagram 12 (page 95)
			RS422/485 (4wire) (connecting port 2)	Setting Example 23 (page 58)	Cable Diagram 13 (page 96)
		Link I/F on the CPU unit*6	RS232C	Setting Example 24 (page 60)	Cable Diagram 12 (page 95)
			RS422/485 (4wire)	Setting Example 25 (page 62)	Cable Diagram 13 (page 96)

*1 Base mounting type.

*2 CPU mounting type.

*3 Connect to RS232C port.

*4 Commercial 9 pin-25 pin conversion adapter is required.

*5 Set the 2wire/4wire toggle switch to 4wire (Only 4wire type is available to use).

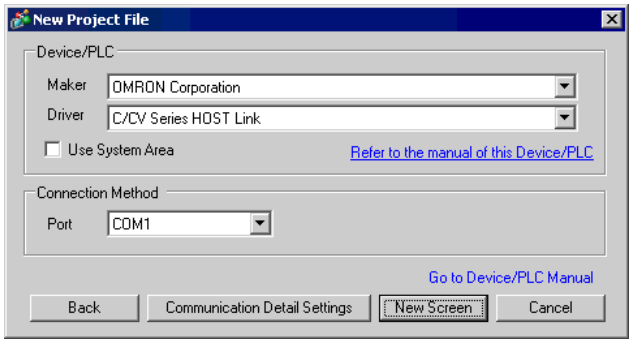
*6 Connect to the HOSTLINK port.

IMPORTANT

- For SYSMAC-α Series, please note as below.
- We cannot guarantee the operation when you access the nonexistent data memory area (DM6656 to DM6999).
- We cannot guarantee the operation when you access to DM7000 to DM9999 without the extension fixed DM setting.
- We cannot guarantee the operation when you specify the area within the range in the models in which the bank of the extension memory area does not exist.

2 Selection of External Device

Select the External Device to be connected to the Display.



Setup Items	Setup Description
Maker	Select the maker of the External Device to be connected. Select "OMRON Corporation".
Driver	Select a model (series) of the External Device to be connected and connection method. Select "C/CV Series HOST Link". Check the External Device which can be connected in "C/CV Series HOST Link" in system configuration. ☞"1 System Configuration" (page 3)
Use System Area	Check this option when you synchronize the system data area of the Display and the device (memory) of the External Device. When synchronized, you can use the ladder program of the External Device to switch the display or display the window on the Display. Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)" This can be also set with GP-Pro EX or in off-line mode of the Display. Cf. GP-Pro EX Reference Manual "System Area Setting, 6.13.6 Setting Guide of [System Setting Window]" Cf. GP3000 Series User Manual "4.3.6 System Area Setting"
Port	Select the Display port to be connected to the External Device.

3 Example of Communication Setting

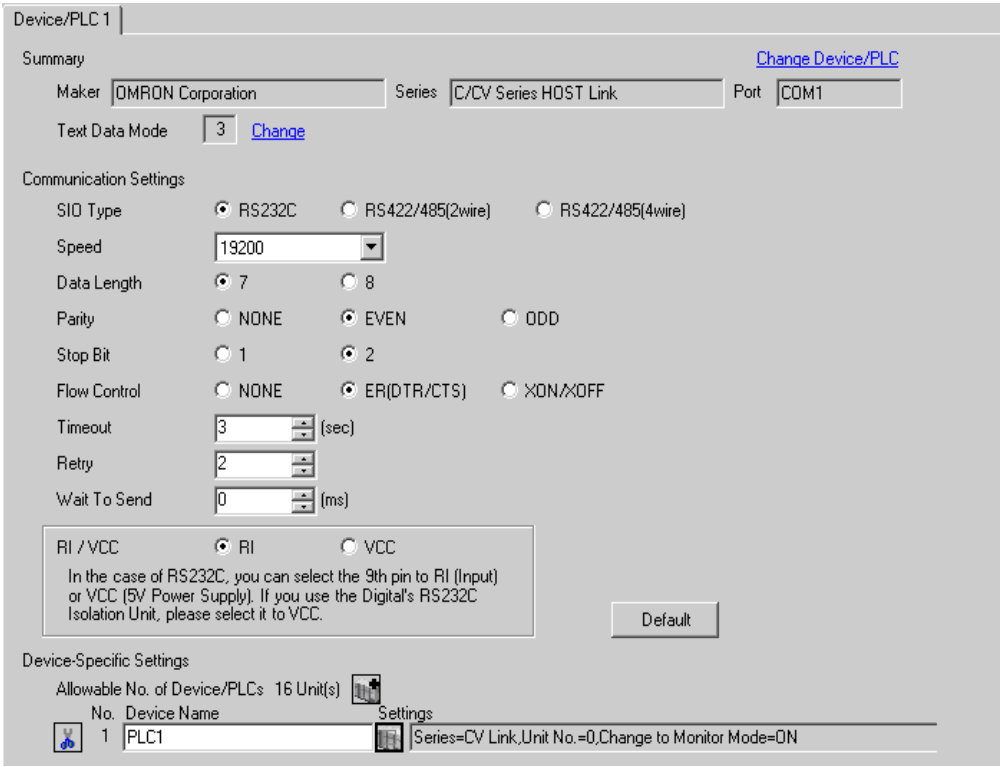
Examples of communication settings of the Display and the External Device, recommended by Pro-face, are shown.

3.1 Setting Example 1

■ Setting of GP-Pro EX

◆ Communication Settings

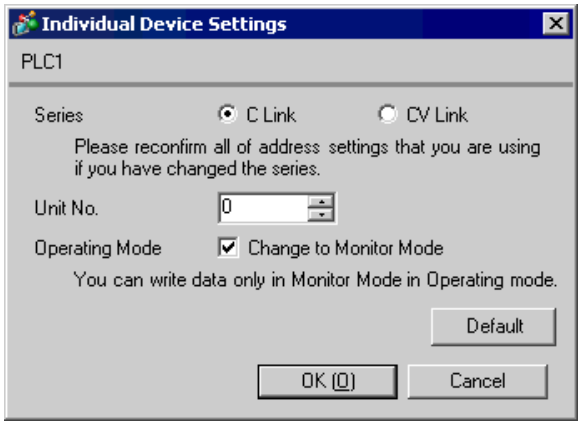
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



■ Setting of External Device

Set the HOST link unit attached to the External Device as below.

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

◆ C200H-LK201

Rotary Switch	Settings	Setup Description
SW1	0	Unit No. x 10
SW2	0	Unit No. x 1
SW3	6	Transmission speed: 19.2Kbps
SW4	2	7-bit data length, 2 stop bits, Even

DIP Switch (rear panel)	Settings	Setup Description
SW1	OFF	Unused
SW2	OFF	Unused
SW3	ON	1:N step
SW4	OFF	Without 5V supply

Set the CTS control to 0V (always ON).

◆ C120-LK201-V1

DIP Switch 1	Settings	Setup Description
SW1	OFF	Unit No.: 0
SW2	OFF	
SW3	OFF	
SW4	OFF	
SW5	OFF	
SW6	OFF	Unused
SW7	OFF	
SW8	ON	Operation

DIP Switch 2	Settings	Setup Description
SW1	OFF	Transmission speed: 19.2Kbps
SW2	OFF	
SW3	ON	
SW4	OFF	
SW5	OFF	Unused
SW6	OFF	1:N step
SW7	ON	Level 1, 2, 3 Enabled
SW8	ON	

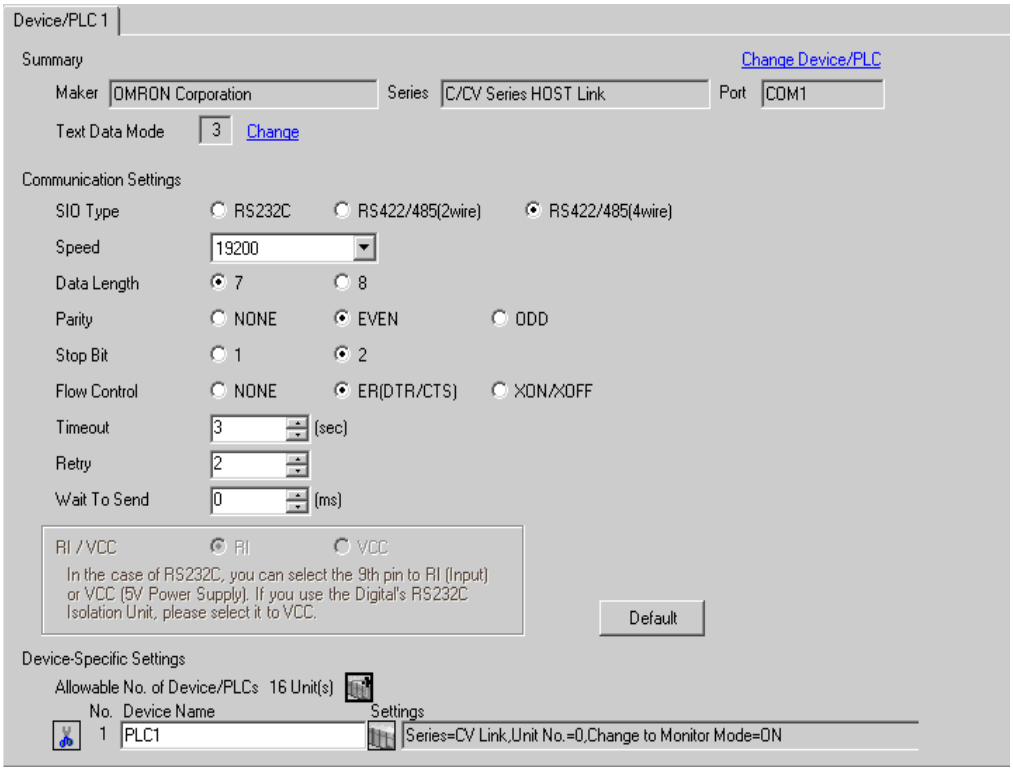
DIP Switch 3	Settings	Setup Description
SW1	ON	CTS always ON
SW2	OFF	
SW3	ON	Internally synchronized
SW4	OFF	
SW5	ON	
SW6	OFF	
SW7	OFF	Unused
SW8	OFF	

3.2 Setting Example 2

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

Set the HOST link unit attached to the External Device as below.

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

◆ C200H-LK202

Rotary switch	Settings	Setup Description
SW1	0	Unit No. x 10
SW2	0	Unit No. x 1
SW3	6	Transmission speed: 19.2Kbps
SW4	2	7-bit data length, 2 stop bits, Even

Set the rear switch as below.

- 1:N step (OFF)
- When the External Device is located at the end of the communication connection due to system configuration, set the switch to "With termination resistance connection (ON)"; in other cases, set it to "Without termination resistance connection (OFF)"

◆ C120-LK202-V1

DIP Switch 1	Settings	Setup Description
SW1	OFF	Unit No.: 0
SW2	OFF	
SW3	OFF	
SW4	OFF	
SW5	OFF	
SW6	OFF	Unused
SW7	OFF	
SW8	ON	Operation

DIP Switch 2	Settings	Setup Description
SW1	OFF	Transmission speed: 19.2Kbps
SW2	OFF	
SW3	ON	
SW4	OFF	
SW5	OFF	Unused
SW6	OFF	1:N step
SW7	ON	Level 1, 2, 3 Enabled
SW8	ON	

- When the External Device is located at the end of the communication connection due to system configuration

DIP Switch 3	Settings	Setup Description
SW1	ON	Attach termination resistance
SW2	OFF	
SW3	ON	
SW4	OFF	
SW5	ON	
SW6	OFF	
SW7	OFF	Unused
SW8	OFF	

- In Other Cases

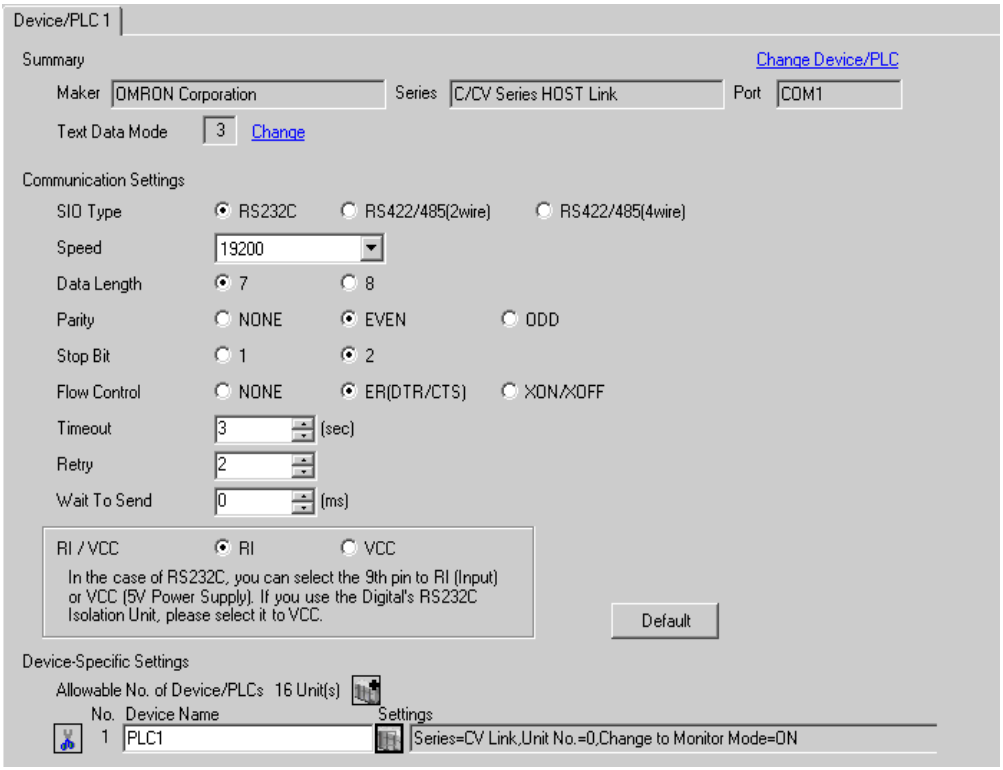
DIP Switch 3	Settings	Setup Description
SW1	ON	Not attach termination resistance
SW2	OFF	
SW3	OFF	
SW4	OFF	
SW5	OFF	
SW6	OFF	
SW7	OFF	Unused
SW8	OFF	

3.3 Setting Example 3

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

◆ When setting with the ladder tool

Open [PC System Setting] in the ladder tool and set the HOST link port in [HOST Link Port]. Please refer to the manual of the External Device for more details on the ladder tool.

Setup Items	Setting Value
Communication Settings	User setting
Speed	19200
Parameter	7, 2, E
Mode	HOST link
Unit No.	0 unit
Delay	0
CS Control	Enable

◆ When setting the value in the data register

Use the ladder tool or etc. and set the value as below.

Set SW5 to OFF.

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

Register	Settings	Setup Description
DM6645	0001(HEX)	Mode selection: HOST link
DM6646	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6648	0000(HEX)	HOST link, Unit No.: 0

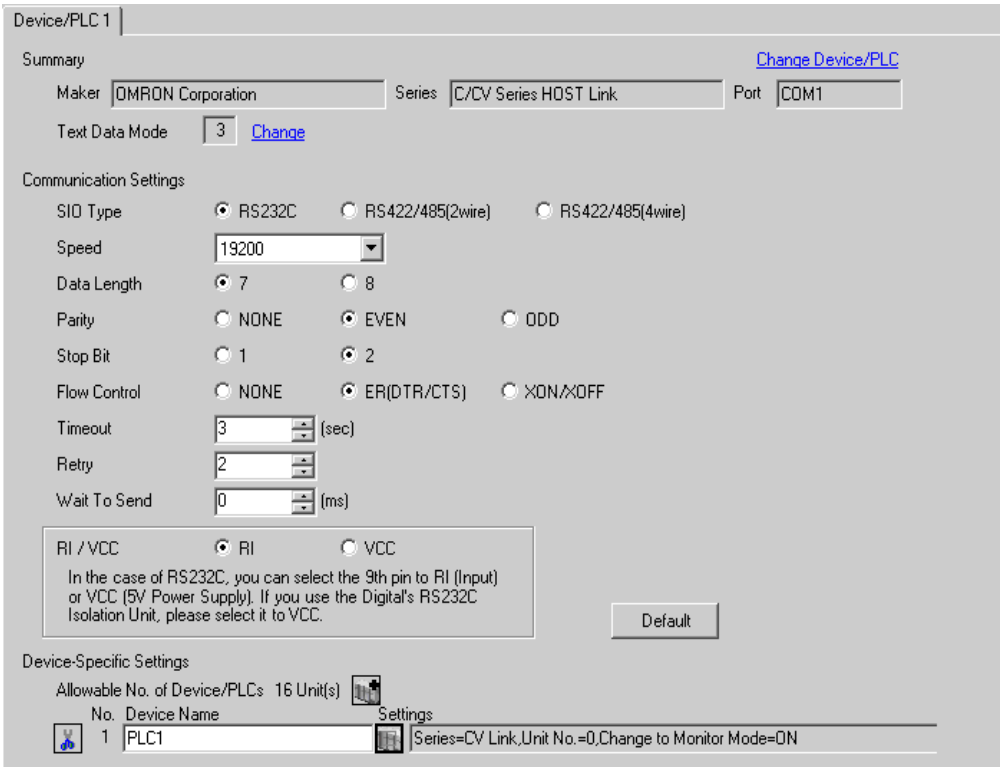
Write the data in each register and reset the External Device.

3.4 Setting Example 4

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

◆ When setting with the ladder tool

Open [PC System Setting] in the ladder tool and set the peripheral port in [Peripheral Port]. Please refer to the manual of the External Device for more details on the ladder tool.

Setup Items	Setting Value
Communication Settings	User setting
Speed	19200
Parameter	7, 2, E
Mode	HOST link
Unit No.	0 unit
Delay	0
CS Control	Enable

◆ When setting the value in the data register

Use the ladder tool or etc. and set the value as below.

Set SW5 to OFF.

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

Register	Settings	Setup Description
DM6650	0001(HEX)	Mode selection: HOST link
DM6651	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6653	0000(HEX)	HOST link, Unit No.: 0

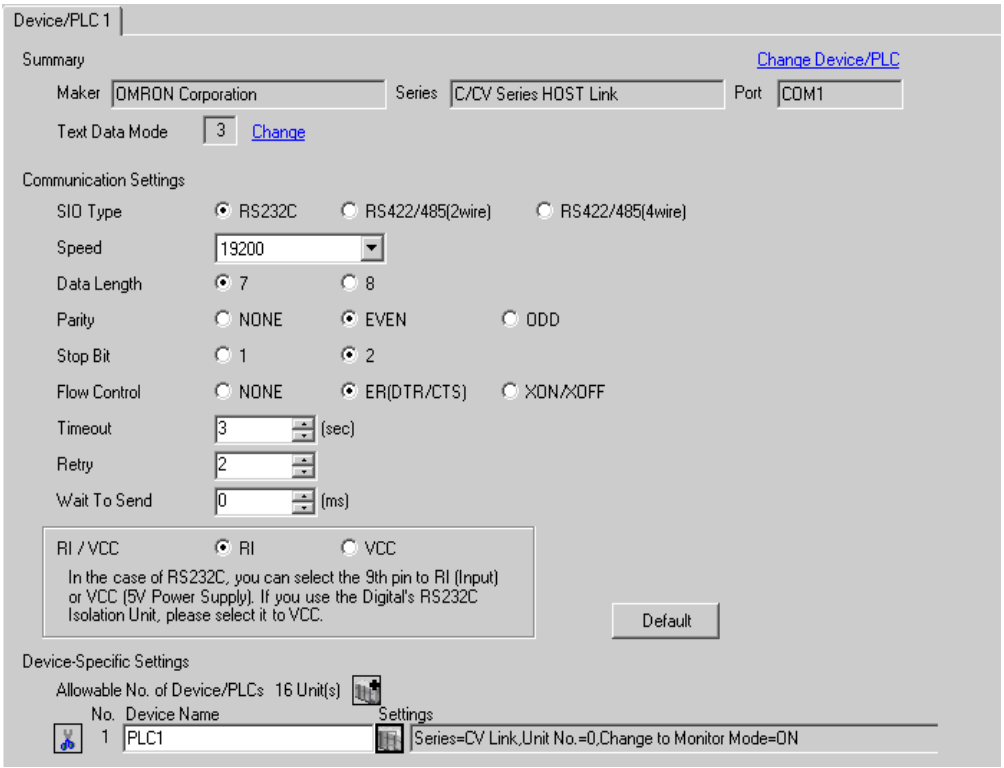
Write the data in each register and reset the External Device.

3.5 Setting Example 5

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click  ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click  from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

Set the HOST link unit attached to the External Device as below.

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

◆ C500-LK201-V1

DIP Switch 1	Settings	Setup Description
SW1	OFF	Unit No.: 0
SW2	OFF	
SW3	OFF	
SW4	OFF	
SW5	OFF	
SW6	OFF	Unused
SW7	OFF	Unused
SW8	ON	Operation

DIP Switch 2	Settings	Setup Description
SW1	OFF	Transmission speed: 19.2Kbps
SW2	OFF	
SW3	ON	
SW4	OFF	
SW5	OFF	Unused
SW6	OFF	1:N step
SW7	ON	Level 1, 2, 3 Enabled
SW8	ON	

Mode Control Switch (front of the unit): HOST link

I/O Port (rear of the unit): RS-232C

Synchronize (rear of the unit): Internal

Termination resistance (rear of the unit): None

CTS (rear of the unit): 0V

◆ C500-LK203

DIP Switch 1	Settings	Setup Description
SW1	OFF	Unit No.: 0
SW2	OFF	
SW3	OFF	
SW4	OFF	
SW5	OFF	
SW6	OFF	7-bit data length, 2 stop bits, Even
SW7	OFF	
SW8	OFF	Normal

DIP Switch 2	Settings	Setup Description
SW1	OFF	Transmission speed: 19.2Kbps
SW2	OFF	
SW3	ON	
SW4	OFF	
SW5	ON	System #0
SW6	OFF	1:N step
SW7	ON	Level 1, 2, 3 Enabled
SW8	ON	

Mode Control Switch (front of the unit): HOST link

5V supply (rear of the unit): OFF

I/O Port (rear of the unit): RS-232C

Synchronize (rear of the unit): Internal

Termination resistance (rear of the unit): None

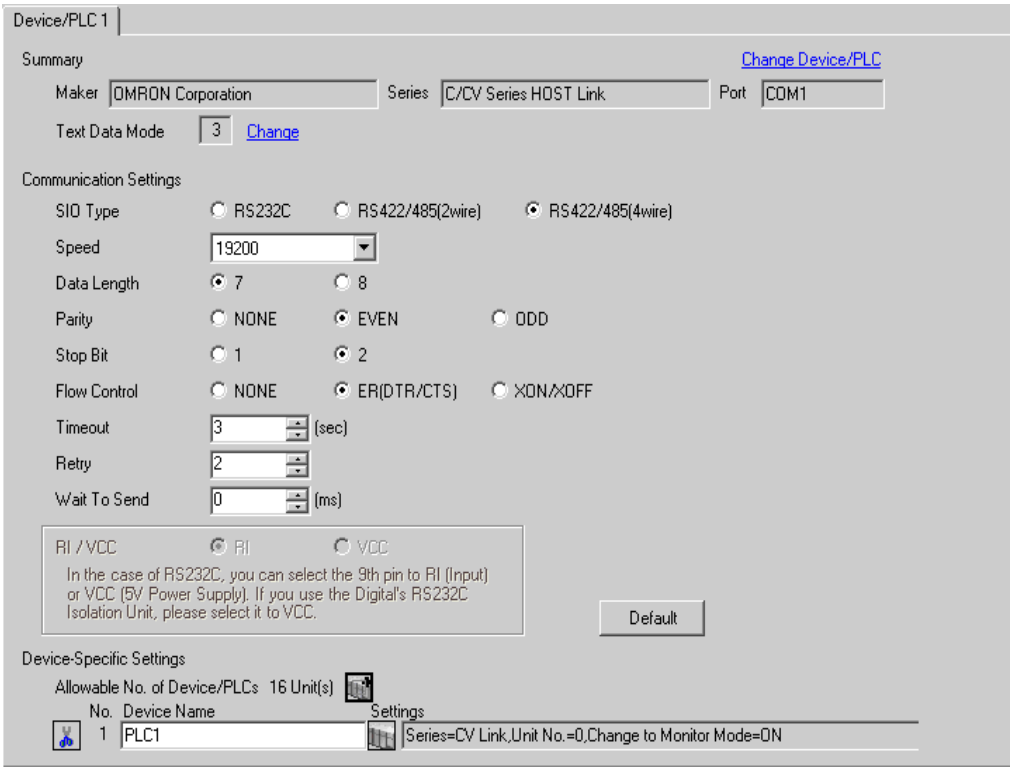
CTS (rear of the unit): 0V

3.6 Setting Example 6

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

Set the HOST link unit attached to the External Device as below.

