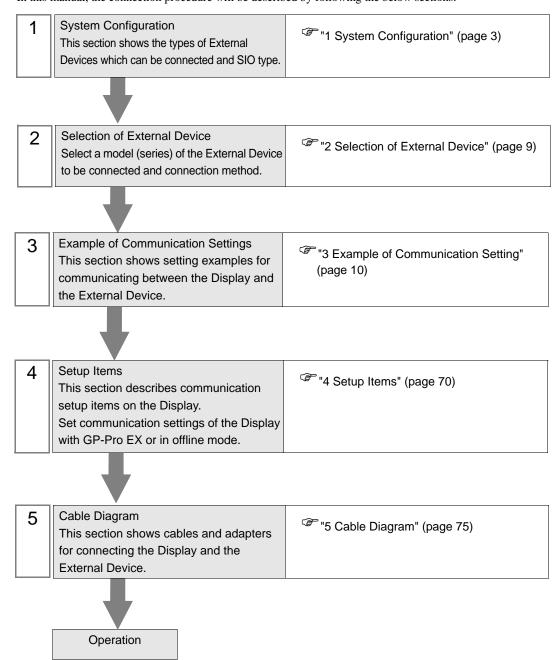
Temperature Controller MODBUS SIO Driver

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Introduction

This manual describes how to connect the Display and the External Device (target Temperature Controller). In this manual, the connection procedure will be described by following the below sections:



1 System Configuration

The system configuration in the case when the External Device of RKC Instrument Inc. and the Display are connected is shown.

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
СВ	CB100□□□□-□□*□□-5□/□Z-1021 CB400□□□□-□□*□□-5□/□Z-1021 CB500□□□□-□□*□□-5□/□Z-1021 CB700□□□□-□□*□□-5□/□Z-1021 CB900□□□□-□□*□-5□/□Z-1021	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 1 (page 10)	Cable Diagram 3 (page 81)
	FB900-00-0*0001/00-000 FB400-00-0*0001/00-000	Terminal block on the controller	RS232C	Setting Example 2 (page 12)	Cable Diagram 6 (page 100)
	FB900-00-0*0004/00-0000 FB400-00-0*0004/00-0000	Terminal block on the controller	RS422/ 485(4 wire)	Setting Example 3 (page 14)	Cable Diagram 7 (page 101)
FB400/ FB900	FB900-□□-□*□□□5/□□-□□□□ FB900-□□-□*□□□X/□□-□□□□ FB900-□□-□*□□□Y/□□-□□□□ FB400-□□-□*□□□X/□□-□□□□ FB400-□□-□*□□□X/□□-□□□□ FB400-□□-□*□□□X/□□-□□□□	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 4 (page 16)	Cable Diagram 3 (page 81)
	FB900-□□-□*□□□W/□□-□□□□	Terminal block on the controller	RS232C	Setting Example 2 (page 12)	Cable Diagram 6 (page 100)
	FB400-□□-□*□□□W/□□-□□□□	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 4 (page 16)	Cable Diagram 3 (page 81)
	HA900-D-D-D-*D-D-06D-D/D HA900-D-D-D*D-D-8-D-D/D/D HA901-D-D-D*D-D-8-D-D-D-D/D/D HA901-D-D-D-*D-D-06D-D/D/D HA400-D-D-D-*D-D-D6D-D/D/D HA401-D-D-D-8-D-D-D6D-D/D/D HA401-D-D-D-0*D-D-D6D-D/D/D	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 5 (page 18)	Cable Diagram 3 (page 81)
HA400/ HA900	HA900-DD-D8-D0-8-D0-/D HA900-DD-D8-D0-0-8-D0-/D HA901-DD-D8-DD0-8-D0-0 HA901-DD-DD8-DD0-8-D0-0 HA400-DD0-8-DD0-8-D0-0 HA401-DD0-0-8-D0-0-8-D0-0 HA401-DD0-0-8-D0-0-8-D0-0	Terminal block on the controller	RS232C	Setting Example 6 (page 20)	Cable Diagram 6 (page 100)
	HA900-DD-DD-D*DD-DD-D7-D/D/D HA901-DD-DD-D*DD-DD-D7-D/D/D HA400-DD-DD-D*DD-DD-D7-D/D/D HA401-DD-DD-D*DD-DD-D7-D/D/D	Terminal block on the controller	RS422/ 485(4 wire)	Setting Example 7 (page 22)	Cable Diagram 7 (page 101)

continued to next page

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
	MA900-4□□□□-□-□*□□□-□6/□	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 8 (page 24)	Cable Diagram 3 (page 81)
MA900	MA900-4□□□□-□-□*□□□-□7/□	Terminal block on the controller	RS422/ 485(4 wire)	Setting Example 9 (page 26)	Cable Diagram 7 (page 101)
	MA900-4□□□□-□-□*□□□-□8/□	Terminal block on the controller	RS232C	Setting Example 10 (page 28)	Cable Diagram 6 (page 100)
	MA901-8□□□□-□-□*□□□-□6/□	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 8 (page 24)	Cable Diagram 3 (page 81)
MA901	MA901-8□□□□-□-□*□□□-□7/□	Terminal block on the controller	RS422/ 485(4 wire)	Setting Example 9 (page 26)	Cable Diagram 7 (page 101)
	MA901-8□□□□-□-□*□□□-□8/□	Terminal block on the controller	RS232C	Setting Example 10 (page 28)	Cable Diagram 6 (page 100)
SRV	V-TIO-A-0000-00*000-00-0-0 V-TIO-C-0000-00*000-00-0-0	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 14 (page 36)	Cable Diagram 3 (page 81)
SRX	X-TIO-A-□□-□□*□□	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 14 (page 36)	Cable Diagram 3 (page 81)
SA100	SA1000000-00-0*00-60/00	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 16 (page 40)	Cable Diagram 3 (page 81)
SA200	SA2000000-00-0*00-60/0/00	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 16 (page 40)	Cable Diagram 3 (page 81)
SR Mini HG	H-PCP-A-□1N-□*□□Z-1021	Terminal block on the controller	RS232C	Setting Example 18 (page 44)	Cable Diagram 1 (page 75)
(H-PCP-A)	H-PCP-A-□4N-□*□□Z-1021	Terminal block on the controller	RS422/ 485(4 wire)	Setting Example 19 (page 46)	Cable Diagram 2 (page 77)

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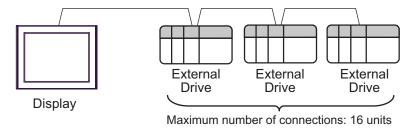
Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
	H-PCP-J-□4□-D*□□	Connector on the controller	RS422/ 485(4 wire)	Setting Example 20 (page 48)	Cable Diagram 4 (page 87)
	H-PCP-J-□5□-D*□□	Connector on the controller	RS422/ 485(2 wire)	Setting Example 21 (page 51)	Cable Diagram 5 (page 91)
SR Mini HG (H-PCP-J)	H-PCP-J-□□1-D*□□	Connector on the controller	RS232C	Setting Example 22 (page 54)	Cable Diagram 1 (page 75)
	H-PCP-J-□□4-D*□□	Connector on the controller	RS422/ 485(4 wire)	Setting Example 20 (page 48)	Cable Diagram 8 (page 105)
	H-PCP-J-□□5-D*□□	Connector on the controller	RS422/ 485(2 wire)	Setting Example 21 (page 51)	Cable Diagram 9 (page 111)
SRZ (Z-TIO)	Z-TIO-AD-DDDD/DD-DDDD Z-TIO-BD-DDD/DD-DDDD Z-TIO-DD-DD/DD-DDDD Z-TIO-DD-DD/DND-DDDD	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 23 (page 56)	Cable Diagram 10 (page 120)
SRZ (Z-DIO)	Z-DIO-AD-DD/D-DDDDDDD Z-DIO-AD-DD/N	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 24 (page 58)	Cable Diagram 10 (page 120)
SRZ (Z-CT)	Z-CT-A□/□-□□ Z-CT-A□/N	Terminal block on the controller	RS422/ 485(2 wire)	Setting Example 25 (page 60)	Cable Diagram 10 (page 120)
	Z-COM-A-4□/□□□□ Z-COM-A-4□/N	COM.PORT1 or COM.PORT2	RS422/ 485(4 wire)	Setting Example 26 (page 62)	Cable Diagram 11 (page 129)
SRZ	Z-COM-A-5□/□□□□ Z-COM-A-5□/N	on the controller	RS422/ 485(2 wire)	Setting Example 27 (page 64)	Cable Diagram 12 (page 135)
(Z-COM)	Z-COM-A-□4/□□□□ Z-COM-A-□4/N	COM.PORT3 or COM.PORT4	RS422/ 485(4 wire)	Setting Example 28 (page 66)	Cable Diagram 11 (page 129)
	Z-COM-A-\(\sigma\)5/\(\sigma\)D\(\sigma\) Z-COM-A-\(\sigma\)5/\(\N\)	on the controller	RS422/ 485(2 wire)	Setting Example 29 (page 68)	Cable Diagram 12 (page 135)

■ Connection Configuration

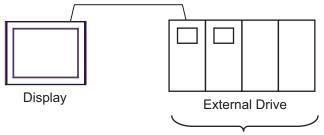
• 1:1 Connection



• 1:n Connection

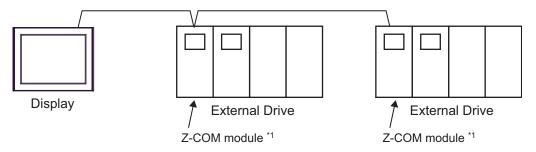


• 1:n Connection (For the SRZ (Z-TIO), SRZ (Z-DIO), and SRZ (Z-CT) Series)



Maximum number of connections: 16 units

• 1:n Connection (For the SRZ (Z-COM) Series)



^{*1} Up to 16 Z-COM modules can be connected.

■ IPC COM Port

When connecting IPC with an External Device, the COM port used depends on the series and SIO type. Please refer to the IPC manual for details.

Usable port

Series	Usable Port			
Selles	RS-232C	RS-422/485(4 wire)	RS-422/485(2 wire)	
PS-2000B	COM1 ^{*1} , COM2, COM3 ^{*1} , COM4	-	-	
PS-3450A, PS-3451A, PS3000-BA, PS3001-BD	COM1, COM2*1*2	COM2*1*2	COM2*1*2	
PS-3650A (T41 model), PS-3651A (T41 model)	COM1*1	-	-	
PS-3650A (T42 model), PS-3651A (T42 model)	COM1*1*2, COM2	COM1*1*2	COM1*1*2	
PS-3700A (Pentium®4-M) PS-3710A	COM1*1, COM2*1, COM3*2, COM4	COM3*2	COM3*2	
PS-3711A	COM1*1, COM2*2	COM2*2	COM2*2	
PS4000*3	COM1, COM2	-	-	
PL3000	COM1 ^{*1*2} , COM2 ^{*1} , COM3, COM4	COM1*1*2	COM1*1*2	

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

For connection with External Device, use user-created cables and disable Pin Nos. 1, 4, 6 and 9. Please refer to the IPC manual for details of pin layout.

DIP Switch setting: RS-232C

DIP Switch	Setting	Description	
1	OFF*1	Reserved (always OFF)	
2	OFF	SIO type: RS-232C	
3	OFF	510 type. R5-232c	
4	OFF	Output mode of SD (TXD) data: Always output	
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None	
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None	
7	OFF	Short-circuit of SDA (TXA) and RDA (RXA): Not available	
8	OFF	Short-circuit of SDB (TXB) and RDB (RXB): Not available	
9	OFF	RS (RTS) Auto control mode: Disabled	
10	OFF		

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

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

^{*3} When making communication between an External Device and COM port on the Expansion slot, only RS-232C is supported. However, ER (DTR/CTS) control cannot be executed because of the specification of COM port.

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

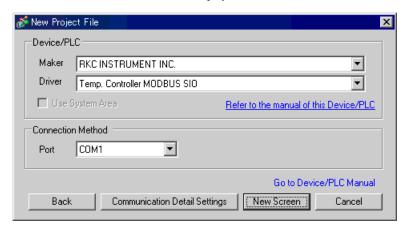
DIP Switch	Setting	Description
1	OFF	Reserved (always OFF)
2	ON	SIO type: RS-422/485
3	ON	310 type. R3-422/463
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA (RXA): Not available
8	OFF	Short-circuit of SDB (TXB) and RDB (RXB): Not available
9	OFF	RS (RTS) Auto control mode: Disabled
10	OFF	NS (N15) Auto control mode. Disabled

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

DIP Switch	Setting	Description	
1	OFF	Reserved (always OFF)	
2	ON	SIO type: RS-422/485	
3	ON	510 type. R5-422/465	
4	OFF	Output mode of SD (TXD) data: Always output	
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None	
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None	
7	ON	Short-circuit of SDA (TXA) and RDA (RXA): Available	
8	ON	Short-circuit of SDB (TXB) and RDB (RXB): Available	
9	ON	RS (RTS) Auto control mode: Enabled	
10	ON	AS (K13) Auto control mode. Enabled	

2 Selection of External Device

Select the External Device to be connected to the Display.



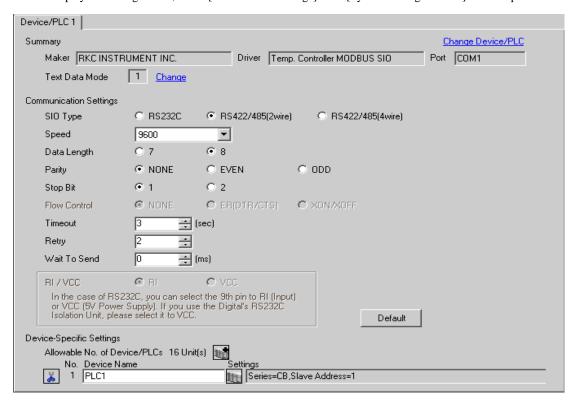
Setup Items	Setup Description	
Maker	Select the maker of the External Device to be connected. Select "RKC Instrument Inc.".	
Driver	Select a model (series) of the External Device to be connected and connection method. Select "Temperature Controller MODBUS SIO". Check the External Device which can be connected in "Temperature Controller MODBUS SIO" in system configuration. "1 System Configuration" (page 3)	
Use System Area	Cannot use in this driver.	
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 Digital Electronics Corp., are shown.

3.1 Setting Example 1

- Settings of GP-Pro EX
- ◆ Communication Settings



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



Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- While pressing down the SET key, press the shift key to move from the PV/SV display mode to the communication setting mode.
- 2. Press the SET key to select the parameter.
- 3. Press the down/up keys to change the setting.
- 4. While pressing down the SET key, press the shift key to move from the communication setting mode to the PV/SV display mode.
- 5. To confirm the setting, restart the Temperature Controller.

◆ Setting Value

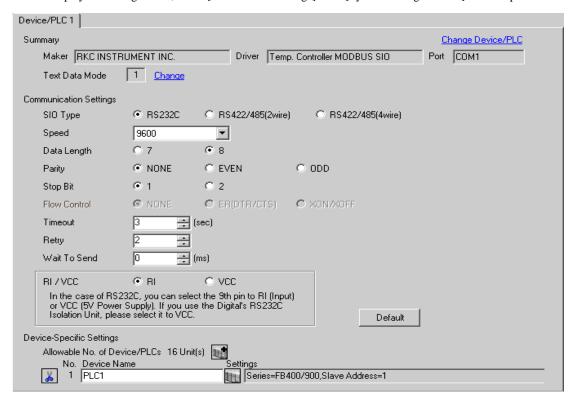
Add	1
bPS	2
bIT	0



3.2 Setting Example 2

■ Settings of GP-Pro EX

◆ Communication Settings



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



Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- While pressing down the SET key, press and hold the shift key to move from the PV/SV display mode to the engineering mode.
- 2. Press the up key several times to specify F60, and press the SET key.
- 3. Set 1 for CMP1.
- While pressing down the SET key, press the shift key to move from the engineering mode to the PV/SV display mode.
- While pressing down the SET key, press the shift key to move from the PV/SV display mode to the setup setting mode.
- 6. Press the SET key several times to select the parameter.
- 7. Press the down/up keys to change the setting.
- While pressing down the SET key, press the shift key to move from the setup setting mode to the PV/SV display mode.
- 9. To confirm the setting, restart the Temperature Controller.

