



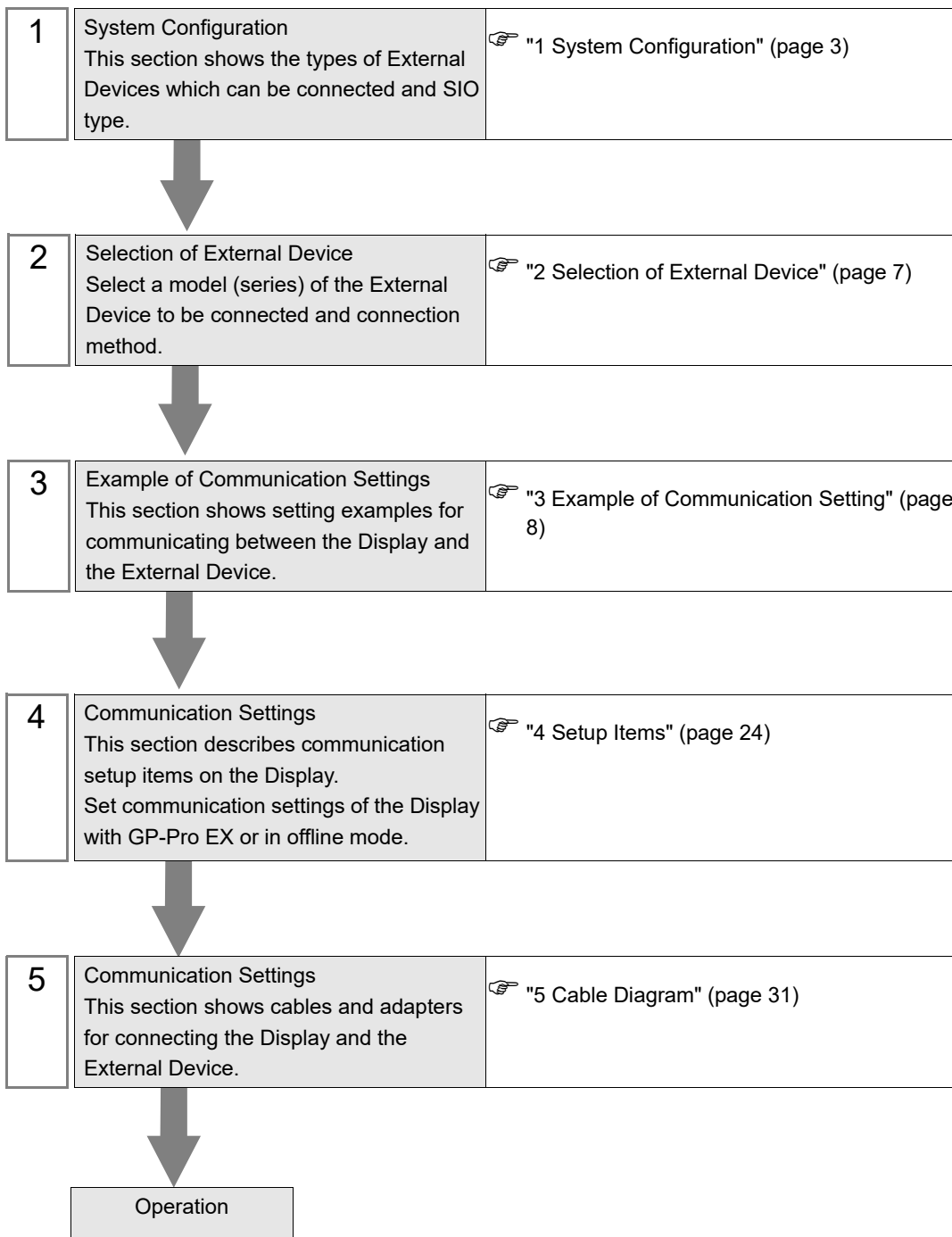
# DF1 Driver

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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 8)	Cable Diagram 1 (page 31)
		1770-KF3 2760-RB 1775-KA 5130-RM	RS232C		Cable Diagram 2 (page 34)
		1771-KGM	RS232C		Cable Diagram 3 (page 37)
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 11)	Cable Diagram 2 (page 34)
			RS422/485 (4wire)	Setting Example 3 (page 14)	Cable Diagram 6 (page 43)
ControlLogix	Logix5550	CPU Direct	RS232C	Setting Example 4 (page 17)	Cable Diagram 1 (page 31)
MicroLogix	MicroLogix 1500 (1764-LRP)	Channel 1	RS232C	Setting Example 5 (page 21)	Cable Diagram 1 (page 31)
	MicroLogix 1000 MicroLogix 1200 MicroLogix 1500 (1764-LSP,1764-LRP)	Channel 0	RS232C		Cable Diagram 4 (page 39)
		AIC + Advanced Interface Converter 1761-NET-AIC	RS232C		Cable Diagram 5 (page 41)
CompactLogix	1769-L20 1769-L30 1769-L31 1769-L32E 1769-L35E	Channel 0	RS232C	Setting Example 4 (page 17)	Cable Diagram 1 (page 31)

## ■ 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 <sup>*1</sup> , COM2, COM3 <sup>*1</sup> , COM4	-	-
PS-3450A, PS-3451A, PS3000-BA, PS3001-BD	COM1, COM2 <sup>*1*2</sup>	COM2 <sup>*1*2</sup>	COM2 <sup>*1*2</sup>
PS-3650A (T41 model), PS-3651A (T41 model)	COM1 <sup>*1</sup>	-	-
PS-3650A (T42 model), PS-3651A (T42 model)	COM1 <sup>*1*2</sup> , COM2	COM1 <sup>*1*2</sup>	COM1 <sup>*1*2</sup>
PS-3700A (Pentium®4-M) PS-3710A	COM1 <sup>*1</sup> , COM2 <sup>*1</sup> , 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>
PS4000 <sup>*3</sup>	COM1, COM2	-	-
PL3000	COM1 <sup>*1*2</sup> , COM2 <sup>*1</sup> , COM3, COM4	COM1 <sup>*1*2</sup>	COM1 <sup>*1*2</sup>
PE-4000B Atom N270	COM1, COM2	-	-
PE-4000B Atom N2600	COM1, COM2	COM3 <sup>*4</sup> , COM4 <sup>*4</sup> , COM5 <sup>*4</sup> , COM6 <sup>*4</sup>	COM3 <sup>*4</sup> , COM4 <sup>*4</sup> , COM5 <sup>*4</sup> , COM6 <sup>*4</sup>
PS5000 (Slim Panel Type Core i3 Model) <sup>*5*6</sup>	COM1, COM2 <sup>*4</sup>	COM2 <sup>*4</sup>	COM2 <sup>*4</sup>
PS5000 (Slim Panel Type Atom Model) <sup>*5*6</sup>	COM1, COM2 <sup>*7</sup>	COM2 <sup>*7</sup>	COM2 <sup>*7</sup>
PS5000 (Enclosed Panel Type) <sup>*8</sup>	COM1	-	-
PS5000 (Modular Type PFXPU/PFXPP) <sup>*5*6</sup> PS5000 (Modular Type PFXPL2B5-6)	COM1 <sup>*7</sup>	COM1 <sup>*7</sup>	COM1 <sup>*7</sup>
PS5000 (Modular Type PFXPL2B1-4)	COM1, COM2 <sup>*7</sup>	COM2 <sup>*7</sup>	COM2 <sup>*7</sup>
PS6000 (Advanced Box) PS6000 (Standard Box)	COM1 <sup>*9</sup>	*10	*10
PS6000 (Basic Box)	COM1 <sup>*9</sup>	COM1 <sup>*9</sup>	COM1 <sup>*9</sup>

