JTEKT Corporation

TOYOPUC CMP-LINK SIO Driver

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Introduction

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

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

1	System Configuration 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 External Device to be connected and connection method.	☞ "2 Selection of External Device" (page 6)
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 7)
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 17)
5	Cable Diagram This section shows cables and adapters for connecting the Display and the External Device.	☞ "5 Cable Diagram" (page 22)

Operation

1 System Configuration

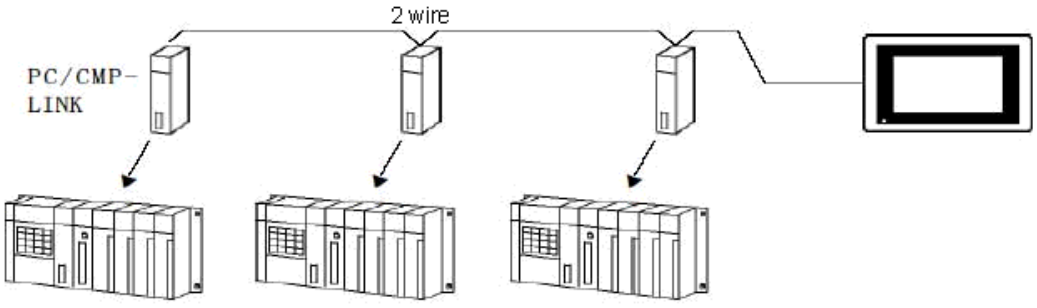
The system configuration in the case when the External Device of JTEKT Corporation and the Display are connected is shown.

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
TOYOPUC-PC2	PC2 L2	THU-2652 (computer link module)	RS422 (2wire)	Setting Example 1 (page 7)	Cable Diagram 1 (page 22)
	PC2J	THU-2755 (PC/CMP-LINK)	RS422 (2wire)	Setting Example 2 (page 9)	Cable Diagram 1 (page 22)
TOYOPUC-PC3J	PC3J	Link I/F on the CPU unit (L2 terminal block)	RS422 (2wire)	Setting Example 3 (page 11)	Cable Diagram 2 (page 29)
		Link I/F on the CPU unit (L1, L2 terminal block)	RS422 (4wire)	Setting Example 4 (page 13)	Cable Diagram 3 (page 36)
		THU-2755 (PC/CMP-LINK)	RS422 (2wire)	Setting Example 5 (page 15)	Cable Diagram 4 (page 41)
	PC3JD PC3JG	Link I/F on the CPU unit (L1 terminal block)	RS422 (2wire)	Setting Example 3 (page 11)	Cable Diagram 1 (page 22)
		THU-2755 (PC/CMP-LINK)*1	RS422 (2wire)	Setting Example 5 (page 15)	Cable Diagram 1 (page 22)

*1 When using PC/CMP-LINK (THU-2755) with PC3J command, the link unit in ver. 5.00 or higher is required. Also, the link unit does not have the settings of PC2J or PC3J selection switch (SW) etc. Error occurs when sending PC3J command to the link unit in less than ver. 5.00.

■ Connection Configuration

The system configuration in the case when you use the External Device PC2J (n units) of JTEKT Corporation and the Display (1 unit) to realize the 1:n communication with HOST link protocol are connected is shown.



- Always set one unit of the Display used in the system.
- On the link, you can connect max 16 units of the External Device to one unit of the Display.

■ COM Port of IPC

When connecting IPC with External Device, the COM port which can be used changes with series and SIO type. Please refer to the manual of IPC 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	COM1, COM2[*1*2]	COM2[*1*2]	COM2[*1*2]
PS-3650A, PS-3651A	COM1[*1]	-	-
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]
PL-3000B	COM1[*1*2], COM2[*1], COM3, COM4	COM1[*1*2]	COM1[*1*2]

*1 The RI/5V can be switched. Please switch with the change switch of IPC.

*2 It is necessary to set up the SIO type with the Dip switch. Please set up as follows according to SIO type to be used.

Dip switch setting: RS-232C

Dip switch	Setting	Description
1	OFF[*1]	Reserve (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): Does not Exist
8	OFF	Short-circuit of SDB (TXB) and RDB (RXB): Does not Exist
9	OFF	RS (RTS) Auto control mode: Disable
10	OFF	

*1 It is necessary to turn ON the set value, only when using PS-3450A and PS-3451A.

Dip switch setting: RS-422/485 (4 wire)

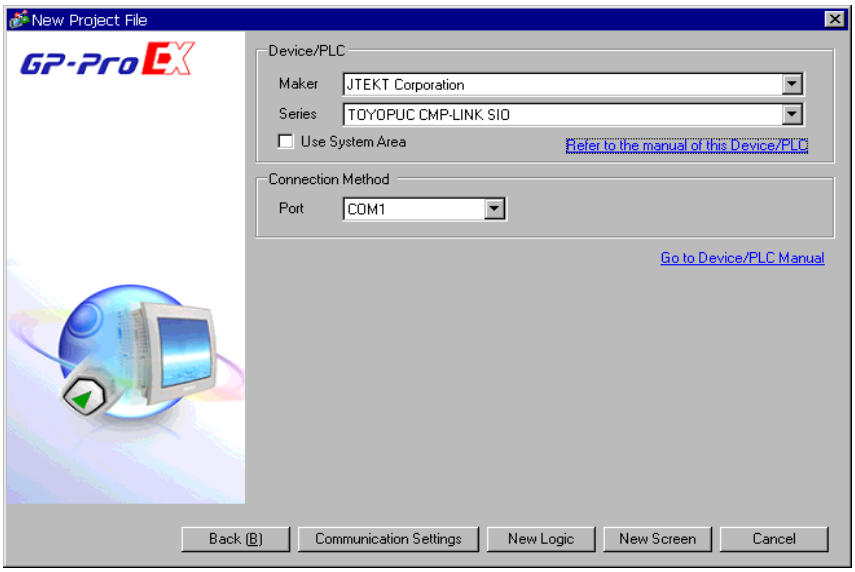
Dip switch	Setting	Description
1	OFF	Reserve (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA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

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

Dip switch	Setting	Description
1	OFF	Reserve (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): Exist
8	ON	Short-circuit of SDB (TXB) and RDB (RXB): Exist
9	ON	RS (RTS) Auto control mode: Enable
10	ON	

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 "JTEKT Corporation".
Driver	Select a model (series) of the External Device to be connected and connection method. Select "TOYOPUC CMP-LINK SIO". Check the External Device which can be connected in "TOYOPUC CMP-LINK SIO" 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, 5.14.6 Setting Guide of [System Setting Window]" Cf. Maintenance/Troubleshooting "2.14.1 Settings common to all Display models◆System Area Settings"
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.

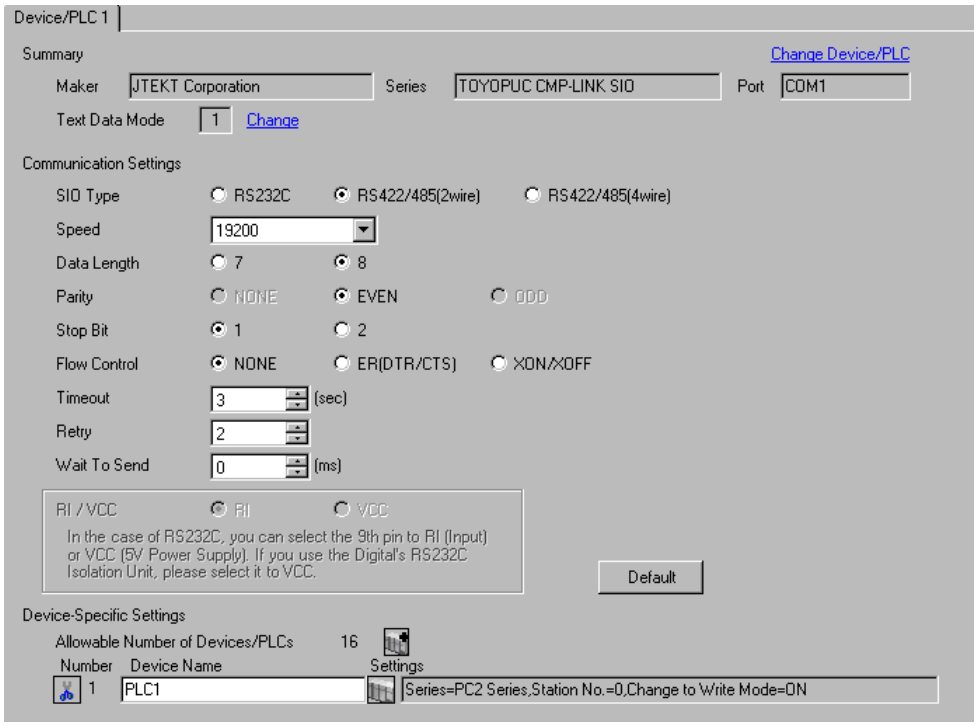
When you use the FX Series, use GP-Pro EX and the ladder software to set as below.

3.1 Setting Example 1

■ Setting of GP-Pro EX

◆ Communication Settings

To display the 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 computer link module as below.

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

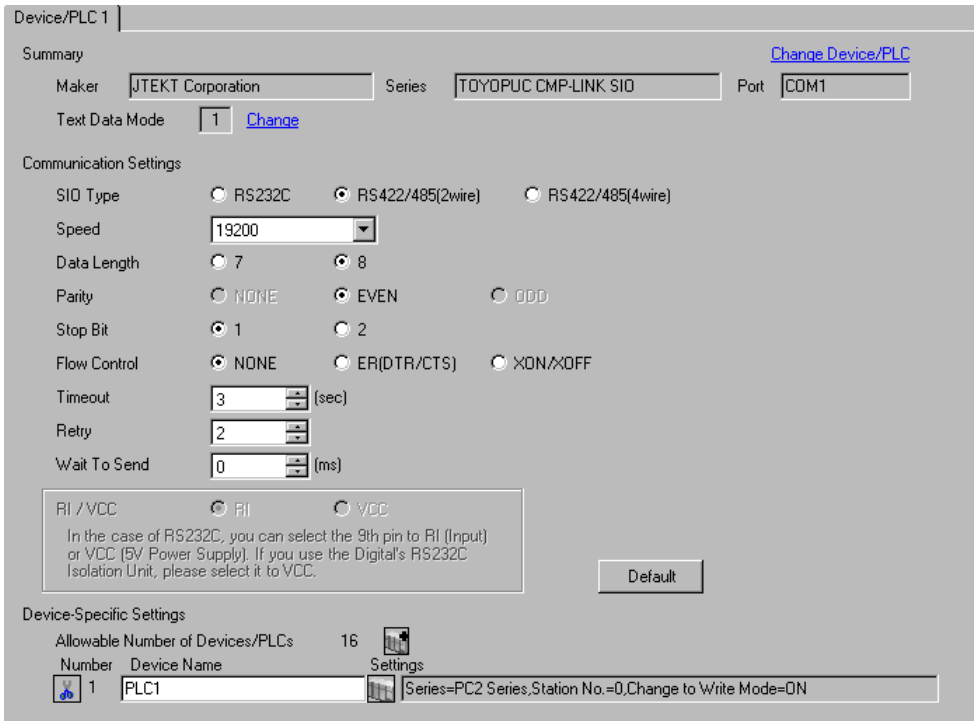
Setup Items	Settings
Speed	19200bps
Data Bit	8bit
Stop Bit	1bit
Parity Bit	Even
Card Type	CMP link
SET5	Watchdog timer ON
Station No.	0

3.2 Setting Example 2

■ Setting of GP-Pro EX

◆ Communication Settings

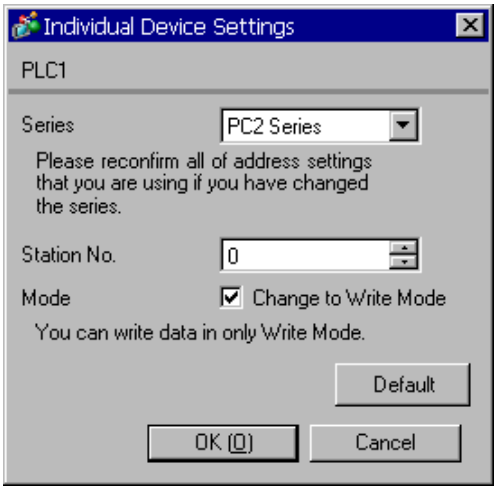
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ 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 computer link module as below.

