



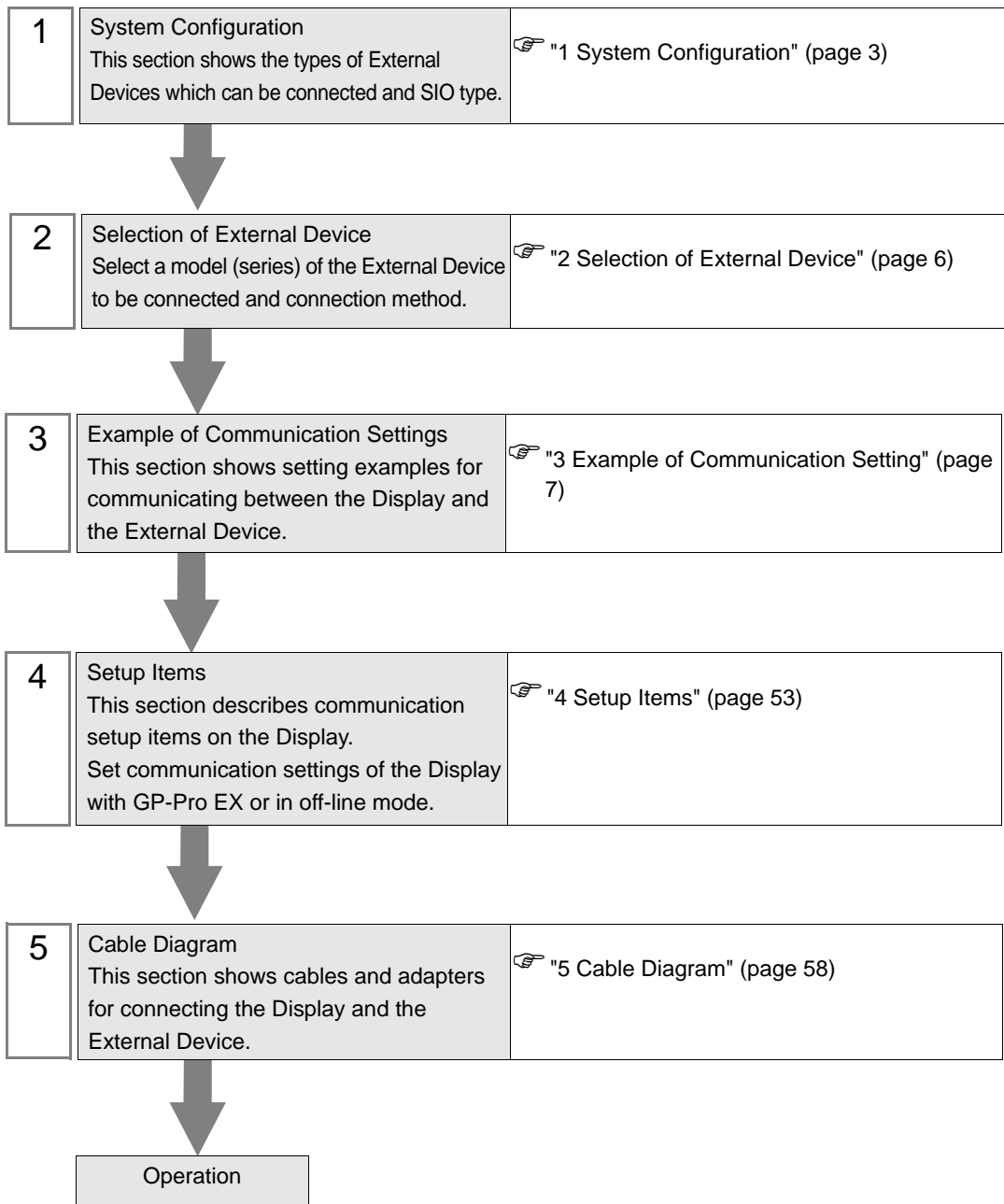
# Temperature Controller MODBUS SIO Driver

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## Introduction

This manual describes how to connect the Display (GP3000 series) 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             |
|-----------------|---|----------------------------------|-------------------|-----------------------------|---------------------------|
| CB              | CB100□□□□-□□*□□-5□/□Z-1021<br>CB400□□□□-□□*□□-5□/□Z-1021<br>CB500□□□□-□□*□□-5□/□Z-1021<br>CB700□□□□-□□*□□-5□/□Z-1021<br>CB900□□□□-□□*□□-5□/□Z-1021  | Terminal block on the controller | RS422/485(2 wire) | Setting Example 1 (page 7)  | Cable Diagram 3 (page 62) |
| FB400/<br>FB900 | FB900-□□-□*□□□1/□□-□□□□<br>FB400-□□-□*□□□1/□□-□□□□  | Terminal block on the controller | RS232C            | Setting Example 2 (page 9)  | Cable Diagram 6 (page 71) |
|                 | FB900-□□-□*□□□4/□□-□□□□<br>FB400-□□-□*□□□4/□□-□□□□  | Terminal block on the controller | RS422/485(4 wire) | Setting Example 3 (page 11) | Cable Diagram 7 (page 72) |
|                 | FB900-□□-□*□□□5/□□-□□□□<br>FB900-□□-□*□□□X/□□-□□□□<br>FB900-□□-□*□□□Y/□□-□□□□<br>FB400-□□-□*□□□5/□□-□□□□<br>FB400-□□-□*□□□X/□□-□□□□<br>FB400-□□-□*□□□Y/□□-□□□□  | Terminal block on the controller | RS422/485(2 wire) | Setting Example 4 (page 13) | Cable Diagram 3 (page 62) |
|                 | FB900-□□-□*□□□W/□□-□□□□   | Terminal block on the controller | RS232C            | Setting Example 2 (page 9)  | Cable Diagram 6 (page 71) |
|                 | FB400-□□-□*□□□W/□□-□□□□   | Terminal block on the controller | RS422/485(2 wire) | Setting Example 4 (page 13) | Cable Diagram 3 (page 62) |
| HA400/<br>HA900 | HA900-□□-□□-□*□□-□□6□-□/□/□<br>HA900-□□-□□-□*□□-□□□6□-□/□/□<br>HA901-□□-□□-□*□□-□□□6□-□/□/□<br>HA901-□□-□□-□*□□-□□□6□-□/□/□<br>HA400-□□-□□-□*□□-□□6□-□/□/□<br>HA400-□□-□□-□*□□-□□□6□-□/□/□<br>HA401-□□-□□-□*□□-□□6□-□/□/□<br>HA401-□□-□□-□*□□-□□□6□-□/□/□ | Terminal block on the controller | RS422/485(2 wire) | Setting Example 5 (page 15) | Cable Diagram 3 (page 62) |
|                 | HA900-□□-□□-□*□□-□□8□-□/□/□<br>HA900-□□-□□-□*□□-□□□8□-□/□/□<br>HA901-□□-□□-□*□□-□□8□-□/□/□<br>HA901-□□-□□-□*□□-□□□8□-□/□/□<br>HA400-□□-□□-□*□□-□□8□-□/□/□<br>HA400-□□-□□-□*□□-□□□8□-□/□/□<br>HA401-□□-□□-□*□□-□□8□-□/□/□<br>HA401-□□-□□-□*□□-□□□8□-□/□/□  | Terminal block on the controller | RS232C            | Setting Example 6 (page 17) | Cable Diagram 6 (page 71) |
|                 | HA900-□□-□□-□*□□-□□□7-□/□/□<br>HA901-□□-□□-□*□□-□□□7-□/□/□<br>HA400-□□-□□-□*□□-□□□7-□/□/□<br>HA401-□□-□□-□*□□-□□□7-□/□/□  | Terminal block on the controller | RS422/485(4 wire) | Setting Example 7 (page 19) | Cable Diagram 7 (page 72) |

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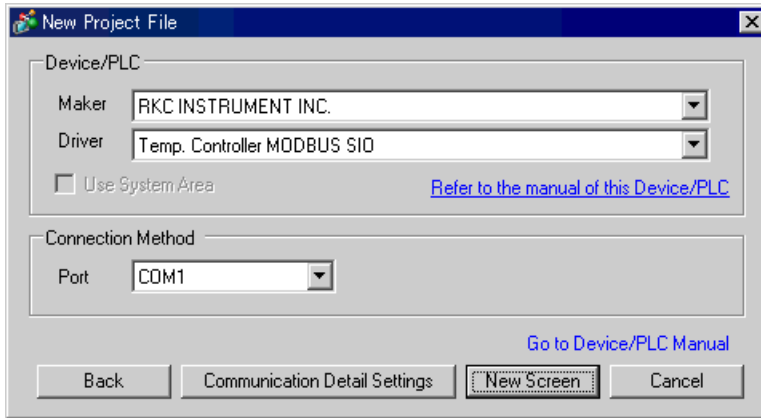
| Series               | CPU  | Link I/F                         | SIO Type          | Setting Example              | Cable Diagram             |
|----------------------|--|----------------------------------|-------------------|------------------------------|---------------------------|
| MA900                | MA900-4□□□□-□□-□*□□□-□6/□                                | Terminal block on the controller | RS422/485(2 wire) | Setting Example 8 (page 21)  | Cable Diagram 3 (page 62) |
|                      | MA900-4□□□□-□□-□*□□□-□7/□                                | Terminal block on the controller | RS422/485(4 wire) | Setting Example 9 (page 23)  | Cable Diagram 7 (page 72) |
|                      | MA900-4□□□□-□□-□*□□□-□8/□                                | Terminal block on the controller | RS232C            | Setting Example 10 (page 25) | Cable Diagram 6 (page 71) |
| MA901                | MA901-8□□□□-□□-□*□□□-□6/□                                | Terminal block on the controller | RS422/485(2 wire) | Setting Example 8 (page 21)  | Cable Diagram 3 (page 62) |
|                      | MA901-8□□□□-□□-□*□□□-□7/□                                | Terminal block on the controller | RS422/485(4 wire) | Setting Example 9 (page 23)  | Cable Diagram 7 (page 72) |
|                      | MA901-8□□□□-□□-□*□□□-□8/□                                | Terminal block on the controller | RS232C            | Setting Example 10 (page 25) | Cable Diagram 6 (page 71) |
| SRV                  | V-TIO-A-□□□□-□□*□□□-□□-□-6<br>V-TIO-C-□□□□-□□*□□□-□□-□-6 | Terminal block on the controller | RS422/485(2 wire) | Setting Example 14 (page 33) | Cable Diagram 3 (page 62) |
| SRX                  | X-TIO-A-□□-□□*□□   | Terminal block on the controller | RS422/485(2 wire) | Setting Example 14 (page 33) | Cable Diagram 3 (page 62) |
| SA100                | SA100□□□□-□□-□*□□-□6□□□                                  | Terminal block on the controller | RS422/485(2 wire) | Setting Example 6 (page 37)  | Cable Diagram 3 (page 62) |
| SA200                | SA200□□□□-□□-□*□□-□6□□□□                                 | Terminal block on the controller | RS422/485(2 wire) | Setting Example 6 (page 37)  | Cable Diagram 3 (page 62) |
| SR Mini HG (H-PCP-A) | H-PCP-A-□1N-□*□□Z-1021                                   | Terminal block on the controller | RS232C            | Setting Example 18 (page 41) | Cable Diagram 1 (page 58) |
|                      | H-PCP-A-□4N-□*□□Z-1021                                   | Terminal block on the controller | RS422/485(4 wire) | Setting Example 19 (page 43) | Cable Diagram 2 (page 59) |

continued to next page

| Series                     | CPU              | Link I/F                    | SIO Type              | Setting Example                 | Cable Diagram                |
|----------------------------|------------------|-----------------------------|-----------------------|---------------------------------|------------------------------|
| SR Mini<br>HG<br>(H-PCP-J) | H-PCP-J-□4□-D*□□ | Connector on the controller | RS422/<br>485(4 wire) | Setting Example 20<br>(page 45) | Cable Diagram 4<br>(page 65) |
|                            | H-PCP-J-□5□-D*□□ | Connector on the controller | RS422/<br>485(2 wire) | Setting Example 21<br>(page 48) | Cable Diagram 5<br>(page 68) |
|                            | H-PCP-J-□□1-D*□□ | Connector on the controller | RS232C                | Setting Example 18<br>(page 41) | Cable Diagram 1<br>(page 58) |
|                            | H-PCP-J-□□4-D*□□ | Connector on the controller | RS422/<br>485(4 wire) | Setting Example 20<br>(page 45) | Cable Diagram 8<br>(page 75) |
|                            | H-PCP-J-□□5-D*□□ | Connector on the controller | RS422/<br>485(2 wire) | Setting Example 21<br>(page 48) | Cable Diagram 9<br>(page 79) |

## 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".<br>Check the External Device which can be connected in "Temperature Controller MODBUS SIO" in system configuration.<br>☞ "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, select [Device/PLC Settings] from [System setting window] in workspace.

