Fatek Automation Corporation

# 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 l,	/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)
			Port 2	RS422/485 (2wire)	Setting Example 4 (page 14)	Cable Diagram 4 (page 41)
FBs <sup>*1</sup>		FBs-CB5	Port 2	RS422/485 (2wire)	Setting Example 4 (page 14)	Cable Diagram 4 (page 41)
		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)	Diagram 4 (page 41)
		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 41)

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 41)
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 41)
	FBs-44MN	FBs-CM55E	Port 3	RS422/485 (2wire)	Setting Example 8 (page 22)	Cable Diagram 4
		FBs-CM55E	Port 4	RS422/485 (2wire)	Setting Example 9 (page 24)	(page 41)
	FBe-20MA FBe-28MA FBe-40MA	CPU unit	Port 0	RS232C	Setting Example 11 (page 27)	Cable Diagram 5 (page 53)
				RS422/485 (2wire)	Setting Example 10 (page 26)	Cable Diagram 6 (page 56)
	FBe-20MC FBe-28MC FBe-40MC FBn-19MCT FBn-26MCT FBn-36MCT	CPU unit	Port 0	RS232C	Setting Example 11 (page 27)	Cable Diagram 5 (page 53)
			Port 0	RS422/485 (2wire)	Setting Example 10 (page 26)	Cable Diagram 6 (page 56)
FBe/FBn *1			Port 1	RS232C	Setting Example 12 (page 28)	Cable Diagram 7 (page 68)
			Port 2	RS422/485 (2wire)	Setting Example 13 (page 30)	Cable Diagram 8 (page 70)
		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 81)
			Port 2	RS422/485 (2wire)	Setting Example 13 (page 30)	Cable Diagram 6 (page 56)

Series	CPU	Link l	/F	SIO Type	Setting Example	Cable Diagram
FBe/FBn	FBe-20MC FBe-28MC FBe-40MC		Port 0	RS232C	Setting Example 11 (page 27)	Cable Diagram 3 (page 39)
*1	FBn-19MCT FBn-26MCT FBn-36MCT	FB-DTBR-E	Port 2	RS422/485 (2wire)	Setting Example 13 (page 30)	Cable Diagram 6 (page 56)

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

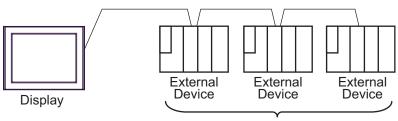
\*2 Available only with a CPU incorporating an RS232 port.

### 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				
Genes	RS-232C	RS-422/485(4 wire)	RS-422/485(2 wire)		
PS-2000B	COM1 <sup>*1</sup> , COM2, COM3 <sup>*1</sup> , COM4	-	-		
PS-3450A, PS-3451A, PS3000-BA, PS3001-BD	COM1, COM2 <sup>*1*2</sup>	COM2 <sup>*1*2</sup>	COM2 <sup>*1*2</sup>		
PS-3650A (T41 model), PS-3651A (T41 model)	COM1 <sup>*1</sup>	-	-		
PS-3650A (T42 model), PS-3651A (T42 model)	COM1 <sup>*1*2</sup> , COM2	COM1*1*2	COM1 <sup>*1*2</sup>		
PS-3700A (Pentium®4-M) PS-3710A	COM1 <sup>*1</sup> , COM2 <sup>*1</sup> , COM3 <sup>*2</sup> , COM4	COM3 <sup>*2</sup>	COM3 <sup>*2</sup>		
PS-3711A	COM1 <sup>*1</sup> , COM2 <sup>*2</sup>	COM2 <sup>*2</sup>	COM2 <sup>*2</sup>		
PS4000 <sup>*3</sup>	COM1, COM2	-	-		
PL3000	COM1 <sup>*1*2</sup> , COM2 <sup>*1</sup> , COM3, COM4	COM1*1*2	COM1*1*2		

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

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

\*3 When making communication between an External Device and COM port on the Expansion slot, only RS-232C is supported. However, ER (DTR/CTS) control cannot be executed because of the specification of COM port.
For connection with External Device, use user created cables and disable Pin Nos. 1, 4, 6 and 9.