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

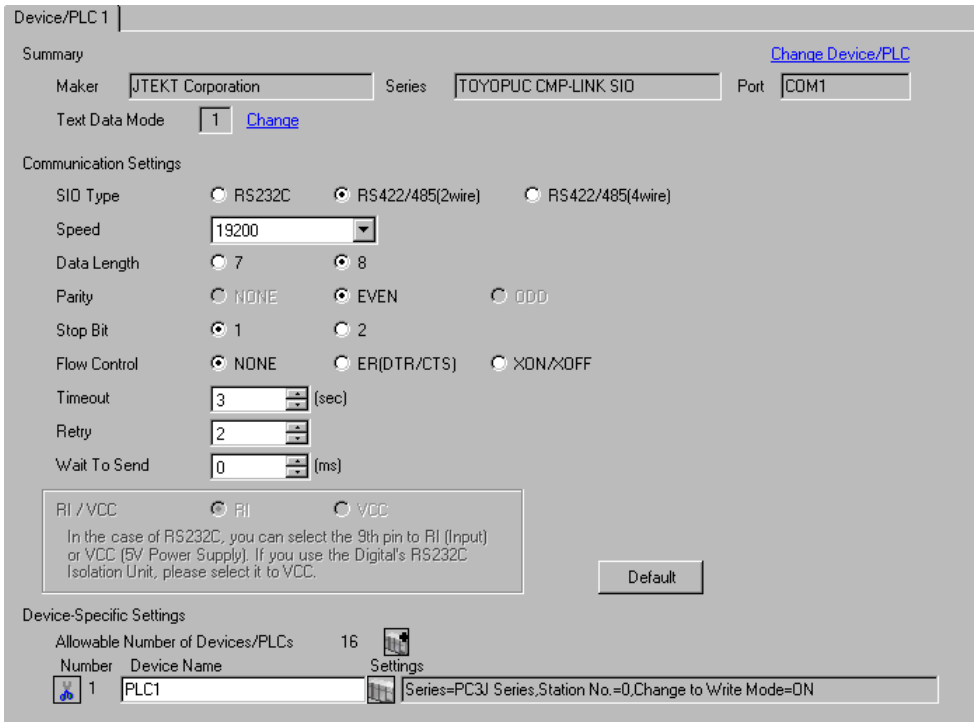
Setup Items	Settings
Speed	19200bps
Data Bit	8bit
Stop Bit	1bit
Parity Bit	Even
Internal Switch	SW4-1 OFF SW4-2 ON
Station No.	1

3.3 Setting Example 3

■ Setting of GP-Pro EX

◆ Communication Settings

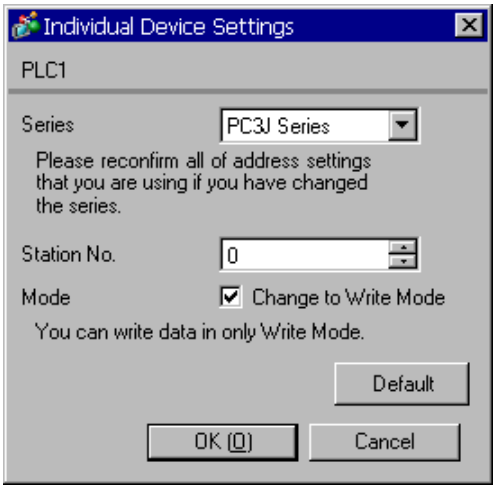
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ 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

Set the computer link module as below.

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

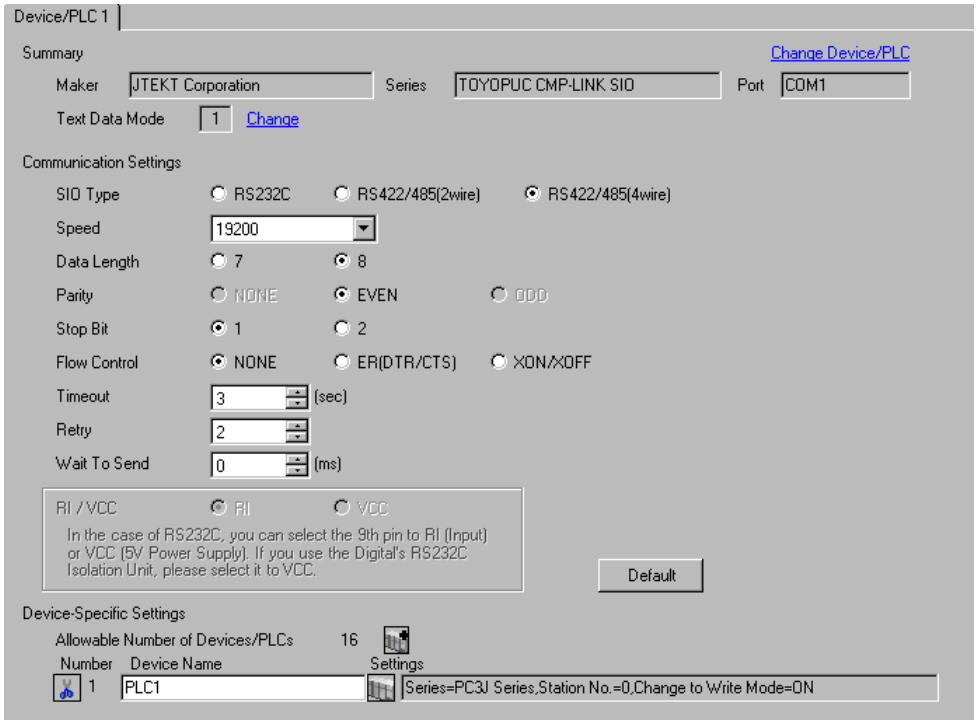
Setup Items	Settings
Speed	19200bps
Data Bit	8bit
Stop Bit	1bit
Parity Bit	Even
RS422 Connecting Port	2wire
STATION No.	0

3.4 Setting Example 4

■ Setting of GP-Pro EX

◆ Communication Settings

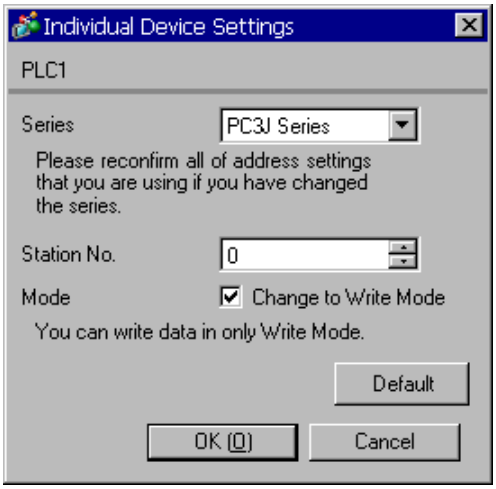
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ 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

Set the computer link module as below.

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

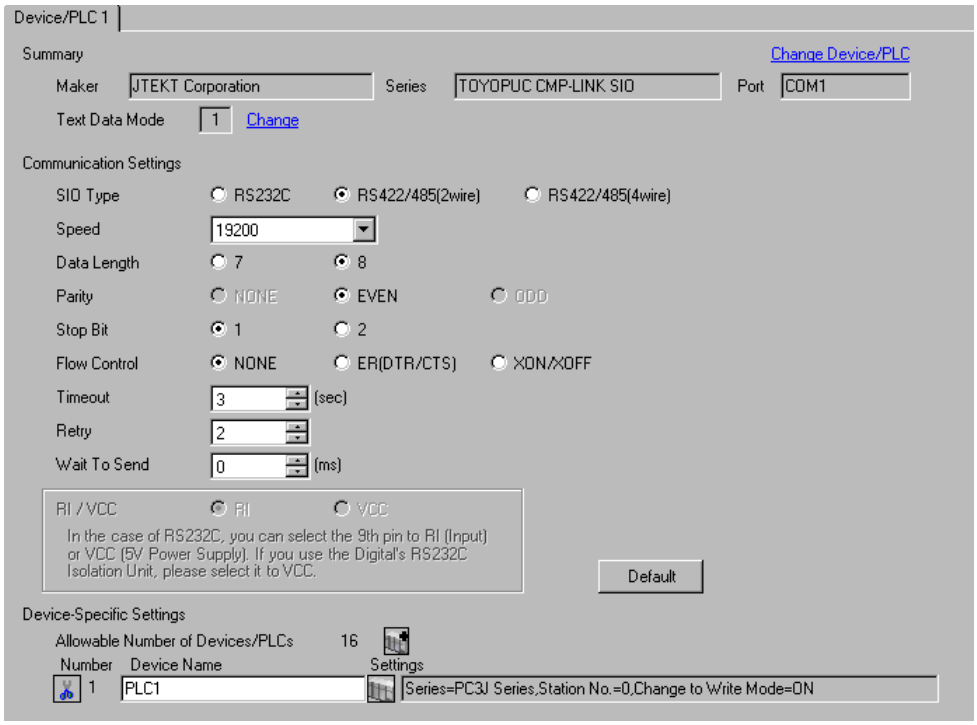
Setup Items	Settings
Speed	19200bps
Data Bit	8bit
Stop Bit	1bit
Parity Bit	Even
RS422 Connecting Port	4wire
STATION No.	0

3.5 Setting Example 5

■ Setting of GP-Pro EX

◆ Communication Settings

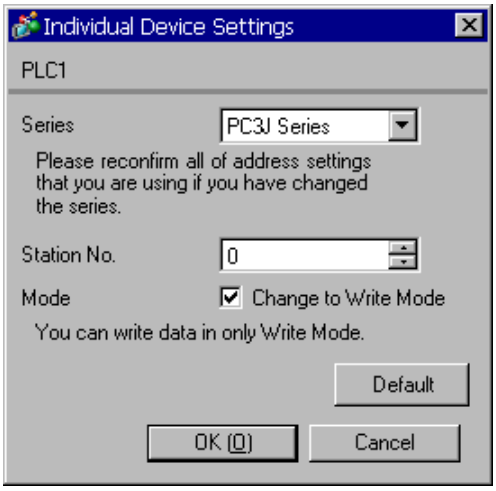
To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.



◆ 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 computer link module as below.

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

Setup Items	Settings
Speed	19200bps
Data Bit	8bit
Stop Bit	1bit
Parity Bit	Even
RS422 Connecting Port*1	2wire
STATION No.	0

*1 When using PC/CMP-LINK (THU-2755), only 2-wire type is available to use. In addition, when using PC3J command, the link unit in ver. 5.00 or higher is required.

4 Setup Items

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

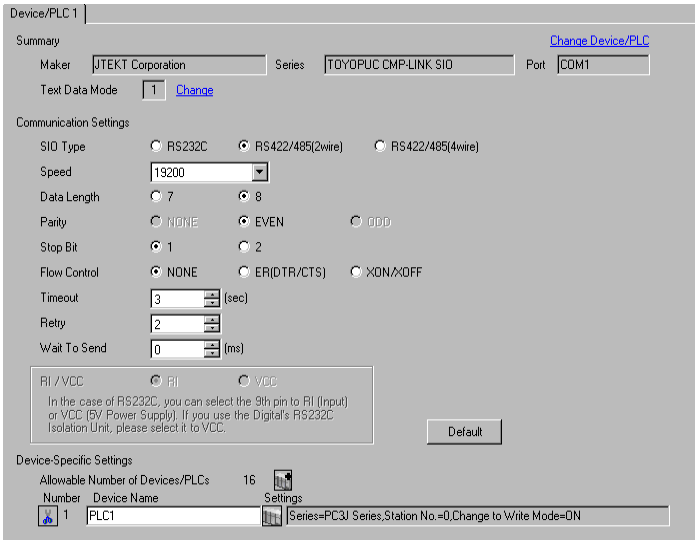
The setting of each parameter must be identical to that of External Device.

☞"3 Example of Communication Setting" (page 7)

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.

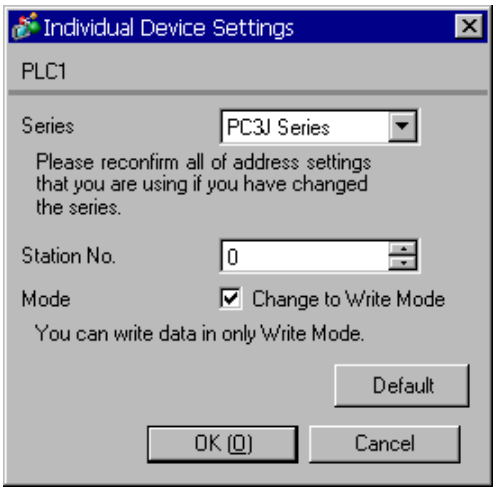


Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device.
Speed	Select speed between the External Device and the Display.
Data Length	Select data length.
Parity	Select how to check parity.
Stop Bit	Select stop bit length.
Flow Control	Select the communication 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. 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.

◆ 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 either " PC3J Series" or "PC2 Series" for the driver series name.
Station No.	Use an integer from 0 to 31 (octal) to enter the station No.
Mode	When receiving write request from GP-Pro EX, check "ON" to change the External Device to the write mode.

IMPORTANT

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

4.2 Setup Items in Off-Line Mode

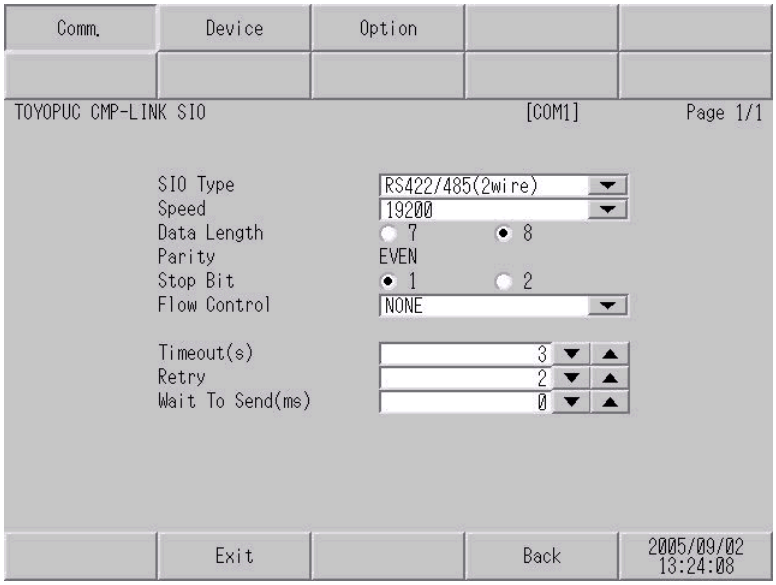
NOTE

- Please refer to Maintenance/Troubleshooting for more information on how to enter off-line mode or about operation.

