# FB Series SIO Driver

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#### Introduction

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

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

1	System Configuration This section shows the types of External Devices that can be connected and SIO type.	"1 System Configuration" (page 3)
2	Selection of External Device Select the model (series) of the External Device to be connected and its connection method.	"2 Selection of External Device" (page 8)
3	Example of Communication Settings This section shows setting examples for communicating between the Display and the External Device.	"3 Example of Communication Setting" (page 9)
4	Setup Items This section describes communication setup items on the Display. Set the communication settings of the Display with GP-Pro EX or in offline mode	"4 Setup Items" (page 32)
B		
5	Cable Diagram This section shows cables and adapters for connecting the Display and the External Device.	"5 Cable Diagram" (page 37)
	Operation	
	oporation	

# 1 System Configuration

The following shows the system configuration where the External Device of FATEK AUTOMATION Corporation and the Display are connected.

Series	CPU	Link I/F		SIO Type	Setting Example	Cable Diagram	
		CPU unit <sup>*2</sup>	Port 0	RS232C	Setting Example 1 (page 9)	Cable Diagram 1 (page 37)	
		FBs-CB2	Port 2	RS232C	Setting Example 2 (page 10)	Cable Diagram 2 (page 38)	
		FBs-CB22	Port 1	RS232C	Setting Example 3 (page 12)	Cable	
		FDS-CD22	Port 2	RS232C	Setting Example 2 (page 10)	Diagram 2 (page 38)	
	FBs-10MA/MC FBs-14MA/MC FBs-20MA/MC FBs-24MA/MC FBs-32MA/MC FBs-40MA/MC FBs-60MA/MC FBs-20MN FBs-32MN FBs-32MN FBs-44MN		FBs-CB25	Port 1	RS232C	Setting Example 3 (page 12)	Cable Diagram 2 (page 38)
		г <b>Б</b> 5-С <b>Б</b> 25	Port 2	RS422/485 (2wire)	Setting Example 4 (page 14)	Cable Diagram 4 (page 40)	
FBs <sup>*1</sup>		FBs-CB5	Port 2	RS422/485 (2wire)	Setting Example 4 (page 14)	Cable Diagram 4 (page 40)	
		FBs-CB55	Port 1	RS422/485 (2wire)	Setting Example 5 (page 16)	Cable Diagram 4	
			Port 2	RS422/485 (2wire)	Setting Example 4 (page 14)	(page 40)	
		FBs-CM22	Port 3	RS232C	Setting Example 6 (page 18)	Cable Diagram 3	
			Port 4	RS232C	Setting Example 7 (page 20)	(page 39)	
			Port 3	RS232C	Setting Example 6 (page 18)	Cable Diagram 3 (page 39)	
		FBs-CM25	Port 4	RS422/485 (2wire)	Setting Example 9 (page 24)	Cable Diagram 4 (page 40)	

Series	CPU	Link I/F		SIO Type	Setting Example	Cable Diagram
		FBs-CM25E	Port 3	RS232C	Setting Example 6 (page 18)	Cable Diagram 3 (page 39)
	FBs-10MA/MC FBs-14MA/MC	FBS-CM23E	Port 4	RS422/485 (2wire)	Setting Example 9 (page 24)	Cable Diagram 4 (page 40)
FBs <sup>*1</sup>	FBs-20MA/MC FBs-24MA/MC FBs-32MA/MC	FBs-CM55	Port 3	RS422/485 (2wire)	Setting Example 8 (page 22)	Cable Diagram 4
rbs	FBs-40MA/MC FBs-60MA/MC FBs-20MN FBs-32MN	гвз-См33	Port 4	RS422/485 (2wire)	Setting Example 9 (page 24)	(page 40)
	FBs-44MN	FBs-CM55E	Port 3	RS422/485 (2wire)	Setting Example 8 (page 22)	Cable Diagram 4
			Port 4	RS422/485 (2wire)	Setting Example 9 (page 24)	(page 40)
	FBe-20MA FBe-28MA	CPU unit	Junit Port 0	RS232C	Setting Example 11 (page 27)	Cable Diagram 5 (page 49)
	FBe-40MA			RS422/485 (2wire)	Setting Example 10 (page 26)	Cable Diagram 6 (page 51)
			Port 0	RS232C	Setting Example 11 (page 27)	Cable Diagram 5 (page 49)
			Tonto	RS422/485 (2wire)	Setting Example 10 (page 26)	Cable Diagram 6 (page 51)
FBe/FBn *1	FBe-20MC	CPU unit	Port 1	RS232C	Setting Example 12 (page 28)	Cable Diagram 7 (page 60)
	FBe-28MC FBe-40MC FBn-19MCT FBn-26MCT		Port 2	RS422/485 (2wire)	Setting Example 13 (page 30)	Cable Diagram 8 (page 61)
	FBn-36MCT	FB-DTBR	Port 0	RS232C	Setting Example 11 (page 27)	Cable Diagram 3 (page 39)
			Port 1	RS232C	Setting Example 12 (page 28)	Cable Diagram 9 (page 70)
			Port 2	RS422/485 (2wire)	Setting Example 13 (page 30)	Cable Diagram 6 (page 51)

Series	CPU	Link I/F		SIO Type	Setting Example	Cable Diagram
FBe/FBn *1	FBe-20MC FBe-28MC FBe-40MC	ED DTDD E	Port 0	RS232C	Setting Example 11 (page 27)	Cable Diagram 3 (page 39)
	FBn-19MCT FBn-26MCT FBn-36MCT	FB-DTBR-E	Port 2	RS422/485 (2wire)	Setting Example 13 (page 30)	Cable Diagram 6 (page 51)

\*1 Set the software's interface to "Standard Interface". Refer to your External Device manual for the correct settings.

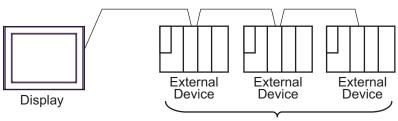
\*2 Available only with a CPU incorporating an RS232 port.

## Connection Configuration

• 1:1 Connection



• 1:n Connection



Maximum 16 units

## ■ IPC COM Port

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

#### Usable port

Series	Usable Port				
Conco	RS-232C	RS-422/485(4 wire)	RS-422/485(2 wire)		
PS-2000B	COM1 <sup>*1</sup> , COM2, COM3 <sup>*1</sup> , COM4	-	-		
PS-3450A, PS-3451A, PS3000-BA, PS3001-BD	COM1, COM2 <sup>*1*2</sup>	COM2 <sup>*1*2</sup>	COM2 <sup>*1*2</sup>		
PS-3650A, 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, PL-3600T, PL-3600K, PL-3700T, PL-3700K, PL-3900T	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. Use the IPC's switch to change if necessary.

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

#### DIP switch setting: RS-232C

DIP switch	Setting	Description		
1	OFF <sup>*1</sup>	Reserved (always OFF)		
2	OFF	SIO type: RS-232C		
3	OFF	510 type. R5-252e		
4	OFF	Output mode of SD (TXD) data: Always output		
5	OFF	Terminal resistance (220 $\Omega$ ) insertion to SD (TXD): None		
6	OFF	Terminal resistance (220 $\Omega$ ) insertion to RD (RXD): None		
7	OFF	Short-circuit of SDA (TXA) and RDA (RXA): Not available		
8	OFF	Short-circuit of SDB (TXB) and RDB (RXB): Not available		
9	OFF	- RS (RTS) Auto control mode: Disabled		
10	OFF	- KS (K15) Auto control mode. Disabled		

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

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

DIP switch	Setting	Description		
1	OFF	Reserved (always OFF)		
2	ON	SIO type: RS-422/485		
3	ON	S10 type. K3-422/465		
4	OFF	Output mode of SD (TXD) data: Always output		
5	OFF	Terminal resistance (220 $\Omega$ ) insertion to SD (TXD): None		
6	OFF	Terminal resistance (220 $\Omega$ ) insertion to RD (RXD): None		
7	OFF	Short-circuit of SDA (TXA) and RDA (RXA): Not available		
8	OFF	Short-circuit of SDB (TXB) and RDB (RXB): Not available		
9	OFF	PS (PTS) Auto control mode: Dischlad		
10	OFF	RS (RTS) Auto control mode: Disabled		

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

DIP switch	Setting	Description	
1	OFF	Reserved (always OFF)	
2	ON	SIO type: RS-422/485	
3	ON	SIO type. K3-422/465	
4	OFF	Output mode of SD (TXD) data: Always output	
5	OFF	Terminal resistance (220 $\Omega$ ) insertion to SD (TXD): None	
6	OFF	Terminal resistance (220 $\Omega$ ) insertion to RD (RXD): None	
7	ON	Short-circuit of SDA (TXA) and RDA (RXA): Available	
8	ON	Short-circuit of SDB (TXB) and RDB (RXB): Available	
9	ON	- RS (RTS) Auto control mode: Enabled	
10	ON		

# 2 Selection of External Device

Select the External Device to be connected to the Display.