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

DIP Switch setting: RS-232C

DIP Switch	Setting	Description
1	OFF <sup>*1</sup>	Reserved (always OFF)
2	OFF	SIO type: RS-232C
3	OFF	510 type. K5-252e
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	NS (NIS) 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	RS (RTS) Auto control mode: Disabled
10	OFF	KS (K13) 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	- 510 type. K5-422/485	
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.

💰 Welcome to GP-Pro EX		X			
67-7ro <mark>E</mark> X	Device/PLC Number of Devices/PLCs 1				
	Device/PLC 1				
	Manufacturer	Fatek Automation Corporation			
	Series	FB Series SIO			
	Port COM1				
		Refer to the manual of this Device/PLC			
	1	Recent Device/PLC			
		<u> </u>			
	Use System	Area Device Information			
		Back (B) Communication Settings New Screen Cancel			

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

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

Summary       Change Device/PLC         Manufacturer       Fatek Automation Corporation       Series       FB Series SIO       Port       COM1         Text Data Mode       1       Change       Port       COM1         Communication Settings       SIO Type          • RS232C          • RS422/485(2wire)          • RS422/485(4wire)          Speed       9600          •          • O          • Port          • Port         Data Length          • 7          • 8          • Parity          • NONE          • ODD<	Device/PLC 1		
Text Data Mode     1     Change       Communication Settings       SID Type     • RS232C     • RS422/485(2wire)       Speed     9600     •       Data Length     • 7     • 8	Summary		Change Device/PLC
Communication Settings SID Type	Manufacturer Fatek A	Automation Corporation Series FB Series SIO	Port COM1
SIO Type         • RS232C         • RS422/485(2wire)         • RS422/485(4wire)           Speed         9600         •           Data Length         • 7         • 8	Text Data Mode	1 Change	
Speed 9600 T Data Length © 7 C 8	Communication Settings		
Data Length © 7 C 8	SIO Type	• RS232C C RS422/485(2wire) C RS422/485(4wire)	
	Speed	9600	
Parity C NONE C EVEN C ODD	Data Length	© 7 C 8	
	Parity	O NONE O EVEN O ODD	
Stop Bit 💿 1 💿 2	Stop Bit	• 1 • 2	
Flow Control C NDNE  © ER(DTR/CTS)  © XON/XOFF	Flow Control	O NONE O ER(DTR/CTS) O XON/XOFF	
Timeout 3 😴 (sec)	Timeout	3 * (sec)	
Retry 2	Retry	2 *	
Wait To Send 0 🚖 (ms)	Wait To Send	0 * (ms)	
RI/VCC © RI © VCC	RI / VCC	© RI O 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.	or VCC (5V Power	Supply). If you use the Digital's RS232C	
Device-Specific Settings	Device-Specific Settings		
Allowable Number <u>Add Device</u> of Devices/PLCs 16			
No. Device Name Settings Add Indirect			
X 1 PLC1 It Station No.=1	👗 1 PLC1		4

#### Device Setting

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

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

<i>ő</i> Individual Device	Settings	×
PLC1		
Station No. 1		÷
	Default	
OK ( <u>O</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 setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC 1				
Summary				Change Device/PLC
Manufacturer	Fatek Automation Corpor	ation Series FE	3 Series SIO	Port COM1
Text Data Mod	de <u>1 Change</u>			
Communication	Settinas			
SIO Type	<ul> <li>RS232C</li> </ul>	C RS422/485(2wire	e) C RS422/485(4wire)	
Speed	9600	<b>T</b>		
Data Leng	th • 7	0.8		
Parity	O NONE	EVEN	O ODD	
Stop Bit	⊙ 1	C 2		
Flow Contr	ol O NONE	ER(DTR/CTS)	○ XON/XOFF	
Timeout	3 📫	(sec)		
Retry	2 🔅			
Wait To Se	end 0 🛨	(ms)		
BL/ VCC	• BI			
	se of RS232C, you can sele		ut)	
or VCC ( Isolation	5V Power Supply). If you us Unit, please select it to VCC	se the Digital's RS232C	Default	1
Device-Specific	Sattings			1
Allowable Nu	-	I Device		
of Devices/P				Add Indirect
No. Devic				Device
👗 1 PLC1	Statio	n No.=1		<b>*</b>