  Cf. Maintenance/Troubleshooting "2.2 Offline Mode"

■ Communication Settings

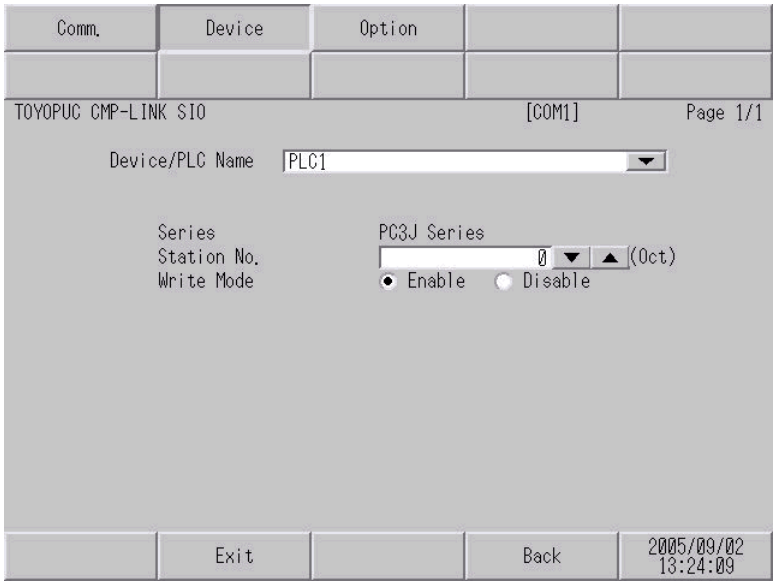
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings] in the off-line mode. Touch the External Device you want to set from the displayed list.



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.
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

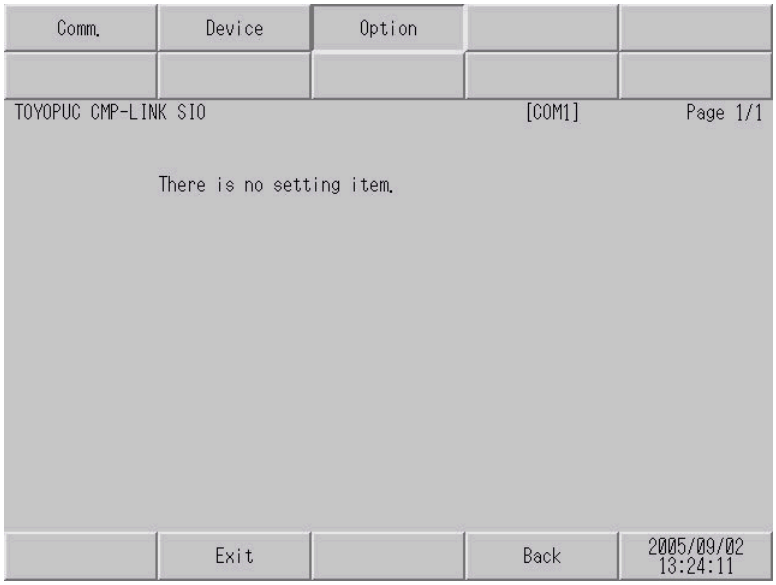
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings] in the off-line mode. Touch the External Device you want to set from the displayed list, and touch [Device].



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	Displays the series name of the External Device.
Station No.	Use an integer from 0 to 31 (octal) to enter the station No.
Write Command	When receiving write request from GP-Pro EX, check "ON" to change the External Device to the write mode.

■ Option

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



5 Cable Diagram

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

- The FG pin of the main body of the External Device must be D-class grounded. Please refer to the manual of the External Device for more details.
- SG and FG are connected inside the Display. When connecting SG to the External Device, design the system not to form short-circuit loop.
- Use the double shield connection cable.
- Connect the isolation unit, when communication is not stabilized under the influence of a noise etc.

Cable Diagram 1

Display (Connection Port)	Cable		Remarks
GP[*1] (COM1) AGP-3302B (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + 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[*2] (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	
IPC[*3]	E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	F	Your own cable	

*1 All GP models except AGP-3302B

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

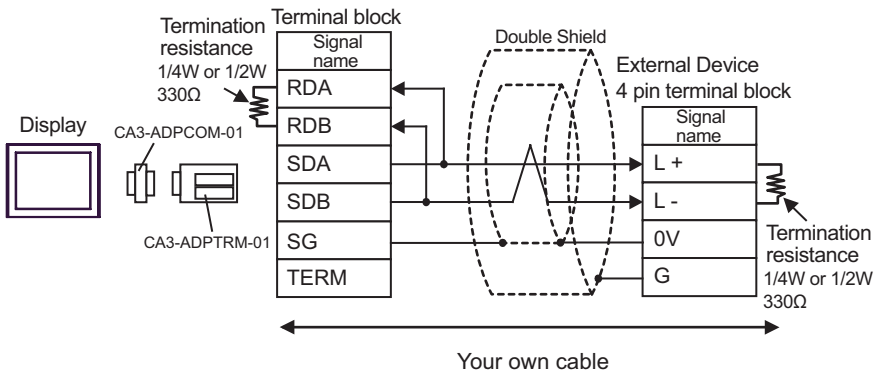
*3 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
☞■ COM Port of IPC (page 4)

NOTE

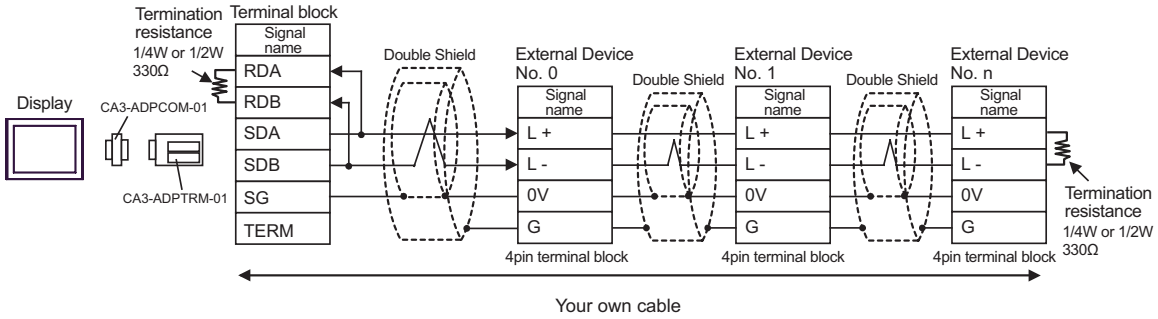
- For connection cable, we recommend the double shield 0-VCTF-SS 2C*0.75mm2 by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of the External Device must be D-class grounded.
- Select either on the External Device or on the Display depending on installation environment to connect FG to the shield cable.
- Please be sure to connect signal ground (SG) when connecting the communication cable.
- In RS422 connection, please refer to the manual of JTEKT Corporation for the cable length.