💰 New Project File					×
GP-Pro 🛃	Device/PL0				
	Maker	FATEK AUTOMATIO	N Corporation		
	Series	FB Series SIO		<u> </u>	
	I Use Sj	ystem Area		Refer to the manual of this Device/PLC	
	Connection	Method			
	Port	СОМ1	•		
				Go to Device/PLC Manu	<u>al</u>
Back	( <u>B</u> ) Com	munication Settings	New Log	ic New Screen Cancel	

Setup Items	Setup Description
Maker	Select the maker of the External Device to be connected. Select "FATEK AUTOMATION Corporation".
Series	Select the model (series) of the External Device to be connected and its connection method. Select "FB Series SIO". Check the External Device that can be connected in "FB Series SIO" in system configuration. "I System Configuration" (page 3)
Use System Area	Check this option when you synchronize the system data area of Display and the device (memory) of External Device. When synchronized, you can use the ladder program of External Device to switch the display or display the window on the Display. Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)" This can also be set in GP-Pro EX or in the Display's offline mode. Cf. GP-Pro EX Reference Manual "Display Unit (System Area) Settings Guide" Cf. Maintenance/Troubleshooting Manual "Main Unit - System Area Settings"
Port	Select the port of the Display to be connected to the External Device.

# 3 Example of Communication Setting

The following shows examples of communication settings for the Display and the External Device, which are recommended by Pro-face.

## 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 the workspace.

Device/PLC 1	
Summary	Change Device/PLC
Maker FATEK AUTOMATION Corporation Series FB Series SIO	Port COM1
Text Data Mode 1 Change	
Communication Settings	
SID Type	
Speed 9600 🔻	
Data Length 0 7 0 8	
Parity O NONE O EVEN O ODD	
Stop Bit 💿 1 💿 2	
Flow Control C NONE O ER(DTR/CTS) O X0N/X0FF	
Timeout 3 💼 (sec)	
Retry 2	
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           Number         Device Name           Image: PLC1         Image: Station No.=1	

#### ♦ Device Setting

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

To connect multiple External Devices, click if from [Device-Specific Settings] of [Device/PLC Settings] to add External Devices.

💰 Individual Device	Settings 🛛 🔀
PLC1	
Station No.	-
	Default
OK ( <u>D</u> )	Cancel

### Settings of External Device

The communication setting is fixed.

## 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 the workspace.

Devic	e/PLC1		
Sum	mary		Change Device/PLC
	Maker FATEK AU	JTOMATION Corp	oration Series FB Series SIO Port COM1
	Text Data Mode	1 <u>Change</u>	
Com	munication Settings		
	SIO Type	• R\$232C	C RS422/485(2wire) C RS422/485(4wire)
	Speed	9600	T
	Data Length	• 7	© 8
	Parity	O NONE	EVEN     ODD
	Stop Bit	● 1	© 2
	Flow Control	O NONE	ER(DTR/CTS)     O XON/XOFF
	Timeout	3 📫 (:	sec)
	Retry	2 📫	
	Wait To Send	0 🔅 (	ns)
	RI / VCC	• RI	O VCC
		Supply). If you use	t the 9th pin to RI (Input) the Digital's RS232C Default
Devi	ice-Specific Settings		
	Allowable Number of [		16
	Number Device Na	ime	Settings
	<u> </u>		

#### Device Setting

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

💰 Individual Device	Settings 🛛 🔀
PLC1	
Station No. 1	•
	Default
OK ( <u>0</u> )	Cancel

Use the ladder software (WinProladder) for communication settings. After completing the settings, reboot the External Device to enable them. Refer to your External Device manual for details.

- 1 Start up the ladder software (WinProladder).
- 2 Select [Setting] [Port 2 Parameter] from the [PLC] menu.
- **3** In the [Comm. Parameter Setting] dialog box, set the following parameters.

Item	Settings
Baud Rate	9,600
Parity	Even parity
Data Bit	7 bits
Stop Bit	1 bit

## 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 the workspace.

Device/F	PLC 1		
Summar	ry		Change Device/PLC
Ma	aker FATEK AU	TOMATION Corpo	oration Series FB Series SIO Port COM1
Te	ext Data Mode	1 Change	
Commu	nication Settings		
SIC	О Туре	RS232C	C RS422/485(2wire) C RS422/485(4wire)
Sp	beed	9600	×
Da	ata Length	• 7	C 8
Pa	arity	O NONE	EVEN     ODD
Sto	op Bit	● 1	© 2
Flo	ow Control	O NONE	ER(DTR/CTS) O XON/XOFF
Tin	meout	3 📫 (s	ec)
Re	etry	2 📫	
Wa	ait To Send	0 🕂 (r	(21
BI	/VCC	• BI	○ VCC
0		upply). If you use	t the 9th pin to RI (Input) the Digital's RS232C Default
Device-	-Specific Settings		
	lowable Number of D		16
Nu V	umber Device Nar 1 PLC1	ne	Settings Station No.=1
00			

#### Device Setting

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

💰 Individual Device	Settings 🛛 🔀
PLC1	
Station No. 1	-
	Default
OK ( <u>0</u> )	Cancel

Use the ladder software (WinProladder) for communication settings. After completing the settings, reboot the External Device to enable them. Refer to your External Device manual for details.

- 1 Start up the ladder software (WinProladder).
- 2 Select [Setting] [Port 1 Parameter] from the [PLC] menu.
- **3** In the [Comm. Parameter Setting] dialog box, set the following parameters.

Item	Settings
Baud Rate	9,600
Parity	Even parity
Data Bit	7 bits
Stop Bit	1 bit

## 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 the workspace.

Device/F	PLC 1		
Summar	y .		Change Device/PLC
Ма	aker FATEK AU	TOMATION Corpo	oration Series FB Series SIO Port COM1
Te	xt Data Mode 🛛	1 <u>Change</u>	
Commur	nication Settings		
SIC	Э Туре	C RS232C	RS422/485(2wire)      RS422/485(4wire)
Sp	eed	9600	<b>•</b>
Da	ita Length	• 7	C 8
Par	rity	O NONE	EVEN O ODD
Sto	op Bit	⊙ 1	O 2
Flo	w Control	O NONE	ER(DTR/CTS)     C XON/XOFF
Tim	neout	3 📫 (s	sec)
Re	etry	2 🔅	
Wa	ait To Send	0 📫 (n	ns)
BI	/ VCC	© RI	O VCC
0		upply). If you use	t the 9th pin to RI (Input) : the Digital's RS232C Default Default
Device-	Specific Settings		
	owable Number of D		16 📊
Nu	umber Device Nar ] 1   PLC1	me	Settings The Station No.=1
di la			Interior Mo 1

#### Device Setting

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

💰 Individual Device	Settings	×
PLC1		
Station No. 1		÷
	Default	
OK ( <u>O</u> )	Cancel	

Use the ladder software (WinProladder) for communication settings. After completing the settings, reboot the External Device to enable them. Refer to your External Device manual for details.

- 1 Start up the ladder software (WinProladder).
- 2 Select [Setting] [Port 2 Parameter] from the [PLC] menu.
- **3** In the [Comm. Parameter Setting] dialog box, set the following parameters.

Item	Settings
Baud Rate	9,600
Parity	Even parity
Data Bit	7 bits
Stop Bit	1 bit

## 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 the workspace.

Devi	ce/PLC 1				
Sun	nmary		Change Device/PLC		
	Maker FATEK A	UTOMATION Corp	ooration Series FB Series SIO Port COM1		
	Text Data Mode	1 <u>Change</u>			
Con	nmunication Settings				
	SIO Type	O R\$232C	RS422/485(2wire)     RS422/485(4wire)		
	Speed	9600	×		
	Data Length	• 7	0.8		
	Parity	O NONE	EVEN     O ODD		
	Stop Bit	● 1	0 2		
	Flow Control	O NONE	ER(DTR/CTS)     O XON/XOFF		
	Timeout	3 🕂 (	sec)		
	Retry	2 +			
	Wait To Send		ms)		
	RI / VCC	© RI	O VCC		
		Supply). If you use	et the 9th pin to RI (Input) e the Digital's RS232C Default		
Dev	vice-Specific Settings				
	Allowable Number of Devices/PLCs 16				
	Number Device Na Number Device Na Number Device Na	ame	Settings THE Station No.=1		
	M. hcon				

#### Device Setting

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

💰 Individual Device	Settings	×
PLC1		
Station No. 1		÷
	Default	
OK ( <u>O</u> )	Cancel	

Use the ladder software (WinProladder) for communication settings. After completing the settings, reboot the External Device to enable them. Refer to your External Device manual for details.

