



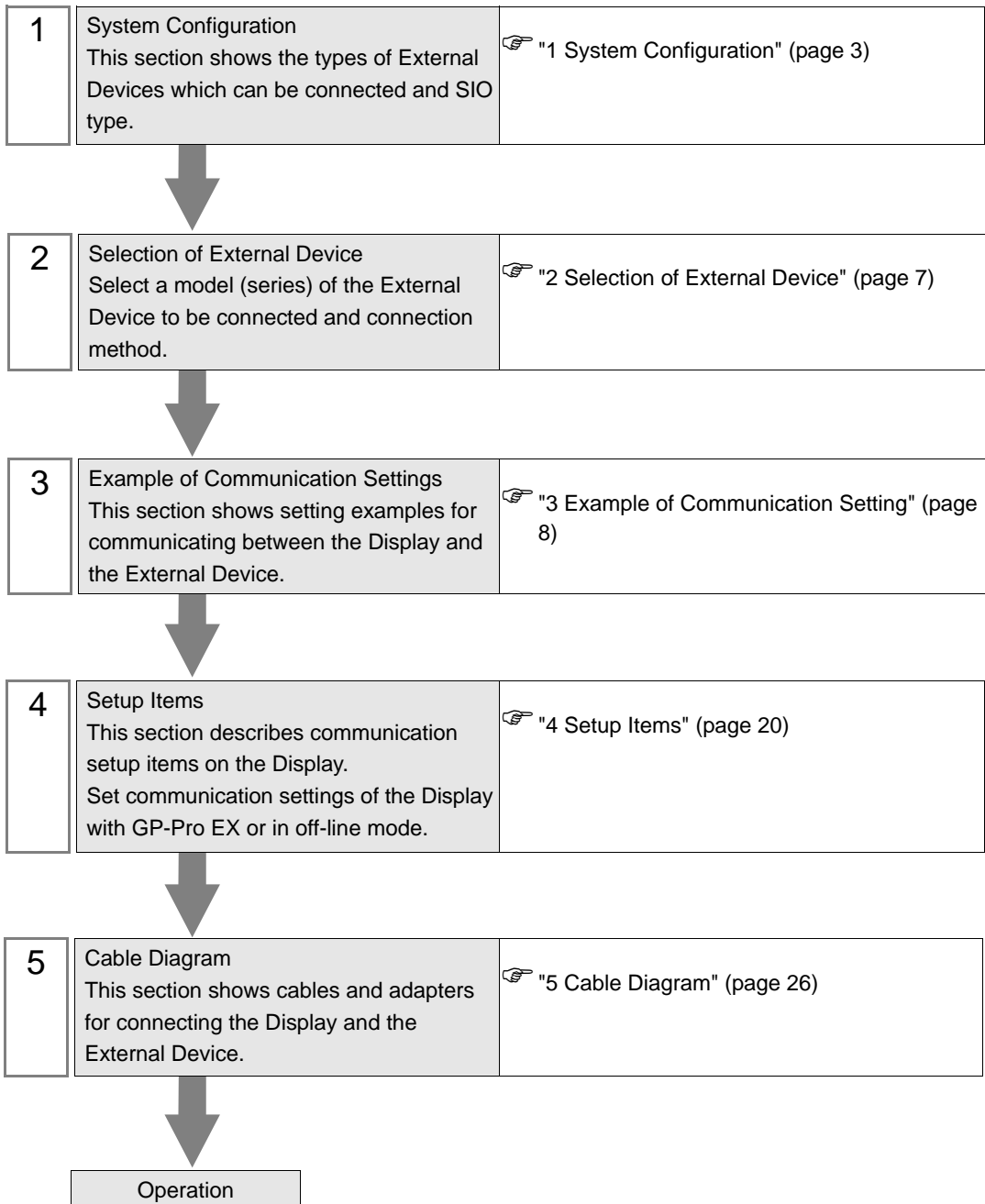
# Computer Link SIO Driver

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## PREFACE

This manual describes how to connect the Display and the External Device.

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



# 1 System Configuration

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

| Driver   | CPU    |        | Link I/F                                      | SIO Type                                 | Setting Example             | Cable Diagram               |                           |
|----------|--------|--------|---|--|-----------------------------|-----------------------------|---------------------------|
| T Series | T2E    |        | RS232C port for programming on CPU            | RS232C                                   | Setting Example 1 (page 8)  | Cable Diagram 1 (page 26)   |                           |
|          |        |        | CM231E  | RS422/485 (4wire)                        | Setting Example 2 (page 10) | Cable Diagram 4 (page 33)   |                           |
|          | T2N    |        | RS232C/RS485 port for communication functions | RS232C                                   | Setting Example 3 (page 12) | Cable Diagram 2 (page 27)   |                           |
|          |        |        | RS232C/RS485 port for communication functions | RS422/485 (4wire)                        | Setting Example 4 (page 14) | Cable Diagram 3 (page 28)   |                           |
|          | T3/T3H |        | RS485 port for computer link on CPU           | RS422/485 (4wire)                        | Setting Example 2 (page 10) | Cable Diagram 3 (page 28)   |                           |
|          | S2T    | PU662T |   | RS232C port for programming on CPU       | RS232C                      | Setting Example 1 (page 8)  | Cable Diagram 1 (page 26) |
|          |        |        |   | Computer link port terminal block on CPU | RS422/485 (4wire)           | Setting Example 2 (page 10) | Cable Diagram 4 (page 33) |
|          |        | PU672T |   | RS232C port for programming on CPU       | RS232C                      | Setting Example 1 (page 8)  | Cable Diagram 1 (page 26) |
|          |        |        |   | Computer link port terminal block on CPU | RS422/485 (4wire)           | Setting Example 2 (page 10) | Cable Diagram 4 (page 33) |
|          | S2E    | PU612E |   | RS232C port for programming on CPU       | RS232C                      | Setting Example 1 (page 8)  | Cable Diagram 1 (page 26) |
|          |        |        |   | Computer link port terminal block on CPU | RS422/485 (4wire)           | Setting Example 2 (page 10) | Cable Diagram 4 (page 33) |

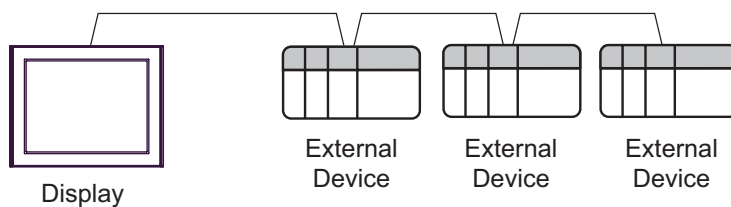
| Driver    | CPU        |  | Link I/F                            | SIO Type          | Setting Example             | Cable Diagram             |
|-----------|------------|--|-------------------------------------|-------------------|-----------------------------|---------------------------|
| V Series  | Model 2000 | S2PU22A<br>S2PU32A<br>S2PU72A<br>S2PU72D<br>S2PU82 | RS485 port for computer link on CPU | RS422/485 (4wire) | Setting Example 5 (page 16) | Cable Diagram 4 (page 33) |
|           | Model 3000 | S3PU45A<br>S3PU55A<br>S3PU55B<br>S3PU65A           | RS485 port for computer link on CPU | RS422/485 (4wire) | Setting Example 5 (page 16) | Cable Diagram 3 (page 28) |
| EX Series | EX2000     |  | Computer link connection pin on CPU | RS422/485 (4wire) | Setting Example 6 (page 18) | Cable Diagram 4 (page 33) |

## ■ Connection Configuration

- 1:1 connection



- 1:n Connection



- Available to connect max 16 units
- Available to connect max 32 units by simultaneous connection of COM1 and COM2

## ■ COM Port of IPC

When connecting IPC with External Device, the COM port which can be used changes with series and SIO type. Please refer to the manual of IPC for details.

### Usable port

| Series                             | Usable port  |                      |                      |
|------------------------------------|--|----------------------|----------------------|
|                                    | RS-232C  | RS-422/485(4 wire)   | RS-422/485(2 wire)   |
| PS-2000B                           | COM1 <sup>*1</sup> , COM2,<br>COM3 <sup>*1</sup> , COM4                | -                    | -                    |
| PS-3450A, PS-3451A                 | COM1, COM2 <sup>*1*2</sup>   | COM2 <sup>*1*2</sup> | COM2 <sup>*1*2</sup> |
| PS-3650A, PS-3651A                 | COM1 <sup>*1</sup>   | -                    | -                    |
| PS-3700A (Pentium®4-M)<br>PS-3710A | COM1 <sup>*1</sup> , COM2 <sup>*1</sup> ,<br>COM3 <sup>*2</sup> , COM4 | COM3 <sup>*2</sup>   | COM3 <sup>*2</sup>   |
| PS-3711A                           | COM1 <sup>*1</sup> , COM2 <sup>*2</sup>                                | COM2 <sup>*2</sup>   | COM2 <sup>*2</sup>   |
| PL-3000B                           | COM1 <sup>*1*2</sup> , COM2 <sup>*1</sup> ,<br>COM3, COM4              | COM1 <sup>*1*2</sup> | COM1 <sup>*1*2</sup> |

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

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

### Dip switch setting: RS-232C

| Dip switch | Setting           | Description  |
|------------|-------------------|--|
| 1          | OFF <sup>*1</sup> | Reserve (always OFF)                                     |
| 2          | OFF               | SIO type: RS-232C  |
| 3          | OFF               |  |
| 4          | OFF               | Output mode of SD (TXD) data: Always output              |
| 5          | OFF               | Terminal resistance (220Ω) insertion to SD (TXD): None   |
| 6          | OFF               | Terminal resistance (220Ω) insertion to RD (RXD): None   |
| 7          | OFF               | Short-circuit of SDA (TXA) and RDA (RXA): Does not Exist |
| 8          | OFF               | Short-circuit of SDB (TXB) and RDB (RXB): Does not Exist |
| 9          | OFF               | RS (RTS) Auto control mode: Disable                      |
| 10         | OFF               |  |