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

- 1:1 Connection

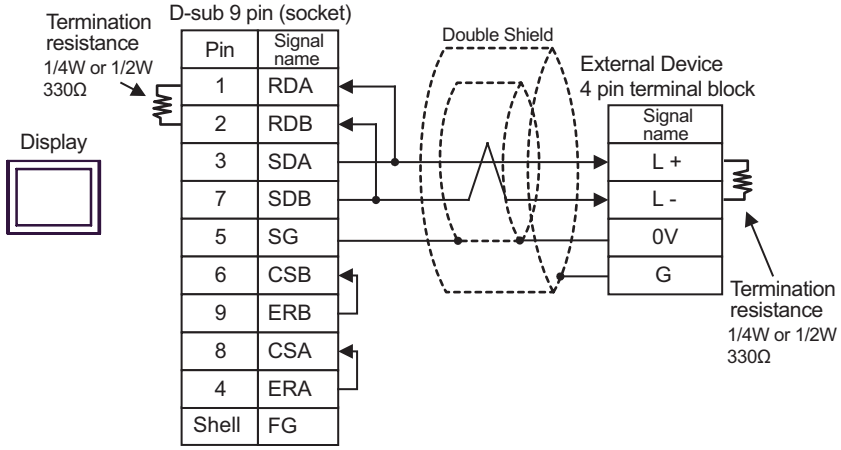


- 1:n Connection

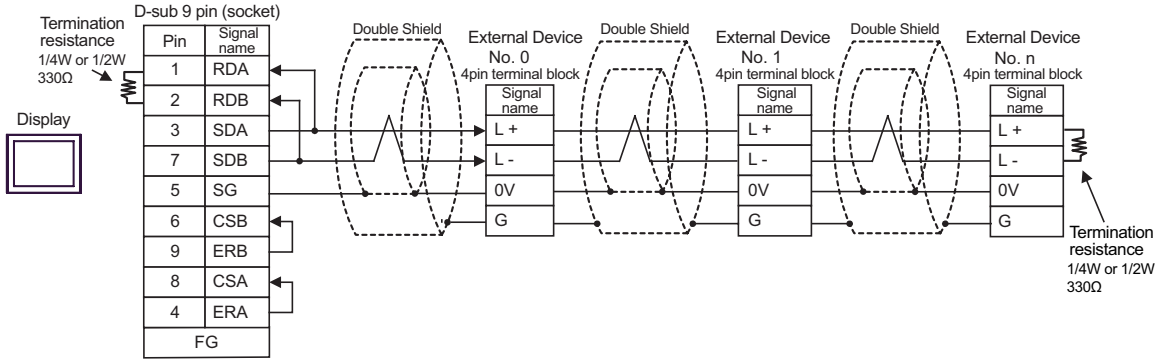


B) When using your own cable

- 1:1 Connection

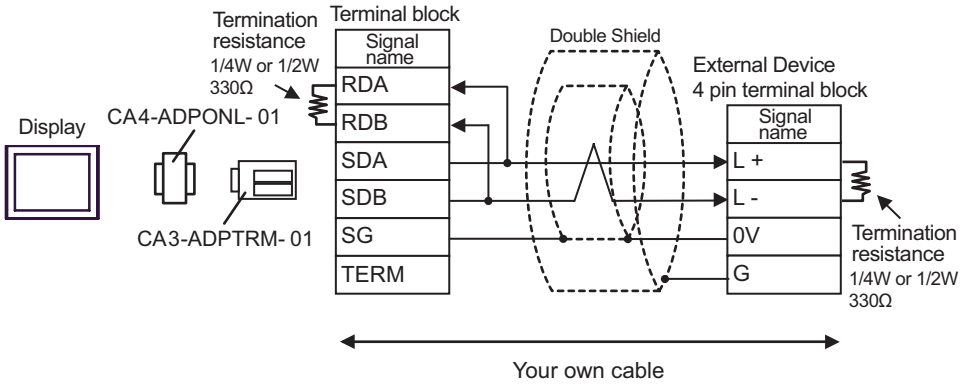


- 1:n Connection

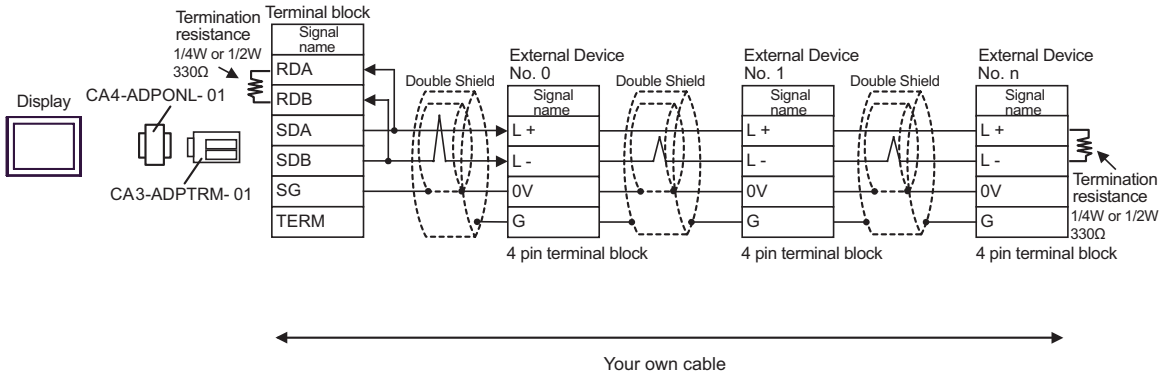


C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face, and your own cable

- 1:1 Connection

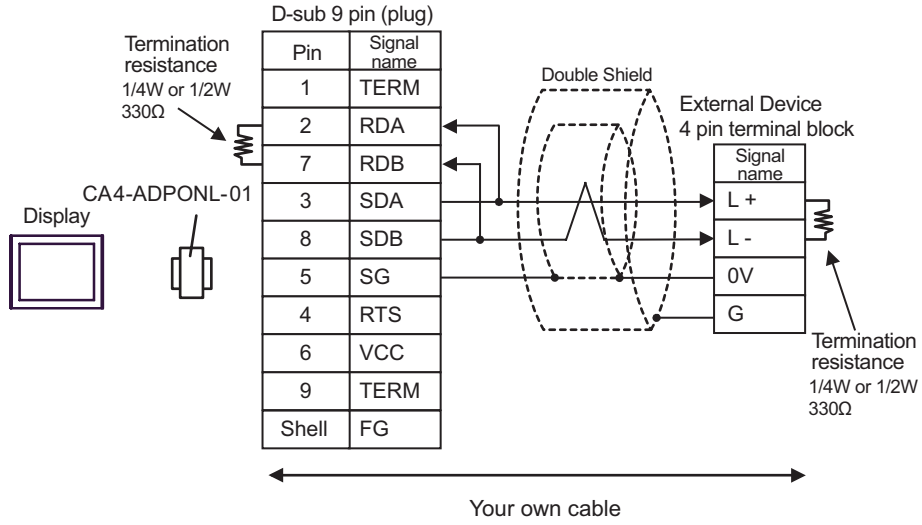


- 1:n connection

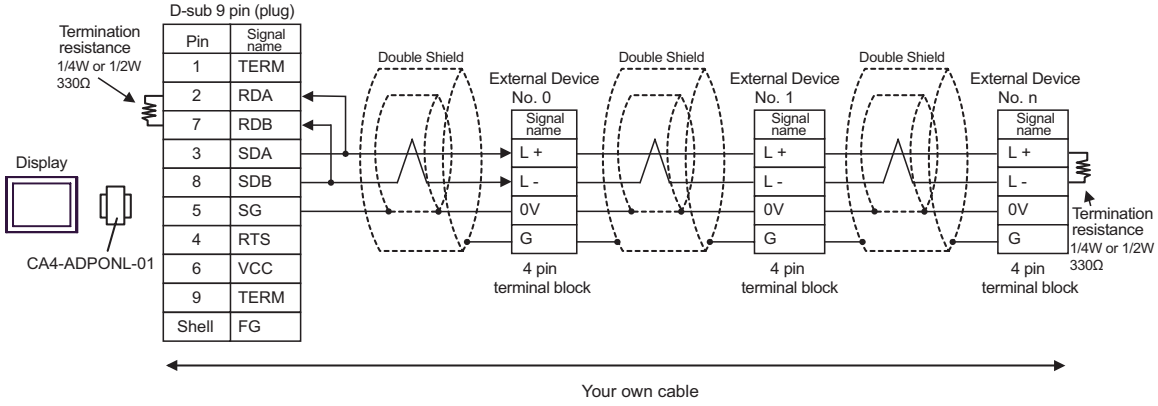


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection

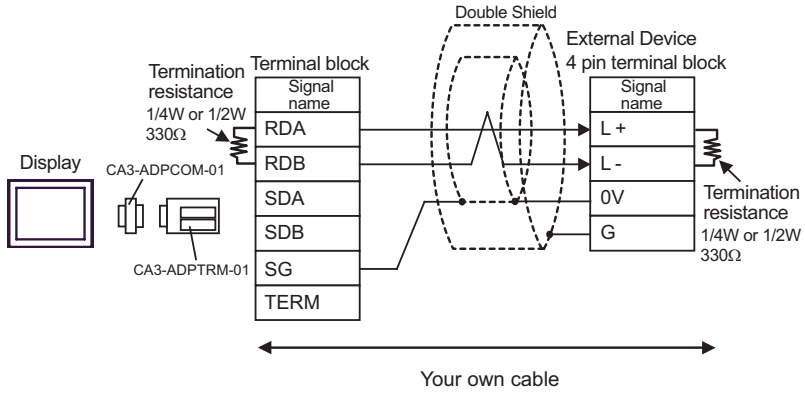


- 1:n Connection

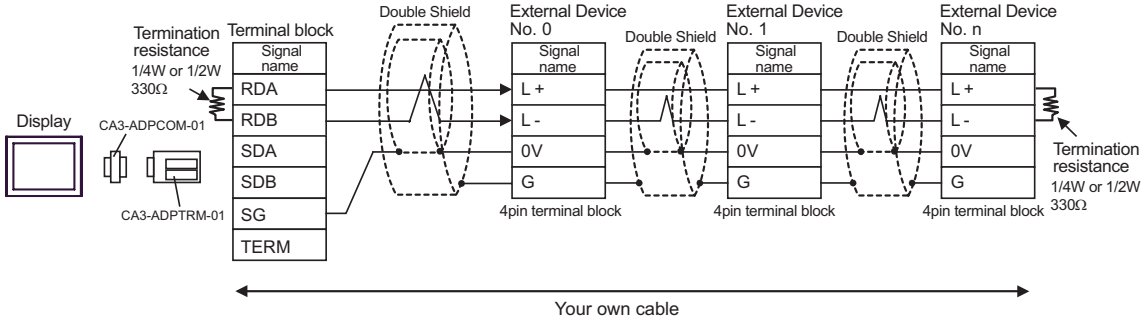


E) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face, and your own cable

- 1:1 Connection

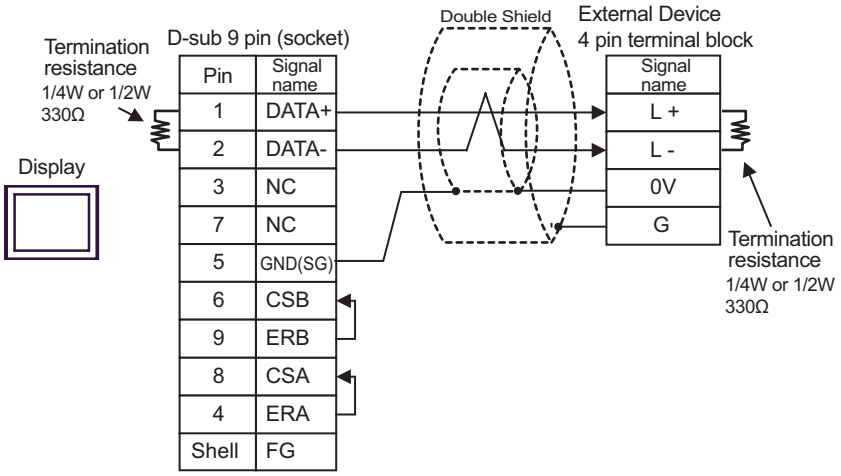


- 1:n Connection

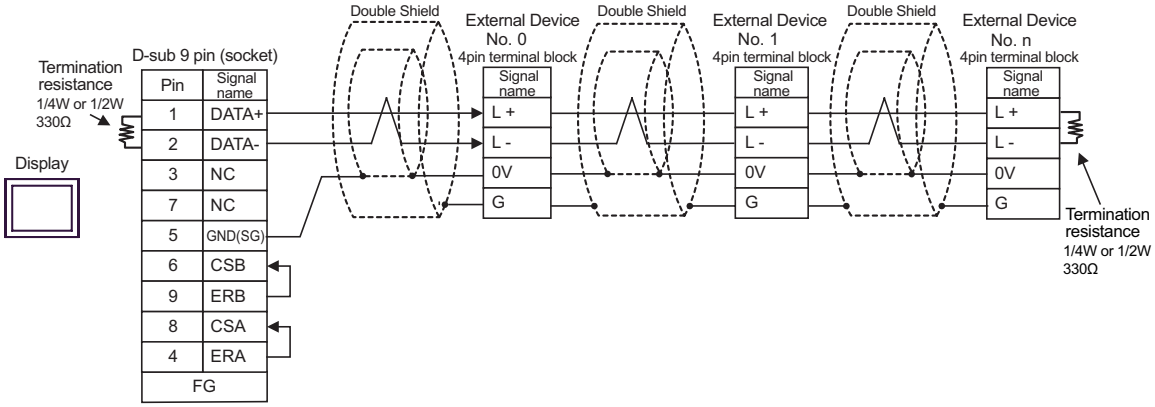


F) When using your own cable

- 1:1 Connection



- 1:n Connection



Cable Diagram 2

Display (Connection Port)	Cable		Remarks
GP*1 (COM1) AGP-3302B (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + 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*2 (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	
IPC*3	E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	F	Your own cable	

*1 All GP models except AGP-3302B

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

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

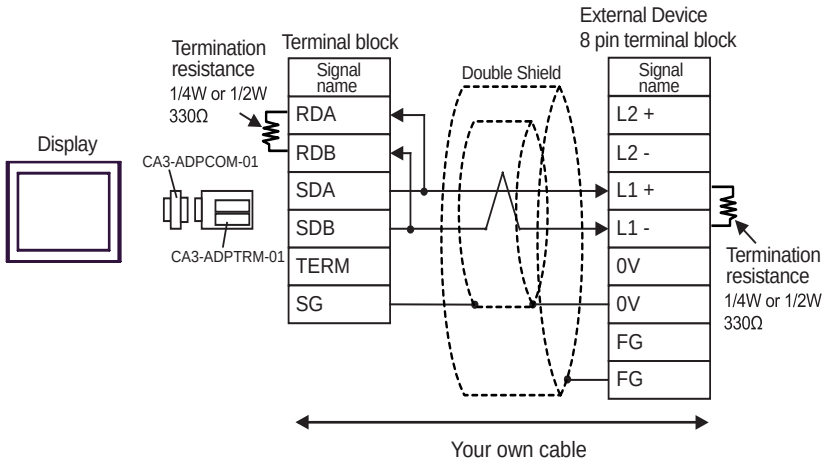
☞■ COM Port of IPC (page 4)

NOTE

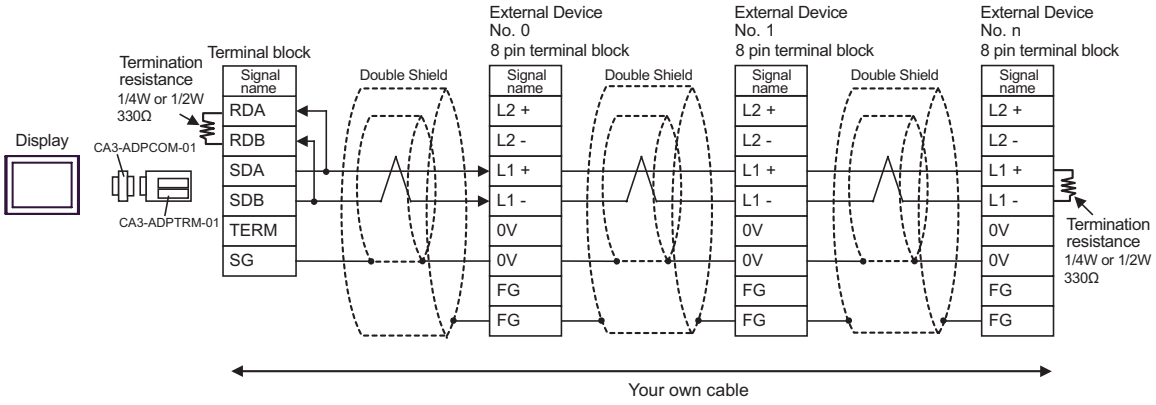
- For connection cable, we recommend the double shield 0-VCTF-SS 2C*0.75mm2 by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of the External Device must be D-class grounded.
- Select either on the External Device or on the Display depending on installation environment to connect FG to the shield cable.
- Please be sure to connect signal ground (SG) when connecting the communication cable.
- In RS422 connection, please refer to the manual of JTEKT Corporation for the cable length.