#### Device Setting

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

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

Device/PLC 1				
Summary				Change Device/PLC
Manufacturer Fatek	Automation Corpora	ation Series FB Series SI	0	Port COM1
Text Data Mode	1 Change			
Communication Settings				
SIO Type	• RS232C	C RS422/485(2wire) C	RS422/485(4wire)	
Speed	9600	•		
Data Length	• 7	08		
Parity	O NONE	EVEN O ODD		
Stop Bit	● 1	O 2		
Flow Control	O NONE	• ER(DTR/CTS) • XON	√XOFF	
Timeout	3 *	(sec)		
Retry	2 +			
Wait To Send	0 🔹	(ms)		
RI / VCC	• RI	C VCC		
In the case of RS2 or VCC (5V Power Isolation Unit, plea	: Supply). If you us	ct the 9th pin to RI (Input) e the Digital's RS232C	Default	
Device-Specific Settings				
Allowable Number		Device		
of Devices/PLCs	16			Add Indirect
No. Device Name	Setting:			Device
👗 1   PLC1	Station Station	No.=1		<b>+</b>

#### Device Setting

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

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

Device/PLC 1				
Summary				Change Device/PLC
Manufacturer Fatek	Automation Corpor-	ation Series	FB Series SIO	Port COM1
Text Data Mode	1 <u>Change</u>			
Communication Settings				
SIO Type	C RS232C	RS422/485(2v)	vire) C RS422/485(4wire)	
Speed	9600	•		
Data Length	• 7	C 8		
Parity	C NONE	EVEN	O ODD	
Stop Bit	€ 1	C 2		
Flow Control	C NONE	ER(DTR/CTS)	C XON/XOFF	
Timeout	3 🕂	(sec)		
Retry	2 📫			
Wait To Send	0 📫	(ms)		
RI / VCC	© BI	C VCC		
or VCC (5V Powe		ect the 9th pin to RI (I e the Digital's RS232		1
Device-Specific Settings				
Allowable Number of Devices/PLCs	16	Device		A dd by fire at
No. Device Name	Setting	s		Add Indirect Device
👗 1 🛛 PLC1	In Station	n No.=1		<b>+</b>

#### Device Setting

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

💣 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

## 3.5 Setting Example 5

Settings of GP-Pro EX

Communication Settings

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

Device/PLC 1		
Summary		Change Device/PLC
Manufacturer Fatek	Automation Corporation Series FB Series SIO	Port COM1
Text Data Mode	1 Change	
Communication Settings		
SIO Type	C RS232C	
Speed	9600 🔻	
Data Length	• 7 • 8	
Parity	O NONE O EVEN O ODD	
Stop Bit	• 1 • 2	
Flow Control	○ NONE	
Timeout	3 (sec)	
Retry	2	
Wait To Send	0 (ms)	
BL/VCC	© BL O VCC	
or VCC (5V Powe	232C, you can select the 9th pin to RI (Input) in Supply). If you use the Digital's RS232C ase select it to VCC, Default	
Device-Specific Settings		
Allowable Number of Devices/PLCs	Add Device	
No. Device Name	Settings	Add Indirect Device
👗 1 PLC1	Station No.=1	<b>•</b>

#### Device Setting

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

💣 Individual Device	Settings	х
PLC1		
Station No. 1	-	3
	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.

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

Device/PLC 1		
Summary		Change Device/PLC
Manufacturer Fate	k Automation Corporation Series FB Series SIO	Port COM1
Text Data Mode	1 Change	
Communication Setting:	s	
SIO Type	RS232C C RS422/485(2wire) C RS422/485(4wire)	
Speed	9600	
Data Length	© 7 C 8	
Parity	C NONE C EVEN C ODD	
Stop Bit	● 1 ○ 2	
Flow Control	C NONE C ER(DTR/CTS) C XON/XOFF	
Timeout	3 <u>+</u> (sec)	
Retry	2 .	
Wait To Send	0 * (ms)	
RI / VCC		
or VCC (5V Pow	S232C, you can select the 9th pin to RI (Input) ver Supply). If you use the Digital's RS232C ease select it to VCC. Default	
Device-Specific Setting	25	
Allowable Number of Devices/PLCs	Add Device	
No. Device Name		Add Indirect Device
👗 1 PLC1	Station No.=1	•