\*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.
- \*4 Set up the SIO type with the BIOS. Please refer to the IPC manual for details of BIOS.
- \*5 When setting up communication between an External Device and the RS-232C/422/485 interface module, use the IPC (RS-232C) or PS5000 (RS-422/485) cable diagrams. However, when using PFXZPBMPR42P2 in a RS-422/485 (4-wire) configuration with no flow control, connect 7.RTS+ and 8.CTS+, and connect 6.RTS- and 9.CTS-.  
When using RS-422/485 communication with External Devices, you may need to reduce the transmission speed and increase the TX Wait time.
- \*6 To use RS-422/485 communication on the RS-232C/422/485 interface module, the DIP Switch setting is required. Please refer to "Knowledge Base" (FAQs) on the support site. (<http://www.pro-face.com/trans/en/manual/1001.html>)

Settings	FAQ ID
PFXZPBMPR42P2, RS422/485 change method	FA263858
PFXZPBMPR42P2 termination resistor setting	FA263974
PFXZPBMPR44P2, RS422/485 change method	FA264087
PFXZPBMPR44P2 termination resistor setting	FA264088

- \*7 Set up the SIO type with the DIP Switch. Please refer to the IPC manual for details of DIP Switch. The BOX Atom has not a switch to set the RS-232C, RS-422/485 mode. Use the BIOS for the setting.
- \*8 For the connection with the External Device, on the user-created cable read as if the connector on the Display-side is a M12 A-coding 8 pin socket. The pin assignment is the same as described in the cable diagram. For the M12 A-coding connector, use PFXZPSCNM122.
- \*9 In addition to COM1, you can also use the COM port on the optional interface.
- \*10 Install the optional interface in the expansion slot.

## DIP Switch settings (PL3000 / PS3000 Series)

### 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.

## RS-422/485 (4 wire)

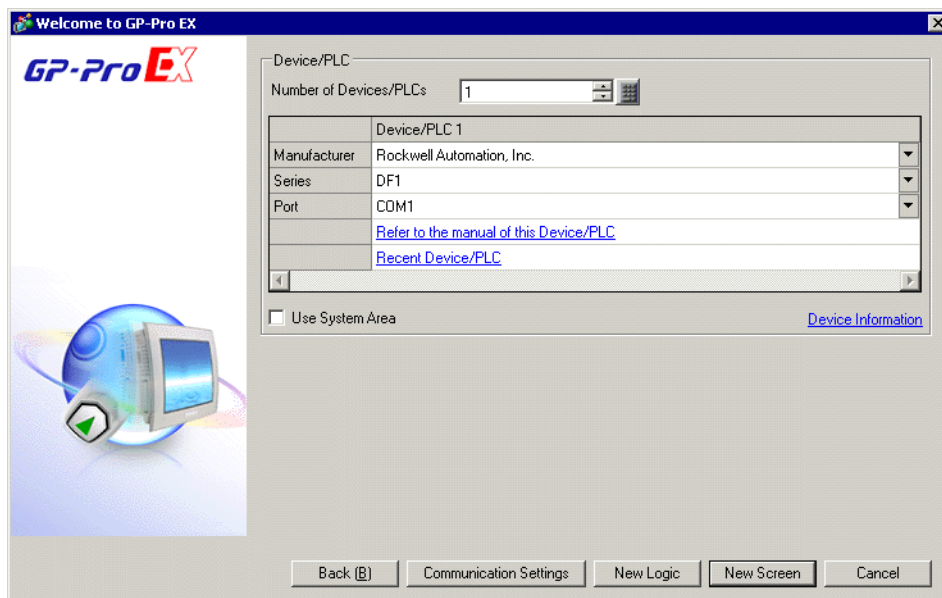
DIP Switch	Setting	Description
1	OFF	Reserved (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA (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	

## 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  Series  Port

Text Data Mode  [Change](#)

Communication Settings

SI0 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	Add Indirect Device
1	PLC1	Series=SLC500 Series,Compatible Settings=Standard t	<input type="button" value="+"/>

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

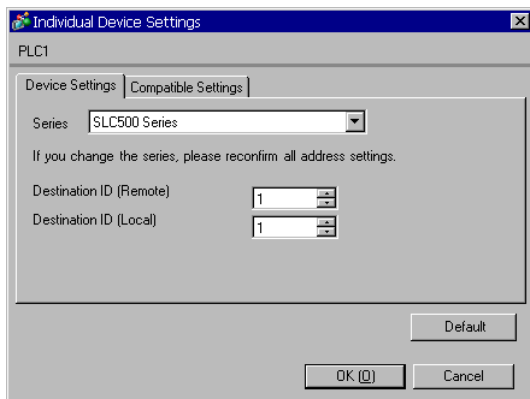


## ◆ Device Setting

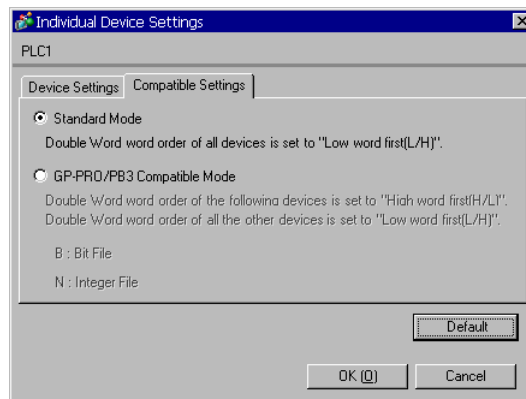
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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]




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**NOTE** • For Full Duplex, "Destination ID (Local)" is not used.

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## ■ 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 [Change Device/PLC](#)

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

Text Data Mode: 1 [Change](#)

Communication Settings

SID 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

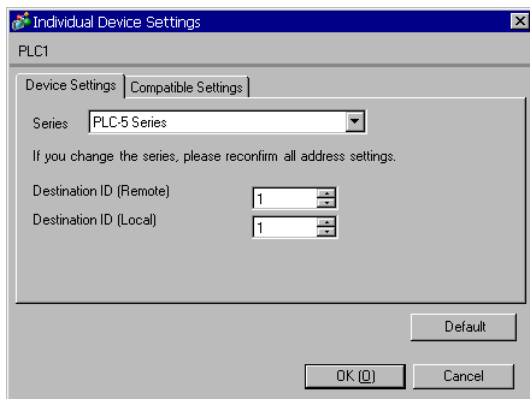
**NOTE** • For [DF1 Mode], select [Full Duplex] or [Half Duplex Mster] according to your driver.

## ◆ Device Setting

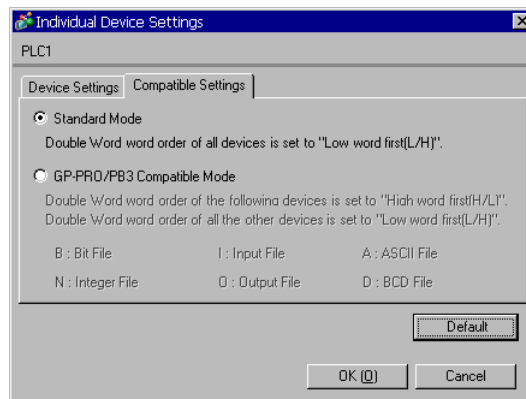
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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]




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**NOTE** • For Full Duplex, "Destination ID (Local)" is not used.

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## ■ 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  Series  Port

Text Data Mode  [Change](#)

Communication Settings

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=PLC-5 Series,Compatible Settings=Standard M...

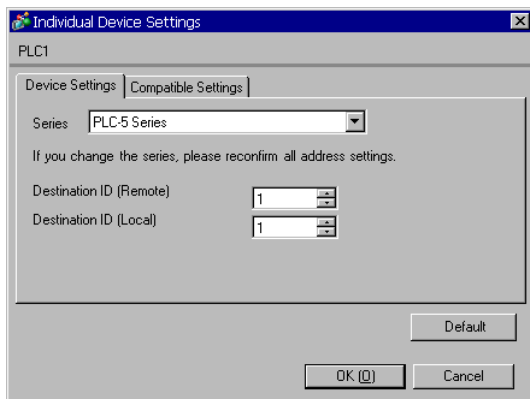
**NOTE** • For [DF1 Mode], select [Full Duplex] or [Half Duplex Mster] according to your driver.