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

◆ C500-LK201-V1

DIP Switch 1	Settings	Setup Description
SW1	OFF	Unit No.: 0
SW2	OFF	
SW3	OFF	
SW4	OFF	
SW5	OFF	
SW6	OFF	Unused
SW7	OFF	Unused
SW8	ON	Operation

DIP Switch 2	Settings	Setup Description
SW1	OFF	Transmission speed: 19.2Kbps
SW2	OFF	
SW3	ON	
SW4	OFF	
SW5	OFF	Unused
SW6	OFF	1:N step
SW7	ON	Level 1, 2, 3 Enabled
SW8	ON	

Mode Control Switch (front of the unit): HOST link

I/O Port (rear of the unit): RS-422

Synchronize (rear of the unit): Internal

Termination resistance (rear of the unit): When the External Device is located at the end of the communication connection due to system configuration, set it to [With]; in other cases, set it to [Without].

CTS (rear of the unit): 0V

◆ C500-LK203

DIP Switch 1	Settings	Setup Description
SW1	OFF	Unit No.: 0
SW2	OFF	
SW3	OFF	
SW4	OFF	
SW5	OFF	
SW6	OFF	7-bit data length, 2 stop bits, Even
SW7	OFF	
SW8	OFF	Normal

DIP Switch 2	Settings	Setup Description
SW1	OFF	Transmission speed: 19.2Kbps
SW2	OFF	
SW3	ON	
SW4	OFF	
SW5	ON	System #0
SW6	OFF	1:N step
SW7	ON	Level 1, 2, 3 Enabled
SW8	ON	

Mode Control Switch (front of the unit): HOST link

5V supply (rear of the unit): OFF

I/O Port (rear of the unit): RS-422

Synchronize (rear of the unit): Internal

Termination resistance (rear of the unit): When the External Device is located at the end of the communication connection due to system configuration, set it to [With]; in other cases, set it to [Without].

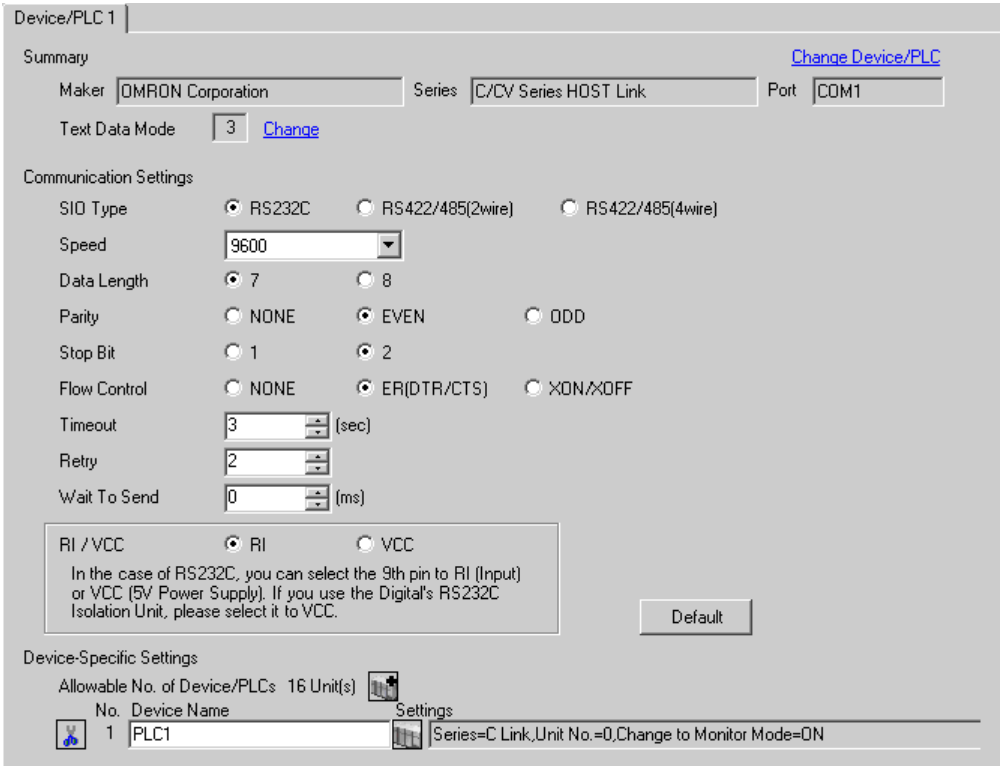
CTS (rear of the unit): 0V

3.7 Setting Example 7

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click  ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click  from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

Perform the communication in the standard settings (default).

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

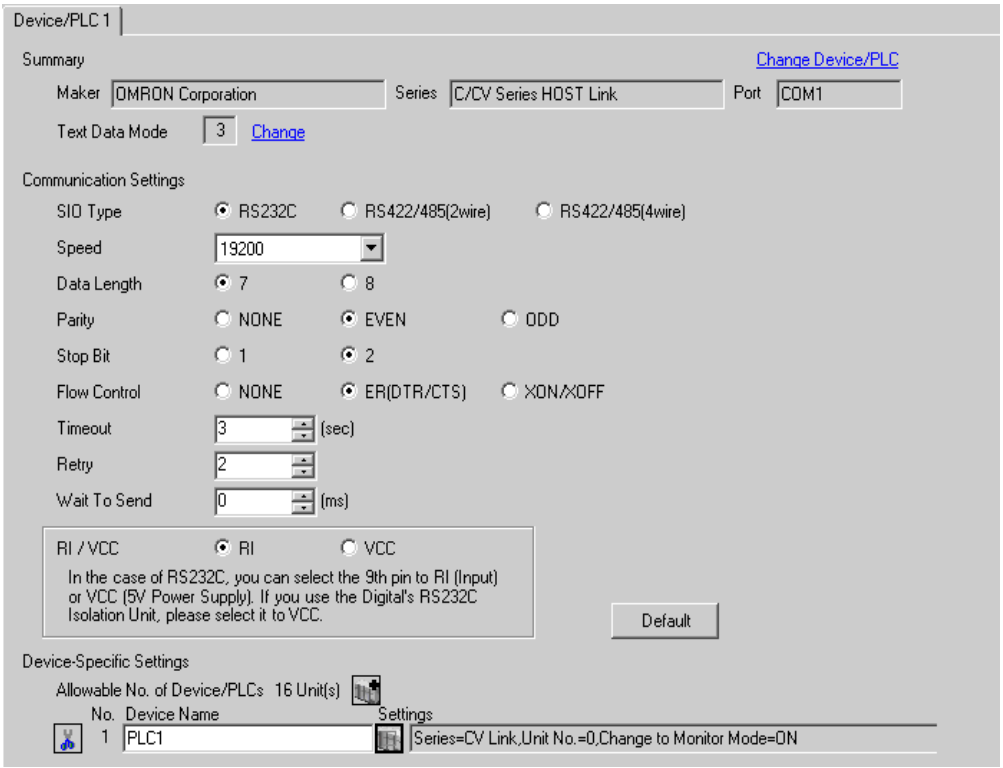
Setup Items	Setting Value
Speed	9600bps
Start Bit	1 bit
Data Length	7 bits
Stop Bit	2 bits
Parity Bit	Even
Unit No.	No.0 unit

3.8 Setting Example 8

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

Use the ladder tool etc. and set the value as below.

When connecting to CPM1 or CPM1H, set SW5 to OFF.

When connecting to CPM2C, set SW1 for "Connecting port function switch setting" to OFF, SW2 to ON. Please refer to the manual of the External Device for more details on settings.

Register	Settings	Setup Description
DM6650	0001(HEX)	Mode selection: HOST link
DM6651	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6653	0000(HEX)	HOST link, Unit No.: 0

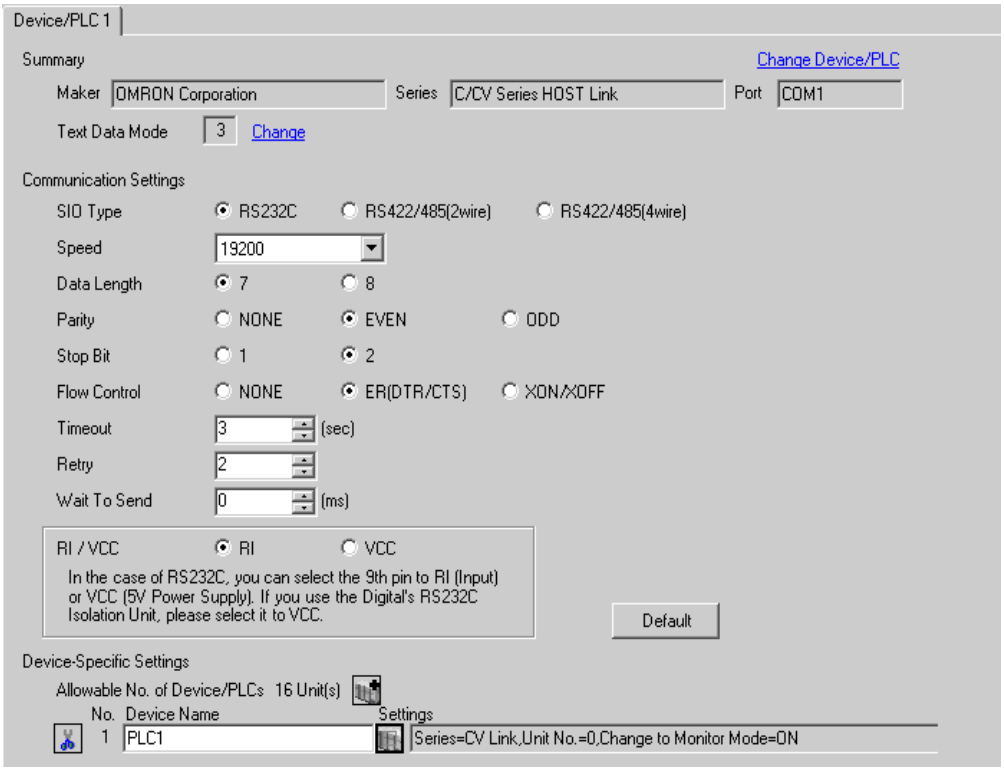
Write the data in each register and reset the External Device.

3.9 Setting Example 9

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click  ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click  from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

Use the ladder tool etc. and set the value as below.

Set SW5 to OFF.

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

Register	Settings	Setup Description
DM6645	0001(HEX)	Mode selection: HOST link
DM6646	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6648	0000(HEX)	HOST link, Unit No.: 0

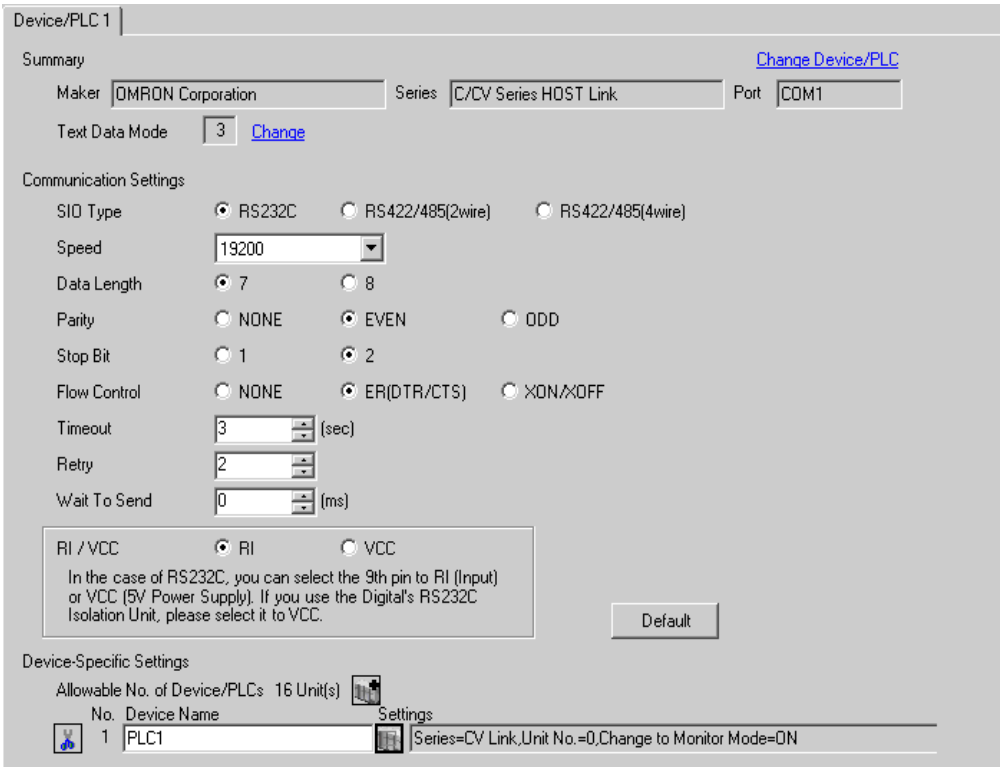
Write the data in each register and reset the External Device.

3.10 Setting Example 10

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

Use the ladder tool etc. and set the value as below.

Always set the mode setting SW on the conversion adapter to [HOST].

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

Register	Settings	Setup Description
DM6650	0001(HEX)	Mode selection: HOST link
DM6651	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6653	0000(HEX)	HOST link, Unit No.: 0

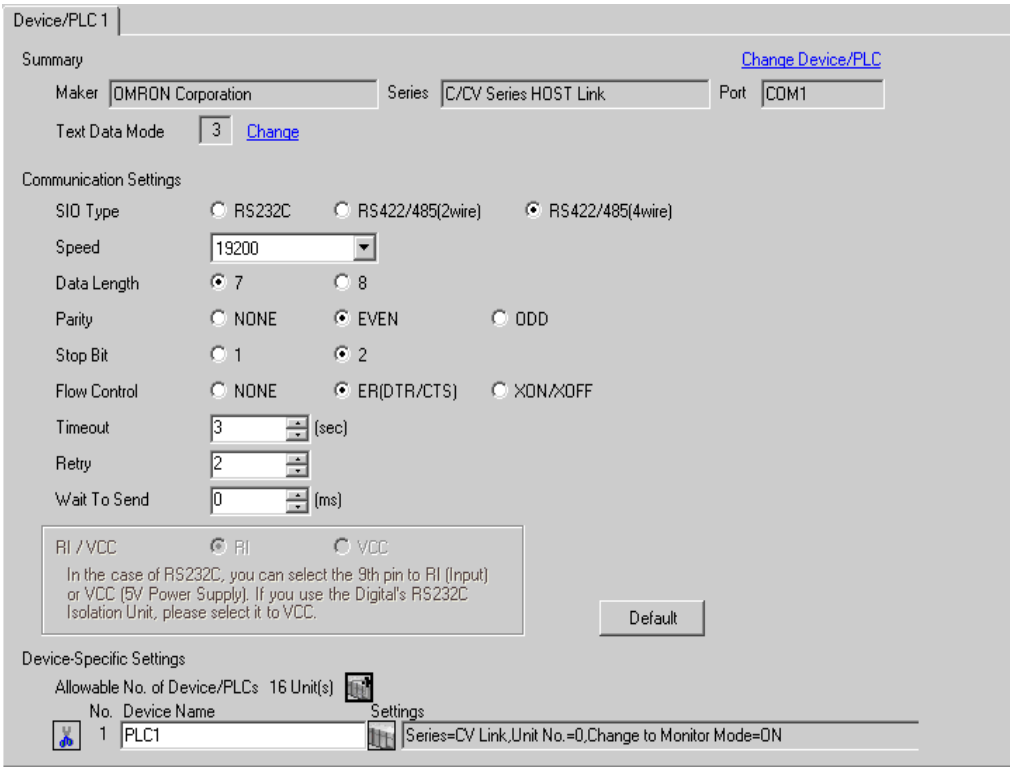
*Connect the conversion adapter to the peripheral port on the CPU.

3.11 Setting Example 11

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

Use the ladder tool or etc. and set the value as below.

Always set the mode setting SW on the conversion adapter to [HOST].

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

Register	Settings	Setup Description
DM6650	0001(HEX)	Mode selection: HOST link
DM6651	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6653	0000(HEX)	HOST link, Unit No.: 0

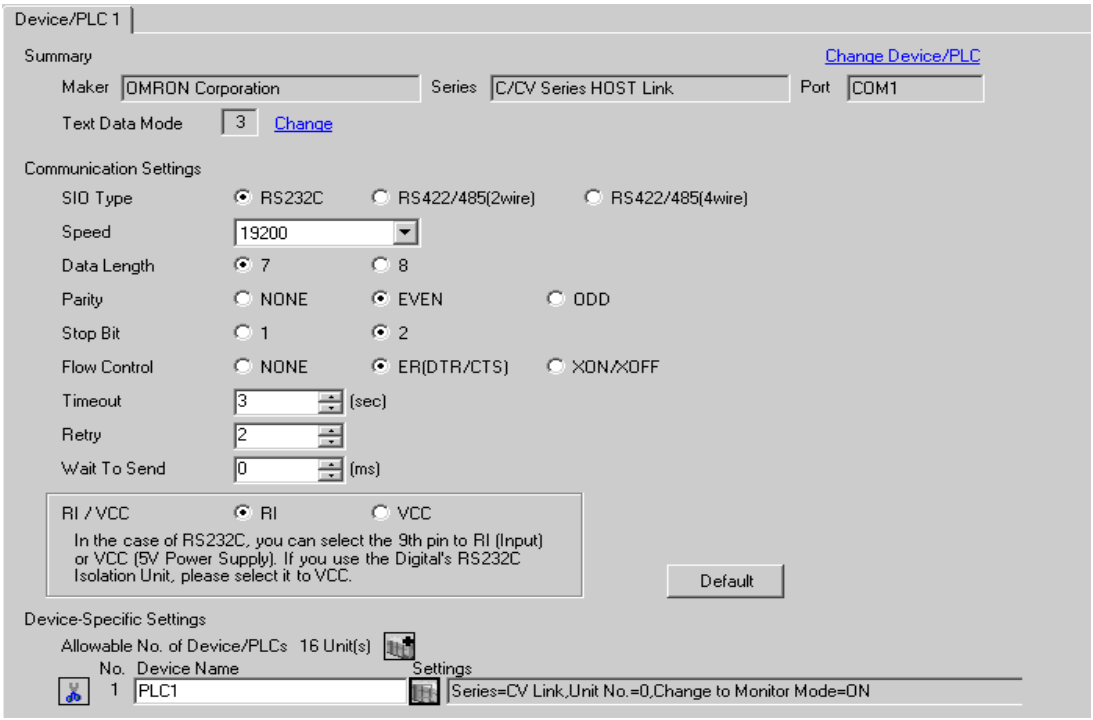
*Connect the conversion adapter to the peripheral port on the CPU.

3.12 Setting Example 12

■ Setting of GP-Pro EX

◆ Communication Settings

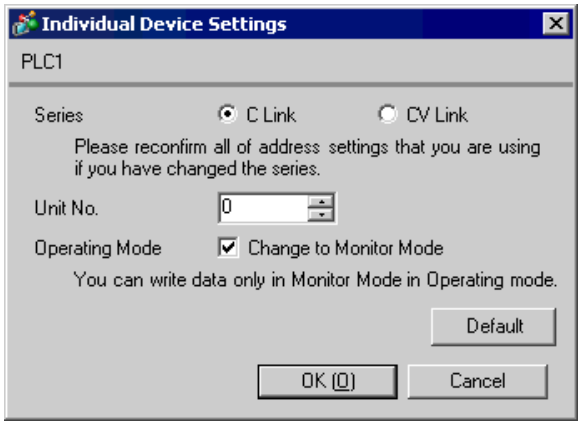
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



■ Setting of External Device

When using the peripheral port on the CPM2C-CIF01

Use the ladder tool or etc. and set the value as below.

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

Register	Settings	Setup Description
DM6650	0001(HEX)	Mode selection: HOST link
DM6651	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6653	0000(HEX)	HOST link, Unit No.: 0

Write the data in each register and reset the External Device.

Connecting Port Function Setting Switch on the Unit

DIP Switch	Settings
SW1	OFF
SW2	ON

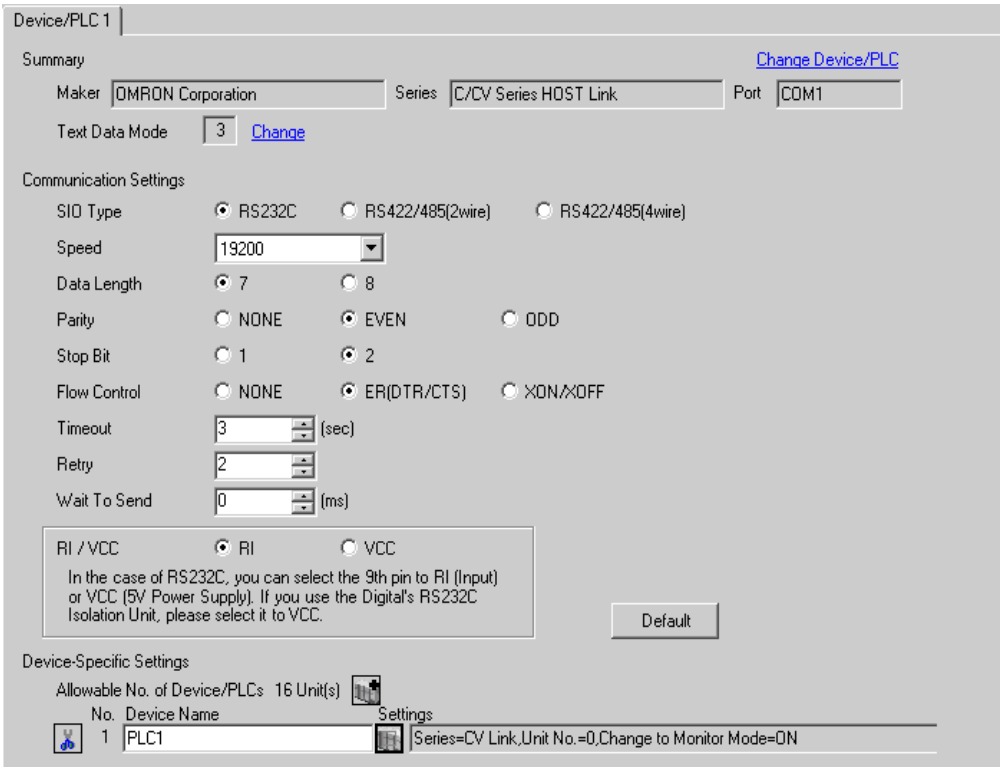
*Connect the conversion adapter to the peripheral port on the CPU.