The screenshot shows the 'Device/PLC 1' settings window. At the top, there is a 'Summary' section with fields for 'Maker' (RKC INSTRUMENT INC.), 'Driver' (Temp. Controller MODBUS SIO), and 'Port' (COM1). A 'Text Data Mode' field is set to '1' with a 'Change' link. A 'Change Device/PLC' link is also present.

The 'Communication Settings' section includes:
 


- SIO Type:** Radio buttons for RS232C, RS422/485(2wire) (selected), and RS422/485(4wire).
- Speed:** A dropdown menu set to 9600.
- Data Length:** Radio buttons for 7 and 8 (selected).
- Parity:** Radio buttons for NONE (selected), EVEN, and ODD.
- Stop Bit:** Radio buttons for 1 (selected) and 2.
- Flow Control:** Radio buttons for NONE (selected), ER(DTR/CTS), and XON/XOFF.
- Timeout:** A spinner box set to 3 (sec).
- Retry:** A spinner box set to 2.
- Wait To Send:** A spinner box set to 0 (ms).

Below this is a section for 'RI / VCC' with radio buttons for RI (selected) and VCC. A note states: 'In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.' A 'Default' button is located to the right.

The 'Device-Specific Settings' section shows 'Allowable No. of Device/PLCs' as 16 Unit(s). A table lists the device settings:
 

| No. | Device Name | Settings                  |
|-----|-------------|---------------------------|
| 1   | PLC1        | Series=CB,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 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 |

---

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

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## 3.2 Setting Example 2

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                         |
|-----|-------------|----------------------------------|
| 1   | PLC1        | Series=FB400/900,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 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.
8. 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 |

#### MEMO

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

### 3.3 Setting Example 3

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1 [Change Device/PLC](#)

Summary

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                         |
|-----|-------------|----------------------------------|
| 1   | PLC1        | Series=FB400/900,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 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.
8. 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 |

#### MEMO

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

## 3.4 Setting Example 4

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                         |
|-----|-------------|----------------------------------|
| 1   | PLC1        | Series=FB400/900,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 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.
8. 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 |
| bTT1 | 8n1 |

#### MEMO

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

### 3.5 Setting Example 5

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                         |
|-----|-------------|----------------------------------|
| 1   | PLC1        | Series=HA400/900,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 |

#### MEMO

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



## 3.6 Setting Example 6

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                         |
|-----|-------------|----------------------------------|
| 1   | PLC1        | Series=HA400/900,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 |

#### MEMO

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

## 3.7 Setting Example 7

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                         |
|-----|-------------|----------------------------------|
| 1   | PLC1        | Series=HA400/900,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 |

#### MEMO

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

## 3.8 Setting Example 8

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

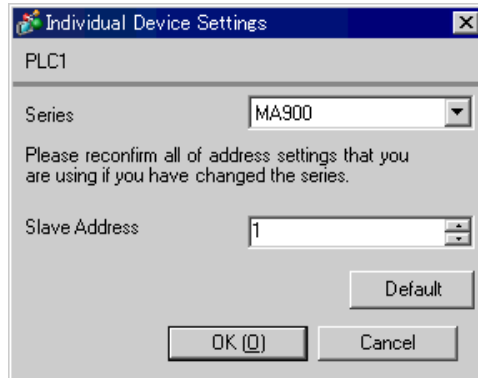
Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                     |
|-----|-------------|------------------------------|
| 1   | PLC1        | Series=MA900,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 |

#### MEMO

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

### 3.9 Setting Example 9

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                     |
|-----|-------------|------------------------------|
| 1   | PLC1        | Series=MA900.Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 |

#### MEMO

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



### 3.10 Setting Example 10

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                     |
|-----|-------------|------------------------------|
| 1   | PLC1        | Series=MA900,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 |

#### MEMO

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

### 3.11 Setting Example 11

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                     |
|-----|-------------|------------------------------|
| 1   | PLC1        | Series=MA901,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 |

#### MEMO

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

## 3.12 Setting Example 12

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                     |
|-----|-------------|------------------------------|
| 1   | PLC1        | Series=MA901,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 |

#### MEMO

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

### 3.13 Setting Example 13

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1
[Change Device/PLC](#)

**Summary**

Maker  Driver  Port

Text Data Mode  [Change](#)

**Communication Settings**

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

**Device-Specific Settings**

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                     |
|-----|-------------|------------------------------|
| 1   | PLC1        | Series=MA901,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 |

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



### 3.14 Setting Example 14

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)


Retry



Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs 16 Unit(s) 

| No.   | Device Name                       | Settings   |
|---|-----------------------------------|--|
|  1 | <input type="text" value="PLC1"/> |  Series=SRV,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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

1. 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      |                        |
| 3          | ON       | Data bit configuration |
| 4          | OFF      |                        |
| 5          | OFF      |                        |
| 6          | ON       | Protocol selection     |
| 7          | OFF      | Fixed                  |
| 8          | OFF      |                        |

#### MEMO

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

### 3.15 Setting Example 15

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1
[Change Device/PLC](#)

**Summary**

Maker  Driver  Port

Text Data Mode  [Change](#)

**Communication Settings**

SIO Type     RS232C     RS422/485(2wire)     RS422/485(4wire)

Speed       

Data Length     7         8

Parity         NONE         EVEN         ODD

Stop Bit       1         2

Flow Control    NONE         ER(DTR/CTS)     XON/XOFF

Timeout       (sec)

Retry        

Wait To Send  (ms)

RI / VCC     RI     VCC
 


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

**Device-Specific Settings**

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                   |
|-----|-------------|----------------------------|
| 1   | PLC1        | Series=SRX,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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

1. 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      |   |
| 3          | ON       | Data bit configuration                        |
| 4          | OFF      |   |
| 5          | OFF      |   |
| 6          | ON       | Protocol selection                            |
| 7          | OFF      | Fixed   |
| 8          | OFF      | Internal data bus Terminal resistance setting |

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

### 3.16 Setting Example 6

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1
[Change Device/PLC](#)

**Summary**

Maker  Driver  Port

Text Data Mode  [Change](#)

**Communication Settings**

SIO Type     RS232C     RS422/485(2wire)     RS422/485(4wire)

Speed       

Data Length     7         8

Parity         NONE         EVEN         ODD

Stop Bit       1         2

Flow Control     NONE         ER(DTR/CTS)     XON/XOFF

Timeout        (sec)

Retry        

Wait To Send    (ms)

RI / VCC     RI     VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

**Device-Specific Settings**

Allowable No. of Device/PLCs: 16 Unit(s)

|                                  | No. | Device Name                       | Settings  |
|----------------------------------|-----|-----------------------------------|---|
| <input type="button" value="↑"/> | 1   | <input type="text" value="PLC1"/> | <input type="text" value="Series=SA100,Slave Address=1"/> |

### ◆ Device Setting

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



### ■ 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 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 |

#### MEMO

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

### 3.17 Setting Example 17

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

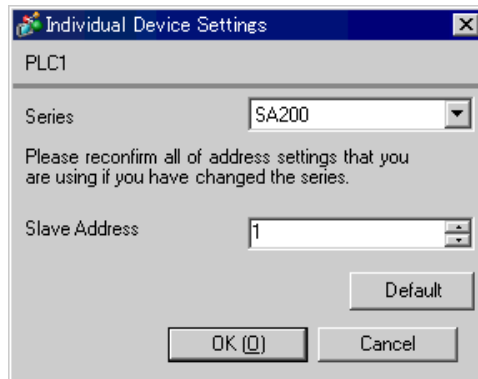
Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                     |
|-----|-------------|------------------------------|
| 1   | PLC1        | Series=SA200,Slave Address=1 |

### ◆ Device Setting

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



### ■ 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 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 |

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



### 3.18 Setting Example 18

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

**Summary** [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

**Communication Settings**

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

**Device-Specific Settings**

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                                 |
|-----|-------------|--|
| 1   | PLC1        | Series=SRMiniHG(H-PCP-A),Slave Address=1 |

### ◆ Device Setting

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



### ■ 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       |                    |
| 3          | ON       |                    |
| 4          | OFF      | Speed              |

#### MEMO

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

### 3.19 Setting Example 19

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1
[Change Device/PLC](#)

**Summary**

Maker  Driver  Port

Text Data Mode  [Change](#)

**Communication Settings**

SIO Type     RS232C     RS422/485(2wire)     RS422/485(4wire)

Speed       

Data Length     7         8

Parity         NONE         EVEN         ODD

Stop Bit       1         2

Flow Control    NONE         ER(DTR/CTS)     XON/XOFF

Timeout       (sec)

Retry        

Wait To Send    (ms)

RI / VCC     RI         VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

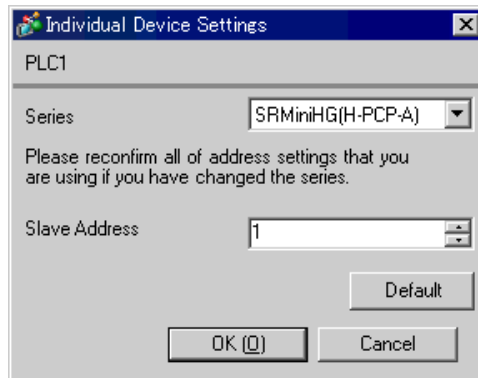
**Device-Specific Settings**

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                                 |
|-----|-------------|--|
| 1   | PLC1        | Series=SRMiniHG(H-PCP-A).Slave Address=1 |

### ◆ Device Setting

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



### ■ 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       |                    |
| 3          | ON       |                    |
| 4          | OFF      | Speed              |

#### MEMO

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

## 3.20 Setting Example 20

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1
[Change Device/PLC](#)

**Summary**

Maker  Driver  Port

Text Data Mode  [Change](#)

**Communication Settings**

SIO Type     RS232C     RS422/485(2wire)     RS422/485(4wire)

Speed       

Data Length     7         8

Parity         NONE         EVEN         ODD

Stop Bit       1         2

Flow Control    NONE         ER(DTR/CTS)     XON/XOFF

Timeout       (sec)

Retry        

Wait To Send  (ms)

RI / VCC     RI     VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

**Device-Specific Settings**

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                                  |
|-----|-------------|---|
| 1   | PLC1        | Series=SRMiniHG(H-PCP-J), Slave Address=1 |

### ◆ Device Setting

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



### ■ 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

1. 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      |                        |
| 3   | OFF      | Speed                  |
| 4   | OFF      |                        |
| 5   | ON       | Communication Protocol |
| 6   | OFF      |                        |
| 7   | OFF      |                        |
| 8   | OFF      |                        |

## COM.PORT3 setting switch

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

**MEMO**

- 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, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC

In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.


Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                                 |
|-----|-------------|--|
| 1   | PLC1        | Series=SRMiniHG(H-PCP-J),Slave Address=1 |



◆ Device Setting

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



■ Settings of External Device

Use the unit address setting switch in 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

1. 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      |                        |
| 3   | OFF      | Speed                  |
| 4   | OFF      |                        |
| 5   | ON       | Communication Protocol |
| 6   | OFF      |                        |
| 7   | OFF      |                        |
| 8   | OFF      |                        |

- COM.PORT3 setting switch

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

**MEMO**

- 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, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)

Retry

Wait To Send  (ms)

RI / VCC  RI  VCC


In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

| No. | Device Name | Settings                                |
|-----|-------------|---|
| 1   | PLC1        | Series=SRMiniHG(H-PCPJ),Slave Address=1 |

### ◆ Device Setting

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



### ■ Settings of External Device

Use the unit address setting switch in 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

1. 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      |                        |
| 3   | OFF      | Speed                  |
| 4   | OFF      |                        |
| 5   | ON       | Communication Protocol |
| 6   | OFF      | Initialization         |
| 7   | OFF      | MODBUS mode selection  |
| 8   | OFF      | Fixed                  |


#### MEMO

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

## 4 Setup Items

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

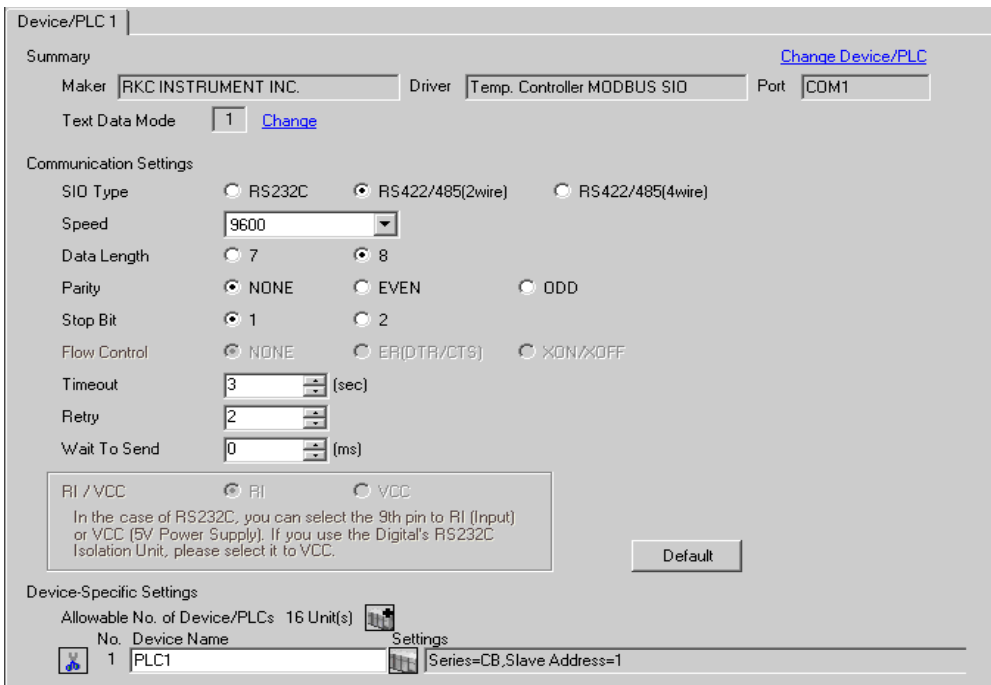
The setting of each parameter must be identical to that of External Device.

 "3 Example of Communication Setting" (page 7)

### 4.1 Setup Items in GP-Pro EX

#### ■ Communication Settings

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



Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  Port

Text Data Mode  [Change](#)

Communication Settings

SIO Type  RS232C  RS422/485(2wire)  RS422/485(4wire)

Speed

Data Length  7  8

Parity  NONE  EVEN  ODD

Stop Bit  1  2

Flow Control  NONE  ER(DTR/CTS)  XON/XOFF

Timeout  (sec)


Retry



Wait To Send  (ms)

RI / VCC  RI  VCC

In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s) 


| No.   | Device Name | Settings  |
|---|-------------|---|
|  1 | PLC1        |  Series=CB,Slave Address=1 |

| 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.   |

## ■ Device Setting

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

When 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 Off-Line Mode

**MEMO**

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

Cf. GP3000 Series User's Manual "Chapter 4 Setting"

### ■ Communication Settings

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

| Comm.            | Device   | Option |      |                        |
|------------------|--|--------|------|------------------------|
| Temp. Controller | MODBUS SIO   | [COM1] |      | Page 1/1               |
| SIO Type         | RS422/485(2wire) ▼   |        |      |                        |
| Speed            | 9600 ▼   |        |      |                        |
| Data Length      | <input type="radio"/> 7 <input checked="" type="radio"/> 8<br><input checked="" type="radio"/> NONE <input type="radio"/> EVEN <input type="radio"/> ODD |        |      |                        |
| Parity           | <input checked="" type="radio"/> 1 <input type="radio"/> 2   |        |      |                        |
| Stop Bit         | NONE   |        |      |                        |
| Flow Control     | NONE   |        |      |                        |
| Timeout(s)       | 3 ▼ ▲  |        |      |                        |
| Retry            | 2 ▼ ▲  |        |      |                        |
| Wait To Send(ms) | 0 ▼ ▲  |        |      |                        |
|                  | Exit   |        | Back | 2006/01/17<br>18:06:30 |

| 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. |
| 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].

| Comm.                       | Device    | Option |        |                        |
|-----------------------------|-----------|--------|--------|------------------------|
| Temp. Controller MODBUS SIO |           |        | [COM1] | Page 1/1               |
| Device/PLC Name             | [PLC1] ▼  |        |        |                        |
| Series                      | CB        |        |        |                        |
| Slave Address               | [ ] 1 ▼ ▲ |        |        |                        |
|                             | Exit      |        | Back   | 2006/01/17<br>18:06:33 |

| 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].

| Comm.   | Device | Option |        |                        |
|---|--------|--------|--------|------------------------|
|   |        |        |        |                        |
| Temp. Controller MODBUS SIO   |        |        | [COM1] | Page 1/1               |
| RI / VCC                      ● RI                      ● VCC<br>In the case of RS232C, you can select<br>the 9th pin to RI(Input) or VCC(5V<br>Power Supply). If you use the Digital's<br>RS232C Isolation Unit, please select<br>it to VCC. |        |        |        |                        |
|   | Exit   |        | Back   | 2006/02/13<br>13:19:34 |

| Setup Items | Setup Description               |
|-------------|---------------------------------|
| RI/VCC      | Switches RI/VCC of the 9th pin. |

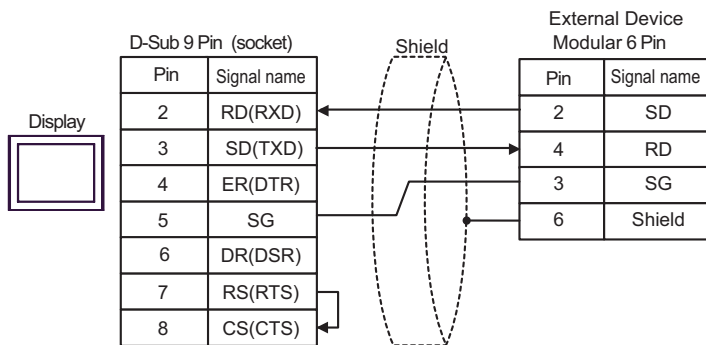
## 5 Cable Diagram

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.

Cable Diagram 1

| Display<br>(Connection Port) | Cable          | Remarks                   |
|------------------------------|----------------|---------------------------|
| GP(COM1)                     | Your own cable | Cable length: 10m or less |



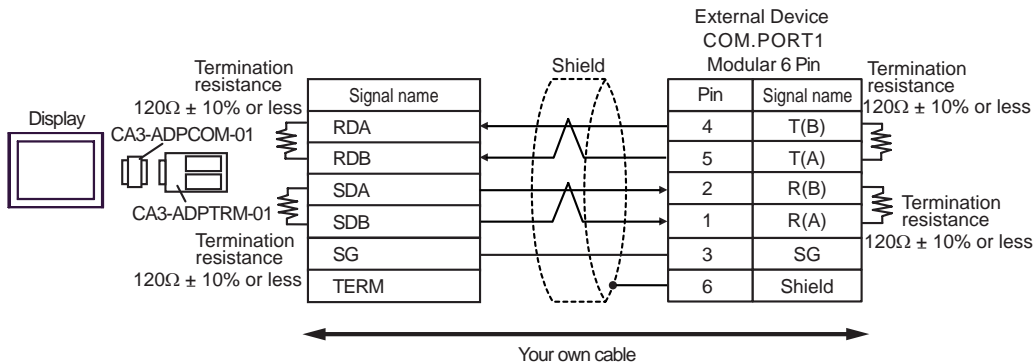
Cable Diagram 2

| Display<br>(Connection Port)             | Cable |  | Remarks                       |
|--|-------|--|-------------------------------|
| GP(COM1) <sup>*1</sup><br>AGP-3302(COM2) | A     | COM port conversion adapter by Digital Electronics Corp.<br>CA3-ADPCOM-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable | Cable length:<br>500m or less |
|  | B     | Your own cable   |                               |
| GP(COM2) <sup>*1</sup>                   | C     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable              |                               |
|  | D     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Your own cable  |                               |