## ◆ Device Setting

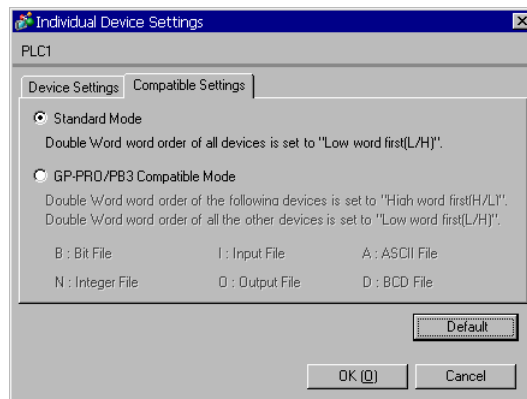
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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]




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**NOTE** • For Full Duplex, "Destination ID (Local)" is not used.

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## ■ 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

SIQ 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	Add Indirect Device
1	PLC1	Series=ControlLogix/CompactLogix Series,Compatible	<input type="button" value="+"/>

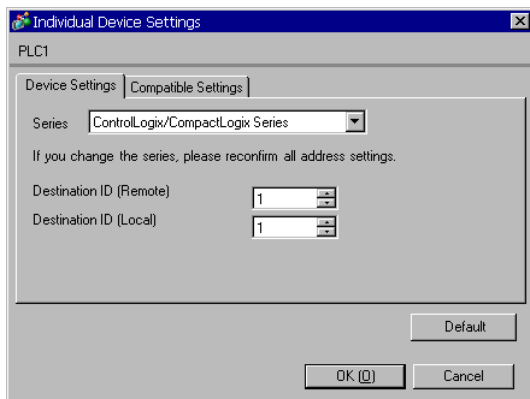
**NOTE** • For [DF1 Mode], select [Full Duplex] or [Half Duplex Mster] according to your driver.

### ◆ Device Setting

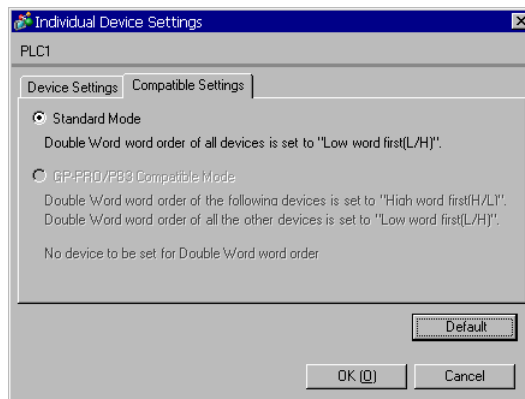
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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]




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**NOTE** • For Full Duplex, "Destination ID (Local)" is not used.

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## ■ 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  Series  Port

Text Data Mode  [Change](#)

Communication Settings

SIQ 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=MicroLogix Series,Compatible Settings=Standar

Add Indirect Device

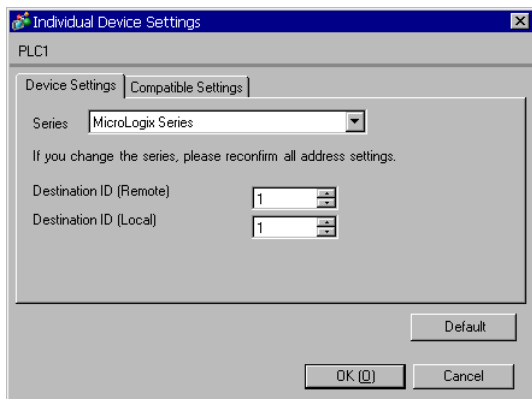
**NOTE** • For [DF1 Mode], select [Full Duplex] or [Half Duplex Mster] according to your driver.

## ◆ Device Setting

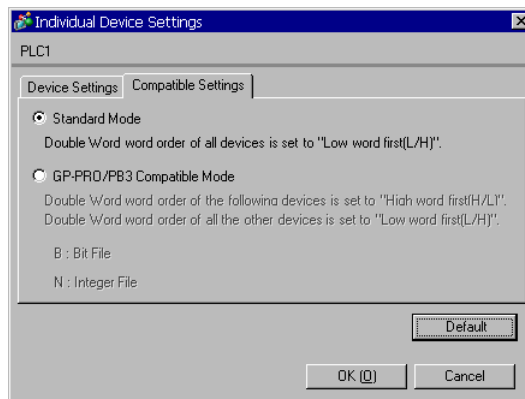
To display the [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings] .

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]




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**NOTE** • For Full Duplex, "Destination ID (Local)" is not used.

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## ■ 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 8)

### 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.

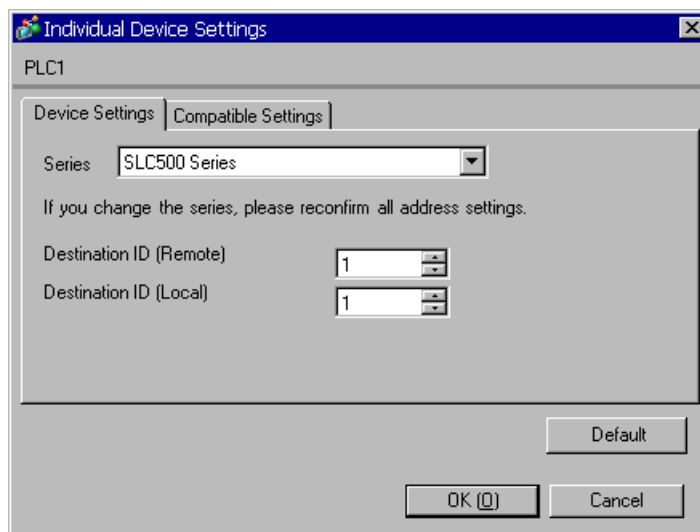
Cf. GP-Pro EX Reference Manual "Changing the Device/PLC at Runtime (Indirect Device)"

## ■ 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] .

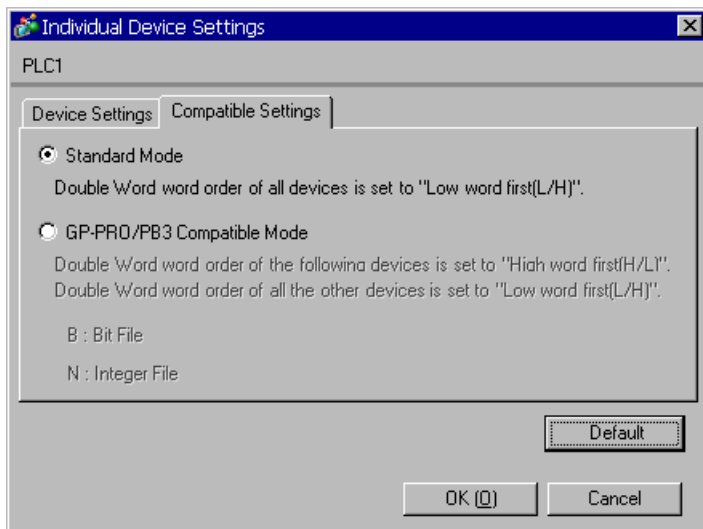
To connect multiple External Devices, from [Device-Specific Settings] in the [Device/PLC] window, click [Add Device] to add another External Device.

### ◆ [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 47)</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• When ControlLogix/CompactLogix is used, "Standard Mode" only can be set.</li> </ul>

## 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. <b>IMPORTANT</b> 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		
				←
	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].