3.13 Setting Example 13

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

When using the RS232C port on the CPM2C-CIF01

Use the ladder tool etc. and set the value as below.

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

Register	Settings	Setup Description
DM6645	0001(HEX)	Mode selection: HOST link
DM6646	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6648	0000(HEX)	HOST link, Unit No.: 0

Write the data in each register and reset the External Device.

Connecting Port Function Setting Switch on the Unit

DIP Switch	Settings
SW1	OFF
SW2	ON

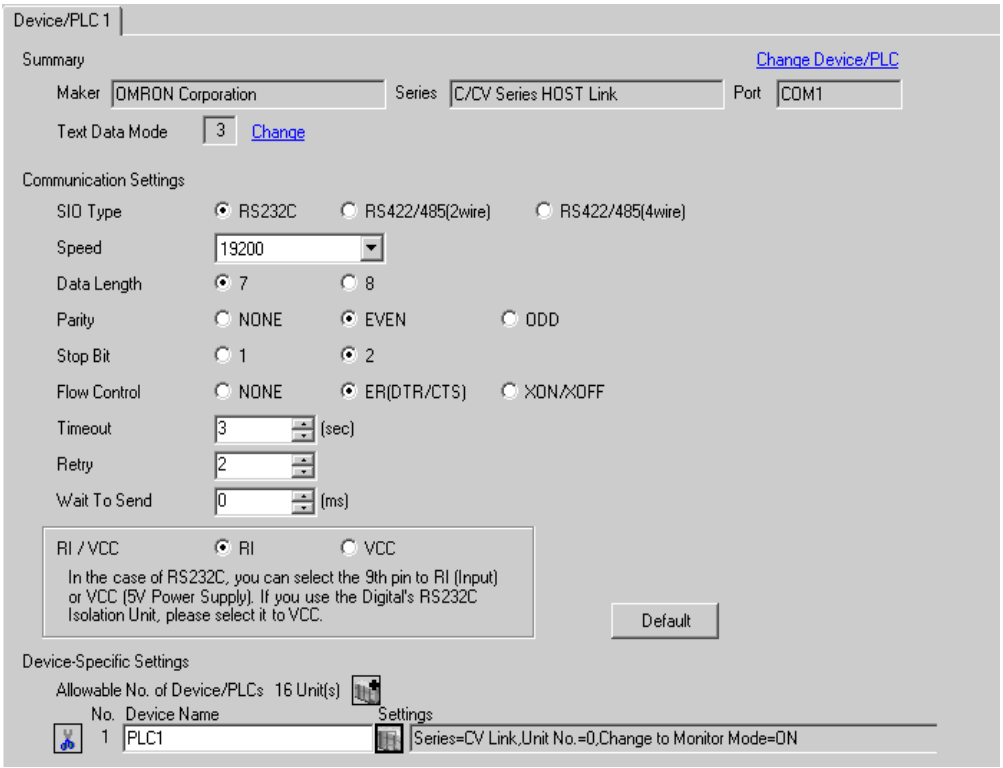
*Connect the conversion adapter to the peripheral port on the CPU.

3.14 Setting Example 14

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

When using the RS232C port on the CPM2C-CIF11

Use the ladder tool etc. and set the value as below.

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

Register	Settings	Setup Description
DM6645	0001(HEX)	Mode selection: HOST link
DM6646	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6648	0000(HEX)	HOST link, Unit No.: 0

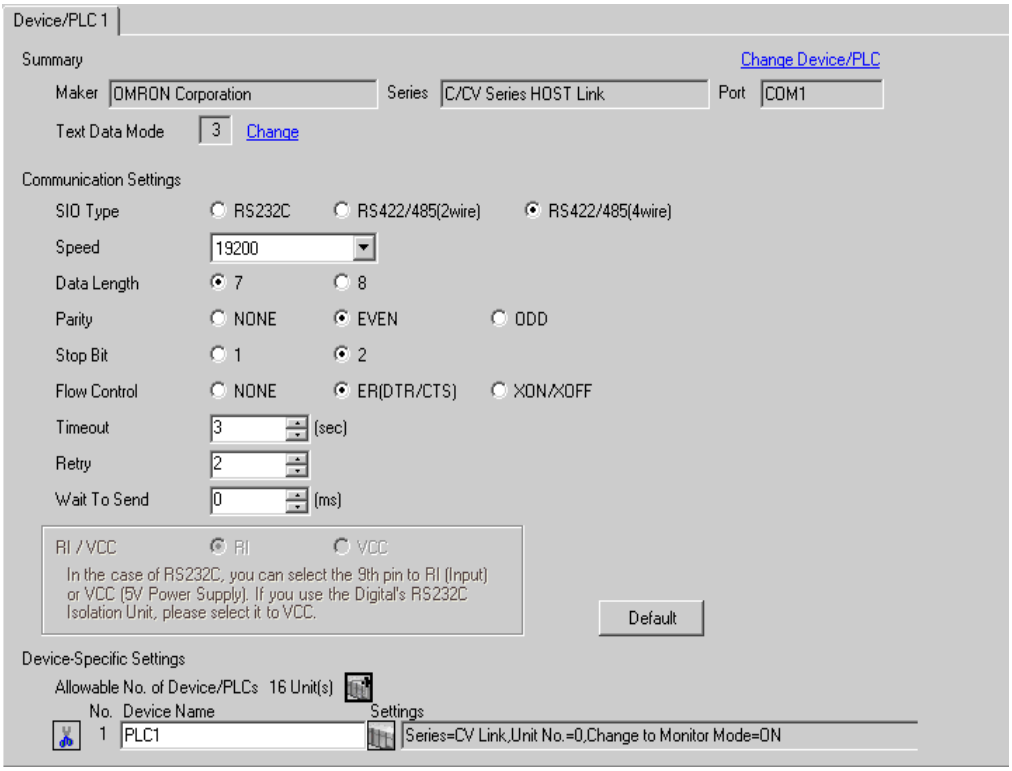
Write the data in each register and reset the External Device.

3.15 Setting Example 15

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

When using the RS232C port on the CPM2C-CIF11

Use the ladder tool etc. and set the value as below.

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

Register	Settings	Setup Description
DM6645	0001(HEX)	Mode selection: HOST link
DM6646	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6648	0000(HEX)	HOST link, Unit No.: 0

Write the data in each register and reset the External Device.

When the External Device is located at the end of the communication connection due to system configuration, set the switch to "With termination resistance connection (ON)"; in other cases, set it to "Without termination resistance connection (OFF)"

RS-485 Interface Toggle Switch

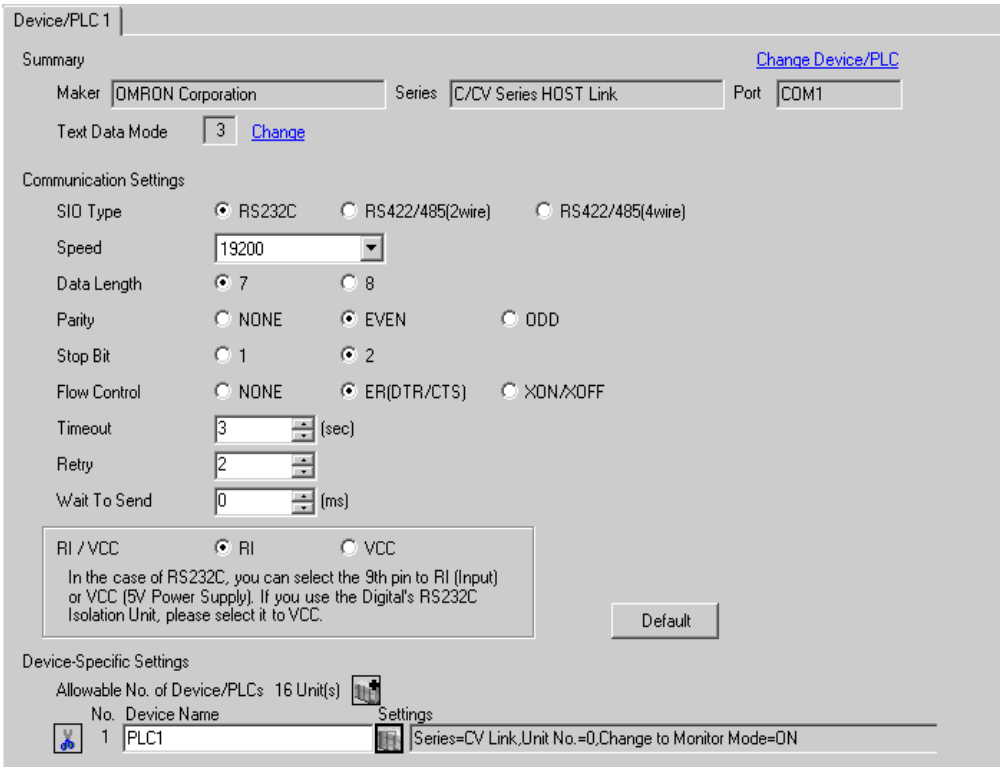
DIP Switch 2	Settings	Setup Description
SW1	OFF	4 wire communication
SW2	OFF	
SW3	OFF	RS control function of the CPU unit
SW4	ON	

3.16 Setting Example 16

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

When using RS232C on CQM1H - SCB41B

Use the ladder tool etc. and set the value as below.

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

Register	Settings	Setup Description
DM6555	0001(HEX)	Mode selection: HOST link
DM6556	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6558	0000(HEX)	HOST link, Unit No.: 0

Write the data in each register and reset the External Device.

Switch setting on the front unit

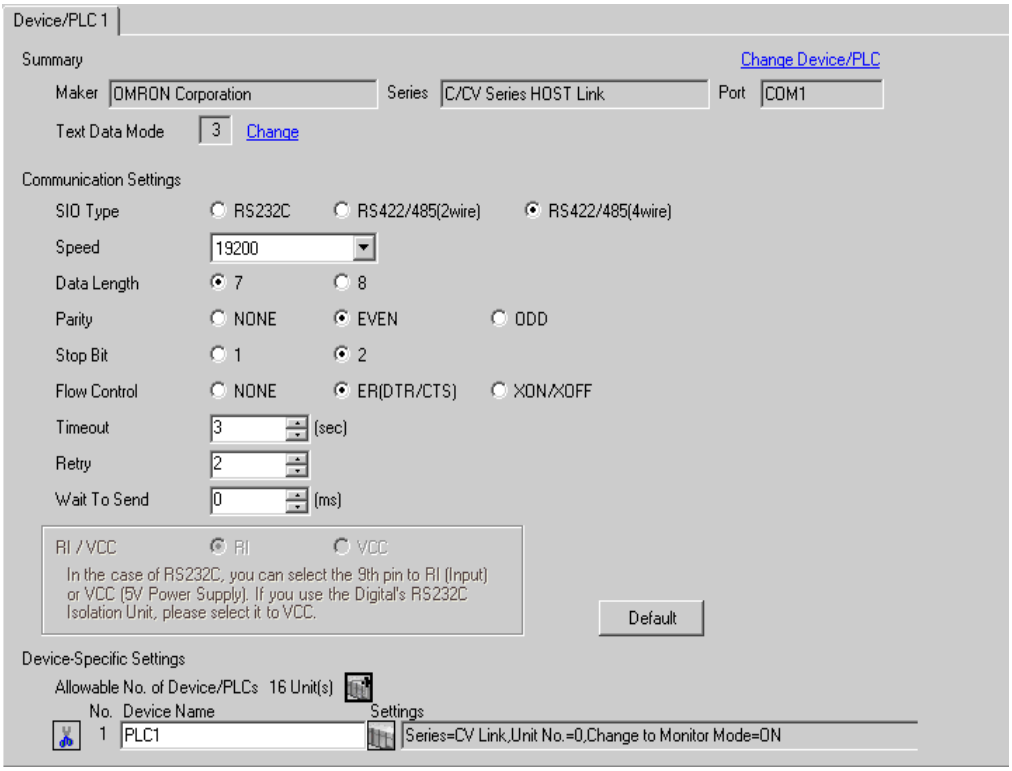
Switch	Settings
TERM	OFF
FIRE	Option

3.17 Setting Example 17

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

When using RS422/485 port on CQM1H-SCB41B

Use the ladder tool etc. and set the value as below.

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

Register	Settings	Setup Description
DM6550	0001(HEX)	Mode selection: HOST link
DM6551	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6553	0000(HEX)	HOST link, Unit No.: 0

Write the data in each register and reset the External Device.

Switch setting on the front unit

Switch	Settings
TERM	ON
FIRE	4

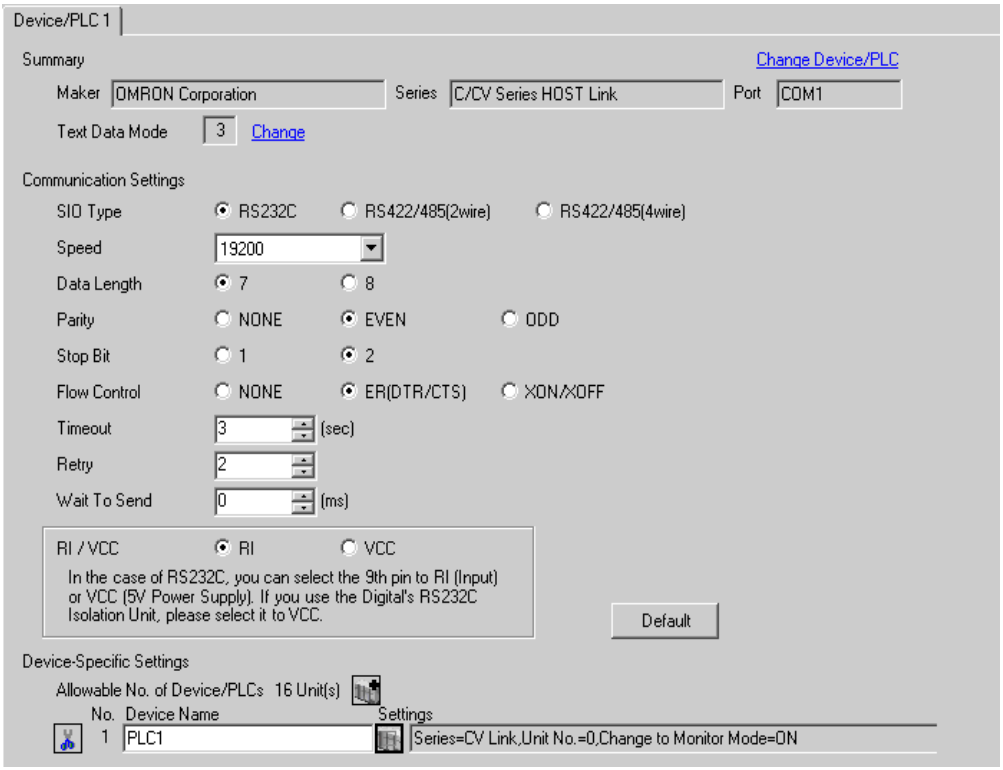
When the External Device is located at the end of the communication connection due to system configuration, set the switch to "With termination resistance connection (ON)"; in other cases, set it to "Without termination resistance connection (OFF)"

3.18 Setting Example 18

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

Use the ladder tool etc. and set the value as below.

Set SW5 to OFF.

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

Register	Settings	Setup Description
DM6645	0001(HEX)	Mode selection: HOST link
DM6646	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6648	0000(HEX)	HOST link, Unit No.: 0

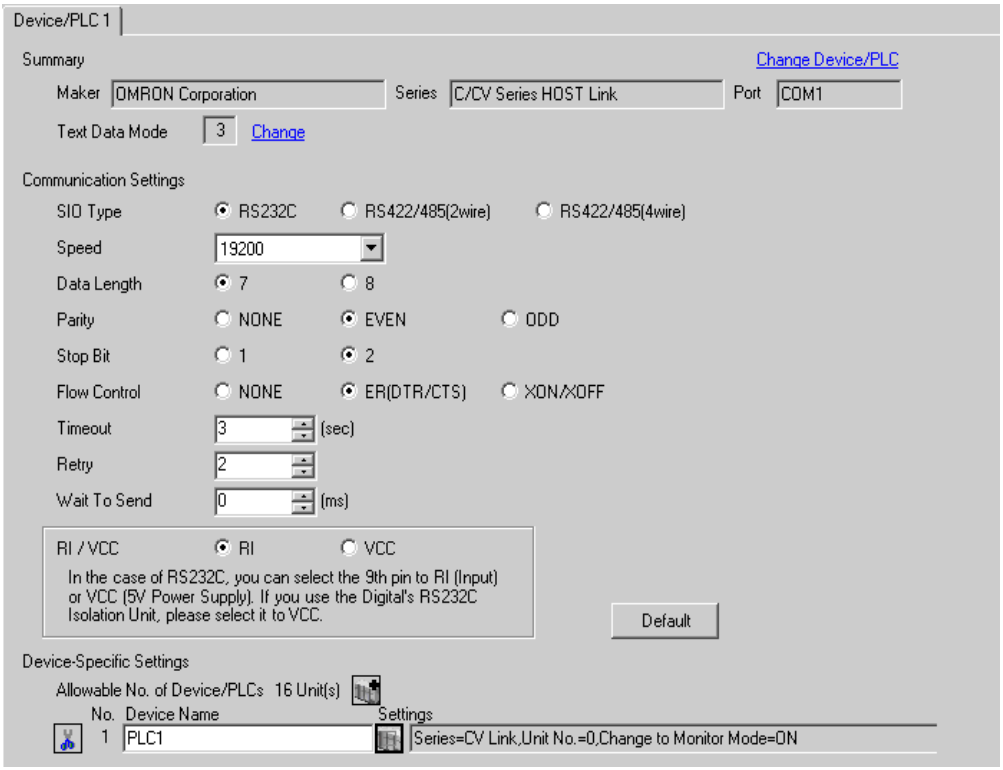
Write the data in each register and reset the External Device.

3.19 Setting Example 19

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

Use the ladder tool etc. and set the value as below.

Set SW5 to OFF.

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

◆ When using the port A

Register	Settings	Setup Description
DM6555	0001(HEX)	Mode selection: HOST link
DM6556	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6558	0000(HEX)	HOST link, Unit No.: 0

Write the data in each register and reset the External Device.

◆ When using the port B

Register	Settings	Setup Description
DM6550	0001(HEX)	Mode selection: HOST link
DM6551	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6553	0000(HEX)	HOST link, Unit No.: 0

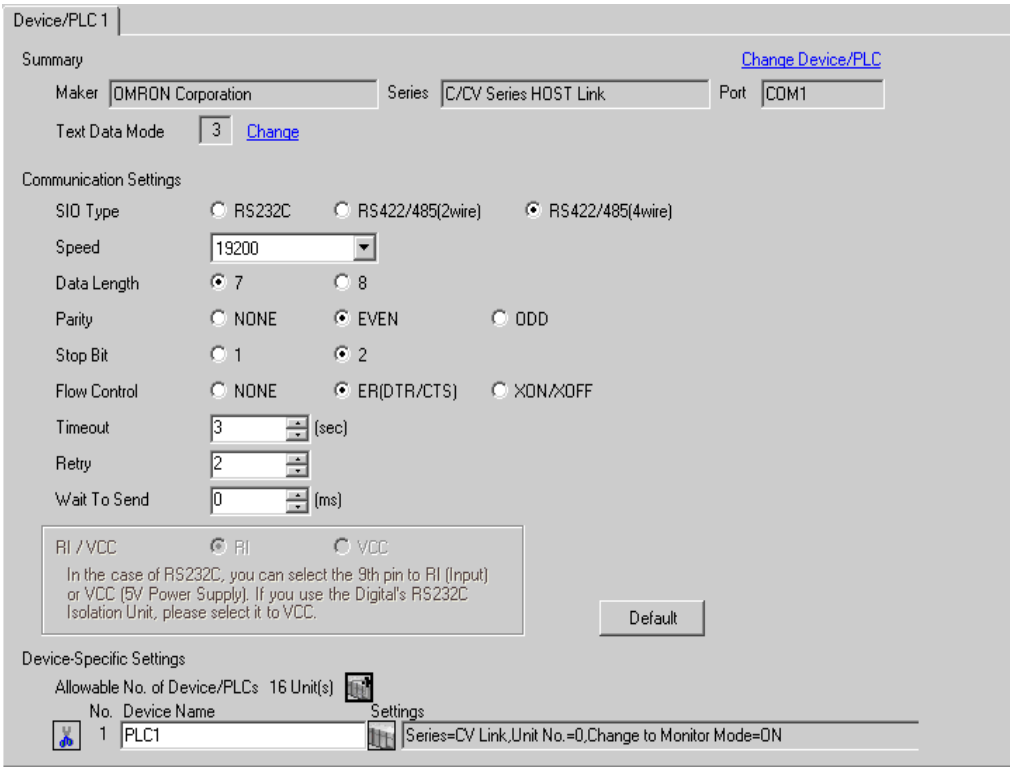
Write the data in each register and reset the External Device.

3.20 Setting Example 20

■ Setting of GP-Pro EX

◆ Communication Settings

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



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

■ Setting of External Device

Use the ladder tool etc. and set the value as below.

Set SW5 to OFF.

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

Register	Settings	Setup Description
DM6555	0001(HEX)	Mode selection: HOST link
DM6556	0304(HEX)	19200bps, 7-bit data length, 2 stop bits, Even parity
DM6558	0000(HEX)	HOST link, Unit No.: 0

Write the data in each register and reset the External Device.

Set the DIP switch on the communication board as below.

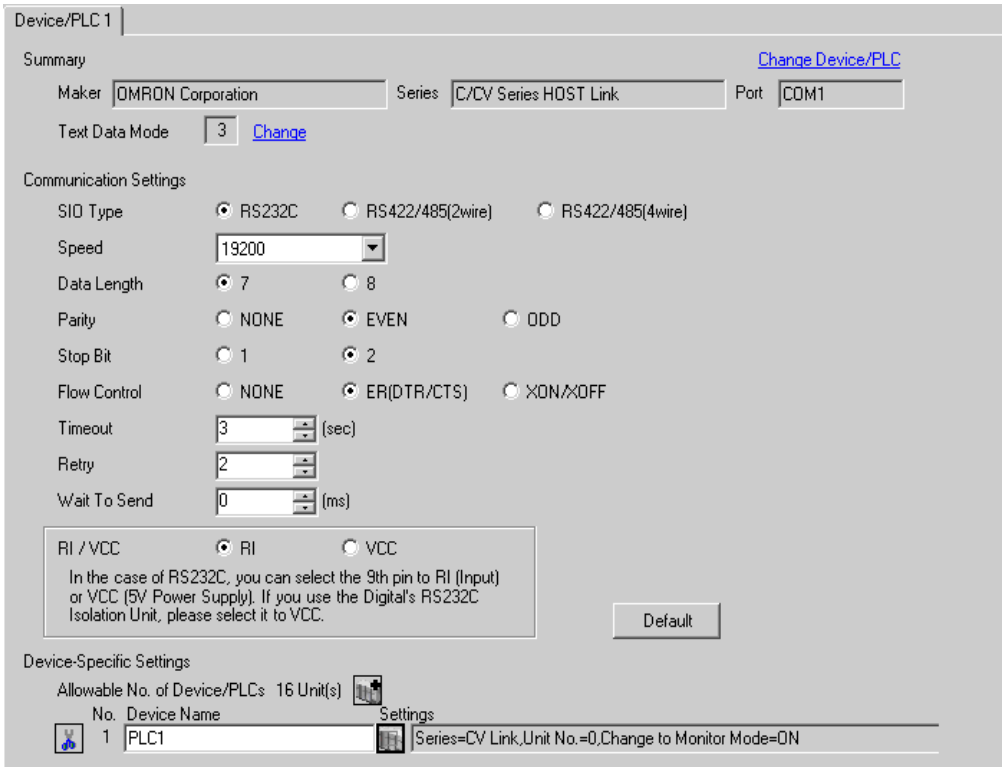
- SW1: ON
- SW2: When the External Device is located at the end of the communication connection due to system configuration, set the switch to "With termination resistance (ON)"; in other cases, set it to "Without termination resistance (OFF)".