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

- 1:1 Connection

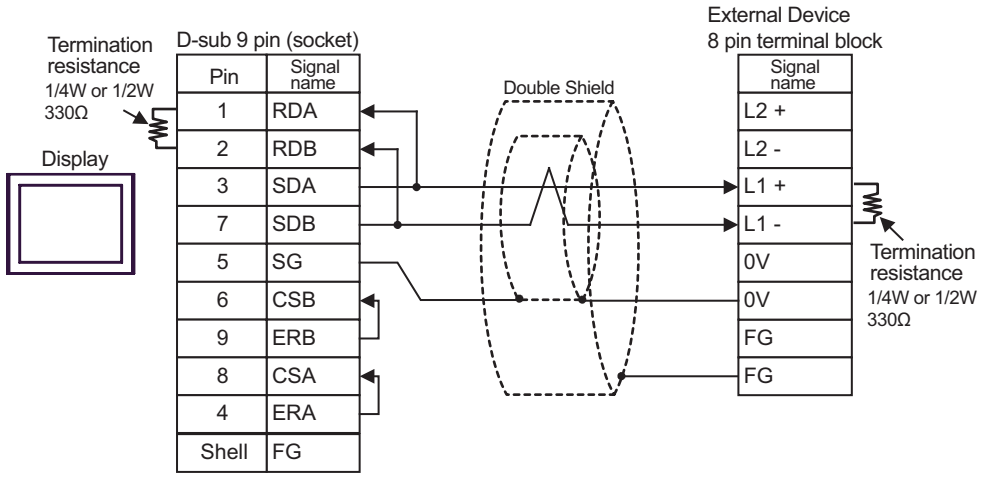


- 1:n Connection

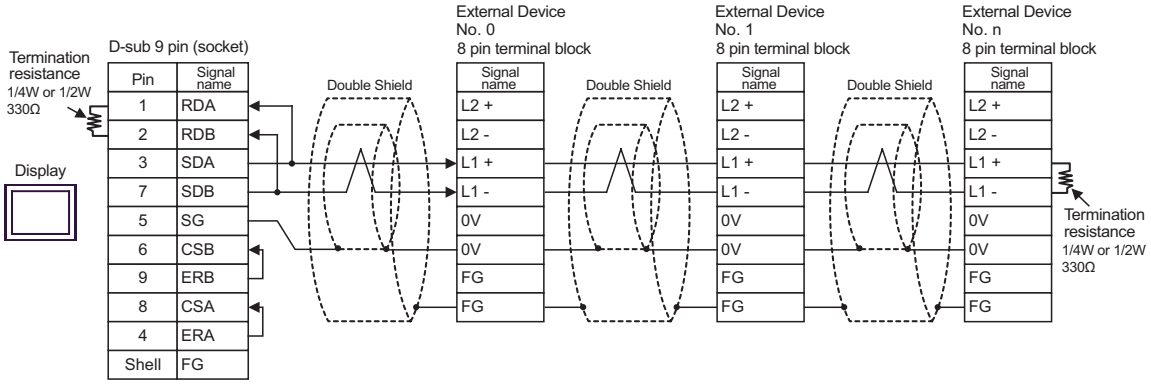


B) When using your own cable

- 1:1 Connection

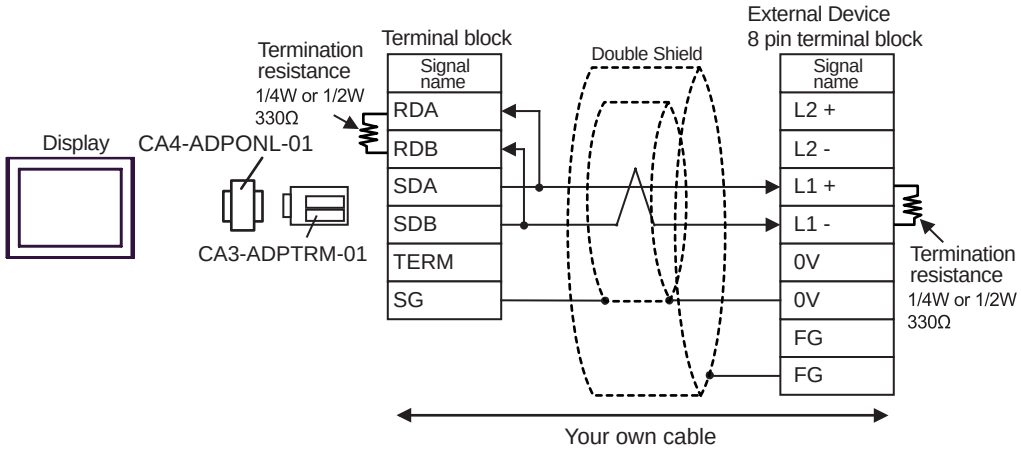


- 1:n Connection

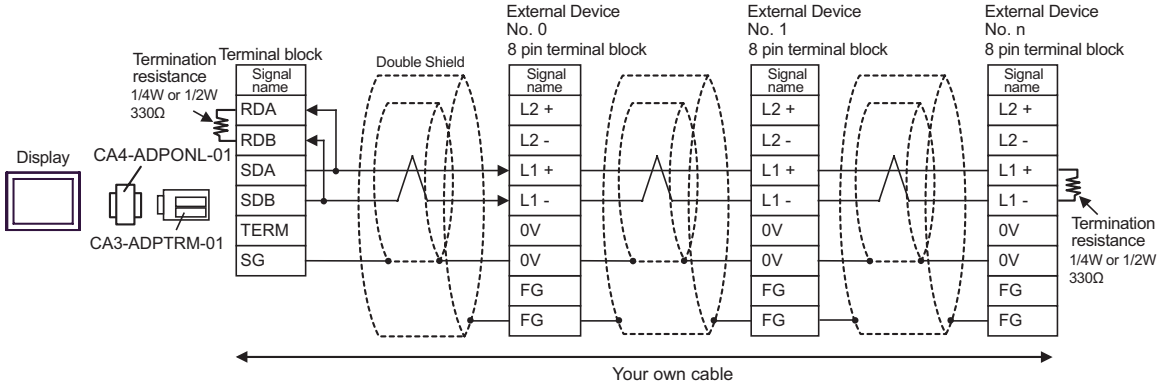


C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face, and your own cable

- 1:1 Connection

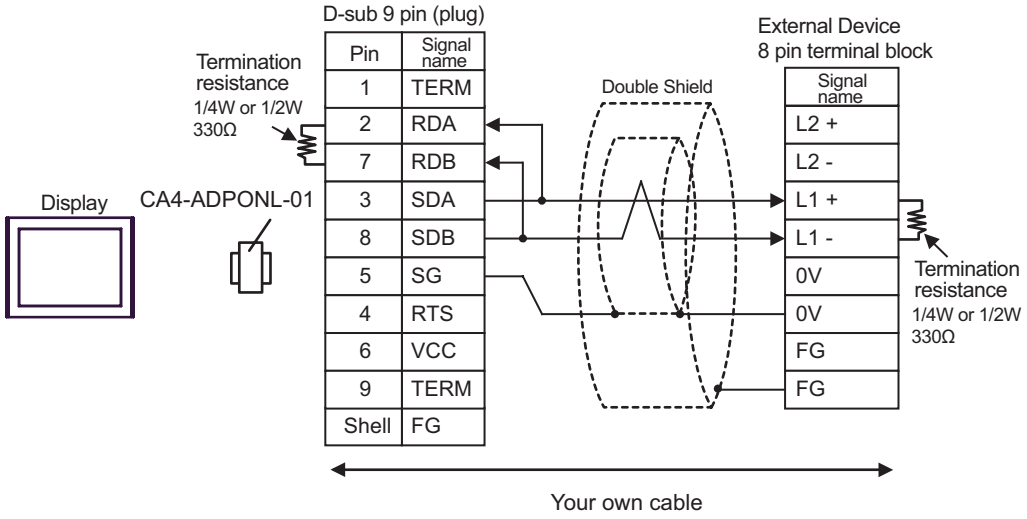


- 1:n Connection

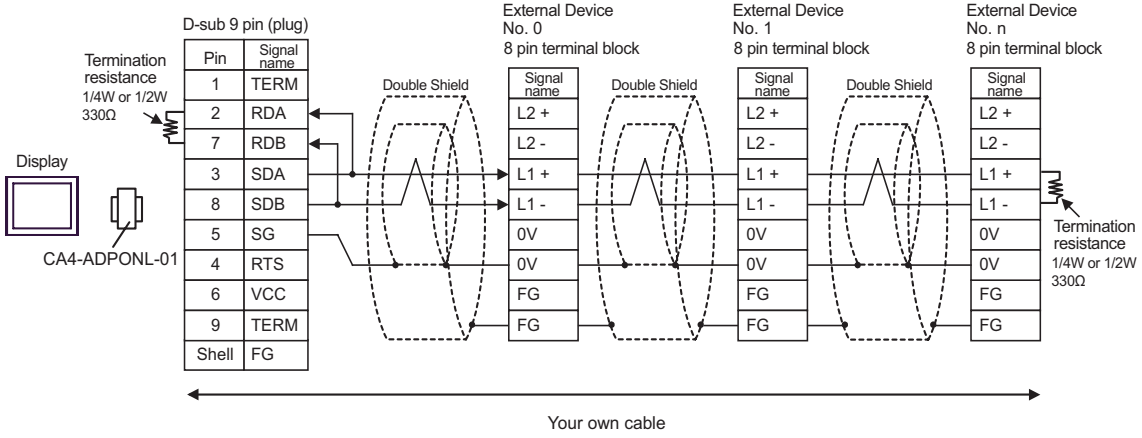


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection

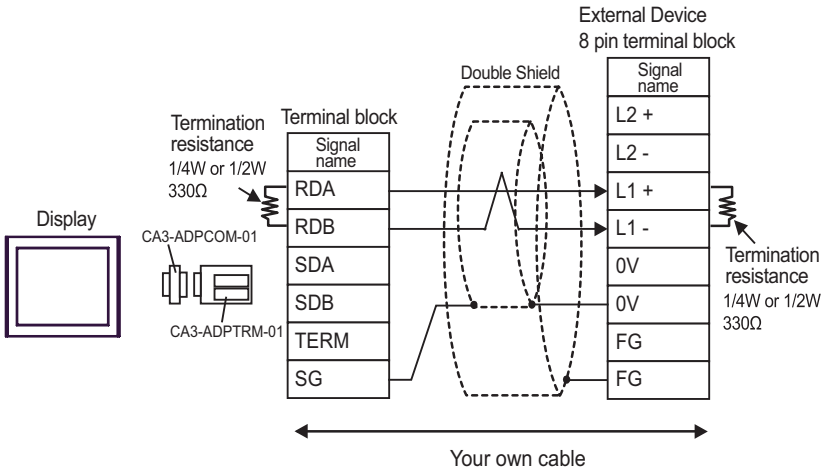


- 1:n Connection

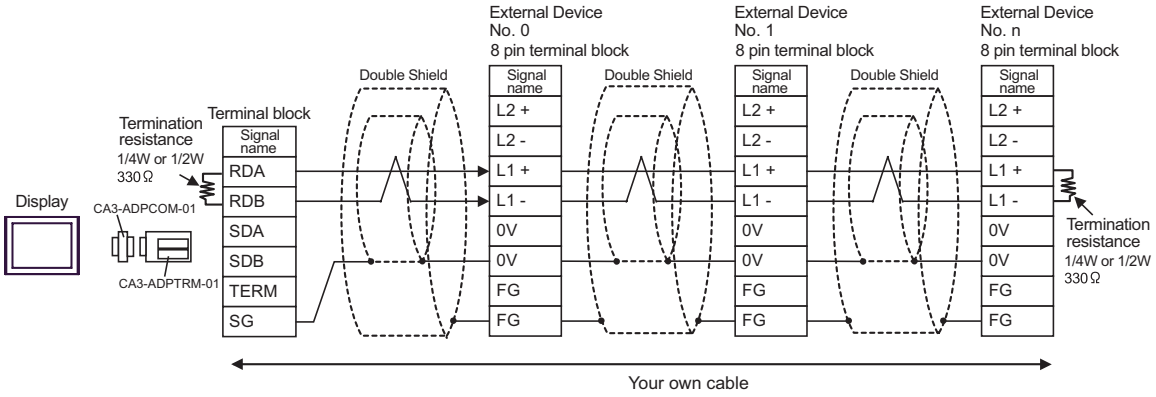


E) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face, and your own cable

- 1:1 Connection

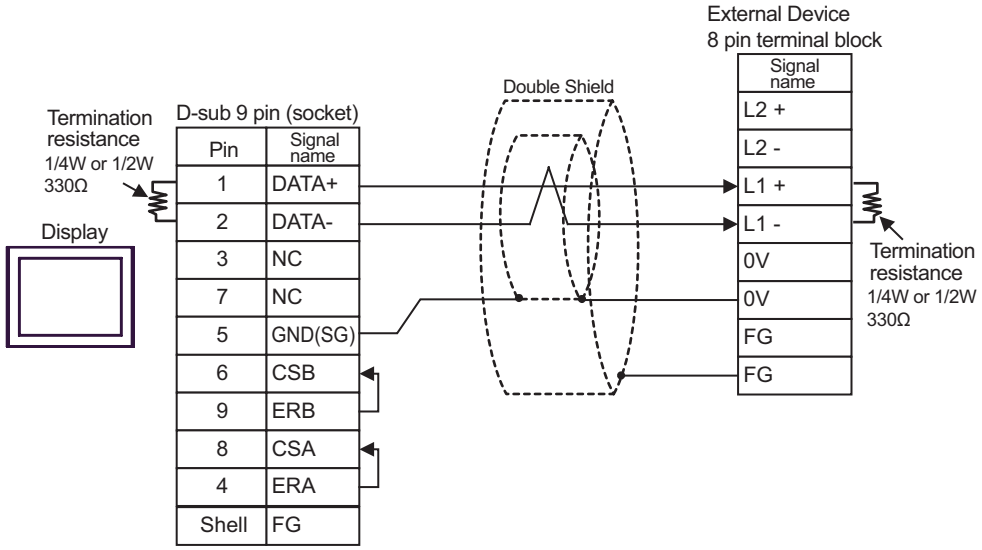


- 1:n Connection

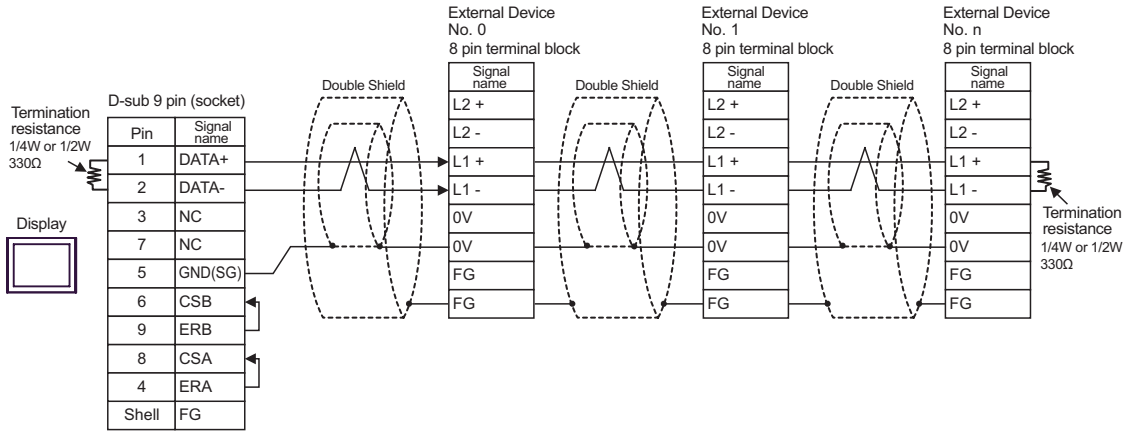


F) When using your own cable

- 1:1 Connection



- 1:n Connection



Cable Diagram 3

Display (Connection Port)	Cable		Remarks
GP[*1] (COM1) AGP-3302B (COM2) IPC[*2]	A	COM port conversion adapter (for COM1) by Pro-face CA3-ADPCOM-01 + 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[*3] (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