Comm.	Device	Option		
DF1			[COM1]	Page 1/1
Device/PLC Name		PLC1		
Series		SLC500		
Destination ID (Remote)		1		
Destination ID (Local)		1		
Compatible Settings		Standard Mode		
Exit		Back		2008/04/30 18:37:59

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 <input checked="" type="radio"/> RI <input type="radio"/> 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, GP-4\*01TM, GP-Rear Module, LT-4\*01TM and LT-Rear Module 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* <sup>1</sup> (COM1) SP5000* <sup>2</sup> (COM1/2)	1A	RS232C cable by Pro-face CA3-CBL232/5M-01 (5m)	9/25 pin conversion adapter is required.
SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC* <sup>3</sup> PC/AT	1B	User-created cable	The cable length must be 15m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	1C	User-created cable	The cable length must be 15m or less.
LT-4*01TM (COM1) LT-Rear Module (COM1)	1D	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBJR21	The cable length must be 5m or less.

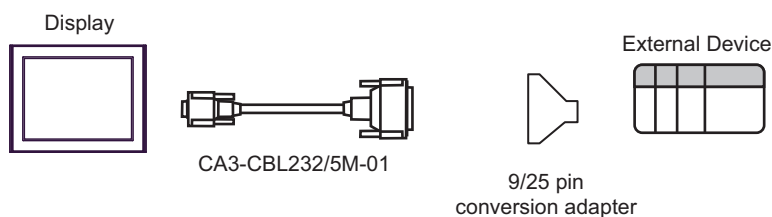
\*1 All GP4000 models except GP-4100 Series and GP-4203T

\*2 Except SP-5B00

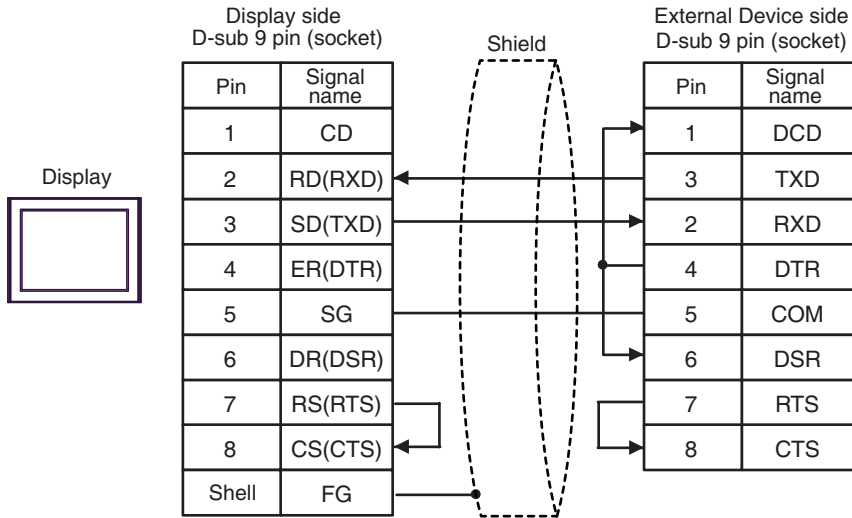
\*3 Only the COM port which can communicate by RS-232C can be used.

 ■ IPC COM Port (page 4)

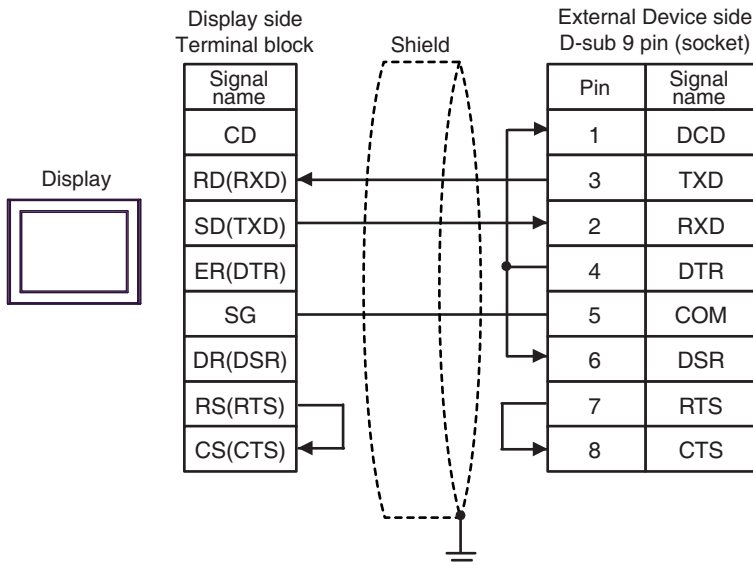
1A)



1B)

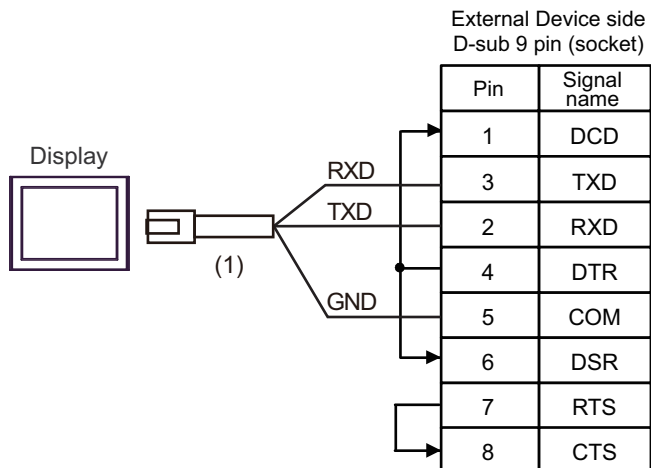


1C)





1D)



Number	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJ21	

Cable Diagram 2

Display (Connection Port)	Cable		Remarks
GP3000 (COM1) GP4000* <sup>1</sup> (COM1) SP5000* <sup>2</sup> (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC* <sup>3</sup> PC/AT	2A	RS232C cable by Pro-face CA3-CBL232/5M-01 (5m)	
	2B	User-created cable	The cable length must be 15m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	2C	User-created cable	The cable length must be 15m or less.
LT-4*01TM (COM1) LT-Rear Module (COM1)	2D	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBJR21	The cable length must be 5m or less.

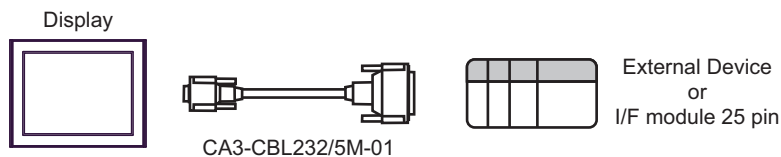
\*1 All GP4000 models except GP-4100 Series and GP-4203T

\*2 Except SP-5B00

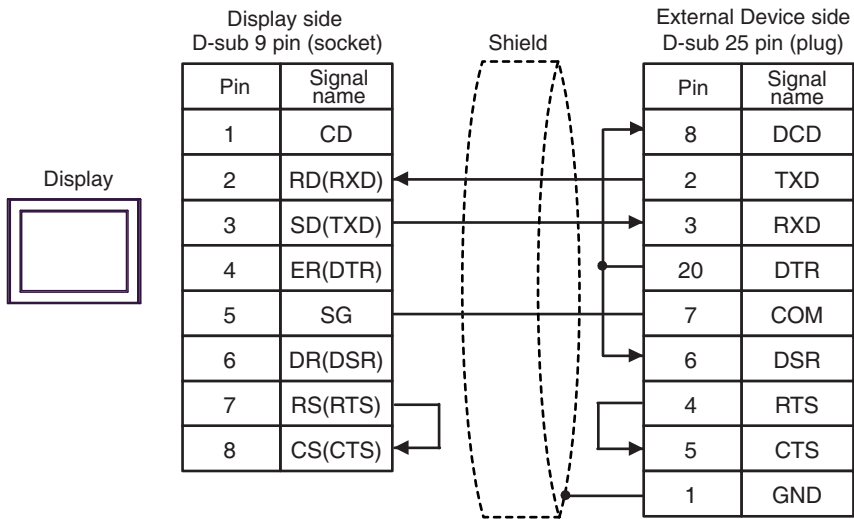
\*3 Only the COM port which can communicate by RS-232C can be used.