3.21 Setting Example 21

■ Setting of GP-Pro EX

◆ Communication Settings

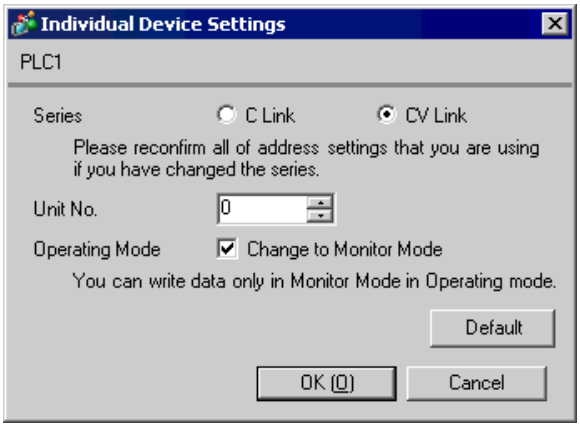
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click  ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click  from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



■ Setting of External Device

When using the port 1 (RS232C)

Rotary Switch*1	Settings	Setup Description
SW3	0	Unit No.: 0
SW4	0	

*1 SW1 and SW2 settings have no relations with the communication of the Display.

	Settings	Setup Description
5V Output Setting SW	Lower	Not supply

	Settings	Setup Description
Termination resistance SW	Lower	Termination resistance: Without

DIP Switch	Settings	Setup Description
SW1	OFF	9600bps, 7-bit data length, 2 stop bits, Even parity*1
SW2	ON	Port 1: Always CTS signal ON
SW3	ON	Port 2: Always CTS signal ON
SW4	OFF	Reserved: Always OFF
SW5	OFF	Wrap communication test: Execute normal operation.
SW6	OFF	Unused

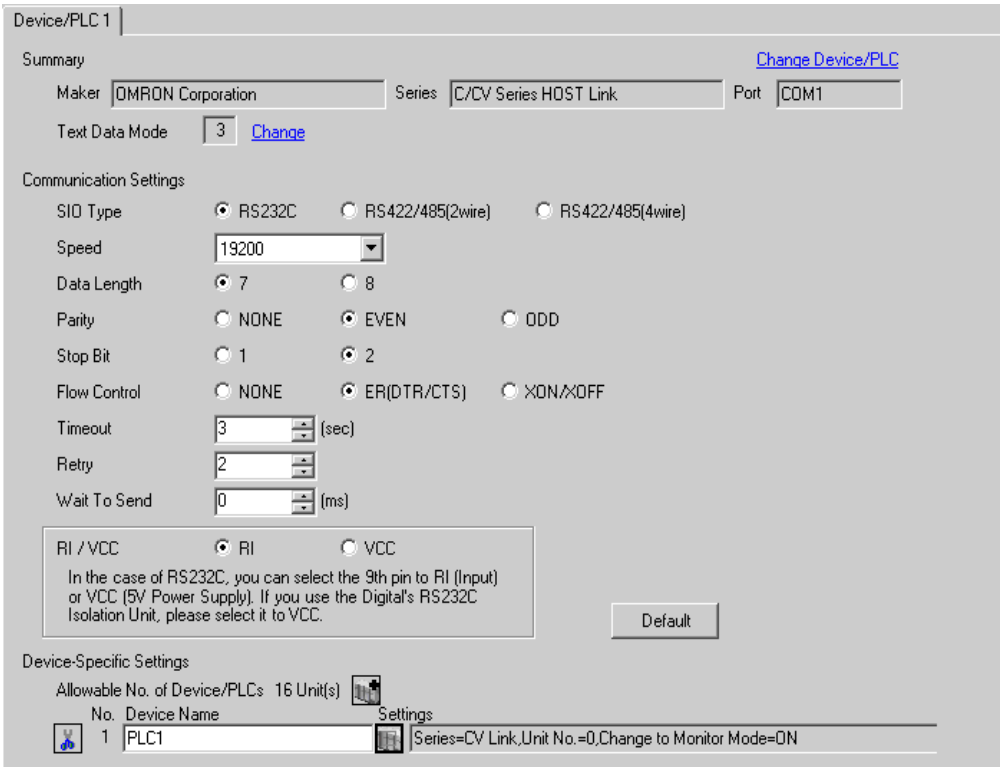
*1 Use the ladder software etc. to change the transmission speed to 19200bps.

3.22 Setting Example 22

■ Setting of GP-Pro EX

◆ Communication Settings

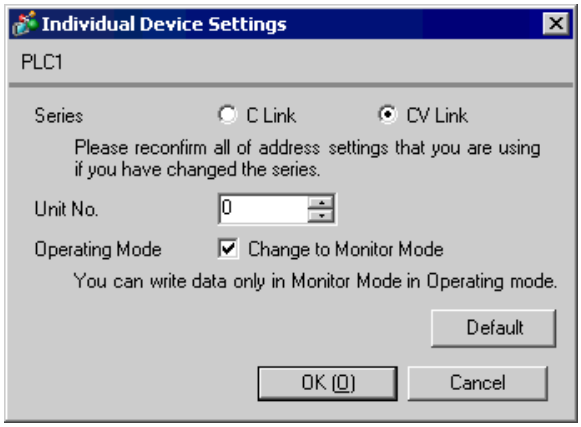
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



■ Setting of External Device

When using the port 2 (RS232C)

Rotary Switch[*1]	Settings	Setup Description
SW3	0	Unit No.: 0
SW4	0	

*1 SW1 and SW2 settings have no relations with the communication of the Display.

	Settings	Setup Description
5V Output Setting SW	Lower	Not supply

	Settings	Setup Description
Channel toggle SW	Lower	RS232C

	Settings	Setup Description
Termination resistance SW	Lower	Termination resistance: Without

DIP Switch	Settings	Setup Description
SW1	OFF	9600bps, 7-bit data length, 2 stop bits, Even parity[*1]
SW2	ON	Port 1: Always CTS signal ON
SW3	ON	Port 2: Always CTS signal ON
SW4	OFF	Reserved: Always OFF
SW5	OFF	Wrap communication test: Execute normal operation.
SW6	OFF	Unused

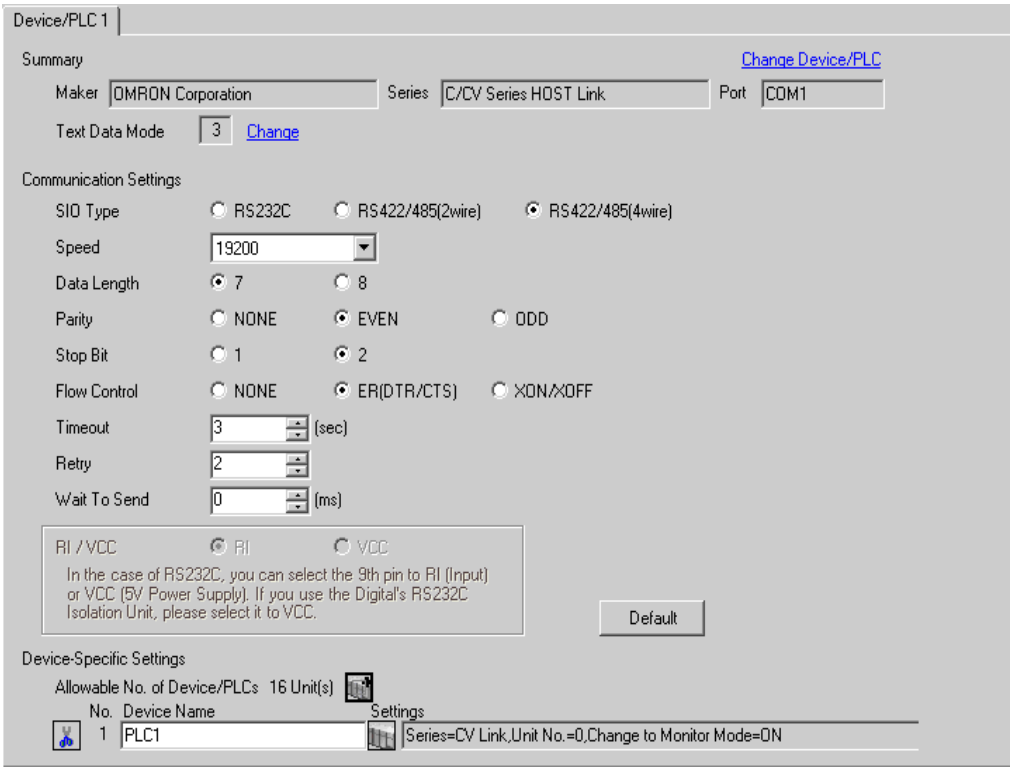
*1 Use the ladder software etc. to change the transmission speed to 19200bps.

3.23 Setting Example 23

■ Setting of GP-Pro EX

◆ Communication Settings

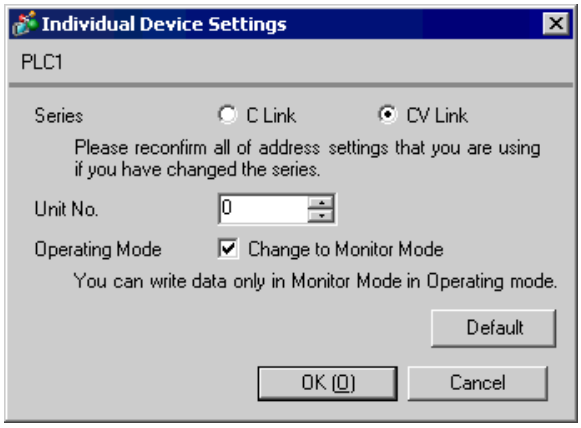
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click [Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



■ Setting of External Device

When using the port 2 (RS422)

Rotary Switch*1	Settings	Setup Description
SW3	0	Unit No.: 0
SW4	0	

*1 SW1 and SW2 settings have no relations with the communication of the Display.

	Settings	Setup Description
5V Output Setting SW	Lower	Not supply

	Settings	Setup Description
Channel toggle SW	Upper	RS422

	Settings	Setup Description
Termination resistance SW	Upper	Termination resistance: With*1

*1 Set to ON the termination resistance selection switch of only the unit which is located at the end of the system.

DIP Switch	Settings	Setup Description
SW1	OFF	9600bps, 7-bit data length, 2 stop bits, Even parity*1
SW2	ON	Port 1: Always CTS signal ON
SW3	ON	Port 2: Always CTS signal ON
SW4	OFF	Reserved: Always OFF
SW5	OFF	Wrap communication test: Execute normal operation.
SW6	OFF	Unused

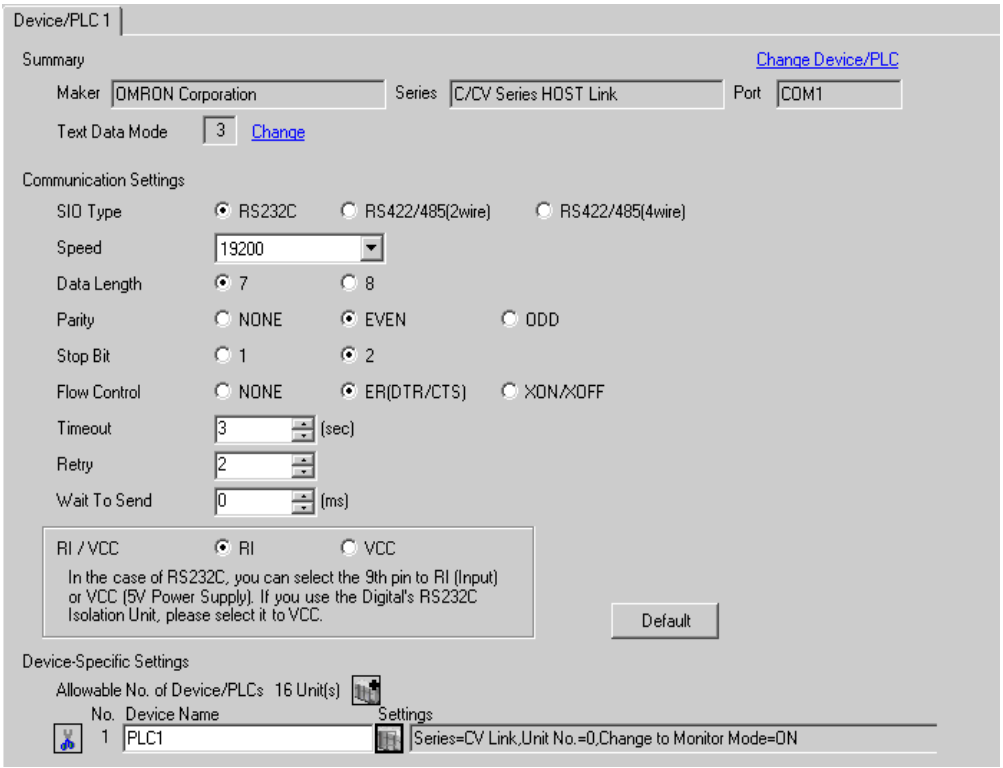
*1 Use the ladder software etc. to change the transmission speed to 19200bps.

3.24 Setting Example 24

■ Setting of GP-Pro EX

◆ Communication Settings

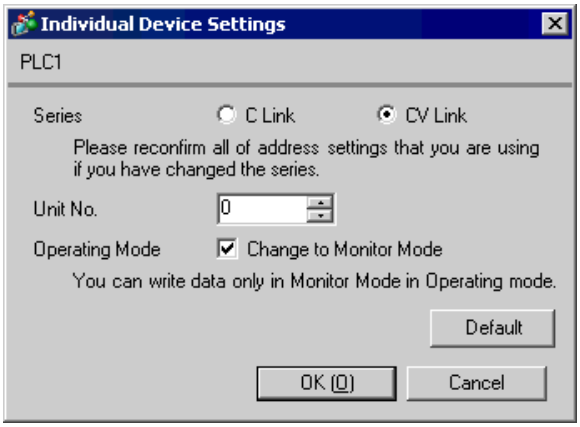
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



■ Setting of External Device

When connecting the RS232C port

	Settings	Setup Description
Communication Setting Toggle SW	Upper	RS232C SIO Type

DIP Switch*1	Settings	Setup Description
SW4	OFF	19200bps, 7-bit data length, 2 stop bits, Even parity, Unit No.: 0
SW6	OFF	Termination resistance: Without

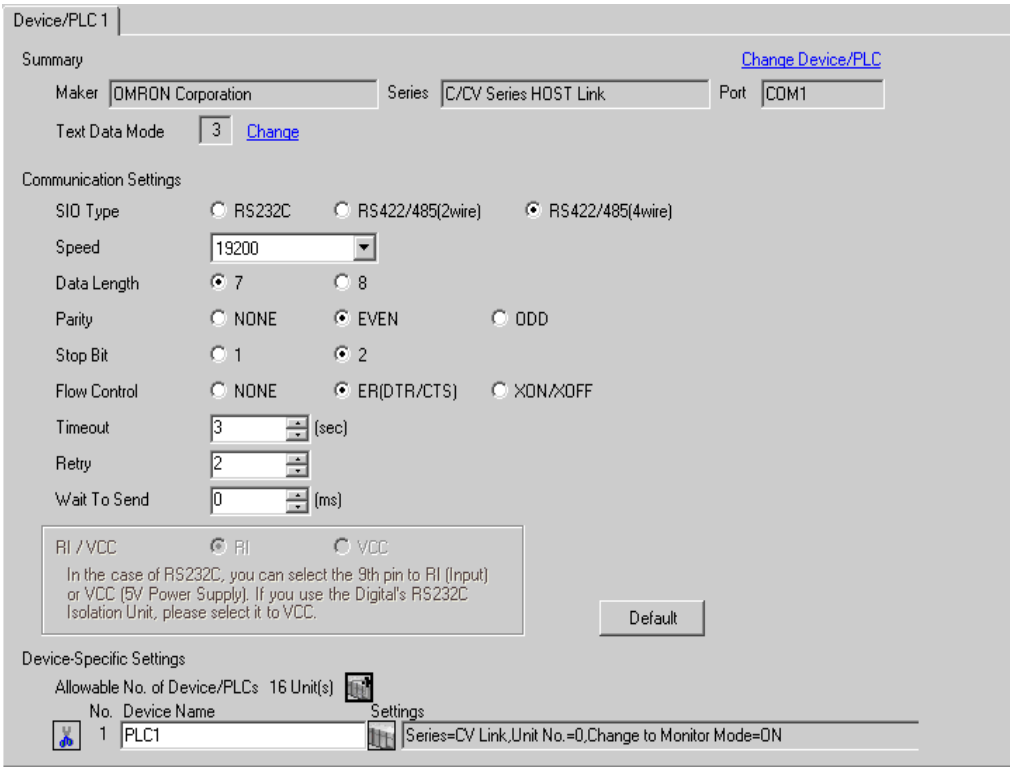
*1 Other DIP SW settings have no relations with the communication with GP.

3.25 Setting Example 25

■ Setting of GP-Pro EX

◆ Communication Settings

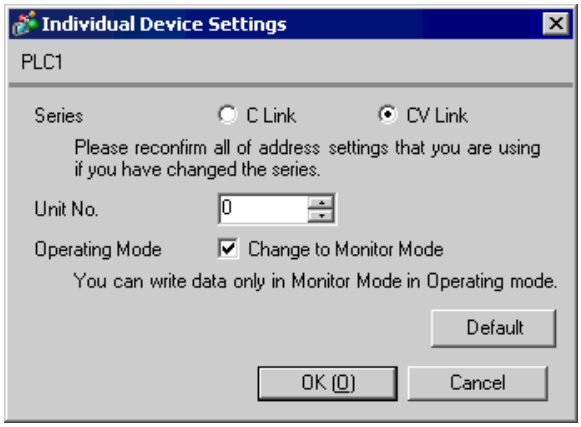
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ Device Setting

To display the setting screen, click ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



■ Setting of External Device

When connecting the RS422 port

	Settings	Setup Description
Communication Setting Toggle SW	Lower	RS422 SIO Type

DIP Switch*1	Settings	Setup Description
SW4	OFF	19200bps, 7-bit data length, 2 stop bits, Even parity, Unit No.: 0
SW6	ON	Termination resistance: With*2

*1 Other DIP SW settings have no relations with the communication with GP.

*2 Set to ON the termination resistance selection switch of only the unit which is located at the end of the system.

4 Setup Items

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

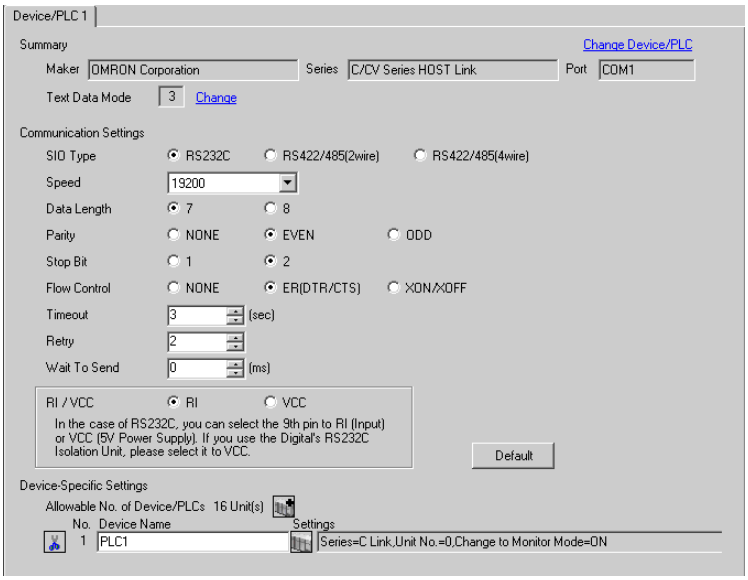
The setting of each parameter must be identical to that of External Device.

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

4.1 Setup Items in GP-Pro EX

■ Communication Settings

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

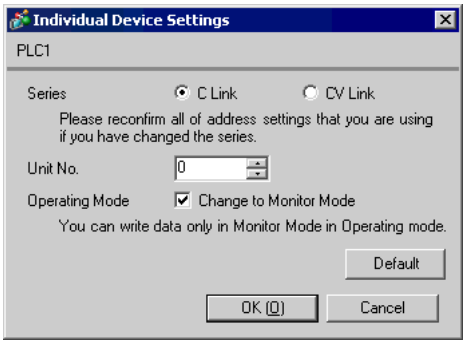


Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device.
Speed	Select speed between the External Device and the Display.
Data Length	Select data length.
Parity	Select how to check parity.
Stop Bit	Select stop bit length.
Flow Control	Select the communication 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.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.
RI/VCC	You can switch RI/VCC of the 9th pin when you select RS232C for SIO type.

■ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When [Allowable No. of Device/PLCs] is multiple, you can click from [Device-Specific Settings] of [Device/PLC Settings] to add the External Device which is available to set.



Setup Items	Setup Description
Series	Select the model of the External Device to be connected.
Unit No.	Set the unit No. of the External Device.
Operating Mode	Set the change to the monitor mode whether enable or disable.

⚠CAUTION

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

4.2 Setup Items in Off-Line Mode

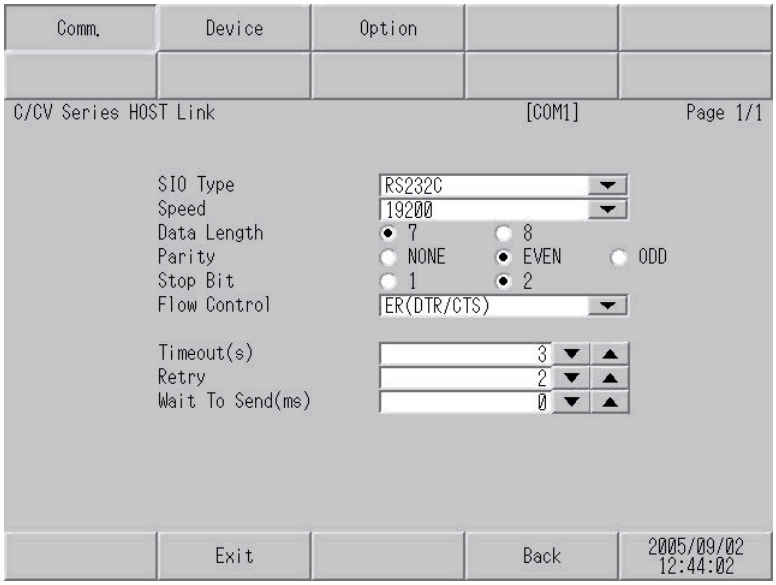
NOTE

- Please refer to GP3000 Series User Manual for more information on how to enter off-line mode or about operation.