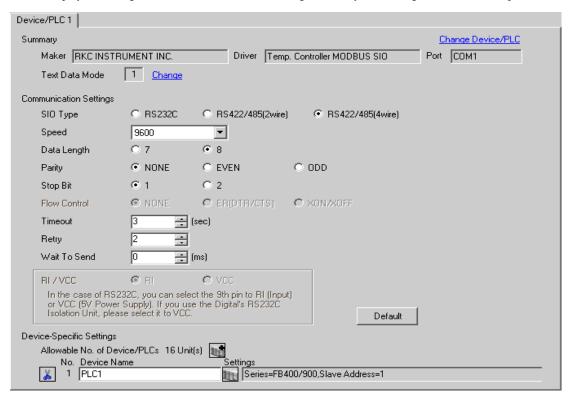
Setting Value

Add1	1
bPS1	9.6
bIT1	8n1

NOTE

3.3 Setting Example 3

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- While pressing down the SET key, press and hold the shift key to move from the PV/SV display mode to the engineering mode.
- 2. Press the up key several times to specify F60, and press the SET key.
- 3. Set 1 for CMP1.
- While pressing down the SET key, press the shift key to move from the engineering mode to the PV/SV display mode.
- 5. While pressing down the SET key, press the shift key to move from the PV/SV display mode to the setup setting mode.
- 6. Press the SET key several times to select the parameter.
- 7. Press the down/up keys to change the setting.
- While pressing down the SET key, press the shift key to move from the setup setting mode to the PV/SV display mode.
- 9. To confirm the setting, restart the Temperature Controller.

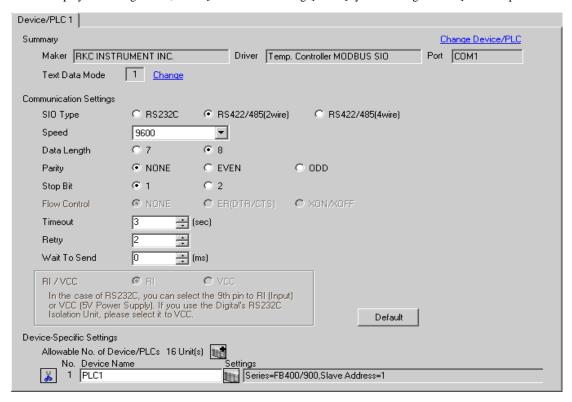
◆ Setting Value

Add1	1
bPS1	9.6
bIT1	8n1

NOTE

3.4 Setting Example 4

- Settings of GP-Pro EX
- Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- While pressing down the SET key, press and hold the shift key to move from the PV/SV display mode to the engineering mode.
- 2. Press the up key several times to specify F60, and press the SET key.
- 3. Set 1 for CMP1.
- 4. While pressing down the SET key, press the shift key to move from the engineering mode to the PV/SV display mode.
- 5. While pressing down the SET key, press the shift key to move from the PV/SV display mode to the setup setting mode.
- 6. Press the SET key several times to select the parameter.
- 7. Press the down/up keys to change the setting.
- While pressing down the SET key, press the shift key to move from the setup setting mode to the PV/SV display mode.
- 9. To confirm the setting, restart the Temperature Controller.

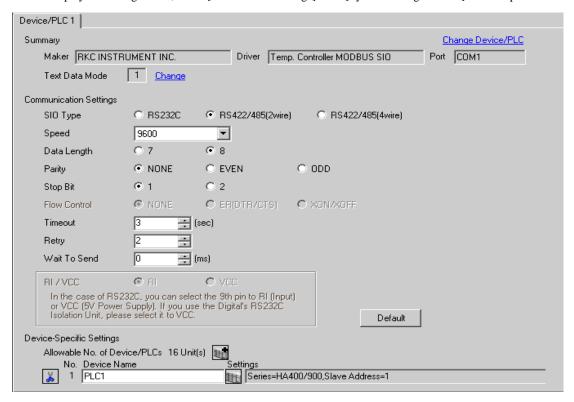
◆ Setting Value

Add1	1
bPS1	9.6
bIT1	8n1

NOTE

3.5 Setting Example 5

- Settings of GP-Pro EX
- ◆ Communication Settings



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



Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- 1. While pressing down the SET key, press the shift key to move from the SV setting & monitor mode to the setup setting mode.
- 2. Press the SET key several times to select the parameter.
- 3. Press the down/up keys to change the setting.
- 4. While pressing down the SET key, press the shift key to move from the setup setting mode to the SV setting & monitor mode.
- 5. To confirm the setting, restart the Temperature Controller.

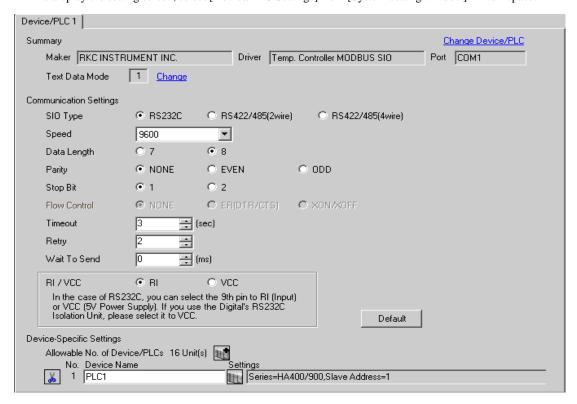
Setting Value

Add1	1
bPS1	9.6
bIT1	8n1



3.6 Setting Example 6

- Settings of GP-Pro EX
- Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- While pressing down the SET key, press the shift key to move from the SV setting & monitor mode to the setup setting mode.
- 2. Press the SET key several times to select the parameter.
- 3. Press the down/up keys to change the setting.
- 4. While pressing down the SET key, press the shift key to move from the setup setting mode to the SV setting & monitor mode.
- 5. To confirm the setting, restart the Temperature Controller.

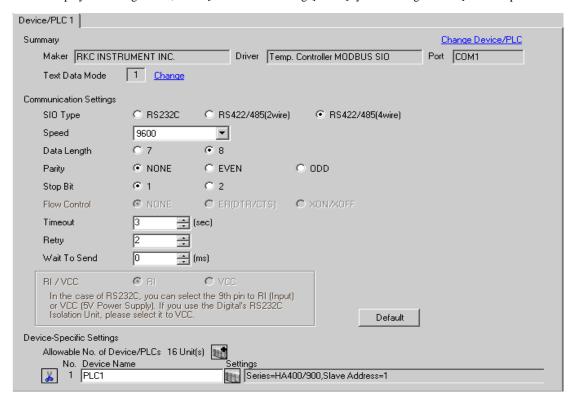
Setting Value

Add1	1
bPS1	9.6
bIT1	8n1



3.7 Setting Example 7

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- While pressing down the SET key, press the shift key to move from the SV setting & monitor mode to the setup setting mode.
- 2. Press the SET key several times to select the parameter.
- 3. Press the down/up keys to change the setting.
- 4. While pressing down the SET key, press the shift key to move from the setup setting mode to the SV setting & monitor mode.
- 5. To confirm the setting, restart the Temperature Controller.

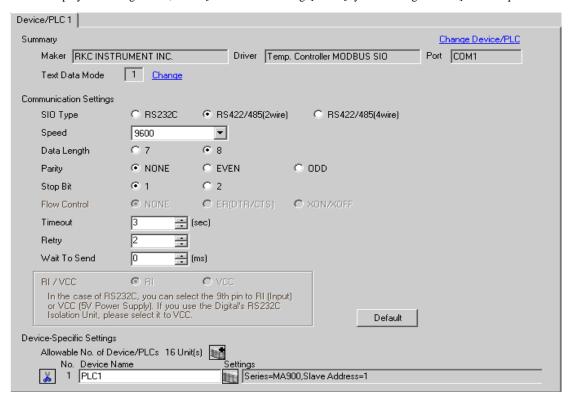
◆ Setting Value

Add1	1
bPS1	9.6
bIT1	8n1



3.8 Setting Example 8

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- 1. While pressing down the SET key, press the <R/S key to move from the PV/SV monitor mode to the setup setting mode.
- 2. Press the SET key several times to select the parameter.
- 3. Press the down/up keys and the <R/S key to change the setting.
- 4. While pressing down the SET key, press the <R/S key to move from the setup setting mode to the PV/SV monitor mode.
- 5. To confirm the setting, restart the Temperature Controller.

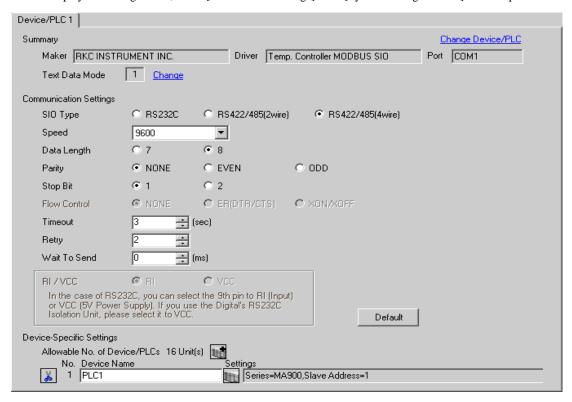
◆ Setting Value

Add	1
bPS	960
bIT	8n1

NOTE

3.9 Setting Example 9

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- While pressing down the SET key, press the <R/S key to move from the PV/SV monitor mode to the setup setting mode.
- 2. Press the SET key several times to select the parameter.
- 3. Press the down/up keys and the <R/S key to change the setting.
- 4. While pressing down the SET key, press the <R/S key to move from the setup setting mode to the PV/SV monitor mode.
- 5. To confirm the setting, restart the Temperature Controller.

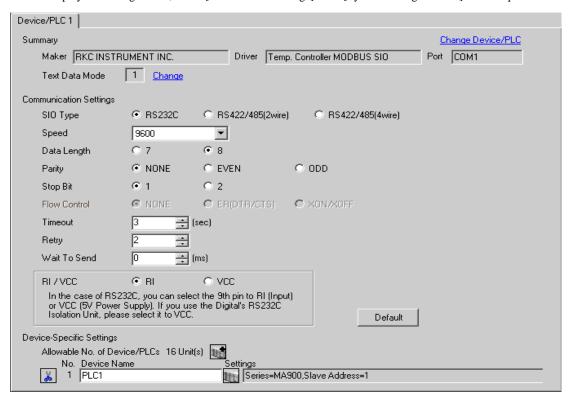
◆ Setting Value

Add	1
bPS	960
bIT	8n1

NOTE

3.10 Setting Example 10

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- 1. While pressing down the SET key, press the <R/S key to move from the PV/SV monitor mode to the setup setting mode.
- 2. Press the SET key several times to select the parameter.
- 3. Press the down/up keys and the <R/S key to change the setting.
- 4. While pressing down the SET key, press the <R/S key to move from the setup setting mode to the PV/SV monitor mode.
- 5. To confirm the setting, restart the Temperature Controller.

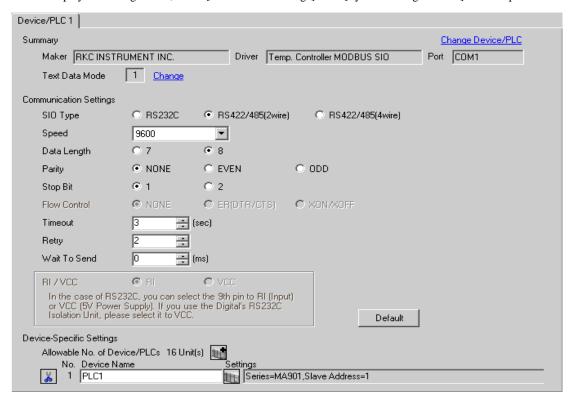
◆ Setting Value

Add	1
bPS	960
bIT	8n1

NOTE

3.11 Setting Example 11

- Settings of GP-Pro EX
- Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- 1. While pressing down the SET key, press the <R/S key to move from the PV/SV monitor mode to the setup setting mode.
- 2. Press the SET key several times to select the parameter.
- 3. Press the down/up keys and the <R/S key to change the setting.
- 4. While pressing down the SET key, press the <R/S key to move from the setup setting mode to the PV/SV monitor mode.
- 5. To confirm the setting, restart the Temperature Controller.

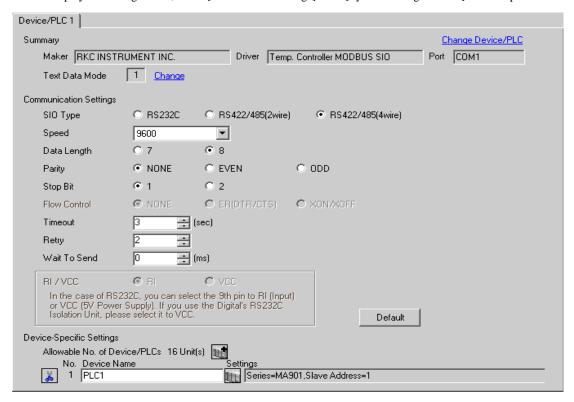
◆ Setting Value

Add	1
bPS	960
bIT	8n1

NOTE

3.12 Setting Example 12

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- 1. While pressing down the SET key, press the <R/S key to move from the PV/SV monitor mode to the setup setting mode.
- 2. Press the SET key several times to select the parameter.
- 3. Press the down/up keys and the <R/S key to change the setting.
- 4. While pressing down the SET key, press the <R/S key to move from the setup setting mode to the PV/SV monitor mode.
- 5. To confirm the setting, restart the Temperature Controller.

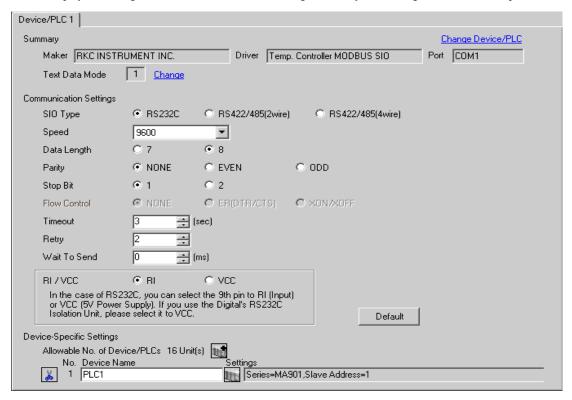
◆ Setting Value

Add	1
bPS	960
bIT	8n1

NOTE

3.13 Setting Example 13

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- 1. While pressing down the SET key, press the <R/S key to move from the PV/SV monitor mode to the setup setting mode.
- 2. Press the SET key several times to select the parameter.
- 3. Press the down/up keys and the <R/S key to change the setting.
- 4. While pressing down the SET key, press the <R/S key to move from the setup setting mode to the PV/SV monitor mode.
- 5. To confirm the setting, restart the Temperature Controller.

