

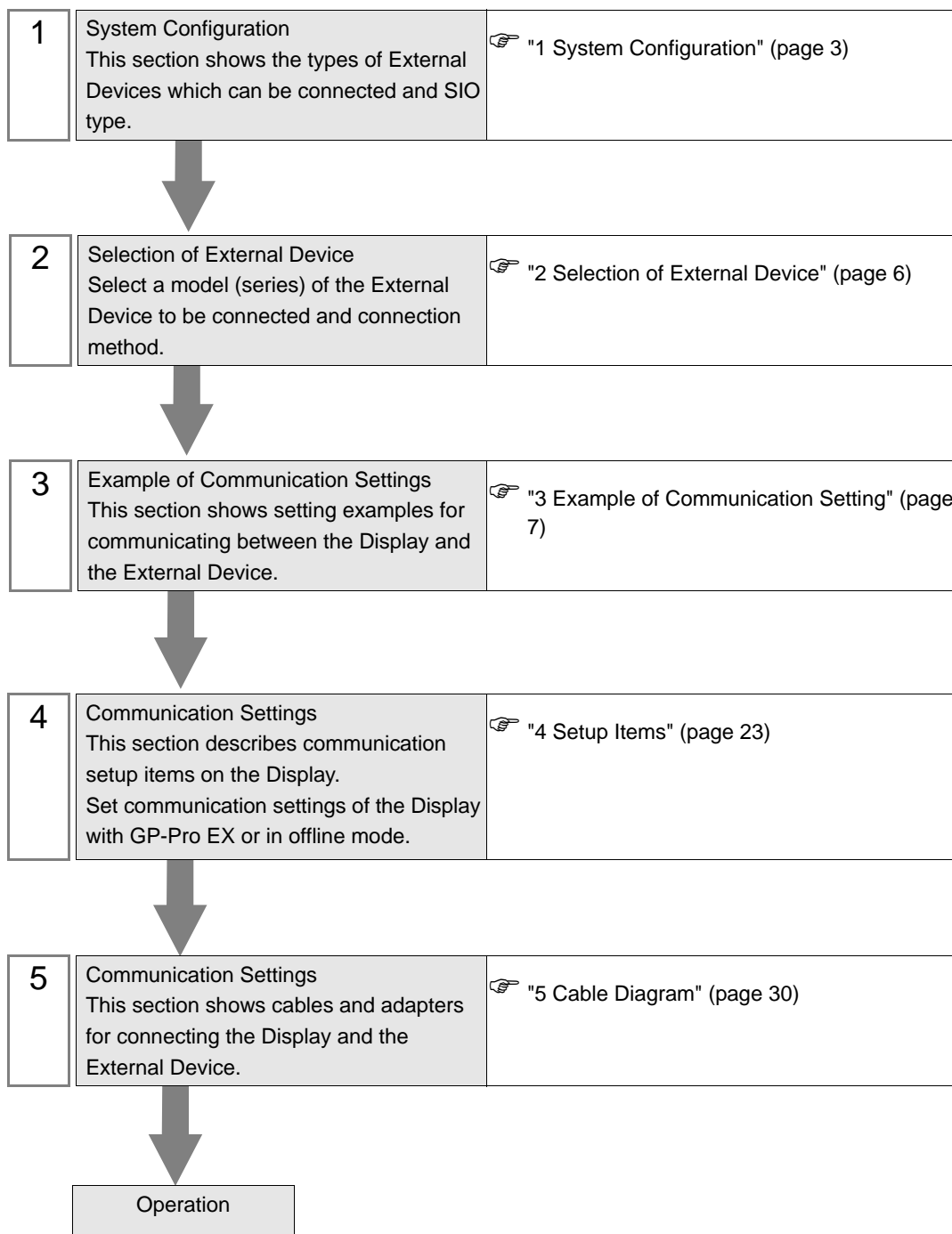
DF1 Driver

| | | |
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Introduction

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

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



1 System Configuration

The system configuration in the case when the External Device of Rockwell Automation, Inc. and the Display are connected is shown.

| Series | CPU Module | Link I/F | SIO Type | Setting Example | Cable Diagram |
|--------------|--|---|----------------------|--------------------------------|------------------------------|
| SLC500 | SLC 5/03 SLC 5/04 SLC 5/05 | Channel 0 | RS232C | Setting Example 1 (page 7) | Cable Diagram 1 (page 30) |
| | | 1770-KF3 2760-RB 1775-KA 5130-RM | RS232C | | Cable Diagram 2 (page 32) |
| | | 1771-KGM | RS232C | | Cable Diagram 3 (page 34) |
| PLC-5 | PLC-5/11 PLC-5/20 PLC-5/30 PLC-5/40 PLC-5/40L PLC-5/60 PLC-5/60L | Channel 0 | RS232C | Setting Example 2 (page 10) | Cable Diagram 2 (page 32) |
| | | | RS422/485 (4wire) | Setting Example 3 (page 13) | Cable Diagram 6 (page 37) |
| ControlLogix | Logix5550 | CPU Direct | RS232C | Setting Example 4 (page 16) | Cable Diagram 1 (page 30) |
| MicroLogix | MicroLogix 1500 (1764-LRP) | Channel 1 | RS232C | Setting Example 5 (page 20) | Cable Diagram 1 (page 30) |
| | MicroLogix 1000 MicroLogix 1200 MicroLogix 1500 (1764-LSP,1764-LRP) | Channel 0 | RS232C | | Cable Diagram 4 (page 35) |
| | | AIC + Advanced Interface Converter 1761-NET- AIC | RS232C | | Cable Diagram 5 (page 36) |
| CompactLogix | 1769-L20 1769-L30 1769-L31 1769-L32E 1769-L35E | Channel 0 | RS232C | Setting Example 4 (page 16) | Cable Diagram 1 (page 30) |

■ IPC COM Port

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

Usable port

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

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

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

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

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

DIP Switch setting: RS-232C

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

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

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

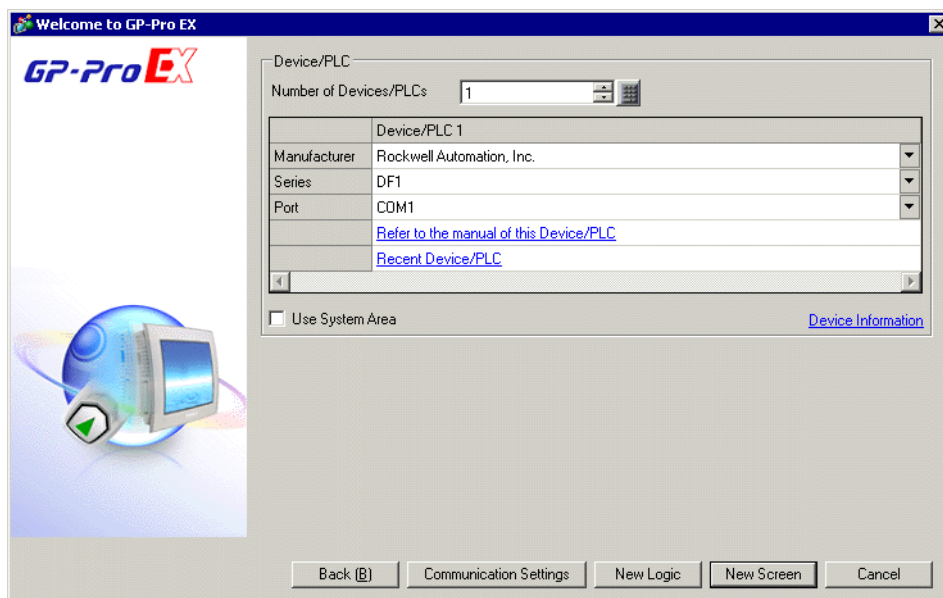
| DIP Switch | Setting | Description |
|------------|---------|---|
| 1 | OFF | Reserved (always OFF) |
| 2 | ON | SIO type: RS-422/485 |
| 3 | ON | |
| 4 | OFF | Output mode of SD (TXD) data: Always output |
| 5 | OFF | Terminal resistance (220Ω) insertion to SD (TXD): None |
| 6 | OFF | Terminal resistance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

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

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

2 Selection of External Device

Select the External Device to be connected to the Display.



| Setup Items | Setup Description |
|------------------------|---|
| Number of Devices/PLCs | Enter an integer from 1 to 4 to define the number of Devices/PLCs to connect to the display. |
| Manufacturer | Select the manufacturer of the External Device to connect. Select "Rockwell Automation, Inc.". |
| Series | Select the External Device model (series) and the connection method. Select "DF1". In System configuration, make sure the External Device you are connecting is supported by "DF1". ☞ "1 System Configuration" (page 3) |
| Port | Select the Display port to connect to the External Device. |
| Use System Area | Check this option to synchronize the system data area of the Display and the device (memory) of the External Device. When synchronized, you can use the External Device's ladder program to switch the display or display the window on the Display. Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)" This feature can also be set in GP-Pro EX or in the Display's offline mode. Cf. GP-Pro EX Reference Manual "System Settings [Display Unit] - [System Area] Settings Guide" Cf. Maintenance/Troubleshooting Guide "Main Unit - System Area Settings" |

3 Example of Communication Setting

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

3.1 Setting Example 1

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer: Rockwell Automation, Inc. Series: DF1 Port: COM1

Text Data Mode: 1 [Change](#)

Communication Settings

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

Speed: 19200

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)

DF1 Protocol

DF1 Mode: Full Duplex

Error Detection: CRC

Source ID: 0

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 [Add Device](#)

| No. | Device Name | Settings |
|-----|-------------|--|
| 1 | PLC1 | Series=SLC500 Series, Compatible Settings=Standard t |

Add Indirect Device

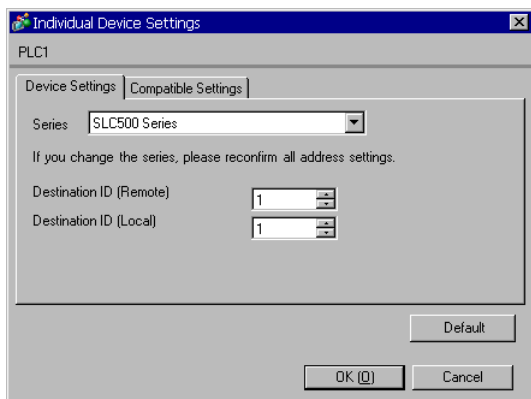
NOTE • For [DF1 Mode], select [Full Duplex] or [Half Duplex Master] according to your driver.