#### Device Setting

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

💰 Individual Device Settings 💫 🔀		
PLC1		
Station No.	-	
	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

## 3.7 Setting Example 7

#### Settings of GP-Pro EX

Communication Settings

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

Device/PLC 1		
Summary		Change Device/PLC
Manufacturer Fatek Automation Corpo	oration Series FB Series SIO	Port COM1
Text Data Mode 1 Change		
Communication Settings		
SIO Type • RS232C	C RS422/485(2wire) C RS422/485(4wire)	
Speed 9600	<b>_</b>	
Data Length 💿 7	C 8	
Parity C NONE	• EVEN ODD	
Stop Bit 💿 1	C 2	
Flow Control C NONE	ER(DTR/CTS)	
Timeout 3 📫	(sec)	
Retry 2		
Wait To Send 🛛 🗧	(ms)	
RI/VCC   RI	C VCC	
In the case of RS232C, you can se or VCC (5V Power Supply). If you Isolation Unit, please select it to VC	use the Digital's RS232C	
Device-Specific Settings		
Allowable Number <u>Ac</u> of Devices/PLCs 16	dd Device	
No. Device Name Settin	nas	Add Indirect Device
	ion No.=1	<b>4</b>

#### Device Setting

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

💣 Individual Device	Settings	х
PLC1		
Station No. 1	•	3
	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 setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC 1					
Summary					Change Device/PLC
Manufacturer Fatek A	Automation Corpora	ation Series	FB Series SIO		Port COM1
Text Data Mode	1 <u>Change</u>				
Communication Settings					
SIO Type	C RS232C	• R\$422/485(2v	vire) C RS422/4	85(4wire)	
Speed	9600	<b>T</b>			
Data Length	© 7	C 8			
Parity	C NONE	EVEN	C ODD		
Stop Bit	● 1	C 2			
Flow Control	C NONE	ER(DTR/CTS)	C XON/XOFF		
Timeout	3 📫	(sec)			
Retry	2 ÷				
Wait To Send	0 📫	(ms)			
RI / VCC	© BL	C VCC			
In the case of RS2	32C, you can sele	ct the 9th pin to RI (II			
or VCC (5V Power Isolation Unit, plea	Supply). If you us se select it to VCC.	e the Digital's RS232	20	Default	
Device-Specific Settings					
Allowable Number	Add	Device			
of Devices/PLCs	16				Add Indirect
No. Device Name	Settings			_	Device
👗 1   PLC1	Station	No.=1			4

#### Device Setting

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

💣 Individual Device	Settings 🛛 🔀
PLC1	
Station No. 1	<u>*</u>
	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 setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC 1				
Summary				Change Device/PLC
Manufacturer Fatek	Automation Corpora	ation Series F	B Series SIO	Port COM1
Text Data Mode	1 <u>Change</u>			
Communication Settings				
SIO Type	C RS232C	RS422/485(2wi)	re) 🔿 RS422/485(4wire)	
Speed	9600	-		
Data Length	• 7	0.8		
Parity	C NONE	EVEN	O ODD	
Stop Bit	© 1	C 2		
Flow Control	C NONE	ER(DTR/CTS)	C XON/XOFF	
Timeout	3 📫	(sec)		
Retry	2 🔹			
Wait To Send	0 🗧	(ms)		
RI / VCC	© RI	C VCC		
or VCC (5V Powe		ct the 9th pin to RI (Inj e the Digital's RS2320		
Device-Specific Settings				
Allowable Number of Devices/PLCs		<u>Device</u>		A dalla dina d
No. Device Name	Settings			Add Indirect Device
👗 1 🛛 PLC1	tation Station	No.=1		<b>\$</b>