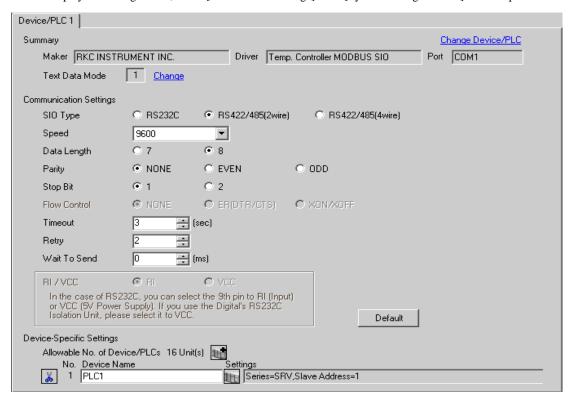
◆ Setting Value

Add	1
bPS	960
bIT	8n1

NOTE

3.14 Setting Example 14

- Settings of GP-Pro EX
- ◆ Communication Settings



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



Settings of External Device

Use the address setting switch on the front of the Temperature Controller and the DIP switch inside the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

 Use the address setting switch on the front of the Temperature Controller to set the module address for HOST link.

The number added 1 to the set value becomes the module address.

2. Use the DIP switch inside the Temperature Controller to set the speed and the data bit configuration.

◆ Setting Value

Address setting switch

•	
High digit setting	0
Low digit setting	0

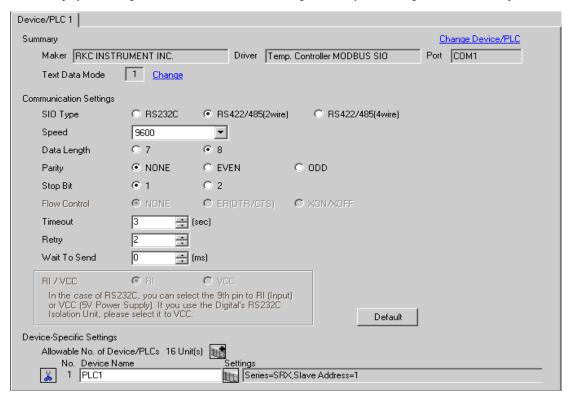
DIP Switch

DIP Switch	Settings	Description
1	ON	Speed
2	OFF	Speed
3	ON	
4	OFF	Data bit configuration
5	OFF	
6	ON	Protocol selection
7	OFF	Fixed
8	OFF	Tixed

NOTE

3.15 Setting Example 15

- Settings of GP-Pro EX
- ◆ Communication Settings



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



Settings of External Device

Use the address setting switch on the front of the Temperature Controller and the DIP switch inside the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

 Use the address setting switch on the front of the Temperature Controller to set the module address for HOST link.

The number added 1 to the set value becomes the module address.

2. Use the DIP switch inside the Temperature Controller to set the speed and the data bit configuration.

◆ Setting Value

Address setting switch

3	
High digit setting	0
Low digit setting	0

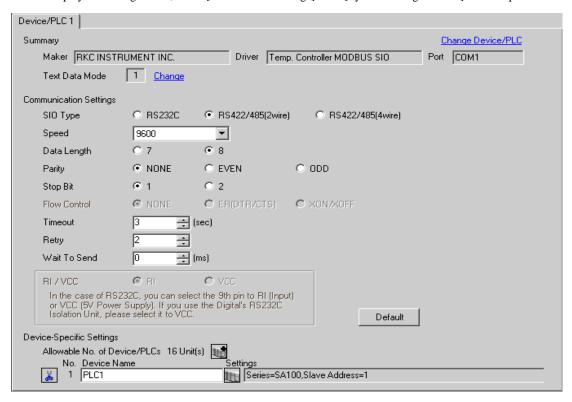
DIP Switch

DIP Switch	Settings	Description
1	ON	Speed
2	OFF	Speed
3	ON	
4	OFF	Data bit configuration
5	OFF	
6	ON	Protocol selection
7	OFF	Fixed
8	OFF	Internal data bus Terminal resistance
		setting

NOTE

3.16 Setting Example 16

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- While pressing down the SET key, press the shift key to move from the PV/SV display mode to the communication setting mode.
- 2. Press the SET key to select the parameter.
- 3. Press the down/up keys to change the setting.
- While pressing down the SET key, press the shift key to move from the communication setting mode to the PV/SV display mode.
- 5. To confirm the setting, restart the Temperature Controller.

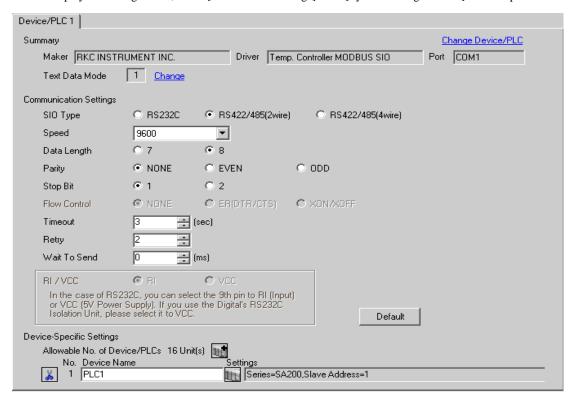
◆ Setting Value

Add	1
bPS	960
bIT	8n1

NOTE

3.17 Setting Example 17

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the SET key, shift key, down key and up key on the front of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- While pressing down the SET key, press the shift key to move from the PV/SV display mode to the communication setting mode.
- 2. Press the SET key to select the parameter.
- 3. Press the down/up keys to change the setting.
- 4. While pressing down the SET key, press the shift key to move from the communication setting mode to the PV/SV display mode.
- 5. To confirm the setting, restart the Temperature Controller.

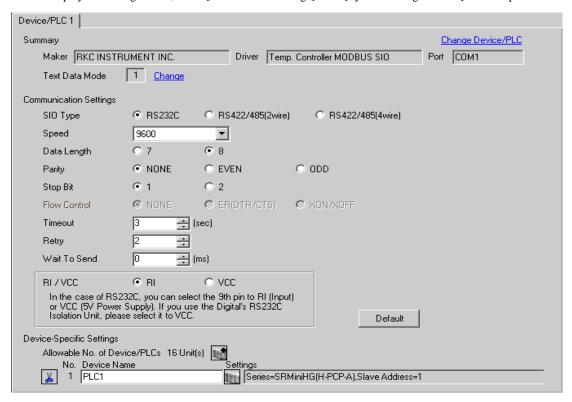
◆ Setting Value

Add	1
bPS	960
bIT	8n1



3.18 Setting Example 18

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the slave address setting switch on the front of the Temperature Controller and the DIP switch inside the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

 Use the slave address setting switch on the front of the Temperature Controller to set the slave address for HOST link.

The number added 1 to the set value becomes the slave address.

2. Remove the Temperature Controller from the mother block, and use the DIP switch inside the Temperature Controller to set the speed and the data configuration.

Setting Value

Slave address setting switch

High digit setting	0
Low digit setting	0

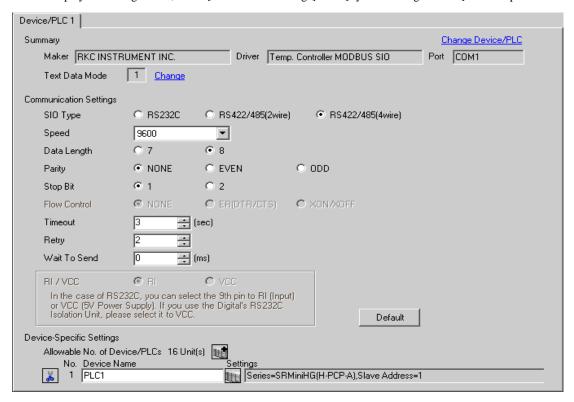
DIP Switch

DIP Switch	Settings	Description
1	ON	Data configuration
2	ON	Data Configuration
3	ON	Speed
4	OFF	Speed

NOTE

3.19 Setting Example 19

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the slave address setting switch on the front of the Temperature Controller and the DIP switch inside the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

1. Use the slave address setting switch on the front of the Temperature Controller to set the slave address for HOST link.

The number added 1 to the set value becomes the slave address.

2. Remove the Temperature Controller from the mother block, and use the DIP switch inside the Temperature Controller to set the speed and the data configuration.

◆ Setting Value

Slave address setting switch

High digit setting	0
Low digit setting	0

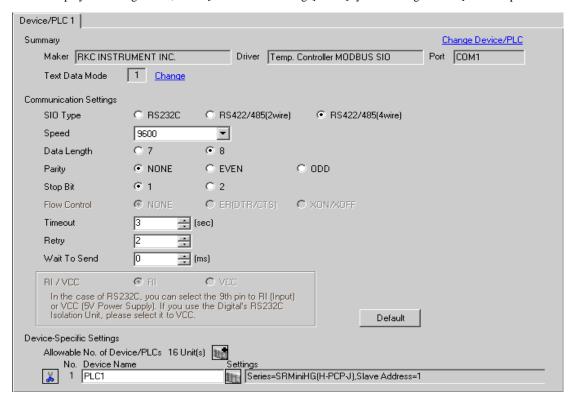
DIP Switch

DIP Switch	Settings	Description
1	ON	Data configuration
2	ON	Data Configuration
3	ON	Speed
4	OFF	Speed

NOTE

3.20 Setting Example 20

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the unit address setting switch on the front of the Temperature Controller and the DIP switch on the side of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

 Use the unit address setting switch on the front of the Temperature Controller to set the module address for HOST link.

The number added 1 to the set value becomes the unit address.

2. Use the DIP switch on the side of the Temperature Controller to set the speed and the data configuration.

◆ Setting Value

Unit address setting switch

High digit setting	0
Low digit setting	0

DIP Switch

COM.PORT1/COM.PORT2 setting switch

SW2	Settings	Description
1	OFF	Data bit configuration
2	OFF	Data bit configuration
3	OFF	Speed
4	OFF	Speed
5	ON	
6	OFF	Communication
7	OFF	Protocol
8	OFF	

COM.PORT3 setting switch

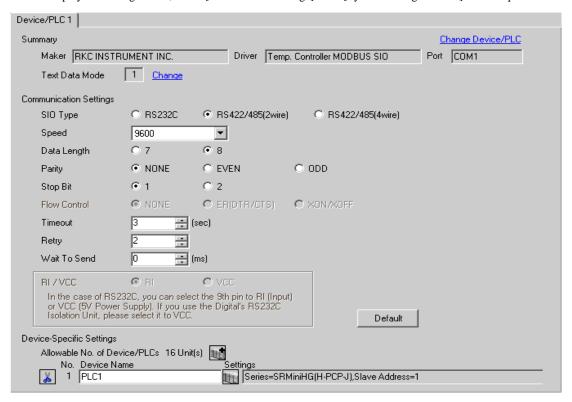
SW3	Settings	Description
1	OFF	Data bit configuration
2	OFF	Data on configuration
3	OFF	Speed
4	OFF	Speed
5	ON	Communication Protocol
6	OFF	Initialization
7	OFF	MODBUS mode selection
8	OFF	Fixed

NOTE

[•] Parameters to be set vary depending on the Temperature Controller. Please refer to the manual of the Temperature Controller for more details.

3.21 Setting Example 21

- Settings of GP-Pro EX
- Communication Settings



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



■ Settings of External Device

Use the unit address setting switch on the front of the Temperature Controller and the DIP switch on the side of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

 Use the unit address setting switch on the front of the Temperature Controller to set the module address for HOST link.

The number added 1 to the set value becomes the unit address.

2. Use the DIP switch on the side of the Temperature Controller to set the speed and the data configuration.

◆ Setting Value

Unit address setting switch

High digit setting	0
Low digit setting	0

DIP Switch

COM.PORT1/COM.PORT2setting switch

SW2	Settings	Description
1	OFF	Data bit configuration
2	OFF	Data off Configuration
3	OFF	Speed
4	OFF	Speed
5	ON	
6	OFF	Communication
7	OFF	Protocol
8	OFF	

• COM.PORT3 setting switch

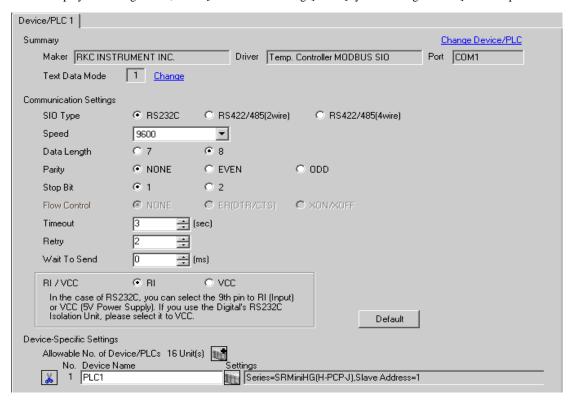
	-	
SW3	Settings	Description
1	OFF	Data bit configuration
2	OFF	Data off Configuration
3	OFF	Speed
4	OFF	Speed
5	ON	Communication Protocol
6	OFF	Initialization
7	OFF	MODBUS mode selection
8	OFF	Fixed

NOTE

[•] Parameters to be set vary depending on the Temperature Controller. Please refer to the manual of the Temperature Controller for more details.

3.22 Setting Example 22

- Settings of GP-Pro EX
- Communication Settings



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



■ Settings of External Device

Use the unit address setting switch on the front of the Temperature Controller and the DIP switch on the side of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

 Use the unit address setting switch on the front of the Temperature Controller to set the module address for HOST link.

The number added 1 to the set value becomes the unit address.

2. Use the DIP switch on the side of the Temperature Controller to set the speed and the data configuration.

◆ Setting Value

Unit address setting switch

High digit setting	0
Low digit setting	0

DIP Switch

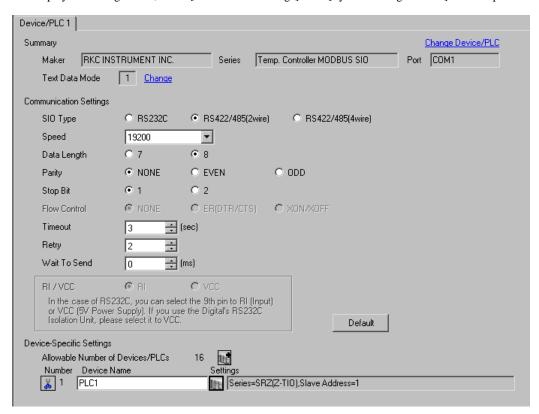
COM.PORT3 setting switch

SW3	Settings	Description
1	OFF	Data bit configuration
2	OFF	Data on configuration
3	OFF	Speed
4	OFF	Speed
5	ON	Communication Protocol
6	OFF	Initialization
7	OFF	MODBUS mode selection
8	OFF	Fixed

NOTE

3.23 Setting Example 23

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the unit address setting switch on the front of the Temperature Controller and the DIP switch on the side of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- Use the unit address setting switch on the front of the Temperature Controller to set the slave address.
 The number added 1 to the set value becomes the slave address.
- 2. Use the DIP switch on the side of the Temperature Controller to set the speed, data bit configuration, and communication protocol.
- 3. After completing the settings, turn ON the Temperature Controller again.