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

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

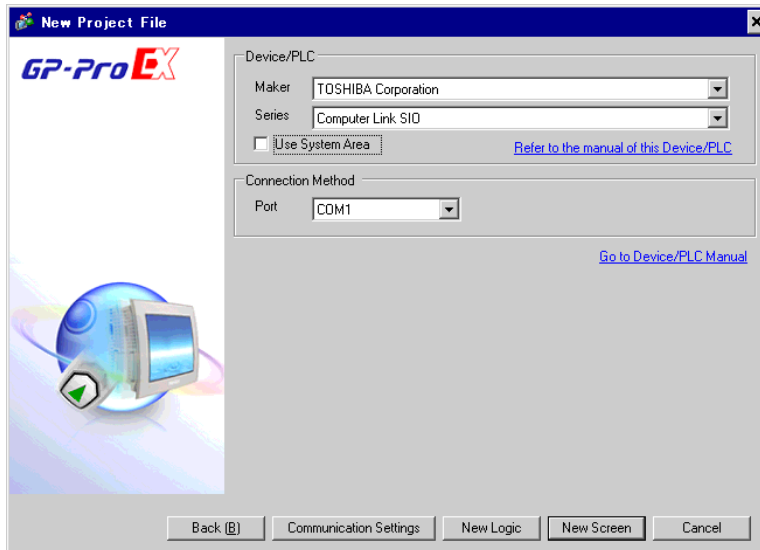
| Dip switch | Setting | Description  |
|------------|---------|--|
| 1          | OFF     | Reserve (always OFF)                                     |
| 2          | ON      | SIO type: RS-422/485                                     |
| 3          | ON      |  |
| 4          | OFF     | Output mode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


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

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

## 2 Selection of External Device

Select the External Device to be connected to the Display.



| Setup Items     | Setup Description   |
|-----------------|---|
| Maker           | Select the maker of the External Device to be connected. Select "TOSHIBA Corporation".  |
| Series          | Select a model (series) of the External Device to be connected and connection method. Select "Computer Link SIO".<br>Check the External Device which can be connected in "Computer Link SIO" in system configuration.<br> "1 System Configuration" (page 3)  |
| Use System Area | Check this option when you synchronize the system data area of the Display and the device (memory) of the External Device. When synchronized, you can use the ladder program of the External Device to switch the display or display the window on the Display.<br>Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"<br>This can be also set with GP-Pro EX or in off-line mode of the Display.<br>Cf. GP-Pro EX Reference Manual "5.14.6 Setting Guide of [System Setting Window], Setting Guide of [Main Unit Settings], System Area Setting"<br>Cf. Maintenance/Troubleshooting manual "2.14.1 Common to the Display", Setting Guide of [Main Unit Settings], System Area Setting" |
| Port            | Select the Display port to be connected to the External Device.   |

## 3 Example of Communication Setting

The following shows examples of communication settings of the Display and the External Device, which is recommended by Digital Electronics Corp.


### 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.

##### ◆ 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 ladder software (T-PDS for Windows) for communication settings. Please refer to the manual of the External Device for more details.

- 1 Start up the ladder software.
- 2 Select [Online/Offline] from the [PLC] menu and move to the online mode.
- 3 Select [I/O assign information]-[General I/O assign information] from the [PLC] menu.
- 4 Click [Auto assign] and register the input module installed in the slot, then click [OK].
- 5 Select [System information] from the [PLC] menu and click [Computer link settings].
- 6 Enter "1" in [Station No.] and click [Connection parameter].
- 7 Set as shown below in the connection type dialog box and click [OK].

| Item Name   | Settings |
|-------------|----------|
| Baud Rate   | 9600     |
| Parity      | Odd      |
| Data Length | 8        |
| Stop Bit    | 1        |

- 8 When the write confirmation message appears, click [OK].  
The communication settings are completed.

## 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: TOSHIBA Corporation Series: Computer Link SIO Port: COM1

Text Data Mode: 2 [Change](#)

Communication Settings

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

Speed: 9600

Data Length:  7  8

Parity:  NONE  EVEN  ODD

Stop Bit:  1  2

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

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (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.

Default

Device-Specific Settings

Allowable Number of Devices/PLCs: 16

| Number | Device Name | Settings                       |
|--------|-------------|--------------------------------|
| 1      | PLC1        | Series=T Series, Station No.=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].

Individual Device Settings

PLC1

Series:  T Series  V Series  EX Series

Please reconfirm all of address settings that you are using if you have changed the series.

Station No.: 1

Default

OK (O) Cancel

## ■ Settings of External Device

Use the ladder software (T-PDS for Windows) for communication settings. Please refer to the manual of the External Device for more details.

- 1 Start up the ladder software.
- 2 Select [Online/Offline] from the [PLC] menu and move to the online mode.
- 3 Select [I/O assign information]-[General I/O assign information] from the [PLC] menu.
- 4 Click [Auto assign] and register the input module installed in the slot, then click [OK].
- 5 Select [System information] from the [PLC] menu and click [Computer link settings].
- 6 Enter "1" in [Station No.] and click [Connection parameter].
- 7 Set as shown below in the connection type dialog box and click [OK].

| Item Name   | Settings |
|-------------|----------|
| Baud Rate   | 9600     |
| Parity      | Odd      |
| Data Length | 8        |
| Stop Bit    | 1        |

- 8 When the write confirmation message appears, click [OK].  
The communication settings are completed.

### 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

Summary [Change Device/PLC](#)

Maker: TOSHIBA Corporation Series: Computer Link SIO Port: COM1

Text Data Mode: 2 [Change](#)

Communication Settings

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

Speed: 9600

Data Length:  7  8

Parity:  NONE  EVEN  ODD

Stop Bit:  1  2

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

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (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.

Default

Device-Specific Settings

Allowable Number of Devices/PLCs: 16

| Number | Device Name | Settings                       |
|--------|-------------|--------------------------------|
| 1      | PLC1        | Series=T Series, Station No.=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].

Individual Device Settings

PLC1

Series:  T Series  V Series  EX Series

Please reconfirm all of address settings that you are using if you have changed the series.

Station No.: 1

Default

OK (O) Cancel

## ■ Settings of External Device

Use the DIP switch on the board and the ladder software (T-PDS for Windows) for communication settings.

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

### ◆ DIP Switch (on the board) Settings

| SW | Settings | Setup Description |
|----|----------|-------------------|
| 01 | ON       | RS232C            |
| 02 | OFF      |                   |

### ◆ Ladder Software Setting

- 1 Start up the ladder software.
- 2 Select [Online/Offline] from the [PLC] menu and move to the online mode.
- 3 Select [I/O assign information]-[General I/O assign information] from the [PLC] menu.
- 4 Click [Auto assign] and register the input module installed in the slot, then click [OK].
- 5 Select [System information] from the [PLC] menu and click [Computer link settings].
- 6 Enter "1" in [Station No.] and click [Connection parameter].
- 7 Set as shown below in the connection type dialog box and click [OK].

| Item Name   | Settings |
|-------------|----------|
| Baud Rate   | 9600     |
| Parity      | Odd      |
| Data Length | 8        |
| Stop Bit    | 1        |

- 8 When the write confirmation message appears, click [OK].

The communication settings are completed.

## 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: TOSHIBA Corporation Series: Computer Link SIO Port: COM1

Text Data Mode: 2 [Change](#)

Communication Settings

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

Speed: 9600

Data Length:  7  8

Parity:  NONE  EVEN  ODD

Stop Bit:  1  2

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

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (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.

Default

Device-Specific Settings

Allowable Number of Devices/PLCs: 16

| Number | Device Name | Settings                       |
|--------|-------------|--------------------------------|
| 1      | PLC1        | Series=T Series, Station No.=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].

Individual Device Settings

PLC1

Series:  T Series  V Series  EX Series

Please reconfirm all of address settings that you are using if you have changed the series.

Station No.: 1

Default

OK (O) Cancel

## ■ Settings of External Device

Use the DIP switch on the board and the ladder software (T-PDS for Windows) for communication settings.

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

### ◆ DIP Switch (on the board) Settings

| SW | Settings | Description |
|----|----------|-------------|
| 01 | OFF      | RS422       |
| 02 | OFF      |             |

### ◆ Ladder Software Setting

- 1 Start up the ladder software.
- 2 Select [Online/Offline] from the [PLC] menu and move to the online mode.
- 3 Select [I/O assign information]-[General I/O assign information] from the [PLC] menu.
- 4 Click [Auto assign] and register the input module installed in the slot, then click [OK].
- 5 Select [System information] from the [PLC] menu and click [Computer link settings].
- 6 Enter "1" in [Station No.] and click [Connection parameter].
- 7 Set as shown below in the connection type dialog box and click [OK].

| Item Name   | Settings |
|-------------|----------|
| Baud Rate   | 9600     |
| Parity      | Odd      |
| Data Length | 8        |
| Stop Bit    | 1        |

- 8 When the write confirmation message appears, click [OK].

The communication settings are completed.

## 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: TOSHIBA Corporation Series: Computer Link SIO Port: COM1

Text Data Mode: 2 [Change](#)

Communication Settings

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

Speed: 9600

Data Length:  7  8

Parity:  NONE  EVEN  ODD

Stop Bit:  1  2

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

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (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.

Default

Device-Specific Settings

Allowable Number of Devices/PLCs: 16

| Number | Device Name | Settings                       |
|--------|-------------|--------------------------------|
| 1      | PLC1        | Series=V Series, Station No.=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].

Individual Device Settings

PLC1

Series:  T Series  V Series  EX Series

Please reconfirm all of address settings that you are using if you have changed the series.

Station No.: 1

Default

OK (O) Cancel



## ■ Settings of External Device

Use the ladder software (V Series engineering tool 3) for communication settings. Please refer to the manual of the External Device for more details.