#### Device Setting

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

💰 Individual Device	Settings 🛛 🔀
PLC1	
Station No.	-
	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 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 setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC1	
Summary	Change Device/PLC
Manufacturer Fatek Automation Corporation Series FB Series SIO	Port COM1
Text Data Mode 1 Change	
Communication Settings	
SID Type C RS232C © RS422/485(2wire) C RS422/485(4wire)	
Speed 9600 🔻	
Data Length <ul> <li>7</li> <li>7</li> </ul>	
Parity CINONE CIEVEN CIODD	
Stop Bit   1  2	
Flow Control O NONE O ER(DTR/CTS) O XON/XOFF	
Timeout 3 😴 (sec)	
Retry 2	
Wait To Send 0 👘 (ms)	
RI/VCC © RI C 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 <u>Add Device</u> of Devices/PLCs 16	
No. Device Name Settings	Add Indirect Device
👗 1 PLC1 🏢 Station No.=1	4

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

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

💰 Individual Device S	Gettings 🛛 🔀
PLC1	
Station No. 1	÷
	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 setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC 1		
Summary		Change Device/PLC
Manufacturer Fatek	Automation Corporation Series FB Series SIO	Port COM1
Text Data Mode	1 Change	
Communication Settings		
SIO Type	• RS232C C RS422/485(2wire) C RS422/485(4wire)	
Speed	9600	
Data Length	• 7 C 8	
Parity	C NONE C EVEN C ODD	
Stop Bit	• 1 ○ 2	
Flow Control	C NONE C ER(DTR/CTS) C XON/XOFF	
Timeout	3	
Retry	2	
Wait To Send	0 (ms)	
RI / VCC	RI C VCC	
	232C, you can select the 9th pin to RI (Input) r Supply). If you use the Digital's RS232C	
Isolation Unit, plea	ise select it to VCC. Default	
Device-Specific Settings		
Allowable Number of Devices/PLCs	Add Device	
No. Device Name	i 6 Settings	Add Indirect Device
1 PLC1	Station No.=1	
	Call /	

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

#### Device Setting

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

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

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

#### Settings of External Device

The communication setting is fixed.

#### 3.12 Setting Example 12

#### Communication Settings

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

Device/PLC1	
Summary	Change Device/PLC
Manufacturer Fatek Automation Corporation Series FB Series SIO	Port COM1
Text Data Mode 1 Change	
Communication Settings	
SID Type	
Speed 9600 💌	
Data Length 📀 7 🔿 8	
Parity CINDNE 💿 EVEN CIDD	
Stop Bit	
Flow Control C NONE  • ER(DTR/CTS) C XON/XOFF	
Timeout 3 芸 (sec)	
Retry 2	
Wait To Send 0 🚔 (ms)	
RI/VCC   RI  VCC  RI  VCC  RI  VCC  RI  VCC  RI  RI  RI  VCC  RI  RI  RI  RI  RI  RI  RI  RI  RI	
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 <u>Add Device</u> of Devices/PLCs 16	
No. Device Name Settings	Add Indirect Device
1 PLC1 Its 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 [Individual Device Settings] dialog box, from [Device-Specific Settings] in the [Device/PLC] window, select the external device and click [Settings]

💣 Individual Device	e 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 setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC 1	
Summary	Change Device/PLC
Manufacturer Fatek Automation Corporation Series FB Series SIO	Port COM1
Text Data Mode 1 Change	
Communication Settings	
SID Type C RS232C   RS422/485(2wire)   RS42	2/485(4wire)
Speed 9600 💌	
Data Length © 7 © 8	
Parity CINONE CIVEN CIDD	
Stop Bit    1  2	
Flow Control C NONE C ER(DTR/CTS) C XON/XOFF	
Timeout 3 📫 (sec)	
Retry 2	
Wait To Send 🛛 🔁 (ms)	
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 <u>Add Device</u> of Devices/PLCs 16	Add Indirect
No. Device Name Settings	Add Indirect Device
1 PLC1 It Station No.=1	