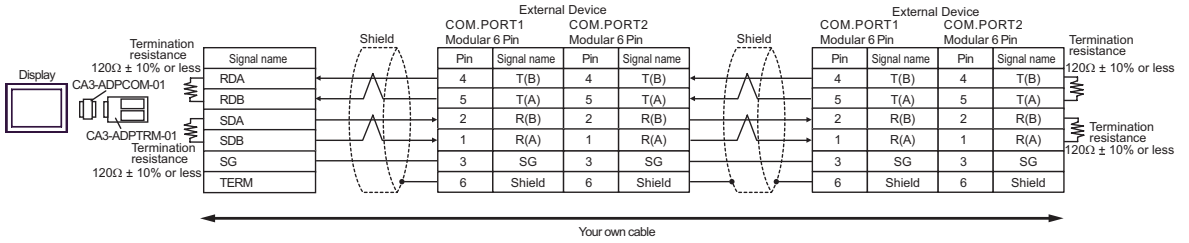
\*1 Except AGP-3302 Series

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection

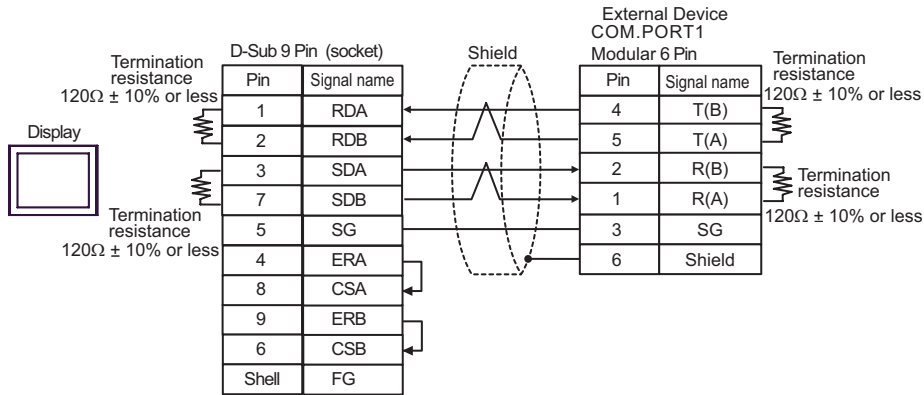


- 1:n connection

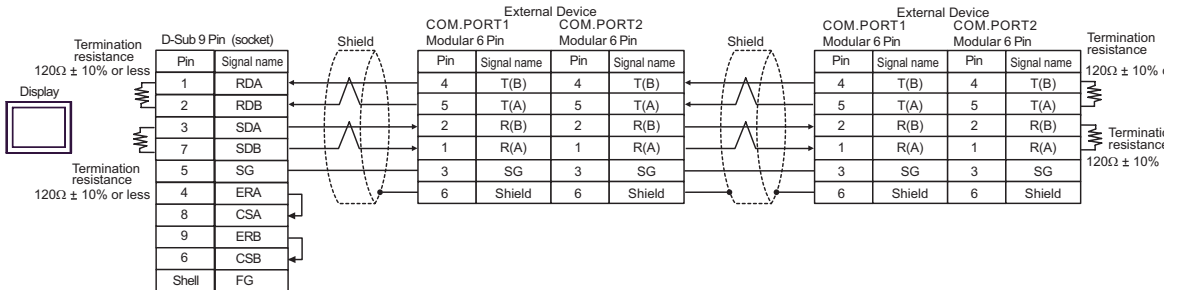


B) When using your own cable

- 1:1 Connection

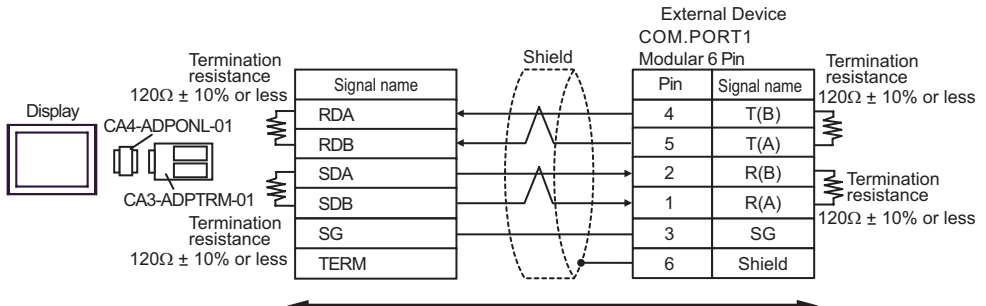


- 1:n Connection

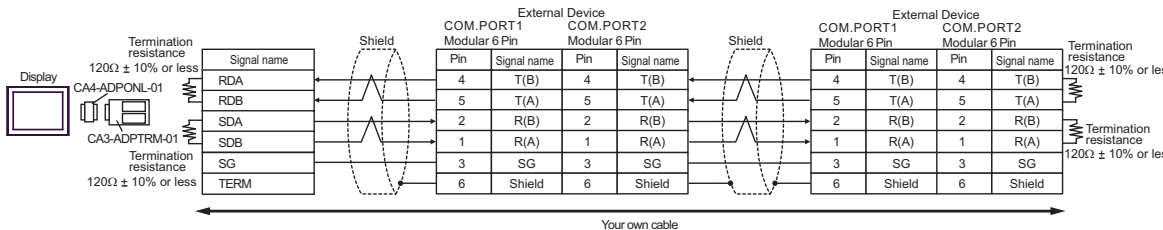


C) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection

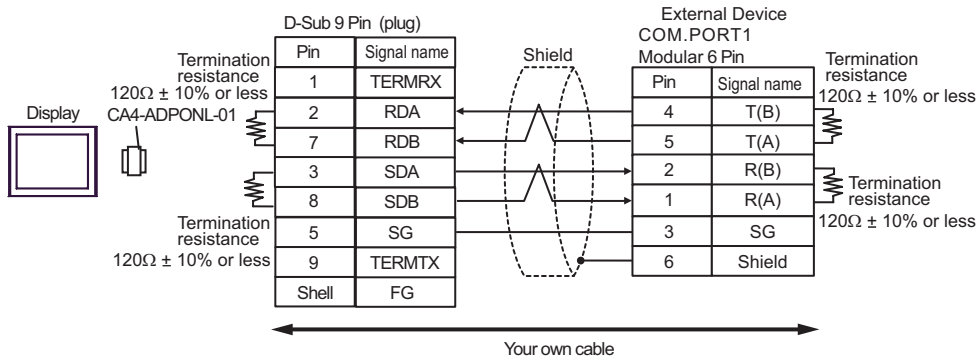


• 1:n Connection

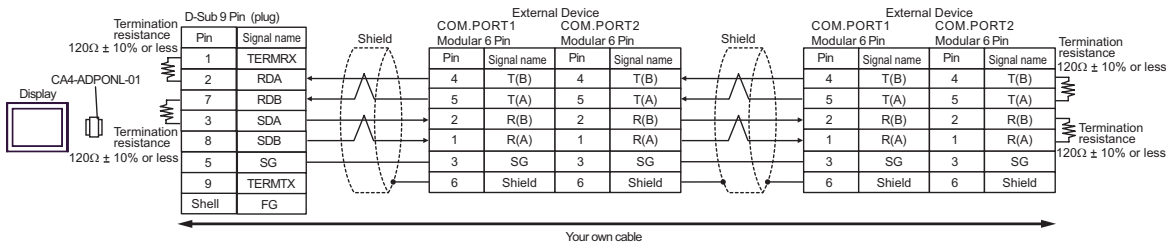


D) When using the online adapter (CA4-ADPONL-01) by Digital Electronics Corp. and your own cable

• 1:1 Connection



• 1:n Connection



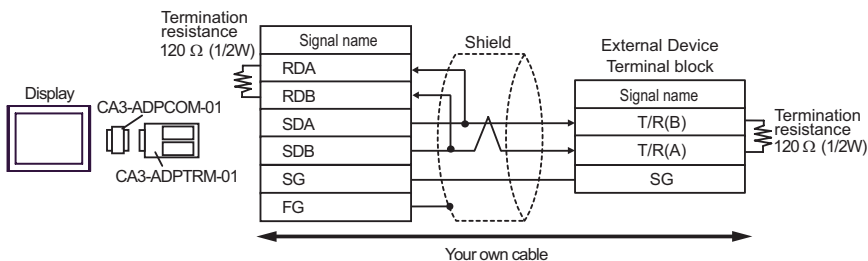
Cable Diagram 3

| Display<br>(Connection Port) | Cable |  | Remarks                       |
|------------------------------|-------|--|-------------------------------|
| GP(COM1)*1<br>AGP-3302(COM2) | A     | COM port conversion adapter by Digital Electronics Corp.<br>CA3-ADPCOM-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable | Cable length:<br>600m or less |
|                              | B     | Your own cable   |                               |
| GP(COM2)*1                   | C     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable              |                               |
|                              | D     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Your own cable  |                               |

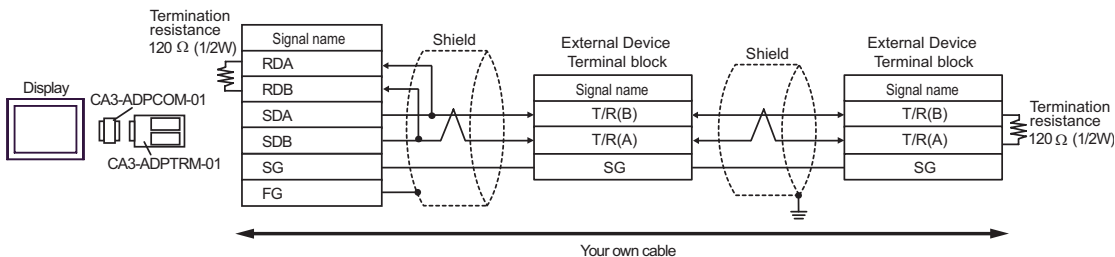
\*1 Except AGP-3302 Series

A) When using the COM port conversion adapter (CA3-ADPCOM-01) and the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection

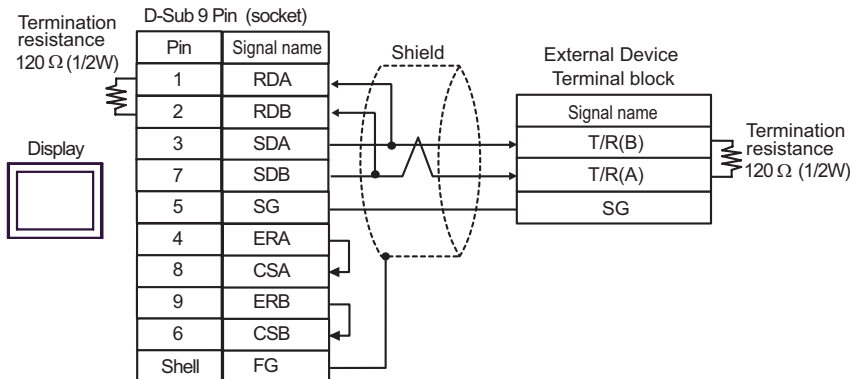


- 1: n connection

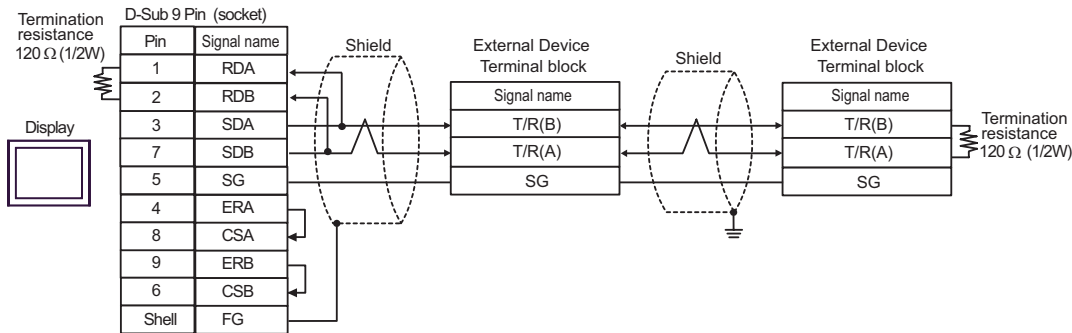


B) When using your own cable

- 1:1 Connection

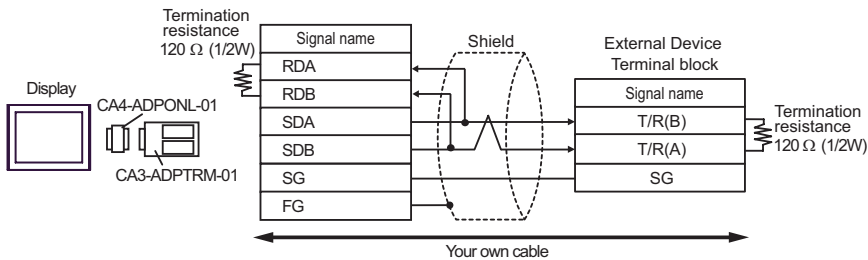


- 1:n Connection

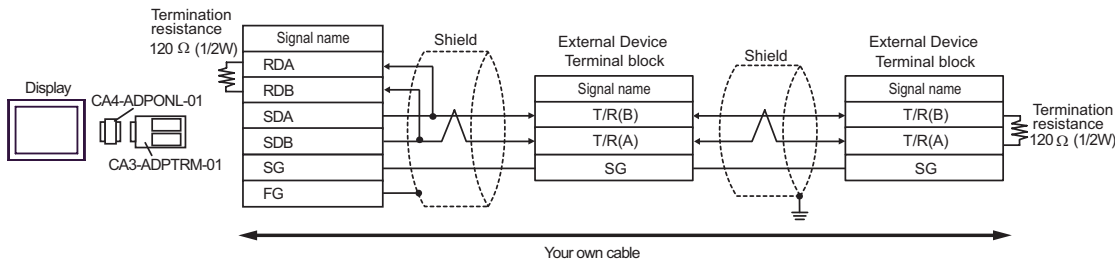


C) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection

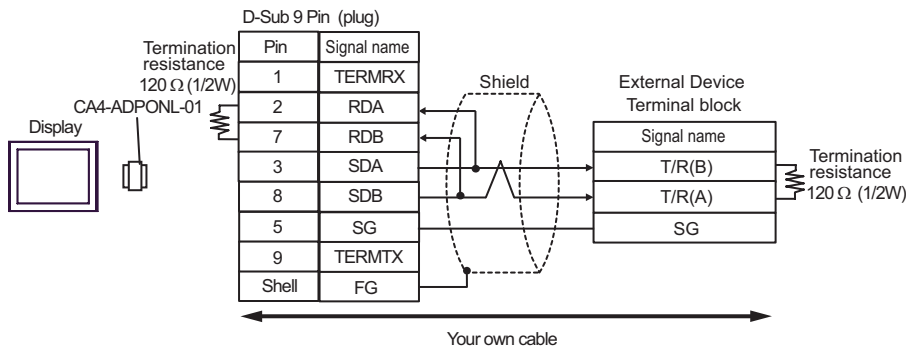


- 1:n Connection

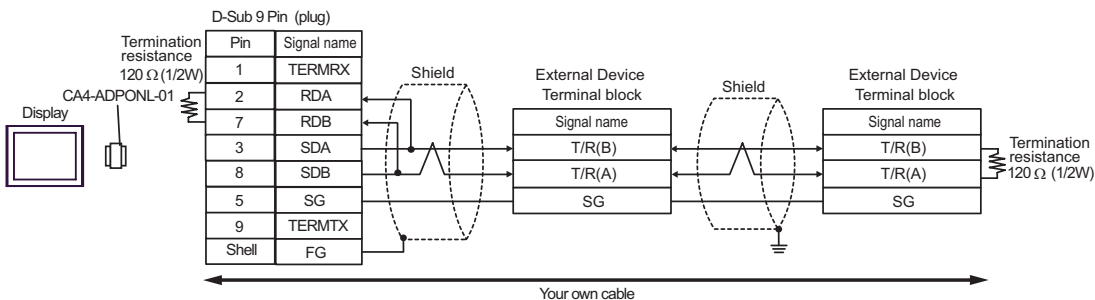


D) When using the online adapter (CA4-ADPONL-01) by Digital Electronics Corp. and your own cable

- 1:1 Connection



- 1:n Connection





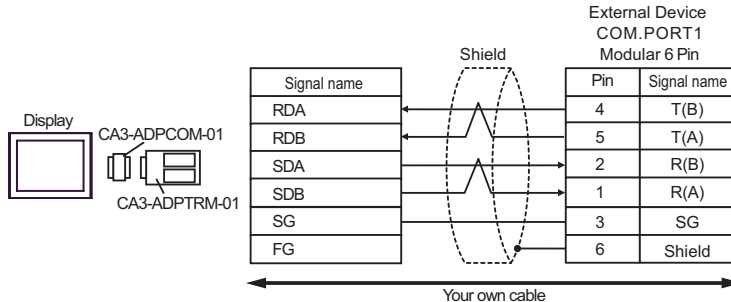
Cable Diagram 4

| Display<br>(Connection Port) | Cable |  | Remarks                     |
|------------------------------|-------|--|-----------------------------|
| GP(COM1)*1<br>AGP-3302(COM2) | A     | COM port conversion adapter by Digital Electronics Corp.<br>CA3-ADPCOM-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable | Cable length:<br>5m or less |
|                              | B     | Your own cable   |                             |
| GP(COM2)*1                   | C     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable              |                             |
|                              | D     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Your own cable  |                             |

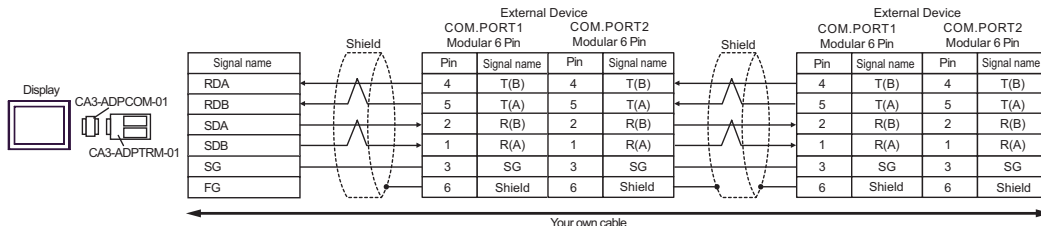
\*1 Except AGP-3302 Series

A) When using the COM port conversion adapter (CA3-ADPCOM-01) and the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection



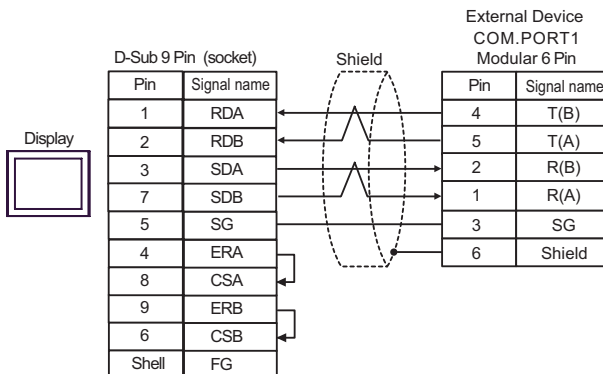
- 1: n connection



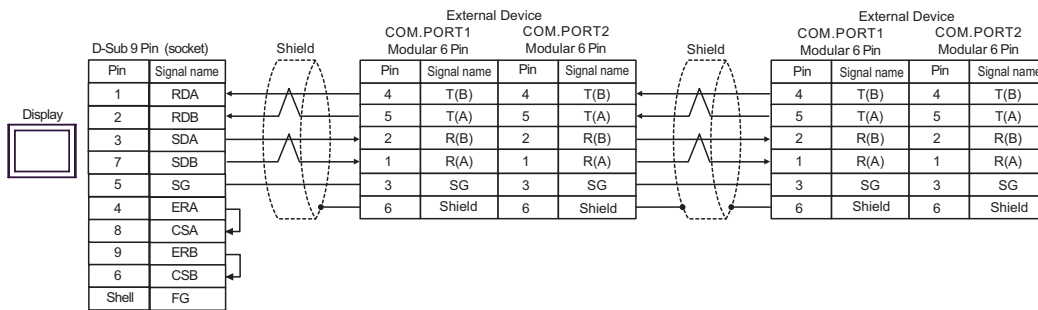
**MEMO** • Termination resistance is not necessary.

B) When using your own cable

- 1:1 Connection



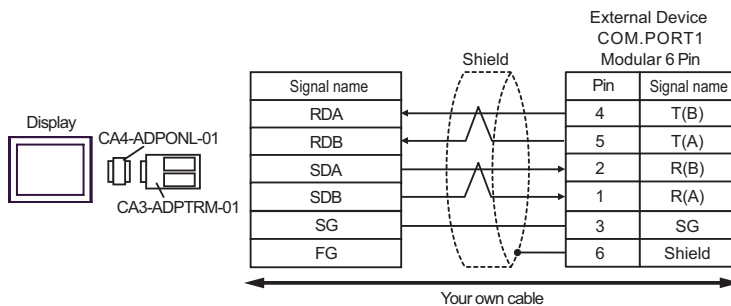
- 1:n Connection



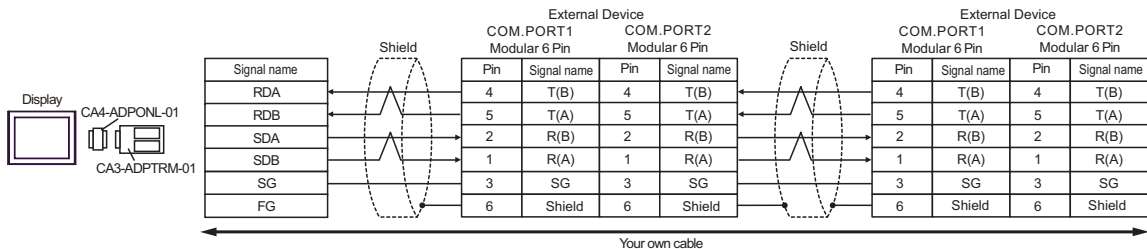
**MEMO** • Termination resistance is not necessary.

C) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection



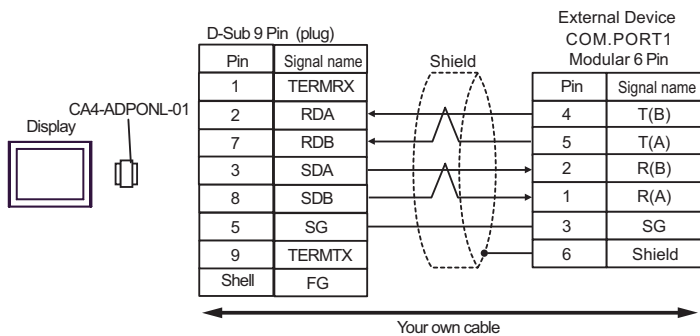
• 1:n Connection



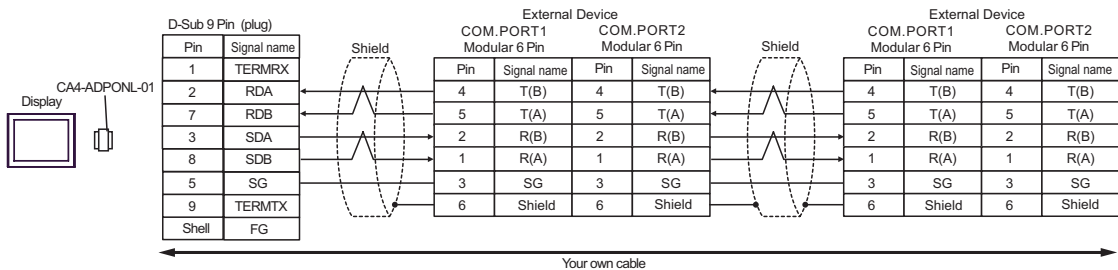
**MEMO** • Termination resistance is not necessary.