- 1 Start up the product manager of "V Series engineering tool 3 (for administration)" and specify the user product path.
- 2 Click [Login security setting]. Enter [User name] and [Password], and click [OK].
- 3 Start up the ladder software. Right-click on the "System" folder and select [New].
- 4 Enter [System name] and click [OK]. The system with the entered name is created in the "System" folder.
- 5 Double-click the system name.
- 6 Right-click on the "Station" folder among the three created folders ("Library", "Network", "Station"), and select [New].
- 7 Enter the station name and select the station model name. Then, click [OK].
- 8 Right-click on the "Unit" folder created in the "Station" folder, and select [New].
- 9 Enter "0" in [Unit No] and select your unit base model from [Unit model name].
- 10 Right-click on the "Module" folder under the "Unit" folder, and select [New].
- 11 Enter "0" in [Slot No] and select your module model from [Module model name]. Then, click [OK].
- 12 Right-click on the CPU module and select [Module parameter].
- 13 Set as shown below in the module parameter dialog box and click [Update].

| Item Name                        | Settings |
|----------------------------------|----------|
| RS485 Station No                 | 1        |
| RS485 Transmission Speed (bit/s) | 9600     |
| RS485 Parity Setting             | Odd      |
| RS485 Data Length                | 8 bits   |
| RS485 Stop Bit                   | 1 bit    |

- 14 Click [Close] and close the module parameter dialog box.
- 15 Configure the transfer setting and collectively download the communication settings you have set in the ladder software to the External Device.

The communication settings are completed.

## 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: TOSHIBA Corporation Series: Computer Link SIO Port: COM1

Text Data Mode: 2 [Change](#)

Communication Settings

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

Speed: 9600

Data Length:  7  8

Parity:  NONE  EVEN  ODD

Stop Bit:  1  2

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

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (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.


Default

Device-Specific Settings

Allowable Number of Devices/PLCs: 16

| Number | Device Name | Settings                        |
|--------|-------------|---------------------------------|
| 1      | PLC1        | Series=EX Series, Station No.=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].

Individual Device Settings

PLC1

Series:  T Series  V Series  EX Series

Please reconfirm all of address settings that you are using if you have changed the series.

Station No.: 1

Default

OK (O) Cancel

## ■ Settings of External Device

Use the RAM-6624 key switch, rotary switch and ladder software (EX-PDS/SDT) for communication settings.  
Please refer to the manual of the External Device for more details.

### ◆ Key Switch Settings

| Key Switch | Settings | Description                   |
|------------|----------|-------------------------------|
| PROGRAM    | OFF      | Available for both read/write |
| DATA       | OFF      |                               |

### ◆ Rotary Switch Settings

| Rotary Switch | Settings | Description     |
|---------------|----------|-----------------|
| Data protect  | 0        | Without protect |

### ◆ Ladder Software Setting

- 1 Start up the ladder software.
- 2 Select [F5 (ENVIRONMENTAL INFORMATION)] on the menu screen.
- 3 Select [F1 (COMMUNICATION TARGET)] on the ENVIRONMENTAL INFORMATION screen.
- 4 In the EDIT mode, use the [Prev]key and [Next]key to display [EX2000] for "1. PC TYPE" at the bottom of the screen, and select [F4 (EX2000 16K)].
- 5 Move the cursor on [COMMUNICATION METHOD] and select [F4 (CLOOP)].  
(When ERR is displayed on the upper left screen, press the [Shift] key + [F1] and select [CLEAR ERRRST] using [F8]. After that, press the [Enter] key and release the ERR display.)
- 6 When you press [F1 SETUP], "CONFIRM>ENT" is displayed on the upper right. Press the [Enter] key.
- 7 If there is no error, "COMPLETE" is displayed. Then, repeatedly press the [Shift]key + [F10] three times to return to the original menu screen.
- 8 Select [F1 (SYSTEM AND CONTROL INFORMATION)] on the menu screen.
- 9 Select [F1 (SYSTEM INFORMATION)] on the SYSTEM AND CONTROL INFORMATION screen.
- 10 On the SYSTEM INFORMATION screen, select [F1 (EDIT)] first, then [F2 (NEXT)].
- 11 Set as shown below in the COMPUTER LINK setting.

| Item Name   | Settings   |
|-------------|------------|
| STATION NO. | 01         |
| BAUD RATE   | 9600 (bps) |
| PARITY      | 1          |
| DATA LENGTH | 8 (bit)    |
| STOP BIT    | 1 (bit)    |

- 12 When you select [F1 (PROG)], "CONFIRM>ENT" is displayed. Press the [Enter] key.
- 13 The communication settings are completed.  
Press the [Esc] key to display "CONFIRM>ENT". Press the [Enter] key to return to the menu screen.

## 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 the External Device.

☞ "3 Example of Communication Setting" (page 8)

### 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: TOSHIBA Corporation Series: Computer Link SIO Port: COM1

Text Data Mode: 2 [Change](#)

Communication Settings

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

Speed: 9600

Data Length:  7  8

Parity:  NONE  EVEN  ODD

Stop Bit:  1  2

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

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (ms)

RI / VCC:  RI  VCC

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

Default

Device-Specific Settings

Allowable Number of Devices/PLCs: 16


| Number | Device Name | Settings                      |
|--------|-------------|-------------------------------|
| 1      | PLC1        | Series=T Series.Station No.=1 |


| Setup Items  | Setup Description   |
|--------------|---|
| SIO Type     | Select the SIO type to communicate with the External Device.  |
| Speed        | Select the communication speed between the External Device and the Display.   |
| Data Length  | Select data length.   |
| Parity       | Select how to check parity.   |
| Stop Bit     | Select stop bit length.   |
| Flow Control | Select the communication control method to prevent overflow of transmission and reception data.                           |
| Timeout      | Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device. |

Continued to next page.

| Setup Items  | Setup Description   |
|--------------|---|
| Retry        | In case of no response from the External Device, use an integer from "0 to 255" to enter how many times the Display retransmits the command.  |
| Wait To Send | Use an integer from "0 to 255" to enter standby time (ms) for the Display from receiving packets to transmitting next commands.   |
| RI/VCC       | You can switch RI/VCC of the 9th pin when you select RS232C for SIO type.<br>When you connect to IPC, you need to use the IPC change switch to change RI/5V. Please refer to the manual of IPC for details. |

## ■ 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 connecting multiple External Devices, you can click  from [Device-Specific Settings] of [Device/PLC Settings] to add the External Device which is available to set.



| Setup Items | Setup Description   |
|-------------|---|
| Series      | Select the series of the External Device.                 |
| StationNo.  | Enter the unit No. of the External Device with "1 to 32". |

## 4.2 Settings in Off-Line Mode

**NOTE**

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

Cf. "2.2 Off-line Mode", Maintenance/Troubleshooting manual

### ■ 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 |          |                        |
|-------------------|--|--------|----------|------------------------|
| Computer Link SIO |  | [COM1] | Page 1/1 |                        |
| SIO Type          | RS422/485(4wire)   |        |          |                        |
| Speed             | 9600   |        |          |                        |
| Data Length       | <input type="radio"/> 7 <input checked="" type="radio"/> 8                                 |        |          |                        |
| Parity            | <input type="radio"/> NONE <input type="radio"/> EVEN <input checked="" type="radio"/> ODD |        |          |                        |
| Stop Bit          | <input checked="" type="radio"/> 1 <input type="radio"/> 2                                 |        |          |                        |
| Flow Control      | NONE   |        |          |                        |
| Timeout(s)        | 3  |        |          |                        |
| Retry             | 2  |        |          |                        |
| Wait To Send(ms)  | 0  |        |          |                        |
| Exit              |  | Back   |          | 2007/03/09<br>21:17:33 |

| Setup Items | Setup Description   |
|-------------|---|
| SIO Type    | Select the SIO type to communicate with the External Device.<br><b>IMPORTANT</b><br>In the communication setting, confirm the serial interface specifications of the Display and set [SIO Type] correctly.<br>If you select the SIO type the serial interface does not support, we cannot guarantee the operation.<br>Please refer to the manual of the Display for more detail on the serial interface specifications. |
| Speed       | Select the communication 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.   |

| Setup Items  | Setup Description  |
|--------------|--|
| Flow Control | Select the communication control method to prevent overflow of transmission and reception data.  |
| Timeout      | Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device.                    |
| Retry        | In case of no response from the External Device, use an integer from "0 to 255" to enter how many times the Display retransmits the command. |
| Wait To Send | Use an integer from "0 to 255" to enter standby time (ms) for the Display from receiving packets to transmitting next commands.              |

## ■ Device Setting

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

| Comm.             | Device   | Option |        |                        |
|-------------------|--|--------|--------|------------------------|
| Computer Link SIO |  |        | [COM1] | Page 1/1               |
| Device/PLC Name   | PLC1 <input type="text"/>  |        |        |                        |
| Series            | T Series   |        |        |                        |
| Station No.       | <input type="text" value="1"/> <input type="button" value="▼"/> <input type="button" value="▲"/> |        |        |                        |
|                   | Exit   |        | Back   | 2007/03/09<br>21:17:37 |

| Setup Items     | Setup Description   |
|-----------------|---|
| Device/PLC Name | Select the External Device to set. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1]) |
| StationNo.      | Enter the station No. of the External Device with "1 to 32".  |



## ■ Option

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 [Option].

| Comm.  | Device | Option |          |                        |
|--|--------|--------|----------|------------------------|
|  |        |        |          |                        |
| Computer Link SIO  |        | [COM1] | Page 1/1 |                        |
| RI / VCC <input checked="" type="radio"/> RI <input type="radio"/> VCC<br>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. |        |        |          |                        |
|  | Exit   |        | Back     | 2007/03/09<br>21:17:44 |

| Setup Items | Setup Description  |
|-------------|--|
| RI/VCC      | You can switch RI/VCC of the 9th pin when you select RS232C for SIO type. When you connect to IPC, you need to use the IPC change switch to change RI/5V. Please refer to the manual of IPC for details. |

## 5 Cable Diagram

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

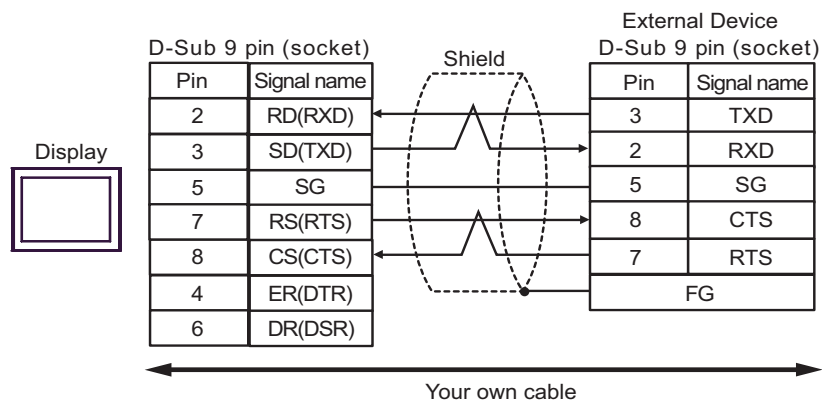
- The FG pin of the main body of the External Device must be D-class grounded. Please refer to the manual of the External Device for more details.
- SG and FG are connected inside the Display. When connecting SG to the External Device, design the system not to form short-circuit loop.
- If the communication is not stable due to the noise or other factors, connect the isolation unit.