 ■ IPC COM Port (page 4)

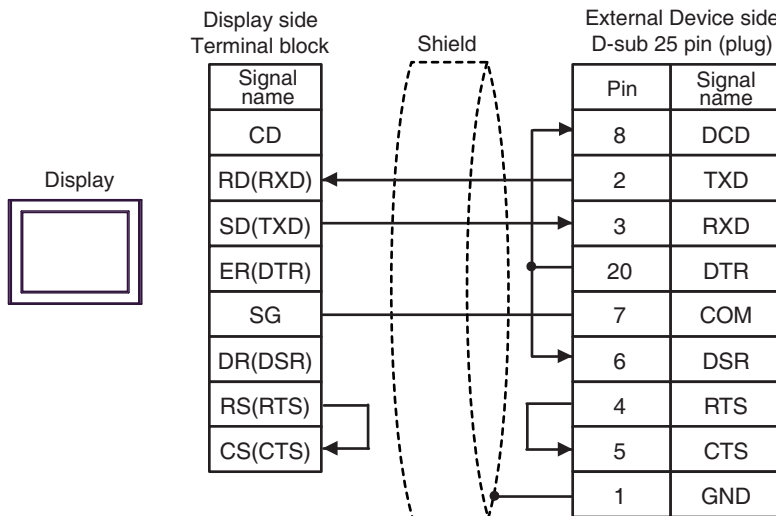
2A)



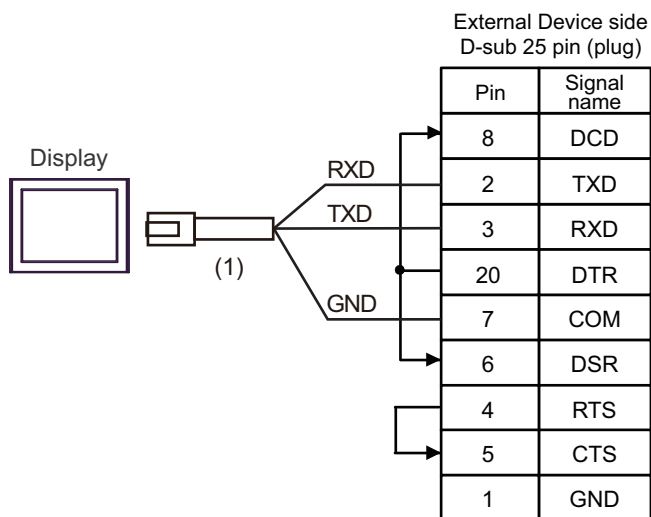
2B)



2C)



2D)



Number	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBJR21	

Cable Diagram 3

Display (Connection Port)	Cable		Remarks
GP3000 (COM1) GP4000* <sup>1</sup> (COM1) SP5000* <sup>2</sup> (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC* <sup>3</sup> PC/AT	3A	User-created cable	The cable length must be 15m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	3B	User-created cable	The cable length must be 15m or less.
LT-4*01TM (COM1) LT-Rear Module (COM1)	3C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJ21	The cable length must be 5m or less.

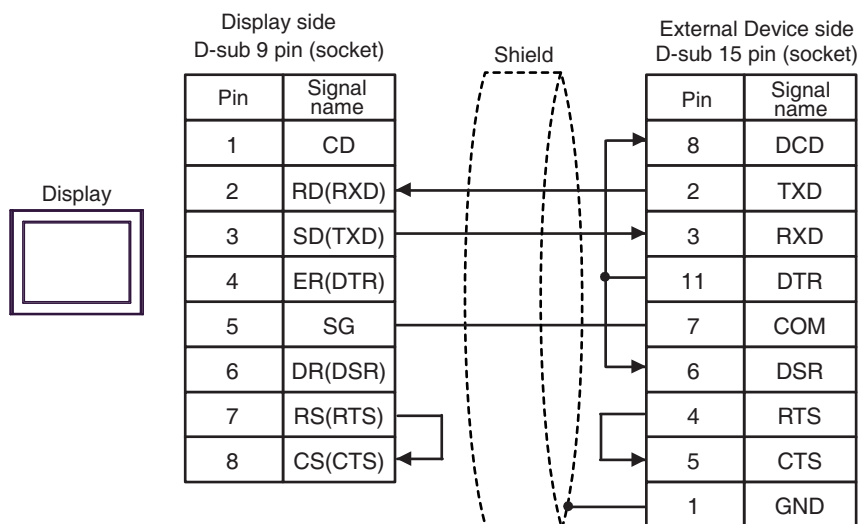
\*1 All GP4000 models except GP-4100 Series and GP-4203T

\*2 Except SP-5B00

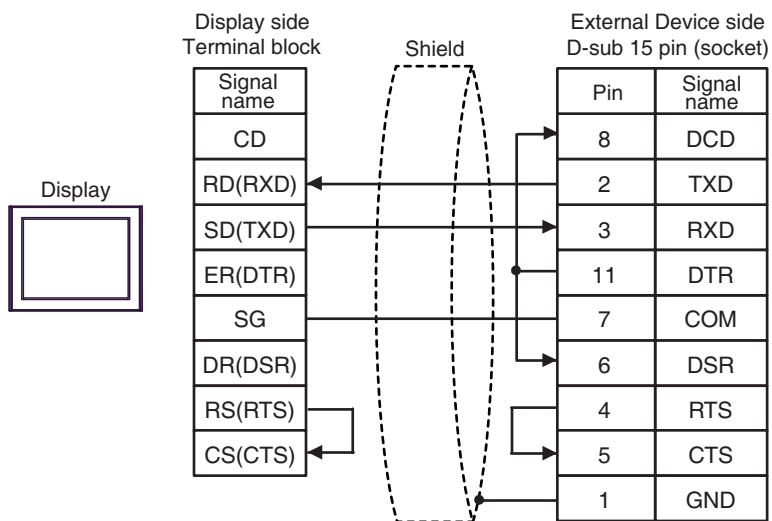
\*3 Only the COM port which can communicate by RS-232C can be used.

 ■ IPC COM Port (page 4)

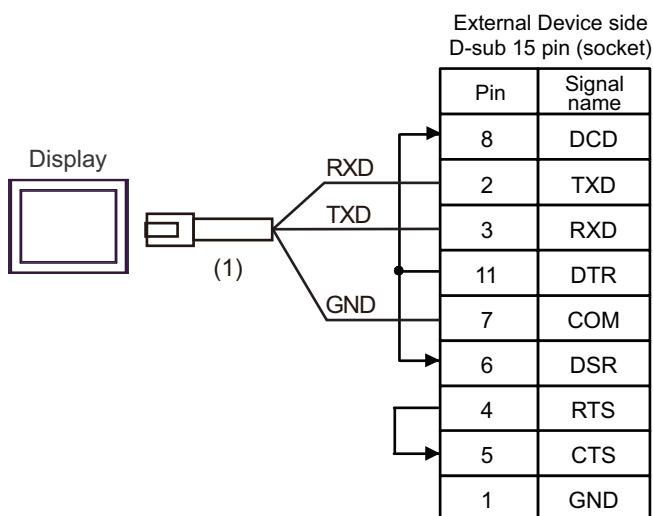
3A)



3B)




3C)