- 1 Start up the ladder software (WinProladder).
- 2 Select [Setting] [Port 1 Parameter] from the [PLC] menu.
- **3** In the [Comm. Parameter Setting] dialog box, set the following parameters.

ltem	Settings
Baud Rate	9,600
Parity	Even parity
Data Bit	7 bits
Stop Bit	1 bit

## 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 the workspace.

Devic	e/PLC1				
Sum	Summary Change Device/PLC				
	Maker FATEK AU	JTOMATION Corp	oration Series FB Series SIO Port COM1		
	Text Data Mode	1 <u>Change</u>			
Com	munication Settings				
	SIO Type	• R\$232C	C RS422/485(2wire) C RS422/485(4wire)		
	Speed	9600	<b>•</b>		
	Data Length	• 7	© 8		
	Parity	O NONE	EVEN     ODD		
	Stop Bit	● 1	© 2		
	Flow Control	O NONE	ER(DTR/CTS)     C XON/XOFF		
	Timeout	3 📫 (s	sec)		
	Retry	2 +			
	Wait To Send	) <del>;</del> 0	ns)		
	RI / VCC	• RI	O VCC		
		Supply). If you use	t the 9th pin to RI (Input) the Digital's RS232C Default		
Devi	ice-Specific Settings				
	Allowable Number of [		16 🔐		
	Number Device Na	ime	Settings IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		

#### Device Setting

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

💰 Individual Device Settings 💫 🔀		
PLC1		
Station No. 1	•	
	Default	
OK ( <u>0</u> )	Cancel	

Use the ladder software (WinProladder) for communication settings. After completing the settings, reboot the External Device to enable them. Refer to your External Device manual for details.

- 1 Start up the ladder software (WinProladder).
- 2 Select [Setting] [Port 3 Parameter] from the [PLC] menu.
- **3** In the [Comm. Parameter Setting] dialog box, set the following parameters.

ltem	Settings
Baud Rate	9,600
Parity	Even parity
Data Bit	7 bits
Stop Bit	1 bit

## 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 the workspace.

Device	e/PLC1				
Sumn	Summary Change Device/PLC				
	Maker FATEK AL	JTOMATION Corp	oration Series FB Series SIO Port COM1		
	Text Data Mode	1 <u>Change</u>			
Comr	munication Settings				
	SIO Type	RS232C	O RS422/485(2wire) O RS422/485(4wire)		
	Speed	9600	×		
	Data Length	<b>⊙</b> 7	0.8		
	Parity	O NONE	EVEN     O ODD		
	Stop Bit	● 1	0 2		
	Flow Control	O NONE	ER(DTR/CTS) C XON/XOFF		
	Timeout	3 📫 (s	sec)		
	Retry	2 ÷			
,	Wait To Send	n) 🗧 🛛	ms)		
	RI / VCC	• RI	© VCC		
		Supply). If you use	st the 9th pin to RI (Input) e the Digital's RS232C Default		
Devid	ce-Specific Settings				
	Allowable Number of E		16 📊		
Г	Number Device Na	me	Settings Station No.=1		
L			Istation No.=1		

#### Device Setting

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

Individual Device Settings 💦 🔀		
PLC1		
Station No. 1		÷
	Default	
OK ( <u>O</u> )	Cancel	

Use the ladder software (WinProladder) for communication settings. After completing the settings, reboot the External Device to enable them. Refer to your External Device manual for details.

- 1 Start up the ladder software (WinProladder).
- 2 Select [Setting] [Port 4 Parameter] from the [PLC] menu.
- **3** In the [Comm. Parameter Setting] dialog box, set the following parameters.

ltem	Settings
Baud Rate	9,600
Parity	Even parity
Data Bit	7 bits
Stop Bit	1 bit

## 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 the workspace.

Devid	æ/PLC1		
Sum	mary		Change Device/PLC
	Maker FATEK A	JTOMATION Corp	ooration Series FB Series SIO Port COM1
	Text Data Mode	1 <u>Change</u>	
Com	munication Settings		
	SIO Type	C RS232C	RS422/485(2wire)     RS422/485(4wire)
	Speed	9600	×
	Data Length	• 7	• 8
	Parity	C NONE	EVEN     O ODD
	Stop Bit	⊙ 1	0 2
	Flow Control	C NONE	ER(DTR/CTS)     O XON/XOFF
	Timeout	3 📫 (	sec)
	Retry	2 ÷	
	Wait To Send	0 📑 (	ms)
	RI / VCC	© RI	O VCC
		Supply). If you use	et the 9th pin to RI (Input) e the Digital's RS232C Default
Dev	ice-Specific Settings		
	Allowable Number of I		16 🛄
	Number Device Na	ame	Settings The Station No.=1
	<b>1</b> 1 1 201		

#### Device Setting

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

釐 Individual Device Settings 👘 🔀		
PLC1		
Station No. 1	-	
	Default	
OK ( <u>D</u> )	Cancel	

Use the ladder software (WinProladder) for communication settings. After completing the settings, reboot the External Device to enable them. Refer to your External Device manual for details.

- 1 Start up the ladder software (WinProladder).
- 2 Select [Setting] [Port 3 Parameter] from the [PLC] menu.
- **3** In the [Comm. Parameter Setting] dialog box, set the following parameters.

ltem	Settings
Baud Rate	9,600
Parity	Even parity
Data Bit	7 bits
Stop Bit	1 bit

## 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 the workspace.

Devid	ce/PLC 1		
Sum	imary		Change Device/PLC
	Maker FATEK Al	JTOMATION Corp	oration Series FB Series SIO Port COM1
	Text Data Mode	1 <u>Change</u>	
Corr	munication Settings		
	SIO Type	C RS232C	RS422/485(2wire)     RS422/485(4wire)
	Speed	9600	
	Data Length	7	C 8
	Parity	C NONE	EVEN     O ODD
	Stop Bit	⊙ 1	0 2
	Flow Control	C NONE	ER(DTR/CTS) C XON/XOFF
	Timeout	3 🕂 (	sec)
	Retry	2 🔅	
	Wait To Send	0 📑 (	ms)
	RI / VCC	© BI	O VCC
		Supply). If you use	t the 9th pin to RI (Input) e the Digital's RS232C Default
Dev	rice-Specific Settings		
	Allowable Number of I		16
	Number Device Na	ame	Settings The Station No.=1
			RUL P

#### Device Setting

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

💰 Individual Device Settings 💫 🔀		
PLC1		
Station No. 1	•	
	Default	
OK ( <u>0</u> )	Cancel	

Use the ladder software (WinProladder) for communication settings. After completing the settings, reboot the External Device to enable them. Refer to your External Device manual for details.

- 1 Start up the ladder software (WinProladder).
- 2 Select [Setting] [Port 4 Parameter] from the [PLC] menu.
- **3** In the [Comm. Parameter Setting] dialog box, set the following parameters.

ltem	Settings
Baud Rate	9,600
Parity	Even parity
Data Bit	7 bits
Stop Bit	1 bit

## 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 the workspace.

Devi	ce/PLC 1		
Sun	nmary		Change Device/PLC
	Maker FATEK A	JTOMATION Corp	oration Series FB Series SIO Port COM1
	Text Data Mode	1 <u>Change</u>	
Con	nmunication Settings		
	SIO Type	C RS232C	RS422/485(2wire)     RS422/485(4wire)
	Speed	9600	×
	Data Length	7	0.8
	Parity	C NONE	EVEN     O ODD
	Stop Bit	€ 1	0 2
	Flow Control	C NONE	ER(DTR/CTS)     O XON/XOFF
	Timeout	3 🕂 (	sec)
	Retry	2 🔅	
	Wait To Send	0 📑 (	ms)
	RI / VCC	© RI	O VCC
		Supply). If you use	et the 9th pin to RI (Input) e the Digital's RS232C Default
Dev	vice-Specific Settings		
Allowable Number of Devices/PLCs 16 1			
	Number Device Na 1 PLC1	ame	Settings Italion No.=1

NOTE

• For 1:n connection, set [Wait To Send] to a value of the PLC scan time plus 5ms or more.

#### Device Setting

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

To connect multiple External Devices, click if from [Device-Specific Settings] of [Device/PLC Settings] to add External Devices.

💰 Individual Device S	Settings	×
PLC1		
Station No. 1		3
	Default	
OK ( <u>0)</u>	Cancel	

## Settings of External Device

The communication setting is fixed.

## 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 the workspace.

Device/PLC 1		
Summary		Change Device/PLC
Maker FATEK /	AUTOMATION Corporation Series FB Series SIO	Port COM1
Text Data Mode	1 Change	
Communication Settings		
SIO Type	RS232C     RS422/485(2wire)     RS422/485(4wire)	
Speed	9600	
Data Length	07 08	
Parity	O NONE O EVEN O ODD	
Stop Bit	● 1 ● 2	
Flow Control	○ NONE	
Timeout	3 * (sec)	
Retry	2 📑	
Wait To Send	0 🚊 (ms)	
RI / VCC		
or VCC (5V Power	232C, you can select the 9th pin to RI (Input) Supply). If you use the Digital's RS232C se select it to VCC. Default	
Device-Specific Settings		
Allowable Number o	Devices/PLCs 16	
Number Device N		
👗 1 🛛 PLC1	Station No.=1	

NOTE

• For 1:n connection, set [Wait To Send] to a value of the PLC scan time plus 5ms or more.

#### Device Setting

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

To connect multiple External Devices, click inform [Device-Specific Settings] of [Device/PLC Settings] to add External Devices.