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

#### Device Setting

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

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

Device/PLC1		
Summary		Change Device/PLC
Manufacturer Fatek Automation (	Corporation Series FB Series SIO	Port COM1
Text Data Mode 1 Cha	ange	
Communication Settings		
SIO Type 🔍 🖲 RS23	32C C RS422/485(2wire) C RS422/485(4wire)	
Speed 9600		
Data Length 💿 7	0.8	
Parity C NONI	IE · EVEN · ODD	
Stop Bit 💿 1	C 2	
Flow Control C NON	IE	
Timeout 3		
Retry 2	* *	
Wait To Send 0	<u>+</u> (ms)	
RI/VCC	C VCC	
	an select the 9th pin to RI (Input)	
or VCC (5V Power Supply). If Isolation Unit, please select it t	you use the Digital's HS232C to VCC. Default	
Device-Specific Settings		
Allowable Number	Add Device	
of Devices/PLCs 16 No. Device Name 9	Settings	Add Indirect Device
	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 SendEnter 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.		

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

## Device Setting

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

Individual Device S	Gettings 🛛 🔀
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

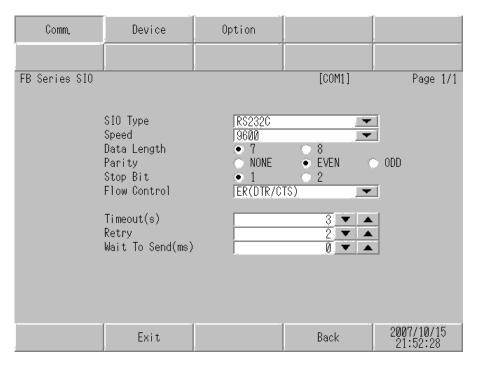
#### NOTE

• 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.	

Continued to next page.

Setup Items	Setup Description		
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".		
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 SendEnter the standby time (ms) from when the Display receives packets until it transmits next command, from "0 to 255".			

## Device Setting

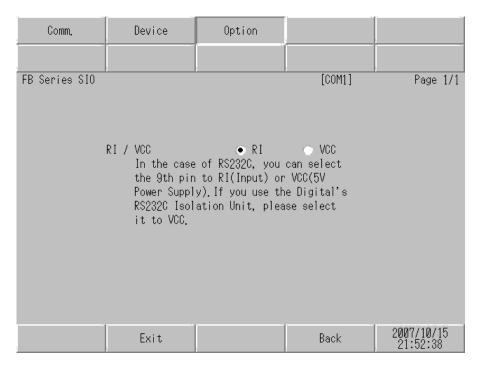
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Equipment Settings]. Touch the External Device you want to set from the list that appears, and touch [Device Settings].

Comm. Device		Option	-	
FB Series SIO			[COM1]	Page 1/1
Devic	e/PLC Name PL	C1		
	Station No.		1 💌 🔺	
				0887/18/15
	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.	

NOTE	•	GP-4100 series, GP-4*01TM and LT-4*01TM do not have the [Option] setting in the offline
		mode.

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.

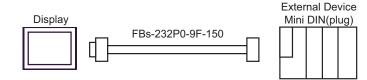
- The FG pin on the External Device must be D-class grounded. Refer to your External Device manual for details.
- The SG and FG are connected inside the Display. If you connect the External Device to the SG, do not form any short-circuit loop in the system design.
- If the communication is not stable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

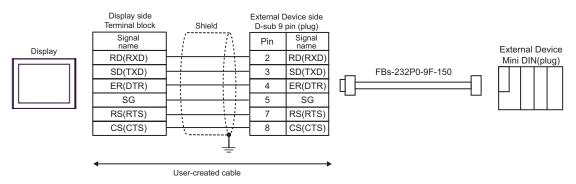
Cable Diagram 1

Display (Connection Port)		Cable	Remarks
GP3000 (COM1) GP4000 <sup>*1</sup> (COM1) ST (COM1) LT3000 (COM1) IPC <sup>*2</sup> PC/AT	1A	FBs-232P0-9F-150 by Fatek Automation Corporation	-
GP-4105 (COM1)	1B	User-created Cable + FBs-232P0-9F-150 by Fatek Automation Corporation	Cable length: 15m or less

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

1A)





Display (Connection Port)		Cable	Remarks
GP3000 (COM1) GP4000 <sup>*1</sup> (COM1) ST (COM1) LT3000 (COM1) IPC <sup>*2</sup> PC/AT	2A	User-created Cable	Cable length: 15m or less
GP-4105 (COM1)	2B	User-created Cable	

