

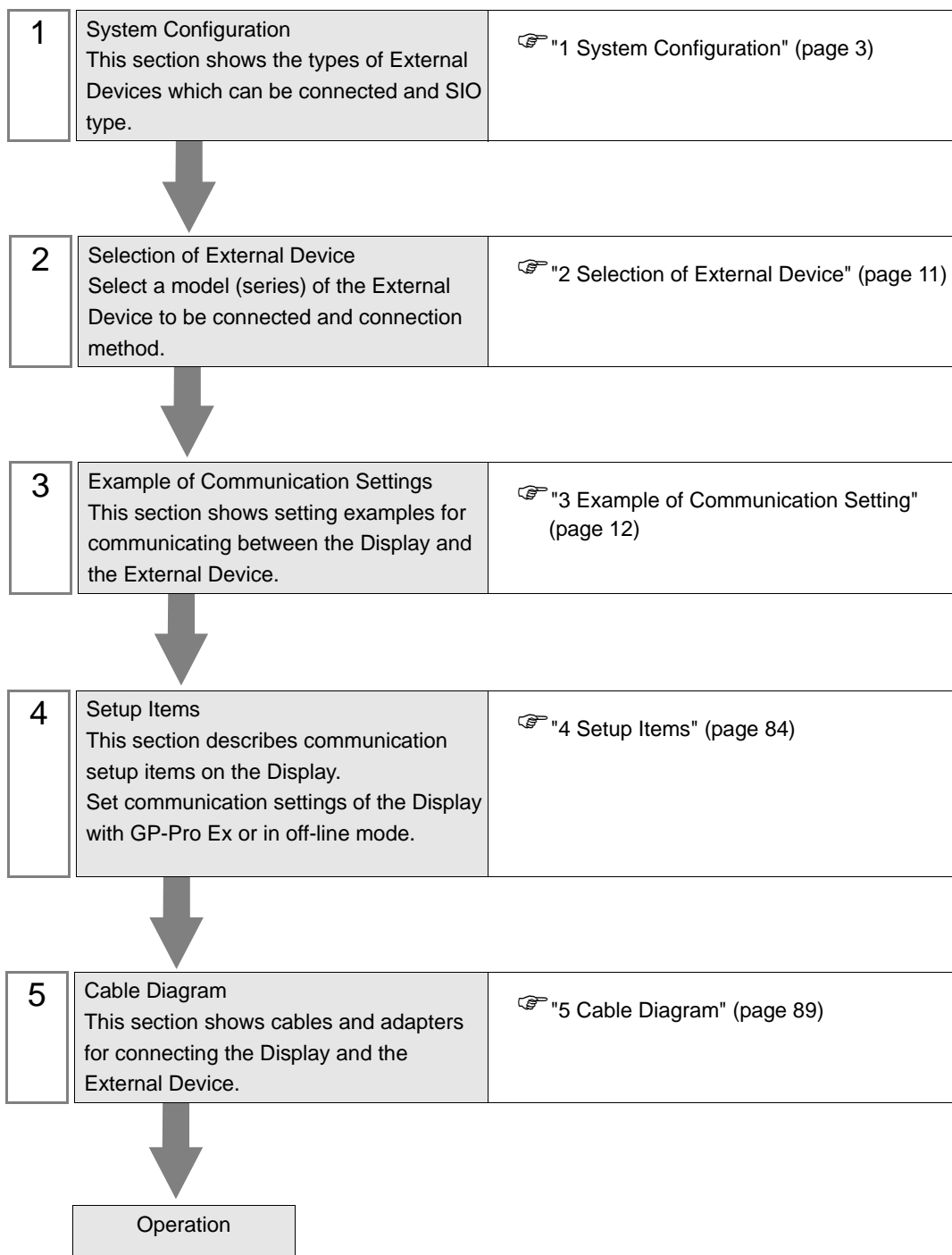
# Indicating Controller SIO Driver

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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 Shinko Technos Co.,Ltd. and the Display are connected is shown.

Series	CPU*1	Link I/F	SIO Type	Setting Example	Cable Diagram
C	CPT-20A*2	Upper modular jack (Lower modular jack use for cascade connection)	RS422/485 (4 wire)	Setting Example 1 (page 12)	Cable Diagram 3 (page 95)
FC	FCD-13A-□/M,C	Terminal of back panel	RS-232C	Setting Example 2 (page 14)	Cable Diagram 1 (page 89)
	FCD-15A-R/M,□□,C	Terminal of back panel	RS-232C	Setting Example 3 (page 16)	Cable Diagram 1 (page 89)
	FCR-13A-□/M,C	Terminal of back panel	RS-232C	Setting Example 4 (page 18)	Cable Diagram 1 (page 89)
	FCR-15A-R/M,□□,C	Terminal of back panel	RS-232C	Setting Example 5 (page 20)	Cable Diagram 1 (page 89)
	FCR-23A-□/ M,□□,C	Terminal of back panel	RS-232C	Setting Example 6 (page 22)	Cable Diagram 1 (page 89)
	FCD-13A-□/M,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 2 (page 14)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 2 (page 14)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 7 (page 24)	Cable Diagram 2 (page 90)
	FCD-15A-R/M,□□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 3 (page 16)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 3 (page 16)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 8 (page 26)	Cable Diagram 2 (page 90)

Series	CPU*1	Link I/F	SIO Type	Setting Example	Cable Diagram
FC	FCR-13A-□/M,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 4 (page 18)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 4 (page 18)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 9 (page 28)	Cable Diagram 2 (page 90)
	FCR-15A-R/M,□□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 5 (page 20)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 5 (page 20)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 10 (page 30)	Cable Diagram 2 (page 90)
	FCR-23A-□/ M,□□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 6 (page 22)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 6 (page 22)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 11 (page 32)	Cable Diagram 2 (page 90)
FIR	FIR-201-M,C	Terminal of back panel	RS-232C	Setting Example 12 (page 34)	Cable Diagram 1 (page 89)
	FIR-201-M,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 12 (page 34)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 12 (page 34)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 13 (page 36)	Cable Diagram 2 (page 90)

Series	CPU*1	Link I/F	SIO Type	Setting Example	Cable Diagram
FIR	JIR-301-M□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 14 (page 38)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 14 (page 38)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 15 (page 40)	Cable Diagram 2 (page 90)
GC	GCS-33□-□/□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 16 (page 42)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 16 (page 42)	Cable Diagram 5 (page 99)
JC	JC□-13A-□/□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 17 (page 44)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 17 (page 44)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 18 (page 46)	Cable Diagram 2 (page 90)
	JCS-23A-□/□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 19 (page 48)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 19 (page 48)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 20 (page 50)	Cable Diagram 2 (page 90)
	JC□-33A-□/□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 21 (page 52)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 21 (page 52)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 22 (page 54)	Cable Diagram 2 (page 90)

Series	CPU*1	Link I/F	SIO Type	Setting Example	Cable Diagram
JC	JCL-33A-□/M□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 23 (page 56)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 23 (page 56)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 24 (page 58)	Cable Diagram 2 (page 90)
AC	ACS-13A-□/M□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 25 (page 60)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 25 (page 60)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 26 (page 62)	Cable Diagram 2 (page 90)
NC	NCL-13A-□/M,□□□	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 27 (page 64)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 27 (page 64)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 28 (page 66)	Cable Diagram 2 (page 90)
DC	DCL-33A-□/M□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 29 (page 68)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 29 (page 68)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 30 (page 70)	Cable Diagram 2 (page 90)
FCL	FCL-13A-□/□,C5, □□□□□□*3	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 31 (page 72)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 31 (page 72)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 32 (page 74)	Cable Diagram 2 (page 90)

Series	CPU*1	Link I/F	SIO Type	Setting Example	Cable Diagram
PC-900	PC-935-□/M,C PC-955-□/M,C	Terminal of back panel	RS-232C	Setting Example 33 (page 76)	Cable Diagram 1 (page 89)
	PC-935-□/M,C5 PC-955-□/M,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 33 (page 76)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 33 (page 76)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 34 (page 78)	Cable Diagram 2 (page 90)
	PCD-33A-□/M□,C5	Terminal of back panel (When using the IF-300-C5.)	RS-232C	Setting Example 35 (page 80)	Cable Diagram 4 (page 98)
		Terminal of back panel (When using the IF-400.)	RS-232C	Setting Example 35 (page 80)	Cable Diagram 5 (page 99)
		Terminal of back panel	RS422/485 (2 wire)	Setting Example 36 (page 82)	Cable Diagram 2 (page 90)

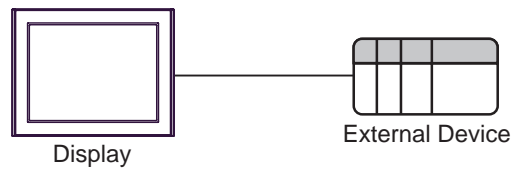
- \*1 Type External Device depends on the specified options. Please refer to the brochure of each device for option details.  
Regarding the option for serial communication, use C if an RS-232C follows a “,” and C5 if an RS422/485 follows a “.”
- \*2 When using multiple channels in C series, a 2ch temperature control unit (CCT-235-2-\*\*) is required. Please refer to the manual of C series for details of types of \*\*.
- \*3 FCL-13A,C5 is indicated as FCL-100 series in the manual.