💰 Individual Device	Settings	×
PLC1		
Station No. 1		÷
	Default	
OK ( <u>D)</u>	Cancel	

Settings of External Device

The communication setting is fixed.

## 3.12 Setting Example 12

Communication Settings

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

Device/PLC 1			
Summary			Change Device/PLC
Maker FATEK A	UTOMATION Corp	poration Series FB Series SIO	Port COM1
Text Data Mode	1 <u>Change</u>		
Communication Settings			
SIO Type	RS232C	C RS422/485(2wire) C RS422/485(4wire)	
Speed	9600	<b>•</b>	
Data Length	⊙ 7	• 8	
Parity	C NONE	• EVEN • ODD	
Stop Bit	⊙ 1	• 2	
Flow Control	C NONE	ER(DTR/CTS) C XON/XOFF	
Timeout	3 🕂	(sec)	
Retry	2 📫		
Wait To Send	0 🗧	(ms)	
RI / VCC	• RI	O VCC	
		ct the 9th pin to RI (Input) e the Digital's RS232C	
Isolation Unit, plea:	se select it to VCC.	Default	
Device-Specific Settings			
Allowable Number of		16	
Number Device N	ame	Settings Station No.=1	

NOTE

• For 1:n connection, set [Wait To Send] to a value of the PLC scan time plus 5ms or more.

#### Device Setting

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

<i>ő</i> Individual Device	Settings 🛛 🔀
PLC1	
Station No. 1	•
	Default
OK ( <u>O)</u>	Cancel

Use the ladder software (WinProladder) for communication settings. After completing the settings, reboot the External Device to enable them. Refer to your External Device manual for details.

- 1 Start up the ladder software (WinProladder).
- 2 Select [Setting] [Port 1 Parameter] from the [PLC] menu.
- **3** In the [Comm. Parameter Setting] dialog box, set the following parameters.

ltem	Settings
Baud Rate	9,600
Parity	Even parity
Data Bit	7 bits
Stop Bit	1 bit

## 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 the workspace.

Devid	e/PLC1		
Sum	imary		Change Device/PLC
	Maker FATEK A	UTOMATION Corp	poration Series FB Series SIO Port COM1
	Text Data Mode	1 <u>Change</u>	
Com	munication Settings		
	SIO Type	C RS232C	RS422/485(2wire)      RS422/485(4wire)
	Speed	9600	
	Data Length	● 7	• 8
	Parity	O NONE	⊙ EVEN ○ ODD
	Stop Bit	• 1	O 2
	Flow Control	C NONE	ER(DTR/CTS) C XON/XOFF
	Timeout	3 📑 (	(sec)
	Retry	2 🔹	
	Wait To Send		(ms)
	RI / VCC	© RI	O VCC
		Supply). If you use	ct the 9th pin to RI (Input) e the Digital's RS232C <b>Default</b>
Dev	ice-Specific Settings		
	Allowable Number of I Number Device Na		16 Ling Settings
	Number Device Na 1 PLC1	ane	Settings Station No.=1

NOTE

• For 1:n connection, set [Wait To Send] to a value of the PLC scan time plus 5ms or more.

#### Device Setting

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

💣 Individual Device	Settings 🛛 🔀
PLC1	
Station No. 1	-
	Default
OK ( <u>0</u> )	Cancel

Use the ladder software (WinProladder) for communication settings. After completing the settings, reboot the External Device to enable them. Refer to your External Device manual for details.

- 1 Start up the ladder software (WinProladder).
- 2 Select [Setting] [Port 2 Parameter] from the [PLC] menu.
- **3** In the [Comm. Parameter Setting] dialog box, set the following parameters.

ltem	Settings
Baud Rate	9,600
Parity	Even parity
Data Bit	7 bits
Stop Bit	1 bit

## 4 Setup Items

Set the communication settings of the Display with GP-Pro Ex or in offline mode of the Display. The setting of each parameter must match that of the External Device. "3 Example of Communication Setting" (page 9)

4.1 Setup Items in GP-Pro EX

## Communication Settings

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

Device/PLC 1			
Summary	Change Device/PLC		
Maker FATEK AUTOMATION	Corporation Series FB Series SIO Port COM1		
Text Data Mode 1 Chan	<u>16</u>		
Communication Settings			
SIO Type © RS232	C © RS422/485(2wire) © RS422/485(4wire)		
Speed 9600			
Data Length © 7	0.8		
Parity C NONE	© EVEN C ODD		
Stop Bit 💿 1	0 2		
Flow Control C NONE	ER(DTR/CTS) C XON/XOFF		
Timeout 3	(sec)		
Retry 2			
Wait To Send 0	(ms)		
BL/VCC  © BL			
In the case of RS232C, you can			
or VCC (5V Power Supply). If yo	u 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	Station No.=1		

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

Continued to next page.

Setup Items	Setup Description		
Retry	In case of no response from the External Device, enter how many times the Display retransmits the command, from "0 to 255".		
Wait To Send	Enter the standby time (ms) from when the Display receives packets until it transmits the next command, from "0 to 255".		
RI/VCC	You can switch between RI/VCC of the 9th pin when you select RS232C for the SIO type. To connect to the IPC, you need to use the IPC selector switch to switch RI/5V. Refer to your IPC manual for details.		

## Device Setting

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

💰 Individual Device Settings 💫 🔀		
PLC1		
Station No. 1	-	
	Default	
OK ( <u>D)</u>	Cancel	

Setup Items	Setup Description
Station No.	Enter the station No. of the External Device, from "1 to 254".

## 4.2 Settings in Offline Mode

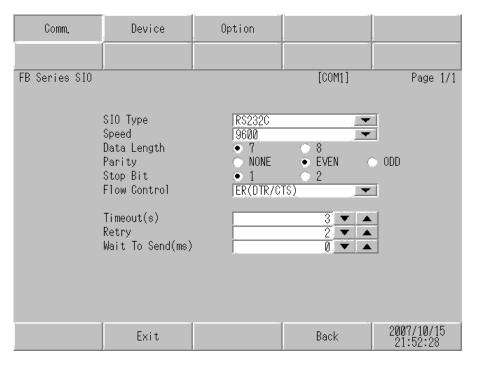
#### NOTE

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

- Cf. Maintenance/Troubleshooting Guide "Offline Mode"
- The number of the setup items to be displayed for 1 page in the offline mode depends on the Display in use. Please refer to the Reference manual for details.

#### Communication Settings

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



Setup Items	Setup Description		
	Select the SIO type for communicating with the External Device.		
SIO Type	In the communication settings, set [SIO Type] correctly according to the serial interface specifications of the Display. If you select an SIO type that the serial interface does not support, proper operation cannot be guaranteed. Refer to your Display manual for details on the serial interface specifications.		
Speed	Select the communication speed between the External Device and the Display.		
Data Length	Select a data length.		
Parity	Select how to check parity.		
Stop Bit	Select a stop bit length.		

Setup Items	Setup Description		
Flow Control	Select the communication control method to prevent overflow of transmission and reception data.		
Timeout	Enter the time (s) for which the Display waits for a response from the External Device, from "1 to 127".		
Retry	In case of no response from the External Device, enter how many times the Display retransmits the command, from "0 to 255".		
Wait To Send	Enter the standby time (ms) from when the Display receives packets until it transmits the next command, from "0 to 255".		

## Device Setting

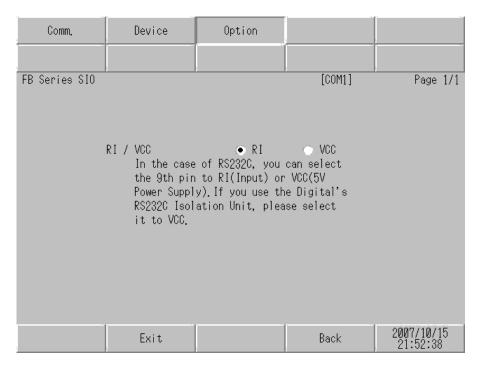
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Equipment Settings]. Touch the External Device you want to set from the list that appears, and touch [Device Settings].

Comm.	Device	Option		
		;		
FB Series SIO			[COM1]	Page 1/1
Devic	e/PLC Name PL	01		
	Station No.		1, 🔻 🔺	
	Exit		Back	2007/10/15 21:52:33

Setup Items	Setup Description	
Device/PLC Name	Select the External Device to set. Device name is the title of the External Device set with GP-Pro EX. (Initial value [PLC1])	
Station No.	Enter the station No. of the External Device, from "1 to 254".	

## Option

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



Setup Items	Setup Description	
RI/VCC	You can switch between RI/VCC of the 9th pin when you select RS232C for the SIO type. To connect to the IPC, you need to use the IPC selector switch to switch between RI/5V. Refer to your IPC manual for details.	

<b>NOTE</b> • GP-4100 series do r	not have the [Option] setting in the offline mode.
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The cable diagram shown below may differ from that recommended by the FATEK AUTOMATION Corporation. Please be assured, however, that there is no operational problem in applying the cable diagram shown in this manual.