*1 All GP models except AGP-3302B

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

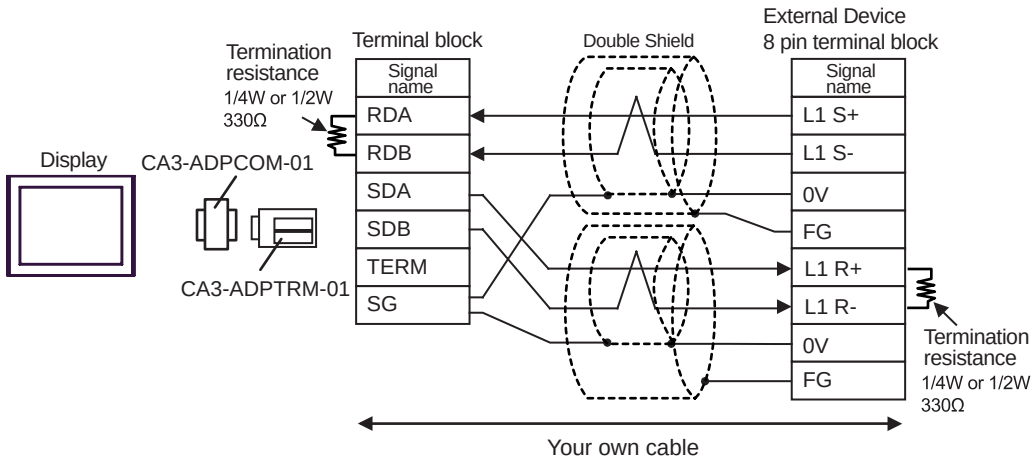
*3 All GP models except GP-3200 series and AGP-3302B

NOTE

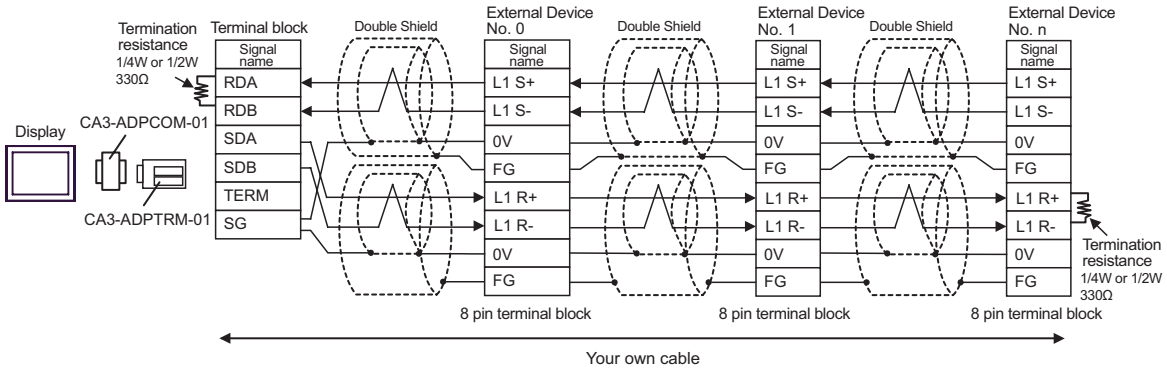
- For connection cable, we recommend the double shield 0-VCTF-SS 2C*0.75mm2 by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of the External Device must be D-class grounded.
- Select either on the External Device or on the Display depending on installation environment to connect FG to the shield cable.
- Please be sure to connect signal ground (SG) when connecting the communication cable.
- In RS422 connection, please refer to the manual of JTEKT Corporation for the cable length.

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

- 1:1 Connection

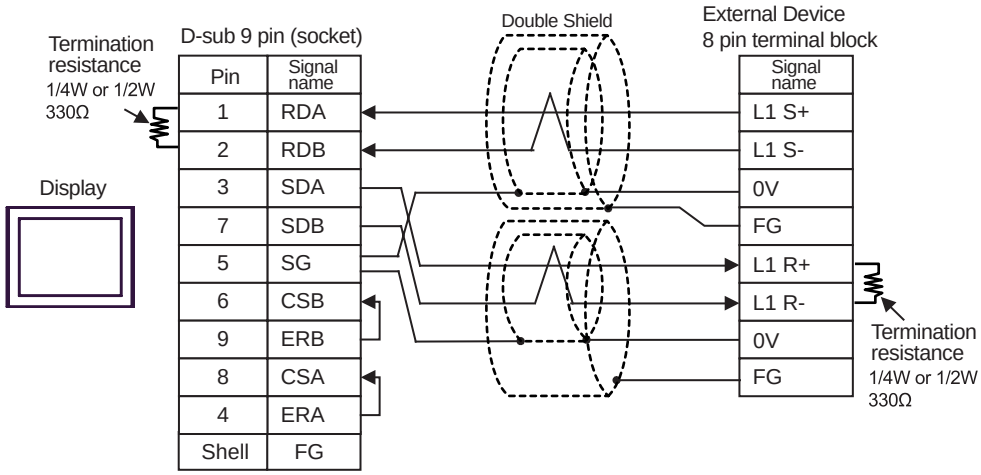


- 1:n Connection

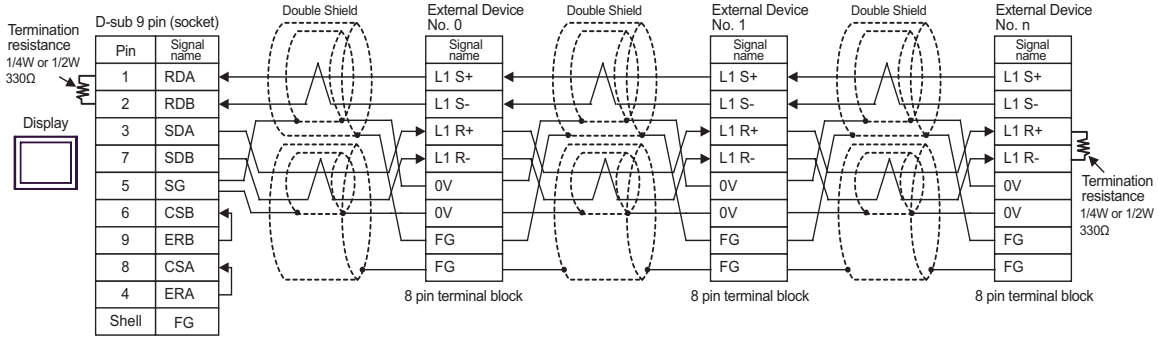


B) When using your own cable

- 1:1 Connection

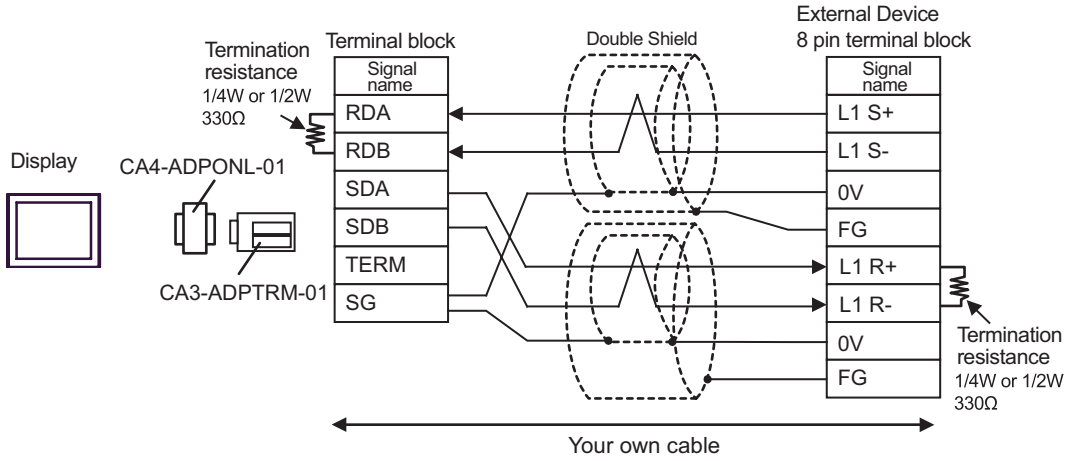


- 1:n Connection

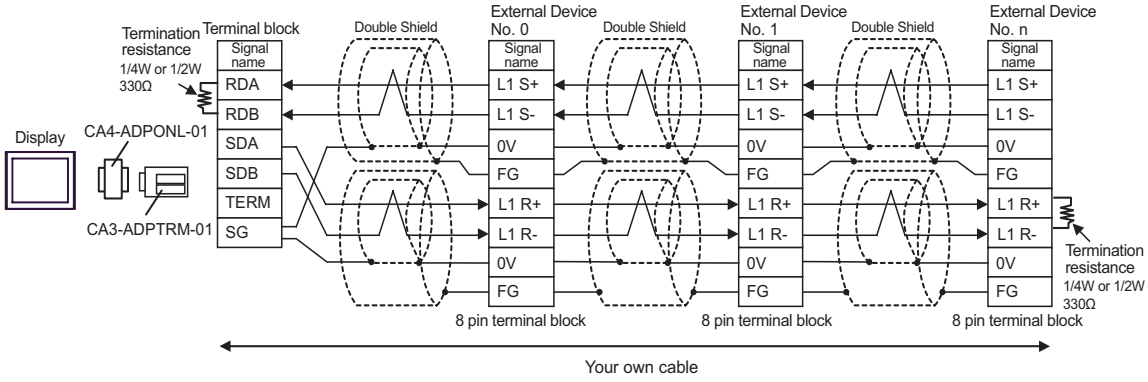


C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face, and your own cable

- 1:1 Connection

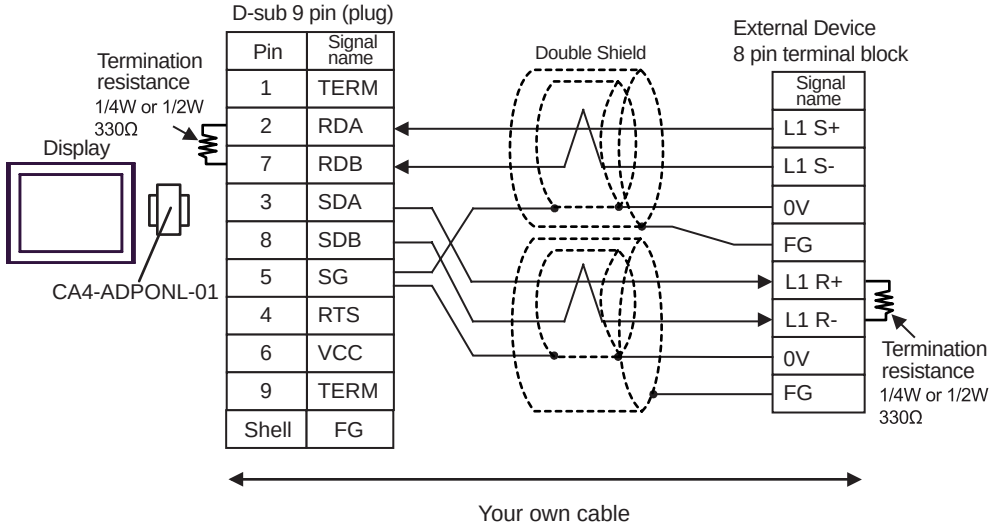


- 1:n Connection

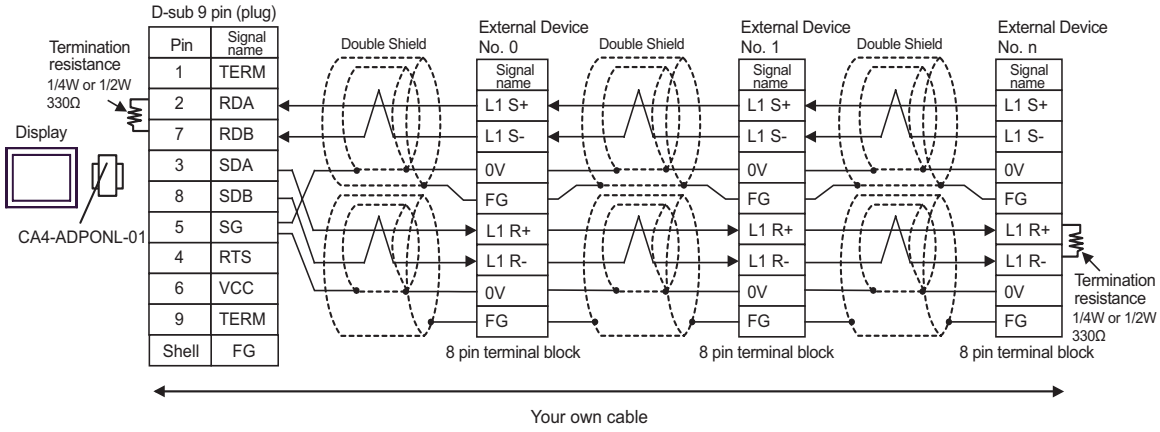


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection



- 1:n Connection



Cable Diagram 4

Display (Connection Port)		Cable	Remarks
GP[*1] (COM1) AGP-3302B (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + 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[*2] (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + 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	
IPC[*3]	E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	F	Your own cable	

*1 All GP models except AGP-3302B

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

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

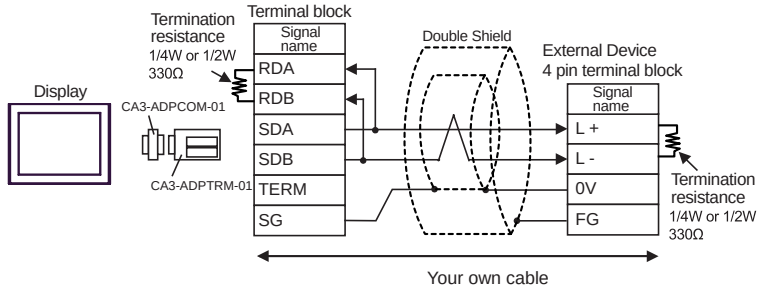
☞■ COM Port of IPC (page 4)

NOTE

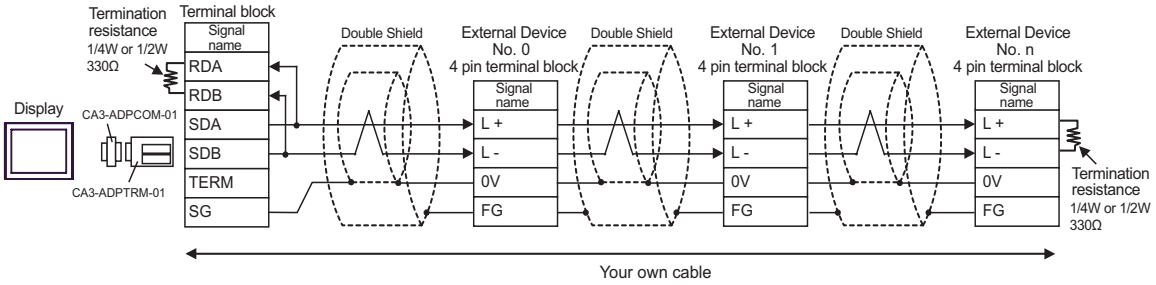
- For connection cable, we recommend the double shield 0-VCTF-SS 2C*0.75mm2 by Chugoku Electric Wire & Cable Co., Ltd., the double shield UL2464-DSS 2C x 20AWG by Chugoku Electric Wire & Cable Co., Ltd. and UL2464-2SB 2 x 20AWG by Kuramo Electric Co., Ltd.
- The FG pin of the main body of the External Device must be D-class grounded.
- Select either on the External Device or on the Display depending on installation environment to connect FG to the shield cable.
- Please be sure to connect signal ground (SG) when connecting the communication cable.
- In RS422 connection, please refer to the manual of JTEKT Corporation for the cable length.