**IMPORTANT**

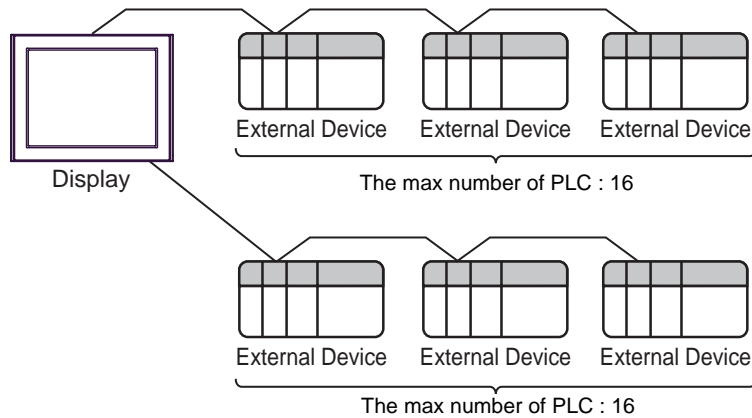
- When connecting with a model that requires a pull-up and pull-down resistance connection in the communication line, use an IF-300-C5 converter (Cable Diagram 4) or an IF-400 converter (Cable Diagram 5).

## ■ Connection Configuration

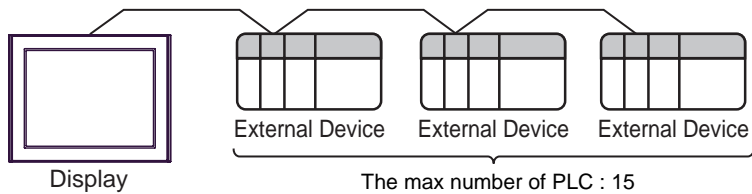
- 1:1 Connection



- 1:n Connection (Except C series)



- 1:n Connection (C series)





## ■ COM Port of IPC

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

### Usable port

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

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

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

### Dip switch setting: RS-232C

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

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

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

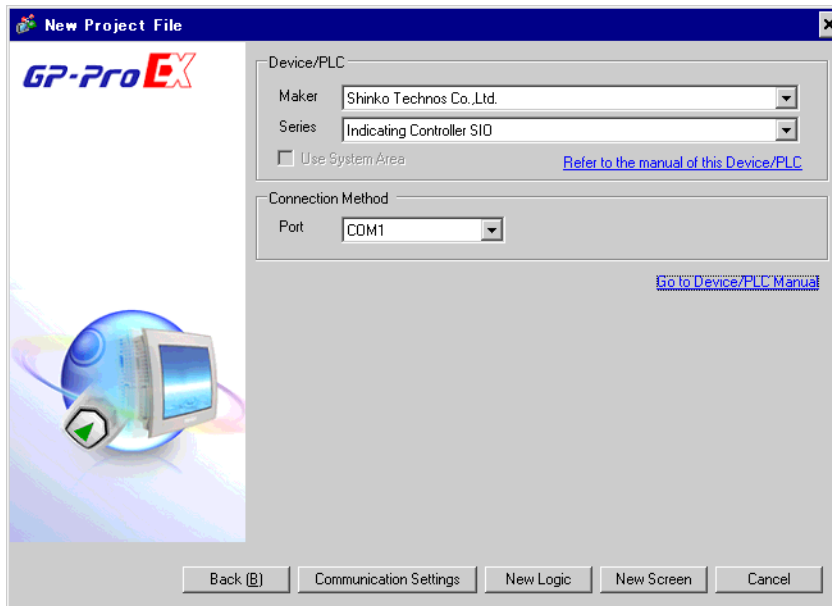
Dip switch	Setting	Description
1	OFF	Reserve (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA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

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

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

## 2 Selection of External Device

Select the External Device to be connected to the Display.



Setup Items	Setup Description
Maker	Select the maker of the External Device to be connected. Select "Shinko Technos Co.,Ltd.".
Driver	Select a model (series) of the External Device to be connected and connection method. Select "Indicating Controller SIO". Check the External Device which can be connected in "Indicating Controller SIO" in system configuration. ☞ "1 System Configuration" (page 3)
Use System Area	Cannot be set in this driver.
Port	Select the Display port to be connected to the External Device.

### 3 Example of Communication Setting

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

#### 3.1 Setting Example 1

##### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary

Maker: Shinko Technos Co.,Ltd. Series: Indicating Controller SIO Port: COM1

Text Data Mode: 2

Communication Settings

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

Speed: 9600

Data Length: ☒ 7 ☐ 8

Parity: ☐ NONE ☒ EVEN ☐ ODD

Stop Bit: ☒ 1 ☐ 2

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

Timeout: 3 (sec)

Retry: 2

Wait To Send: 2 (ms)

RI / VCC: ☒ RI ☐ VCC

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

Default

Device-Specific Settings

Number	Device Name	Settings
1	PLC1	Series=CPT-20A,Unit No=1


#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

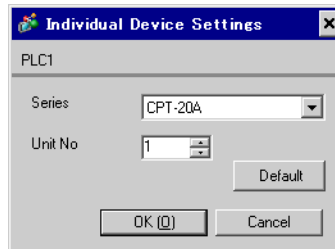
Speed	Setting value
9600bps	2ms or more
19200bps	2ms or more

- In the case of continuous writing, it may take time to write. For example, it takes 1 second to write 5 words.

### ◆ Device Setting

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

When you connect multiple External Device, click  from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



## ■ Settings of External Device

Use the rotary switch for instrument number setting and DIP switch for communication setting in the External Device for communication settings of the External Device.

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

### ◆ Setup Items

- Rotary switch for instrument number setting

Settings	Setup Description
1	Instrument number setting: 0 to 15

- DIP switch for communication setting

DIP switch	Settings	Setup Description
SW1	OFF	Communication speed: 9600bps
SW2	ON	Terminating resistance setting: ON
SW3	OFF	Communication form setting: Shinko Technos standard protocol
SW4	OFF	
SW5	OFF	
SW6	OFF	
SW7	OFF	Digital output setting: Turns ON/OFF by the communication command.
SW8	OFF	

## 3.2 Setting Example 2

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 6 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

6. communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

Completion of setting

### 3.3 Setting Example 3

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 5 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.4 Setting Example 4

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 6 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

6. communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

Completion of setting

### 3.5 Setting Example 5

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary

Maker: Shinko Technos Co.,Ltd. Series: Indicating Controller SIO Port: COM1

Text Data Mode: 2

Communication Settings

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

Speed: 9600

Data Length: ☒ 7 ☐ 8

Parity: ☐ NONE ☒ EVEN ☐ ODD

Stop Bit: ☒ 1 ☐ 2

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

Timeout: 3 (sec)

Retry: 2

Wait To Send: 20 (ms)

RI / VCC: ☒ RI ☐ VCC

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

Default

Device-Specific Settings

Allowable Number of Devices/PLCs: 16

Number	Device Name	Settings
1	PLC1	Series=FCR-15A,Unit No=1

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

Individual Device Settings

PLC1

Series: FCR-15A

Unit No: 1

Default

OK Cancel

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 5 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

## 3.6 Setting Example 6

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 6 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

6. communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

Completion of setting

### 3.7 Setting Example 7

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 6 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

6. communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

Completion of setting

### 3.8 Setting Example 8

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 5 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.9 Setting Example 9

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 6 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

6. communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

Completion of setting

### 3.10 Setting Example 10

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 5 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.11 Setting Example 11

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 6 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

6. communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

Completion of setting

## 3.12 Setting Example 12

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1

Summary

Maker:  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)

RI / VCC: ☒ RI ☐ VCC

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

Default

Device-Specific Settings

Allowable Number of Devices/PLCs: 16

Number	Device Name	Settings
1	PLC1	Series=FIR-201-M, Unit No=1

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

Individual Device Settings

PLC1

Series:

Unit No:

Default

OK Cancel

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key twice.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.13 Setting Example 13

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	20ms or more
19200bps	20ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key twice.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.14 Setting Example 14

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key twice.

4. Change to communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

5. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

6. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.15 Setting Example 15

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary

Maker: Shinko Technos Co., Ltd. Series: Indicating Controller SIO Port: COM1

Text Data Mode: 2

Communication Settings

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

Speed: 9600

Data Length: ☒ 7 ☐ 8

Parity: ☐ NONE ☒ EVEN ☐ ODD

Stop Bit: ☒ 1 ☐ 2

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

Timeout: 3 (sec)

Retry: 2

Wait To Send: 10 (ms)

RI / VCC: ☒ RI ☐ VCC

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

Default

Device-Specific Settings

Allowable Number of Devices/PLCs: 16

Number	Device Name	Settings
1	PLC1	Series=JIR-301-M, Unit No=1

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

Individual Device Settings

PLC1

Series: JIR-301-M

Unit No: 1

Default

OK (O) Cancel



## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key twice.

4. Change to communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

5. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

6. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

## 3.16 Setting Example 16

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1

Summary

Maker  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)

RI / VCC ☒ RI ☐ VCC

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

Default

Device-Specific Settings

Allowable Number of Devices/PLCs 16

Number	Device Name	Settings
1	PLC1	Series=GCS-300,Unit No=1

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	180ms or more (When using the IF-300-C5.) 170ms or more (When using the IF-400.)
19200bps	200ms or more (When using the IF-300-C5.) 180ms or more (When using the IF-400.)