- The FG pin on the External Device must be D-class grounded. Refer to your External Device manual for details.
- The SG and FG are connected inside the Display. If you connect the External Device to the SG, do not form any short-circuit loop in the system design.
- If the communication is not stable because of noise or other factors, connect an isolation unit.

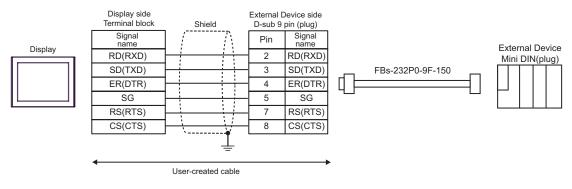
Cable Diagram 1

Display (Connection Port)		Cable	Remarks
GP (COM1) ST (COM1) IPC <sup>*1</sup> PC/AT	1A	FBs-232P0-9F-150 by FATEK	-
GP-4105 (COM1)	1B	User-created Cable + FBs-232P0-9F-150 by FATEK	Cable length: 15m or less

\*1 Available only with a COM port that supports RS232C. <sup>CP</sup> ■ IPC COM Port (page 6)

1A)





Display (Connection Port)		Cable	Remarks
GP (COM1) ST (COM1) IPC <sup>*1</sup> PC/AT	2A	User-created Cable	Cable length: 15m or less
GP-4105 (COM1)	2B	User-created Cable	

2A)

		isplay pin (socket)	Shield	External Device D-Sub 9 pin (plug)		
	Pin	Signal name	Snield	Pin	Signal name	
2	2	RD(RXD)	<u>←                                    </u>	2	TXD	
Display	3	SD(TXD)		3	RXD	
	4	ER(DTR)		6	DTR	
	5	SG		5	SG	
	6	DR(DSR)		4	DSR	
	7	RS(RTS)		7	CTS	
	8	CS(CTS)		8	RTS	
	Shell	FG	<u>_</u>			

	Display Terminal Block	ے Shield	External Device D-Sub 9 pin (plug)		
	Signal name		Pin	Signal name	
	RD(RXD)		2	TXD	
Display	SD(TXD)		3	RXD	
	ER(DTR)	1 : : :	6	DTR	
	SG	]	5	SG	
	DR(DSR)	]	4	DSR	
	RS(RTS)		7	CTS	
	CS(CTS)		8	RTS	

Display (Connection Port)		Cable	Remarks
GP (COM1) ST (COM1) IPC <sup>*1</sup> PC/AT	3A	User-created Cable	Cable length: 15m or less
GP-4105 (COM1)	3B	User-created Cable	

3A)

		isplay pin (socket)			Extern	al Device	
Display	Pin	Signal name	]	Shield	D-Sub 9 pin (plug)		
	1	CD	]		Pin	Signal name	
	2	RD(RXD)			- 2	TXD	
	3	SD(TXD)	┣───		3	RXD	
	5	SG		5	SG		
	4	ER(DTR)	]				
	6	DR(DSR)	]				
	7	RS(RTS)	Ъ				
	8	CS(CTS)	┢┙				
	Shell	FG	}	<u> </u>			

	Display Terminal Block	-			Extern	al Device		
	Signal name		Shield		D-Sub 9 pin (plug)			
	CD		/		Pin	Signal name		
Display	RD(RXD)	<b> </b> ← <i>                   </i>	—[	2	TXD			
	SD(TXD)				3	RXD		
	SG	1—			5	SG		
	ER(DTR)	1						
	DR(DSR)	1						
	RS(RTS)							
	CS(CTS)	┣┛						
		_	\¥					
			Ŧ					

Display (Connection Port)		Cable	Remarks
GP <sup>*1</sup> (COM1) AGP-3302B (COM2) ST <sup>*2</sup> (COM2)	4A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable	
	4B	Your own cable	
GP*3 (COM2)	4C	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable Online adapter by Pro-face CA4-ADPONL-01	Cable length: 1,000m or less
	4D	+ User-created Cable	
IPC*4	4E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable	
	4F	User-created Cable	
GP-4106 (COM1)	4G	User-created Cable	
GP-4107 (COM1)	4H	User-created Cable	

\*1 All GP models except AGP-3302B

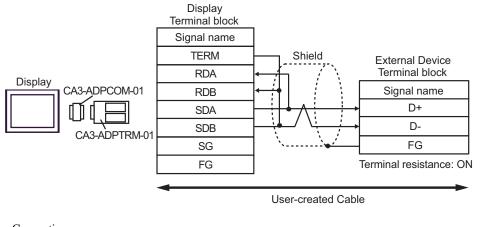
\*2 All ST models except AST-3211A and AST-3302B

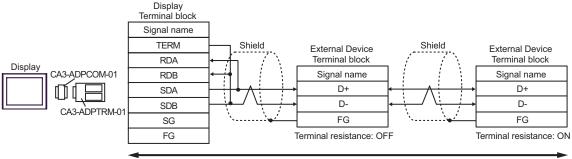
\*3 All GP models except the GP-3200 Series and AGP-3302B

\*4 Available only with a COM port that supports RS422/485 (2wire). ☞ ■ IPC COM Port (page 6)