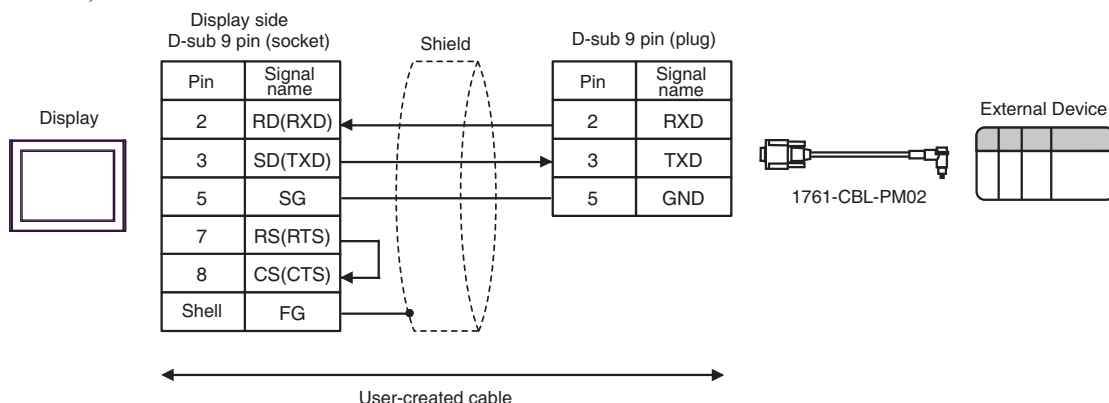
Number	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJ21	

Cable Diagram 4

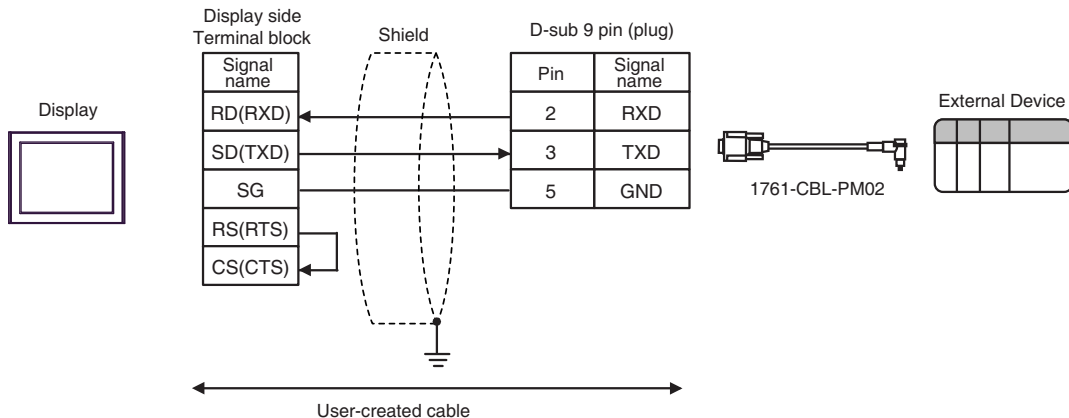
Display (Connection Port)	Cable		Remarks
GP3000 (COM1) GP4000* <sup>1</sup> (COM1) SP5000* <sup>2</sup> (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC* <sup>3</sup> PC/AT	4A	User-created cable + RS232C cable by Rockwell Automation 1761-CBL-PM02	The cable length must be 15m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	4B	User-created cable + RS232C cable by Rockwell Automation 1761-CBL-PM02	The cable length must be 15m or less.
LT-4*01TM (COM1) LT-Rear Module (COM1)	4C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBJR21 + RS232C cable by Rockwell Automation 1761-CBL-PM02	The cable length must be 5m or less.

- \*1 All GP4000 models except GP-4100 Series and GP-4203T
- \*2 Except SP-5B00
- \*3 Only the COM port which can communicate by RS-232C can be used.  
 ■ IPC COM Port (page 4)

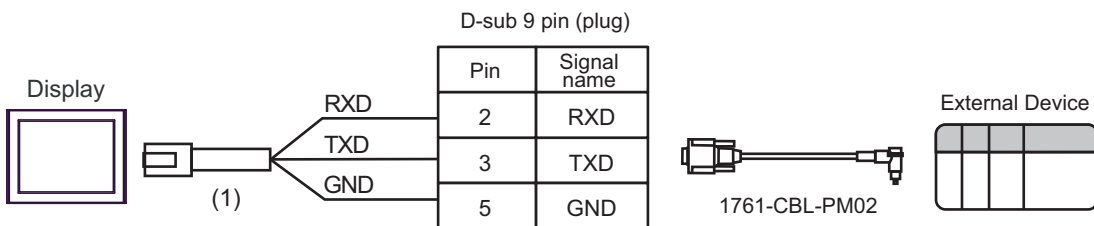
4A)



4B)



4C)



Number	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJ21	



Cable Diagram 5

Display (Connection Port)	Cable		Remarks
GP3000 (COM1) GP4000* <sup>1</sup> (COM1) SP5000* <sup>2</sup> (COM1/2) SP-5B00 (COM1) ST3000 (COM1) ST6000 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000 (COM1) LT3000 (COM1) IPC* <sup>3</sup> PC/AT	5A	User-created cable	The cable length must be 15m or less.
GP-4105 (COM1) GP-4115T (COM1) GP-4115T3 (COM1)	5B	User-created cable	The cable length must be 15m or less.
LT-4*01TM (COM1) LT-Rear Module (COM1)	5C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBJR21	The cable length must be 5m or less.

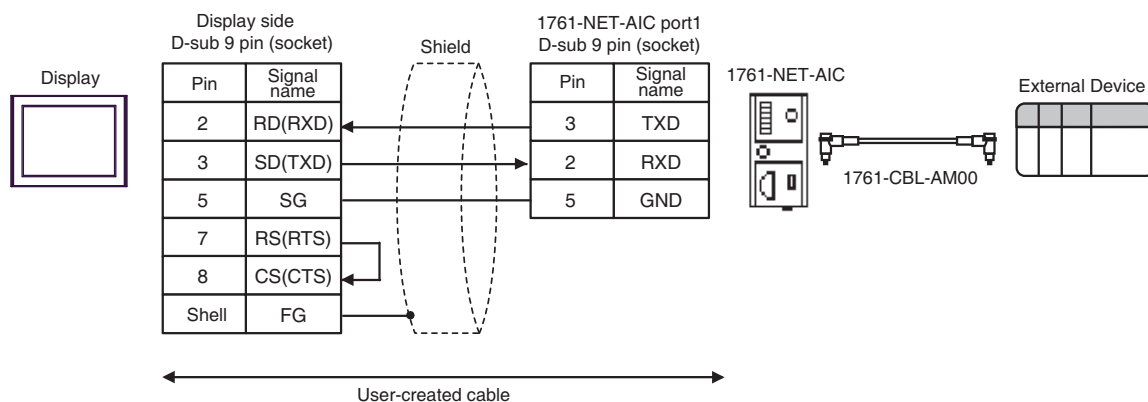
\*1 All GP4000 models except GP-4100 Series and GP-4203T

\*2 Except SP-5B00

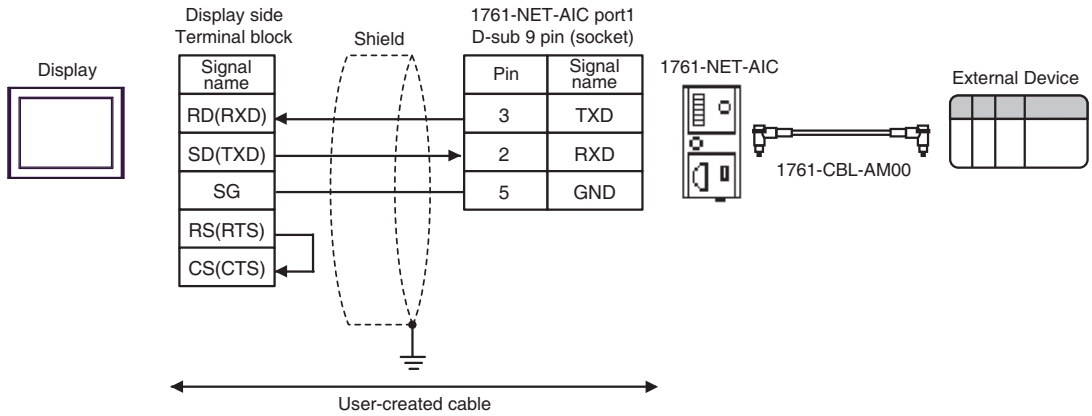
\*3 Only the COM port which can communicate by RS-232C can be used.