◆ Setting Value

Unit address setting switch

Slave address setting	0

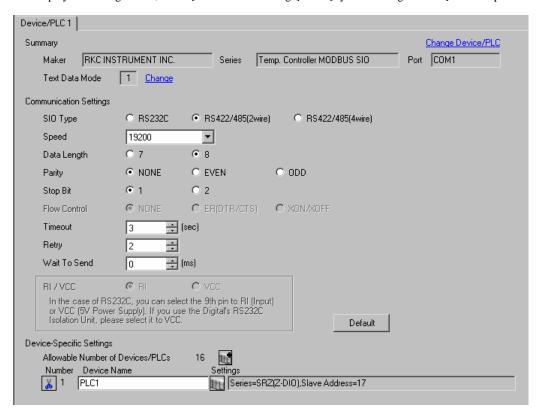
DIP Switch

SW	Settings	Description
1	OFF	Speed: 19200 bps
2	ON	Speed. 19200 bps
3	OFF	Data hit configuration:
4	OFF	Data bit configuration: Data length 8 bits, no parity, stop 1 bit
5	ON	Zum rengur e ens, ne punty, step 1 en
6	ON	Communication protocol: MODBUS communication
7	OFF	Fixed
8	OFF	Fixed

NOTE

3.24 Setting Example 24

- Settings of GP-Pro EX
- Communication Settings



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



■ Settings of External Device

Use the unit address setting switch on the front of the Temperature Controller and the DIP switch on the side of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- Use the unit address setting switch on the front of the Temperature Controller to set the slave address.
 The number added 17 to the set value becomes the slave address.
- 2. Use the DIP switch on the side of the Temperature Controller to set the speed, data bit configuration, and communication protocol.
- 3. After completing the settings, turn ON the Temperature Controller again.

◆ Setting Value

Unit address setting switch

Slave address setting	0

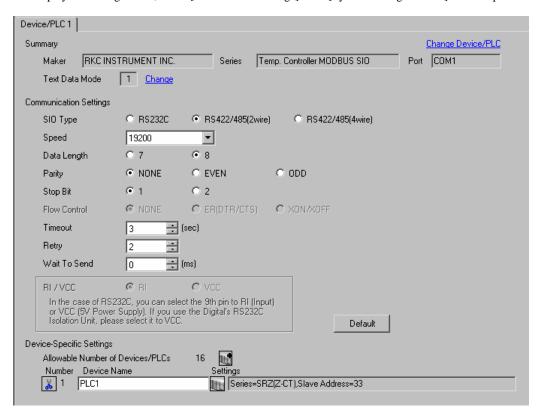
DIP Switch

SW	Settings	Description
1	OFF	Speed: 19200 bps
2	ON	Speed. 19200 bps
3	OFF	Data hit configuration:
4	OFF	Data bit configuration: Data length 8 bits, no parity, stop 1 bit
5	ON	Zum rengur e ens, ne punty, step 1 en
6	ON	Communication protocol: MODBUS communication
7	OFF	Fixed
8	OFF	Fixed

NOTE

3.25 Setting Example 25

- Settings of GP-Pro EX
- Communication Settings



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



■ Settings of External Device

Use the unit address setting switch on the front of the Temperature Controller and the DIP switch on the side of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- Use the unit address setting switch on the front of the Temperature Controller to set the slave address.
 The number added 33 to the set value becomes the slave address.
- 2. Use the DIP switch on the side of the Temperature Controller to set the speed, data bit configuration, and communication protocol.
- 3. After completing the settings, turn ON the Temperature Controller again.

◆ Setting Value

Unit address setting switch

Slave address setting	0

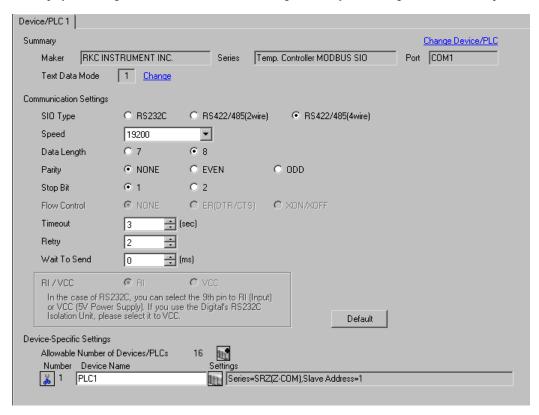
DIP Switch

SW	Settings	Description
1	OFF	Speed: 19200 bps
2	ON	Speed. 19200 bps
3	OFF	Data bit configuration:
4	OFF	Data on configuration. Data length 8 bits, no parity, stop 1 bit
5	ON	Dum lengur e ens, ne punty, step 1 en
6	ON	Communication protocol: MODBUS communication
7	OFF	Fixed
8	OFF	Fixed

NOTE

3.26 Setting Example 26

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the unit address setting switch on the front of the Temperature Controller and the DIP switch on the side of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- Use the unit address setting switch on the front of the Temperature Controller to set the slave address.
 The number added 1 to the set value becomes the slave address.
- 2. Use the DIP switch on the side of the Temperature Controller to set the speed, data bit configuration, and communication protocol.
- 3. After completing the settings, turn ON the Temperature Controller again.

◆ Setting Value

Unit address setting switch

Slave address setting	0

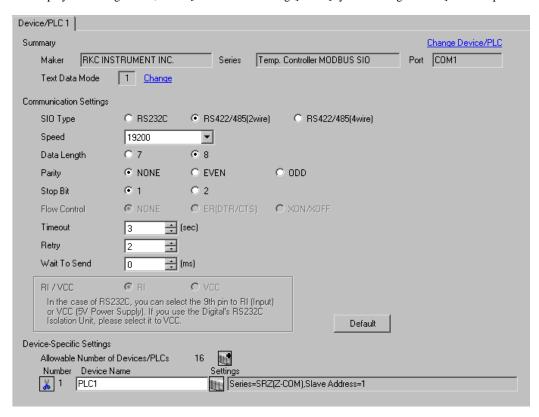
DIP Switch

SW	Settings	Description
1	OFF	Speed: 19200 bps
2	ON	Speed. 17200 bps
3	ON	Communication protocol: Host communication (MODBUS) Data length 8 bits, no parity, stop 1 bit

NOTE

3.27 Setting Example 27

- Settings of GP-Pro EX
- Communication Settings



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



■ Settings of External Device

Use the unit address setting switch on the front of the Temperature Controller and the DIP switch on the side of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- Use the unit address setting switch on the front of the Temperature Controller to set the slave address.
 The number added 1 to the set value becomes the slave address.
- 2. Use the DIP switch on the side of the Temperature Controller to set the speed, data bit configuration, and communication protocol.
- 3. After completing the settings, turn ON the Temperature Controller again.

◆ Setting Value

Unit address setting switch

Slave address setting	0

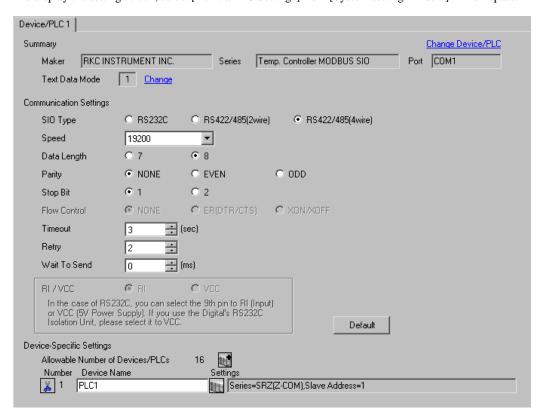
DIP Switch

SW	Settings	Description
1	OFF	Speed: 19200 bps
2	ON	Speed. 17200 bps
3	ON	Communication protocol: Host communication (MODBUS) Data length 8 bits, no parity, stop 1 bit

NOTE

3.28 Setting Example 28

- Settings of GP-Pro EX
- Communication Settings



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



■ Settings of External Device

Use the unit address setting switch on the front of the Temperature Controller and the DIP switch on the side of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- Use the unit address setting switch on the front of the Temperature Controller to set the slave address.
 The number added 1 to the set value becomes the slave address.
- 2. Use the DIP switch on the side of the Temperature Controller to set the speed, data bit configuration, and communication protocol.
- 3. After completing the settings, turn ON the Temperature Controller again.

◆ Setting Value

Unit address setting switch

Slave address setting	0

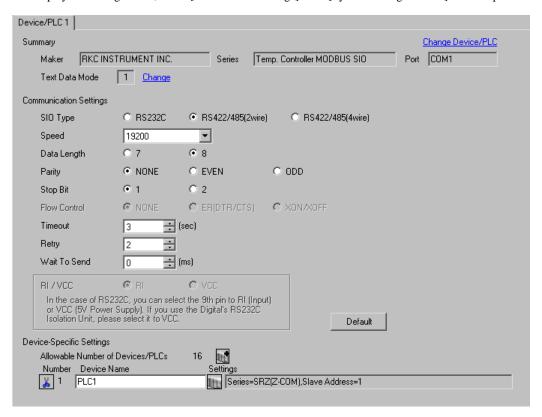
DIP Switch

SW	Settings	Description
4	ON	Speed: 19200 bps
5	ON	Communication protocol:
6	OFF	Host communication (MODBUS)
7	OFF	Data length 8 bits, no parity, stop 1 bit
8	OFF	DIP switch setting: Enabled

NOTE

3.29 Setting Example 29

- Settings of GP-Pro EX
- ◆ Communication Settings



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



■ Settings of External Device

Use the unit address setting switch on the front of the Temperature Controller and the DIP switch on the side of the Temperature Controller for communication settings of the External Device.

Please refer to the manual of the Temperature Controller for more details.

◆ Procedure

- Use the unit address setting switch on the front of the Temperature Controller to set the slave address.
 The number added 1 to the set value becomes the slave address.
- 2. Use the DIP switch on the side of the Temperature Controller to set the speed, data bit configuration, and communication protocol.
- 3. After completing the settings, turn ON the Temperature Controller again.

◆ Setting Value

Unit address setting switch

Slave address setting	0

DIP Switch

SW	Settings	Description
4	ON	Speed: 19200 bps
5	ON	Communication protocol:
6	OFF	Host communication (MODBUS)
7	OFF	Data length 8 bits, no parity, stop 1 bit
8	OFF	DIP switch setting: Enabled

NOTE

4 Setup Items

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

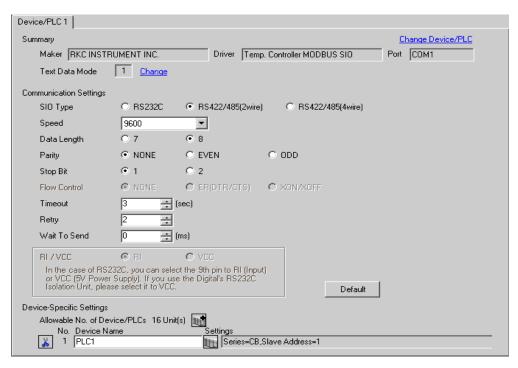
The setting of each parameter must be identical to that of External Device.

"3 Example of Communication Setting" (page 10)

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	The communication control method to prevent overflow of transmission and reception data is displayed.
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.

continued to next page

Setup Items	Setup Description
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.
RI/VCC	Switches RI/VCC of the 9th pin. 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.

To display the setting screen, click [[Setting]] of the 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.



Setup Items	Setup Description
Series	Select a model of the External Device.
Slave Address	Enter the Slave Address of the External Device.

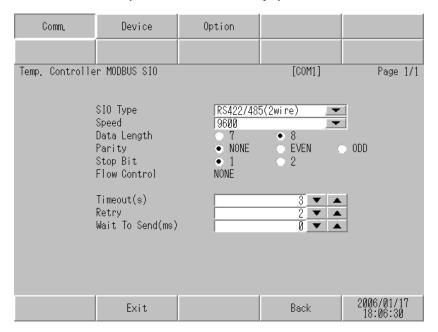
4.2 Setup Items in Offline Mode



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

■ Communication Settings

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

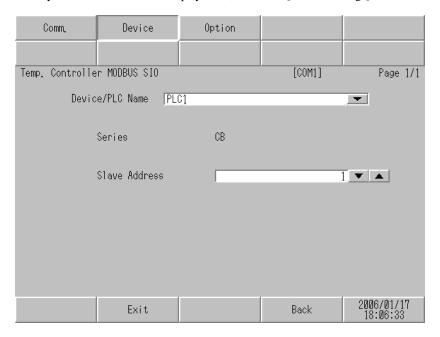


Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. IMPORTANT To make the communication settings correctly, confirm the serial interface specifications of Display unit for [SIO Type]. We cannot guarantee the operation if a communication type that the serial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

Setup Items	Setup Description
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

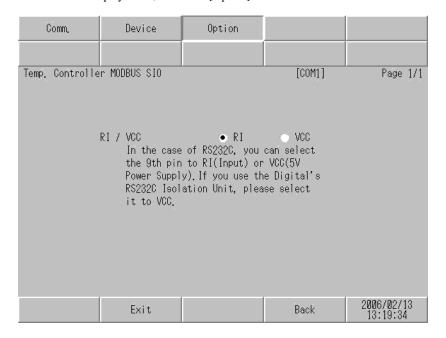
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Equipment Settings]. Touch the External Device you want to set from the displayed list, and touch [Device Settings].



Setup Items	Setup Description
Device name	Select the External Device to set. Device name is a title of the External Device set with GP-Pro EX.(Default [PLC1])
Series	Displays a model of the External Device.
Slave Address	Enter the slave address of the External Device, using 1 to 99.

■ 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	Switches RI/VCC of the 9th pin. It is necessary to change RI/5V by changeover switch of IPC when connect with IPC. Please refer to the manual of the IPC for more detail.

NOTE

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

The cable diagram shown below may be different from the cable diagram recommended by RKC Instrument Inc. 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.
- When using RS422/485 (2 wire) or RS422/485 (4 wire) for connection, you can connect maximum 16 units of Temperature Controller. Note that you can connect maximum 15 units of Temperature Controller when using RS422/485 (4 wire) to connect the FB400/900 Series.
- Connect the isolation unit, when communication is not stabilized under the influence of a noise etc..

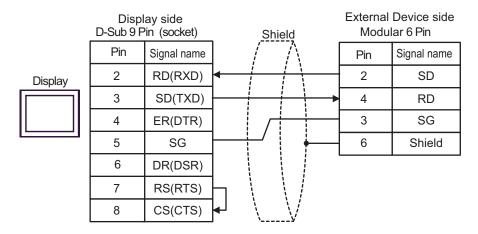
Cable Diagram 1

Display (Connection Port)		Cable	Remarks
GP3000 (COM1) GP-4*01TM (COM1) ST (COM1) LT (COM1) IPC*1 PC/AT	1A	User-created cable	Cable length: 15m or less
GP-4105 (COM1)	1B	User-created cable	

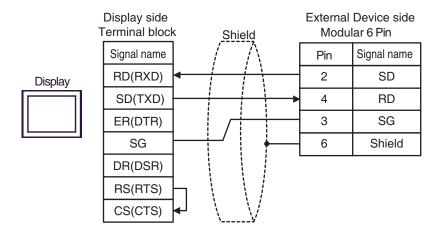
^{*1} Only the COM port which can communicate by RS-232C can be used.

[■] IPC COM Port (page 7)

1A)



1B)



Display (Connection Port)		Cable	Remarks
GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST ^{*2} (COM2) LT (COM1) IPC ^{*3}	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	2B	User-created cable	
GP3000*4 (COM2)	2C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 1200m or less
	2D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	2E	User-created cable	

^{*1} All GP3000 models except AGP-3302B

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

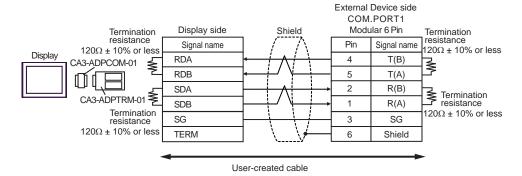
^{*3} Only the COM port which can communicate by RS-422/485 (4 wire) can be used.