◆ Device Setting

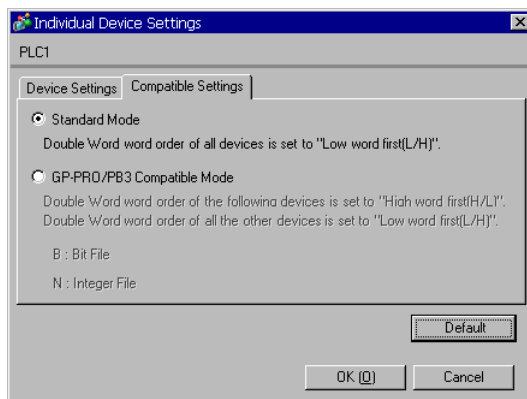
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

To connect multiple External Devices, from [Device-Specific Settings] in the [Device/PLC] window, click [Add Device] to add another External Device.

[Device Settings]



[Compatible Settings]



NOTE

- For Full Duplex, "Destination ID (Local)" is not used.

■ Settings of External Device

Use the ladder software "RSLogix 500" for communication settings.

Open "Channel Configuration" of "RSLogix 500" to perform the settings in the "Chan. 0 - System" tab.

◆ For Full Duplex

| Setup Items | Setup Description |
|-------------------------|-------------------|
| Driver | DF1 Full Duplex |
| Baud | 19200 |
| Parity | NONE |
| Stop Bits | 1 |
| Control Line | No Handshaking |
| Error Detection | CRC |
| Embedded Responses | Auto-detect |
| Duplicate Packet Detect | Disabled |
| ACK Timeout | 50 |
| NAK Retries | 3 |
| ENQ Retries | 3 |
| Source ID | 0 |

◆ For Half Duplex

| Setup Items | Setup Description |
|-------------------------|-----------------------|
| Driver | DF1 Half Duplex Slave |
| Baud | 19200 |
| Parity | NONE |
| Stop Bits | 1 |
| Control Line | No Handshaking |
| Error Detection | CRC |
| EOT Suppression | Disabled |
| Duplicate Packet Detect | Disabled |
| Poll Timeout | 3000 |
| Message Retries | 3 |
| Pre Transmit Delay | 0 |
| Node Address | 0 |

◆ Notes

- Please refer to the manual of the ladder software for more detail on other setting description.

3.2 Setting Example 2

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC 1

Summary

Manufacturer: Rockwell Automation, Inc. Series: DF1 Port: COM1 [Change Device/PLC](#)

Text Data Mode: 1 [Change](#)

Communication Settings

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

Speed: 19200

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)

DF1 Protocol

DF1 Mode: Full Duplex

Error Detection: CRC

Source ID: 0

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 [Add Device](#)


| No. | Device Name | Settings |
|-----|-------------|---|
| 1 | PLC1 | Series=PLC-5 Series, Compatible Settings=Standard M |

Add Indirect Device

NOTE

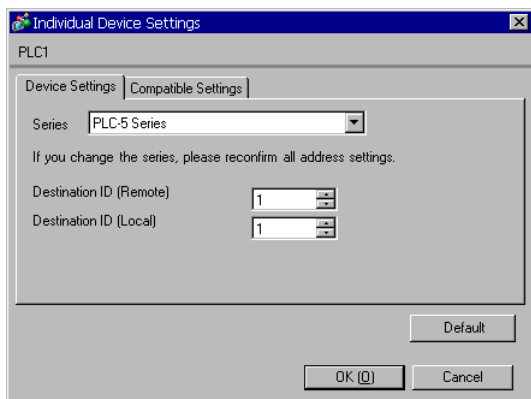
- For [DF1 Mode], select [Full Duplex] or [Half Duplex Master] according to your driver.

◆ Device Setting

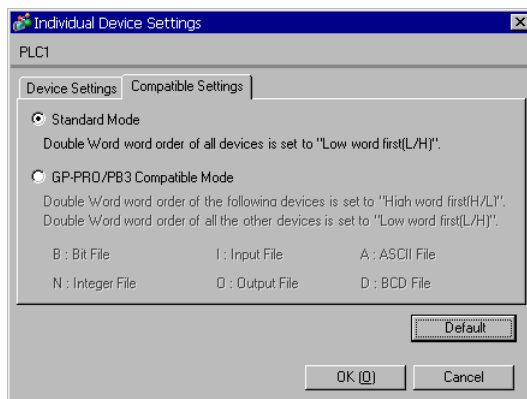
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

To connect multiple External Devices, from [Device-Specific Settings] in the [Device/PLC] window, click [Add Device] to add another External Device.

[Device Settings]



[Compatible Settings]



NOTE

- For Full Duplex, "Destination ID (Local)" is not used.

■ Settings of External Device

Use the ladder software "RSLogix 5" for communication settings.

Open "Channel Configuration" of "RSLogix 5" to perform the settings in the "Chan. 0" tab.

◆ For Full Duplex

| Setup Items | Setup Description |
|---------------------------|-------------------------|
| Communication Mode | System (Point-To-Point) |
| Baud Rate | 19200 |
| Parity | NONE |
| Bits per Char | 8 |
| Stop Bits | 1 |
| Control Line | No Handshaking |
| Error Detection | CRC |
| Embedded Responses | Auto-detect |
| Detect Duplicate Messages | Disabled |
| ACK Timeout | 50 |
| NAK Receive | 3 |
| DF1 ENQs | 3 |
| MSG Application Timeout | 30 seconds |
| Station Address | 0 |

◆ For Half Duplex

| Setup Items | Setup Description |
|---------------------------|-------------------|
| Communication Mode | System (Slave) |
| Baud Rate | 19200 |
| Parity | NONE |
| Bits per Char | 8 |
| Stop Bits | 1 |
| Control Line | No Handshaking |
| Error Detection | CRC |
| Detect Duplicate Messages | Disabled |
| RTS Send Delay | 0 |
| RTS Off Delay | 0 |
| ACK Timeout | 50 |
| DF1 Retries | 3 |
| MSG Application Timeout | 30 seconds |
| Station Address | 0 |

◆ Notes

- Please refer to the manual of the ladder software for more detail on other setting description.

3.3 Setting Example 3

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer: Rockwell Automation, Inc. Series: DF1 Port: COM1

Text Data Mode: 1 [Change](#)

Communication Settings

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

Speed: 19200

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)

DF1 Protocol

DF1 Mode: Full Duplex

Error Detection: CRC

Source ID: 0

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 [Add Device](#)

| No. | Device Name | Settings |
|-----|-------------|---|
| 1 | PLC1 | Series=PLC-5 Series, Compatible Settings=Standard M |

Add Indirect Device

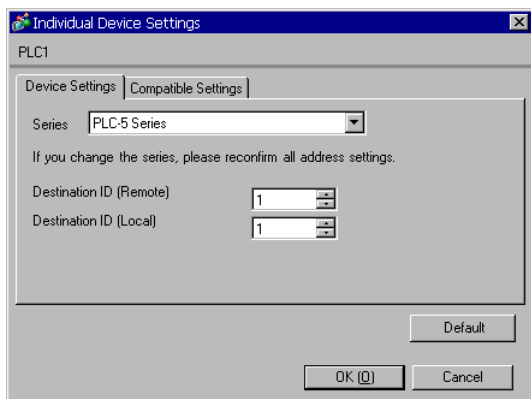
NOTE • For [DF1 Mode], select [Full Duplex] or [Half Duplex Master] according to your driver.

◆ Device Setting

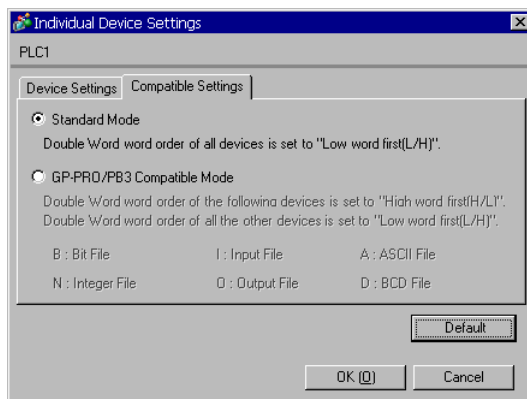
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

To connect multiple External Devices, from [Device-Specific Settings] in the [Device/PLC] window, click [Add Device] to add another External Device.

[Device Settings]



[Compatible Settings]



NOTE

- For Full Duplex, "Destination ID (Local)" is not used.

■ Settings of External Device

Use the ladder software "RSLogix 5" for communication settings.

Open "Channel Configuration" of "RSLogix 5" to perform the settings in the "Chan. 0" tab.

◆ For Full Duplex

| Setup Items | Setup Description |
|---------------------------|-------------------------|
| Communication Mode | System (Point-To-Point) |
| Baud Rate | 19200 |
| Parity | NONE |
| Bits per Char | 8 |
| Stop Bits | 1 |
| Control Line | No Handshaking |
| Error Detection | CRC |
| Embedded Responses | Auto-detect |
| Detect Duplicate Messages | Disabled |
| ACK Timeout | 50 |
| NAK Receive | 3 |
| DF1 ENQs | 3 |
| MSG Application Timeout | 30 seconds |
| Station Address | 0 |

◆ For Half Duplex

| Setup Items | Setup Description |
|---------------------------|-------------------|
| Communication Mode | System (Slave) |
| Baud Rate | 19200 |
| Parity | NONE |
| Bits per Char | 8 |
| Stop Bits | 1 |
| Control Line | No Handshaking |
| Error Detection | CRC |
| Detect Duplicate Messages | Disabled |
| RTS Send Delay | 0 |
| RTS Off Delay | 0 |
| ACK Timeout | 50 |
| DF1 Retries | 3 |
| MSG Application Timeout | 30 seconds |
| Station Address | 0 |

◆ Notes

- Please refer to the manual of the ladder software for more detail on other setting description.

3.4 Setting Example 4

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer: Series: 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)

DF1 Protocol

DF1 Mode:

Error Detection:

Source ID:

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 Number of Devices/PLCs: [Add Device](#)

| No. | Device Name | Settings |
|-----|-------------|--|
| 1 | PLC1 | Series=ControlLogix/CompactLogix Series,Compatible |

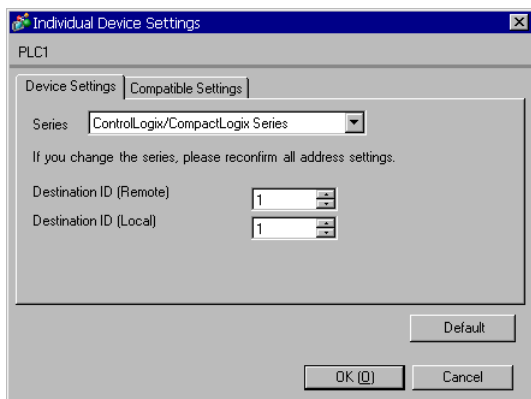
NOTE • For [DF1 Mode], select [Full Duplex] or [Half Duplex Mster] according to your driver.