D) When using the online adapter (CA4-ADPONL-01) by Digital Electronics Corp. and your own cable

• 1:1 Connection



• 1:n Connection



**MEMO** • Termination resistance is not necessary.

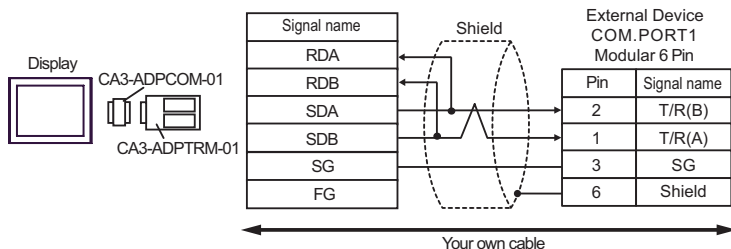
Cable Diagram 5

| Display<br>(Connection Port) | Cable |  | Remarks                     |
|------------------------------|-------|--|-----------------------------|
| GP(COM1)*1<br>AGP-3302(COM2) | A     | COM port conversion adapter by Digital Electronics Corp.<br>CA3-ADPCOM-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable | Cable length:<br>5m or less |
|                              | B     | Your own cable   |                             |
| GP(COM2)*1                   | C     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable              |                             |
|                              | D     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Your own cable  |                             |

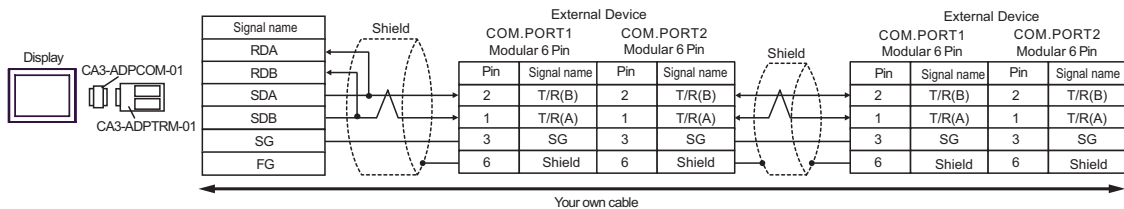
\*1 Except AGP-3302 Series

A) When using the COM port conversion adapter (CA3-ADPCOM-01) and the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection



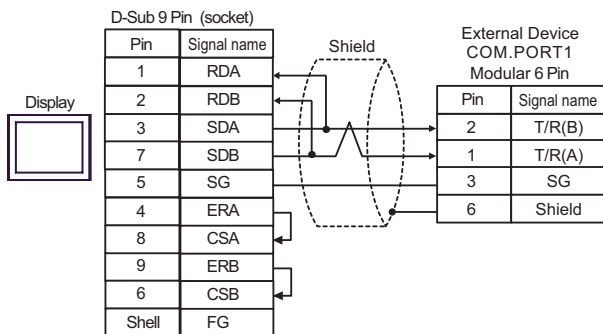
- 1: n connection



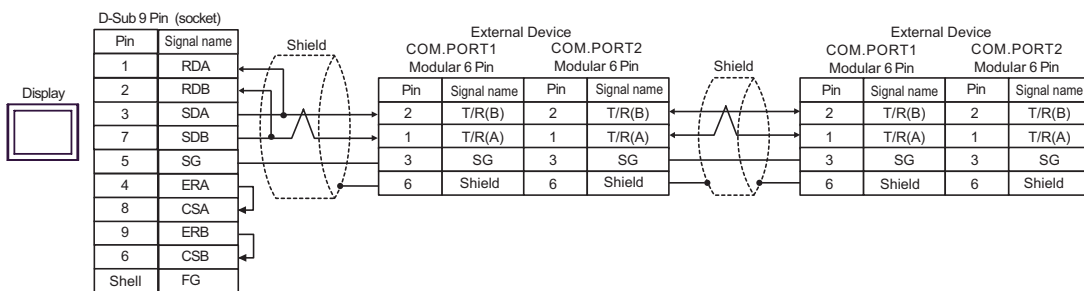
**MEMO** • Termination resistance is not necessary.

B) When using your own cable

- 1:1 Connection



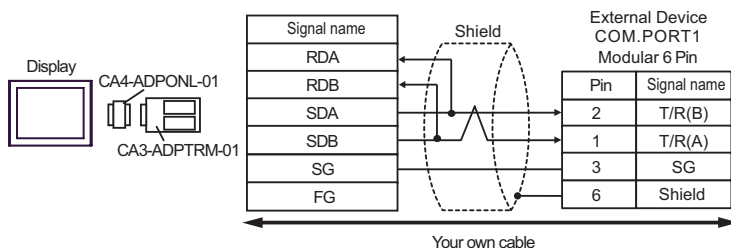
- 1:n Connection



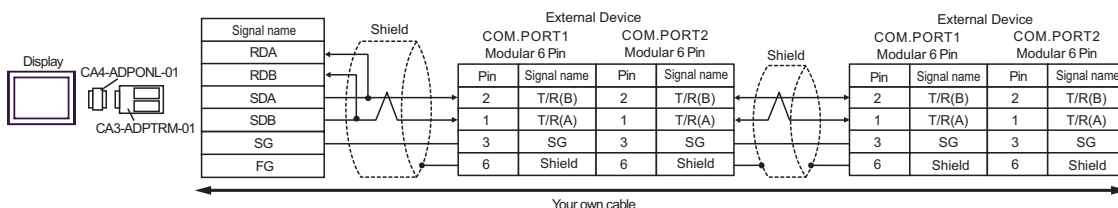
**MEMO** • Termination resistance is not necessary.

C) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection



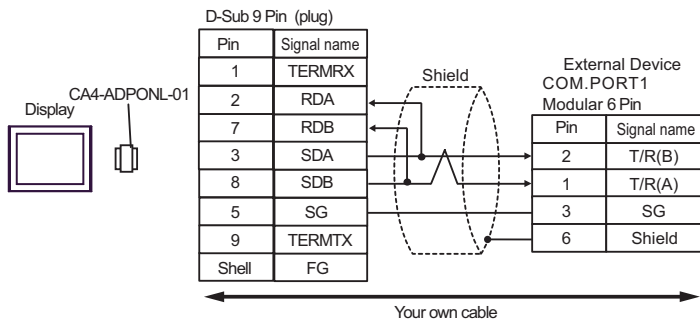
- 1:n Connection



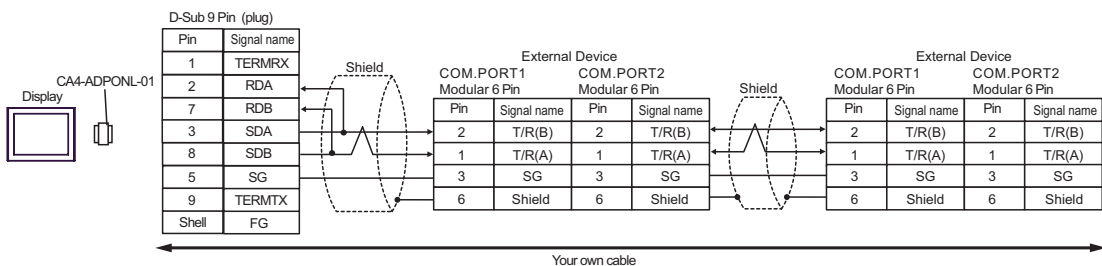
**MEMO** • Termination resistance is not necessary.

D) When using the online adapter (CA4-ADPONL-01) by Digital Electronics Corp. and your own cable

- 1:1 Connection



- 1:n Connection

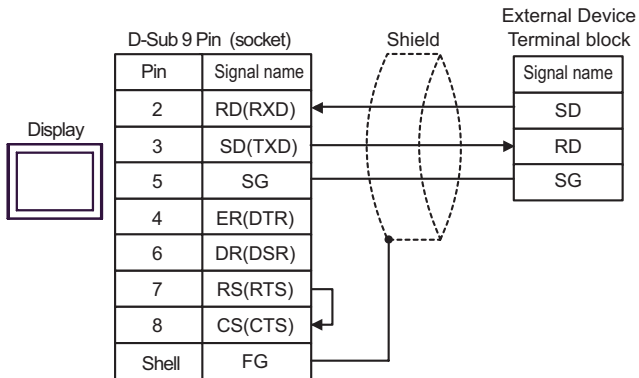


**MEMO** • Termination resistance is not necessary.

Cable Diagram 6

| Display<br>(Connection Port) | Cable          | Remarks                   |
|------------------------------|----------------|---------------------------|
| GP(COM1)                     | Your own cable | Cable length: 10m or less |

When using your own cable



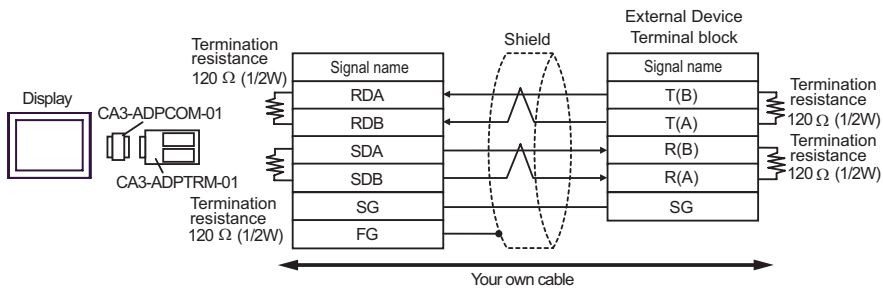
Cable Diagram 7

| Display<br>(Connection Port) | Cable |  | Remarks                       |
|------------------------------|-------|--|-------------------------------|
| GP(COM1)*1<br>AGP-3302(COM2) | A     | COM port conversion adapter by Digital Electronics Corp.<br>CA3-ADPCOM-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable | Cable length:<br>600m or less |
|                              | B     | Your own cable   |                               |
| GP(COM2)*1                   | C     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable              |                               |
|                              | D     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Your own cable  |                               |

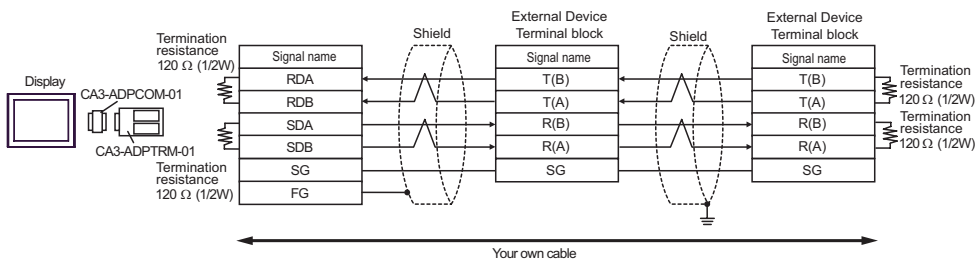
\*1 Except AGP-3302 Series

A) When using the COM port conversion adapter (CA3-ADPCOM-01) and the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection



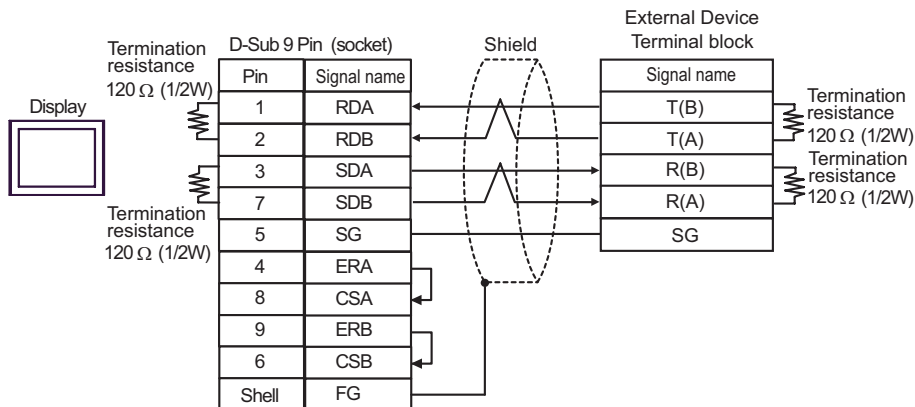
- 1: n connection



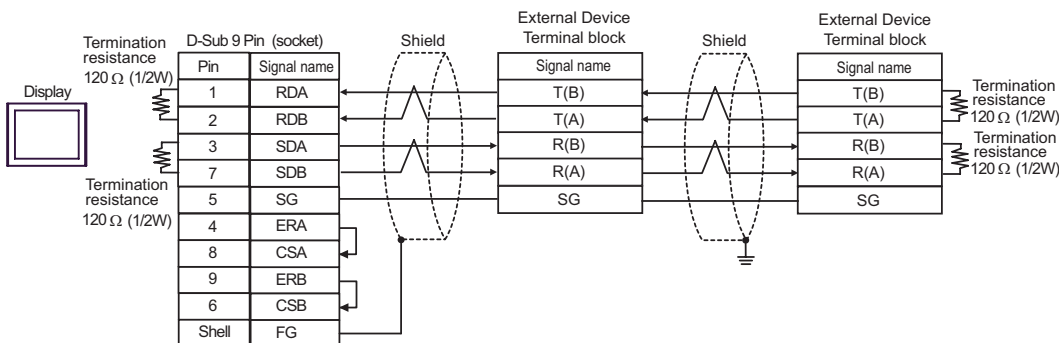


B) When using your own cable

- 1:1 Connection

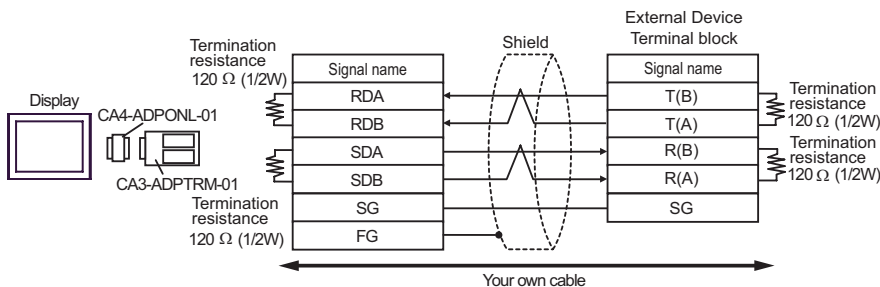


- 1:n Connection

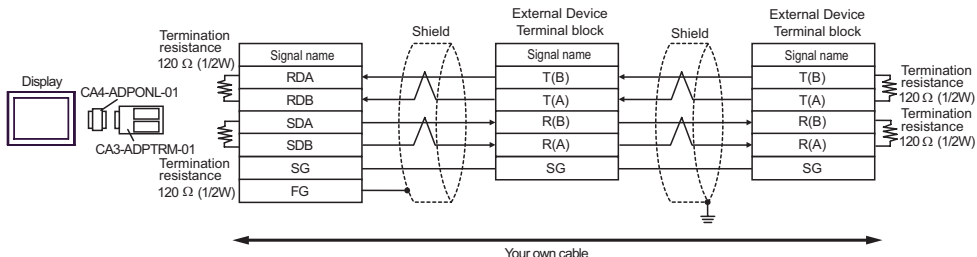


C) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection

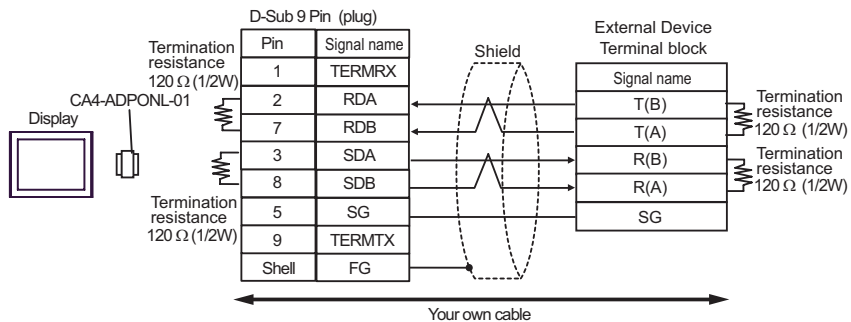


- 1:n Connection

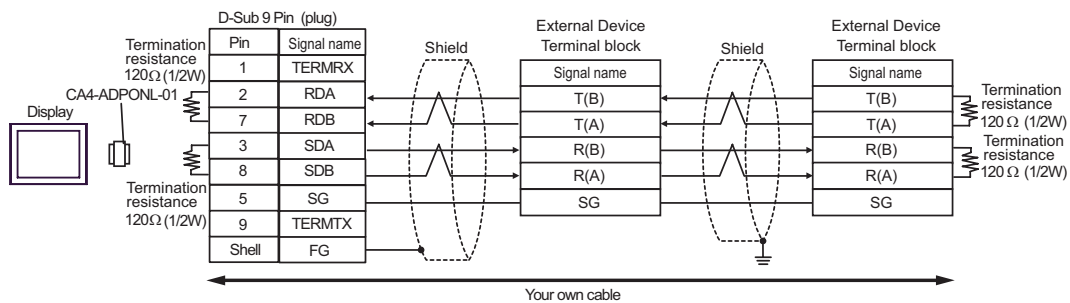


D) When using the online adapter (CA4-ADPONL-01) by Digital Electronics Corp. and your own cable

- 1:1 Connection



- 1:n Connection



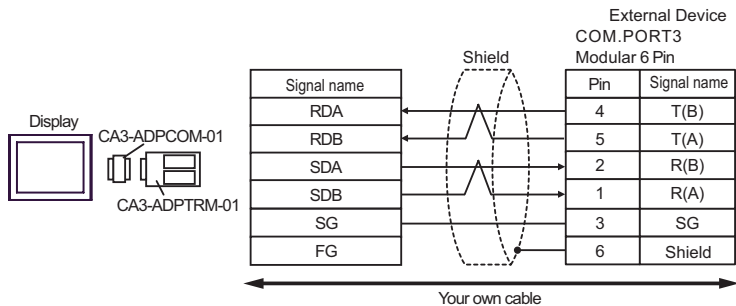
Cable Diagram 8

| Display<br>(Connection Port) | Cable |  | Remarks                     |
|------------------------------|-------|--|-----------------------------|
| GP(COM1)*1<br>AGP-3302(COM2) | A     | COM port conversion adapter by Digital Electronics Corp.<br>CA3-ADPCOM-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable | Cable length:<br>5m or less |
|                              | B     | Your own cable   |                             |
| GP(COM2)*1                   | C     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable              |                             |
|                              | D     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Your own cable  |                             |

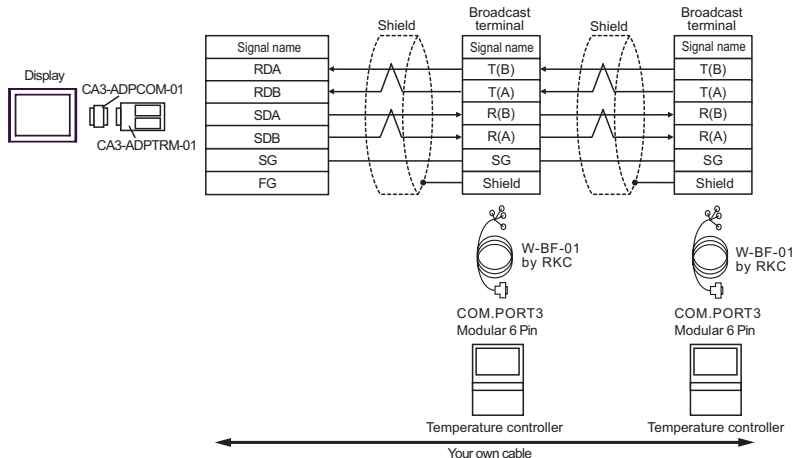
\*1 Except AGP-3302 Series

A) When using the COM port conversion adapter (CA3-ADPCOM-01) and the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection



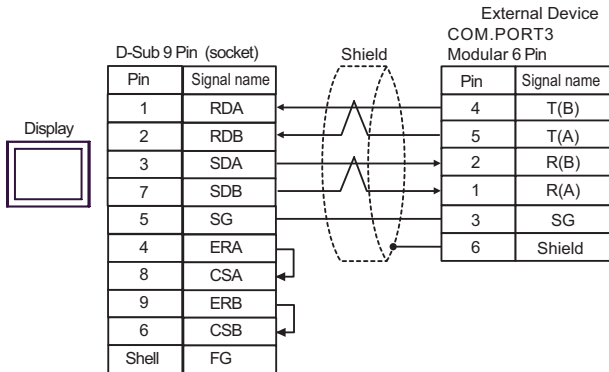
- 1:n connection



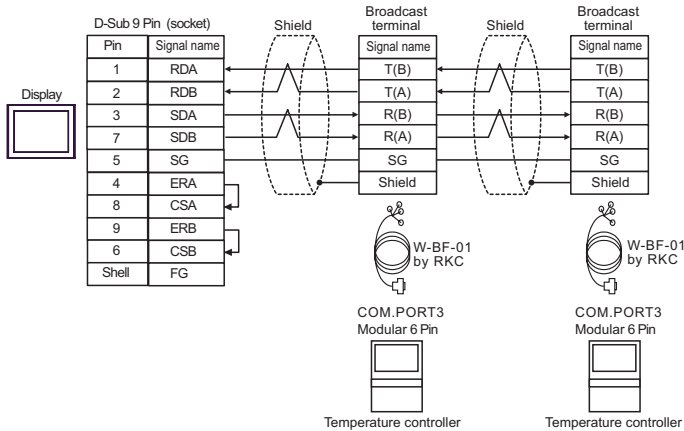
**MEMO** • Termination resistance is not necessary.

B) When using your own cable

- 1:1 Connection



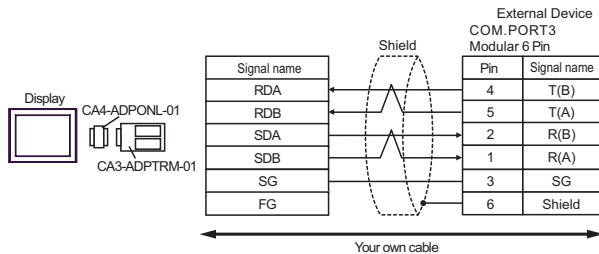
- 1:n Connection



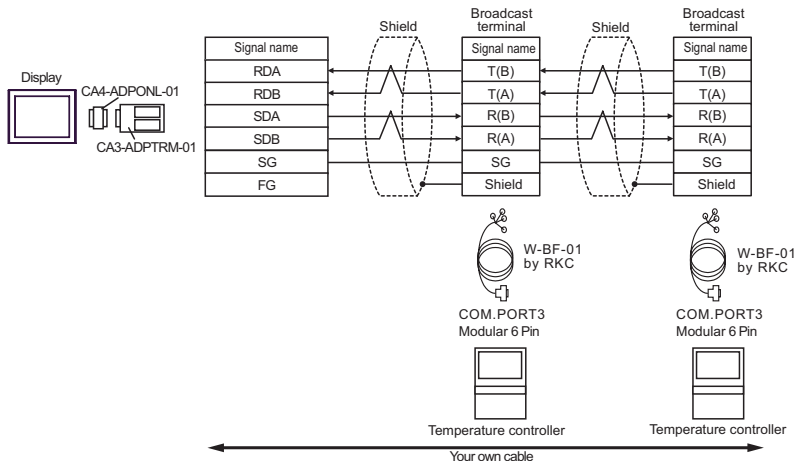
**MEMO** • Termination resistance is not necessary.

C) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection



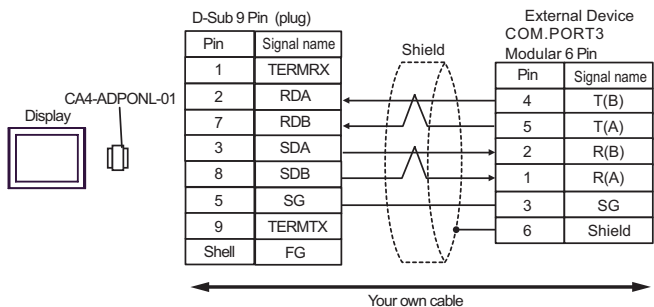
- 1:n Connection



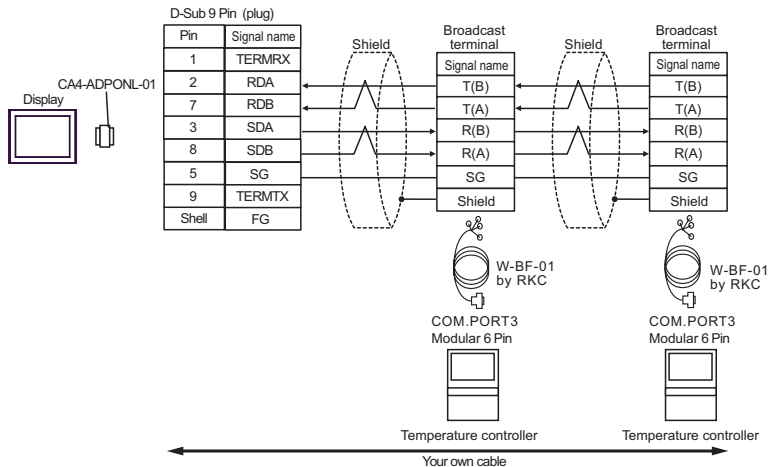
**MEMO** • Termination resistance is not necessary.