## 4A)

1:1 Connection

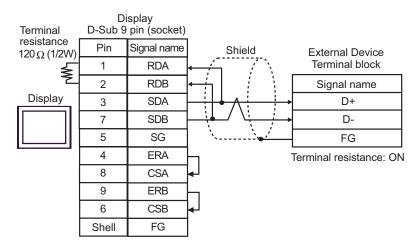


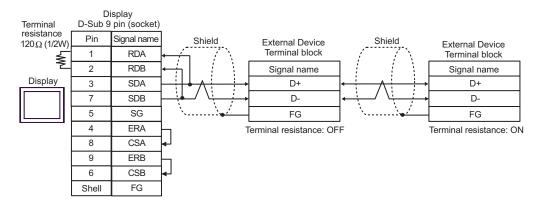


User-created Cable

#### 4B)

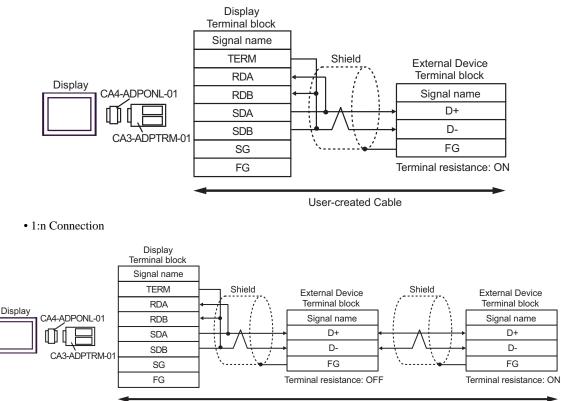
#### 1:1 Connection





#### 4C)

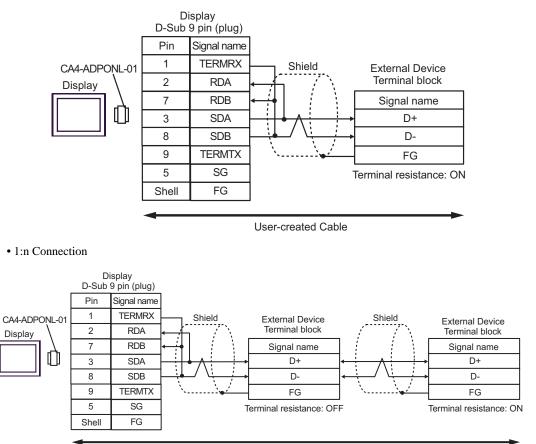
1:1 Connection



User-created Cable

#### 4D)

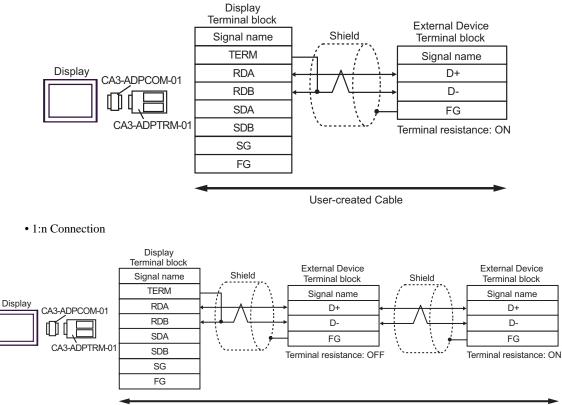
• 1:1 Connection



User-created Cable

#### 4E)

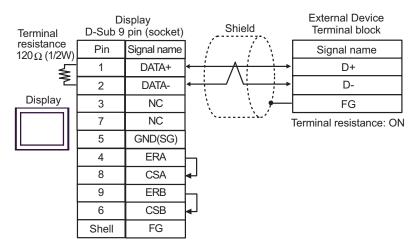
1:1 Connection

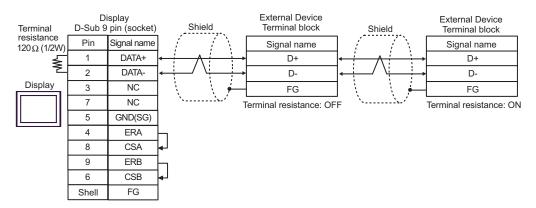


User-created Cable

#### 4F)

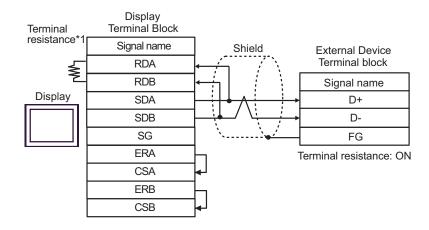
#### 1:1 Connection



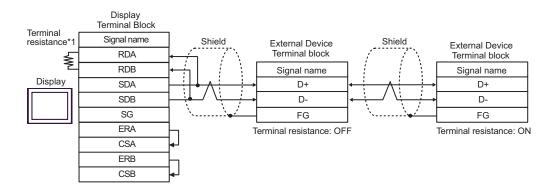


#### 4G)

#### 1:1 Connection



#### • 1:n Connection

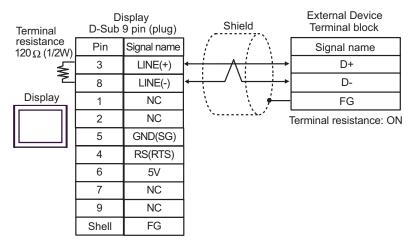


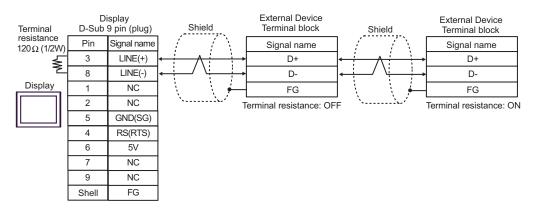
\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

#### 4H)

#### 1:1 Connection

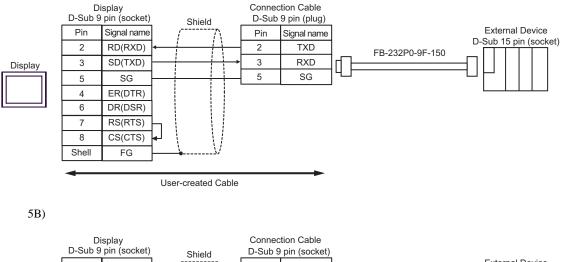


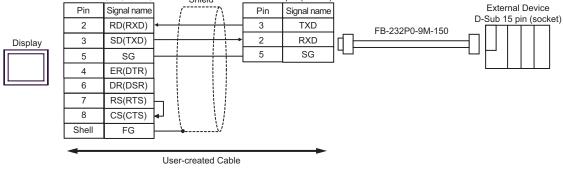


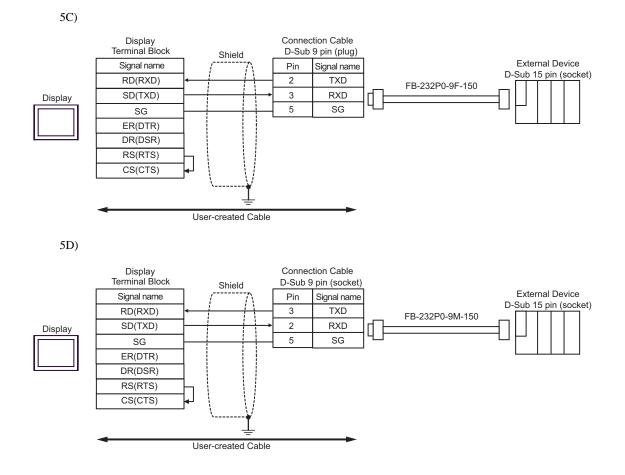
IMPORTANT	The 5V output (Pin #6) on the GP-4107 is the power for the Siemens AG's PROFIBUS
	connector. Do not use it for other devices.

Display (Connection Port)		Cable	Remarks
GP (COM1) ST (COM1)	5A	User-created Cable + Cable FB-232P0-9F-150 by FATEK	Cable length:
IPC <sup>*1</sup> PC/AT	5B	User-created Cable + Cable FB-232P0-9M-150 by FATEK	
CP 4105 (COM1)	5C	User-created Cable + Cable FB-232P0-9F-150 by FATEK	15m or less
GP-4105 (COM1)	5D	User-created Cable + Cable FB-232P0-9M-150 by FATEK	

5A)







Display (Connection Port)		Cable	Remarks
GP <sup>*1</sup> (COM1) AGP-3302B (COM2) ST <sup>*2</sup> (COM2)	6A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable	
	6B	User-created Cable	
GP <sup>*3</sup> (COM2)	6C	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable	Cable length:
	6D	Online adapter by Pro-face CA4-ADPONL-01 + User-created Cable	1,000m or less
IPC <sup>*4</sup>	6E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable	
	6F	User-created Cable	
GP-4106 (COM1)	6G	User-created Cable	
GP-4107 (COM1)	6H	User-created Cable	

\*1 All GP models except AGP-3302B

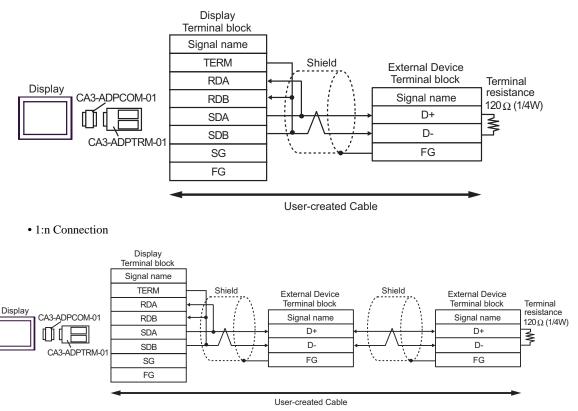
\*2 All ST models except AST-3211A and AST-3302B

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

\*4 Available only with a COM port that supports RS422/485 (2wire). ☞ ■ IPC COM Port (page 6)

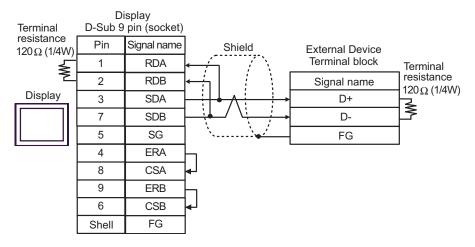
#### 6A)

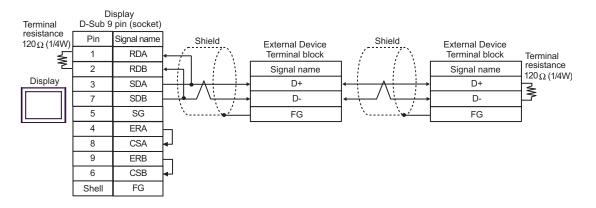
1:1 Connection



#### 6B)

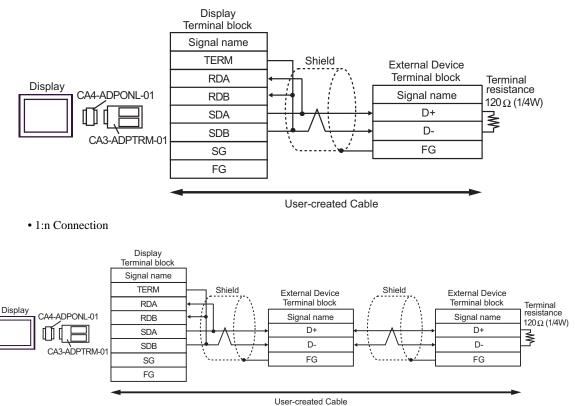
#### 1:1 Connection





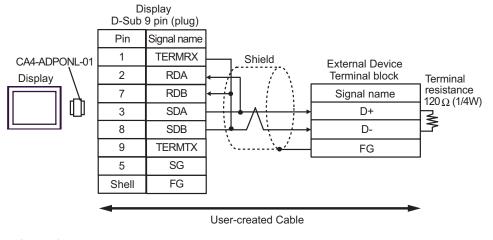
#### 6C)

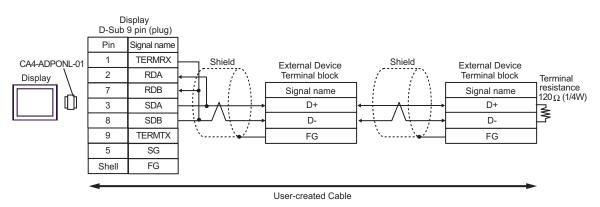
1:1 Connection



#### 6D)

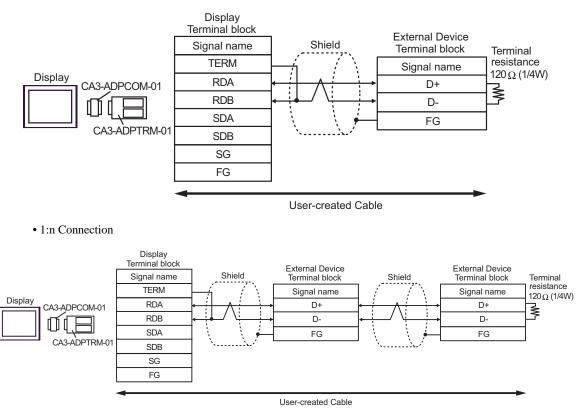
1:1 Connection





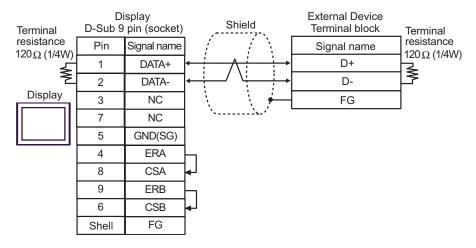
#### 6E)