◆ Device Setting

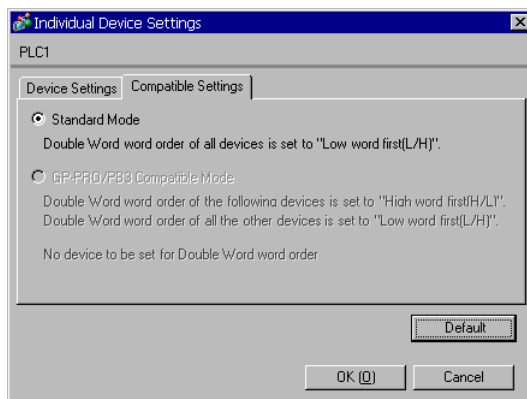
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

To connect multiple External Devices, from [Device-Specific Settings] in the [Device/PLC] window, click [Add Device] to add another External Device.

[Device Settings]



[Compatible Settings]



NOTE

- For Full Duplex, "Destination ID (Local)" is not used.

■ Settings of External Device

Use the ladder software "RSLogix 5000" for communication settings. Please refer to the manual of the External Device for more details.

Open the [Controller Properties] dialog box from the ladder software and set in the [Serial Port] tab, then in the [System Protocol] tab as below.

◆ [Serial Port] tab

- For Full Duplex

| Setup Items | Setup Description |
|----------------|-------------------|
| Baud Rate | 19200 |
| Data Bits | 8 |
| Parity | NONE |
| Stop Bits | 1 |
| Control Line | Full Duplex |
| RTS Send Delay | 0 |
| RTS Off Delay | 0 |

- For Half Duplex

| Setup Items | Setup Description |
|----------------|-------------------|
| Baud Rate | 19200 |
| Data Bits | 8 |
| Parity | NONE |
| Stop Bits | 1 |
| Control Line | Half Duplex |
| RTS Send Delay | 0 |
| RTS Off Delay | 0 |

◆ [System Protocol] tab

- For Full Duplex

| Setup Items | Setup Description |
|----------------------------|--------------------|
| Protocol | DF1 Point to Point |
| Station Address | 0 |
| NAK Receive Limit | 3 |
| ENQ Transmit Limit | 3 |
| ACK Timeout | 50 |
| Embedded Responses | Autodetect |
| Error Detection | CRC |
| Enable Duplicate Detection | Disabled |

- For Half Duplex

| Setup Items | Setup Description |
|----------------------------|-------------------|
| Protocol | DF1 Slave |
| Station Address | 0 |
| Transmit Retries | 3 |
| Slave Poll Timeout | 3000 |
| EOT Suppression | Disabled |
| Error Detection | CRC |
| Enable Duplicate Detection | Disabled |

◆ Notes

- Please refer to the manual of the ladder software for more detail on other setting description.

3.5 Setting Example 5

■ Settings of GP-Pro EX

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer: Rockwell Automation, Inc. Series: DF1 Port: COM1

Text Data Mode: 1 [Change](#)

Communication Settings

SIO Type: ☒ RS232C ☐ RS422/485(2wire) ☐ RS422/485(4wire)
 Speed: 19200
 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)

DF1 Protocol

DF1 Mode: Full Duplex
 Error Detection: CRC
 Source ID: 0

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 [Add Device](#)

| No. | Device Name | Settings |
|-----|-------------|--|
| 1 | PLC1 | Series=MicroLogix Series, Compatible Settings=Standard |

Add Indirect Device

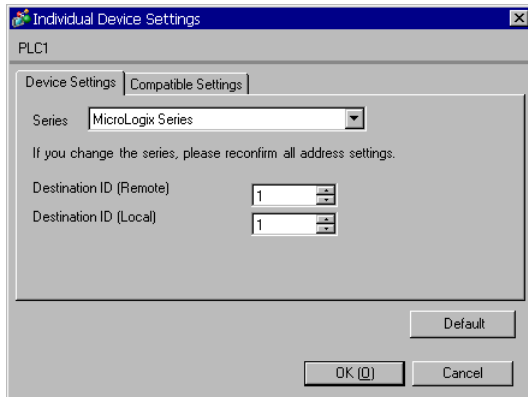
NOTE • For [DF1 Mode], select [Full Duplex] or [Half Duplex Master] according to your driver.

◆ Device Setting

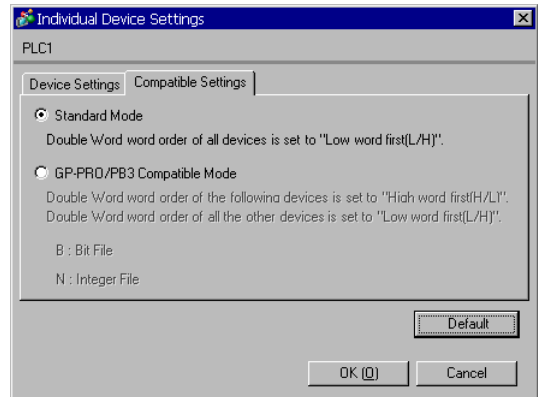
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

To connect multiple External Devices, from [Device-Specific Settings] in the [Device/PLC] window, click [Add Device] to add another External Device.

[Device Settings]



[Compatible Settings]



NOTE

- For Full Duplex, "Destination ID (Local)" is not used.

■ Settings of External Device

Use the ladder software "RSLogix 500" for communication settings.

Open "Channel Configuration" of "RSLogix 500" to perform the settings in the "Chan. 0 - System" tab.

◆ For Full Duplex

| Setup Items | Setup Description |
|----------------------------|------------------------|
| Primary Protocol | DF1 Full Duplex |
| Baud | 19200 |
| Parity | NONE (Fixed) |
| Stop Bits | 1 (Fixed) |
| Control Line | No Handshaking (Fixed) |
| Error Detection | CRC |
| Embedded Responses | Auto-detect |
| Enable Duplicate Detection | Disabled |
| ACK Timeout | 50 |
| DLE NAK Retries | 3 |
| DLE ENQ Retries | 3 |
| Node Address | 1 |

◆ For Half Duplex

| Setup Items | Setup Description |
|--------------------|------------------------|
| Primary Protocol | DF1 Half Duplex Slave |
| Baud | 19200 |
| Parity | NONE (Fixed) |
| Stop Bits | 1 (Fixed) |
| Control Line | No Handshaking (Fixed) |
| Error Detection | CRC |
| EOT Suppression | Disabled |
| Poll Timeout | 3000 |
| RTS On Delay | 0 |
| RTS Send Delay | 0 |
| Message Retries | 3 |
| Pre-Transmit Delay | 0 |
| Node Address | 1 |

◆ Notes

- Please refer to the manual of the ladder software for more detail on other setting description.

4 Setup Items

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

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

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

4.1 Communication Setting with GP-Pro EX

■ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

| Setup Items | Setup Description |
|--------------|---|
| SIO Type | Select the SIO type to communicate with the External Device. |
| Speed | Select speed (bps) between the External Device and the Display. |
| Data Length | Data length is displayed. |
| Parity | Select how to check parity. |
| Stop Bit | Stop bit length is displayed. |
| Flow Control | Select the communication control method to prevent overflow of transmission and reception data. |
| Timeout | Enter the number of seconds (sec) before the reception timeout error occurs in the Display when communicating with the External Device, using "an integer from 1 to 127". |


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. |
| DF1 Mode | Set the type of DF1 protocol. Select either "Full Duplex" or "Half Duplex Master". |
| Error Detection | Set how to check error. Select either "CRC" or "BCC". |
| Source ID | Set the Display ID. |
| RI/VCC | You can switch RI/VCC of the 9th pin when you select RS232C for SIO type. It is necessary to change RI/5V by changeover switch of IPC when connect with IPC. Please refer to the manual of the IPC for more detail. |

NOTE • Refer to the GP-Pro EX Reference Manual for Indirect Device.

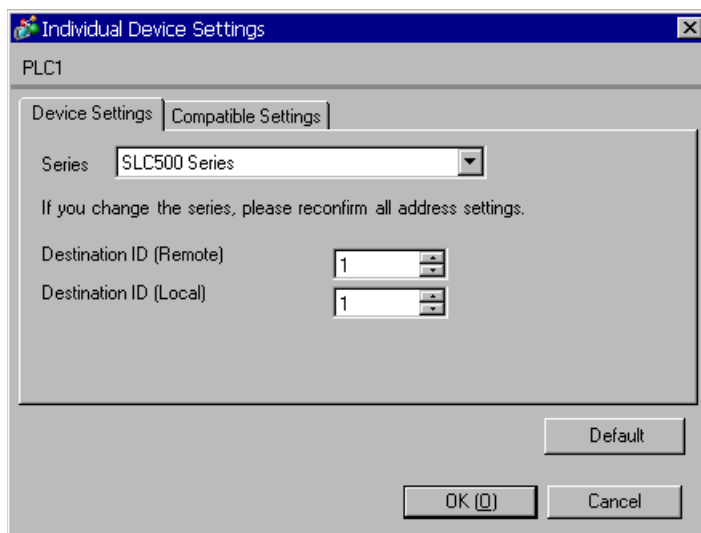
Cf. GP-Pro EX Reference Manual "Changing the Device/PLC at Runtime (Indirect Device)"

■ Device Setting

To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

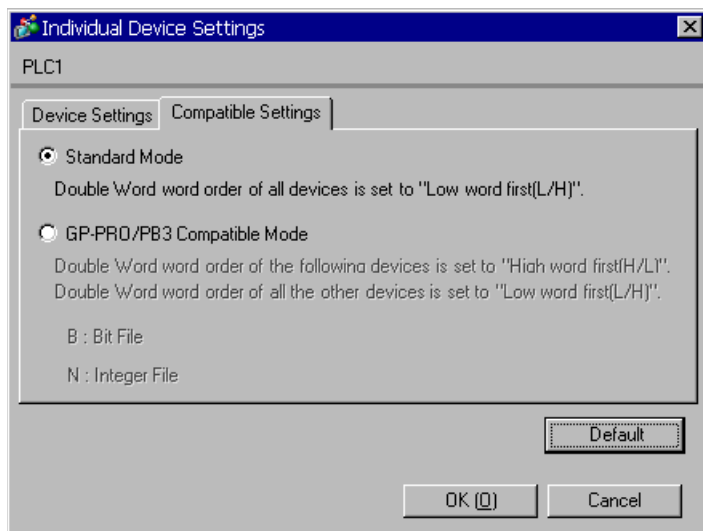
To connect multiple External Devices, from [Device-Specific Settings] in the [Device/PLC] window, click [Add Device] to add another External Device.

◆ [Device Settings] tab.



| Setup Items | Setup Description |
|-------------------------|--|
| Series | Select any of "SLC500 Series", "PLC-5 Series", "ControlLogix/CompactLogix Series", and "MicroLogix Series" for the driver series name. |
| Destination ID (Remote) | Use an integer from 0 to 254 to enter the Destination ID. |
| Destination ID (Local) | Use an integer from 0 to 254 to enter the Destination (local) ID. |

◆ [Compatible Settings] tab



| Setup Items | Setup Description |
|---------------------|--|
| Compatible Settings | <p>Select either "Standard Mode" or "GP-PRO/PB3 Compatible Mode".</p> <p>When "Standard Mode" is selected, the Double Word word order of all devices is set to "Low word first [L/H]".</p> <p>When "GP-PRO/PB3 Compatible Mode" is selected, the Double Word word order of some devices is set to "High word first [H/L]".</p> <p>☞ "6 Supported Device" (page 41)</p> <p>NOTE</p> <ul style="list-style-type: none"> When ControlLogix/CompactLogix is used, "Standard Mode" only can be set. |

4.2 Setting on Offline Screen

NOTE

- Refer to the Maintenance/Troubleshooting guide for information on how to enter offline mode or about the operation.