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

### \*2

### 2A)

		isplay pin (socket)	Shield	External Device D-Sub 9 pin (plug)		
F	Pin	Signal name	Sniela	Pin	Signal name	
	2	RD(RXD)		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				

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

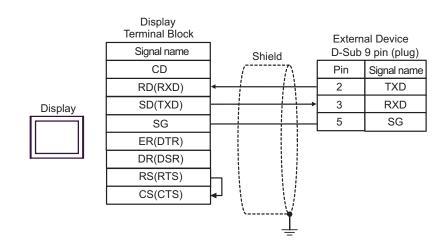
Display (Connection Port)		Cable	Remarks
GP3000 (COM1) GP4000 <sup>*1</sup> (COM1) ST (COM1) LT3000 (COM1) IPC <sup>*2</sup> PC/AT	3A	User-created Cable	Cable length: 15m or less
GP-4105 (COM1)	3B	User-created Cable	
LT-4*01TM (COM1)	3C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

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

\*2 Available only with a COM port that supports RS232C. <sup>CP</sup>■ IPC COM Port (page 6)

3A)

		splay pin (socket)			Fxtern	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)	Ь				
	8	CS(CTS)	┢┙				
	Shell	FG	┣───	<u> </u>			



		al Device 9 pin (plug)
Display RXD	Pin	Signal name
	2	TXD
	3	RXD
(1) GND	5	SG

Number	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

3C)

$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Display (Connection Port)		Cable	Remarks
$ \begin{array}{ c c c c c } \hline & & & & & & & & & & & & & & & & & & $	AGP-3302B (COM2) GP-4*01TM (COM1) ST <sup>*2</sup> (COM2)		CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable	
$ \begin{array}{ c c c c c } & 4D & CA4-ADPONL-01 & & & & \\ & & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & &$	GP3000 <sup>*3</sup> (COM2)		Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 +	
$ \begin{array}{c c} & & & & & & & & & & & & & & & & & & &$		4D	CA4-ADPONL-01 +	e
GP-4106 (COM1)4GUser-created CableGP-4107 (COM1) GP-4*03T*5 (COM2) GP-4203T (COM1)4HUser-created CableGP-4000*6 (COM2) GP-4201T (COM1)4IRS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1*7 User-created cable	IPC*4		CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable	1,000m or less
GP-4107 (COM1) GP-4*03T*5 (COM2) GP-4203T (COM1)4HUser-created CableGP-4203T (COM1)4HUser-created CableGP4000*6 (COM2) GP-4201T (COM1)4IRS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1*7 User-created cable	GP-4106 (COM1)			
GP4000 <sup>*6</sup> (COM2) GP-4201T (COM1) 4I PFXZCBADTM1 <sup>*7</sup> + User-created cable	GP-4107 (COM1) GP-4*03T <sup>*5</sup> (COM2)			
4B User-created cable			PFXZCBADTM1 <sup>*7</sup> + User-created cable	
LT-4*01TM (COM1) 4J RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	LT-4*01TM (COM1)		RJ45 RS-485 Cable (5m) by Pro-face	

\*1 All GP models except AGP-3302B

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

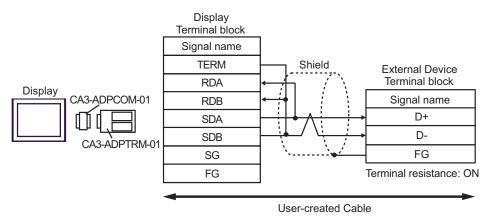
\*3 All GP models except the GP-3200 Series and AGP-3302B

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

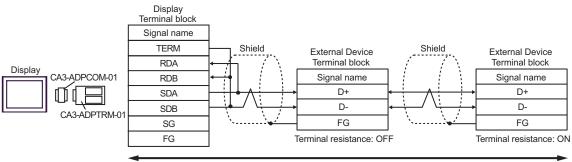
- \*5 Except GP-4203T
- \*6 All GP4000 models except GP-4100 Series, GP-4\*01TM, GP-4201T and GP-4\*03T
- \*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 4A.