  Cf. GP3000 Series User Manual "Chapter 4 Setting"

■ Communication Settings

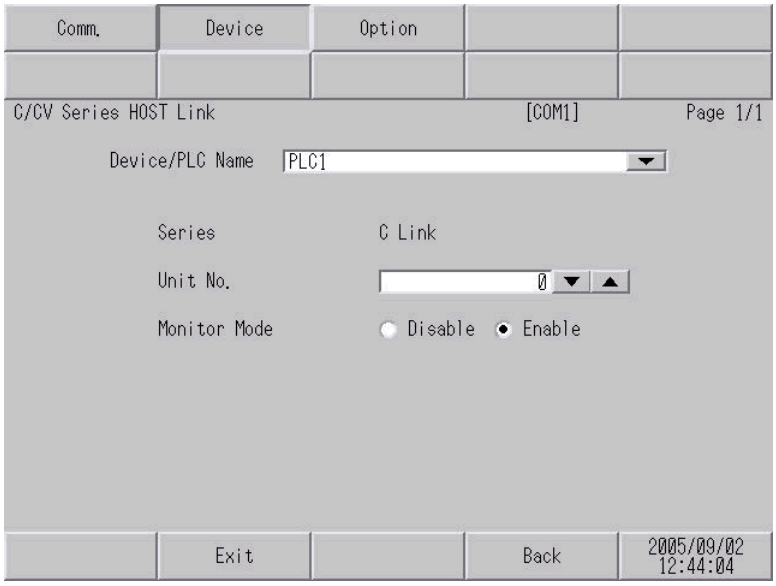
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings] in the off-line mode. Touch the External Device you want to set from the displayed list, and touch [Communication Settings].



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.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.

■ Device Setting

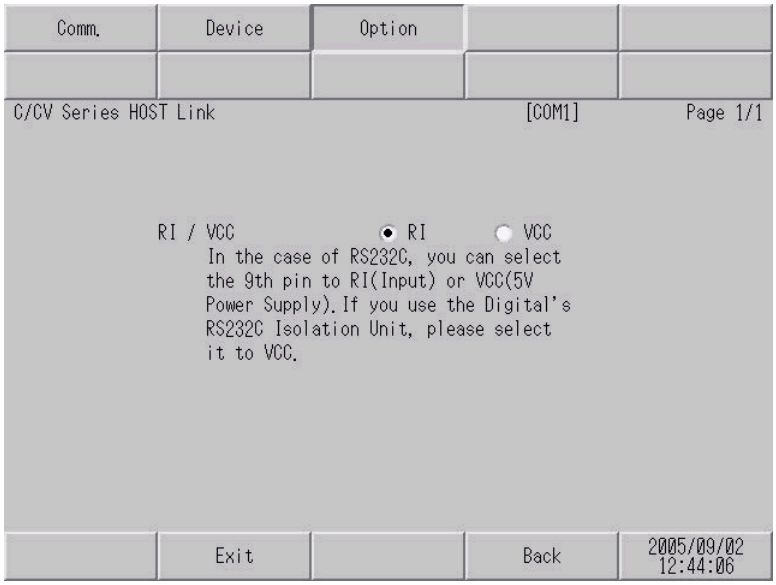
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings]. Touch the External Device you want to set from the displayed list, and touch [Device Settings].



Setup Items	Setup Description
Device/PLC Name	Select the External Device to set. Device/PLC name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1])
Series	Select the model of the External Device to be connected.
Unit No.	Set the unit No. of the External Device.
Monitor Mode	Set the change to the monitor mode whether enable or disable.

■ 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.

5 Cable Diagram

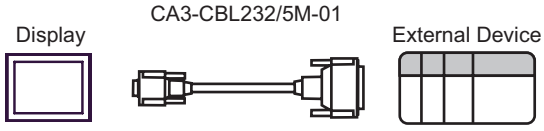
The cable diagram shown below may be different from the cable diagram recommended by OMRON Corporation. Please be assured there is no operational problem in applying the cable diagram shown in this manual.

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

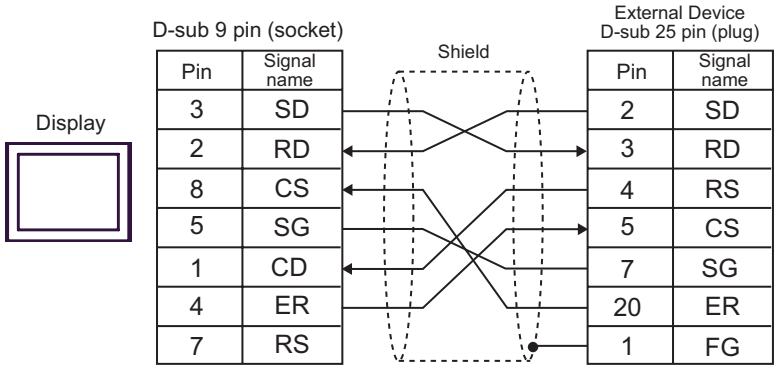
Cable Diagram 1

Display	Cable		Remarks
AGP3000 Series (COM1)	A	RS232C cable by Pro-face CA3-CBL232/5M-01	
	B	Your own cable	Cable length: 15m or less

A) When using the RS232C cable by Pro-face (CA-3CBL232/5M-01)



B) When using your own cable



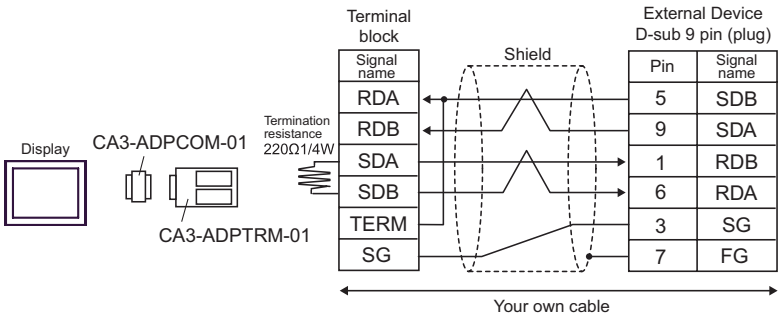
Cable Diagram 2

Display		Cable	Remarks
GP*1 (COM1) AGP3302 (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	B	Your own cable	
GP*1 (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

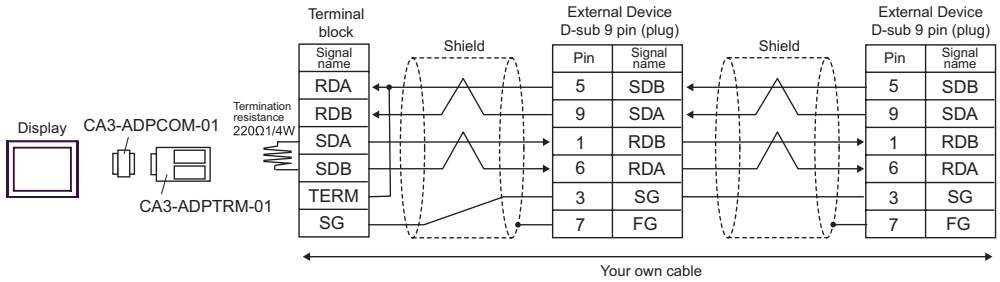
*1 Except AGP-3302 Series

A) When using the COM port conversion adapter (CA3-ADPCOM-01) , the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

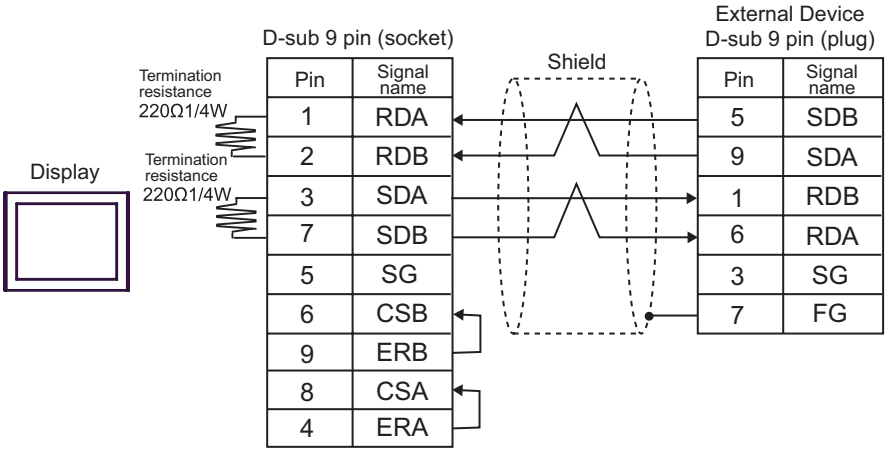


- 1:n Connection

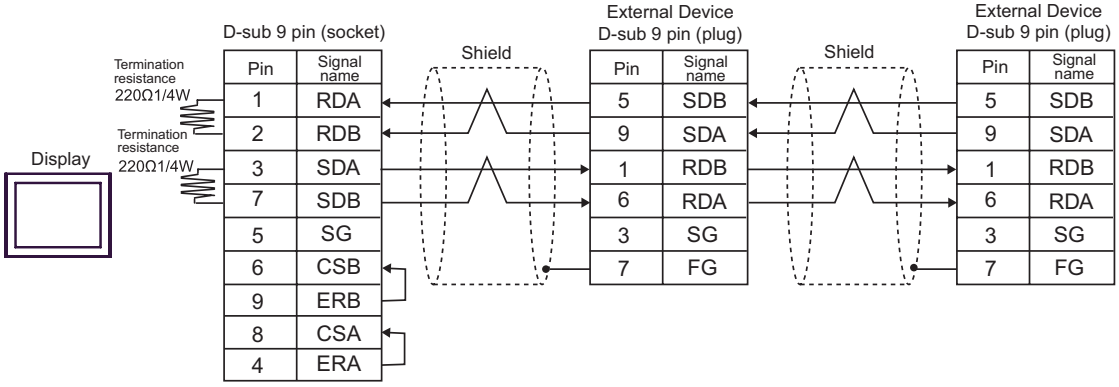


B) When using your own cable

- 1:1 Connection

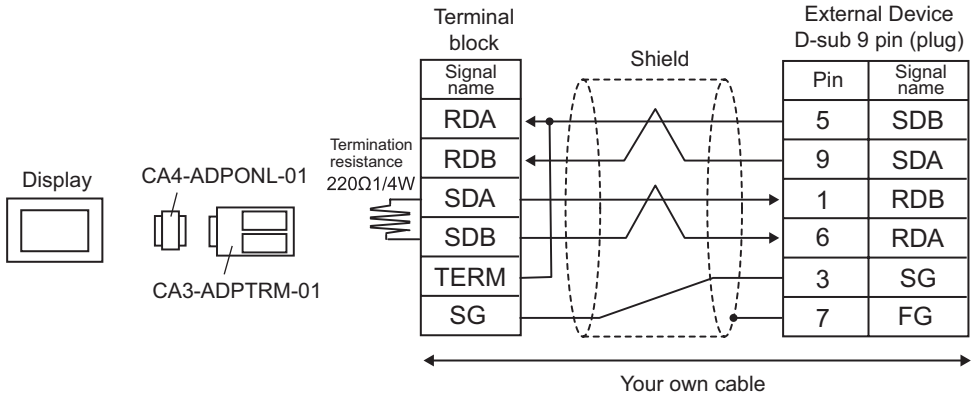


- 1:n Connection

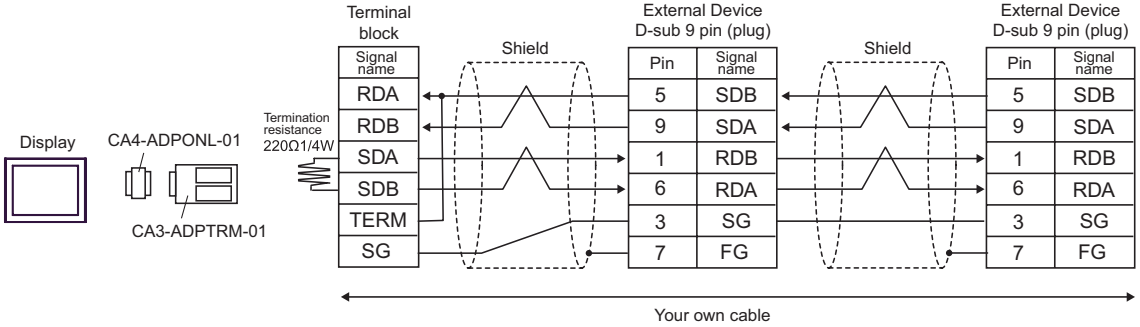


C) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

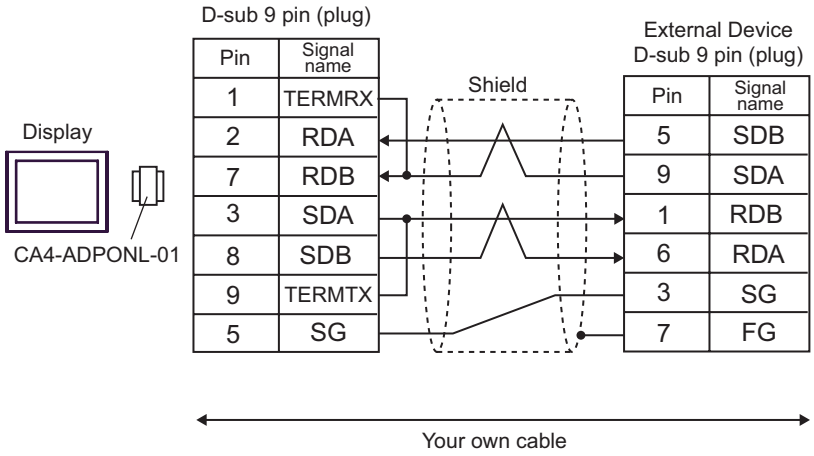


- 1:n Connection

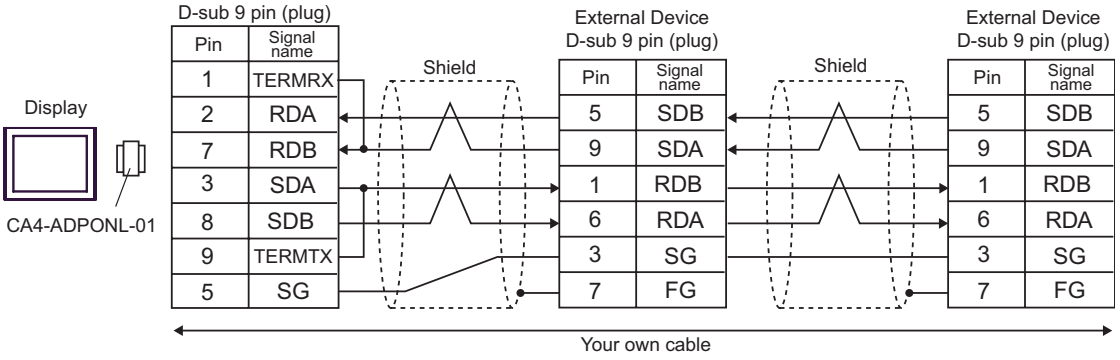


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection



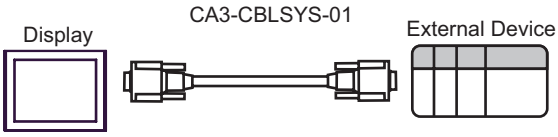
- 1:n Connection



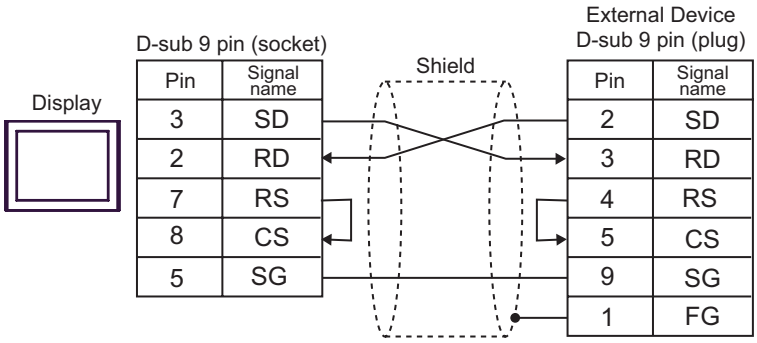
Cable Diagram 3

Display	Cable		Remarks
GP (COM1)	A	OMRON SYSMAC link cable by Pro-face CA3-CBLSYS-01	
	B	Your own cable	The cable length must be 15m or less.

A) When using OMRON SYSMAC link cable (CA3-CBLSYS-01) by Pro-face

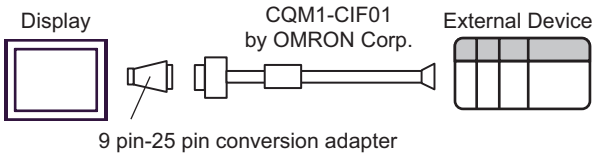


B) When using your own cable



Cable Diagram 4

Display	Cable	Remarks
GP (COM1)	Isolation cable by OMRON Corporation CQM1-CIF01	Commercial 9 pin-25 pin conversion adapter is required.



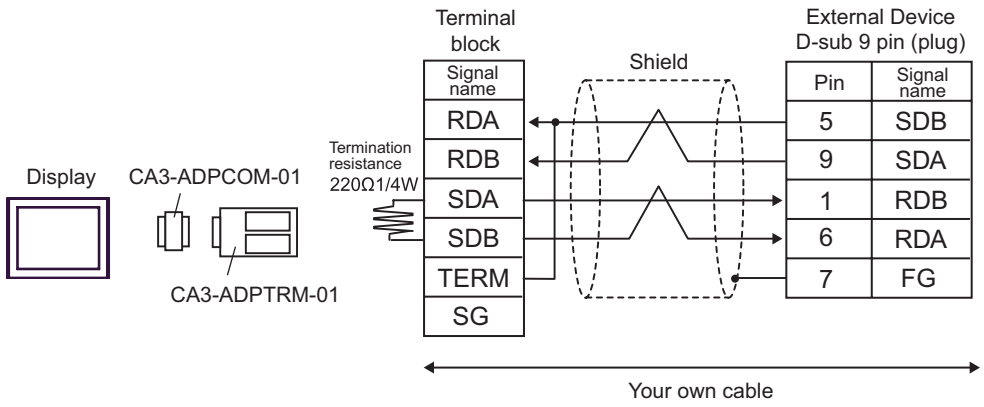
Cable Diagram 5

Display	Cable		Remarks
GP*1 (COM1) AGP-3302 (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	B	Your own cable	
GP*1 (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