[■] IPC COM Port (page 7)

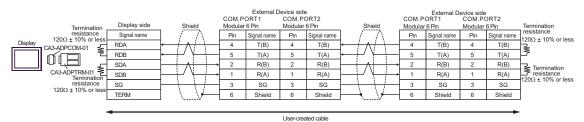
^{*4} All GP3000 models except GP-3200 series and AGP-3302B

2A)

1:1 Connection

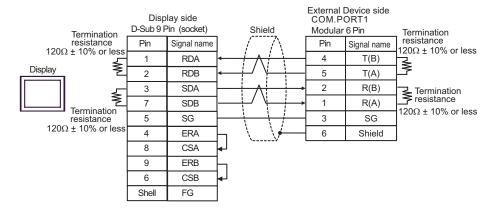


1: n connection

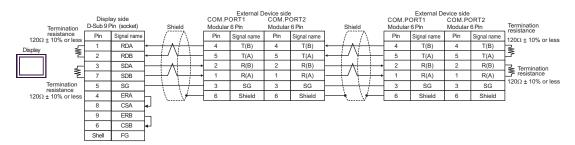


2B)

1:1 Connection

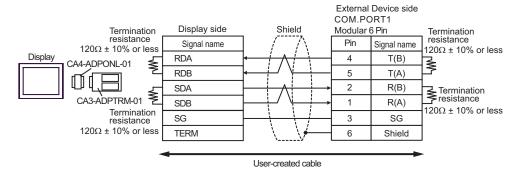


• 1:n Connection

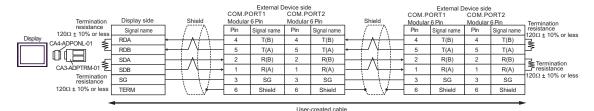


2C)

1:1 Connection

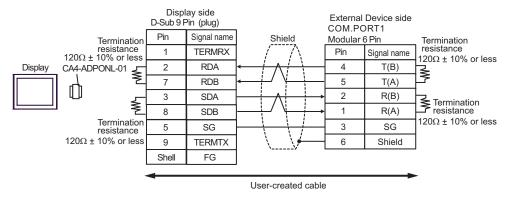


1:n Connection

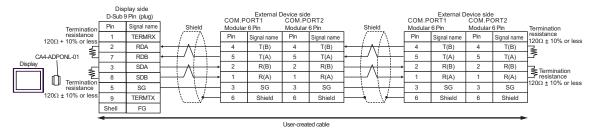


2D)

• 1:1 Connection

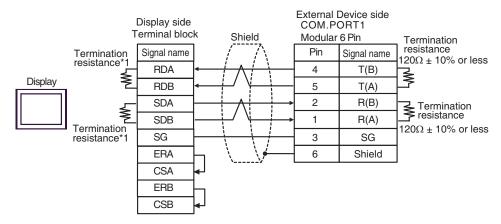


• 1:n Connection

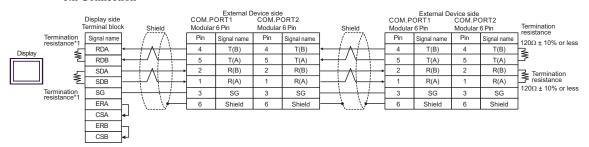


2E)

1:1 Connection



• 1:n Connection



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

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

Display (Connection Port)	Cable		Remarks
GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST ^{*2} (COM2) LT (COM1)	3A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	3B	User-created cable	
GP3000*3 (COM2)	3C 3D	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	Cable length: 1200m or less
IPC*4	3E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable User-created cable	
GP-4106 (COM1)	3G	User-created cable	
GP-4107 (COM1)	3Н	User-created cable	

^{*1} All GP3000 models except AGP-3302B

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

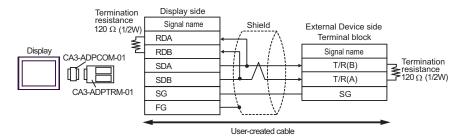
^{*3} All GP3000 models except GP-3200 series and AGP-3302B

^{*4} Only the COM port which can communicate by RS-422/485 (2 wire) can be used.

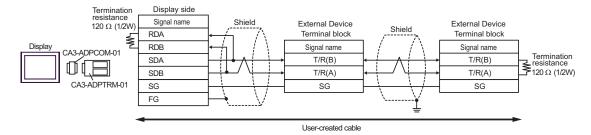
[■] IPC COM Port (page 7)

3A)

• 1:1 Connection

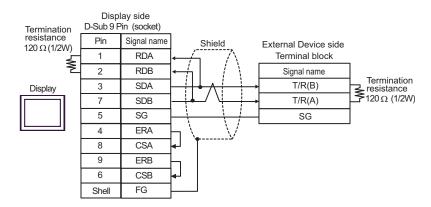


1: n connection

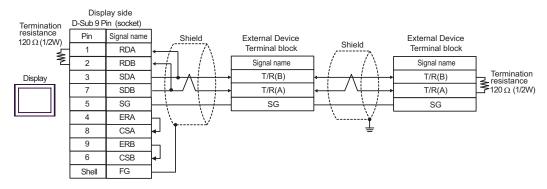


3B)

• 1:1 Connection

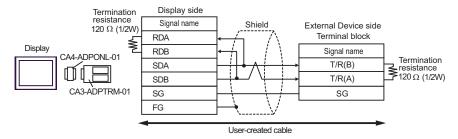


1:n Connection

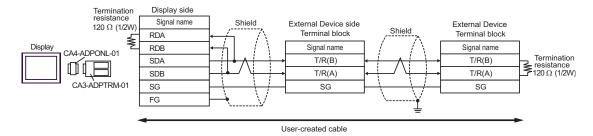


3C)

1:1 Connection

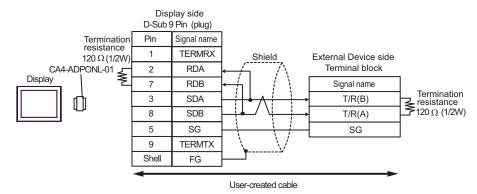


• 1:n Connection

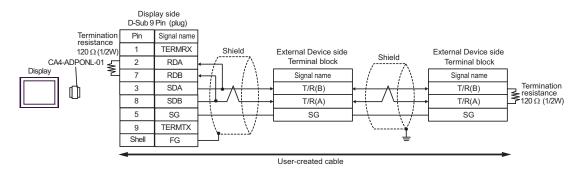


3D)

1:1 Connection

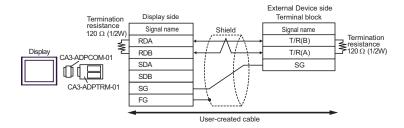


• 1:n Connection

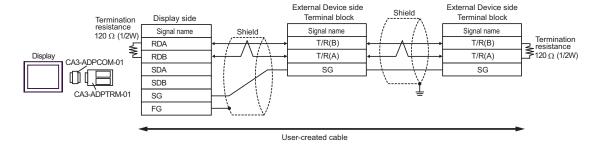


3E)

1:1 Connection

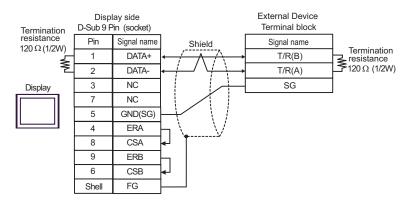


• 1: n connection

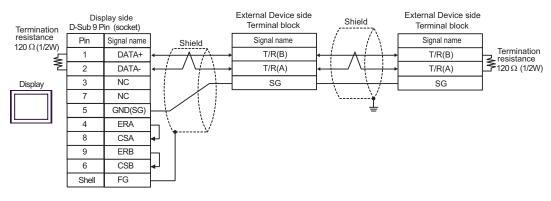


3F)

• 1:1 Connection

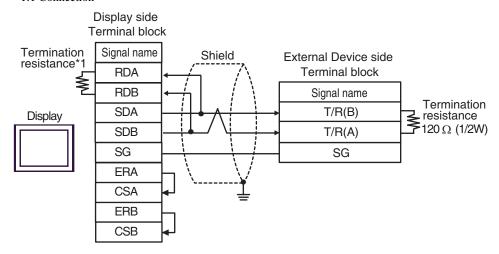


1:n Connection

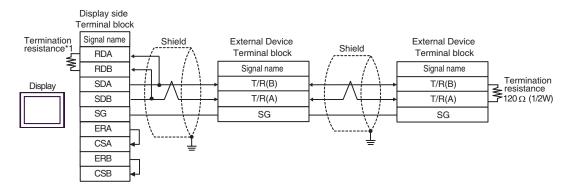


3G)

• 1:1 Connection



• 1:n Connection

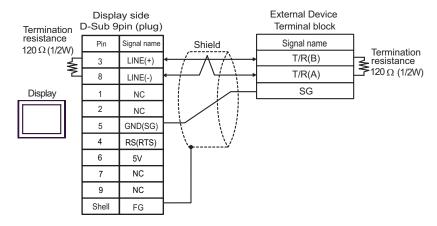


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

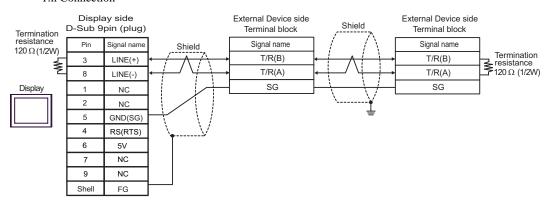
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

3H)

• 1:1 Connection



• 1:n Connection



IMPORTANT

 The 5V output (Pin #6) on the GP-4107 is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

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

Display (Connection Port)		Cable	Remarks
GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST ^{*2} (COM2) LT (COM1) IPC ^{*3}	4A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	4B	User-created cable	
GP3000*4 (COM2)	4C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 1200m or less
	4D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	4E	User-created cable	

^{*1} All GP3000 models except AGP-3302B

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

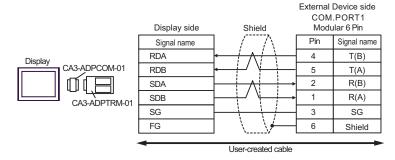
^{*3} Only the COM port which can communicate by RS-422/485 (4 wire) can be used.

[■] IPC COM Port (page 7)

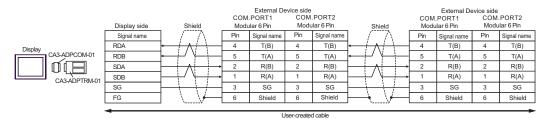
^{*4} All GP3000 models except GP-3200 series and AGP-3302B

4A)

1:1 Connection



• 1: n connection

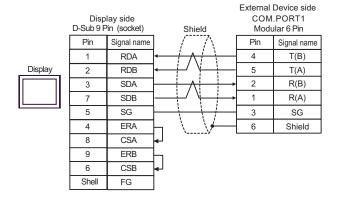


NOTE

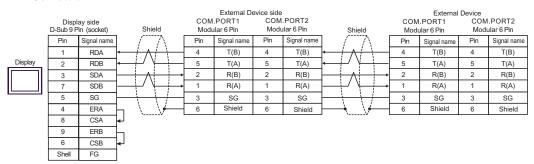
• Termination resistance is not necessary.

4B)

1:1 Connection



• 1:n Connection

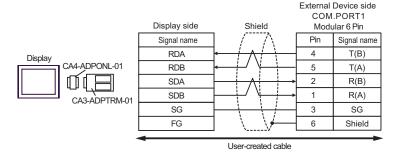


NOTE

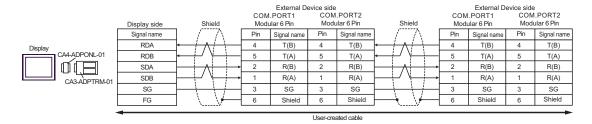
Termination resistance is not necessary.

4C)

• 1:1 Connection



• 1:n Connection

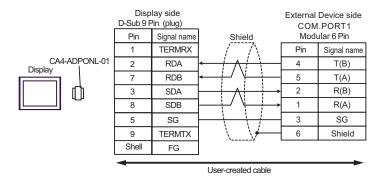


NOTE

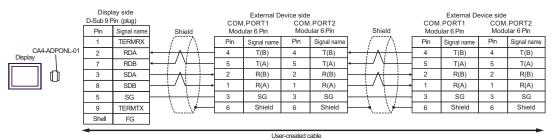
Termination resistance is not necessary.

4D)

• 1:1 Connection



• 1:n Connection

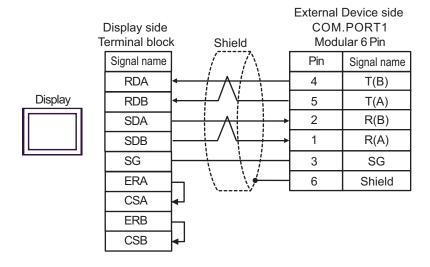


NOTE

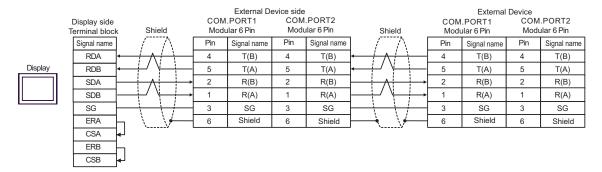
· Termination resistance is not necessary.

4E)

• 1:1 Connection



• 1:n Connection



NOTE

• Termination resistance is not necessary.

Display (Connection Port)	Cable		Remarks
GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST ^{*2} (COM2) LT (COM1)	5A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	5B	User-created cable	
GP3000*3 (COM2)	5C 5D	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	Cable length: 1200m or less
IPC*4	5E 5F	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable User-created cable	
GP-4106 (COM1)	5G	User-created cable	
GP-4107 (COM1)	5H	User-created cable	

^{*1} All GP3000 models except AGP-3302B

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

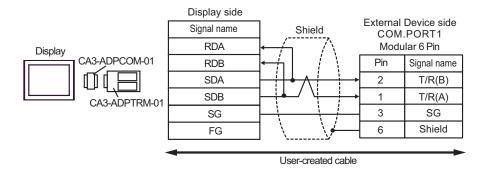
^{*3} All GP3000 models except GP-3200 series and AGP-3302B

^{*4} Only the COM port which can communicate by RS-422/485 (2 wire) can be used.

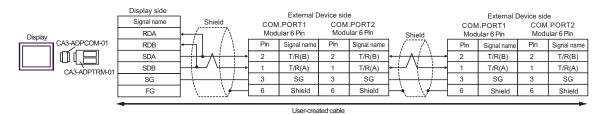
[■] IPC COM Port (page 7)

5A)

• 1:1 Connection



• 1: n connection

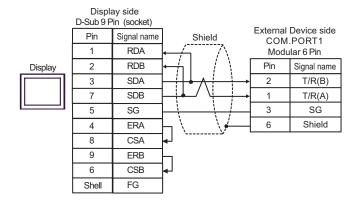


NOTE

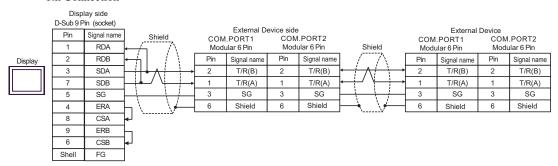
Termination resistance is not necessary.

5B)

• 1:1 Connection



1:n Connection

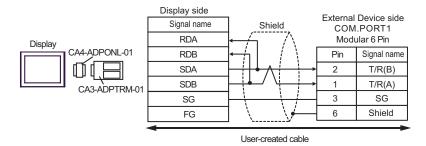


NOTE

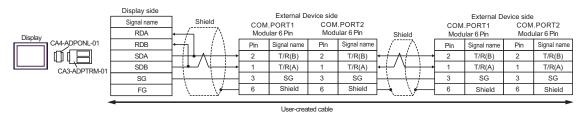
· Termination resistance is not necessary.