Cable Diagram 1

| Display<br>(Connection Port) | Cable          | Remarks                      |
|------------------------------|----------------|------------------------------|
| GP (COM1)<br>IPC*1<br>PC/AT  | Your own cable | Cable length:<br>15m or less |

\*1 Available to use only the COM ports which can communicate in RS232C.


☞ ■ COM Port of IPC (page 5)

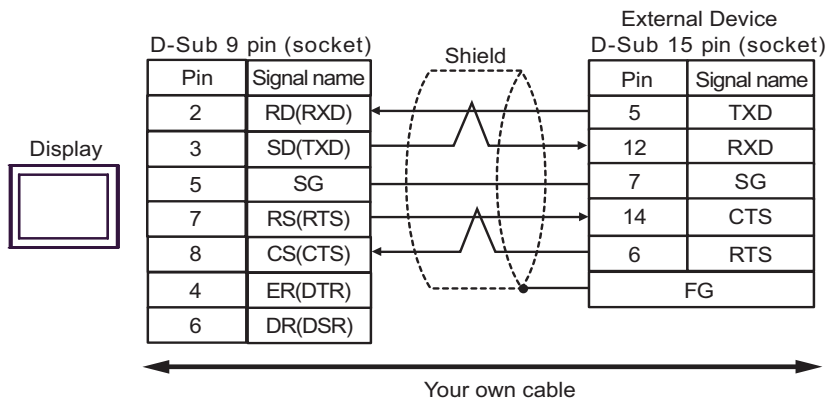


## Cable Diagram 2

| Display<br>(Connection Port) | Cable          | Remarks                      |
|------------------------------|----------------|------------------------------|
| GP (COM1)<br>IPC*1<br>PC/AT  | Your own cable | Cable length:<br>15m or less |

\*1 Available to use only the COM ports which can communicate in RS232C.


 ■ COM Port of IPC (page 5)



Cable Diagram 3

| Display<br>(Connection Port)                                    | Cable |  | Remarks                         |
|---|-------|--|---------------------------------|
| GP* <sup>1</sup> (COM1)<br>AGP-3302B(COM2)<br>IPC* <sup>2</sup> | 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>1,000m or less |
|   | B     | Your own cable   |                                 |
| GP* <sup>3</sup> (COM2)   | 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  |                                 |

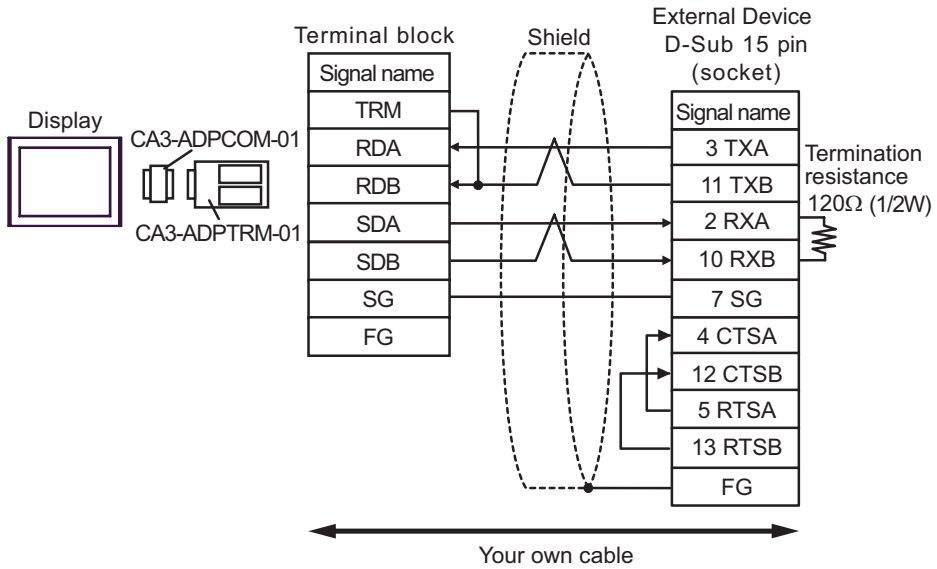
\*1 All GP models except AGP-3302B

\*2 Available to use only the COM ports which can communicate in RS422/485(4 wire).  
 ■ COM Port of IPC (page 5)

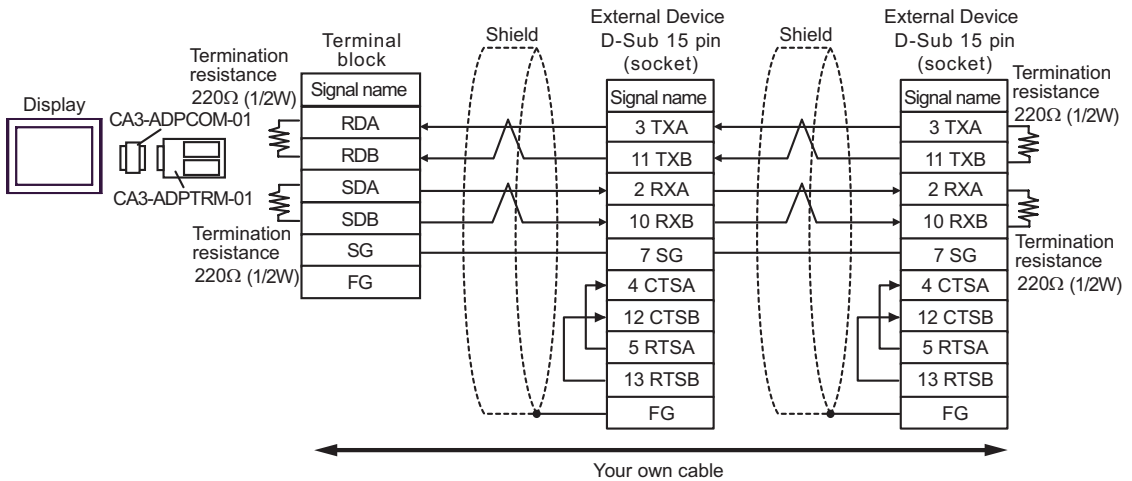
\*3 All GP models except GP-3200 Series and AGP-3302B

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

- 1:1 Connection



- 1:n Connection

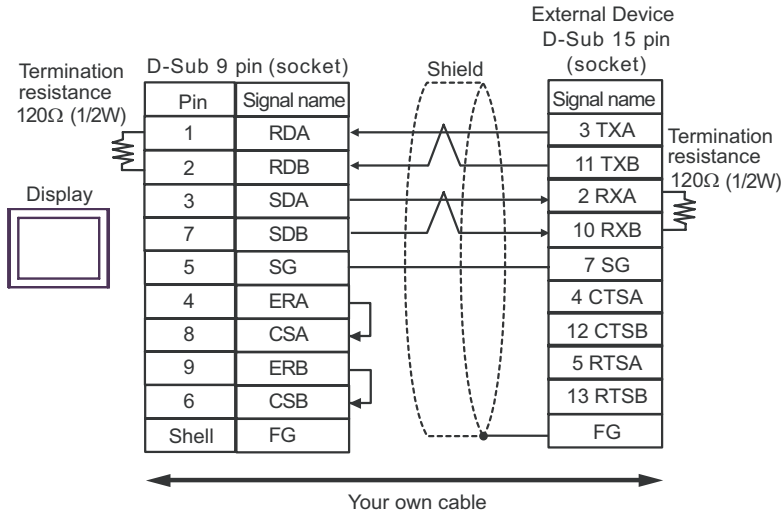


**NOTE**

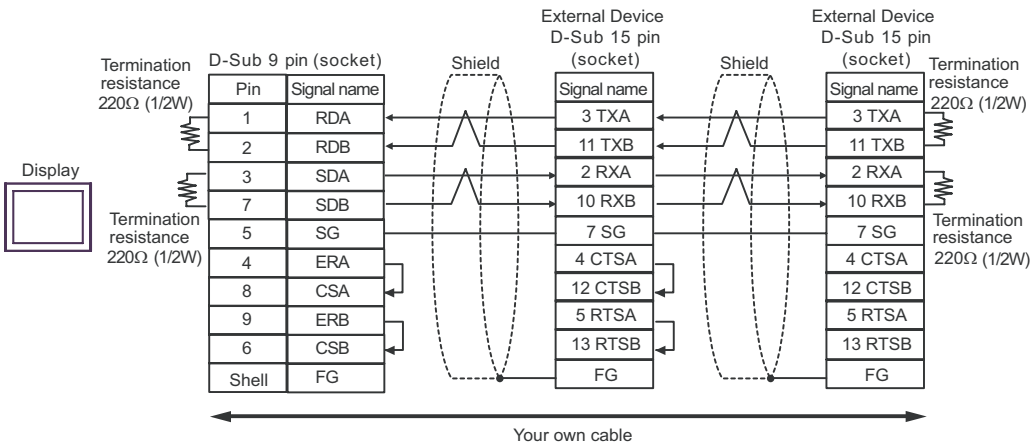
- When IPC is used as the Display, the terminal resistance of 220Ω can be inserted by the fact that the dip switch 5, 6 of IPC is turned to ON.