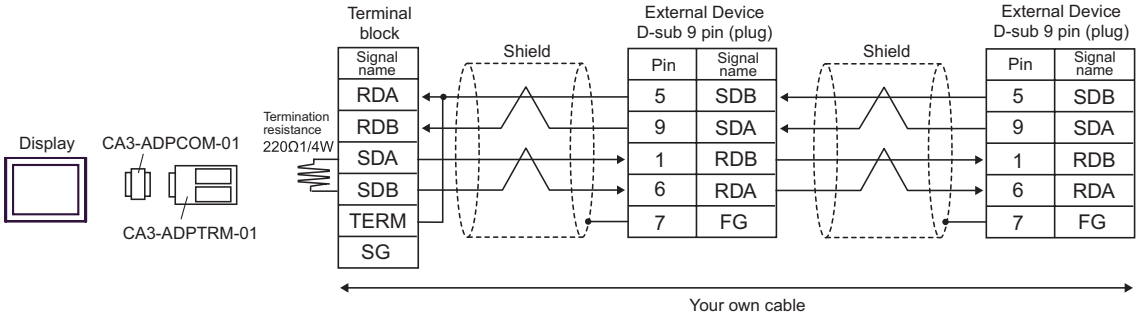
*1 All GP models except AGP-3302 Series

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

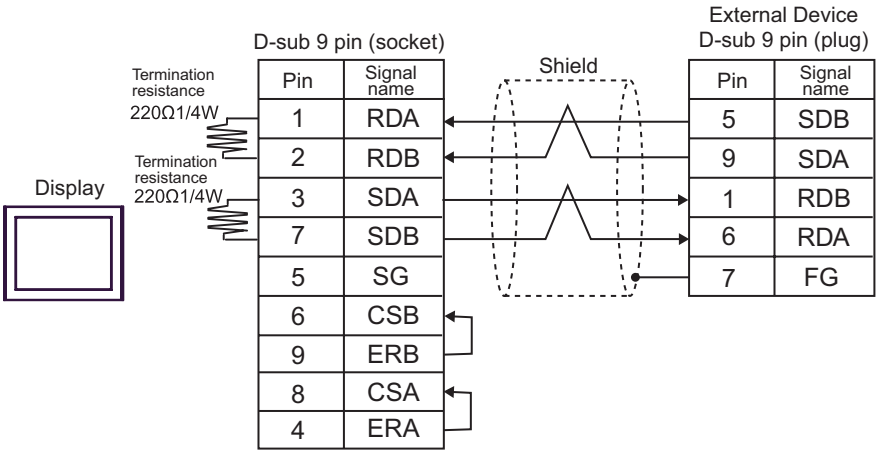


- 1:n Connection

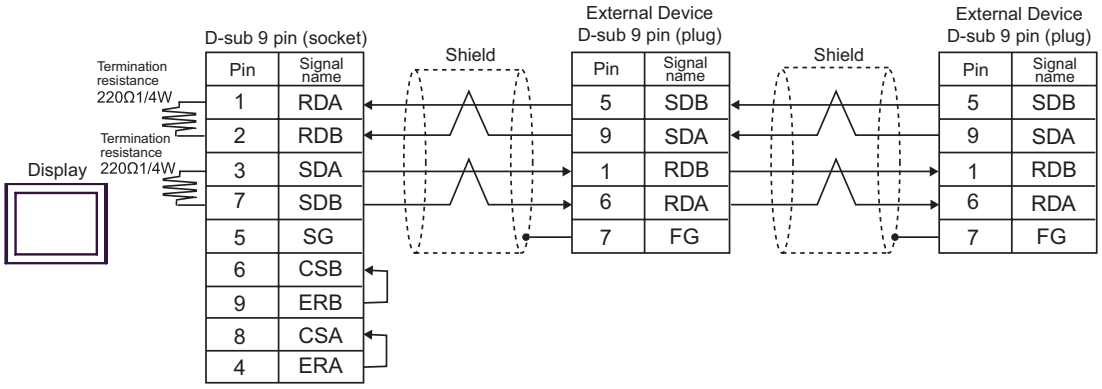


B) When using your own cable

- 1:1 Connection

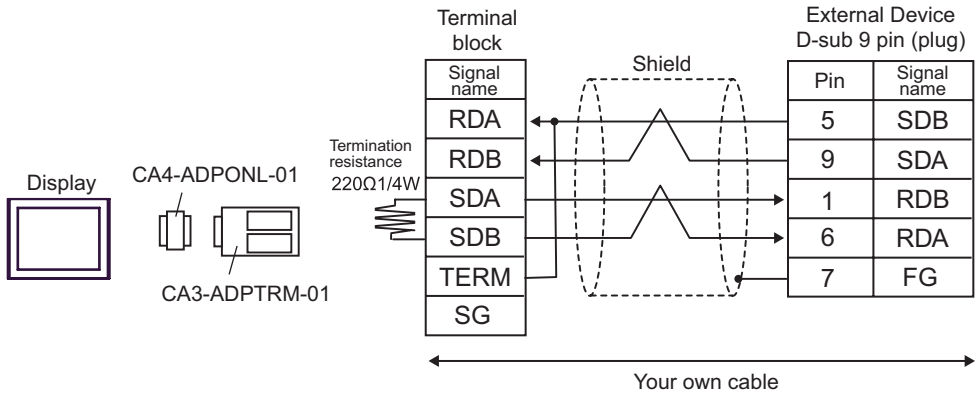


- 1:n Connection

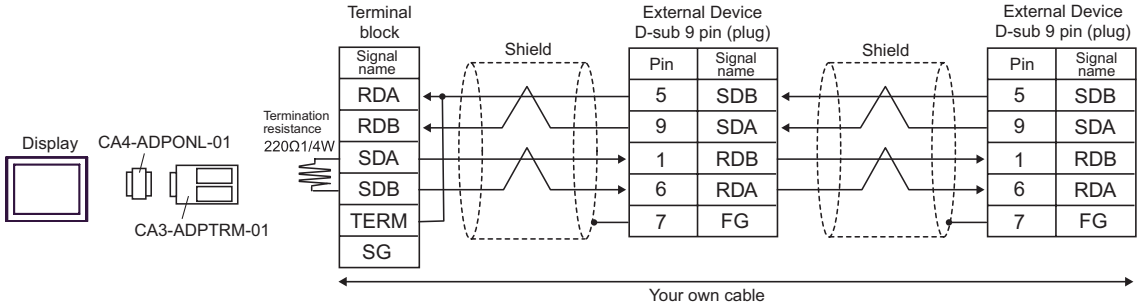


C) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

• 1:1 Connection

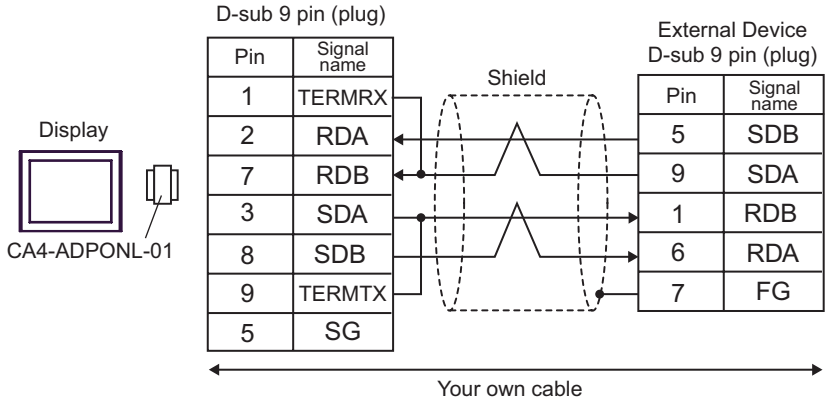


• 1:n Connection

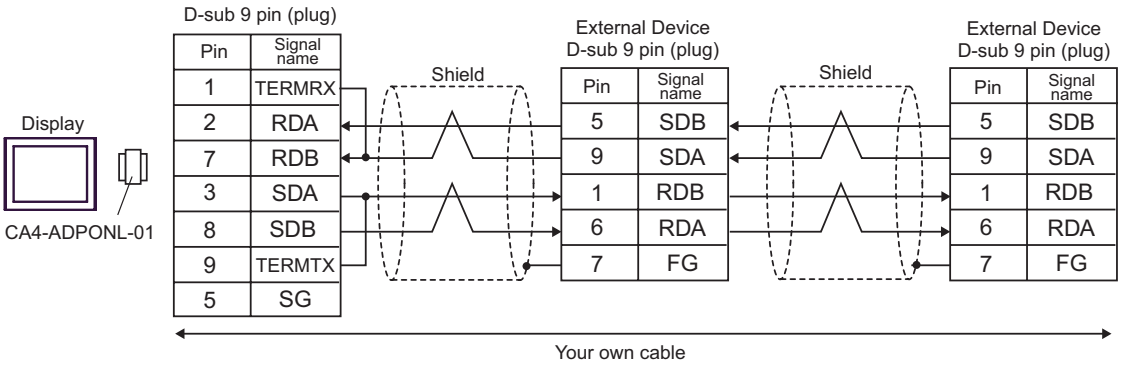


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

• 1:1 Connection

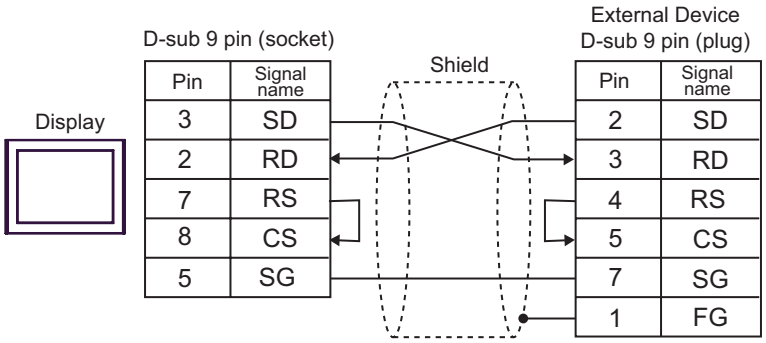


- 1:n Connection



Cable Diagram 6

Display	Cable	Remarks
GP (COM1)	Your own cable	The cable length must be 15m or less.



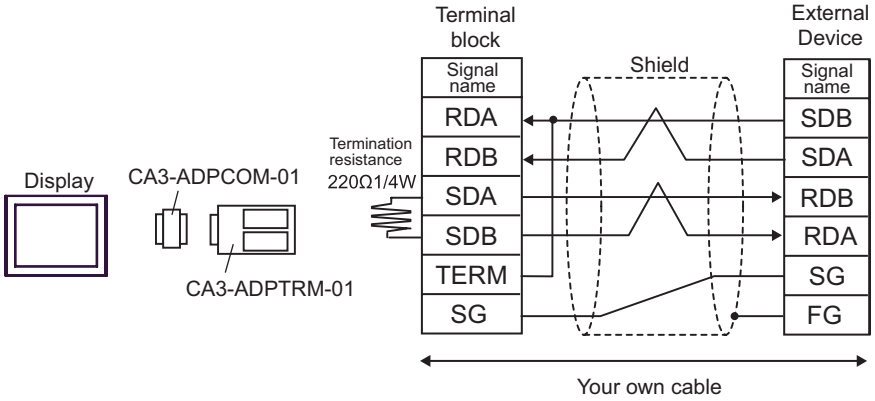
Cable Diagram 7

Display	Cable		Remarks
GP*1 (COM1) AGP-3302 (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	B	RS422 cable by Pro-face CA3-CBL422/5M-01	
	C	Your own cable	
GP*1 (COM2)	D	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	E	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

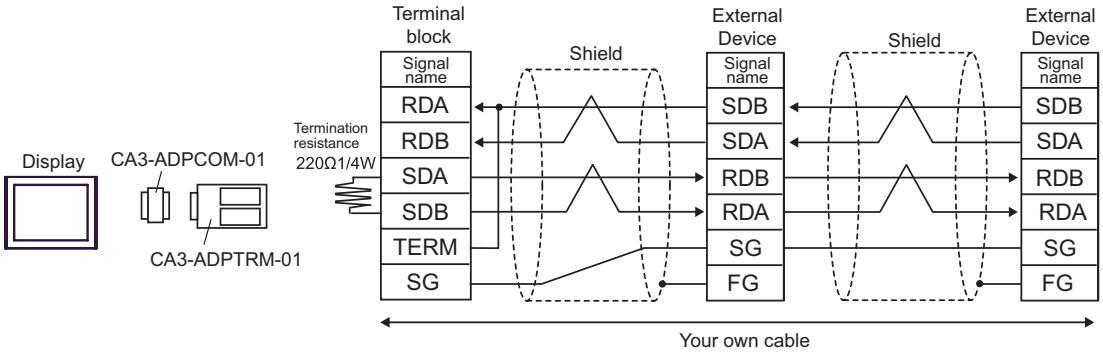
*1 All GP models except AGP-3302 Series

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

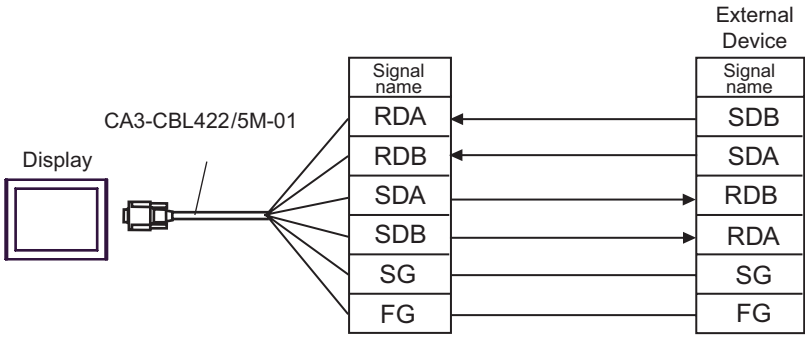


- 1:n Connection

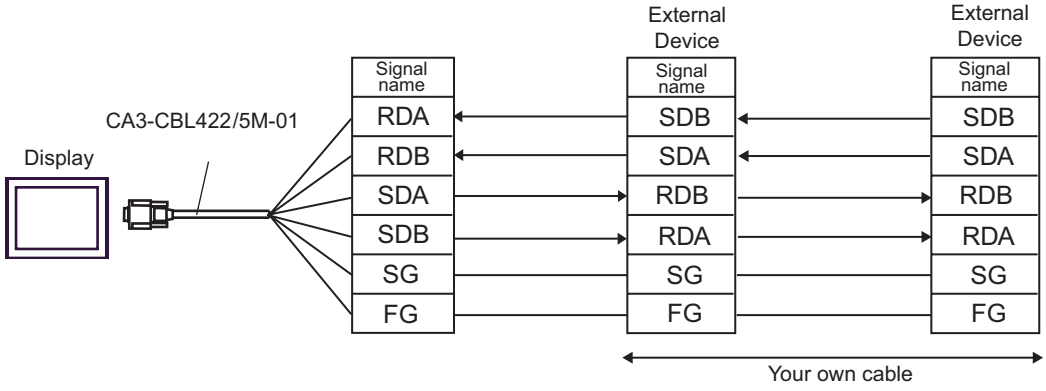


B) When using the RS422 cable (CA3-CBL422/5M-01) by Pro-face

- 1:1 Connection

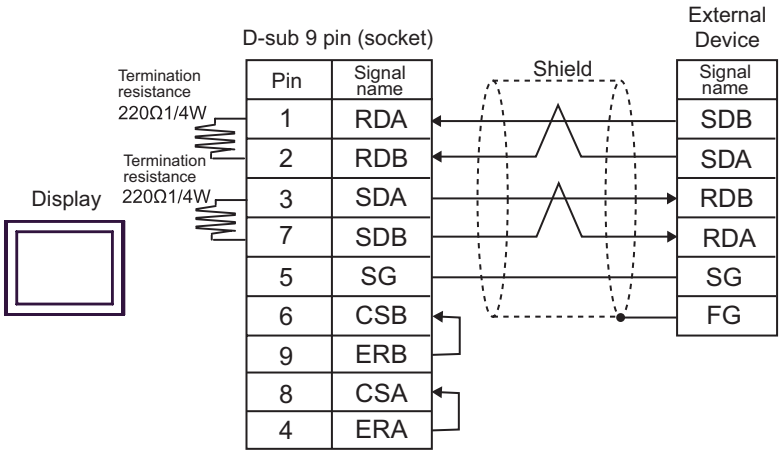


- 1:n Connection

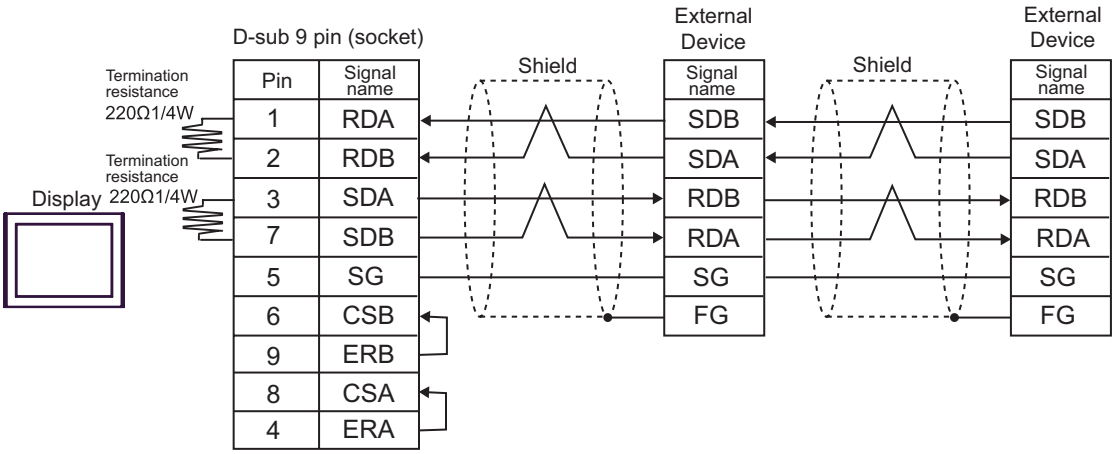


C) When using your own cable

- 1:1 Connection

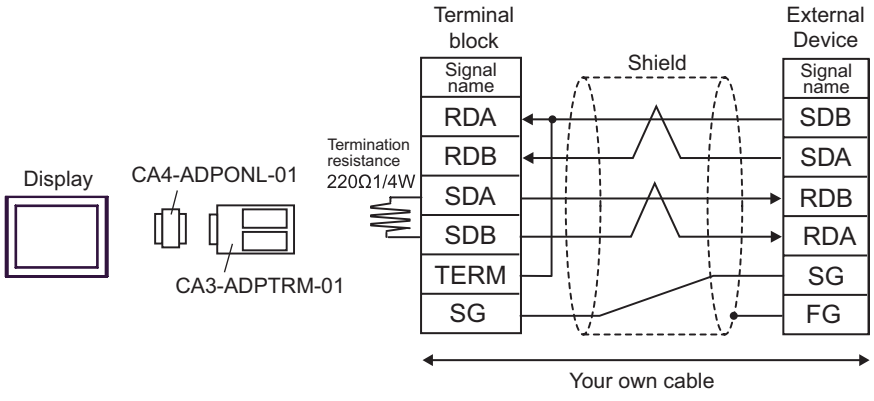


- 1:n Connection

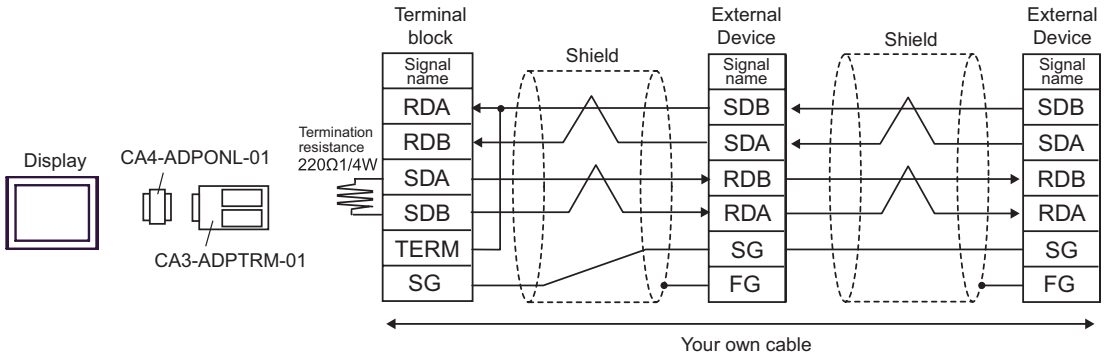


D) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

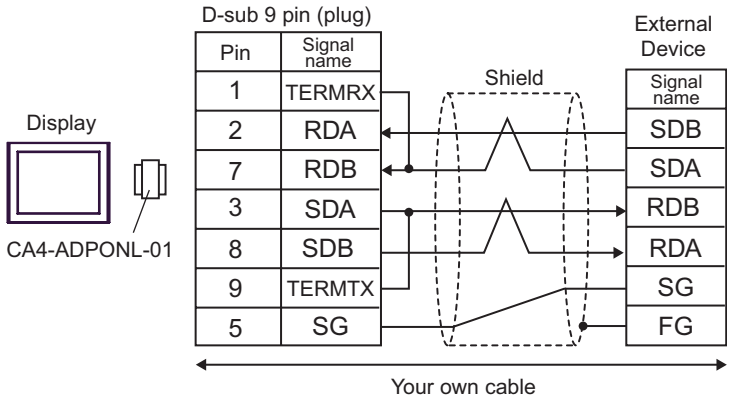


- 1:n Connection

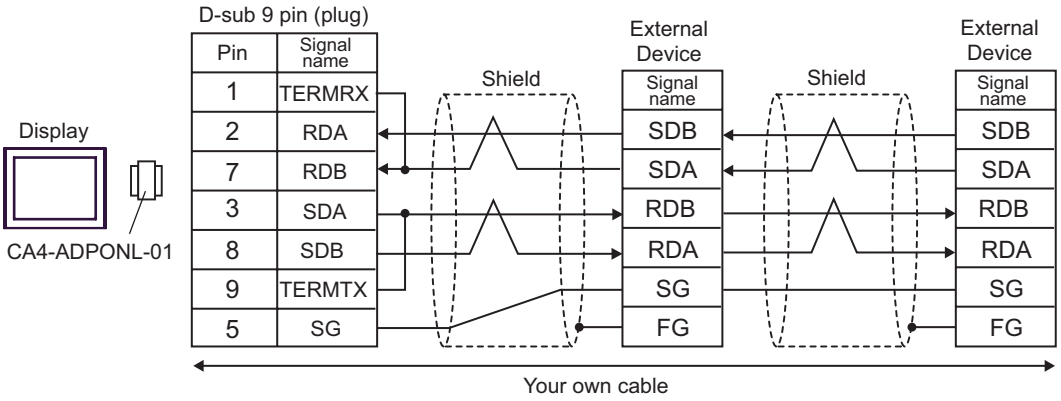


E) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection



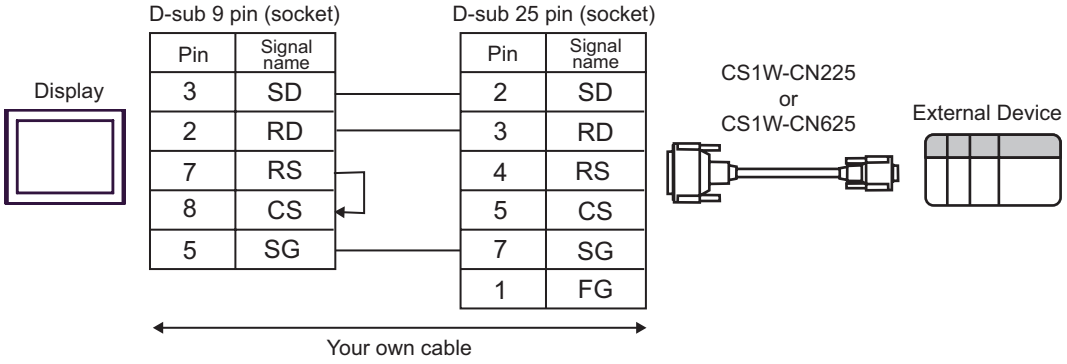
- 1:n Connection



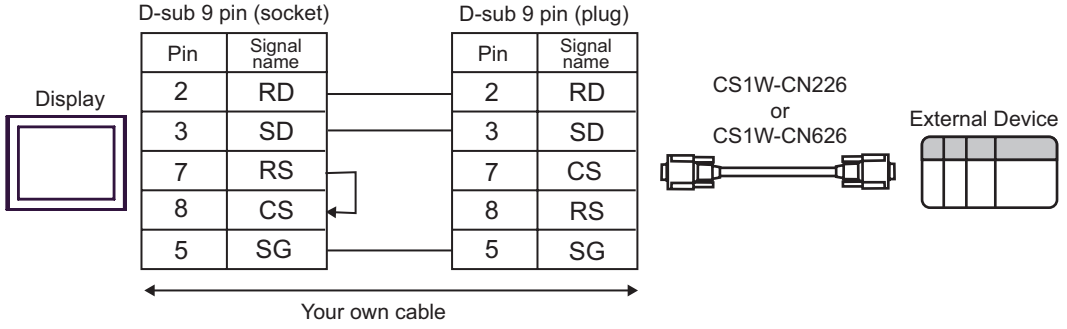
Cable Diagram 8

Display		Cable	Remarks
GP (COM1)	A	CS1W-CN225 (2m) or CS1W-CN625 (6m) by OMRON Corporation + Your own cable	The cable length must be 15m or less.
	B	CS1W-CN226 (2m) or CS1W-CN626 (6m) by OMRON Corporation + Your own cable	

A) When using CS1W-CN225 (2m) or CS1W-CN625 (6m) by OMRON Corporation or your own cable

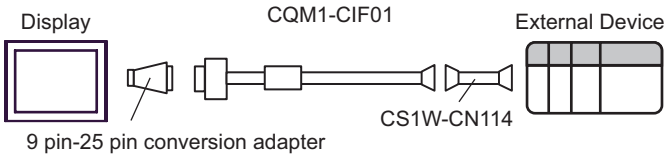


B) When using CS1W-CN226 (2m) or CS1W-CN626 (6m) by OMRON Corporation or your own cable



Cable Diagram 9

Display	Cable	Remarks
GP (COM1)	Isolation cable by OMRON Corporation CQM1-CIF01 + Connector conversion cable by OMRON Corporation CS1W-CN114	Commercial 9 pin/25 pin conversion adapter is required.



Cable Diagram 10

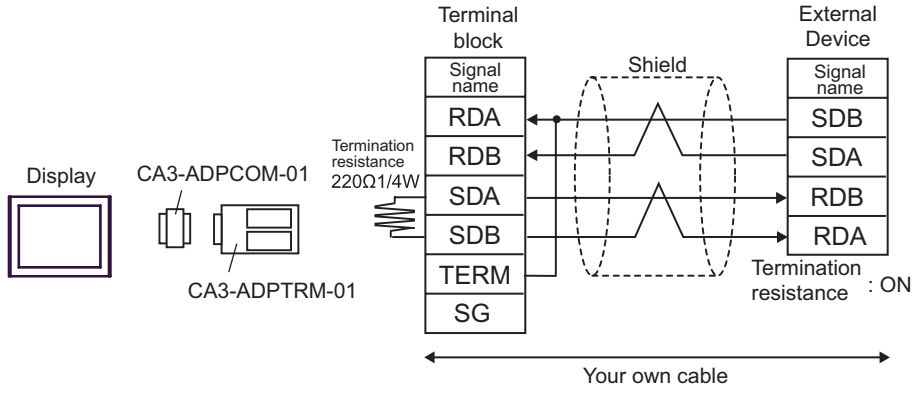
Display	Cable		Remarks
GP*1 (COM1) AGP-3302 (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	B	RS422 cable by Pro-face CA3-CBL422/5M-01	
	C	Your own cable	
GP*1 (COM2)	D	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	E	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

*1 All GP models except AGP-3302 Series

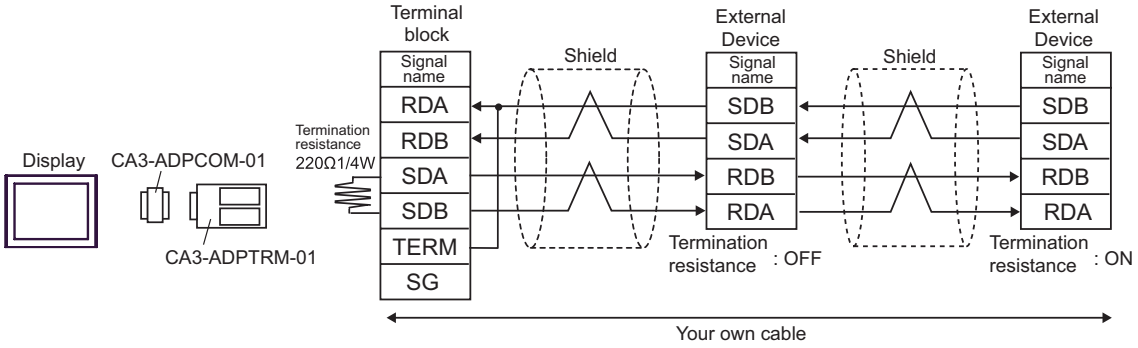
⚠CAUTION
- When connecting the External Device, use the link adapter B500-AL001 or the terminal block by OMRON Corporation.