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

Individual Device Settings

PLC1

Series

Unit No

Default

OK (O) Cancel

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 4 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.17 Setting Example 17

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary

Maker: Shinko Technos Co.,Ltd. Series: Indicating Controller SIO Port: COM1

Text Data Mode: 2

Communication Settings

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

Speed: 9600

Data Length: ☒ 7 ☐ 8

Parity: ☐ NONE ☒ EVEN ☐ ODD

Stop Bit: ☒ 1 ☐ 2

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

Timeout: 3 (sec)

Retry: 2

Wait To Send: 10 (ms)

RI / VCC: ☒ RI ☐ VCC

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

Default

Device-Specific Settings

Number	Device Name	Settings
1	PLC1	Series=JC*-13A,Unit No=1

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

Individual Device Settings

PLC1

Series: JC\*-13A

Unit No: 1

Default

OK (O) Cancel

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 4 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed setting.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.18 Setting Example 18

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 4 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed setting.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.19 Setting Example 19

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 4 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed setting.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

## 3.20 Setting Example 20

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key 4 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed setting.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

## 3.21 Setting Example 21

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more (In the cases of except JCS-33A.) 15ms or more (In the case of JCS-33A.)

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key.

4. Change to communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

5. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

6. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

## 3.22 Setting Example 22

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more (In the cases of except JCS-33A.) 15ms or more (In the case of JCS-33A.)

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key.

4. Change to communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

5. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

6. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.23 Setting Example 23

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key.

4. Change to communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

5. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

6. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

## 3.24 Setting Example 24

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key.

4. Change to communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

5. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

6. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

## 3.25 Setting Example 25

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	2ms or more
19200bps	This speed can not be used.

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode (setting value lock setting).



Press the mode key twice.

4. Change to communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

5. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

6. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

## 3.26 Setting Example 26

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	2ms or more
19200bps	This speed can not be used.

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode (setting value lock setting).



Press the mode key twice.

4. Change to communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

5. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

6. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

## 3.27 Setting Example 27

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	50ms or more

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



## ■ Settings of External Device

Use the rotary switch for instrument number setting and DIP switch for selecting communication speed and communication protocol in the External Device for communication settings of the External Device.

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

### ◆ Setup Items

- Rotary switch for instrument number setting

Rotary switch	Settings	Setup Description
×10	0	Instrument number setting: 0 to 94
×1	1	

- DIP switch for selecting communication speed and communication protocol

DIP switch	Settings	Setup Description
SW1	OFF	Communication speed: 9600bps
SW2	OFF	
SW3	OFF	Digital output setting: Shinko Technos standard protocol Start bit: 1, Data length: 7 Stop bit: 1, Parity bit: Even
SW4	OFF	

## 3.28 Setting Example 28

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings


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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	50ms or more

#### ◆ Device Setting

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

When you connect multiple External Device, click  from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the rotary switch for instrument number setting and DIP switch for selecting communication speed and communication protocol in the External Device for communication settings of the External Device.

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

### ◆ Setup Items

- Rotary switch for instrument number setting

Rotary switch	Settings	Setup Description
×10	0	Instrument number setting: 0 to 94
×1	1	

- DIP switch for selecting communication speed and communication protocol

DIP switch	Settings	Setup Description
SW1	OFF	Communication speed: 9600bps
SW2	OFF	
SW3	OFF	Digital output setting: Shinko Technos standard protocol Start bit: 1, Data length: 7 Stop bit: 1, Parity bit: Even
SW4	OFF	

## 3.29 Setting Example 29

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

#### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key twice.

4. Change to communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

5. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

6. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.30 Setting Example 30

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (setting value lock setting).



Press the mode key twice.

4. Change to communication protocol selection.



Set to "NOML" (Shinko Technos standard protocol) with the down key or the up key, and press the mode key.

5. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

6. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.31 Setting Example 31

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	55ms or more
19200bps	100ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (PV/SV display change).



Press the mode key 5 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.32 Setting Example 32

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings


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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	55ms or more
19200bps	100ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click  from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the mode key, down key and up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to PV/SV display mode.



Press the down key and the mode key for about 3 seconds.

3. Change to auxiliary function setting mode 1 (PV/SV display change).



Press the mode key 5 times.

4. Change to instrument number setting.



Set to "1" with the down key or the up key, and press the mode key.

5. Change to communication speed selection.



Set to "96" (9600bps) with the down key or the up key, and press the mode key.

Completion of setting

### 3.33 Setting Example 33

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	30ms or more
19200bps	30ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the set/reset key, stop/mode key, hold/entry key, advance/down key and pattern/up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to program control execution mode.



Press the set/reset key.

3. Change to pattern setting mode.



Press the stop/mode key 4 times.

4. Change to auxiliary function setting mode.



Press the hold/entry key.

5. Change to alarm parameter.



Press the stop/mode key 5 times.

6. Change to communication parameter.



Press the hold/entry key.

7. Change to communication speed selection.



Set to "96" (9600bps) with the advance/down key or the pattern/up key, and press the hold/entry key.

8. Change to instrument number setting.



Set to "1" with the advance/down key or the pattern/up key, and press the hold/entry key.

9. Change to communication type selection.



Set to "NOML" (serial communication) with the advance/down key or the pattern/up key, and press the hold/entry key.

Completion of setting

### 3.34 Setting Example 34

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	30ms or more
19200bps	30ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the set/reset key, stop/mode key, hold/entry key, advance/down key and pattern/up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to program control execution mode.



Press the set/reset key.

3. Change to pattern setting mode.



Press the stop/mode key 4 times.

4. Change to auxiliary function setting mode.



Press the hold/entry key.

5. Change to alarm parameter.



Press the stop/mode key 5 times.

6. Change to communication parameter.



Press the hold/entry key.

7. Change to communication speed selection.



Set to "96" (9600bps) with the advance/down key or the pattern/up key, and press the hold/entry key.

8. Change to instrument number setting.



Set to "1" with the advance/down key or the pattern/up key, and press the hold/entry key.

9. Change to communication type selection.



Set to "NOML" (serial communication) with the advance/down key or the pattern/up key, and press the hold/entry key.

Completion of setting

### 3.35 Setting Example 35

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



## ■ Settings of External Device

Use the set/reset key, stop/mode key, hold/entry key, advance/down key and pattern/up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to program control execution mode.



Press the set/reset key.

3. Change to pattern setting mode.



Press the stop/mode key 4 times.

4. Change to auxiliary function setting mode.



Press the hold/entry key.

5. Change to alarm parameter.



Press the stop/mode key 5 times.

6. Change to communication parameter.



Press the hold/entry key.

7. Change to communication speed selection.



Set to "96" (9600bps) with the advance/down key or the pattern/up key, and press the hold/entry key.

8. Change to instrument number setting.



Set to "1" with the advance/down key or the pattern/up key, and press the hold/entry key.

9. Change to communication type selection.



Set to "NOML" (serial communication) with the advance/down key or the pattern/up key, and press the hold/entry key.

Completion of setting

### 3.36 Setting Example 36

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

#### IMPORTANT

- The setting value of the weight to send is different by the speed. Please set up as follows.

Speed	Setting value
9600bps	10ms or more
19200bps	10ms or more

##### ◆ Device Setting

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

When you connect multiple External Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

## ■ Settings of External Device

Use the set/reset key, stop/mode key, hold/entry key, advance/down key and pattern/up key in front of the External Device for communication settings of the External Device.

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

1. Turn ON the power supply.



2. Change to program control execution mode.



Press the set/reset key.

3. Change to pattern setting mode.



Press the stop/mode key 4 times.

4. Change to auxiliary function setting mode.



Press the hold/entry key.

5. Change to alarm parameter.



Press the stop/mode key 5 times.

6. Change to communication parameter.



Press the hold/entry key.

7. Change to communication speed selection.



Set to "96" (9600bps) with the advance/down key or the pattern/up key, and press the hold/entry key.

8. Change to instrument number setting.



Set to "1" with the advance/down key or the pattern/up key, and press the hold/entry key.

9. Change to communication type selection.



Set to "NOML" (serial communication) with the advance/down key or the pattern/up key, and press the hold/entry key.

Completion of setting

## 4 Setup Items

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

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

☞ "3 Example of Communication Setting" (page 12)

### 4.1 Setup Items in GP-Pro EX

#### ■ Communication Settings

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

Device/PLC 1

Summary

Maker: Shinko Technos Co., Ltd. Series: Indicating Controller SIO Port: COM1

Text Data Mode: 2 [Change](#)

Communication Settings

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

Speed: 9600

Data Length: ☒ 7 ☐ 8

Parity: ☐ NONE ☒ EVEN ☐ ODD

Stop Bit: ☒ 1 ☐ 2

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

Timeout: 3 (sec)

Retry: 2

Wait To Send: 2 (ms)

RI / VCC: ☒ RI ☐ VCC

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

Default


Device-Specific Settings

Allowable Number of Devices/PLCs: 16

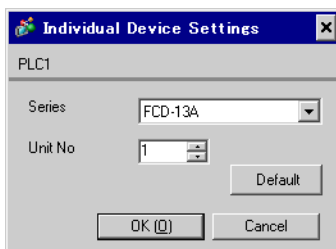
Number: 1 Device Name: PLC1 Settings: Series=FCD-13A, Unit No=1

Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device.
Speed	Select speed between the External Device and the Display.
Data Length	Select data length.
Parity	Select how to check parity.
Stop Bit	Select stop bit length.
Flow Control	Display the communication control method to prevent overflow of transmission and reception data.
Timeout	Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device.
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.
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.