5C)

1:1 Connection



• 1:n Connection

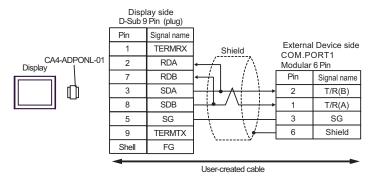


NOTE TO

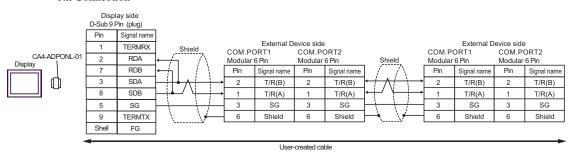
• Termination resistance is not necessary.

5D)

• 1:1 Connection



• 1:n Connection

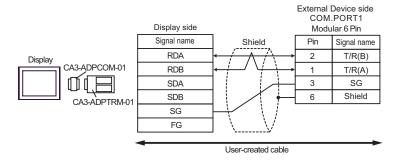


NOTE

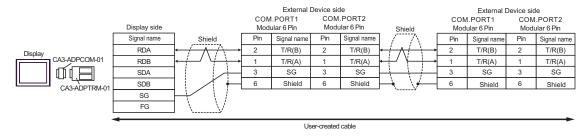
· Termination resistance is not necessary.

5E)

• 1:1 Connection



• 1: n connection

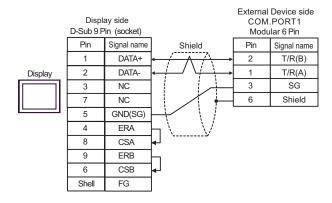


NOTE

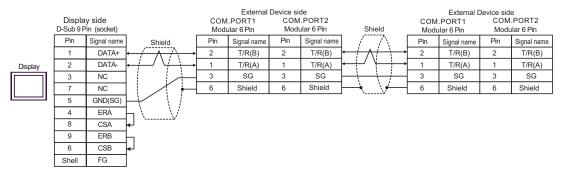
• Termination resistance is not necessary.

5F)

• 1:1 Connection



• 1:n Connection

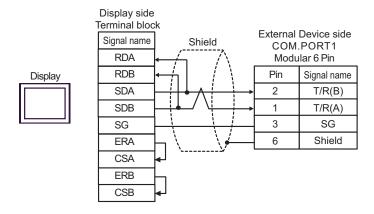


NOTE

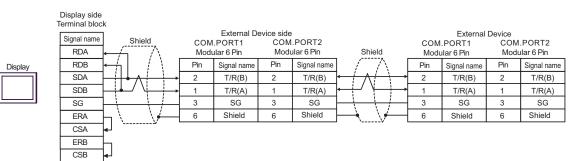
· Termination resistance is not necessary.

5G)

• 1:1 Connection



• 1:n Connection

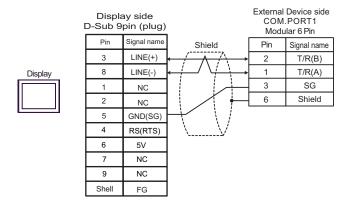


NOTE

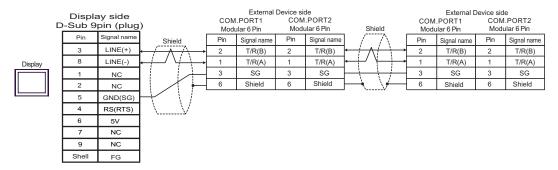
• Termination resistance is not necessary.

5H)

1:1 Connection



• 1:n Connection



IMPORTANT

 The 5V output (Pin #6) on the GP-4107 is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

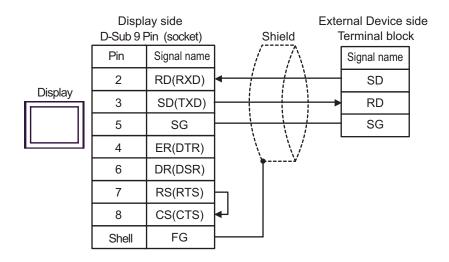
- Termination resistance is not necessary.
- In COM on the GP-4107, the SG and FG terminals are isolated.

Display (Connection Port)		Cable	Remarks
GP3000 (COM1) GP-4*01TM (COM1) ST (COM1) LT (COM1) IPC*1 PC/AT	6A	User-created cable	Cable length: 15m or less
GP-4105 (COM1)	6B	User-created cable	

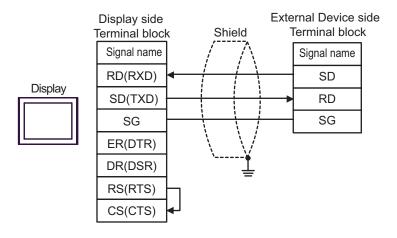
^{*1} Only the COM port which can communicate by RS-232C can be used.

■ IPC COM Port (page 7)

6A)



6B)



Display (Connection Port)		Cable	Remarks
GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST ^{*2} (COM2) LT (COM1) IPC ^{*3}	7A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	7B	User-created cable	
GP3000*4 (COM2)	7C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 1200m or less
	7D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	7E	User-created cable	

^{*1} All GP3000 models except AGP-3302B

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

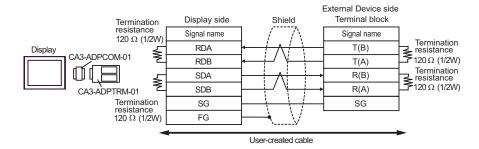
^{*3} Only the COM port which can communicate by RS-422/485 (4 wire) can be used.

IPC COM Port (page 7)

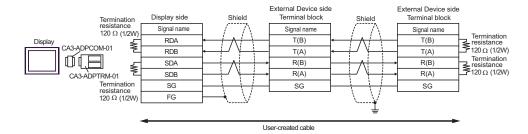
^{*4} All GP3000 models except GP-3200 series and AGP-3302B

7A)

1:1 Connection

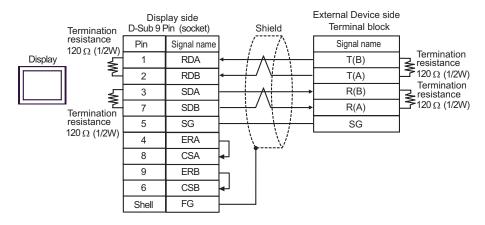


• 1: n connection

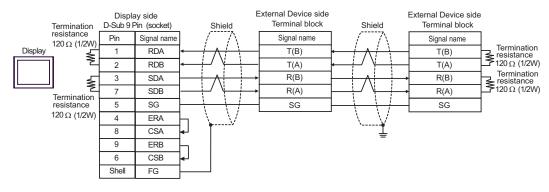


7B)

• 1:1 Connection

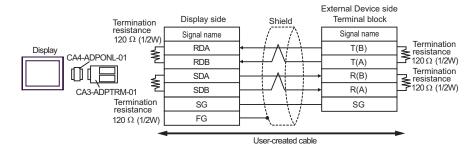


1:n Connection

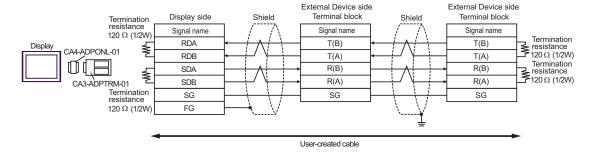


7C)

1:1 Connection

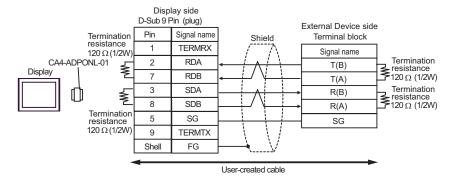


1:n Connection

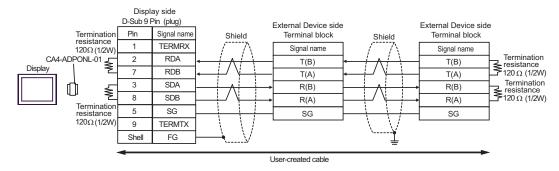


7D)

• 1:1 Connection

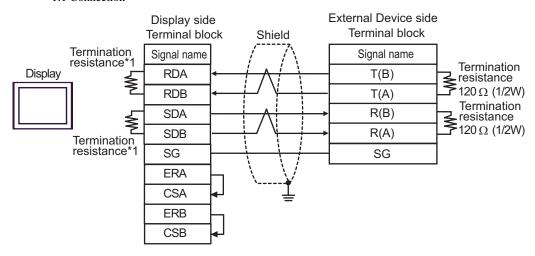


• 1:n Connection

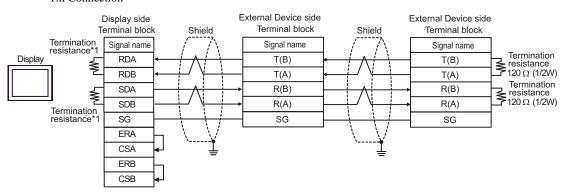


7E)

1:1 Connection



• 1:n Connection



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

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

Display (Connection Port)	Cable		Remarks
GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST ^{*2} (COM2) LT (COM1) IPC ^{*3}	8A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	8B	User-created cable	
GP3000*4 (COM2)	8C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	Cable length: 1200m or less
	8D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1)	8E	User-created cable	

^{*1} All GP3000 models except AGP-3302B

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

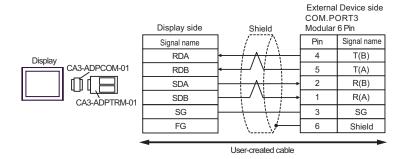
^{*3} Only the COM port which can communicate by RS-422/485 (4 wire) can be used.

IPC COM Port (page 7)

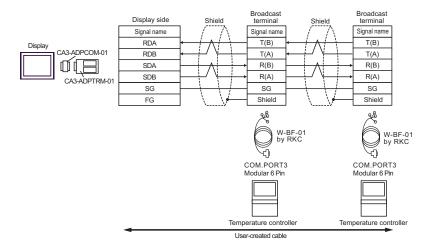
^{*4} All GP3000 models except GP-3200 series and AGP-3302B

8A)

• 1:1 Connection



1: n connection

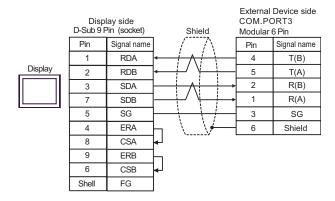


NOTE

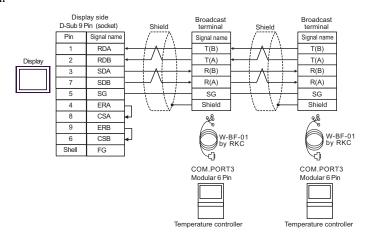
• Termination resistance is not necessary.

8B)

1:1 Connection



• 1:n Connection

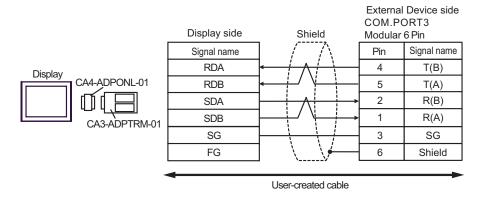


NOTE

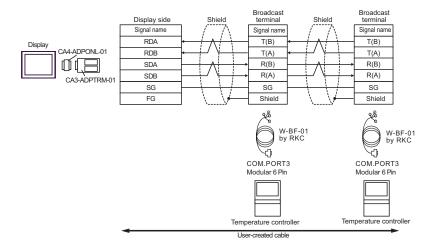
· Termination resistance is not necessary.

8C)

• 1:1 Connection



• 1:n Connection

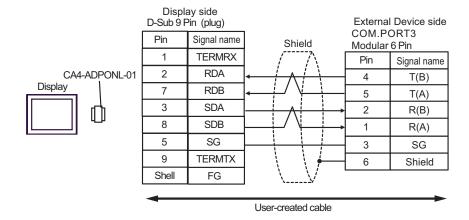


NOTE

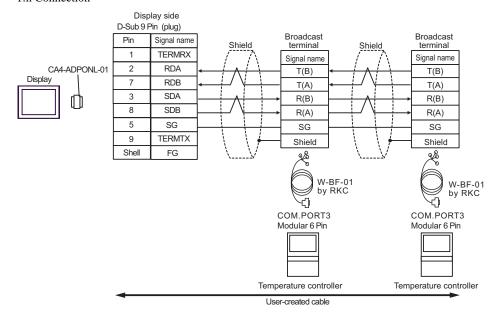
• Termination resistance is not necessary.

8D)

• 1:1 Connection



• 1:n Connection

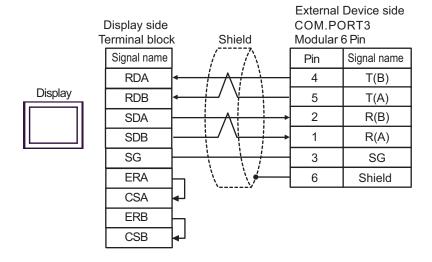


NOTE

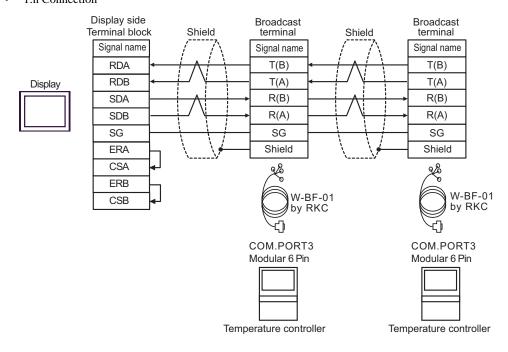
• Termination resistance is not necessary.

8E)

• 1:1 Connection



1:n Connection



NOTE

• Termination resistance is not necessary.

Cable Diagram 9

Display (Connection Port)	Cable		Remarks
GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST ^{*2} (COM2) LT (COM1)	9A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	9B	User-created cable	
GP3000*3 (COM2)	9C 9D	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	Cable length: 1200m or less
IPC*4	9E 9F	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable User-created cable	
GP-4106 (COM1)	9G	User-created cable	
GP-4107 (COM1)	9H	User-created cable	

^{*1} All GP3000 models except AGP-3302B

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

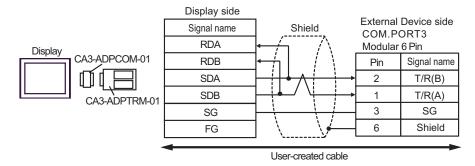
^{*3} All GP3000 models except GP-3200 series and AGP-3302B

^{*4} Only the COM port which can communicate by RS-422/485 (2 wire) can be used.

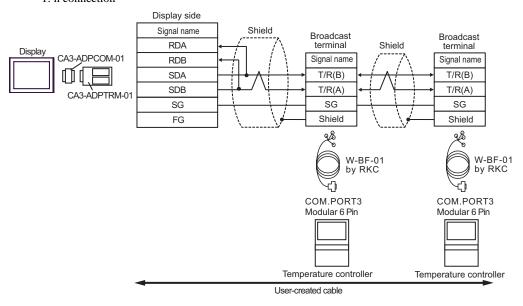
[■] IPC COM Port (page 7)

9A)

• 1:1 Connection



• 1: n connection

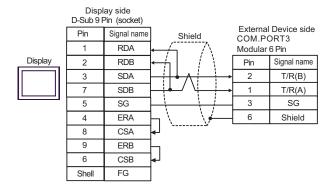


NOTE

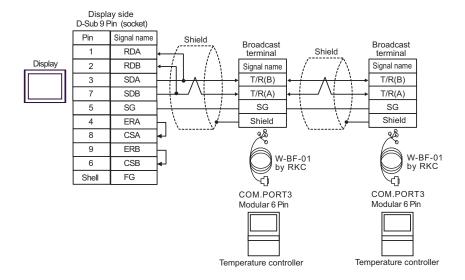
• Termination resistance is not necessary.