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

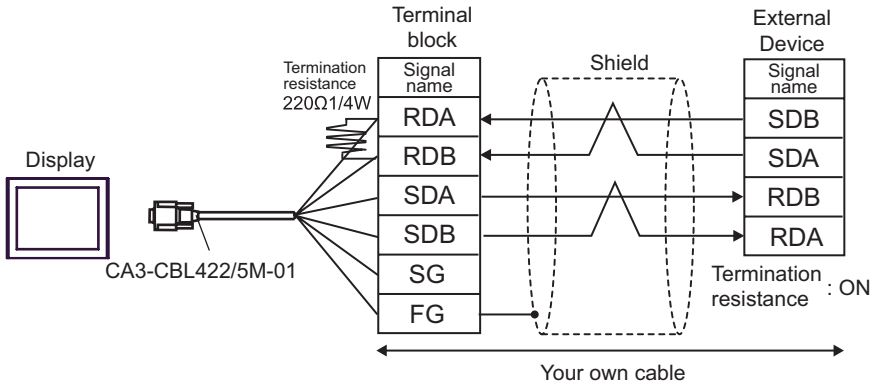


- 1:n Connection

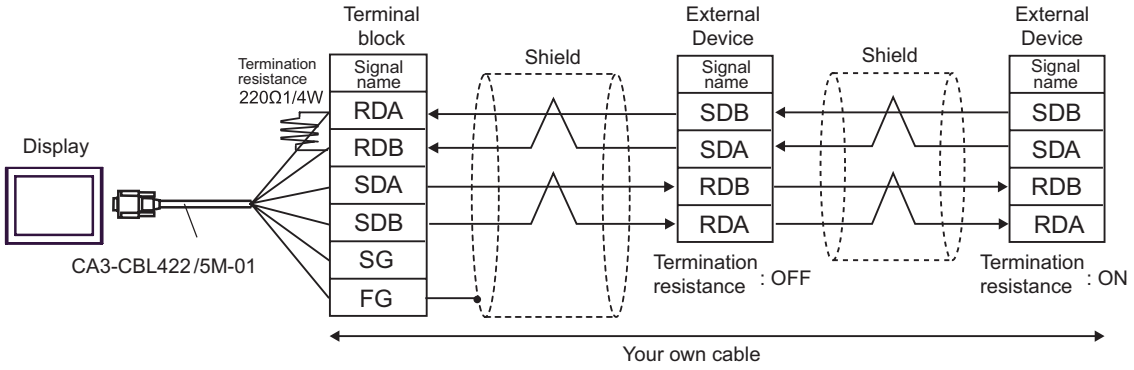


B) When using the RS422 cable (CA3-CBL422/5M-01) by Pro-face

- 1:1 Connection

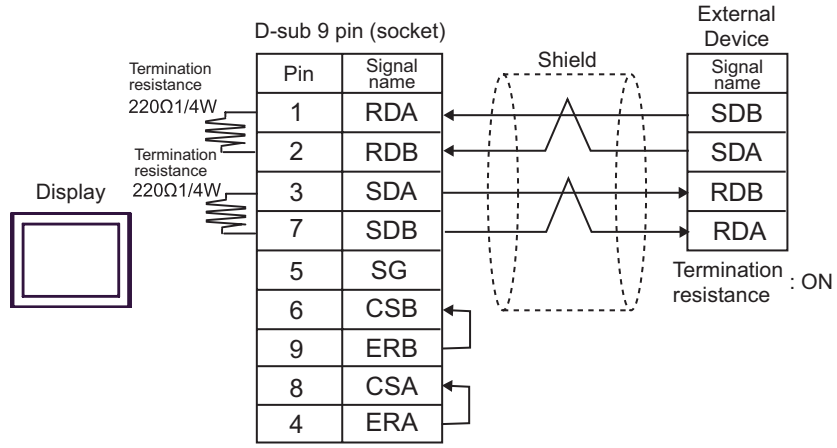


- 1:n Connection

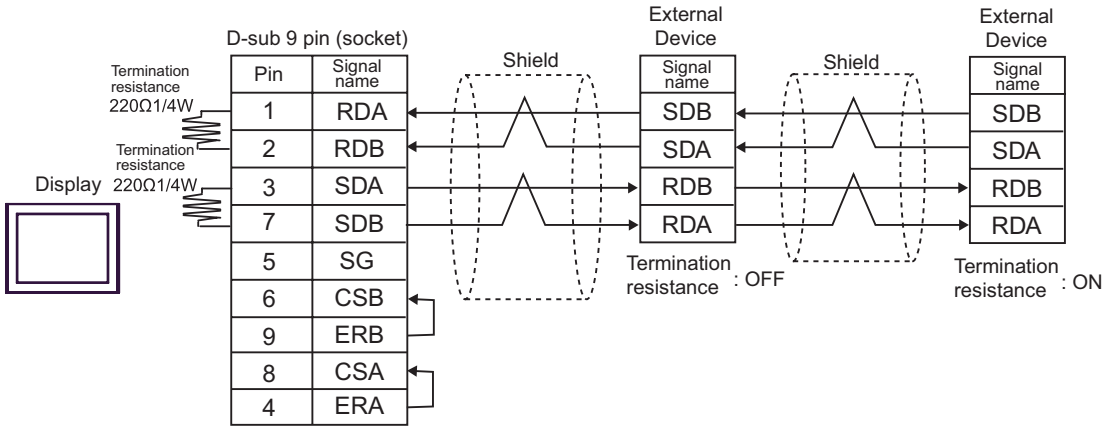


C) When using your own cable

- 1:1 Connection

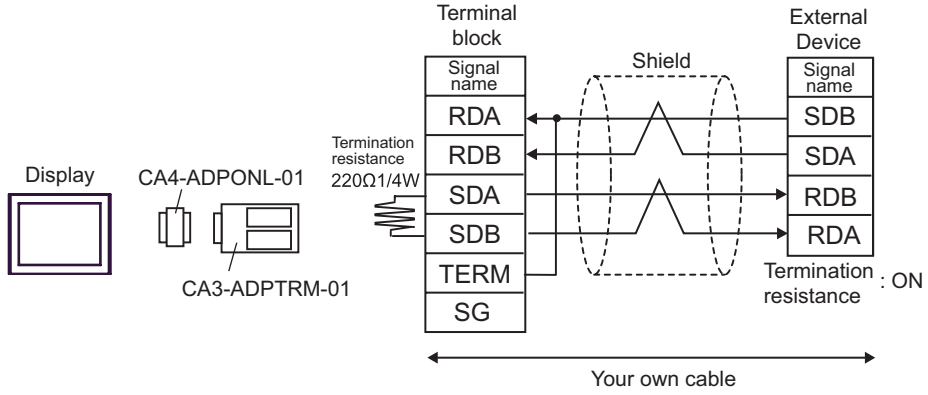


- 1:n Connection

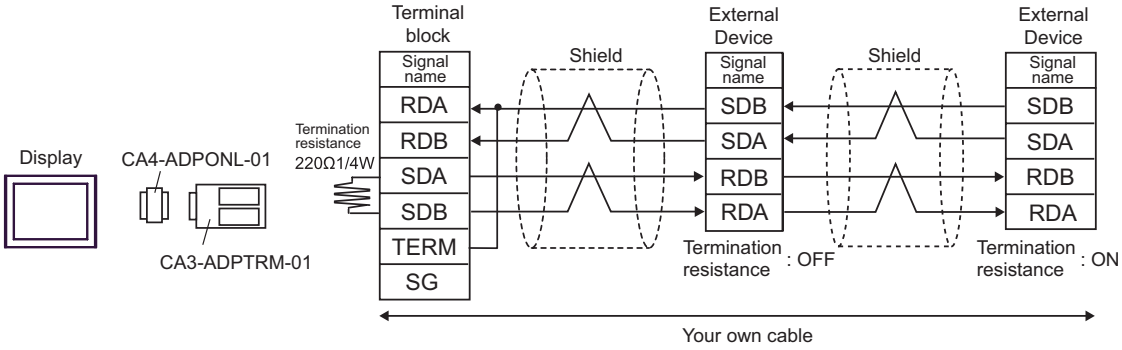


D) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

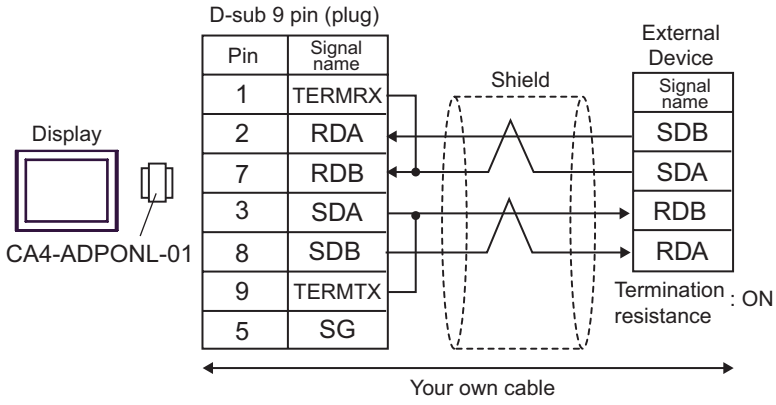


- 1:n Connection

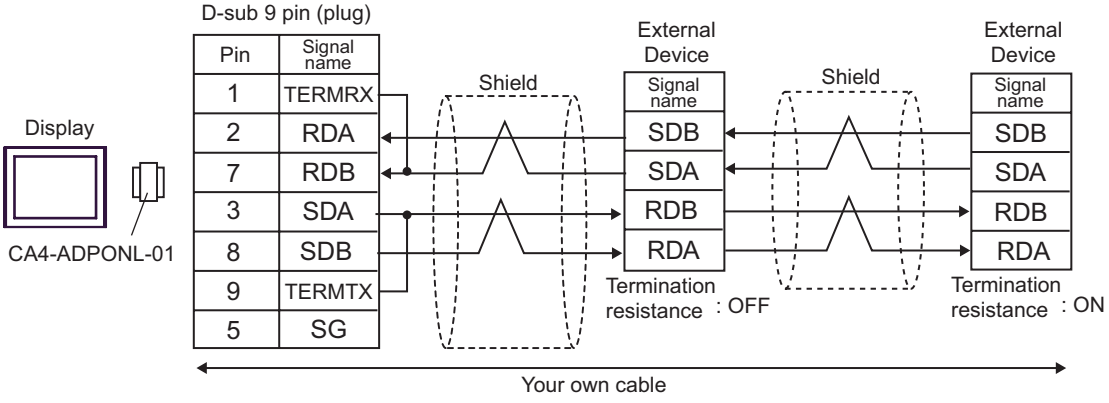


E) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection



- 1:n Connection



Cable Diagram 11

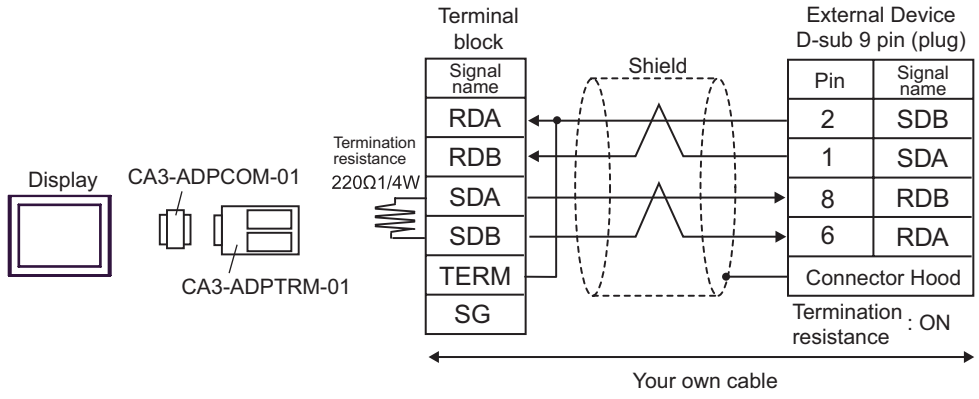
Display	Cable		Remarks
GP*1 (COM1) AGP-3302 (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	B	RS422 cable by Pro-face CA3-CBL422/5M-01	
	C	Your own cable	
GP*1 (COM2)	D	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	E	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

*1 All GP models except AGP-3302 Series

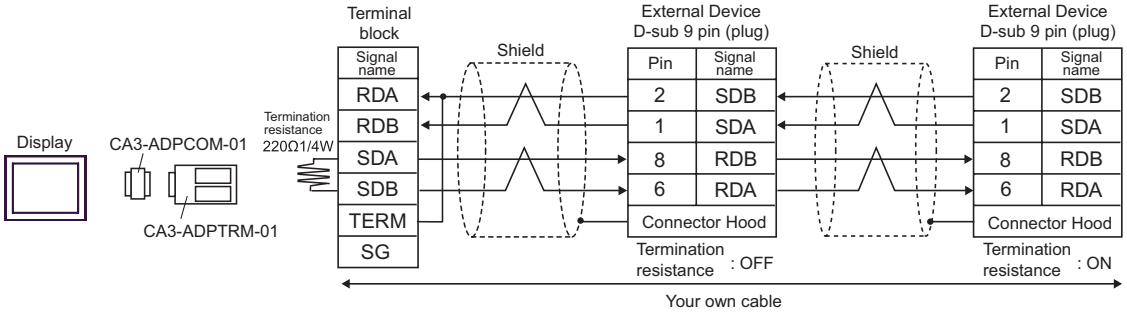
* When connecting the External Device, use the link adapter B500-AL001 or the terminal block by OMRON Corporation.

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

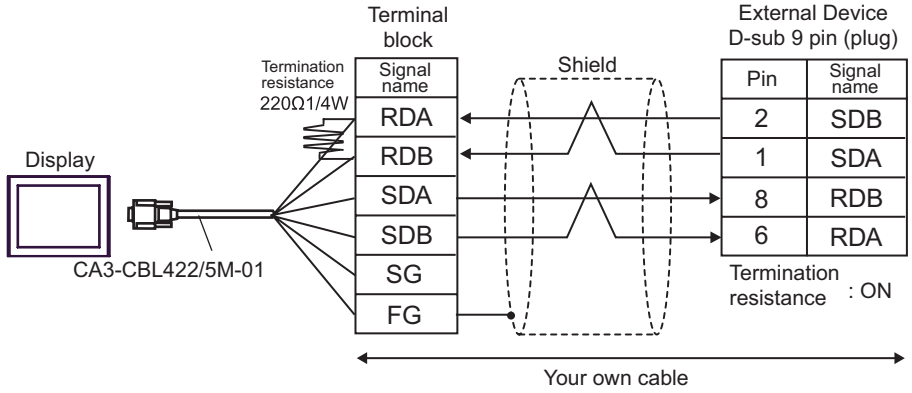


- 1:n Connection

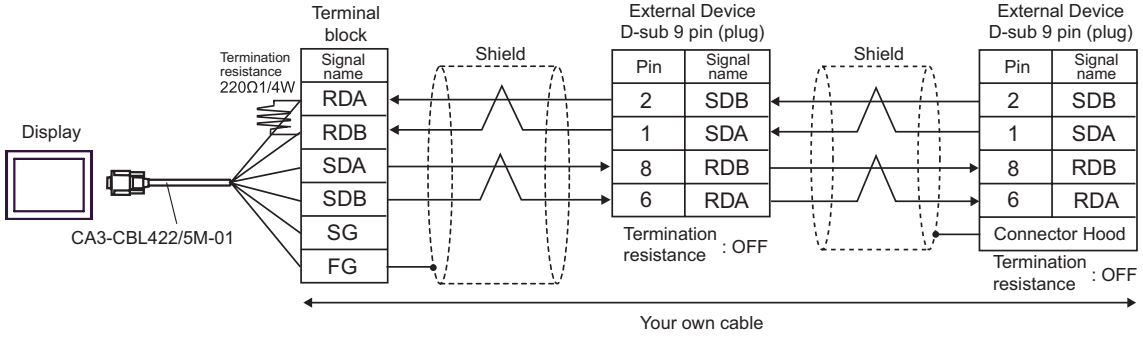


B) When using the RS422 cable (CA3-CBL422/5M-01) by Pro-face

- 1:1 Connection

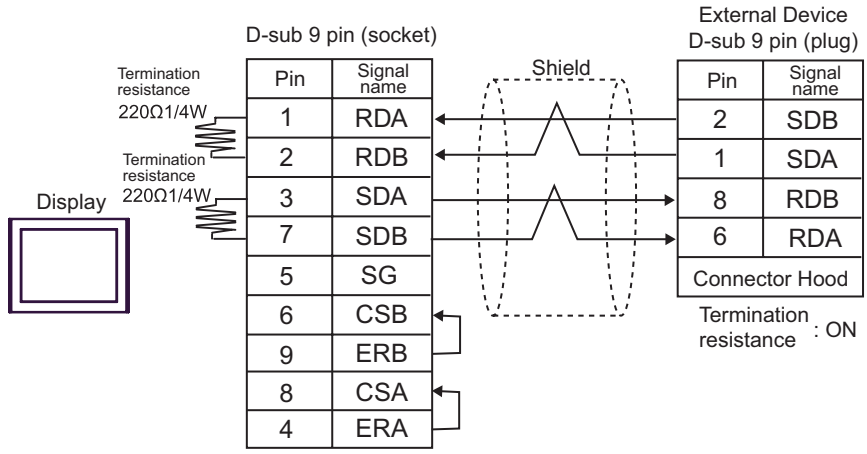


- 1:n Connection

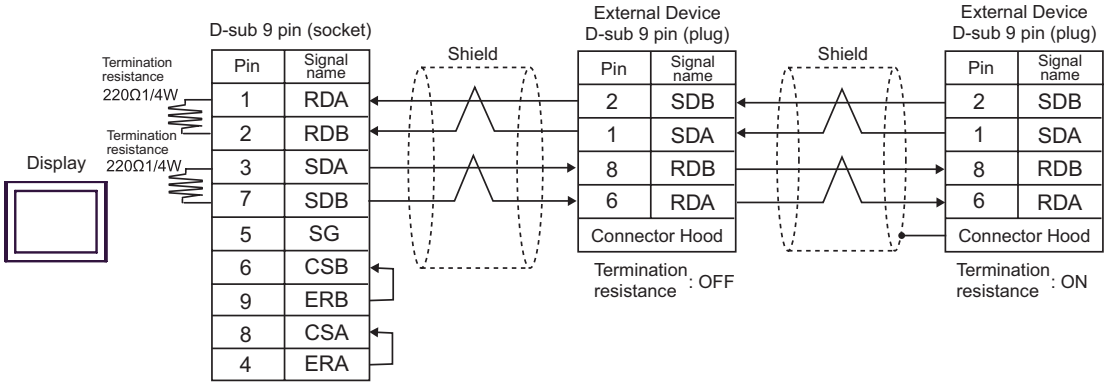


C) When using your own cable

- 1:1 Connection

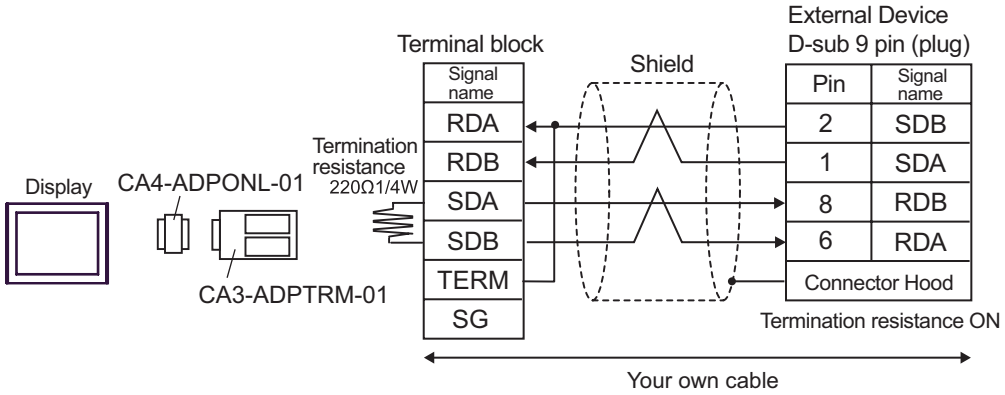


- 1:n Connection

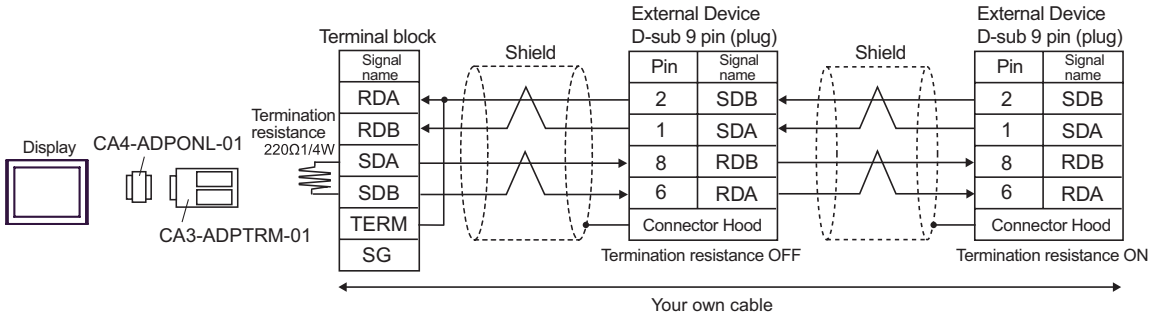


D) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

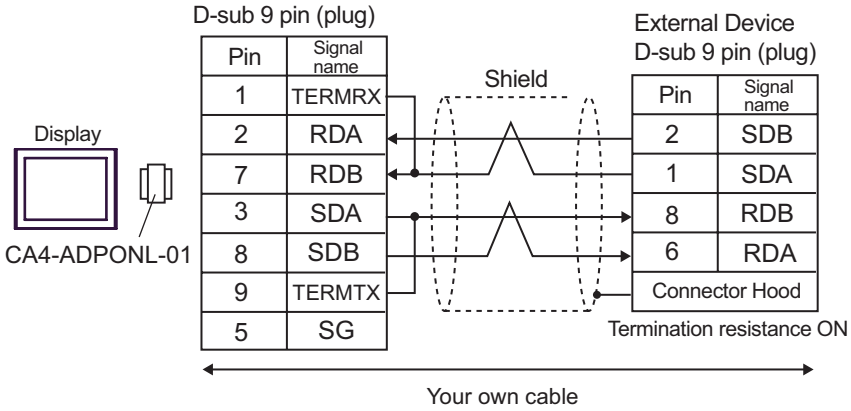


- 1:n Connection

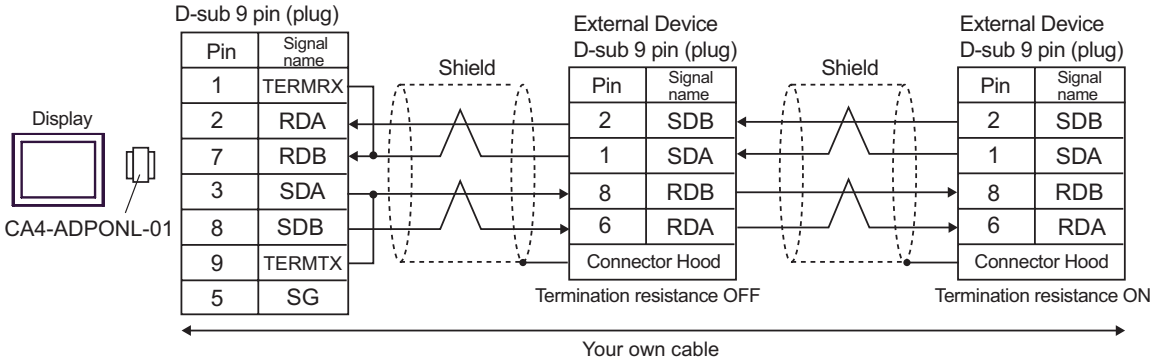


E) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection

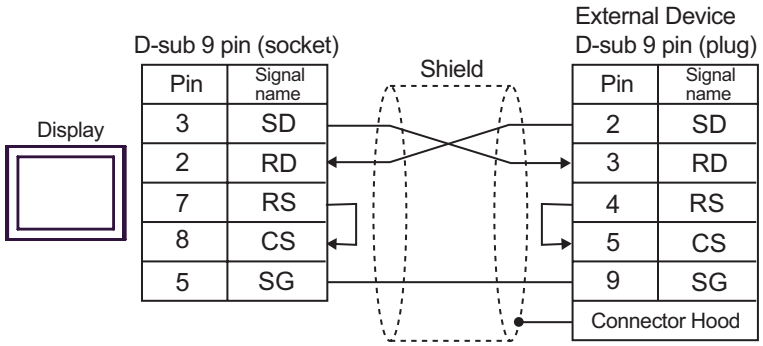


- 1:n Connection



Cable Diagram 12

Display	Cable	Remarks
GP (COM1)	Your own cable	The cable length must be 15m or less.