## ■ Device Setting

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

When you connect multiple External Device, click  from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.



Setup Items	Setup Description
Series	Select the External Device series.
Unit No	Use an integer from 0 to 94 to enter the Unit No. of the External Device.

## 4.2 Setup Items in Off-Line Mode

**NOTE**

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

Cf. Maintenance/Troubleshooting "2.2 Offline Mode"

### ■ Communication Settings

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

Comm.	Device	Option		
Indicating Controller SIO [COM1] Page 1/1				
SIO Type	RS422/485(4wire)			
Speed	9600			
Data Length	<input checked="" type="radio"/> 7 <input type="radio"/> 8			
Parity	<input type="radio"/> NONE <input checked="" type="radio"/> EVEN <input type="radio"/> ODD			
Stop Bit	<input checked="" type="radio"/> 1 <input type="radio"/> 2			
Flow Control	NONE			
Timeout(s)	3			
Retry	2			
Wait To Send(ms)	2			
Exit		Back		2007/02/08 00:30:10

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

Continues to the 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.

## ■ Device Settings

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

Comm.	Device	Option		
Indicating Controller SIO		[COM1]	Page 1/1	
Device/PLC Name		PLC1 ▼		
Series		NCS-13A		
Unit No.		1 ▼ ▲		
Exit		Back		2007/02/08 00:30:13

Setup Items	Setup Description
Device/PLC name	Select the External Device to set. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1])
Unit No.	Enter the unit No. (0 to 94) of the External Device.

## ■ Option

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

Comm.	Device	Option		
Indicating Controller SIO		[COM1]	Page 1/1	
<p>RI / VCC      <input checked="" type="radio"/> RI      <input type="radio"/> VCC</p> <p>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.</p>				
	Exit		Back	2007/02/08 00:30:18

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



## 5 Cable Diagram

The cable diagram shown below may be different from the cable diagram recommended by Shinko Technos Co.,Ltd.. Please be assured there is no operational problem in applying the cable diagram shown in this manual.

- The FG pin of the External Device body 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..

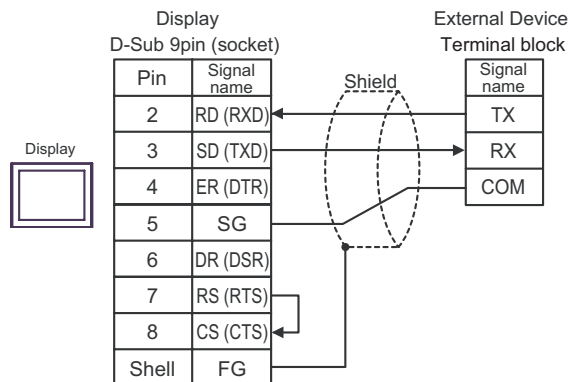
Cable Diagram 1

Display (Connection Port)	Cable	Notes
GP (COM1) ST (COM1) LT (COM1) IPC*1 PC/AT	Your own cable	The cable length must be 15m or less.

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

☞ " ■ COM Port of IPC" (page 9)

When using your own cable



Cable Diagram 2


Display (Connection Port)	Cable		Notes
GP <sup>*1</sup> (COM1) AGP-3302B (COM2) ST <sup>*2</sup> (COM2) LT (COM1)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500m or less.
	B	Your own cable	
GP <sup>*3</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	
IPC <sup>*4</sup>	E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	F	Your own cable	

\*1 All GP models except AGP-3302B

\*2 All ST models except AST-3211A

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

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

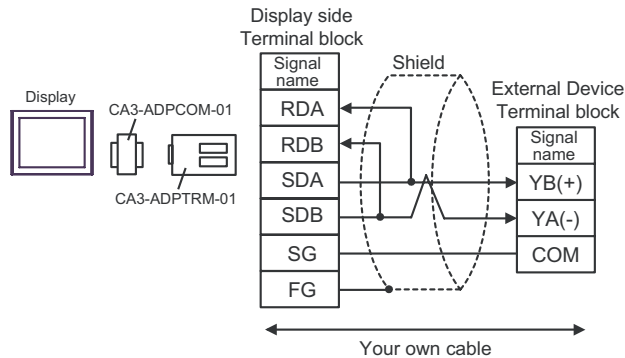
 " ■ COM Port of IPC" (page 9)

**NOTE**

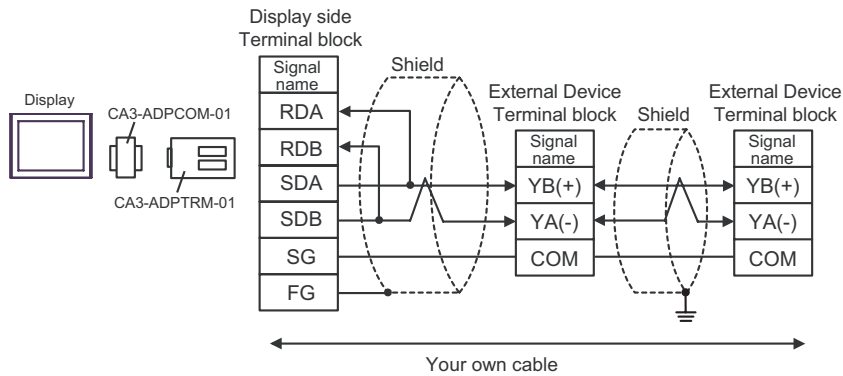
- When connecting DCL-33A, CDM cable by Shinko Technos Co., Ltd. and terminal block can be used.
- When connecting NCL-13A, use terminal block (ATB-001-1) by Shinko Technos Co., Ltd.

- A) When using the COM port conversion adapter (CA3-ADPCOM-01) , the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