Cf. Maintenance/Troubleshooting Guide "Offline Mode"

- The number of the setup items to be displayed for 1 page in the offline mode depends on the Display in use. Please refer to the Reference manual for details.

■ Communication Settings

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

(Page 1/2)

| Comm. | Device | Option | | |
|------------------|--|--------|--------|------------------------|
| DF1 | | | [COM1] | Page 1/2 |
| SIO Type | RS232C | | | |
| Speed | 19200 | | | |
| Data Length | 8 | | | |
| Parity | <input checked="" type="radio"/> NONE <input type="radio"/> EVEN | | | |
| Stop Bit | 1 | | | |
| Flow Control | ER(DTR/CTS) | | | |
| Timeout(s) | 3 | | | |
| Retry | 2 | | | |
| Wait To Send(ms) | 0 | | | |
| ➔ | | | | |
| Exit | | Back | | 2008/04/07 21:13:59 |

| Setup Items | Setup Description |
|--------------|--|
| SIO Type | Select the SIO type to communicate with the External Device. IMPORTANT To make the communication settings correctly, confirm the serial interface specifications of Display unit for [SIO Type]. We cannot guarantee the operation if a communication type that the serial interface does not support is specified. For details concerning the serial interface specifications, refer to the manual for Display unit. |
| Speed | Select speed (bps) between the External Device and the Display. |
| Data Length | Data length is displayed. |
| Parity | Select how to check parity. |
| Stop Bit | Stop bit length is displayed. |
| Flow Control | Select the communication control method to prevent overflow of transmission and reception data. |
| Timeout | Enter the number of seconds (sec) before the reception timeout error occurs in the Display when communicating with the External Device, using "an integer from 1 to 127". |

| 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. |

(Page 2/2)

| Comm. | Device | Option | | |
|-----------------|--------|--|----------|------------------------|
| | | | | |
| DF1 | | [COM1] | Page 2/2 | |
| DF1 Mode | | Full Duplex | | |
| Error Detection | | CRC | | |
| Source ID | | 0 | | |
| | | <div> <div>▼</div> <div>▲</div> </div> | | |
| | | <div>←</div> | | |
| Exit | | Back | | 2008/04/07 21:14:04 |

| Setup Items | Setup Description |
|-----------------|--|
| DF1 Mode | Set the type of DF1 protocol. Select either "Full Duplex" or "Half Duplex Master". |
| Error Detection | Set how to check error. |
| Source ID | Set the Display ID. |

■ Device Setting

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

| Setup Items | Setup Description |
|-------------------------|--|
| Device/PLC Name | Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1]) |
| Series | Displays the selected series name. |
| Destination ID (Remote) | Use an integer from 0 to 254 to enter the recipient ID. |
| Destination ID (Local) | Use an integer from 0 to 254 to enter the recipient (local) ID. |
| Compatible Settings | Compatible Settings are displayed in "Standard Mode" or "GP-PRO/PB3 Compatible Mode". |

■ Option

To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings].

Touch the External Device you want to set from the displayed list, and touch [Option].

| | | | | |
|-------|--------|--------|--|--|
| Comm. | Device | Option | | |
| | | | | |

DF1 [COM1] Page 1/1

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.

| | | | | |
|--|------|--|------|------------------------|
| | Exit | | Back | 2008/04/07 21:14:12 |
|--|------|--|------|------------------------|

| Setup Items | Setup Description |
|-------------|---|
| RI/VCC | You can switch RI/VCC of the 9th pin when you select RS232C for SIO type. It is necessary to change RI/5V by changeover switch of IPC when connect with IPC. Please refer to the manual of the IPC for more detail. |

NOTE

- GP-4100 series and GP-4*0ITM do not have the [Option] setting in the offline mode.

5 Cable Diagram

The cable diagram shown below may be different from the cable diagram recommended by Rockwell Automation, 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.
- Connect the isolation unit, when communication is not stabilized under the influence of a noise etc..

Cable Diagram 1

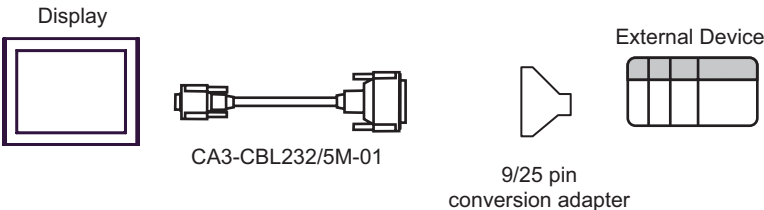
| Display (Connection Port) | Cable | | Remarks |
|---|-------|---|---|
| GP3000 (COM1) GP4000* ¹ (COM1) ST (COM1) IPC* ² PC/AT | 1A | RS232C cable by Pro-face CA3-CBL232/5M-01 (5m) | 9/25 pin conversion adapter is required. |
| | 1B | User-created cable | The cable length must be 15m or less. |
| GP-4105 (COM1) | 1C | User-created cable | |

*1 All GP4000 models except GP-4100 series and GP-4203T

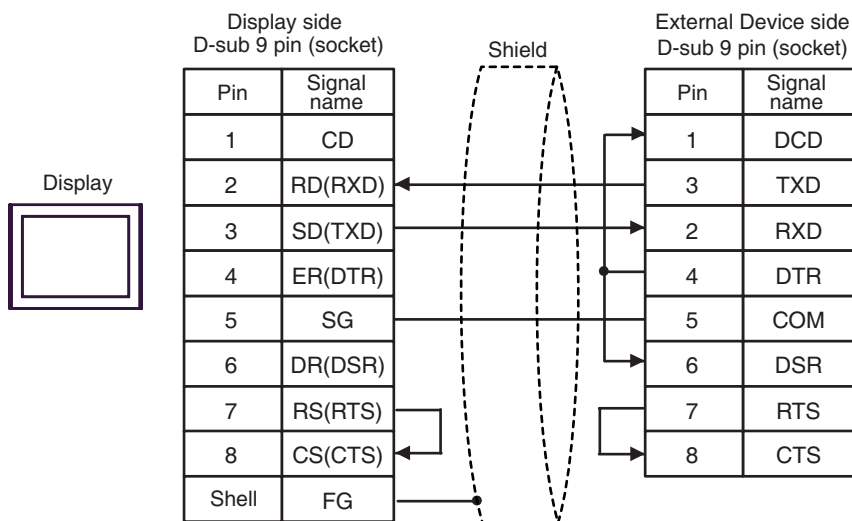
*2 Only the COM port which can communicate by RS-232C can be used.

☞ ■ IPC COM Port (page 4)

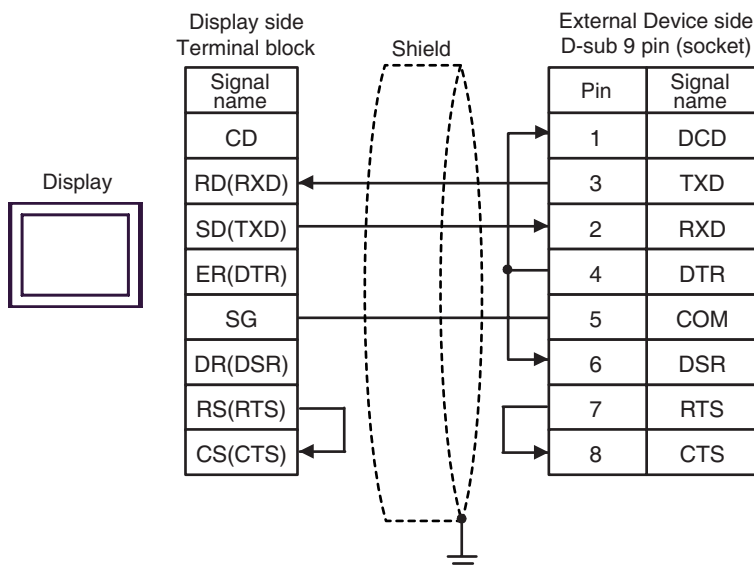
1A)



1B)



1C)



Cable Diagram 2

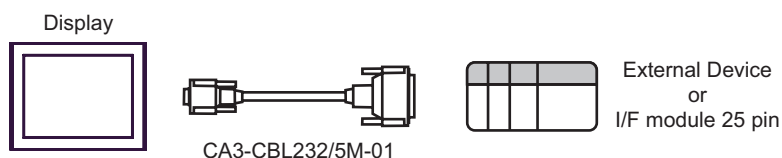
| Display (Connection Port) | Cable | | Remarks |
|---|-------|---|--|
| GP3000 (COM1) GP4000* ¹ (COM1) ST (COM1) IPC* ² PC/AT | 2A | RS232C cable by Pro-face CA3-CBL232/5M-01 (5m) | The cable length must be 15m or less. |
| | 2B | User-created cable | |
| GP-4105 (COM1) | 2C | User-created cable | |

*1 All GP4000 models except GP-4100 series and GP-4203T

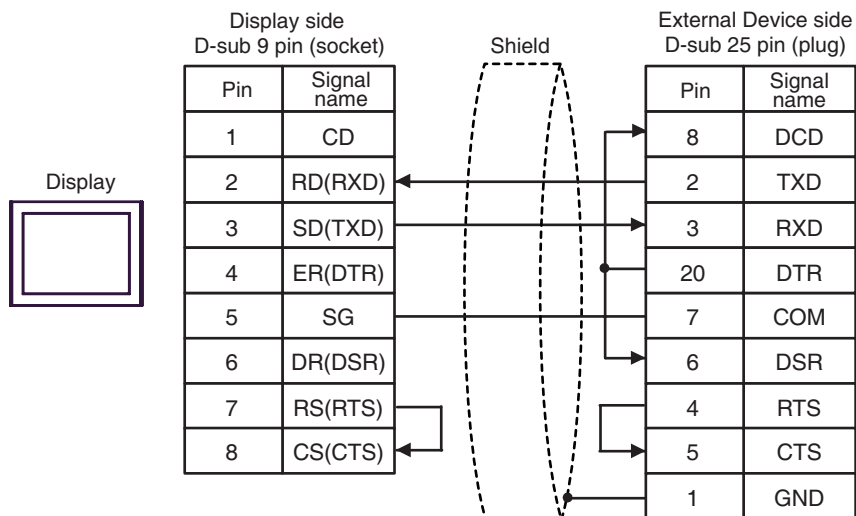
*2 Only the COM port which can communicate by RS-232C can be used.