☞ ■ IPC COM Port (page 4)

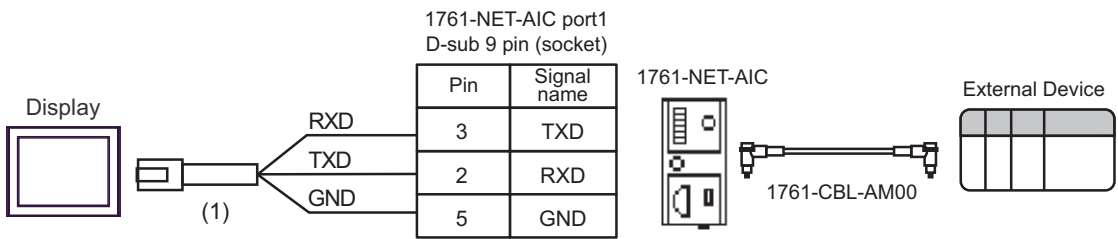
5A)



5B)



5C)



Number	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBJR21	

Cable Diagram 6

Display (Connection Port)	Cable		Remarks
GP3000* <sup>1</sup> (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000* <sup>2</sup> (COM2) LT3000 (COM1) IPC* <sup>3</sup>	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* <sup>4</sup> (COM2)	6C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable	The cable length must be 61m or less.
	6D	Online adapter by Pro-face CA4-ADPONL-01 + User-created cable	
GP-4106 (COM1) GP-4116T (COM1)	6E	User-created cable	The cable length must be 61m or less.
GP4000* <sup>5</sup> (COM2) GP-4201T (COM1) SP5000* <sup>6</sup> (COM1/2) SP-5B00 (COM2) ST6000* <sup>7</sup> (COM2) ST-6200 (COM1) STM6000 (COM1) STC6000 (COM1) ET6000* <sup>8</sup> (COM2) PS6000 (Basic Box) (COM1/2)	6F	RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1* <sup>9</sup> + User-created cable	The cable length must be 61m or less.
	6B	User-created cable	
PE-4000B* <sup>10</sup> PS5000* <sup>10</sup> PS6000 (Optional Interface)* <sup>10</sup>	6G	User-created cable	The cable length must be 61m or less.

\*1 All GP3000 models except AGP-3302B

\*2 Except AST-3211A and AST-3302B

\*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used. (Except PE-4000B, PS5000, and PS6000)


 ■ IPC COM Port (page 4)

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

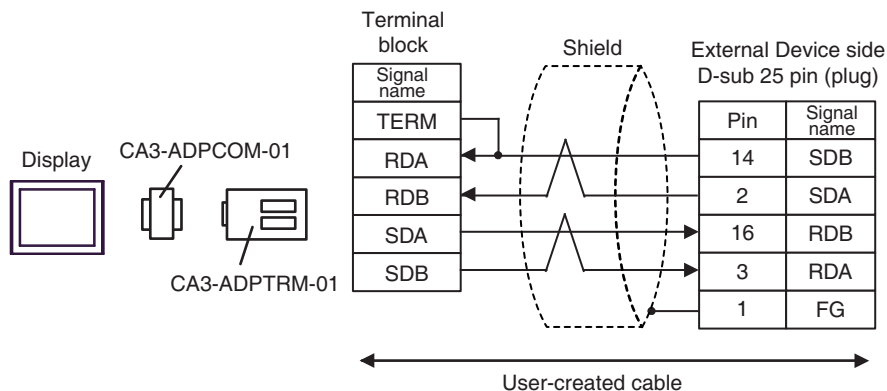
\*5 All GP4000 models except GP-4100 series, GP-4\*01TM, GP-Rear Module, GP-4201T and GP-4\*03T

\*6 Except SP-5B00

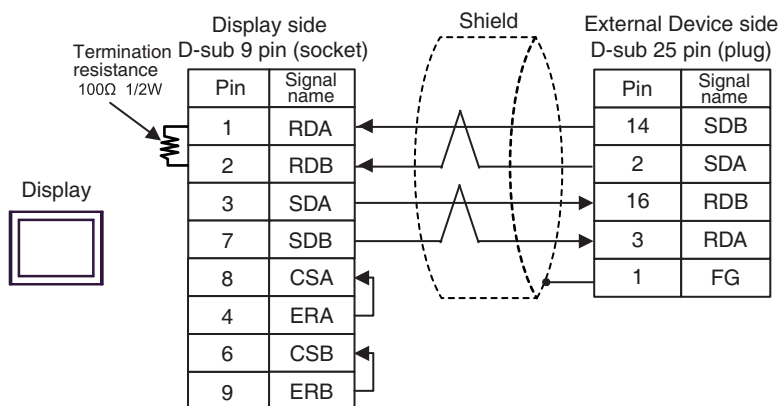
\*7 Except ST-6200

- \*8 Due to the COM port specifications, flow control is not possible. Omit wiring the control pins on the Display side of the cable diagram.
- \*9 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 6A.
- \*10 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.  
 ■ IPC COM Port (page 4)

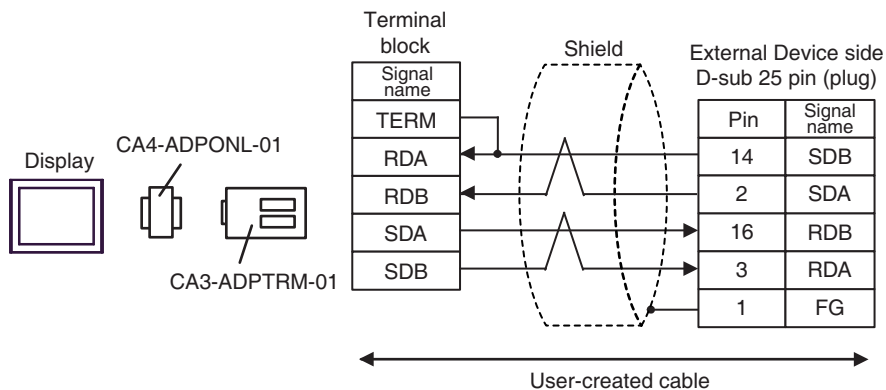
6A)



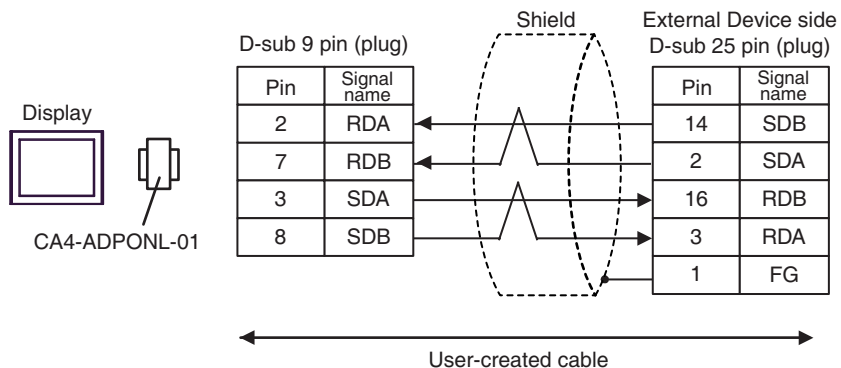
6B)



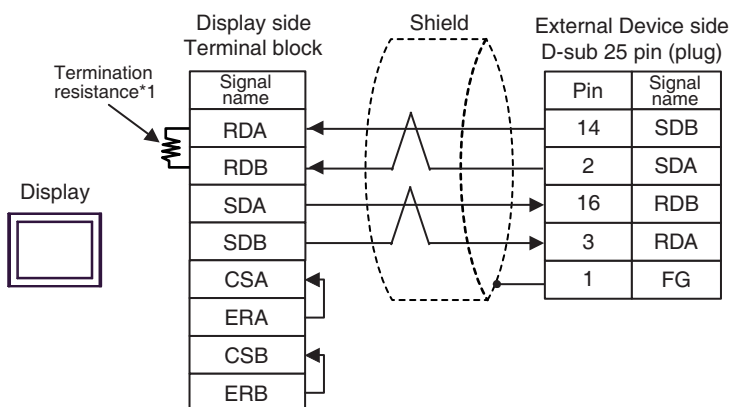
6C)