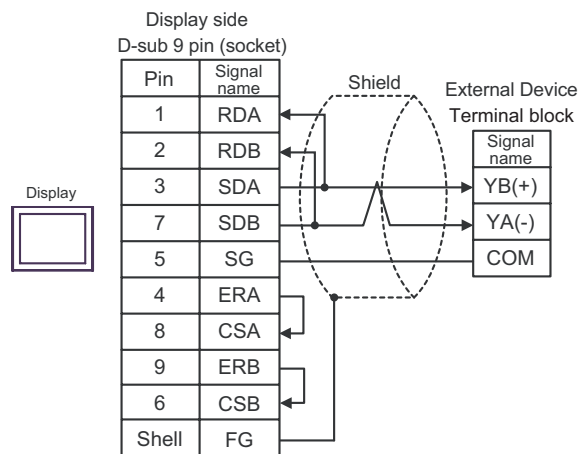


- 1:n Connection

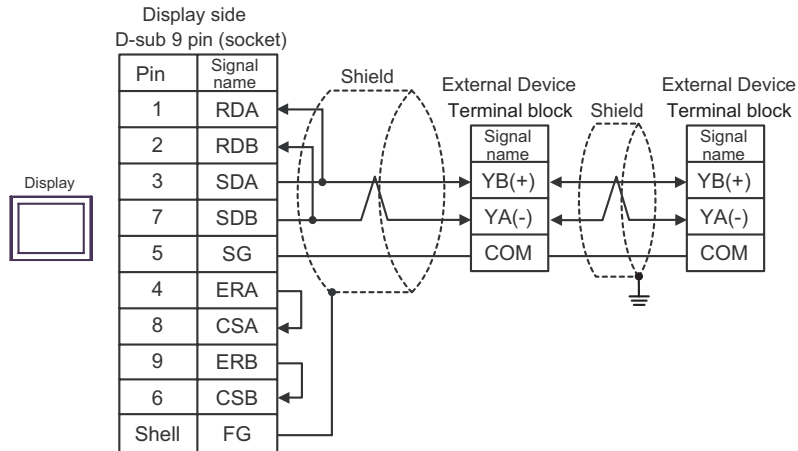


- B) When using your own cable

- 1:1 Connection

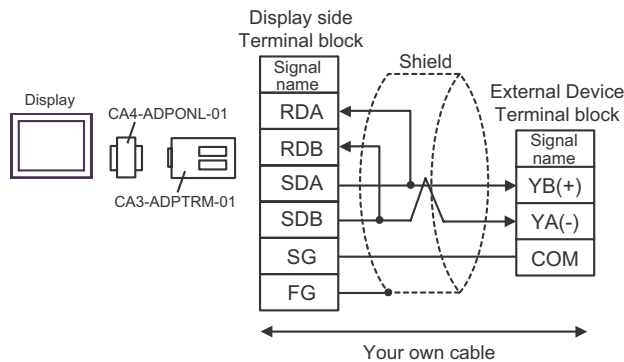


- 1:n Connection

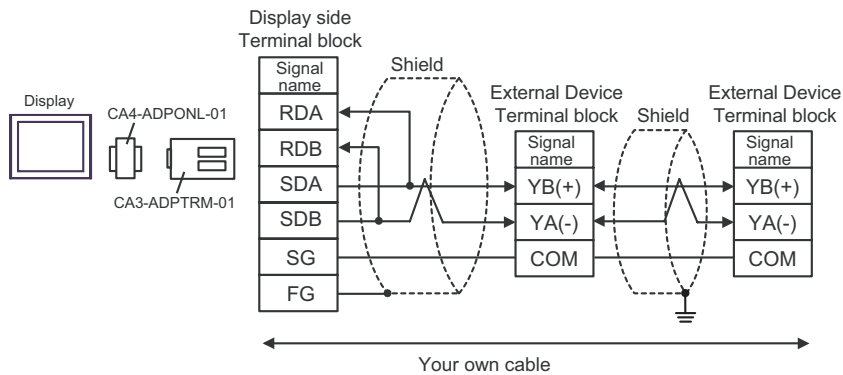


- C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

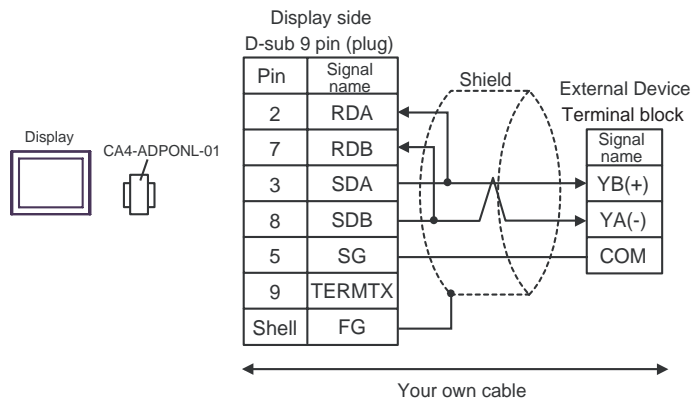


- 1:n Connection

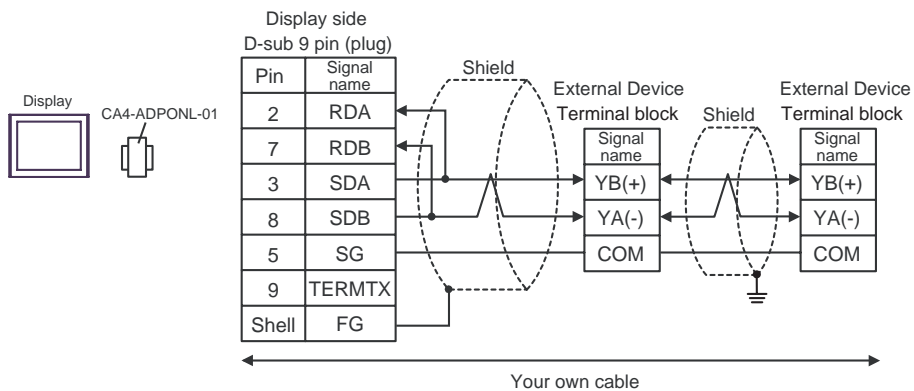


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection

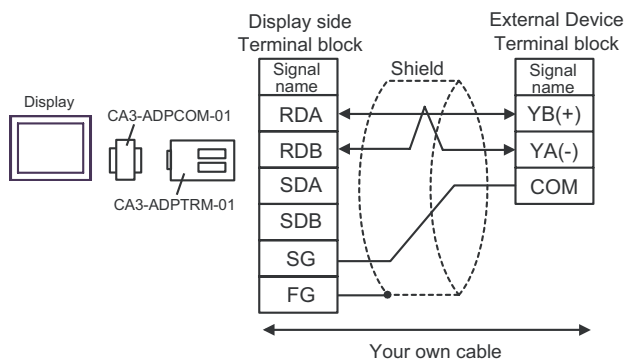


- 1:n Connection

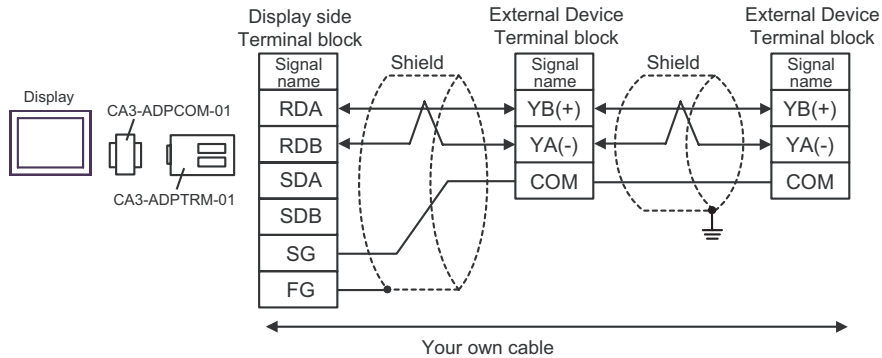


E) When using the COM port conversion adapter (CA3-ADPCOM-01) , the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

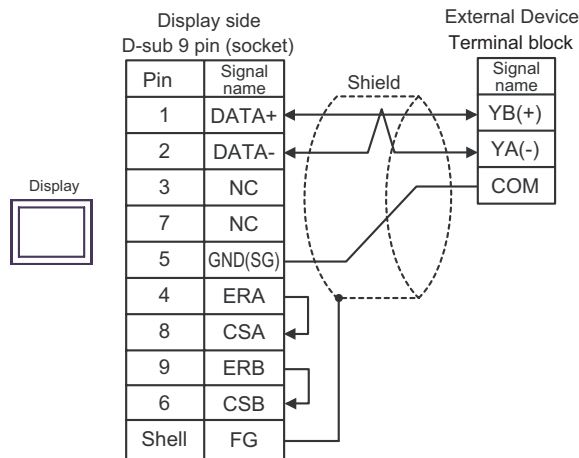


- 1:n Connection

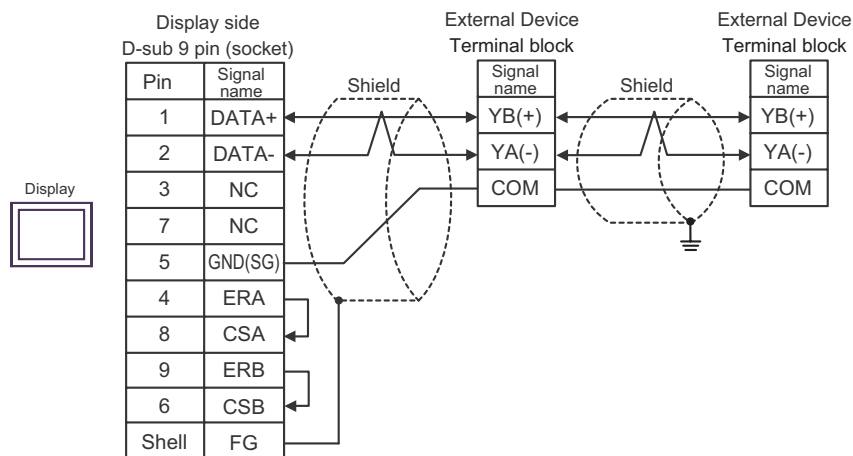


#### F) When using your own cable

- 1:1 Connection



- 1:n Connection




Cable Diagram 3

Display (Connection Port)	Cable		Notes
GP <sup>*1</sup> (COM1) AGP-3302B (COM2) ST <sup>*2</sup> (COM2) LT (COM1) IPC <sup>*3</sup>	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable + Terminal block + CPM cable by Shinko Technos Co., Ltd.	<ul style="list-style-type: none"> <li>The cable length must be 1000m or less.</li> <li>The cable length can be extended at the 1m unit.</li> </ul>
GP <sup>*4</sup> (COM2)	B	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable + Terminal block + CPM cable by Shinko Technos Co., Ltd.	

\*1 All GP models except AGP-3302B

\*2 All ST models except AST-3211A

\*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.  
 " ■ COM Port of IPC" (page 9)

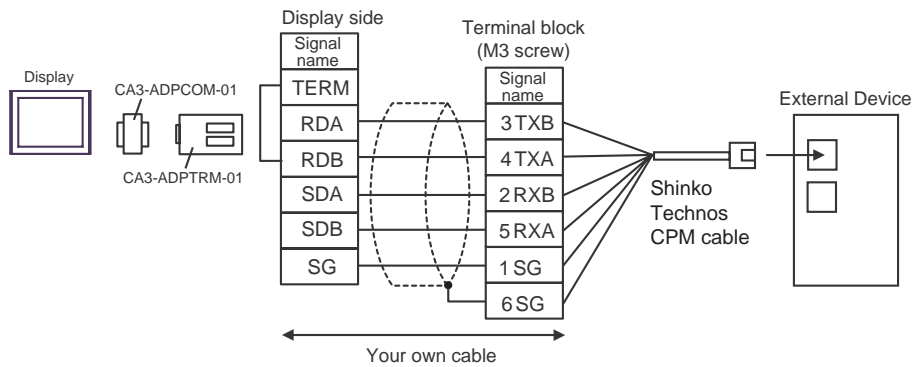
\*4 All GP models except GP-3200 series and AGP-3302B