B. When your own cable is used

- 1:1 Connection



- 1:n Connection

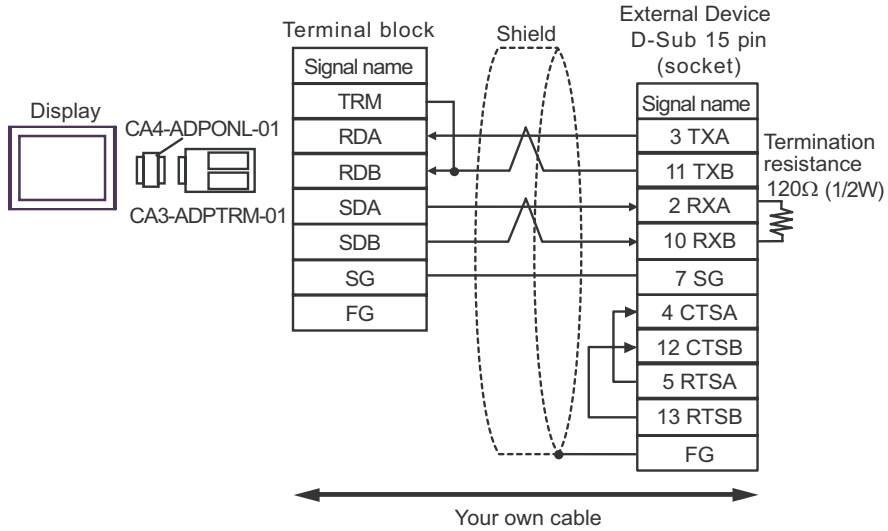


**NOTE**

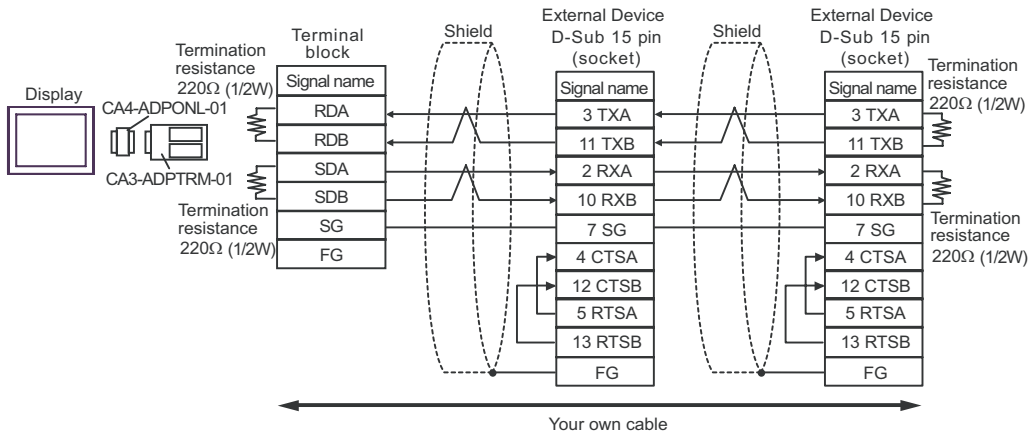
- We recommend CO-SPEV-SB(A)3P\*0.5 by Hitachi Cable, Ltd. for the connection cable.
- When IPC is used as the Display, the terminal resistance of 220Ω can be inserted by the fact that the dip switch 5, 6 of IPC is turned to ON.

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

- 1:1 Connection

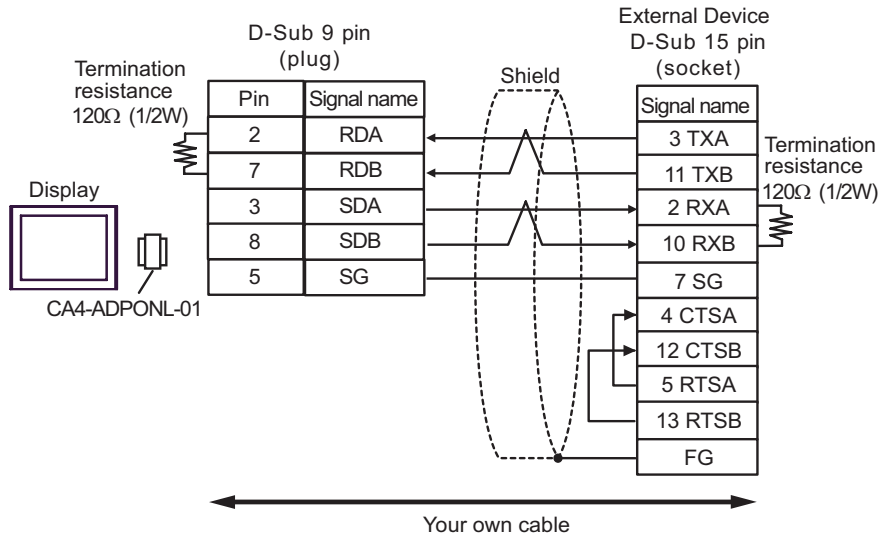


- 1:n Connection

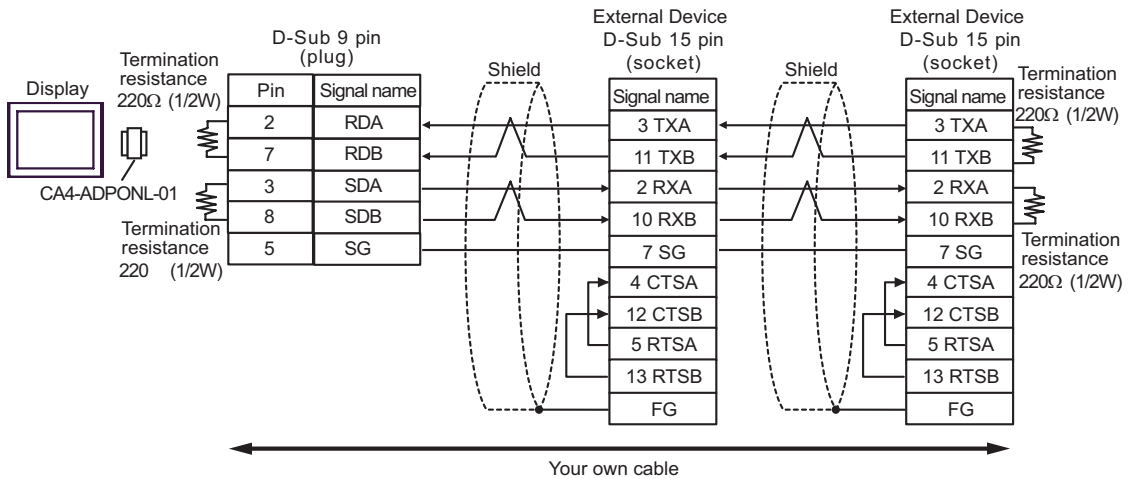


D. When using the online adapter (CA4-ADPONL-01) by Digital Electronics Corp. and your own cable

- 1:1 Connection



- 1:n Connection



**NOTE**


- We recommend CO-SPEV-SB(A)3P\*0.5 by Hitachi Cable, Ltd. for the connection cable.



Cable Diagram 4

| Display<br>(Connection Port)            | Cable |  | Remarks                         |
|---|-------|--|---------------------------------|
| GP*1 (COM1)<br>AGP-3302B(COM2)<br>IPC*2 | 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>1,000m or less |
|   | B     | Your own cable   |                                 |
|   | C     | COM port conversion adapter by Digital Electronics Corp.<br>CA3-ADPCOM-01<br>+<br>RS422 cable by Digital Electronics Corp.<br>CA3-CBL422-01  |                                 |
| GP*3 (COM2)                             | D     | 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              |                                 |
|   | E     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>Your own cable  |                                 |
|   | F     | Online adapter by Digital Electronics Corp.<br>CA4-ADPONL-01<br>+<br>RS422 cable by Digital Electronics Corp.<br>CA3-CBL422-01   |                                 |

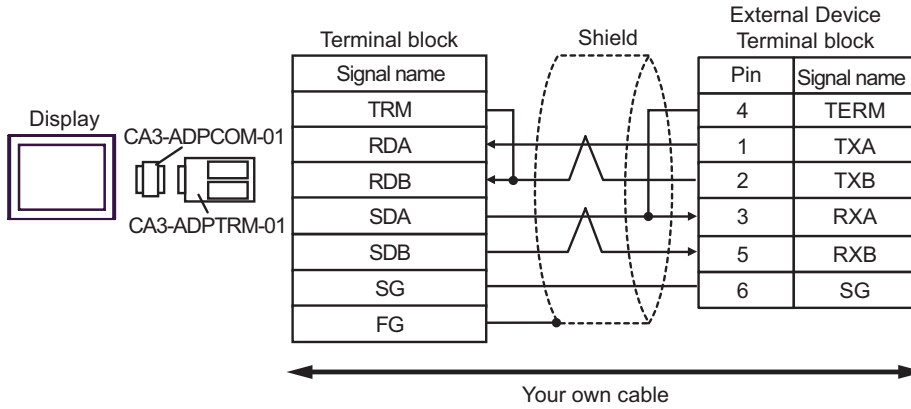
\*1 All GP models except AGP-3302B

\*2 Available to use only the COM ports which can communicate in RS422/485(4 wire).  
 ■ COM Port of IPC (page 5)