9B)

1:1 Connection



1:n Connection

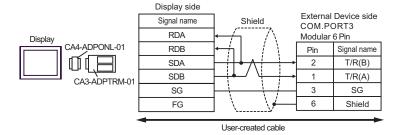


NOTE

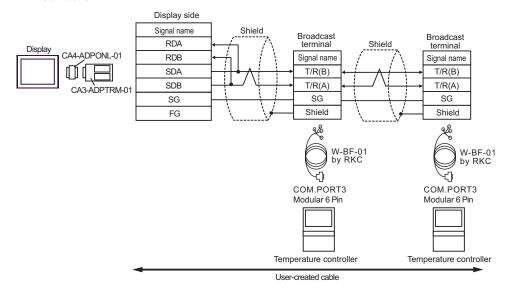
· Termination resistance is not necessary.

9C)

• 1:1 Connection



1:n Connection

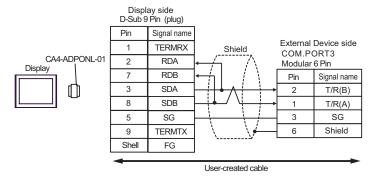


NOTE

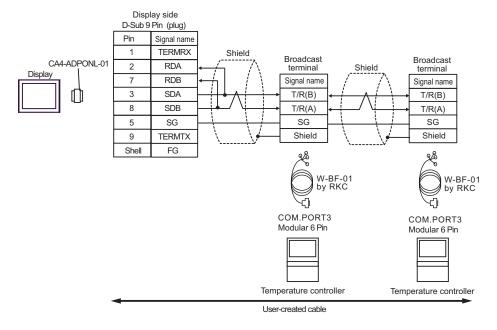
• Termination resistance is not necessary.

9D)

• 1:1 Connection



1:n Connection

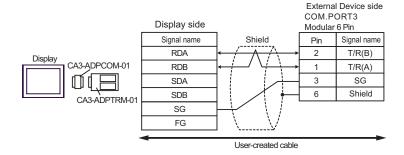


NOTE

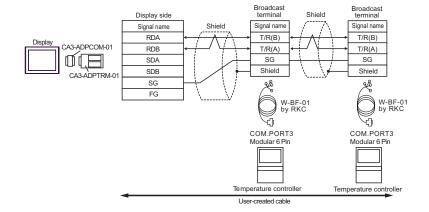
· Termination resistance is not necessary.

9E)

• 1:1 Connection



• 1: n connection

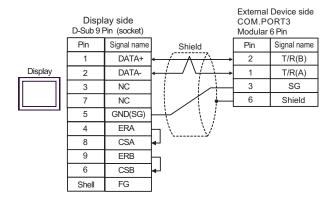


NOTE

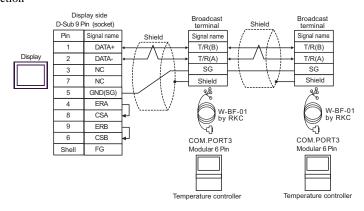
Termination resistance is not necessary.

9F)

• 1:1 Connection



• 1:n Connection

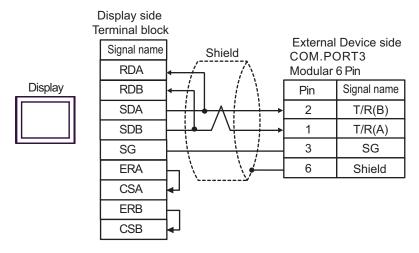


NOTE

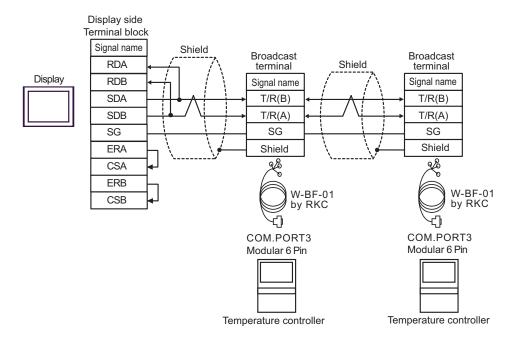
· Termination resistance is not necessary.

9G)

1:1 Connection



1:n Connection

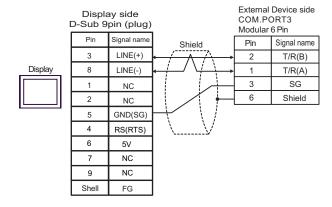


NOTE

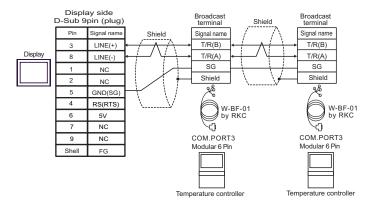
· Termination resistance is not necessary.

9H)

1:1 Connection



1:n Connection



IMPORTANT

 The 5V output (Pin #6) on the GP-4107 is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

- Termination resistance is not necessary.
- In COM on the GP-4107, the SG and FG terminals are isolated.

Cable Diagram 10

Display (Connection Port)	Cable		Remarks
GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST ^{*2} (COM2) LT (COM1)	10A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	10B	User-created cable	
GP3000*3 (COM2)	10C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable Online adapter by Pro-face	Cable length: 1200m or less
	10D	CA4-ADPONL-01 + User-created cable	1200111 01 1635
IPC*4	10E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	
	10F	User-created cable	
GP-4106 (COM1)	10G	User-created cable	
GP-4107 (COM1)	10H	User-created cable	

^{*1} All GP3000 models except AGP-3302B

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

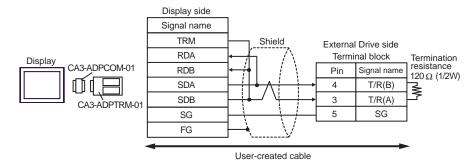
^{*3} All GP3000 models except GP-3200 and AGP-3302B

^{*4} Only the COM port which can communicate by RS-422/485 (2wire) can be used.

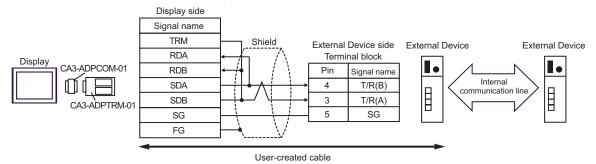
[■] IPC COM Port (page 7)

10A)

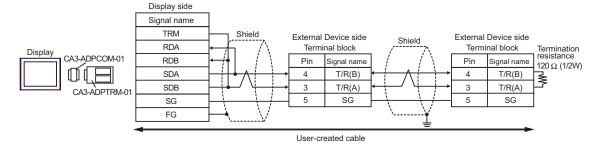
• 1:1 Connection



• 1:n Connection (When connecting with the internal communication line)

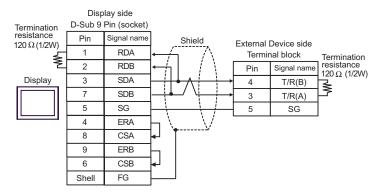


1:n Connection

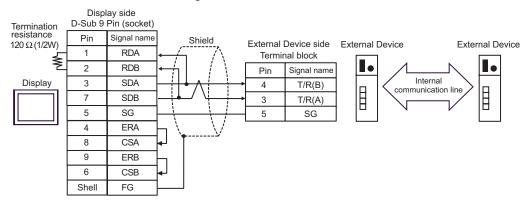


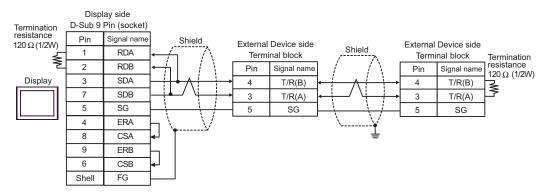
10B)

1:1 Connection



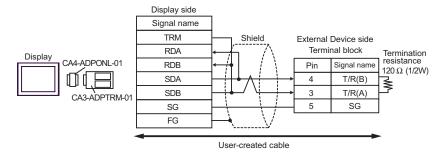
• 1:n Connection (When connecting with the internal communication line)



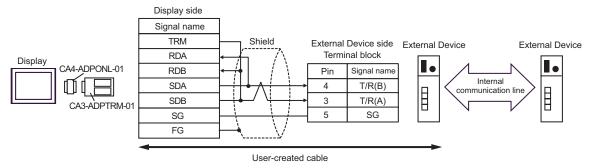


10C)

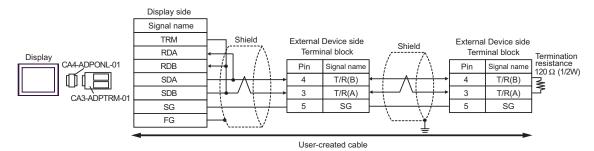
1:1 Connection



• 1:n Connection (When connecting with the internal communication line)

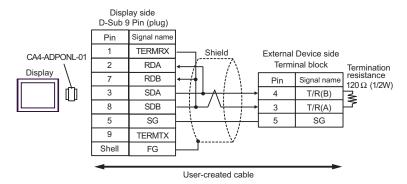


1:n Connection

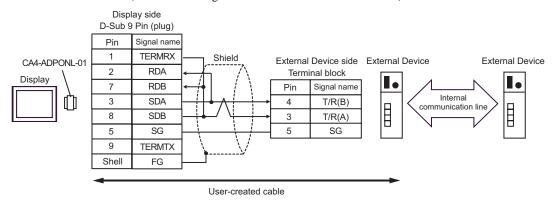


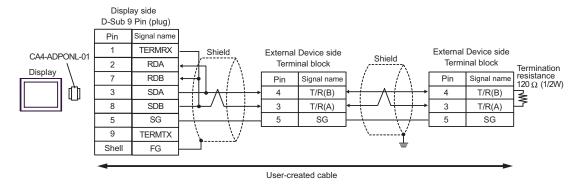
10D)

1:1 Connection



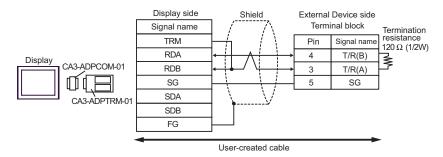
• 1:n Connection (When connecting with the internal communication line)



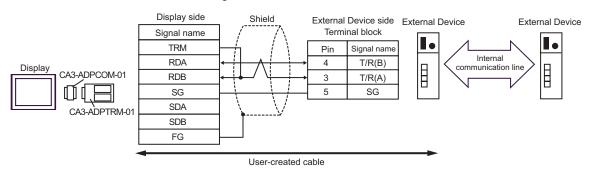


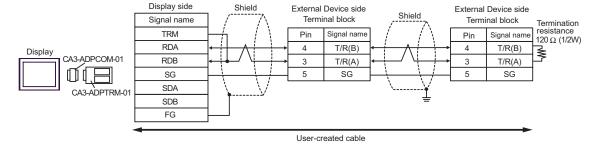
10E)

• 1:1 Connection



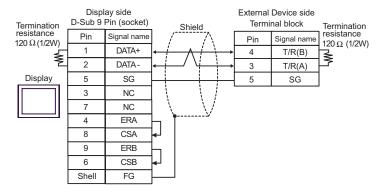
• 1:n Connection (When connecting with the internal communication line)



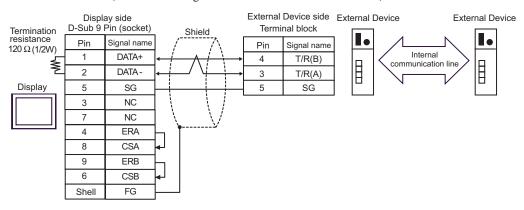


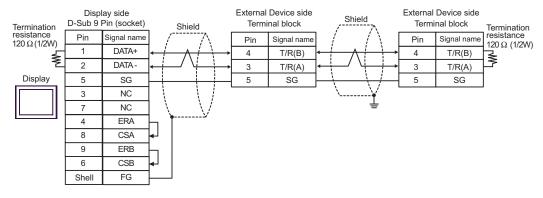
10F)

• 1:1 Connection



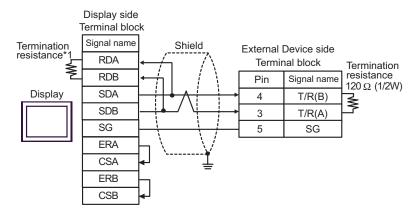
• 1:n Connection (When connecting with the internal communication line)



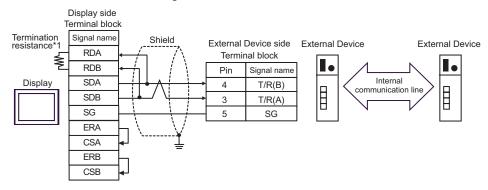


10G)

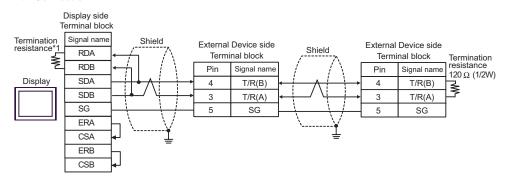
• 1:1 Connection



• 1:n Connection (When connecting with the internal communication line)



• 1:n Connection

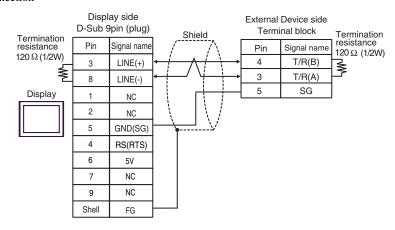


*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

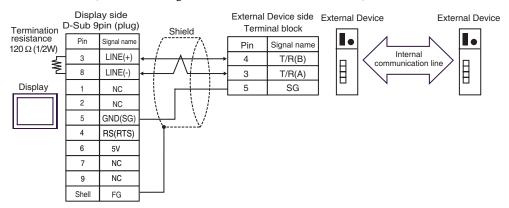
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

10H)

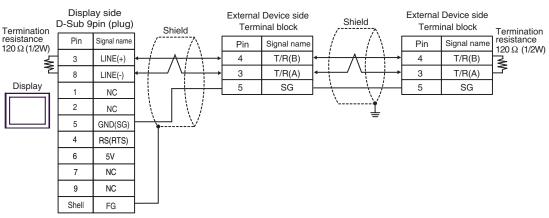
1:1 Connection



• 1:n Connection (When connecting with the internal communication line)



• 1:n Connection



IMPORTANT

 The 5V output (Pin #6) on the GP-4107 is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

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

Cable Diagram 11

Display (Connection Port)	Cable		Remarks
GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST ^{*2} (COM2) LT (COM1) IPC ^{*3}	11A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	
	11B	User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	
GP3000 ^{*4} (COM2)	11C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	Cable length: 1200m or less
	11D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	
GP-4106 (COM1)	11E	User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	

^{*1} All GP3000 models except AGP-3302B

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

^{*3} Only the COM port which can communicate by RS-422/485 (4wire) can be used.

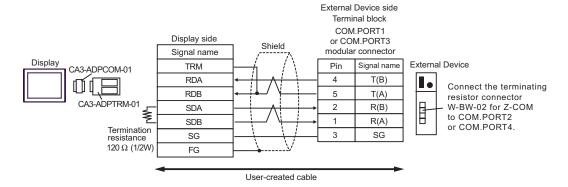
[■] IPC COM Port (page 7)

^{*4} All GP3000 models except GP-3200 and AGP-3302B

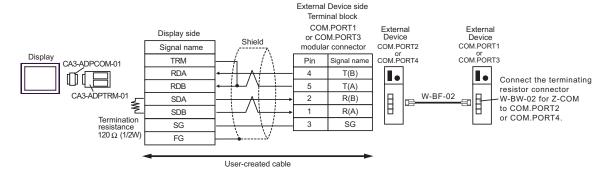
^{*5} To use multiple External Devices, utilize the W-BF-02 connector cable from RKC Instrument Inc.