**NOTE**

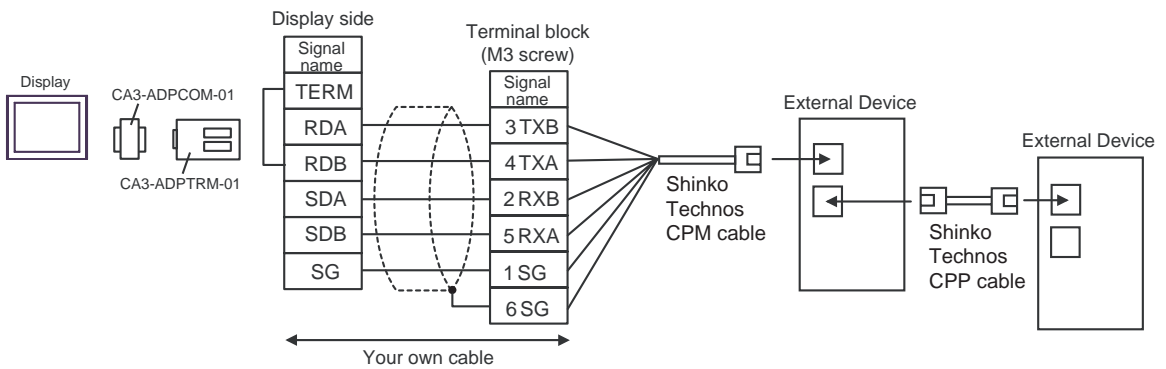
- Turn on No.2 DIP switch to perform communication settings of the end External Device to the insert termination resistance (120Ω 1/2W).
- The names of poles A and B are inverted between the Display and the External Device.

- A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face, your own cable, terminal block and CPM cable by Shinko Technos Co., Ltd.

- 1:1 Connection



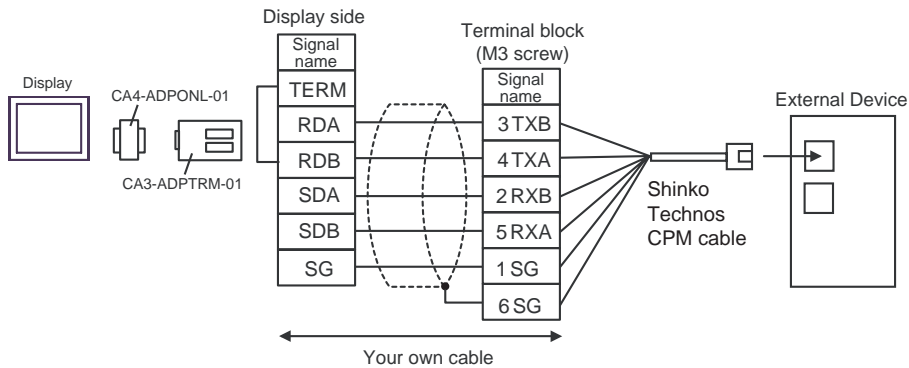
- 1:n Connection



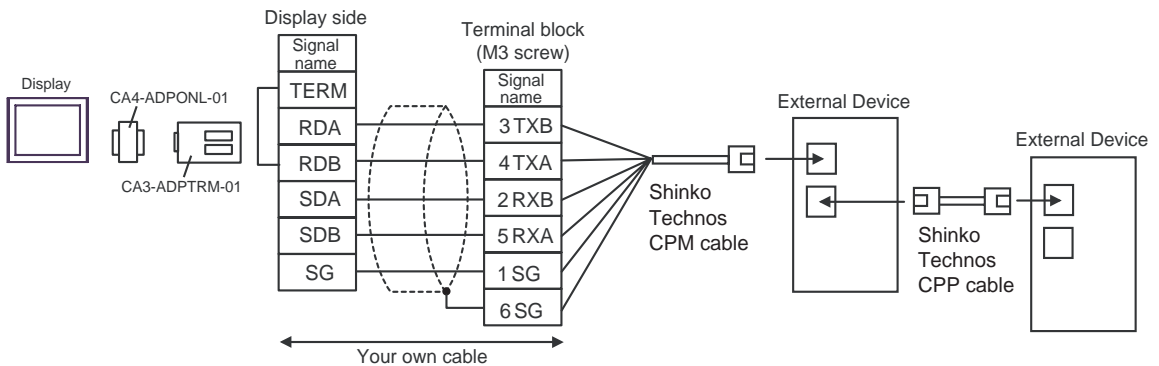


- B) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face, your own cable, terminal block and CPM cable by Shinko Technos Co., Ltd.

- 1:1 Connection



- 1:n Connection



Cable Diagram 4

Display (Connection Port)	Cable	Notes
GP (COM1) ST (COM1) LT (COM1) IPC*1 PC/AT	Your own cable + RS-232C ↔ RS-485 converter (IF-300-C5)*2 by Shinko Technos Co., Ltd.	<ul style="list-style-type: none"> <li>Between Display and IF-300-C5 Cable length :15m max.</li> <li>Between IF-300-C5 and Controller Cable length :1200m total</li> </ul>

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

☞ "■ COM Port of IPC" (page 9)

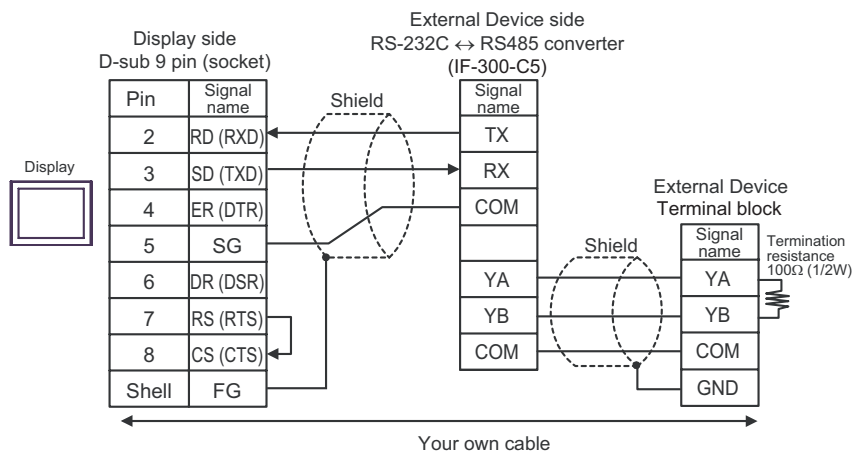
\*2 When using an RS-232C ↔ RS-485 converter (IF-300-C5) by Shinko Technos Co., Ltd., set the RS-232C for the communication setting on the Display side. (RS-232C ↔ RS-485 commercial type converters are unusable.)

**NOTE**

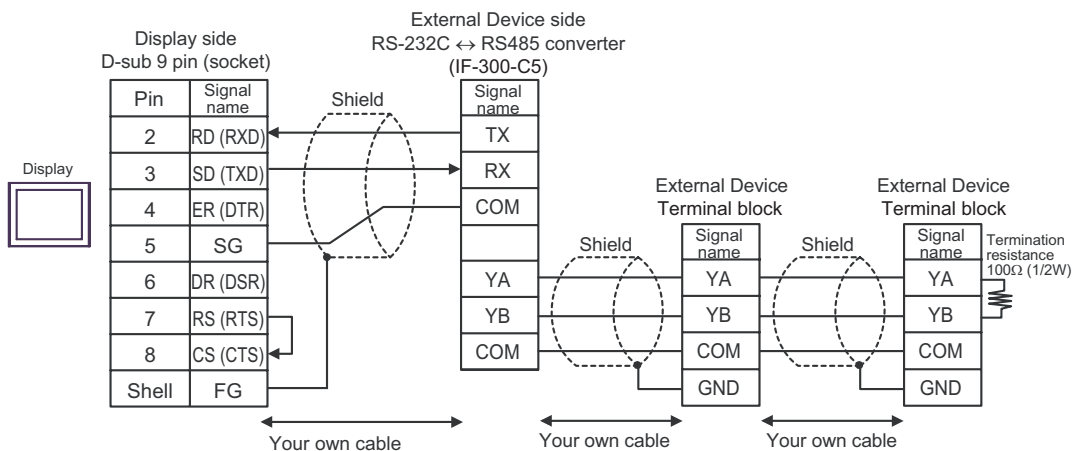
- Termination resistance (100Ω) is built in the RS-232C ↔ RS-485 converter.

When using your own cable and the RS-232C ↔ RS-485 converter (IF-300-C5) by Shinko Technos Co., Ltd.

- 1:1 Connection



- 1:n Connection



Cable Diagram 5

Display (Connection Port)	Cable		Notes
GP (COM1) ST (COM1) LT (COM1) IPC* <sup>1</sup> PC/AT	A	Your own cable + RS-232C ↔ RS-485 converter IF-400 (with DCL-33A)* <sup>2</sup> by Shinko Technos Co., Ltd.	<ul style="list-style-type: none"> <li>Between Display and IF-400 Cable length :15m max.</li> <li>Between IF-400 and Controller Cable length :1200m total</li> </ul>
	B	Your own cable + RS-232C ↔ RS-485 converter IF-400 (Controller of terminal block connection) by Shinko Technos Co., Ltd.	
	C	Your own cable + RS-232C ↔ RS-485 converter IF-400 (Controller of screw plug connection) by Shinko Technos Co., Ltd.	