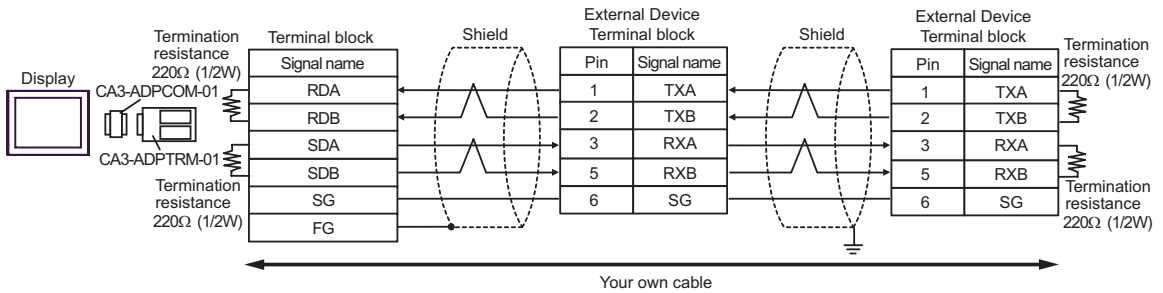
\*3 All GP models except GP-3200 Series and AGP-3302B

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

- 1:1 Connection



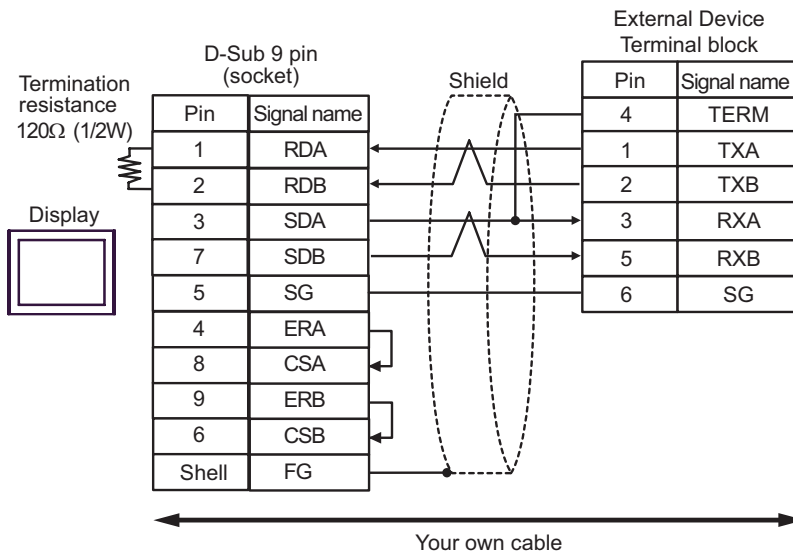
- 1:n Connection



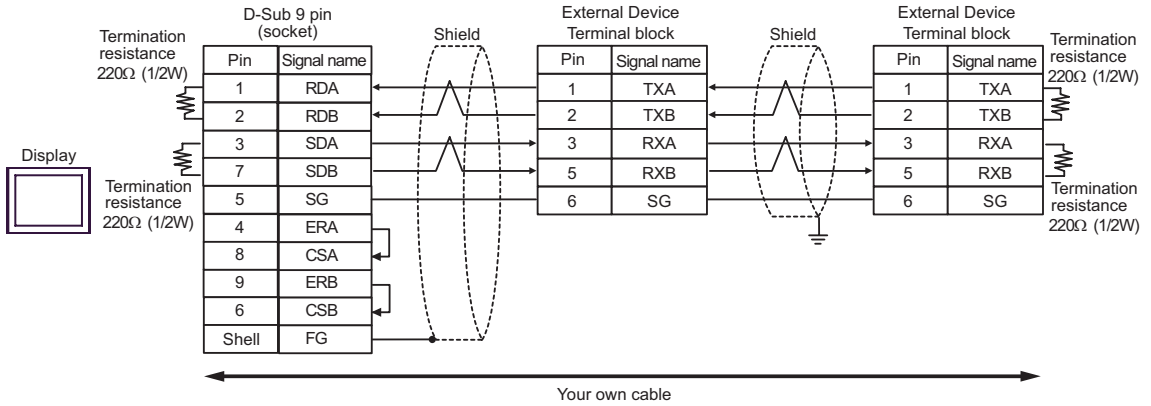
**NOTE** • When IPC is used as the Display, the terminal resistance of 220Ω can be inserted by the fact that the dip switch 5, 6 of IPC is turned to ON.

B. When your own cable is used

- 1:1 Connection

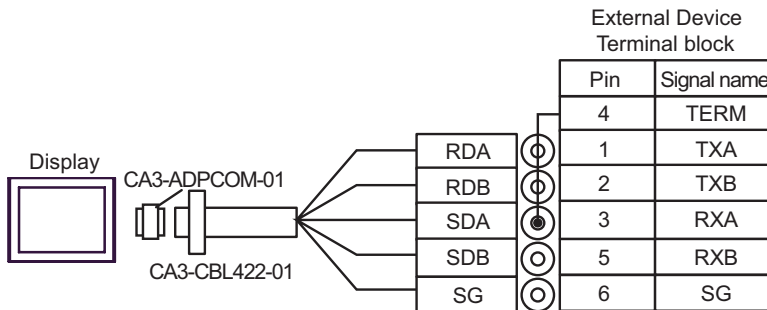


• 1:n Connection



- NOTE**
- We recommend CO-SPEV-SB(A)3P\*0.5 by Hitachi Cable, Ltd. for the connection cable.
  - When IPC is used as the Display, the terminal resistance of 220Ω can be inserted by the fact that the dip switch 5, 6 of IPC is turned to ON.

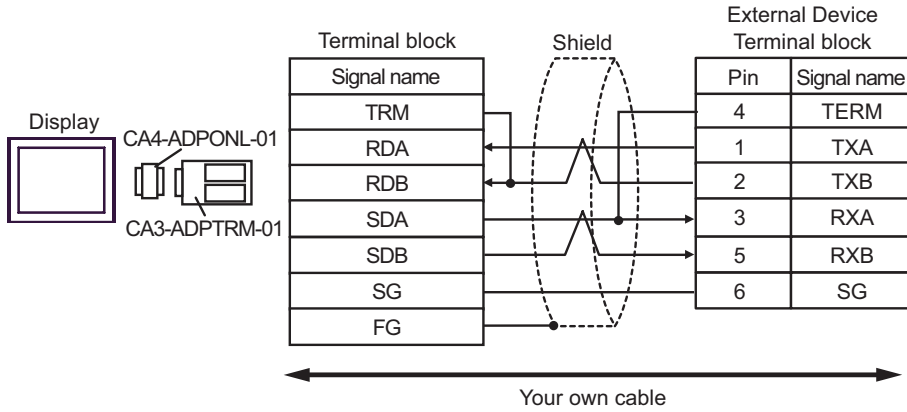
C. When using the COM port conversion adapter (CA3-ADPCOM-01) and the RS422 cable (CA3-CBL422-01) by Digital Electronics Corp.



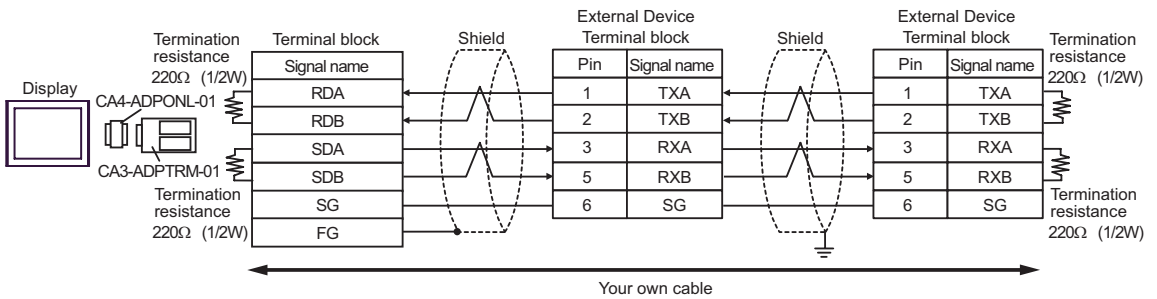
- NOTE**
- When using the CA3-CBL422-01 cable, connect nothing to FG.
  - Available only in the EX Series due to the different connector type.