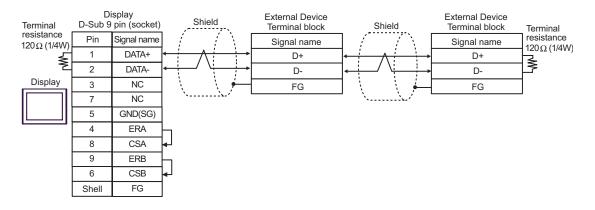
1:1 Connection



#### 6F)

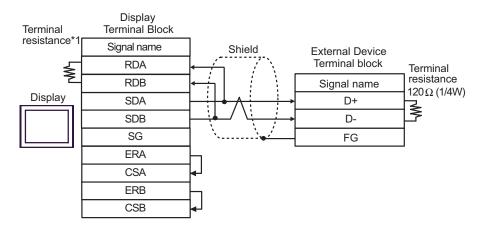
1:1 Connection



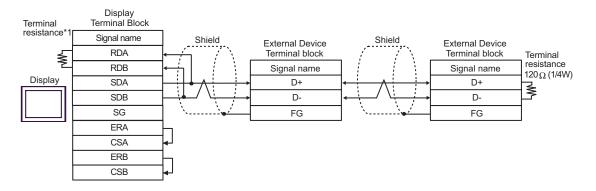


#### 6G)

1:1 Connection



#### • 1:n Connection

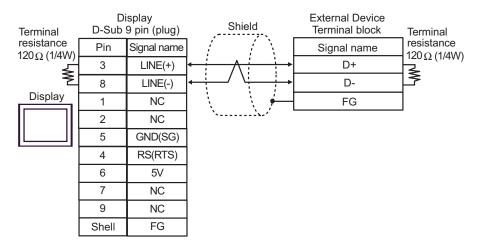


\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

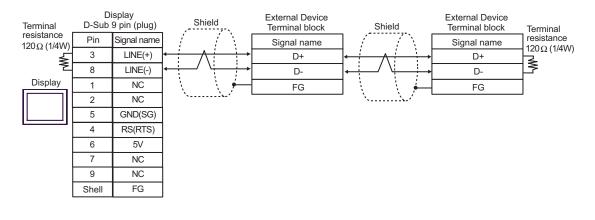
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

#### 6H)

1:1 Connection



#### • 1:n Connection



• The 5V output (Pin #6) on the GP-4107 is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE I • In COM on the GP-4107, the SG and FG terminals are iso	ated.
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Display (Connection Port)		Cable	Remarks
GP (COM1) ST (COM1) IPC <sup>*1</sup> PC/AT	7A	User-created Cable	Cable length: 15m or less
GP-4105 (COM1)	7B	User-created Cable	

\*1 Available only with a COM port that supports RS232C.

7A)

		splay pin (socket)	Shield		al Device 15 pin (plug)
Display 3 5 4 6 7	Pin	Signal name	//	Pin	Signal name
	2	RD(RXD)	< <u> </u>	2	TXD
	3	SD(TXD)		1	RXD
	5	SG		6	SG
	4	ER(DTR)		3	RTS
	6	DR(DSR)	L	4	CTS
	7	RS(RTS)	-		
	8	CS(CTS)	<b>↓</b>		
	Shell	FG	<u> </u>		

	Display Terminal Block	_	Shield		External Device D-Sub 15 pin (plug)			
	Signal name	]	1	$\gamma$	Pin	Signal name		
Γ	RD(RXD)	}{	-	$\square$	2	TXD		
Display	SD(TXD)	1		$\mapsto$	1	RXD		
	SG	1		_	6	SG		
	ER(DTR)	1			3	RTS		
	DR(DSR)			_ L <b>∍</b>	4	CTS		
	RS(RTS)							
	CS(CTS)	<mark>]</mark> ₄J						
	<b></b>	-	\ -	¥ =				

Display (Connection Port)		Cable	Remarks	
GP <sup>*1</sup> (COM1) AGP-3302B (COM2) ST <sup>*2</sup> (COM2)	8A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable		
	8B	User-created Cable		
GP <sup>*3</sup> (COM2)	8C	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable	Cable length:	
	8D	Online adapter by Pro-face CA4-ADPONL-01 + User-created Cable	1,000m or less	
IPC <sup>*4</sup>	8E	COM port conversion adapter by Pro-face. CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable		
	8F	User-created Cable		
GP-4106 (COM1)	8G	User-created Cable		
GP-4107 (COM1)	8H	User-created Cable		

\*1 All GP models except AGP-3302B

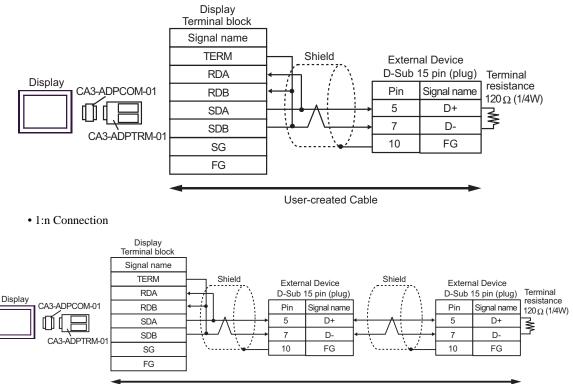
\*2 All ST models except AST-3211A and AST-3302B

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

\*4 Available only with a COM port that supports RS422/485 (2wire). <sup>™</sup> ■ IPC COM Port (page 6)

#### 8A)

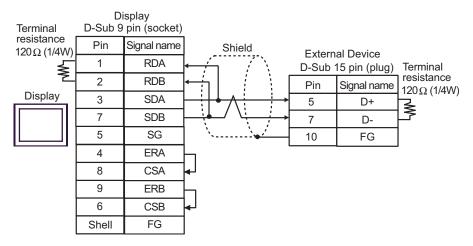
• 1:1 Connection

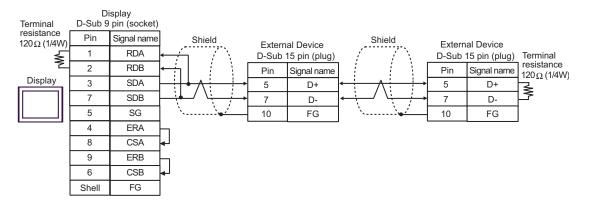


User-created Cable

#### 8B)

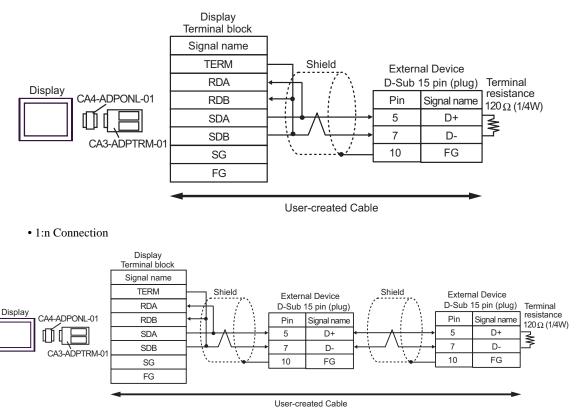
#### 1:1 Connection





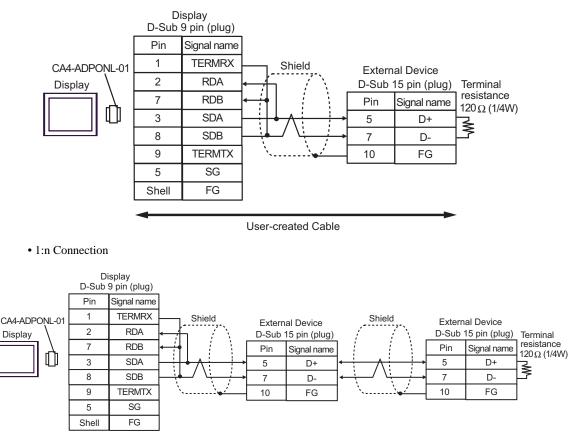
#### 8C)