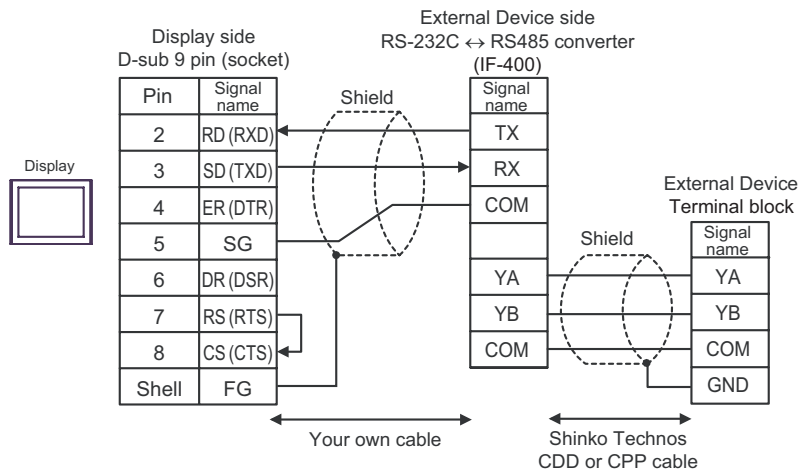
\*1 Only the COM port which can communicate by RS-232C can be used.

☞ " ■ COM Port of IPC" (page 9)

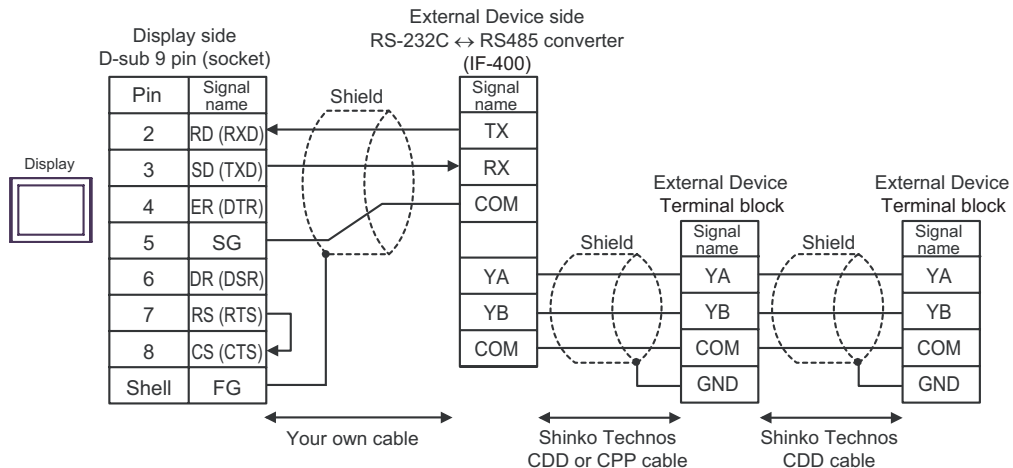
\*2 When using an RS-232C ↔ RS-485 converter (IF-400) by Shinko Technos Co., Ltd., set the RS-232C for the communication setting on the Display side. (RS-232C ↔ RS-485 commercial type converters are unusable.)

A) When using your own cable and the RS-232C ↔ RS-485 converter (IF-400 (with DCL-33A)) by Shinko Technos Co., Ltd.

- 1:1 Connection

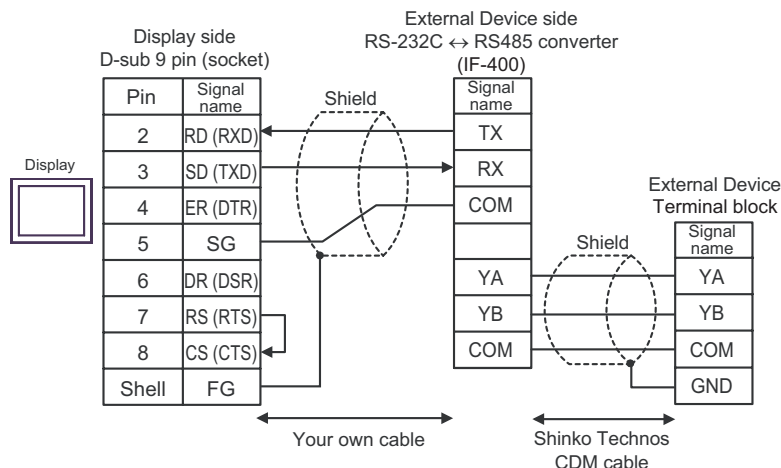


- 1:n Connection

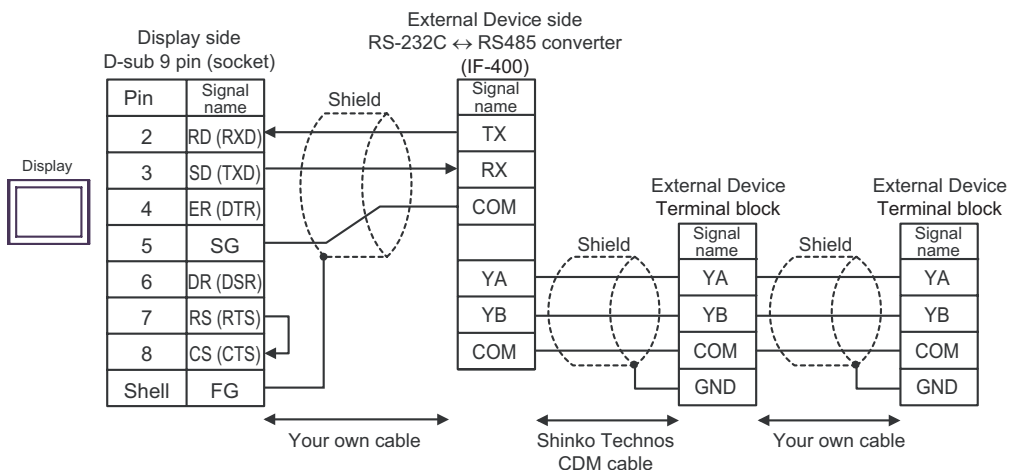


B) When using your own cable and the RS-232C ↔ RS-485 converter (IF-400 (Controller of terminal block connection)) by Shinko Technos Co., Ltd.

- 1:1 Connection

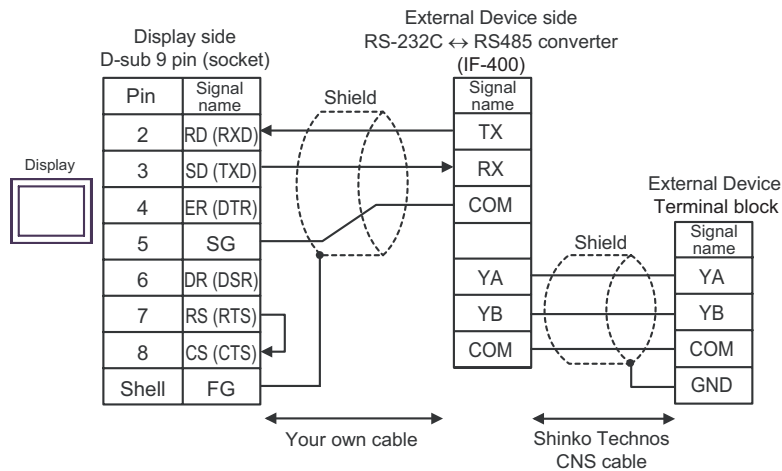


- 1:n Connection

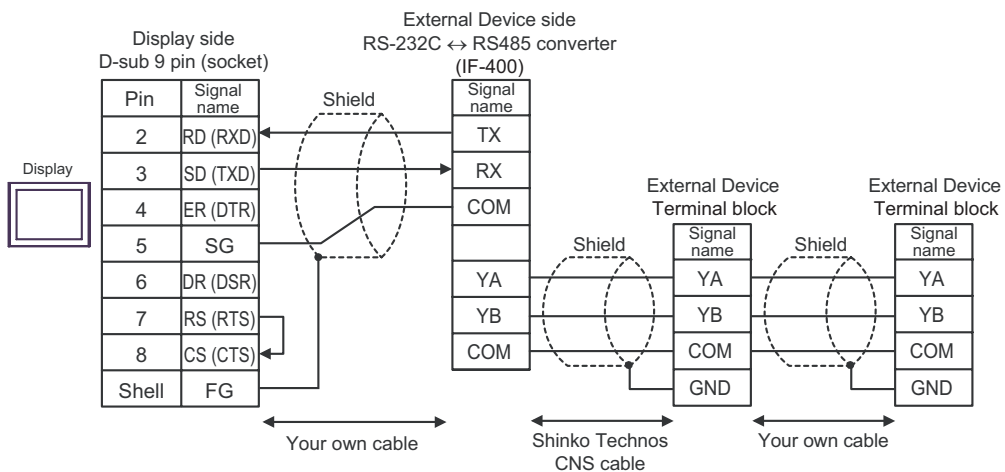


- C) When using your own cable and the RS-232C ↔ RS-485 converter (IF-400 (Controller of screw plug connection)) by Shinko Technos Co., Ltd.