☞ ■ IPC COM Port (page 4)

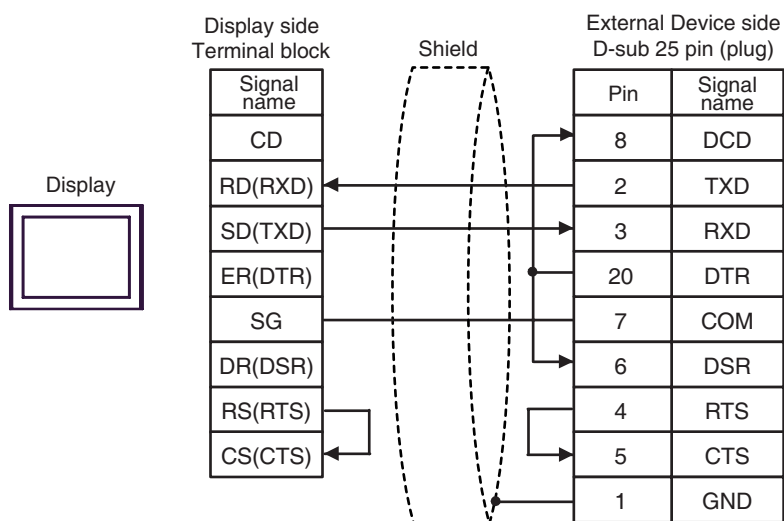
2A)



2B)



2C)



Cable Diagram 3

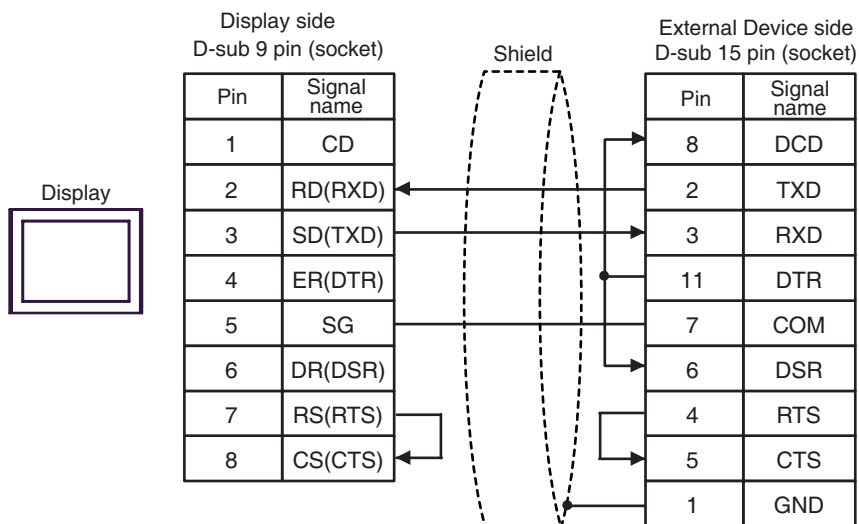
| Display (Connection Port) | Cable | | Remarks |
|---|-------|--------------------|---------------------------------------|
| GP3000 (COM1) GP4000* ¹ (COM1) ST (COM1) IPC* ² PC/AT | 3A | User-created cable | The cable length must be 15m or less. |
| GP-4105 (COM1) | 3B | User-created cable | |

*1 All GP4000 models except GP-4100 series and GP-4203T

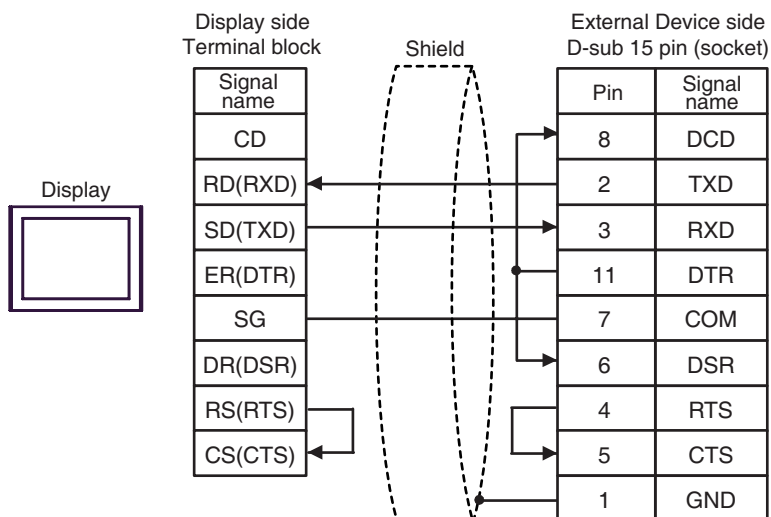
*2 Only the COM port which can communicate by RS-232C can be used.

☞ ■ IPC COM Port (page 4)

3A)



3B)



Cable Diagram 4

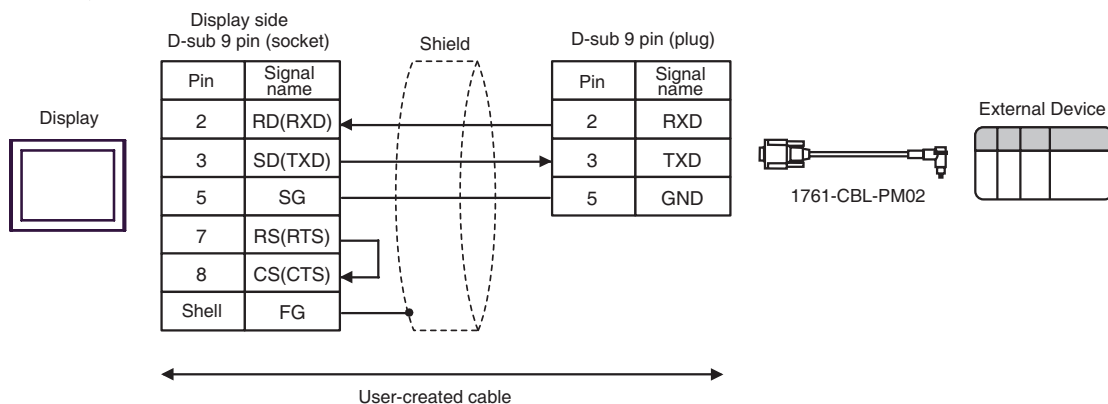
| Display (Connection Port) | Cable | | Remarks |
|---|-------|---|---------------------------------------|
| GP3000 (COM1) GP4000* ¹ (COM1) ST (COM1) IPC* ² PC/AT | 4A | User-created cable + RS232C cable by Rockwell Automation 1761-CBL-PM02 | The cable length must be 15m or less. |
| GP-4105 (COM1) | 4B | User-created cable + RS232C cable by Rockwell Automation 1761-CBL-PM02 | |

*1 All GP4000 models except GP-4100 series and GP-4203T

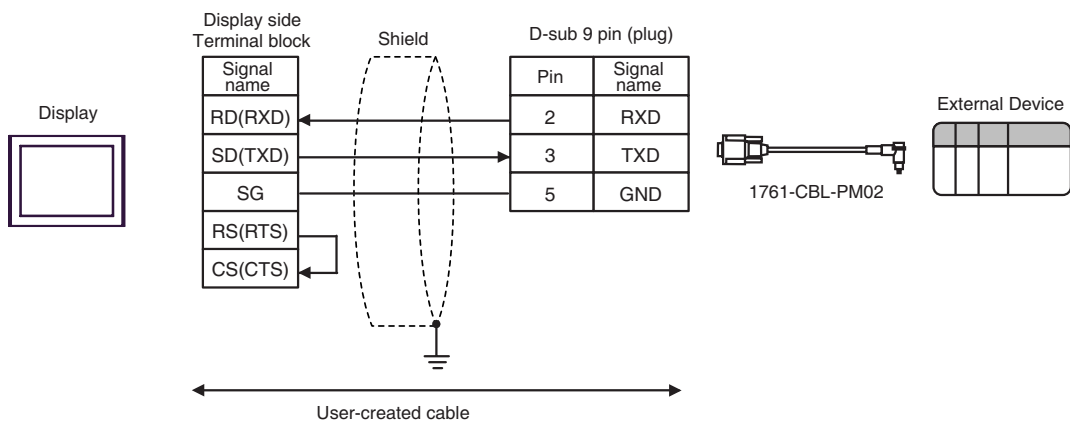
*2 Only the COM port which can communicate by RS-232C can be used.

☞ ■ IPC COM Port (page 4)

4A)



4B)



Cable Diagram 5

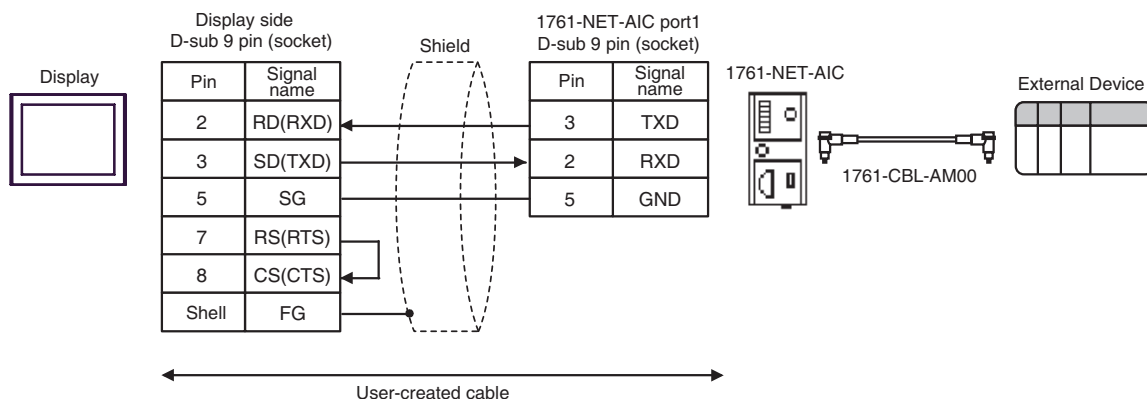
| Display (Connection Port) | Cable | | Remarks |
|---|-------|--------------------|---------------------------------------|
| GP3000 (COM1) GP4000* ¹ (COM1) ST (COM1) IPC* ² PC/AT | 5A | User-created cable | The cable length must be 15m or less. |
| GP-4105 (COM1) | 5B | User-created cable | |

*1 All GP4000 models except GP-4100 series and GP-4203T

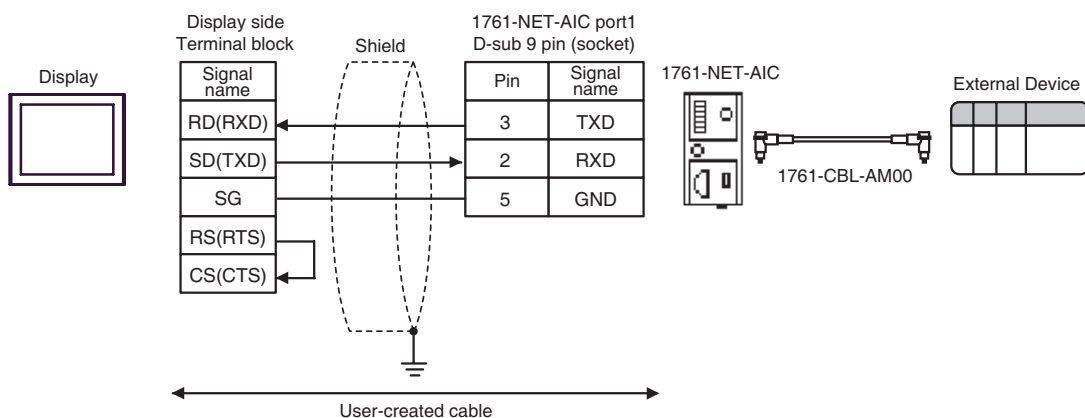
*2 Only the COM port which can communicate by RS-232C can be used.