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

- 1:1 Connection

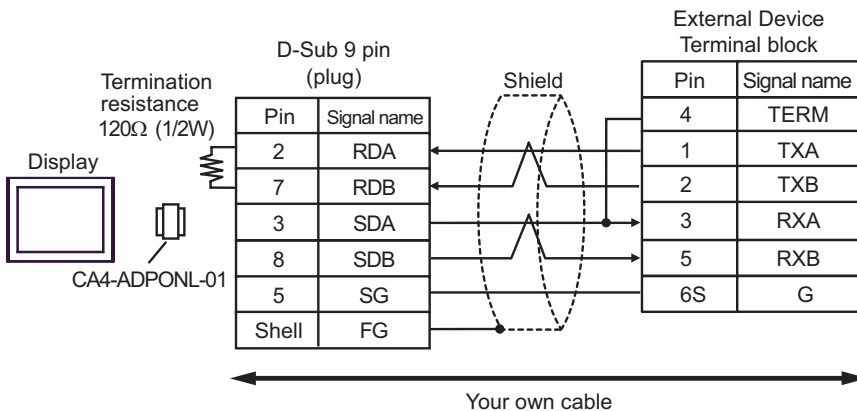


- 1:n Connection

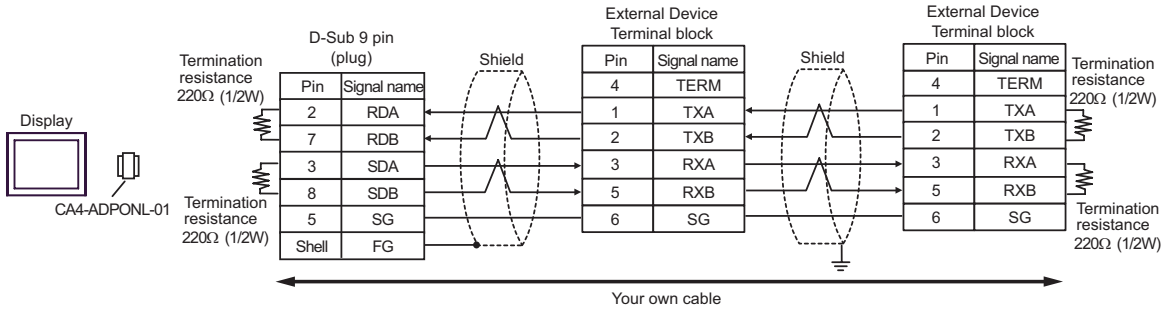


E. When your own cable is used

- 1:1 Connection

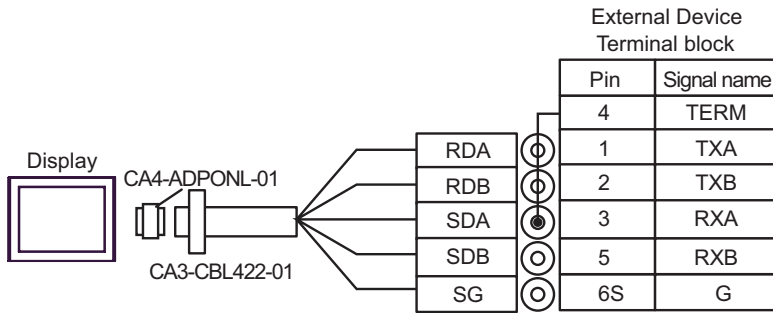


- 1:n Connection



**NOTE** • We recommend CO-SPEV-SB(A)3P\*0.5 by Hitachi Cable, Ltd. for the connection cable.

F. When using the online adapter (CA4-ADP0NL-01) and the RS422 cable (CA3-CBL422-01) by Digital Electronics Corp.




**NOTE** • When using the CA3-CBL422-01 cable, connect nothing to FG.  
 • Available only in the EX Series due to the different connector type.


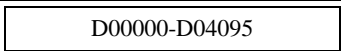



## 6 Supported Device

Range of supported device address is shown in the table below. Available type and range of device vary depending on CPU. Be sure to check them in each CPU manual before using.

### 6.1 T Series


#### ■ T2E

 : This address can be specified as system data area.


| Device              | Bit Address   | Word Address  | 32 bits  | Remarks   |
|---------------------|---------------|---|--|---|
| Input               | X00000-X0063F | XW0000-XW0063   |  |   |
| Output              | Y00000-Y0063F | YW0000-YW0063   |  |   |
| Auxiliary Relay     | R00000-R0127F | RW0000-RW0127   |  |   |
| Special Relay       | S00000-S0255F | SW0000-SW0255   |  |   |
| Timer Register      | -             | T0000-T0255   |  |   |
| Timer Device        | T.0000-T.0255 | -   |  | *1  |
| Counter Register    | -             | C0000-C0255   |  |   |
| Counter Device      | C.0000-C.0255 | -   |  | *1  |
| Link Relay          | L00000-L0255F | LW0000-LW0255   |  |   |
| Link Register Relay | Z00000-Z0511F | -   |  |   |
| Data Register       | -             |  D00000-D04095 |  |  |
| Link Register       | -             | W00000-W01023   |  |  |
| File Register       | -             | F00000-F01023   |  |  |


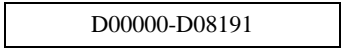



\*1 Write disable

#### NOTE

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


## ■ T2N

 : This address can be specified as system data area.

| Device              | Bit Address   | Word Address  | 32 bits  | Remarks   |
|---------------------|---------------|---|--|---|
| Input               | X00000-X0127F | XW0000-XW0127   |  |   |
| Output              | Y00000-Y0127F | YW0000-YW0127   |  |   |
| Auxiliary Relay     | R00000-R0255F | RW0000-RW0255   |  |   |
| Special Relay       | S00000-S0255F | SW0000-SW0255   |  |   |
| Link Relay          | L00000-L0255F | LW0000-LW0255   |  |   |
| Timer Register      | -             | T0000-T0511   |  |   |
| Timer Device        | T.0000-T.0511 | -   |  | *1  |
| Counter Register    | -             | C0000-C0511   |  |   |
| Counter Device      | C.0000-C.0511 | -   |  | *1  |
| Link Register Relay | Z00000-Z0999F | -   |  |   |
| Data Register       | -             |  D00000-D08191 |  |  |
| Link Register       | -             | W00000-W02047   |  |  |
| File Register       | -             | F00000-F01023   |  |  |

\*1 Write disable

**NOTE**

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


## ■ T3

     : This address can be specified as system data area.

| Device              | Bit Address   | Word Address  | 32 bits   | Remarks   |
|---------------------|---------------|---------------|---|---|
| Input               | X00000-X0255F | XW0000-XW0255 | <span style="border: 1px solid black; padding: 2px;">L/H</span> |   |
| Output              | Y00000-Y0255F | YW0000-YW0255 |   |   |
| Auxiliary Relay     | R00000-R0511F | RW0000-RW0511 |   |   |
| Special Relay       | S00000-S0255F | SW0000-SW0255 |   |   |
| Link Relay          | L00000-L0255F | LW0000-LW0255 |   |   |
| Timer Register      | -             | T0000-T0511   |   |   |
| Timer Device        | T.0000-T.0511 | -             |   | *1  |
| Counter Register    | -             | C0000-C0511   |   |   |
| Counter Device      | C.0000-C.0511 | -             |   | *1  |
| Link Register Relay | Z00000-Z0511F | -             |   |   |
| Data Register       | -             | D00000-D08191 |   | <span style="border: 1px solid black; padding: 2px;">Bit F</span> |
| Link Register       | -             | W00000-W01023 |   | <span style="border: 1px solid black; padding: 2px;">Bit F</span> |
| File Register       | -             | F00000-F08191 |   | <span style="border: 1px solid black; padding: 2px;">Bit F</span> |

\*1 Write disable

**NOTE**

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




## ■ T3H/S2T/S2E

     : This address can be specified as system data area.

| Device              | Bit Address   | Word Address  | 32 bits   | Remarks   |
|---------------------|---------------|---------------|---|---|
| Input               | X00000-X0511F | XW0000-XW0511 | <span style="border: 1px solid black; padding: 2px;">L/H</span> |   |
| Output              | Y00000-Y0511F | YW0000-YW0511 |   |   |
| Auxiliary Relay     | R00000-R0999F | RW0000-RW0999 |   |   |
| Special Relay       | S00000-S0255F | SW0000-SW0255 |   |   |
| Link Relay          | L00000-L0255F | LW0000-LW0255 |   |   |
| Timer Register      | -             | T0000-T0999   |   |   |
| Timer Device        | T.0000-T.0999 | -             |   | *1  |
| Counter Register    | -             | C0000-C0511   |   |   |
| Counter Device      | C.0000-C.0511 | -             |   | *1  |
| Link Register Relay | Z00000-Z0999F | -             |   |   |
| Data Register       | -             | D00000-D08191 |   | <span style="border: 1px solid black; padding: 2px;">Bit F</span> |
| Link Register       | -             | W00000-W02047 |   | <span style="border: 1px solid black; padding: 2px;">Bit F</span> |
| File Register       | -             | F00000-F32767 |   | <span style="border: 1px solid black; padding: 2px;">Bit F</span> |

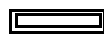
\*1 Write disable





**NOTE**

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

## 6.2 V Series

## ■ Model2000(S2PU22/S2PU32/S2PU72/S2PU82)

 : This address can be specified as system data area.


| Device        | Bit Address     | Word Address  | 32 bits  | Remarks  |
|---------------|-----------------|---|--|--|
| I Variable    | IX00000-IX3071F | IW0000-IW3071   |  |  |
| O Variable    | QX00000-QX3071F | QW0000-QW3071   |  |  |
| System        | S00000-S0511F   | SW0000-SW0511   |  |  |
| Data          | -               |  DW0000-DW4095 |  |  *1 |
| Data          | R00000-R4095F   | RW0000-RW4095   |  | *1   |
| User Register | -               | F00000-F32767   |  |     |

\*1 R, RW device and D device use the same area. Designate the R device when doing bit write from the Display.


**NOTE**




- Although local variables, control global variables and station global variables exist outside of the above-mentioned device, they are not accessible from the Display.
- Please refer to the GP-Pro EX Reference Manual for system data area.

Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"

- Please refer to the precautions on manual notation for icons in the table.  
 "Manual Symbols and Terminology"

## ■ Model3000(S3PU21)

 : This address can be specified as system data area.

| Device        | Bit Address     | Word Address  | 32 bits  | Remarks  |
|---------------|-----------------|---------------|--|--|
| I Variable    | IX00000-IX3071F | IW0000-IW3071 |  |  |
| O Variable    | QX00000-QX3071F | QW0000-QW3071 |  |  |
| System        | S00000-S0511F   | SW0000-SW0511 |  |  |
| Data          | -               | DW0000-DW4095 |  |  *1 |
| Data          | R00000-R4095F   | RW0000-RW4095 |  | *1   |
| User Register | -               | F00000-F32767 |  |     |

\*1 R, RW device and D device use the same area. Designate the R device when doing bit write from the Display.

### NOTE


- Although local variables, control global variables and station global variables exist outside of the above-mentioned device, they are not accessible from the Display.
- Please refer to the GP-Pro EX Reference Manual for system data area.




Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"

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

 "Manual Symbols and Terminology"

## ■ Model3000(S3PU45)

 : This address can be specified as system data area.

| Device        | Bit Address     | Word Address  | 32 bits  | Remarks  |
|---------------|-----------------|---------------|--|--|
| I Variable    | IX00000-IX5119F | IW0000-IW5119 |  |  |
| O Variable    | QX00000-QX5119F | QW0000-QW5119 |  |  |
| System        | S00000-S0511F   | SW0000-SW0511 |  |  |
| Data          | -               | DW0000-DW4095 |  |  *1 |
| Data          | R00000-R4095F   | RW0000-RW4095 |  | *1   |
| User Register | -               | F00000-F32767 |  |     |

\*1 R, RW device and D device use the same area. Designate the R device when doing bit write from the Display.

### NOTE


- Although local variables, control global variables and station global variables exist outside of the above-mentioned device, they are not accessible from the Display.
- Please refer to the GP-Pro EX Reference Manual for system data area.




Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"

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

 "Manual Symbols and Terminology"

## ■ Model3000(S3PU55/S3PU65)

 : This address can be specified as system data area.

| Device        | Bit Address     | Word Address  | 32 bits  | Remarks  |
|---------------|-----------------|---------------|--|--|
| I Variable    | IX00000-IX8191F | IW0000-IW8191 |  |  |
| O Variable    | QX00000-QX8191F | QW0000-QW8191 |  |  |
| System        | S00000-S0511F   | SW0000-SW0511 |  |  |
| Data          | -               | DW0000-DW4095 |  |  *1 |
| Data          | R00000-R4095F   | RW0000-RW4095 |  | *1   |
| User Register | -               | F00000-F32767 |  |     |

\*1 R, RW device and D device use the same area. Designate the R device when doing bit write from the Display.

### NOTE

- Although local variables, control global variables and station global variables exist outside of the above-mentioned device, they are not accessible from the Display.
- Please refer to the GP-Pro EX Reference Manual for system data area.


Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"


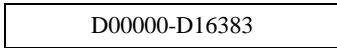


- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

## 6.3 EX Series


## ■ EX2000

 : This address can be specified as system data area.

| Device           | Bit Address   | Word Address  | 32 bits  | Remarks   |
|------------------|---------------|---|--|---|
| External Input   | X00000-X0499F | XW0000-XW0499   |  |   |
| External Output  | Y00000-Y0499F | YW0000-YW0499   |  |   |
| Auxiliary Relay  | R00000-R0999F | RW0000-RW0999   |  |   |
| Link Relay       | Z00000-Z0999F | ZW0000-ZW1999   |  |   |
| Timer Device     | T.0000-T.0499 | -   |  | *1  |
| Counter Device   | C.0000-C.0499 | -   |  | *1  |
| Data Register    | -             |  D00000-D16383 |  |  |
| Timer Register   | -             | T00000-T00499   |  |   |
| Counter Register | -             | C00000-C00499   |  |   |

\*1 Write disable

**NOTE**

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

## 7 Device Code and Address Code

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

### 7.1 T Series

#### ■ T2E

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| Input Register      | XW          | 0080              | Word Address |
| Input Device        | X           |                   | Word Address |
| Output Register     | YW          | 0081              | Word Address |
| Output Device       | Y           |                   | Word Address |
| Auxiliary Register  | RW          | 0084              | Word Address |
| Auxiliary Relay     | R           |                   | Word Address |
| Special Register    | SW          | 0085              | Word Address |
| Special Relay       | S           |                   | Word Address |
| Timer Register      | T           | 0060              | Word Address |
| Counter Register    | C           | 0061              | Word Address |
| Data Register       | D           | 0000              | Word Address |
| Link Register       | W           | 0001              | Word Address |
| Link Relay Register | LW          | 0086              | Word Address |
| Link Relay Device   | L           |                   | Word Address |
| File Register       | F           | 0002              | Word Address |

## ■ T2N

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| Input Register      | XW          | 0080              | Word Address |
| Input Device        | X           |                   | Word Address |
| Output Register     | YW          | 0081              | Word Address |
| Output Device       | Y           |                   | Word Address |
| Auxiliary Register  | RW          | 0084              | Word Address |
| Auxiliary Relay     | R           |                   | Word Address |
| Special Register    | SW          | 0085              | Word Address |
| Special Relay       | S           |                   | Word Address |
| Timer Register      | T           | 0060              | Word Address |
| Counter Register    | C           | 0061              | Word Address |
| Data Register       | D           | 0000              | Word Address |
| Link Register       | W           | 0001              | Word Address |
| Link Relay Register | LW          | 0086              | Word Address |
| Link Relay Device   | L           |                   | Word Address |
| File Register       | F           | 0002              | Word Address |



## ■ T3

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| Input Register      | XW          | 0080              | Word Address |
| Input Device        | X           |                   | Word Address |
| Output Register     | YW          | 0081              | Word Address |
| Output Device       | Y           |                   | Word Address |
| Auxiliary Register  | RW          | 0084              | Word Address |
| Auxiliary Relay     | R           |                   | Word Address |
| Special Register    | SW          | 0085              | Word Address |
| Special Relay       | S           |                   | Word Address |
| Timer Register      | T           | 0060              | Word Address |
| Counter Register    | C           | 0061              | Word Address |
| Data Register       | D           | 0000              | Word Address |
| Link Register       | W           | 0001              | Word Address |
| Link Relay Register | LW          | 0086              | Word Address |
| Link Relay Device   | L           |                   | Word Address |
| File Register       | F           | 0002              | Word Address |

## ■ T3H/S2TS2E

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| Input Register      | XW          | 0080              | Word Address |
| Input Device        | X           |                   | Word Address |
| Output Register     | YW          | 0081              | Word Address |
| Output Device       | Y           |                   | Word Address |
| Auxiliary Register  | RW          | 0084              | Word Address |
| Auxiliary Relay     | R           |                   | Word Address |
| Special Register    | SW          | 0085              | Word Address |
| Special Relay       | S           |                   | Word Address |
| Timer Register      | T           | 0060              | Word Address |
| Counter Register    | C           | 0061              | Word Address |
| Data Register       | D           | 0000              | Word Address |
| Link Register       | W           | 0001              | Word Address |
| Link Relay Register | LW          | 0086              | Word Address |
| Link Relay Device   | L           |                   | Word Address |
| File Register       | F           | 0002              | Word Address |

## 7.2 V Series

## ■ Model2000(S2PU82)

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| I Variable Register | IW          | 0080              | Word Address |
| I Variable Device   | IX          |                   | Word Address |
| O Variable Register | QW          | 0081              | Word Address |
| O Variable Device   | QX          |                   | Word Address |
| System Register     | SW          | 0085              | Word Address |
| System Device       | S           |                   | Word Address |
| Data Register       | DW          | 0000              | Word Address |
| User Register       | F           | 0002              | Word Address |
| Data Register       | RW          | 0084              | Word Address |
| Data Device         | R           |                   | Word Address |

## ■ Model2000(S2PU22/S2PU32/S2PU72)

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| I Variable Register | IW          | 0080              | Word Address |
| I Variable Device   | IX          |                   | Word Address |
| O Variable Register | QW          | 0081              | Word Address |
| O Variable Device   | QX          |                   | Word Address |
| System Register     | SW          | 0085              | Word Address |
| System Device       | S           |                   | Word Address |
| Data                | DW          | 0000              | Word Address |
| Data Register       | RW          | 0084              | Word Address |
| Data Device         | R           |                   | Word Address |

### ■ Model3000(S3PU45)

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| I Variable Register | IW          | 0080              | Word Address |
| I Variable Device   | IX          |                   | Word Address |
| O Variable Register | QW          | 0081              | Word Address |
| O Variable Device   | QX          |                   | Word Address |
| System Register     | SW          | 0085              | Word Address |
| System Device       | S           |                   | Word Address |
| Data Register       | DW          | 0000              | Word Address |
| User Register       | F           | 0002              | Word Address |
| Data Register       | RW          | 0084              | Word Address |
| Data Device         | R           |                   | Word Address |

### ■ Model3000(S3PU55/S3PU65)

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| I Variable Register | IW          | 0080              | Word Address |
| I Variable Device   | IX          |                   | Word Address |
| O Variable Register | QW          | 0081              | Word Address |
| O Variable Device   | QX          |                   | Word Address |
| System Register     | SW          | 0085              | Word Address |
| System Device       | S           |                   | Word Address |
| Data Register       | DW          | 0000              | Word Address |
| User Register       | F           | 0002              | Word Address |
| Data Register       | RW          | 0084              | Word Address |
| Data Device         | R           |                   | Word Address |

## 7.3 EX Series

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| Input Register      | XW          | 0080              | Word Address |
| Input Device        | X           |                   | Word Address |
| Output Register     | YW          | 0081              | Word Address |
| Output Device       | Y           |                   | Word Address |
| Auxiliary Register  | RW          | 0084              | Word Address |
| Auxiliary Relay     | R           |                   | Word Address |
| Timer Register      | T           | 0060              | Word Address |
| Counter Register    | C           | 0061              | Word Address |
| Data Register       | D           | 0000              | Word Address |
| Link Relay Register | ZW          | 0086              | Word Address |
| Link Relay Device   | Z           |                   | Word Address |

## 8 Error Messages

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

| Item                  | Description   |
|-----------------------|---|
| No.                   | Error No.   |
| Device Name           | Name of the External Device where an 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 that has occurred.   |
| Error Occurrence Area | Displays IP address or device address of the External Device where an error occurs, or error codes received from the External Device.<br><b>NOTE</b> <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 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: 1[01H])"

**NOTE**

- Please refer to the manual of the External Device for more detail of received error codes.
- Please refer to "When an error is displayed (Error Code List)" in "Maintenance/Troubleshooting manual" for more detail on the error messages common to the driver.

### ■ Error Codes Specific to the External Device

Error codes specific to the External Device are shown below.

| Error Code | Description  |
|------------|--|
| 115(73H)   | Register No/Size error.This error occurs when you access the address beyond the range in T Series or V Series. |
| 9(9H)      | Register No/Size error.This error occurs when you access the address beyond the range in EX Series.            |
| 2(2H)      | Transmission format error. This error occurs when you access a nonexistent device.                             |