- 1:1 Connection



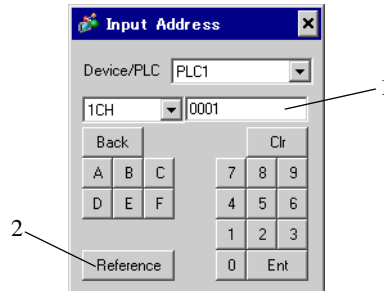
- 1:n Connection



## 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 connecting equipment.

Enter the External Device address in the dialog below.




1. Address
2. Reference


Enter the address.

Available parameter list is displayed.

Click the parameter to use and press “Select”, then the address is entered.


## 6.1 C series

 This address can be specified as system data area.


Device	Bit Address	Word Address	16 bits	Notes
Channel 1	1CH0001.0 - 1CH00A1.F	1CH0001 - 1CH00A1		*1
Channel 2	2CH0001.0 - 2CH00A1.F	2CH0001 - 2CH00A1		*1
Channel 3	3CH0001.0 - 3CH00A1.F	3CH0001 - 3CH00A1		*1
Channel 4	4CH0001.0 - 4CH00A1.F	4CH0001 - 4CH00A1		*1
Channel 5	5CH0001.0 - 5CH00A1.F	5CH0001 - 5CH00A1		*1
Channel 6	6CH0001.0 - 6CH00A1.F	6CH0001 - 6CH00A1		*1
Channel 7	7CH0001.0 - 7CH00A1.F	7CH0001 - 7CH00A1		*1
Channel 8	8CH0001.0 - 8CH00A1.F	8CH0001 - 8CH00A1		*1
Channel 9	9CH0001.0 - 9CH00A1.F	9CH0001 - 9CH00A1		*1
Channel 10	10CH0001.0 - 10CH00A1.F	10CH0001 - 10CH00A1		*1
Channel 11	11CH0001.0 - 11CH00A1.F	11CH0001 - 11CH00A1		*1
Channel 12	12CH0001.0 - 12CH00A1.F	12CH0001 - 12CH00A1		*1
Channel 13	13CH0001.0 - 13CH00A1.F	13CH0001 - 13CH00A1		*1
Channel 14	14CH0001.0 - 14CH00A1.F	14CH0001 - 14CH00A1		*1
Channel 15	15CH0001.0 - 15CH00A1.F	15CH0001 - 15CH00A1		*1
Channel 16	16CH0001.0 - 16CH00A1.F	16CH0001 - 16CH00A1		*1
Channel 17	17CH0001.0 - 17CH00A1.F	17CH0001 - 17CH00A1		*1
Channel 18	18CH0001.0 - 18CH00A1.F	18CH0001 - 18CH00A1		*1
Channel 19	19CH0001.0 - 19CH00A1.F	19CH0001 - 19CH00A1		*1
Channel 20	20CH0001.0 - 20CH00A1.F	20CH0001 - 20CH00A1		*1


\*1 When writing the data from the Display, the Display reads word addresses of 20CH of the External Device, changes read word addresses, and returns those changed 20CH addresses to the External Device. If the data is changed on the External Device side while the Display reads data and returns them to the External Device, correct data may not be able to be written.

### NOTE

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


## 6.2 FC series

 This address can be specified as system data area.


Device	Bit Address	Word Address	16 bits	Notes
Data item	0002.0 - 0086.F	0002 - 0086		*1
Setting value memory 1	1S0001.0 - 1S0036.F	1S0001 - 1S0036		*1
Setting value memory 2	2S0001.0 - 2S0036.F	2S0001 - 2S0036		*1
Setting value memory 3	3S0001.0 - 3S0036.F	3S0001 - 3S0036		*1
Setting value memory 4	4S0001.0 - 4S0036.F	4S0001 - 4S0036		*1
Setting value memory 5	5S0001.0 - 5S0036.F	5S0001 - 5S0036		*1
Setting value memory 6	6S0001.0 - 6S0036.F	6S0001 - 6S0036		*1
Setting value memory 7	7S0001.0 - 7S0036.F	7S0001 - 7S0036		*1


\*1 When bit writing is done, the Display reads corresponding word addresses of the External Device, a bit is made in the read word addresses, and it returns them to the External Device. If the word addresses are changed by the External Device while the Display reads data of the External Device and returns them to the External Device, correct data may not be able to be written.

### NOTE

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


## 6.3 JC\*-13A, JCS-23A, GCS-300, FCL-13A, FIR-201-M

 This address can be specified as system data area.

Device	Bit Address	Word Address	16 bits	Notes
Data item	0001.0 - 00A3.F	0001 - 00A3		*1


\*1 When bit writing is done, the Display reads corresponding word addresses of the External Device, a bit is made in the read word addresses, and it returns them to the External Device. If the word addresses are changed by the External Device while the Display reads data of the External Device and returns them to the External Device, correct data may not be able to be written.


### NOTE

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




## 6.4 JCS-33A, JCR-33A, JCD-33A, JCM-33A, ACS-13A, NCL-13A, DCL-33A, JIR-301-M

 This address can be specified as system data area.


Device	Bit Address	Word Address	16 bits	Notes
Data item	0001.0 - 00A1.F	0001 - 00A1		*1


\*1 When bit writing is done, the Display reads corresponding word addresses of the External Device, a bit is made in the read word addresses, and it returns them to the External Device. If the word addresses are changed by the External Device while the Display reads data of the External Device and returns them to the External Device, correct data may not be able to be written.

### NOTE

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


## 6.5 JCL-33A

 This address can be specified as system data area.


Device	Bit Address	Word Address	16 bits	Notes
Data item	0001.0 - 1191.F	0001 - 1191		*1

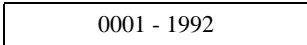

\*1 When bit writing is done, the Display reads corresponding word addresses of the External Device, a bit is made in the read word addresses, and it returns them to the External Device. If the word addresses are changed by the External Device while the Display reads data of the External Device and returns them to the External Device, correct data may not be able to be written.

### NOTE

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


## 6.6 PCD-33A

 This address can be specified as system data area.


Device	Bit Address	Word Address	16 bits	Notes
Data item	0001.0 - 1992.F	 0001 - 1992		*1

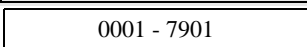

\*1 When bit writing is done, the Display reads corresponding word addresses of the External Device, a bit is made in the read word addresses, and it returns them to the External Device. If the word addresses are changed by the External Device while the Display reads data of the External Device and returns them to the External Device, correct data may not be able to be written.

### NOTE

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


## 6.7 PC-900

 This address can be specified as system data area.

Device	Bit Address	Word Address	16 bits	Notes
Data item	0001.0 - 7901.F	 0001 - 7901		*1

\*1 When bit writing is done, the Display reads corresponding word addresses of the External Device, a bit is made in the read word addresses, and it returns them to the External Device. If the word addresses are changed by the External Device while the Display reads data of the External Device and returns them to the External Device, correct data may not be able to be written.

### NOTE

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

## 7 Device Code and Address Code

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

Device	Device Name	Device Code (HEX)	Address Code
Data item	-	0000	Word Address
Setting value memory 1	1S	0001	Word Address
Setting value memory 2	2S	0002	Word Address
Setting value memory 3	3S	0003	Word Address
Setting value memory 4	4S	0004	Word Address
Setting value memory 5	5S	0005	Word Address
Setting value memory 6	6S	0006	Word Address
Setting value memory 7	7S	0007	Word Address
Channel 1	1CH	0011	Word Address
Channel 2	2CH	0012	Word Address
Channel 3	3CH	0013	Word Address
Channel 4	4CH	0014	Word Address
Channel 5	5CH	0015	Word Address
Channel 6	6CH	0016	Word Address
Channel 7	7CH	0017	Word Address
Channel 8	8CH	0018	Word Address
Channel 9	9CH	0019	Word Address
Channel 10	10CH	001A	Word Address
Channel 11	11CH	001B	Word Address
Channel 12	12CH	001C	Word Address
Channel 13	13CH	001D	Word Address
Channel 14	14CH	001E	Word Address
Channel 15	15CH	001F	Word Address
Channel 16	16CH	0020	Word Address
Channel 17	17CH	0021	Word Address
Channel 18	18CH	0022	Word Address
Channel 19	19CH	0023	Word Address
Channel 20	20CH	0024	Word Address

## 8 Error Messages

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

Item	Description
No.	Error No.
Device Name	Name of External Device where error occurs. Device name is a title of 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 External Device where error occurs, or error codes received from External Device.</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>NOTE</b></div> <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

- Please refer to the manual of External Device for more detail of received error codes.
- Please refer to "When an error message is displayed (Error code list)" of "Maintenance/Troubleshooting" for a common error message to the driver.

### ■ Error Code Peculiar to Driver

Error code consists of 1byte in a hexadecimal numeral.

Error Code	Error Name	Cause
30	Error for unknown reasons	Error for unknown reasons This error occurs when a recoverable problem such as parity error occurs. This problem is recovered by resending a command.
31	The command does not exist.	The command does not exist.
33	The range of set value is exceeded.	The range of set value is exceeded.
34	In the state that setting cannot be implemented (AT is being executed or during warm-up after the power is turned on.)	In the state that setting cannot be implemented (AT is being executed or during warm-up after the power is turned on.)
35	In the case during mode setting via key operation	In the case during mode setting via key operation