☞ ■ IPC COM Port (page 4)

5A)



5B)



Cable Diagram 6

| Display (Connection Port) | Cable | | Remarks |
|---|-------|--|--|
| GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST ^{*2} (COM2) IPC ^{*3} | 6A | COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | The cable length must be 61m or less. |
| | 6B | User-created cable | |
| GP3000 ^{*4} (COM2) | 6C | Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | |
| | 6D | Online adapter by Pro-face CA4-ADPONL-01 + User-created cable | |
| GP-4106 (COM1) | 6E | User-created cable | |
| GP4000 ^{*5} (COM2) GP-4201T (COM1) | 6F | RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1 ^{*6} + User-created cable | |
| | 6B | User-created cable | |

*1 All GP3000 models except AGP-3302B

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

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

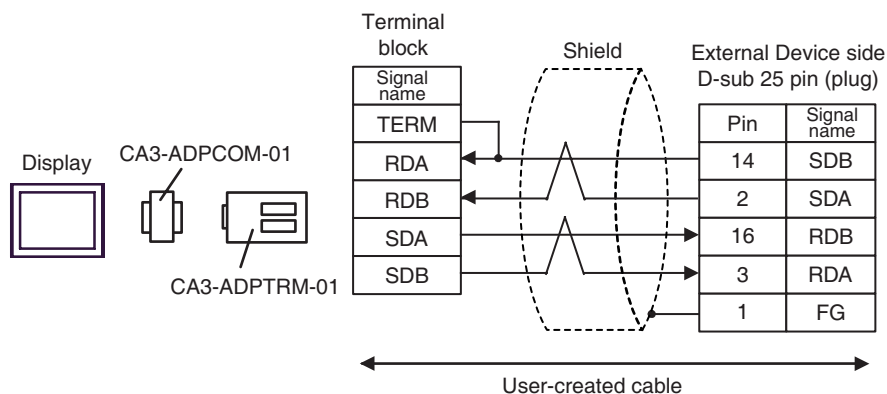
 ■ IPC COM Port (page 4)

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

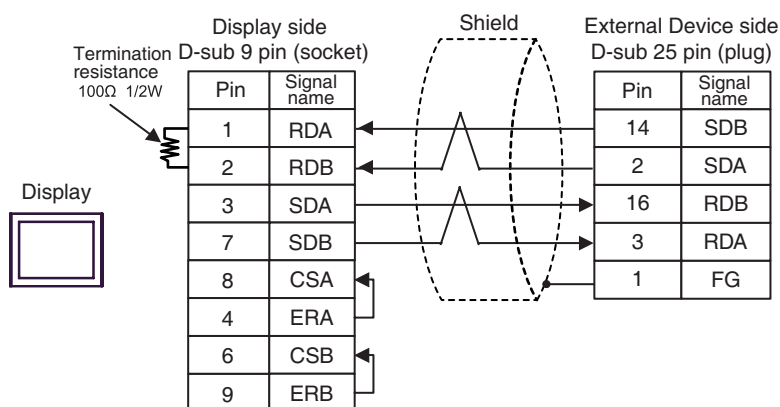
*5 All GP4000 models except GP-4100 series, GP-4*01TM, GP-4201T and GP-4*03T

*6 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 6A.

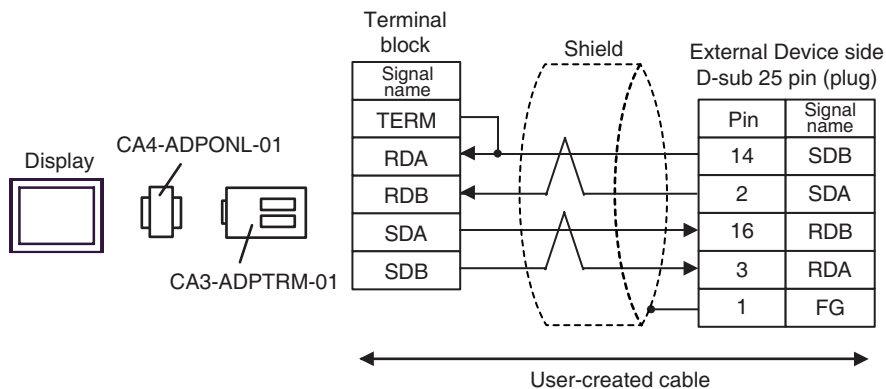
6A)



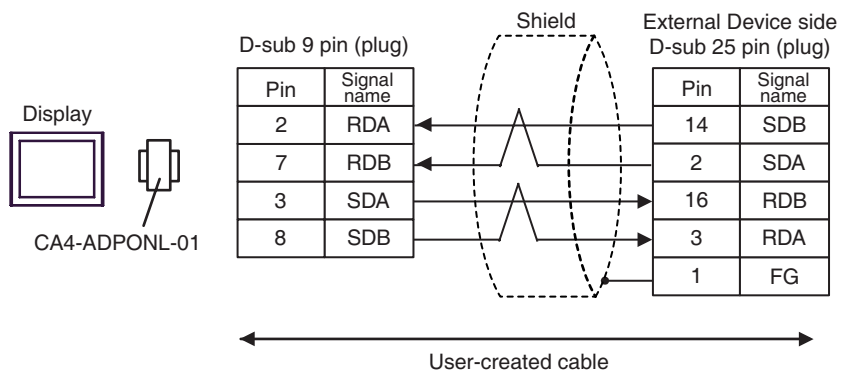
6B)



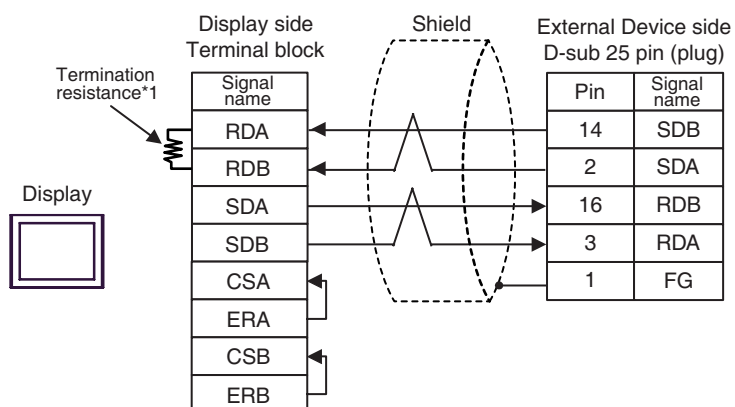
6C)



6D)



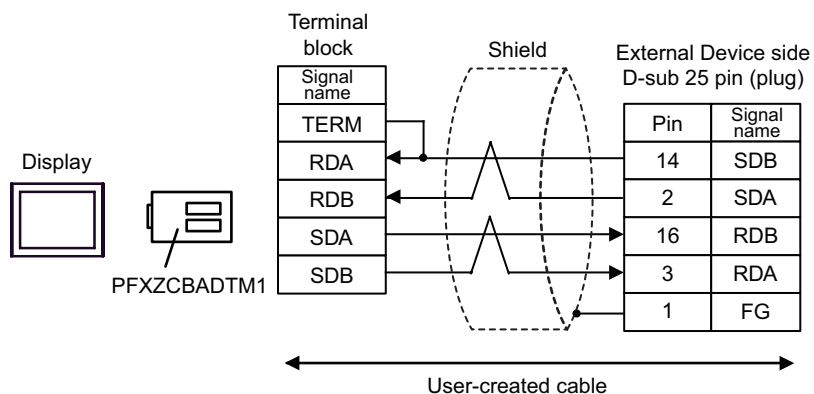
6E)



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

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


6F)



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 SLC500 Series

 This address can be specified as system data area.

| Device | | Bit Address* ¹ | | Word Address | | 32bits | Remarks | |
|--------------|-------------|--|----|--------------------------------------|-----|---|-----------------------------|--|
| Input File | | I:00.000/00 - I:63.255/15 | | I:00.000 - I63.255 | | <div><div>L / H</div></div> | *2 | |
| Output File | | O:00.000/00 - O:63.255/15 | | O:00.000 - O:63.255 | | | *2 | |
| Status File | | S:0/0 - S:163/15 | | S:0 - S:163 | | | | |
| Bit File | | B3:0/0 - B3:255/15 B9:0/0 - B255:255/15 | | B3:0 - B3:255 B9:0 - B255:255 | | <div><div>L / H</div>or<div>H / L</div></div> <div>*3</div> | | |
| Timer File | Enable | T4:0/ - T4:255/ T9:0/ - T255:255/ | EN | T4:0. - T4:255. T9:0. - T255:255. | - | <div><div>L / H</div></div> | | |
| | Timing | | TT | | - | | | |
| | Done | | DN | | - | | | |
| | Preset | | - | | PRE | | | |
| | Accumulated | | - | | ACC | | | |
| Counter File | Up Enable | C5:0/ - C5:255/ C9:0/ - C255:255/ | CU | C5:0. - C5:255. C9:0. - C255:255. | - | | <div><div>L / H</div></div> | |
| | Down Enable | | CD | | - | | | |
| | Done | | DN | | - | | | |
| | Overflow | | OV | | - | | | |
| | Underflow | | UN | | - | | | |
| | Update Acc | | UA | | - | | | |
| | Preset | | - | | PRE | | | |
| | Accumulated | | - | | ACC | | | |

continued to next page

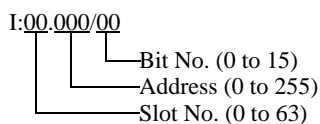
| Device | | Bit Address ^{*1} | | Word Address | | 32bits | Remarks |
|---------------------|---------------|--|----|--------------------------------------|-----|--|---------------------|
| Control File | Enable | R6:0/ - R6:255/ R9:0/ - R255:255/ | EN | R6:0. - R6:255. R9:0. - R255:255. | - | <div>L/H</div> | |
| | Enable Unload | | EU | | - | | |
| | Done | | DN | | - | | |
| | Empty | | EM | | - | | |
| | Error | | ER | | - | | |
| | Unload | | UL | | - | | |
| | Inhibit Comp. | | IN | | - | | |
| | Found | | FD | | - | | |
| | Length | | - | | LEN | | |
| | Position | | - | | POS | | |
| Integer File | | N7:0/0 - N7:255/15 N9:0/0 - N255:255/15 | | N7:0 - N7:255 N9:0 - N255:255 | | <div>L/H</div> or <div>H/L</div> ^{*3} | |
| Floating Point File | | ----- | | F8:0 - F8:255 F9:0 - F255:255 | | <div>H/L</div> | 32-bit address only |
| String File | | ----- | | ST9:0 - ST255:255 | | <div>L/H</div> | ^{*4} |
| ASCII File | | A9:0/0 - A255:255/15 | | A9:0 - A255:255 | | | |

*1 When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Change only the target bit address among the word data once read, and write the word data to the External Device.