D) When using the online adapter (CA4-ADPONL-01) by Digital Electronics Corp. and your own cable

- 1:1 Connection



- 1:n Connection



**MEMO** • Termination resistance is not necessary.

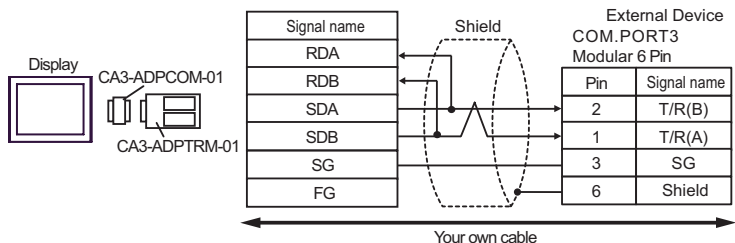
Cable Diagram 9

| Display<br>(Connection Port) | Cable |  | Remarks                     |
|------------------------------|-------|--|-----------------------------|
| GP(COM1)*1<br>AGP-3302(COM2) | A     | COM port conversion adapter by Digital Electronics Corp.<br>CA3-ADPCOM-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable | Cable length:<br>5m or less |
|                              | B     | Your own cable   |                             |
| GP(COM2)*1                   | C     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Connector terminal block conversion adapter by Digital Electronics Corp.<br>CA3-ADPTRM-01<br>+<br>Your own cable              |                             |
|                              | D     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Your own cable  |                             |

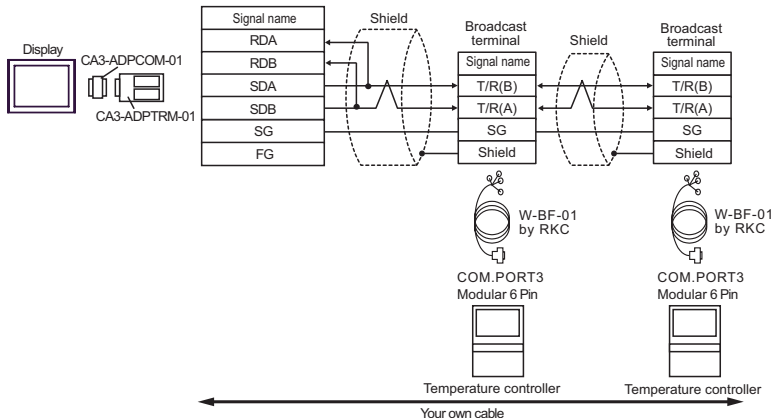
\*1 Except AGP-3302 Series

A) When using the COM port conversion adapter (CA3-ADPCOM-01) and the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection



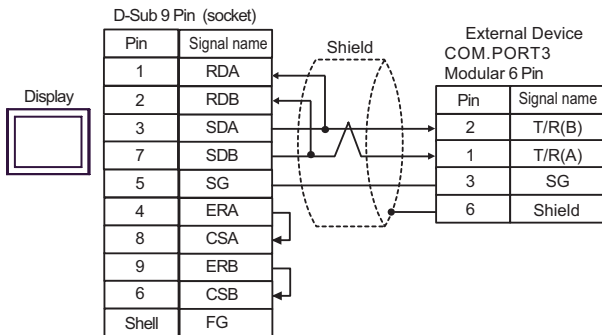
- 1:n connection



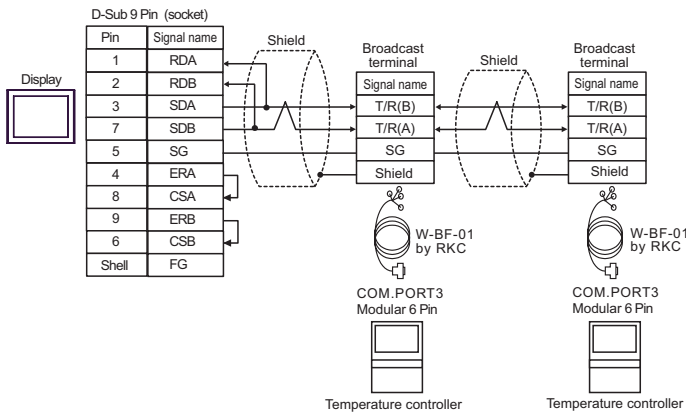
**MEMO** • Termination resistance is not necessary.

B) When using your own cable

- 1:1 Connection



- 1:n Connection

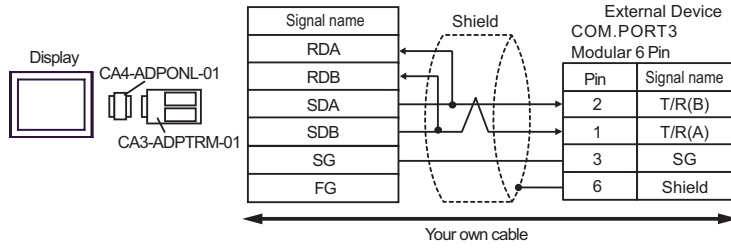


**MEMO** • Termination resistance is not necessary.

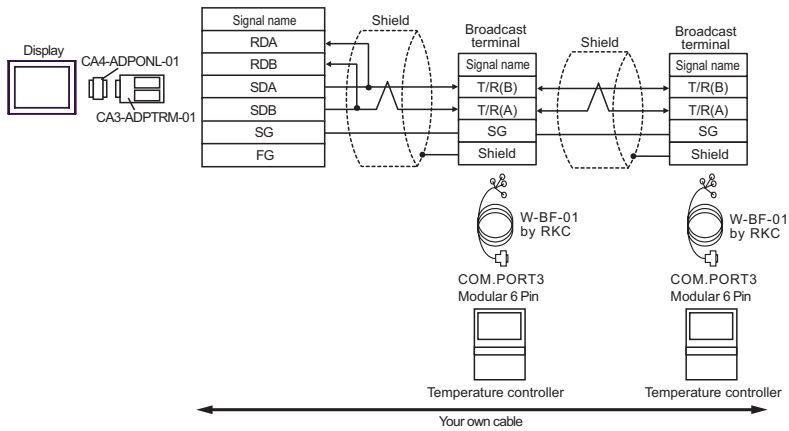


C) When using the online adapter (CA4-ADPONL-01), the connector terminal block conversion adapter (CA3-ADPTRM-01) by Digital Electronics Corp.

- 1:1 Connection



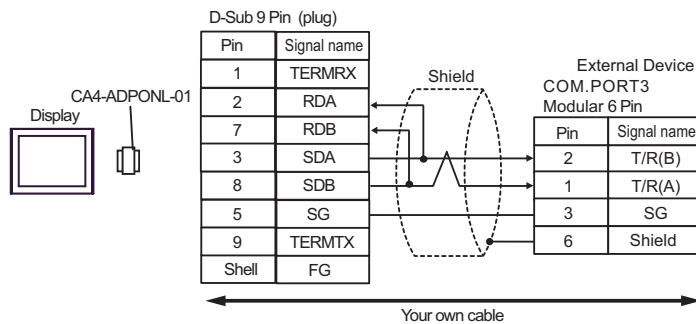
- 1:n Connection



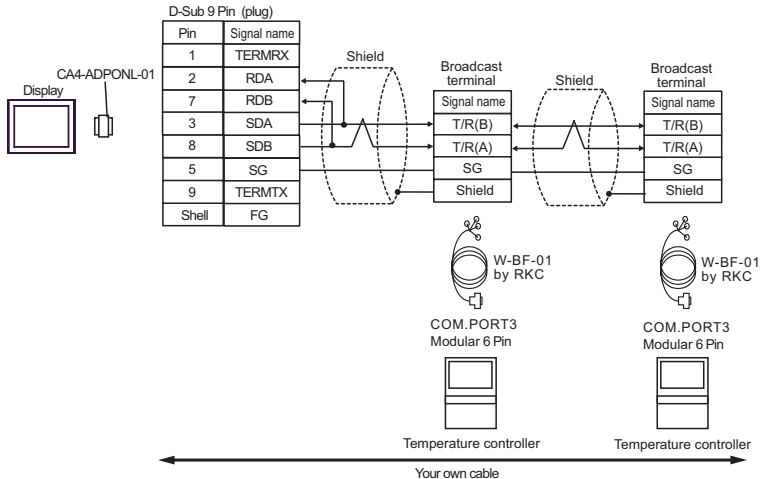
**MEMO** • Termination resistance is not necessary.

D) When using the online adapter (CA4-ADPONL-01) by Digital Electronics Corp. and your own cable

- 1:1 Connection



- 1:n Connection




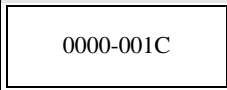
**MEMO** • Termination resistance is not necessary.

## 6 Supported Device

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

### 6.1 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    |  | *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].

#### MEMO

- 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 "Appendix 1.4 LS Area (only for direct access method)"

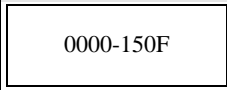
- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

- 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    |  | *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].

**MEMO**

- 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 "Appendix 1.4 LS Area (only for direct access method)"
- Please refer to the precautions on manual notation for icons in the table.
  - ☞ "Manual Symbols and Terminology"
- 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.


**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].

**MEMO**

- 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 "Appendix 1.4 LS Area (only for direct access method)"
- Please refer to the precautions on manual notation for icons in the table.
  - ☞ "Manual Symbols and Terminology"
- 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    |  | *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].

**MEMO**

- 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 "Appendix 1.4 LS Area (only for direct access method)"


- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

- 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    |  | *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].

**MEMO**

- 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 "Appendix 1.4 LS Area (only for direct access method)"


- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

- 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    |  | *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].

**MEMO**

- 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 "Appendix 1.4 LS Area (only for direct access method)"

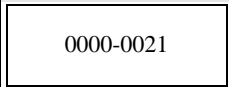

- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

- 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 |  | *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].

**MEMO**

- 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 "Appendix 1.4 LS Area (only for direct access method)"

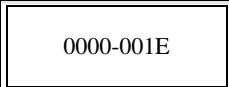

- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

- 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 |  | *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].

**MEMO**

- 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.

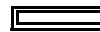
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- Please refer to the precautions on manual notation for icons in the table.

 "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    |  | *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].

**MEMO**

- 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 "Appendix 1.4 LS Area (only for direct access method)"


- Please refer to the precautions on manual notation for icons in the table.


 "Manual Symbols and Terminology"

- 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    |  | *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].

**MEMO**

- 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 "Appendix 1.4 LS Area (only for direct access method)"

- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

- 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 |

## 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 | <p>Displays IP address or device address of the External Device where error occurs, or error codes received from the External Device.</p> <p><b>MEMO</b></p> <ul style="list-style-type: none"> <li>• IP address is displayed such as "IP address(Decimal): MAC address( Hex)".</li> <li>• Device address is displayed such as "Address: Device address".</li> <li>• Received error codes are displayed such as "Decimal[Hex]".</li> </ul> |

Display Examples of Error Messages

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

**MEMO**

- Please refer to the manual of the External Device for more detail of received error codes.