11A)

1:1 Connection



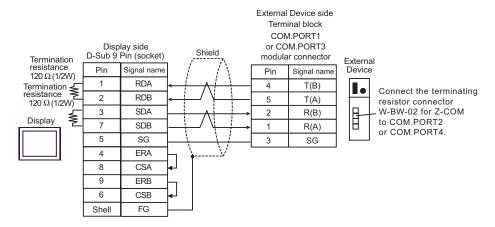
• 1:n Connection



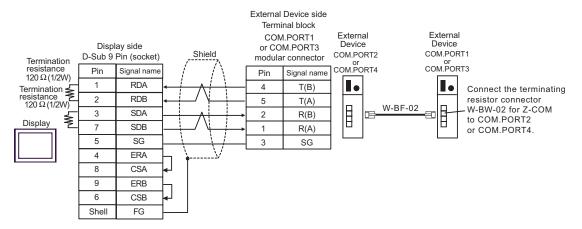
- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.

11B)

• 1:1 Connection



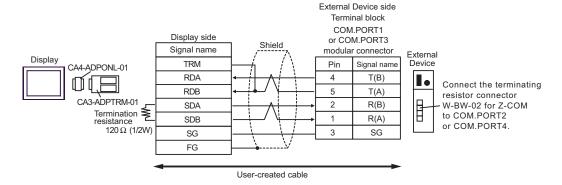
• 1:n Connection



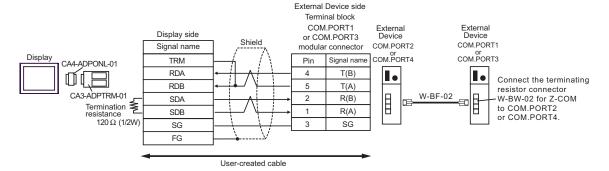
- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.

11C)

1:1 Connection



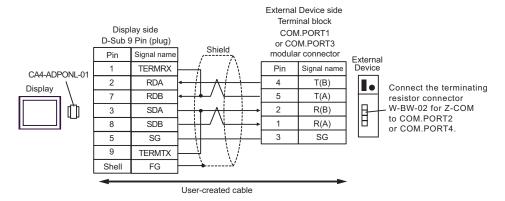
• 1:n Connection



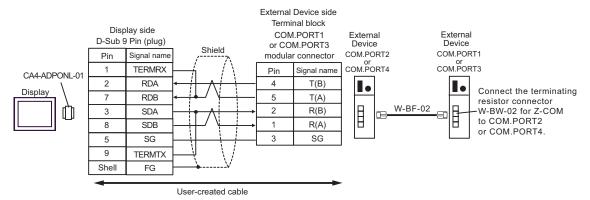
- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.

11D)

• 1:1 Connection



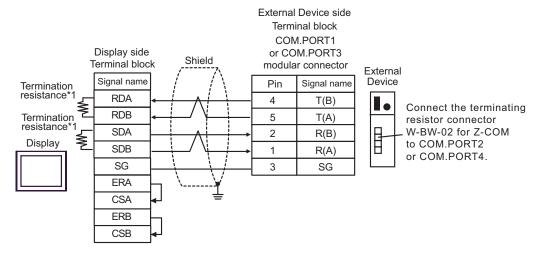
1:n Connection



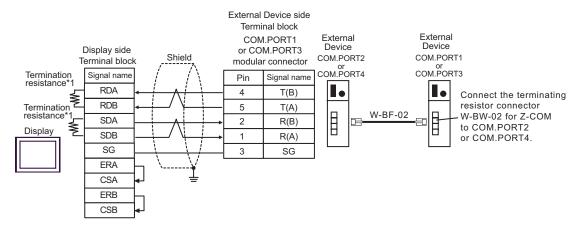
- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.

11E)

1:1 Connection



• 1:n Connection



- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.
- *1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

Cable Diagram 12

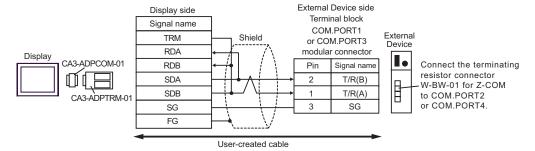
Display (Connection Port)	Cable		Remarks
GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST ^{*2} (COM2) LT (COM1)	12A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	
	12B	User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	
GP3000*3 (COM2)	12C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	Cable length: 1200m or less
	12D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	
IPC*4	12E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	
	12F	User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	

Display (Connection Port)	Cable Remarks		Remarks
GP-4106 (COM1)	12G	User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	Cable length:
GP-4107 (COM1)	12H	User-created cable + Connector cable from RKC Instrument Inc.*5 W-BF-02	1200m or less

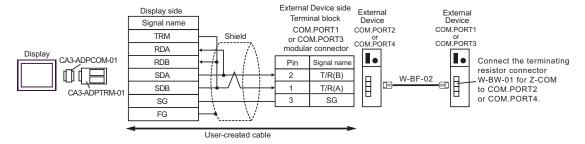
- *1 All GP3000 models except AGP-3302B
- *2 All ST models except AST-3211A and AST-3302B
- *3 All GP3000 models except GP-3200 and AGP-3302B
- *4 Only the COM port which can communicate by RS-422/485 (2wire) can be used.
 - F IPC COM Port (page 7)
- *5 To use multiple External Devices, utilize the W-BF-02 connector cable from RKC Instrument Inc.

12A)

• 1:1 Connection



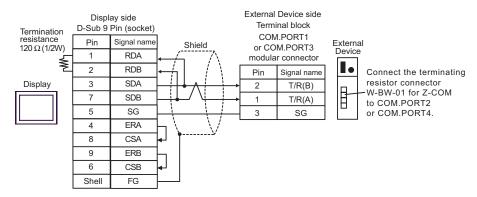
• 1:n Connection



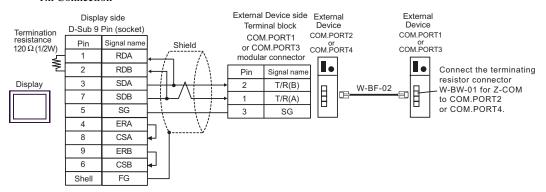
- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.

12B)

1:1 Connection



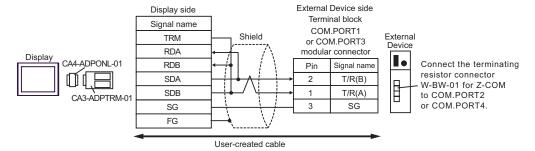
• 1:n Connection



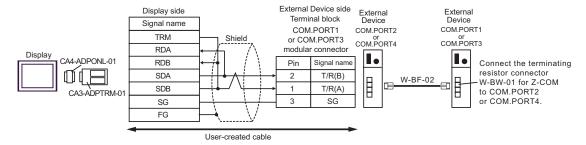
- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.

12C)

• 1:1 Connection



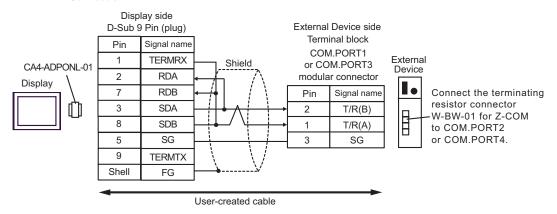
• 1:n Connection



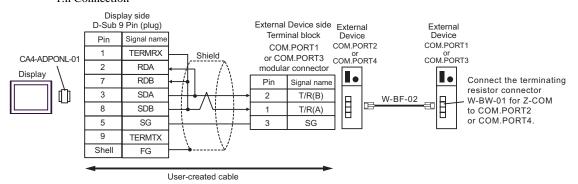
- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.

12D)

• 1:1 Connection



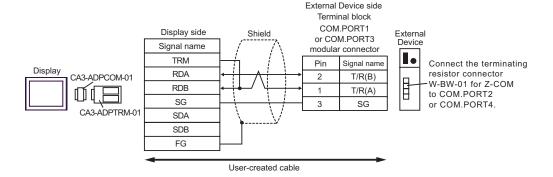
• 1:n Connection



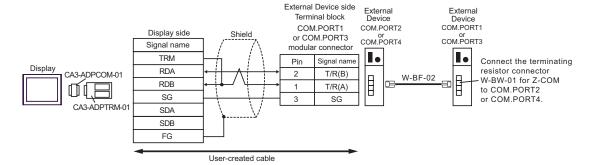
- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.

12E)

1:1 Connection



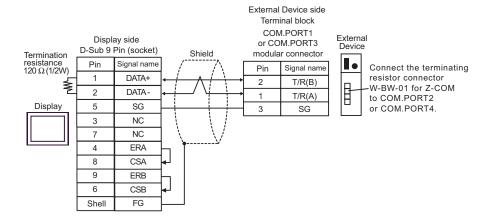
1:n Connection



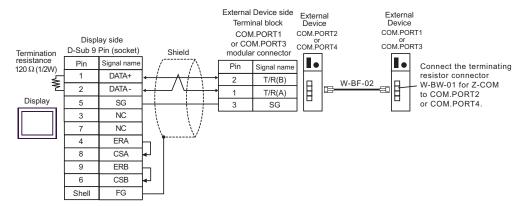
- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.

12F)

1:1 Connection



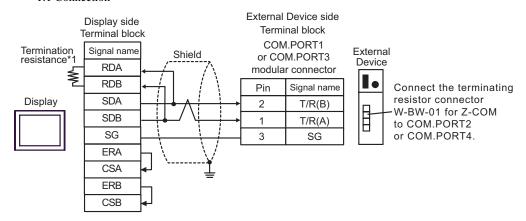
• 1:1 Connection



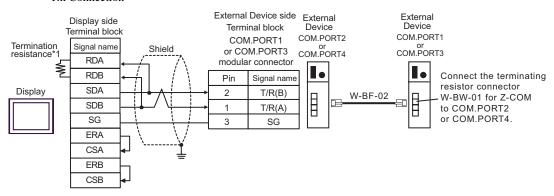
- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.

12G)

• 1:1 Connection



1:n Connection



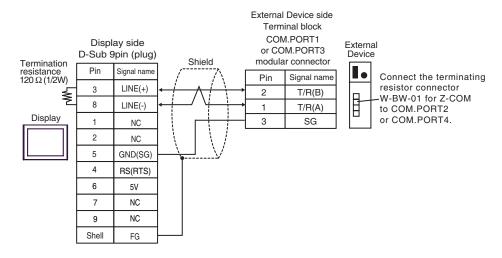


- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.
- *1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

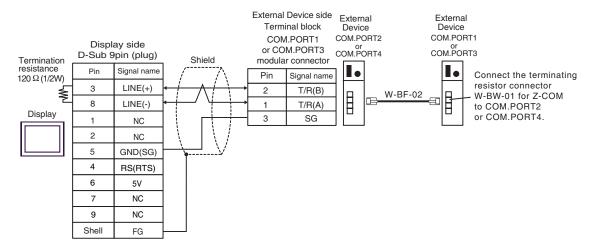
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

12H)

1:1 Connection



• 1:1 Connection



IMPORTANT

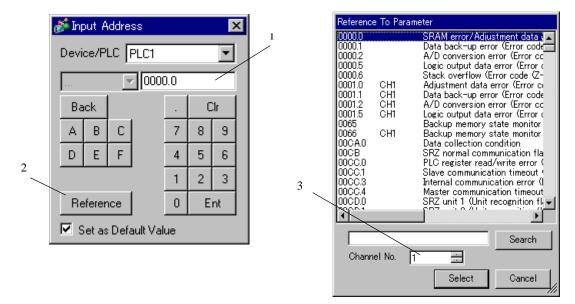
 The 5V output (Pin #6) on the GP-4107 is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

- We recommend the TM4P-66P from HIROSE ELECTRIC CO., LTD. as the modular connector.
- To use the External Device's COM.PORT, pair COM.PORT1 with COM.PORT2, and COM.PORT3 with COM.PORT4.
- In COM on the GP-4107, the SG and FG terminals are isolated.

6 Supported Device

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

Enter the External Device address in the dialog below.



Address Enter the address.

2. Reference Available parameter list ([Reference To Parameter] dialog box) is

displayed.

Click the parameter to use and press "Select", then the address is

entered.

3. Channel No. Enter the channel No. to be displayed on the list.

[channel No.] is displayed when "SRZ (Z-COM)" of the series of the

external device is selected.

NOTE

 When [Set as Default Value] is selected, the value displays as the default when entering a new address.

6.1 CB Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-001C.F	0000-001C	[L/H]	*1

*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.



 To set [Enable System Data Area] in the system area setting of GP-Pro EX may cause malfunction. Do not set [Enable System Data Area].



- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.2 FB400/900Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-150F.F	0000-150F	[L/H]	*1

*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.

IMPORTANT



- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.3 HA900/400 Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-0535.F	0000-0535	[L/H]	*1

*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.





- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.4 MA900/901 Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-14A0.F	0000-14A0	[L/H]	*1

*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.



 To set [Enable System Data Area] in the system area setting of GP-Pro EX may cause malfunction. Do not set [Enable System Data Area].



- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.5 SRV Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-1880.F	0000-1880	[L/H]	*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.

IMPORTANT |



- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.6 SRX Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-1883.F	0000-1883	[L/H]	*1

*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.





- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.7 SA100 Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-0021.F	0000-0021	[L/H]	*1

*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.

IMPORTANT

 To set [Enable System Data Area] in the system area setting of GP-Pro EX may cause malfunction. Do not set [Enable System Data Area].



- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.8 SA200 Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-001E.F	0000-001E	[L/H]	*1

*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.

IMPORTANT



- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.9 SR Mini HG(H-PCP-A)Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-02EE.F	0000-02EE	[L/H]	*1

*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.





- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.10 SR Mini HG(H-PCP-J) Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-1DEE.F	0000-1DEE	[L/H]	*1

*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.





- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.11 SRZ (Z-TIO) / SRZ (Z-DIO) Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-150F.F	0000-150F	[L/H]	*1

*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.





- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.12 SRZ (Z-CT) Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-01F1.F	0000-01F1	[L/H]	*1

*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.





- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

6.13 SRZ (Z-COM) Series

This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Holding Register	0000.0-801B.F	0000-801B	[L/H]	*1

*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.





- You can set only Read Area Size for the system data area available to use in the Temperature Controller. Please refer to the GP-Pro EX Reference Manual for reading area size.
- Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 - "Manual Symbols and Terminology"
- Even if you use the nonexistent address, read error may not be displayed. In this case, "0" is retained for the read data. Note that the writing error is displayed.

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.

7.1 CB Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.2 FB900/400 Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.3 HA900/400 Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.4 MA900/901 Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.5 SRV Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.6 SRX Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.7 SA100 Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.8 SA200 Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.9 SR Mini Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.10 SR Mini HG Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.11 SRZ (Z-TIO) / SRZ (Z-DIO) Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.12 SRZ (Z-CT) Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

7.13 SRZ (Z-COM) Series

Device	Device Name	Device Code (HEX)	Address Code
Holding Register	-	0080	Same as Word Address

8 Error Messages

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

Item	Description		
No.	Error No.		
Device Name	Name of 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 displayed such as "Address: Device address". Received error codes are displayed such as "Decimal[Hex]". 		

Display Examples of Error Messages

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



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