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

- 1:1 Connection

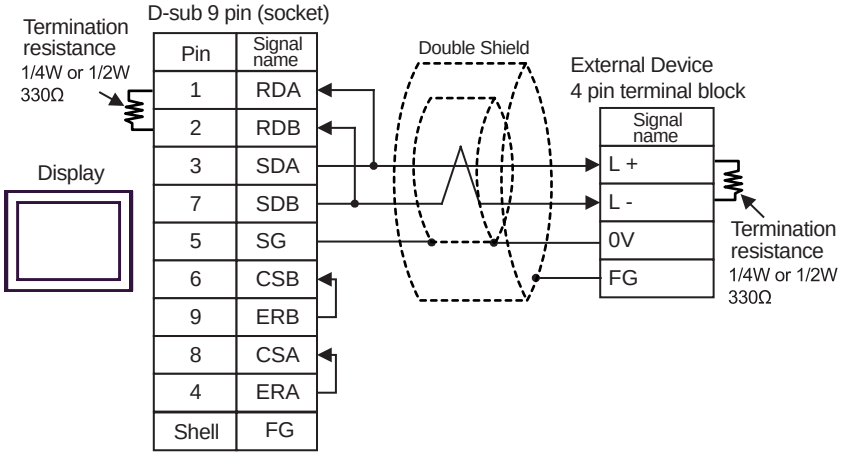


- 1:n Connection

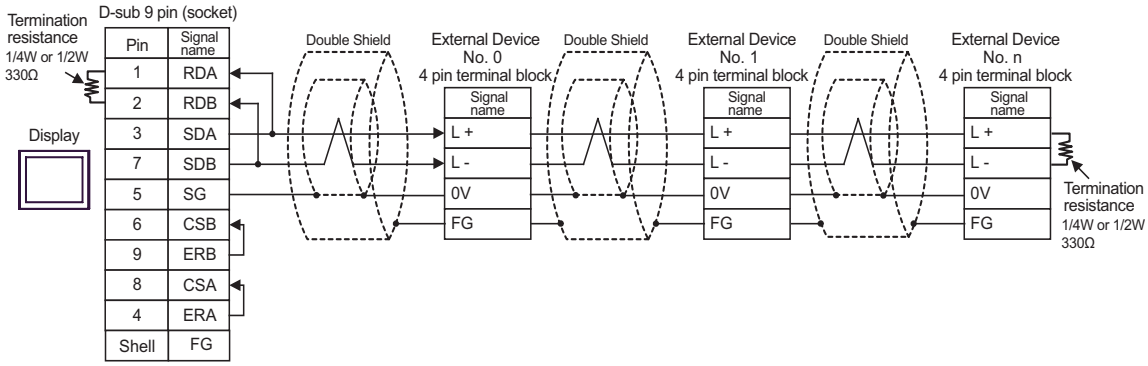


B) When using your own cable

- 1:1 Connection

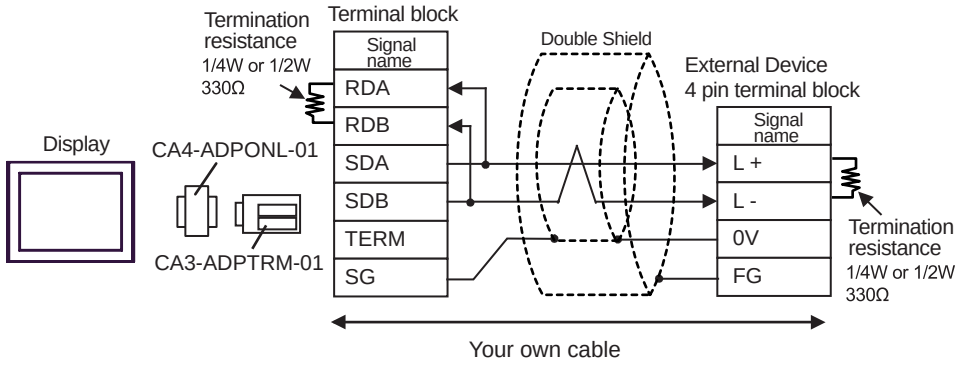


- 1:n Connection

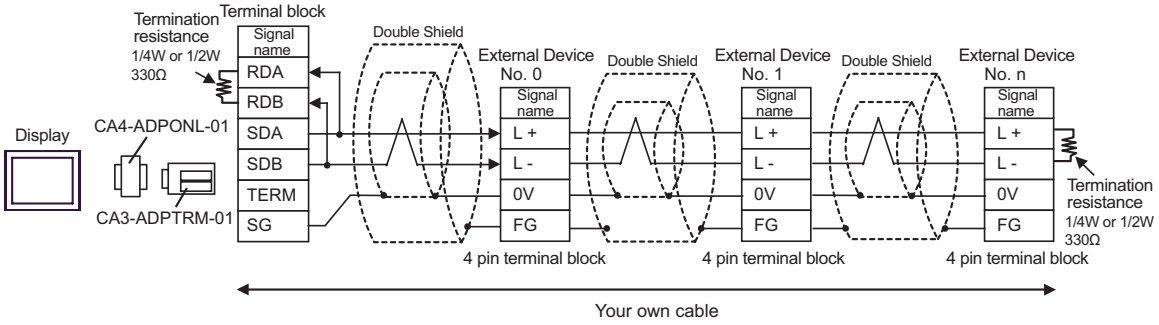


C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face, and your own cable

- 1:1 Connection

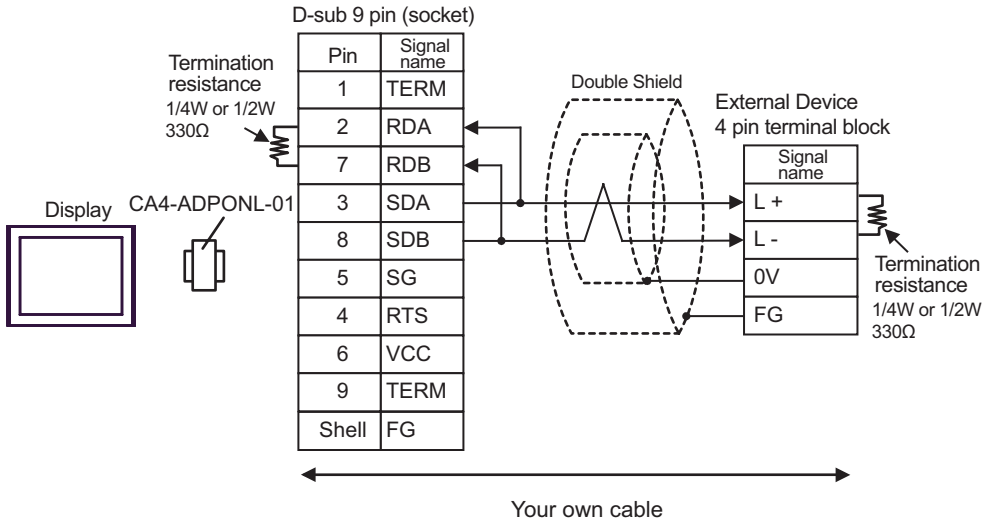


- 1:n Connection

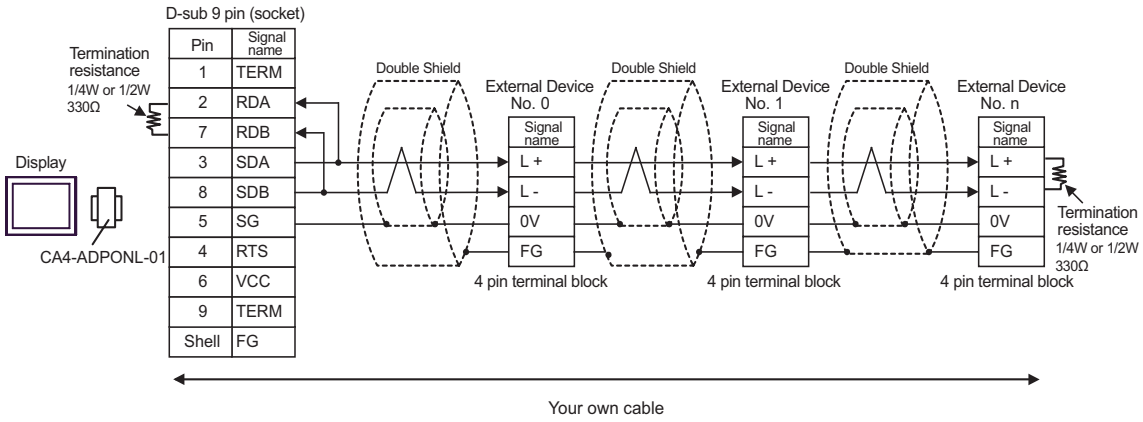


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection

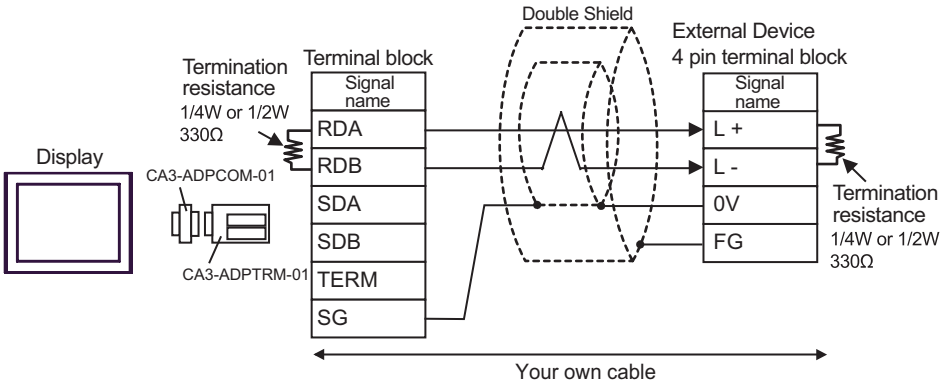


- 1:n Connection

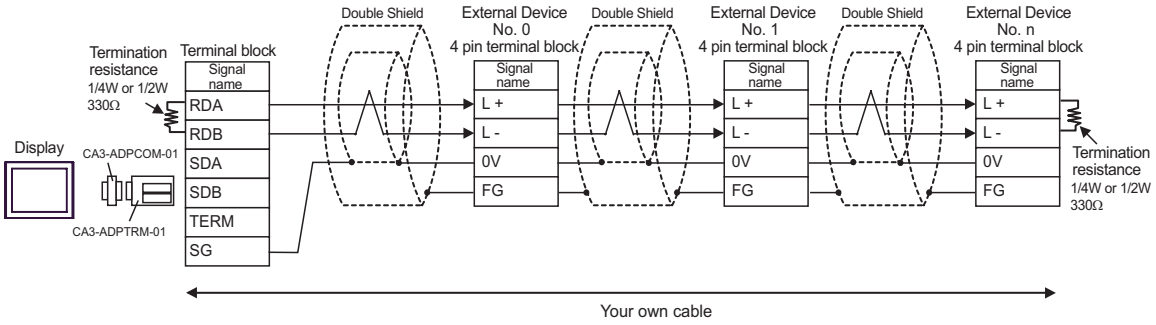


E) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face, and your own cable

- 1:1 Connection

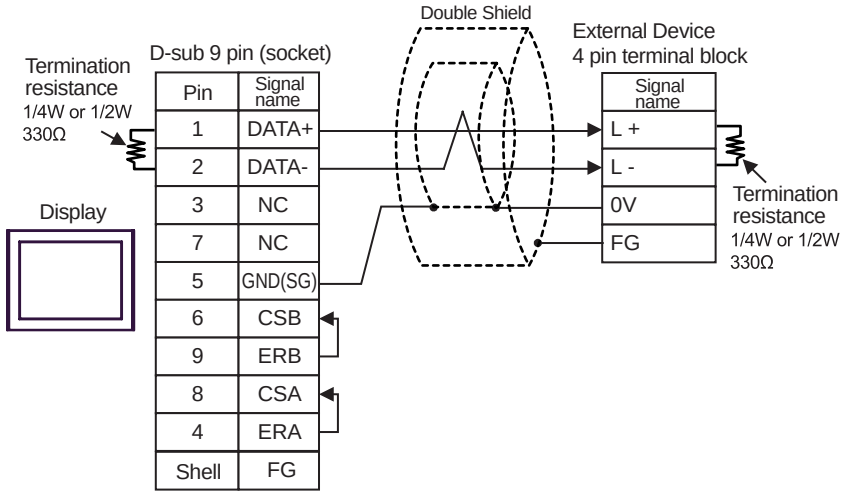


- 1:n Connection

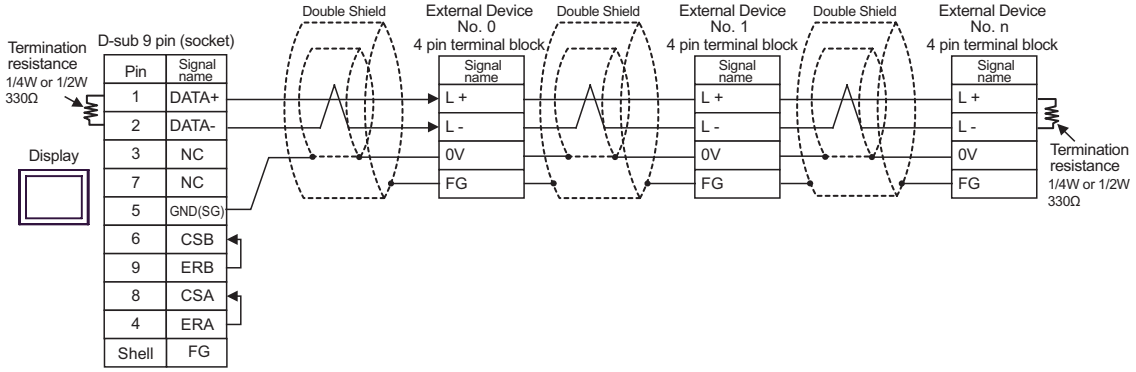


F) When using your own cable

- 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.