6D)



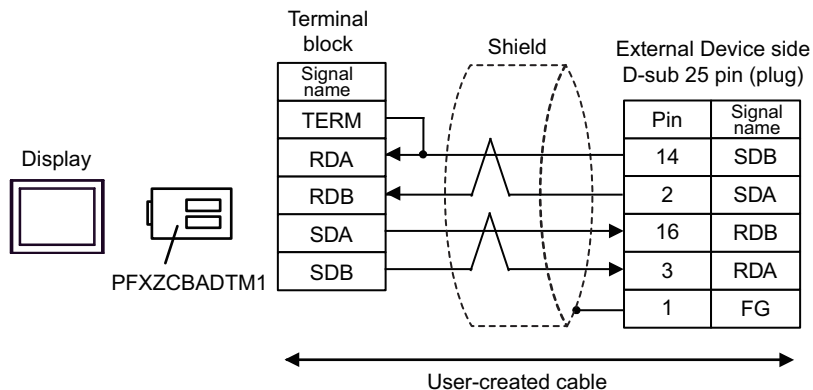
6E)



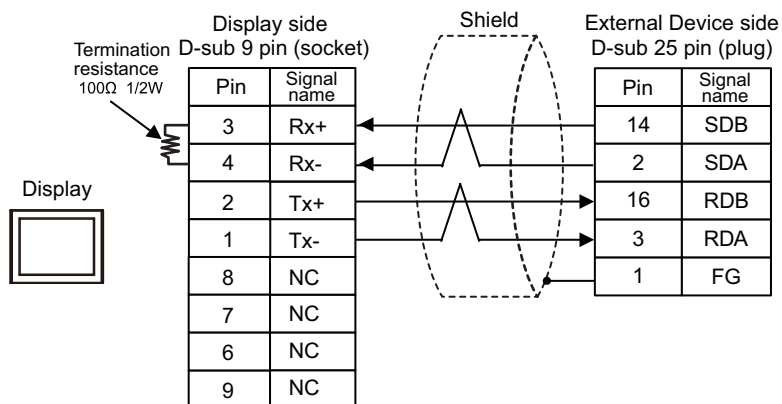
\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

6F)




6G)








## 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 <sup>*1</sup>		Word Address		32bits	Remarks
Input File		I:00.000/00 - I:63.255/15		I:00.000 - I63.255			*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		 or  *3	
Timer File	Enable	T4:0/ - T4:255/ T9:0/ - T255:255/	EN	T4:0. - T4:255. T9:0. - T255:255.	-		
	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		

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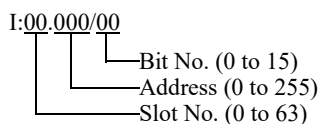
Device		Bit Address*1		Word Address		32bits	Remarks
Control File	Enable	R6:0/ - R6:255/ R9:0/ - R255:255/	EN	R6:0. - R6:255. R9:0. - R255:255.	-	[L/H]	
	Enable Unload		EU		-		
	Done		DN		-		
	Empty		EM		-		
	Error		ER		-		
	Unload		UL		-		
	Inhibit Comp.		IN		-		
	Found		FD		-		
	Length		-		LEN		
	Position		-		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
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.

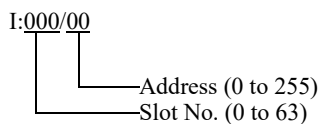
Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and writes it to the External Device.

\*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 25)


\*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 style="border: 1px solid black; padding: 2px;">L/H</div> or <div style="border: 1px solid black; padding: 2px;">H/L</div> *1	<div style="border: 1px solid black; padding: 2px;">OCT 8</div>	
Output File		O:0/0 - I:377/17		O:0 - I:377				
Status File		S:0/0 - S:163/15		S:0 - S:163		<div style="border: 1px solid black; padding: 2px;">L/H</div>		
Bit File		B3:0/0 - B999:999/15		B3:0 - B999:999		<div style="border: 1px solid black; padding: 2px;">L/H</div> or <div style="border: 1px solid black; padding: 2px;">H/L</div> *1		
Timer File	Enable	T3:0/ - T999:999/	EN	T3:0. - T999:999.	-	<div style="border: 1px solid black; padding: 2px;">L/H</div>		
	Timing		TT		-			
	Done		DN		-			
	Preset		-		PRE			
	Accumulated		-		ACC			
Counter File	Up Enable	C3:0/ - C999:999/	CU	C3:0. - C999:999.	-		<div style="border: 1px solid black; padding: 2px;">L/H</div>	
	Down Enable		CD		-			
	Done		DN		-			
	Overflow		OV		-			
	Underflow		UN		-			
	Update Acc		UA		-			
	Preset		-		PRE			
	Accumulated		-		ACC			

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Device		Bit Address		Word Address		32bits	Remarks
Control File	Enable	R3:0/ - R999:999/	EN	R3:0. - R999:999.	-	[L/H]	
	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		N3:0 - N999:999		[L/H] or [H/L] *1
Floating Point File	-----		F3:0 - F999:999		[H/L]	32-bit address only	
String File	-----		ST3:0 - ST999:999		[L/H]	*2	
ASCII File	A3:0/0 - A999:999/15		A3:0 - A999:999		[L/H]		
BCD File	D3:0/0 - D999:999/15		D3:0 - D999:999		[H/L] or [L/H] *1		

\*1 High and low relationship of the stored data is specified by the [Compatible Settings] setting of [Device Setting].  
 ■ Device Setting (page 25)


\*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			*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		 or  *3			
Timer File	Enable	T4:0/ - T4:255/ T9:0/ - T255:255/	EN	T4:0. - T4:255. T9:0. - T255:255.	-				
	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				

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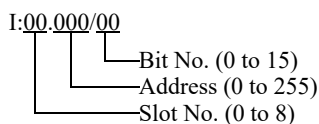
Device		Bit Address* <sup>1</sup>		Word Address		32bits	Remarks
Control File	Enable	R6:0/ - R6:255/ R9:0/ - R255:255/	EN	R6:0. - R6:255. R9:0. - R255:255.	-	[L/H]	
	Enable Unload		EU		-		
	Done		DN		-		
	Empty		EM		-		
	Error		ER		-		
	Unload		UL		-		
	Inhibit Comp.		IN		-		
	Found		FD		-		
	Length		-		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] * <sub>3</sub>	
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]	* <sub>4</sub>
Long Word File		L9:0/0 - L255:255/31		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.

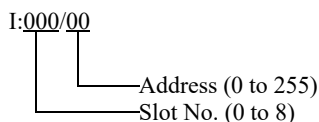
Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and writes it to the External Device.

\*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 25)





\*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 <sup>*1</sup>	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		  *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

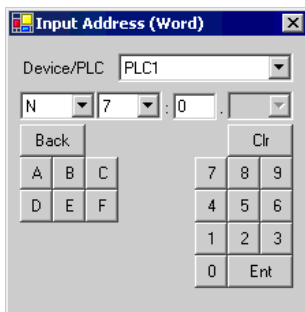
File Number	: Assign the Tag Name created by RSLogix5000 to the optional File Number. You can not assign different Tag Names to the same File Number.
-------------	--

<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 1[0]
DINT1:1	↔	DINT 1[1]
DNT1:2	↔	DINT 1[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> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• IP address is displayed such as "IP address(Decimal): MAC address( Hex)".</li> <li>• Device address is displayed such as "Address: Device address".</li> <li>• Received error codes are displayed such as "Decimal[Hex]".</li> </ul>

Display Examples of Error Messages

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

- 
- NOTE**
- 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.
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