1:1 Connection



#### 8D)

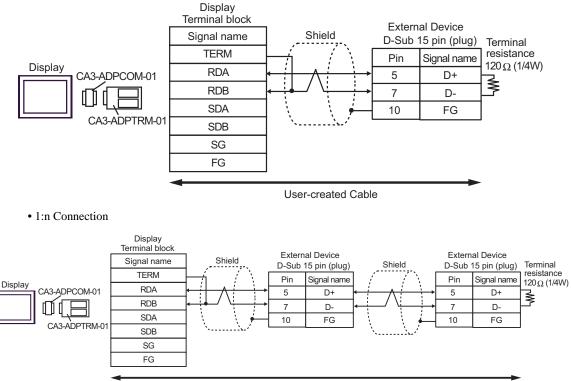
1:1 Connection



User-created Cable

#### 8E)

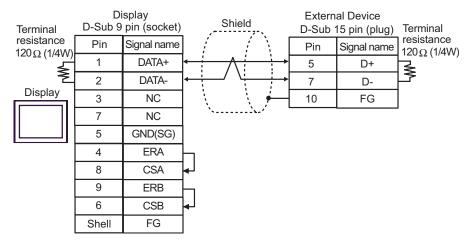
1:1 Connection

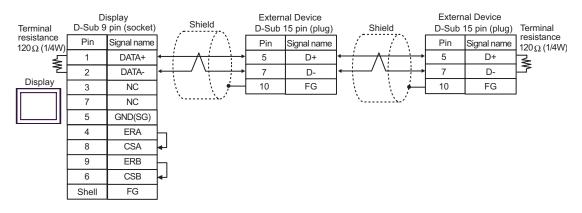


User-created Cable

#### 8F)

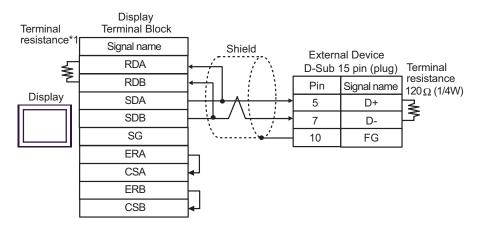
1:1 Connection



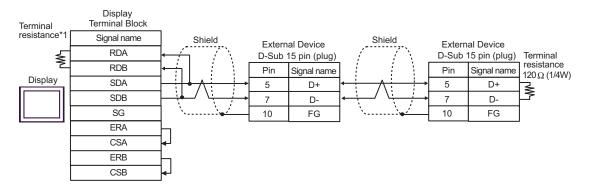


#### 8G)

1:1 Connection



#### • 1:n Connection

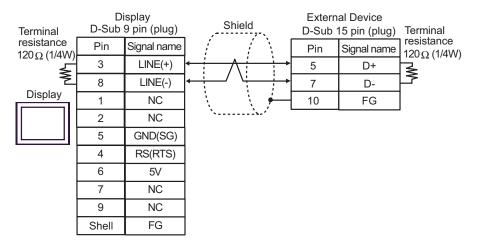


\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

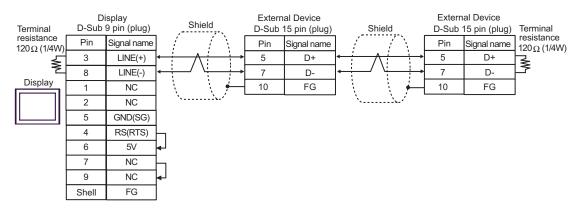
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

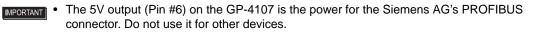
#### 8H)

1:1 Connection



• 1:n Connection





NOTE

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In COM on the GP-4107, the SG and FG terminals are isolated.

Display (Connection Port)		Cable	Remarks
GP (COM1) ST (COM1) IPC <sup>*1</sup> PC/AT	9A	User-created Cable	Cable length: 15m or less
GP-4105 (COM1)	9B	User-created Cable	

9A)

		splay pin (socket)	Shield	External Device D-Sub 9 pin (plug)		
Pin 2	Pin	Signal name	$\langle \neg \neg \rangle$	Pin	Signal name	
	2	RD(RXD)	<hr/>	2	TXD	
Display	3	SD(TXD)		3	RXD	
	5	SG		5	SG	
	4	ER(DTR)		8	RTS	
	6	DR(DSR)		7	CTS	
	7	RS(RTS)				
	8	CS(CTS)				
	Shell	FG	<u> </u>			

	Display Terminal Block	Shield				External Device D-Sub 9 pin (plug)		
	Signal name	]	1	$\gamma$	Γ	Pin	Signal name	
	RD(RXD)	}		$\left  \right $	-[	2	TXD	
Display	SD(TXD)	1—			→[	3	RXD	
	SG	<u> </u>		_	_	5	SG	
	ER(DTR)	1			-[	8	RTS	
	DR(DSR)	1		1	→	7	CTS	
	RS(RTS)	Ъ			_			
	CS(CTS)	┢┙						
		-	\	Ĭ				

: This address can be specified as system data area.

# 6 Supported Devices

The following table shows the range of supported device addresses. Available type and range of device may vary depending on the CPU. Consult the appropriate CPU manual before use.

Device	Bit Address	Word Address	32 bit	Remarks
Input Relay	X0000 - X0255	WX0000 - WX0240		÷16)
Output Relay	Y0000 - Y0255	WY0000 - WY0240	-1.711	÷16)
Step Relay	S0000 - S0999	WS0000 - WS0976	[L/H]	÷16)
Internal Relay	M0000 - M1911	WM0000 - WM1888		÷16)
Special Relay	SM1912 - SM2001	WSM1912 - WSM1976		÷16)
Timer (Contact)	T0000 - T0255	-		
Counter (Contact)	C0000 - C0255	-		
Timer (Current Value)	-	TMR0000 - TMR0255		
Counter (Current Value)	-	CTR0000 - CTR0199		
High-speed Counter	-	HC0200 - HC0255		*1
Data Register <sup>*2</sup>	-	HR0000 - HR8071		ві t <b>15</b> *3
Data Register *2	R00000.00 - R08071.15	R00000 - R08071		*3
Data Register	D00000.00 - D04095.15 (FBs) D00000.00 - D03071.15 (FBe/FBn)	D00000 - D04095 (FBs) D00000 - D03071 (FBe/FBn)	[L/H]	
Input Register	-	IR3840 - IR3903		<b>B 15</b>
Output Register	-	OR3904 - OR3967		<u>ві t</u> 15
Special Register	-	SR3968 - SR4167		<u>ві t</u> 15
HSC Register	-	HSC4096 - HSC4127		<u>ві t</u> 15
Calendar Register	-	RTC4128 - RTC4135		<u>ві t</u> 15
HST Register	-	HST4152 - HST4154		<u>ві (<b>15</b></u> )
Read-only Register	-	ROR5000 - ROR8071		ві 15 *4
File Register <sup>*5</sup>	-	F00000 - F08191		<sub>в т</sub> 15

\*1 32-bit device

\*2 The External Device handles data registers HR and R as the same device. However, their bit-write operations differ as shown below. Select either register according to your system specifications.

- Device R allows data to be written to each specified bit.

- Device HR sets the 15 bits other than a specified bit to OFF(0).

- \*3 No data can be written to word addresses HR5000 to HR8071 and R05000 to R08071.
- \*4 Write disable
- \*5 The file register is supported only by the FBs Series.

• Refer to the GP-Pro EX Reference Manual for system data area. Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"

• 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 of the data display or other devices.

Device	Device Name	Device Code (HEX)	Address Code
Input Relay	X/WX	0082	Value of word address divided by 16
Output Relay	Y/WY	0083	Value of word address divided by 16
Step Relay	WS	0084	Value of word address divided by 16
Internal Relay	WM	0085	Value of word address divided by 16
Special Relay	WSM	0086	Value of (word address - 1912) divided by 16
Timer (Current Value)	TMR	0060	Word Address
Counter (Current Value)	CTR	0061	Word Address
High-speed Counter	НС	0062	Word Address
Data Register	HR	0000	Word Address
Data Register	R	0080	Word Address
Data Register	D	0081	Word Address
Input Register	IR	0001	Value of (word address - 3840)
Output Register	OR	0002	Value of (word address - 3904)
Special Register	SR	0003	Value of (word address - 3968)
HSC Register	HSC	0004	Value of (word address - 4096)
Calendar Register	RTC	0005	Value of (word address - 4128)
HST Register	HST	0008	Value of (word address - 4152)
Read-only Register	ROR	0006	Value of (word address - 5000)
File Register	F	0007	Word Address

# 8 Error Messages

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

Item	Description		
No.	Error No.		
Device Name	Name of the External Device where an error has occurred. Device name is the title of the External Device set with GP-Pro EX. (Initial value [PLC1])		
Error Message	Displays messages related to an error that has occurred.		
Error Occurrence Area	<ul> <li>Displays the IP address or device address of the External Device where an error has occurred, or error codes received from the External Device.</li> <li><b>NOTE</b> <ul> <li>IP address is displayed as "IP address (Decimal): MAC address (Hex)".</li> <li>Device address is displayed as "Address: Device address".</li> <li>Received error codes are displayed as "Decimal [Hex]".</li> </ul> </li> </ul>		

#### Display Examples of Error Messages

"RHAA035: PLC1: Error has been responded for device write command (Error Code:1[01H])"

NOTE
Refer to your External Device manual for details on received error codes.
Refer to "Display-related errors" in "Maintenance/Troubleshooting guide" for details on the error messages common to the driver.