■ PC2 Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Remarks*1
Input Relay	X0000 - X07FF	X000 - X07F		*2
Output Relay	Y0000 - Y07FF	Y000 - Y07F		*2
Internal Relay	M0000 - M07FF	M000 - M07F		
Keep Relay	K0000 - K02FF	K000 - K02F		
Link Relay	L0000 - L07FF	L000 - L07F		
Special Relay	V0000 - V00FF	V000 - V00F		
Edge Detection	P0000 - P01FF	------		
Timer (Contact)	T0000 - T01FF	T000 - T01F	L/H	*2
Counter (Contact)	C0000 - C01FF	C000 - C01F		*2
Present Value Register	N0000-0 - N01FF-F	N0000 - N01FF		*3
Data Register	D0000-0 - D2FFF-F	D0000 - D2FFF		*3
Link Register	R0000-0 - R07FF-F	R0000 - R07FF		*3
File Register	B0000-0 - B1FFF-F	B0000 - B1FFF		*3
Special Register	S0000-0 - S03FF-F	S0000 - S03FF		*3
Watch Time Register	------	WT0 - WT6		*4 *5

*1 You can connect maximum 16 units of External Device.

*2 You cannot set the duplicate address for X and Y, T and C.
(Setting such address as X000/Y000, EX000/EY000, T000/C000, ET000/EC000 is wrong.)

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

*4 When you write "Watch Time Register", the Display reads all addresses of "Watch Time Register" in the External Device. Then the Display writes all addresses of "Watch Time Register" after the Display changes the data of your requested address. Note that the correct data may not be written if you change the word address using the ladder program while the Display reads data from the External Device and returns it.

*5 Contents of "Watch Time Register" are shown below.

Address	Mean	Note
WT0	day of week	0:Sunday, 1:Monday, 2:Tuesday, 3:Wednesday, 4:Thursday, 5:Friday, 6:Saturday
WT1	year	lower two digits of A.D.
WT2	month	
WT3	day	
WT4	hour	24-hour system
WT5	minute	
WT6	second	

NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
  Cf. GP-Pro EX Reference Manual "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"

■ PC3J, PC3JD, PC3JG

This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Remarks*1
Input Relay	1X0000 - 1X07FF	1X000W - 1X07FW		*2 *3
	2X0000 - 2X07FF	2X000W - 2X07FW		
	3X0000 - 3X07FF	3X000W - 3X07FW		
Output Relay	1Y0000 - 1Y07FF	1Y000W - 1Y07FW		*2*3
	2Y0000 - 2Y07FF	2Y000W - 2Y07FW		
	3Y0000 - 3Y07FF	3Y000W - 3Y07FW		
Internal Relay	1M0000 - 1M07FF	1M000W - 1M07FW		*2
	2M0000 - 2M07FF	2M000W - 2M07FW		
	3M0000 - 3M07FF	3M000W - 3M07FW		
Keep Relay	1K0000 - 1K02FF	1K000W - 1K02FW		*2
	2K0000 - 2K02FF	2K000W - 2K02FW		
	3K0000 - 3K02FF	3K000W - 3K02FW		
Link Relay	1L0000 - 1L07FF	1L000W - 1L07FW		*2
	2L0000 - 2L07FF	2L000W - 2L07FW		
	3L0000 - 3L07FF	3L000W - 3L07FW	L/H	
Special Relay	1V0000 - 1V00FF	1V000W - 1V00FW		*2
	2V0000 - 2V00FF	2V000W - 2V00FW		
	3V0000 - 3V00FF	3V000W - 3V00FW		
Edge Detection	1P0000 - 1P01FF	------		
	2P0000 - 2P01FF	------		
	3P0000 - 3P01FF	------		
Timer (Contact)	1T0000 - 1T01FF	1T000W - 1T01FW		*2*3
	2T0000 - 2T01FF	2T000W - 2T01FW		
	3T0000 - 3T01FF	3T000W - 3T01FW		
Counter (Contact)	1C0000 - 1C01FF	1C000W - 1C01FW		*2*3
	2C0000 - 2C01FF	2C000W - 2C01FW		
	3C0000 - 3C01FF	3C000W - 3C01FW		
Present Value Register	1N0000-0 - 1N01FF-F	1N0000 - 1N01FF		*4
	2N0000-0 - 2N01FF-F	2N0000 - 2N01FF		
	3N0000-0 - 3N01FF-F	3N0000 - 3N01FF		

Device	Bit Address	Word Address	32bits	Remarks[*1]
Data Register	1D0000-0 - 1D2FFF-F	1D0000 - 1D2FFF [*5]		*4
	2D0000-0 - 2D2FFF-F	2D0000 - 2D2FFF [*5]		
	3D0000-0 - 3D2FFF-F	3D0000 - 3D2FFF[*5]		
Link Register	1R0000-0 - 1R07FF-F	1R0000 - 1R07FF		*4
	2R0000-0 - 2R07FF-F	2R0000 - 2R07FF		
	3R0000-0 - 3R07FF-F	3R0000 - 3R07FF		
Special Register	1S0000-0 - 1S03FF-F	1S0000 - 1S03FF		*4
	2S0000-0 - 2S03FF-F	2S0000 - 2S03FF		
	3S0000-0 - 3S03FF-F	3S0000 - 3S03FF		
File Register	B0000-0 - B1FFF-F	B0000 - B1FFF		*4
Extension Input	EX0000 - EX07FF	EX000W - EX07FW		*2*3
Extension Output	EY0000 - EY07FF	EX000W - EY07FW		*2*3
Extension Internal Relay	EM0000 - EM1FFF	EM000W - EM1FFW		*2
Extension Special Relay	EV0000 - EV0FFF	EV000W - EV0FFW		*2
Extension Keep Relay	EK0000 - EK0FFF	EK000W - EK0FFW	L/H	*2
Extension Edge Detection	EP0000 - EP0FFF	------		
Extension Timer	ET0000 - ET07FF	ET000W - ET07FW		*2*3
Extension Counter	EC0000 - EC07FF	EC000W - EC07FW		*2*3
Extension Link Relay	EL0000 - EL1FFF	EL000W - EL1FFW		*2
Extension 2 Input	GX0000 - GXFFFF	GX000W - GXFFFW		*2*3*6
Extension 2 Output	GY0000 - GYFFFF	GY000W - GYFFFW		*2*3*6
Extension 2 Internal Relay	GM0000 - GMFFFF	GM000W - GMFFFW		*2*6
Extension Data Register	U0000-0 - U7FFF-F	U0000 - U7FFF		*4
Extension Setting Value Register	H0000-0 - H07FF-F	H0000 - H07FF		*4
Extension Special Register	ES0000-0 - ES07FF-F	ES0000 - ES07FF		*4
Extension Current Value Register	EN0000-0 - EN07FF-F	EN0000 - EN07FF		*4
Watch Time Register	------	WT0 - WT6		*7 *8

*1 You can connect maximum 16 units of External Device.

*2 For word description of BitDevice, add "W" to the last of the word address.
Example) When the address is 0 in M device, describe "M0000W".

*3 You cannot set the duplicate address for X and Y (EX, EY, GX, GY), T and C (ET, EC).
(Setting such address as X000/Y000, EX000/EY000, T000/C000, ET000/EC000 is wrong.)

*4 For bit description of WordDevice, describe "-" following the word address and the bit position next.
Example) When the address is 0 and the bit is 5 in D device, describe "D0000-5".

*5 Maximum address value of PC3J is 2FFF, and of PC3JD and PC3JG is 0FFF.

*6 Supported by Link I/F on the CPU of PC3JG.

*7 When you write "Watch Time Register", the Display reads all addresses of "Watch Time Register" in the External Device. Then the Display writes all addresses of "Watch Time Register" after the Display changes the data of your requested address. Note that the correct data may not be written if you change the word address using the ladder program while the Display reads data from the External Device and returns it.

*8 Contents of "Watch Time Register" are shown below.

Address	Mean	Note
WT0	day of week	0:Sunday, 1:Monday, 2:Tuesday, 3:Wednesday, 4:Thursday, 5:Friday, 6:Saturday
WT1	year	lower two digits of A.D.
WT2	month	
WT3	day	
WT4	hour	24-hour system
WT5	minute	
WT6	second	

NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
  Cf. GP-Pro EX Reference Manual "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 Type & Address" for the address type in data displays.

■ PC2 Series

Device	Device Name	Device Code (HEX)	Address Code
Input Relay	X	0080	Word Address
Output Relay	Y	0081	Word Address
Internal Relay	M	0082	Word Address
Keep Relay	K	0084	Word Address
Link Relay	L	0088	Word Address
Special Relay	V	0083	Word Address
Timer (Contact)	T	0086	Word Address
Counter (Contact)	C	0087	Word Address
Special Register	S	0001	Word Address
Present Value Register	N	0003	Word Address
Data Register	D	0000	Word Address
Link Register	R	0002	Word Address
File Register	B	0004	Word Address
Watch Time Register	WT	0007	Word Address

■ PC3J, PC3JD, PC3JG

Device	Device Name	Device Code (HEX)	Address Code
Input Relay	1X	0080	Word Address
	2X	0180	Word Address
	3X	0280	Word Address
Output Relay	1Y	0081	Word Address
	2Y	0181	Word Address
	3Y	0281	Word Address
Internal Relay	1M	0082	Word Address
	2M	0182	Word Address
	3M	0282	Word Address
Keep Relay	1K	0084	Word Address
	2K	0184	Word Address
	3K	0284	Word Address
Link Relay	1L	0088	Word Address
	2L	0188	Word Address
	3L	0288	Word Address
Special Relay	1V	0083	Word Address
	2V	0183	Word Address
	3V	0283	Word Address
Timer (Contact)	1T	0086	Word Address
	2T	0186	Word Address
	3T	0286	Word Address
Counter (Contact)	1C	0087	Word Address
	2C	0187	Word Address
	3C	0287	Word Address
Special Register	1S	0001	Word Address
	2S	0101	Word Address
	3S	0201	Word Address
Present Value Register	1N	0003	Word Address
	2N	0103	Word Address
	3N	0203	Word Address

Device	Device Name	Device Code (HEX)	Address Code
Data Register	1D	0000	Word Address
	2D	0100	Word Address
	3D	0200	Word Address
Link Register	1R	0002	Word Address
	2R	0102	Word Address
	3R	0202	Word Address
File Register	B	0004	Word Address
Extension Setting Value Register	H	0006	Word Address
Extension Data Register	U	0005	Word Address
Extension Input	EX	0090	Word Address
Extension Output	EY	0091	Word Address
Extension Internal Relay	EM	0092	Word Address
Extension Keep Relay	EK	0094	Word Address
Extension Link Relay	EL	0098	Word Address
Extension Special Relay	EV	0093	Word Address
Extension Timer (Contact)	ET	0096	Word Address
Extension Counter (Contact)	EC	0097	Word Address
Extension Special Register	ES	0011	Word Address
Extension Current Value Register	EN	0013	Word Address
Extension 2 Input	GX	00A0	Word Address
Extension 2 Output	GY	00A1	Word Address
Extension 2 Internal Relay	GM	00A2	Word Address
Watch Time Register	WT	0007	Word Address

8 Error Messages

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

Item	Description
No.	Error No.
Device Name	Name of the External Device where error occurs. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1])
Error Message	Displays messages related to the error which occurs.
Error Occurrence Area	Displays IP address or device address of the External Device where error occurs, or error codes received from the External Device. **NOTE** • IP address is displayed such as "IP address(Decimal): MAC address(Hex)". • Device address is diplayed 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 [02H])"

NOTE

- Please refer to the manual of the External Device for more detail of received error codes.
- Please refer to "When an error message is displayed (Error code list)" of "Maintenance/ Troubleshooting" for a common error message to the driver.