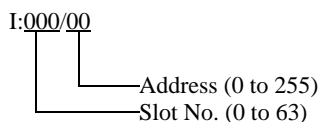
Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and writes it to the External Device.

*2 Input/Output File Address Designation is as shown below.

• Bit Designation



• Word Designation



*3 High and low relationship of the stored data is specified by the [Compatible Settings] setting of [Device Setting].

■ Device Setting (page 24)

*4 String File device is not compatible with the device monitor.


NOTE

- If the bit address of the Timer File, Counter File, and Control File device are read by the device monitor, writing speed on the base monitor may be delayed.
- Please refer to the GP-Pro EX Reference Manual for system data area.
Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.



"Manual Symbols and Terminology"

6.2 PLC-5 Series


 This address can be specified as system data area.

| Device | | Bit Address | | Word Address | | 32bits | Remarks |
|--------------|-------------|----------------------|----|-------------------|-----|---|----------------------------|
| Input File | | I:0/0 - I:377/17 | | I:0 - I:377 | | <div><div>L / H</div>or<div>H / L</div>*1</div> | <div><div>OCT8</div></div> |
| Output File | | O:0/0 - I:377/17 | | O:0 - I:377 | | | <div><div>OCT8</div></div> |
| Status File | | S:0/0 - S:163/15 | | S:0 - S:163 | | <div><div>L / H</div></div> | |
| Bit File | | B3:0/0 - B999:999/15 | | B3:0 - B999:999 | | <div><div>L / H</div>or<div>H / L</div>*1</div> | |
| Timer File | Enable | T3:0/ - T999:999/ | EN | T3:0. - T999:999. | - | <div><div>L / H</div></div> | |
| | Timing | | TT | | - | | |
| | Done | | DN | | - | | |
| | Preset | | - | | PRE | | |
| | Accumulated | | - | | ACC | | |
| Counter File | Up Enable | C3:0/ - C999:999/ | CU | C3:0. - C999:999. | - | | |
| | Down Enable | | CD | | - | | |
| | Done | | DN | | - | | |
| | Overflow | | OV | | - | | |
| | Underflow | | UN | | - | | |
| | Update Acc | | UA | | - | | |
| | Preset | | - | | PRE | | |
| | Accumulated | | - | | ACC | | |

continued to next page

| Device | | Bit Address | | Word Address | | 32bits | Remarks |
|---------------------|---------------|----------------------|----|----------------------------|-----|--|---------------------|
| Control File | Enable | R3:0/ - R999:999/ | EN | R3:0. - R999:999. | - | <div>L/H</div> | |
| | Enable Unload | | EU | | - | | |
| | Done | | DN | | - | | |
| | Empty | | EM | | - | | |
| | Error | | ER | | - | | |
| | Unload | | UL | | - | | |
| | Inhibit Comp. | | IN | | - | | |
| | Found | | FD | | - | | |
| | Length | | - | | LEN | | |
| | Position | | - | | POS | | |
| Integer File | | N3:0/0 - N999:999/15 | | <div>N3:0 - N999:999</div> | | <div>L/H</div> or <div>H/L</div> *1 | |
| Floating Point File | | ----- | | F3:0 - F999:999 | | <div>H/L</div> | 32-bit address only |
| String File | | ----- | | ST3:0 - ST999:999 | | <div>L/H</div> | *2 |
| ASCII File | | A3:0/0 - A999:999/15 | | A3:0 - A999:999 | | <div>L/H</div> or <div>H/L</div> *1 | |
| BCD File | | D3:0/0 - D999:999/15 | | D3:0 - D999:999 | | | |

*1 High and low relationship of the stored data is specified by the [Compatible Settings] setting of [Device Setting].

 ■ Device Setting (page 24)


*2 String File device is not compatible with the device monitor.

NOTE

- If the bit address of the Timer File, Counter File, and Control File device are read by the device monitor, writing speed on the base monitor may be delayed.
- Please refer to the GP-Pro EX Reference Manual for system data area.
Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

6.3 MicroLogix Series

 This address can be specified as system data area.

| Device | | Bit Address*1 | | Word Address | | 32bits | Remarks | |
|--------------|-------------|--|----|--------------------------------------|-----|--|---------|--|
| Input File | | I:00.000/00 - I:08.255/15 | | I:00.000 - I08.255 | | <div>L/H</div> | *2 | |
| Output File | | O:00.000/00 - O:08.255/15 | | O:00.000 - O:08.255 | | | *2 | |
| Status File | | S:0/0 - S:163/15 | | S:0 - S:163 | | | | |
| Bit File | | B3:0/0 - B3:255/15 B9:0/0 - B255:255/15 | | B3:0 - B3:255 B9:0 - B255:255 | | <div>L/H</div> or <div>H/L</div> *3 | | |
| Timer File | Enable | T4:0/ - T4:255/ T9:0/ - T255:255/ | EN | T4:0. - T4:255. T9:0. - T255:255. | - | <div>L/H</div> | | |
| | Timing | | TT | | - | | | |
| | Done | | DN | | - | | | |
| | Preset | | - | | PRE | | | |
| | Accumulated | | - | | ACC | | | |
| Counter File | Up Enable | C5:0/ - C5:255/ C9:0/ - C255:255/ | CU | C5:0. - C5:255. C9:0. - C255:255. | - | | | |
| | Down Enable | | CD | | - | | | |
| | Done | | DN | | - | | | |
| | Overflow | | OV | | - | | | |
| | Underflow | | UN | | - | | | |
| | Update Acc | | UA | | - | | | |
| | Preset | | - | | PRE | | | |
| | Accumulated | | - | | ACC | | | |

continued to next page

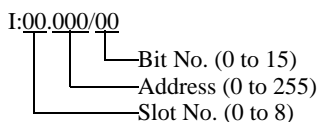
| Device | | Bit Address* ¹ | | Word Address | | 32bits | Remarks |
|---------------------|---------------|--|----|--------------------------------------|-----|--|---------------------|
| Control File | Enable | R6:0/ - R6:255/ R9:0/ - R255:255/ | EN | R6:0. - R6:255. R9:0. - R255:255. | - | [L/H] | |
| | Enable Unload | | EU | | - | | |
| | Done | | DN | | - | | |
| | Empty | | EM | | - | | |
| | Error | | ER | | - | | |
| | Unload | | UL | | - | | |
| | Inhibit Comp. | | IN | | - | | |
| | Found | | FD | | - | | |
| | Length | | - | | LEN | | |
| | Position | | - | | POS | | |
| Integer File | | N7:0/0 - N7:255/15 N9:0/0 - N255:255/15 | | N7:0 - N7:255 N9:0 - N255:255 | | [L/H] or [H/L] * ₃ | |
| Floating Point File | | ----- | | F8:0 - F8:255 F9:0 - F255:255 | | [H/L] | 32-bit address only |
| String File | | ----- | | ST9:0 - ST255:255 | | [L/H] | * ₄ |
| Long Word File | | L9:0/0 - A255:255/31 | | L9:0 - L255:255 | | | |

^{*1} When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Change only the target bit address among the word data once read, and write the word data to the External Device.

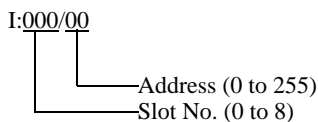
Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and writes it to the External Device.

^{*2} Input/Output File Address Designation is as shown below.

• Bit Designation



• Word Designation



^{*3} High and low relationship of the stored data is specified by the [Compatible Settings] setting of [Device Setting].

 ■ Device Setting (page 24)

^{*4} String File device is not compatible with the device monitor.


NOTE


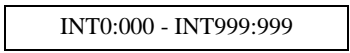


- If the bit address of the Timer File, Counter File, and Control File device are read by the device monitor, writing speed on the base monitor may be delayed.
- Please refer to the GP-Pro EX Reference Manual for system data area.
Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.



"Manual Symbols and Terminology"

6.4 ControlLogix/CompactLogix Series

 This address can be specified as system data area.

| Device | Bit Address*1 | Word Address | 32bits | Remarks |
|--------|----------------------------|---|---|---|
| BOOL | BOOL0:0/0 - BOOL999:999/31 | BOOL0:000 - BOOL999:999 |  | *2 |
| INT | INT0:0/0 - INT999:999/15 |  INT0:000 - INT999:999 | | *2 |
| REAL | ----- | REAL0:000 - REAL999:999 | | *2 |
| DINT | DINT0:0/0 - DINT999:999/31 | DINT0:000 - DINT999:999 | | *2 |
| SINT | SINT0:0/0 - SINT999:999/7 | SINT0:000 - SINT999:998 | |  7  2 *2 |

*1 When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Change only the target bit address among the word data once read, and write 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 writes it to the External Device.

- *2 To access those addresses and use them in the program of the External Device, you need to set the External Device first.

The following procedure shows how to assign the device in the RSLogix5000 software and specify the address in GP-Pro EX.

1) Tag setting of External Device

Create the Tag Name in the RSLogix5000 software, and set the Type. Map the created Tag Name to a File Number.

| | |
|----------|---|
| Tag Name | :Set optionally. |
| Type | :Select the data type among below to set the Element. Match the device name of GP-Pro EX BOOT(32bit data type) INT(word data type) DINT(dword data type) SINT(byte data type) REAL(float data type) |

Set the range used in GP-Pro EX for the Element. Maximum Element GP-Pro EX can access is 999.

When you do not define the Element, only one item is available to use.

(Example) Tag Name: N8, Type: When INT is set, only one word of N8 can be used.

<Example 1>

| Tag Name | Type |
|----------|-----------|
| N7 | INT[200] |
| DINT1 | DINT[100] |
| DATA2 | SINT[50] |

1st line: Tag Name "N7" is INT data type with Element 200

2nd line: Tag Name "DINT1" is DINT data type with Element 100

3rd line: Tag Name "DATA2" is SINT data type with Element 50

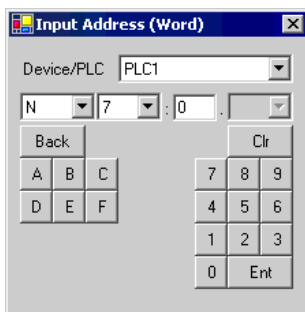
| | |
|-------------|--|
| File Number | : Assign the Tag Name created by RSLogix5000 to the optional File Number. You can not assign different Tag Names to the same File Number. |
|-------------|--|

<Example2>

| File Number | Name |
|-------------|-------|
| 2 | DATA2 |
| 1 | DINT1 |
| 7 | N7 |

2) Address Specification in GP-Pro EX


When you access the External Device from GP-Pro EX, specify Type, File Number and Element.