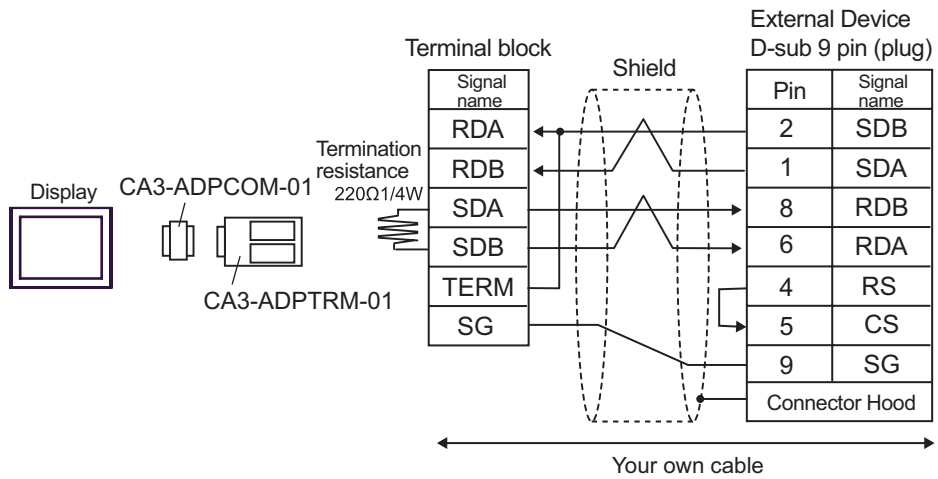
Cable Diagram 13

Display	Cable		Remarks
GP*1 (COM1) AGP-3302 (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	B	Your own cable	
GP*1 (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

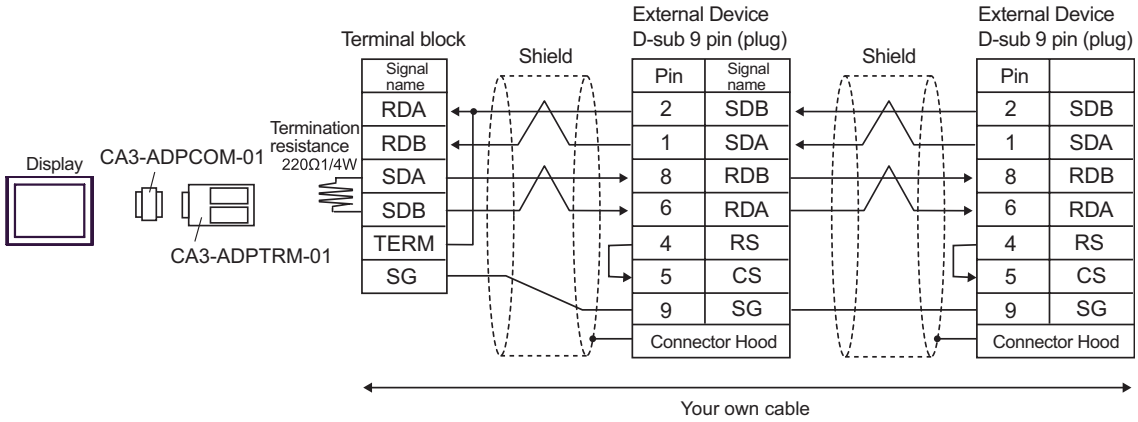
*1 All GP models except AGP-3302 Series

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

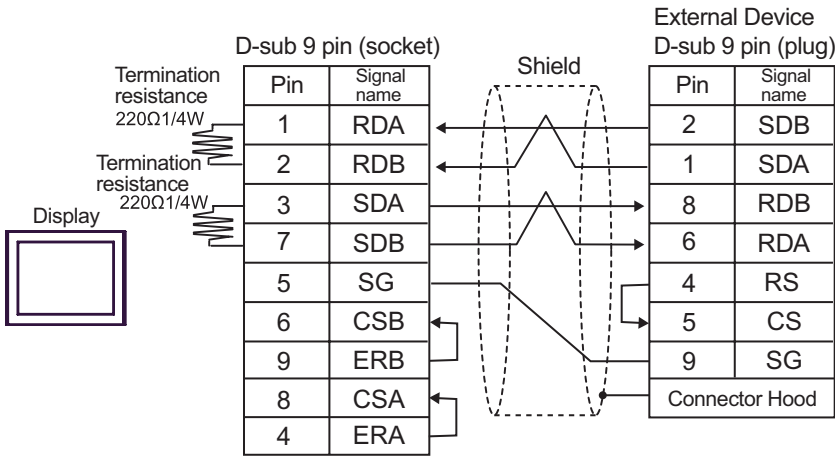


- 1:n Connection

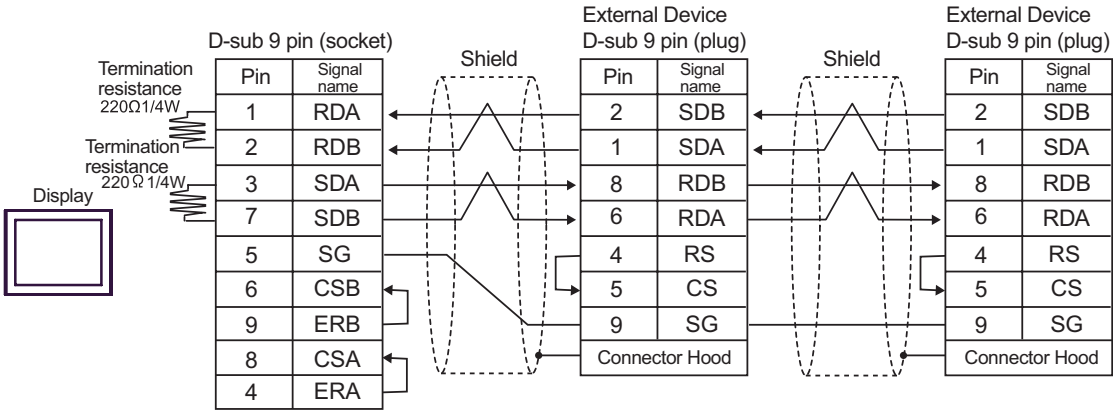


B) When using your own cable

- 1:1 Connection

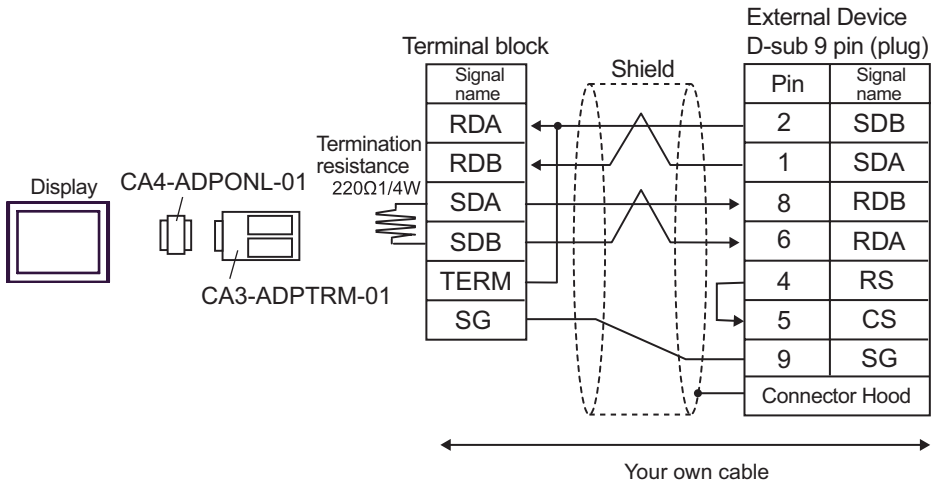


- 1:n Connection

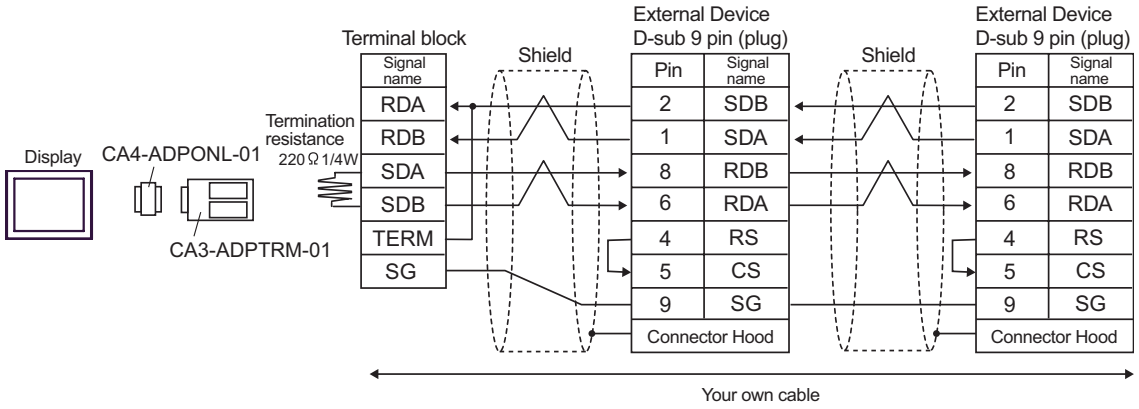


C) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

• 1:1 Connection

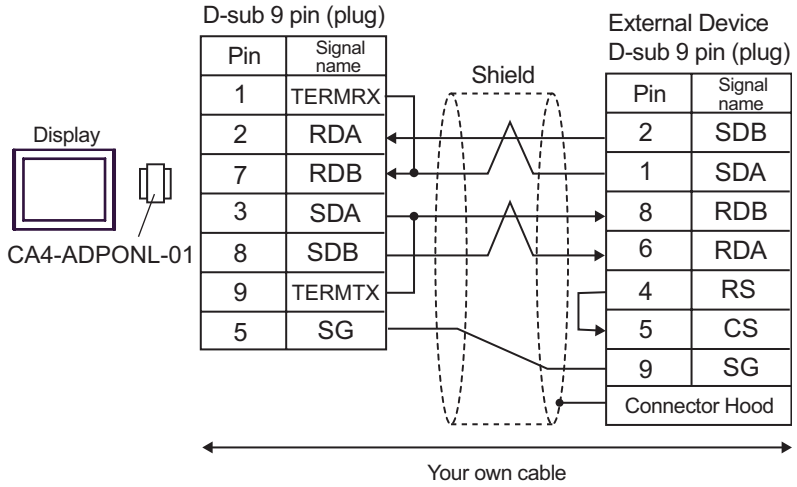


• 1:n Connection

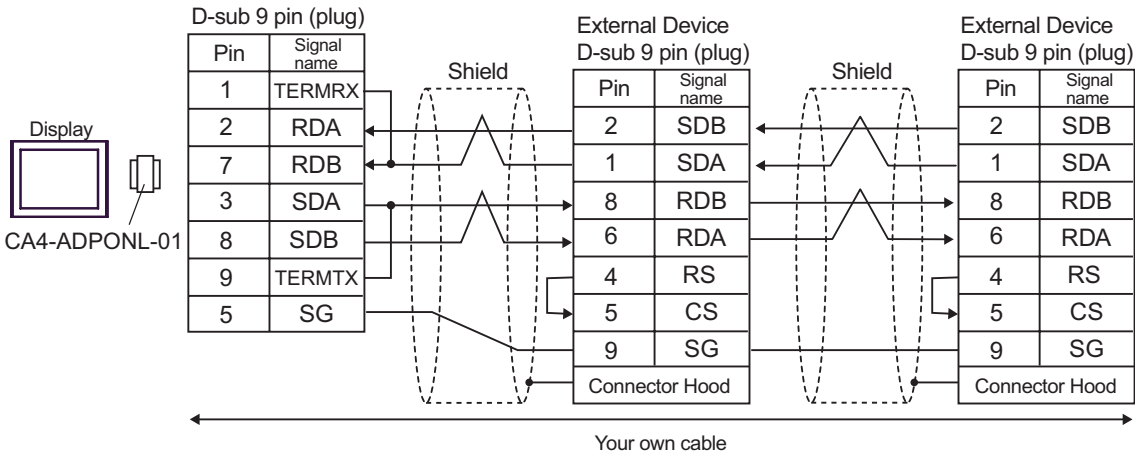


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

• 1:1 Connection



- 1:n Connection



6 Supported Device

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

6.1 SYSMAC-C Series

:Available to set to the head address of the system device

Device	Bit Address	Word Address	32bits	Remarks
I/O Relay	000.00 - 511.15	000-511	L/H	*1 *3
Internal Auxiliary Relay				
Special Auxiliary Relay				
Analog Setting Value Stored Area	220.00 - 223.15	220 - 223		*2 *3
Data Link Relay	LR00.00 - LR63.15	LR00-LR63		*3
Auxiliary Memory Relay	AR00.00 - AR27.15	AR00-AR27		*3
Latch Relay	HR00.00 - HR99.15	HR00-HR99		*3
Timer (Contact)	TIM000-TIM511	------		*4
Counter (Contact)	CNT000-CNT511	------		*4
Timer (Current Value)	------	TIM000-TIM511		*5
Counter (Current Value)	------	CNT000-CNT511		*5
Data Memory	------	DM0000-DM6655		Bit 15

*1 Note that the actually supported range of the devices and whether write enable or disable may vary depending on the CPU. Please refer to the CPU manual for checking.

*2 Can be used only in CQM1-CPU42.

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

*4 Write disable

*5 BCD only

NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
  Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"
- Please refer to the precautions on manual notation for icons in the table.
  ☞ "Manual Symbols and Terminology"

6.2 SYSMAC-C Series (CQM1H-CPU51/CQM1H-CPU61)

:Available to set to the head address of the system device

Device	Bit Address	Word Address	32bits	Remarks
I/O Relay Internal Auxiliary Relay	000.00 - 243.15	000-243	L/H	*1 *3
Special Auxiliary Relay	244.00-255.07	244-255		*2 *3
Link Relay	LR00.00-LR63.15	LR00-LR63		*3
Auxiliary Memory Relay	AR00.00-AR27.15	AR00-AR27		*3
Latch Relay	HR00.00-HR99.15	HR00-HR99		*3
Timer (Contact)	TIM000-TIM511	------		*4
Counter (Contact)	CNT000-CNT511	------		*4
Timer (Current Value)	------	TIM000-TIM511		*5
Counter (Current Value)	------	CNT000-CNT511		*5
Data Memory	------	DM0000-DM6655		Bit 15 *6
Extension Data Memory	------	EM0000-EM6134		Bit 15 *7

*1 There is an area in which any address does not exist within the address range of input relay/internal auxiliary relay. Please refer to the SYSMAC-CQM1H User Manual by OMRON Corporation.

*2 Bit address of the special auxiliary relay is 244.00-254.15/255.00-07. Bit address of 255.08-255.15 does not exist.

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

*4 Write disable

*5 BCD only

*6 Do not write in the store area beyond data memory DM, DM6569-DM6599 and PC system setting area DM6600-DM6655.

*7 Extension data memory EM supports only CQM1H-CPU61.

NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
  Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"
- Please refer to the precautions on manual notation for icons in the table.
  ☞ "Manual Symbols and Terminology"

6.3 SYSMAC-α Series

: Available to set to the head address of the system device

Device	Bit Address	Word Address	32bits	Remarks
I/O Relay I	000.00-029.15	000-029	L/H	*1
I/O Relay II	300.00-309.15	300-309		*1
Internal Auxiliary Relay I	030.00-235.15	030-235		*1
Internal Auxiliary Relay II	310.00-511.15	310-511		*1
Special Auxiliary Relay I	236.00-255.07	236-255		*1
Special Auxiliary Relay II	256.00-299.15	256-299		*1
Link Relay	LR00.00-LR63.15	LR00-LR63		*1
Auxiliary Memory Relay	AR00.00-AR27.15	AR00-AR27		*1
Latch Relay	HR00.00-HR99.15	HR00-HR99		*1
Timer (Contact)	TIM000-TIM511	------		*2
Counter (Contact)	CNT000-CNT511	------		*2
Timer (Current Value)	------	TIM000-TIM511		*3
Counter (Current Value)	------	CNT000-CNT511		*3
Data Memory	------	DM0000-DM6655		Bit 15 *4
Extension Fixed Data Memory	------	DM7000-DM9999		Bit 15 *5
Extension Data Memory	------	EM0000-EM6134		Bit 15 *6

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

*2 Write disable

*3 BCD only

*4 We cannot guarantee the operation when you access the nonexistent data memory area (DM6656 to DM6999).

*5 We cannot guarantee the operation when you access to DM7000 to DM9999 without the extension fixed DM setting.

*6 We cannot guarantee the operation when you specify the area within the range in the models in which the bank of the extension memory area does not exist.

NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
  Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"
- Please refer to the precautions on manual notation for icons in the table.
  ☞ "Manual Symbols and Terminology"

6.4 SYSMAC-CV Series

: Available to set to the head address of the system device

Device	Bit Address	Word Address	32bits	Remarks
I/O Relay	000.00 - 199.15	000-199		*1
Internal Auxiliary Relay				*1
SYSMAC BUS/2 Remote I/O Relay	0200.00 - 0999.15	0200-0999		*1
Data Link Relay	1000.00 - 1199.15	1000-1199		*1
Special Auxiliary Relay	A000.00 - A511.15	A000-A511		*1
Latch Relay	1200.00 - 1499.15	1200-1499		*1
Internal Auxiliary Relay	1900.00 - 2299.15	1900-2299	L/H	*1
SYSBUS Remote I/O Relay	2300.00 - 2555.15	2300-2555		*1
Timer (Contact)	T0000-T1023	------		*2
Counter (Contact)	C0000-C1023	------		*2
Timer (Current Value)	------	T0000-T1023		*3
Counter (Current Value)	------	C0000-C1023		*3
Data Memory	------	D0000-D9999		Bit 15

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

*2 Write disable

*3 BCD only

NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
  Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"
- 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 SYSMAC-C Series

Device	Device Name	Device Code (HEX)	Address Code
I/O Relay	------	0080	Word Address
Internal Auxiliary Relay			
Special Auxiliary Relay			
Analog Setting Value Stored Area	LR	0088	Word Address
Data Link Relay	------	0080	Word Address
Auxiliary Memory Relay	AR	0085	Word Address
Latch Relay	HR	0084	Word Address
Timer (Contact)	TIM	00E0	Word Address
Counter (Contact)	CNT	00E2	Word Address
Timer (Current Value)	TIM	0060	Word Address
Counter (Current Value)	CNT	0061	Word Address
Data Memory	DM	0000	Word Address

7.2 SYSMAC-C Series (CQM1H-CPU51/CQM1H-CPU61)

Device	Device Name	Device Code (HEX)	Address Code
I/O Relay	------	0080	Word Address
Internal Auxiliary Relay			
Special Auxiliary Relay			
Link Relay	LR	0088	Word Address
Auxiliary Memory Relay	AR	0085	Word Address
Latch Relay	HR	0084	Word Address
Timer (Contact)	TIM	00E0	Word Address
Counter (Contact)	CNT	00E2	Word Address
Timer (Current Value)	TIM	0060	Word Address
Counter (Current Value)	CNT	0061	Word Address

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Device	Device Name	Device Code (HEX)	Address Code
Data Memory	DM	0000	Word Address
Extension Data Memory	EM	0001	Word Address

7.3 SYSMAC-α Series

Device	Device Name	Device Code (HEX)	Address Code
I/O Relay I	------	0080	Word Address
I/O Relay II			
Internal Auxiliary Relay I			
Internal Auxiliary Relay II			
Special Auxiliary Relay I			
Special Auxiliary Relay II			
Link Relay	LR	0088	Word Address
Auxiliary Memory Relay	AR	0085	Word Address
Latch Relay	HR	0084	Word Address
Timer (Contact)	TIM	00E0	Word Address
Counter (Contact)	CNT	00E2	Word Address
Timer (Current Value)	TIM	0060	Word Address
Counter (Current Value)	CNT	0061	Word Address
Data Memory	DM	0000	Word Address
Extension Fixed Data Memory	DM	0000	Word Address
Extension Data Memory	EM	0001	Word Address

7.4 SYSMAC-CV Series

Device	Device Name	Device Code (HEX)	Address Code
I/O Relay	------	0080	Word Address
Internal Auxiliary Relay			
SYSMAC BUS/2 Remote I/O Relay			
Data Link Relay			
Special Auxiliary Relay	A	0085	Word Address
Latch Relay	-	0080	Word Address
Internal Auxiliary Relay	-	0080	Word Address
SYSBUS Remote I/O Relay	-	0080	Word Address
Timer (Contact)	T	00E0	Word Address
Counter (Contact)	C	00E2	Word Address
Timer (Current Value)	T	0060	Word Address
Counter (Current Value)	C	0061	Word Address
Data Memory	D	0000	Word Address

8 Error Messages

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

Item	Description
No.	Error No.
Device Name	Name of the External Device where error occurs. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1])
Error Message	Displays messages related to the error which occurs.
Error Occurrence Area	Displays IP address or device address of the External Device where error occurs, or error codes received from the External Device.

NOTE
- Received error codes are displayed such as "Decimal [Hex]".
- IP address is displayed such as "IP address (Decimal): MAC address (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 the External Device for more detail of received error codes.

Memo