<Example of address mapping of GP-Pro EX and External Device>

| Address of GP-Pro EX | | File No.1 Memory of the External Device |
|----------------------|---|---|
| DINT1:0 | ↔ | DINT I[0] |
| DINT1:1 | ↔ | DINT I[1] |
| DINT1:2 | ↔ | DINT I[2] |

NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.
Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"
- Please refer to the precautions on manual notation for icons in the table.
 "Manual Symbols and Terminology"

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 SLC500 Series

| Device | Device Name | | Device Code (HEX) | Address Code |
|---------------------|-------------|-----|-------------------|--|
| Integer File | N | | 0000 | (FileNumber x 0x10000) + Word Address |
| Floating Point File | F | | 0001 | (FileNumber x 0x10000) + Word Address |
| String File | ST | | 0002 | (FileNumber x 0x10000) + (Word Address x 0x40) |
| ASCII File | A | | 0003 | (FileNumber x 0x10000) + Word Address |
| Input File | I | | 0080 | 0x10000 + (Slot Number x 0x100) + Word Address |
| Output File | O | | 0081 | (SlotNumber x 0x100) + Word Address |
| Bit File | B | | 0082 | (FileNumber x 0x10000) + Word Address |
| Status File | S | | 0083 | 0x20000 + Word Address |
| Timer File | T | EN | 00E0 | (FileNumber x 0x10000) + Word Address |
| | | TT | 00E1 | (FileNumber x 0x10000) + Word Address |
| | | DN | 00E2 | (FileNumber x 0x10000) + Word Address |
| | | PRE | 0060 | (FileNumber x 0x10000) + Word Address |
| | | ACC | 0061 | (FileNumber x 0x10000) + Word Address |
| Counter File | C | CU | 00E3 | (FileNumber x 0x10000) + Word Address |
| | | CD | 00E4 | (FileNumber x 0x10000) + Word Address |
| | | DN | 00E5 | (FileNumber x 0x10000) + Word Address |
| | | OV | 00E6 | (FileNumber x 0x10000) + Word Address |
| | | UN | 00E7 | (FileNumber x 0x10000) + Word Address |
| | | UA | 00E8 | (FileNumber x 0x10000) + Word Address |
| | | PRE | 0062 | (FileNumber x 0x10000) + Word Address |
| | | ACC | 0063 | (FileNumber x 0x10000) + Word Address |

| Device | Device Name | | Device Code (HEX) | Address Code |
|--------------|-------------|-----|-------------------|---------------------------------------|
| Control File | R | EN | 00F0 | (FileNumber x 0x10000) + Word Address |
| | | EU | 00F1 | (FileNumber x 0x10000) + Word Address |
| | | DN | 00F2 | (FileNumber x 0x10000) + Word Address |
| | | EM | 00F3 | (FileNumber x 0x10000) + Word Address |
| | | ER | 00F4 | (FileNumber x 0x10000) + Word Address |
| | | UL | 00F5 | (FileNumber x 0x10000) + Word Address |
| | | IN | 00F6 | (FileNumber x 0x10000) + Word Address |
| | | FD | 00F7 | (FileNumber x 0x10000) + Word Address |
| | | LEN | 0064 | (FileNumber x 0x10000) + Word Address |
| | | POS | 0065 | (FileNumber x 0x10000) + Word Address |

7.2 PLC-5 Series

| Device | Device Name | | Device Code (HEX) | Address Code |
|---------------------|-------------|-----|-------------------|--|
| Integer File | N | | 0000 | (FileNumber x 0x10000) + Word Address |
| Floating Point File | F | | 0001 | (FileNumber x 0x10000) + Word Address |
| String File | ST | | 0002 | (FileNumber x 0x10000) + (Word Address x 0x40) |
| ASCII File | A | | 0003 | (FileNumber x 0x10000) + Word Address |
| BCD File | D | | 0004 | (FileNumber x 0x10000) + Word Address |
| Input File | I | | 0080 | 0x10000 + (Slot Number x 0x100) + Word Address |
| Output File | O | | 0081 | (SlotNumber x 0x100) + Word Address |
| Bit File | B | | 0082 | (FileNumber x 0x10000) + Word Address |
| Status File | S | | 0083 | 0x20000 + Word Address |
| Timer File | T | EN | 00E0 | (FileNumber x 0x10000) + Word Address |
| | | TT | 00E1 | (FileNumber x 0x10000) + Word Address |
| | | DN | 00E2 | (FileNumber x 0x10000) + Word Address |
| | | PRE | 0060 | (FileNumber x 0x10000) + Word Address |
| | | ACC | 0061 | (FileNumber x 0x10000) + Word Address |
| Counter File | C | CU | 00E3 | (FileNumber x 0x10000) + Word Address |
| | | CD | 00E4 | (FileNumber x 0x10000) + Word Address |
| | | DN | 00E5 | (FileNumber x 0x10000) + Word Address |
| | | OV | 00E6 | (FileNumber x 0x10000) + Word Address |
| | | UN | 00E7 | (FileNumber x 0x10000) + Word Address |
| | | UA | 00E8 | (FileNumber x 0x10000) + Word Address |
| | | PRE | 0062 | (FileNumber x 0x10000) + Word Address |
| | | ACC | 0063 | (FileNumber x 0x10000) + Word Address |

| Device | Device Name | | Device Code (HEX) | Address Code |
|--------------|-------------|-----|-------------------|---------------------------------------|
| Control File | R | EN | 00F0 | (FileNumber x 0x10000) + Word Address |
| | | EU | 00F1 | (FileNumber x 0x10000) + Word Address |
| | | DN | 00F2 | (FileNumber x 0x10000) + Word Address |
| | | EM | 00F3 | (FileNumber x 0x10000) + Word Address |
| | | ER | 00F4 | (FileNumber x 0x10000) + Word Address |
| | | UL | 00F5 | (FileNumber x 0x10000) + Word Address |
| | | IN | 00F6 | (FileNumber x 0x10000) + Word Address |
| | | FD | 00F7 | (FileNumber x 0x10000) + Word Address |
| | | LEN | 0064 | (FileNumber x 0x10000) + Word Address |
| | | POS | 0065 | (FileNumber x 0x10000) + Word Address |

7.3 MicroLogix Series

| Device | Device Name | | Device Code (HEX) | Address Code |
|---------------------|-------------|-----|-------------------|--|
| Integer File | N | | 0000 | (FileNumber x 0x10000) + Word Address |
| Floating Point File | F | | 0001 | (FileNumber x 0x10000) + Word Address |
| String File | ST | | 0002 | (FileNumber x 0x10000) + (Word Address x 0x40) |
| Long Word File | L | | 0005 | (FileNumber x 0x10000) + Word Address |
| Input File | I | | 0080 | 0x10000 + (Slot Number x 0x100) + Word Address |
| Output File | O | | 0081 | (SlotNumber x 0x100) + Word Address |
| Bit File | B | | 0082 | (FileNumber x 0x10000) + Word Address |
| Status File | S | | 0083 | 0x20000 + Word Address |
| Timer File | T | EN | 00E0 | (FileNumber x 0x10000) + Word Address |
| | | TT | 00E1 | (FileNumber x 0x10000) + Word Address |
| | | DN | 00E2 | (FileNumber x 0x10000) + Word Address |
| | | PRE | 0060 | (FileNumber x 0x10000) + Word Address |
| | | ACC | 0061 | (FileNumber x 0x10000) + Word Address |
| Counter File | C | CU | 00E3 | (FileNumber x 0x10000) + Word Address |
| | | CD | 00E4 | (FileNumber x 0x10000) + Word Address |
| | | DN | 00E5 | (FileNumber x 0x10000) + Word Address |
| | | OV | 00E6 | (FileNumber x 0x10000) + Word Address |
| | | UN | 00E7 | (FileNumber x 0x10000) + Word Address |
| | | UA | 00E8 | (FileNumber x 0x10000) + Word Address |
| | | PRE | 0062 | (FileNumber x 0x10000) + Word Address |
| | | ACC | 0063 | (FileNumber x 0x10000) + Word Address |

| Device | Device Name | | Device Code (HEX) | Address Code |
|--------------|-------------|-----|-------------------|---------------------------------------|
| Control File | R | EN | 00F0 | (FileNumber x 0x10000) + Word Address |
| | | EU | 00F1 | (FileNumber x 0x10000) + Word Address |
| | | DN | 00F2 | (FileNumber x 0x10000) + Word Address |
| | | EM | 00F3 | (FileNumber x 0x10000) + Word Address |
| | | ER | 00F4 | (FileNumber x 0x10000) + Word Address |
| | | UL | 00F5 | (FileNumber x 0x10000) + Word Address |
| | | IN | 00F6 | (FileNumber x 0x10000) + Word Address |
| | | FD | 00F7 | (FileNumber x 0x10000) + Word Address |
| | | LEN | 0064 | (FileNumber x 0x10000) + Word Address |
| | | POS | 0065 | (FileNumber x 0x10000) + Word Address |

7.4 ControlLogix/CompactLogix Series

| Device | Device Name | Device Code (HEX) | Address Code |
|--------|-------------|-------------------|---|
| INT | INT | 0010 | (FileNumber x 0x10000) + Word Address |
| REAL | REAL | 0011 | (FileNumber x 0x10000) + Word Address |
| DINT | DINT | 0012 | (FileNumber x 0x10000) + Word Address |
| SINT | SINT | 0013 | (FileNumber x 0x10000) + (Address divided by 2) |
| BOOL | BOOL | 0090 | (FileNumber x 0x10000) + Word Address |

8 Error Messages

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

| Item | Description |
|-----------------------|--|
| No. | Error No. |
| Device Name | Name of the External Device where error occurs. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1]) |
| Error Message | Displays messages related to the error which occurs. |
| Error Occurrence Area | <p>Displays IP address or device address of the External Device where error occurs, or error codes received from the External Device.</p> <div> NOTE <ul style="list-style-type: none"> IP address is displayed such as "IP address(Decimal); MAC address(Hex)". Device address is displayed such as "Address: Device address". Received error codes are displayed such as "Decimal[Hex]". </div> |

Display Examples of Error Messages

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

| |
|--|
| <div> NOTE <ul style="list-style-type: none"> Refer to your External Device manual for details on received error codes. Refer to "Display-related errors" in "Maintenance/Troubleshooting Guide" for details on the error messages common to the driver. </div> |
|--|