# 4A)

• 1:1 Connection



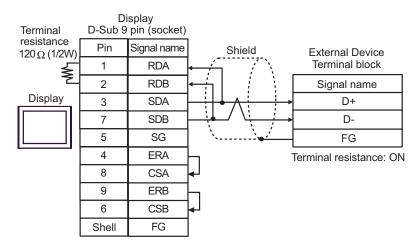
• 1:n Connection

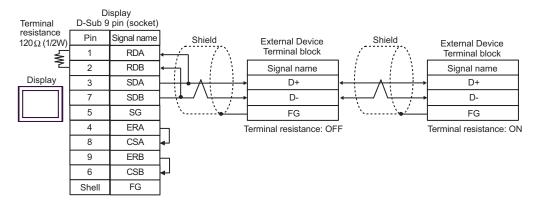


User-created Cable

# 4B)

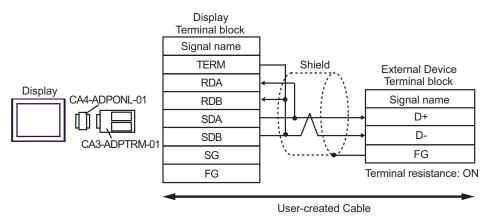
### 1:1 Connection

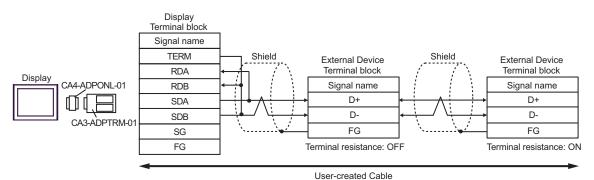




# 4C)

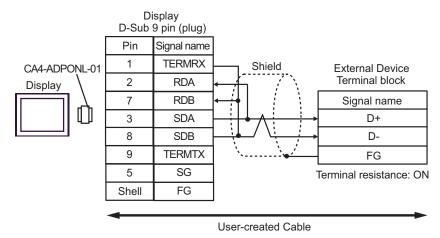
1:1 Connection



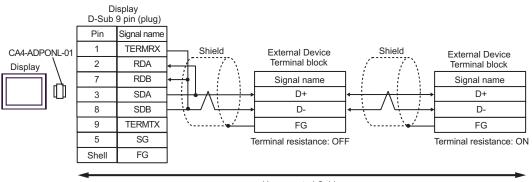


# 4D)

• 1:1 Connection



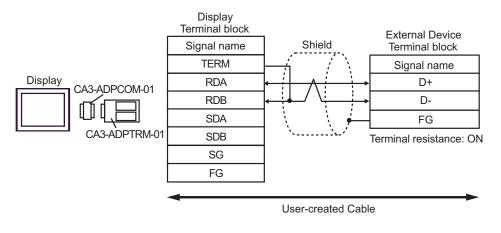
#### • 1:n Connection

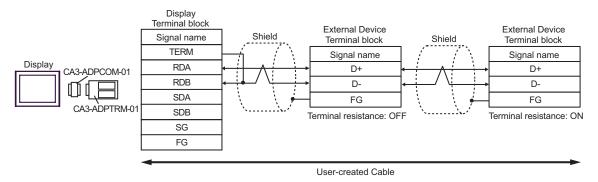


User-created Cable

# 4E)

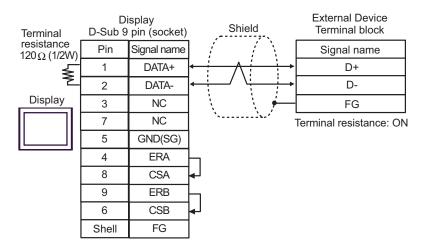
• 1:1 Connection

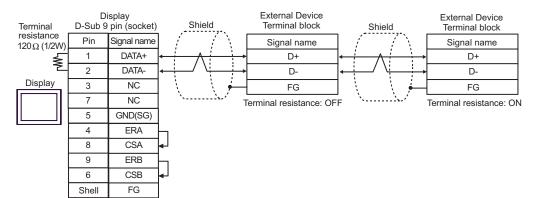




# 4F)

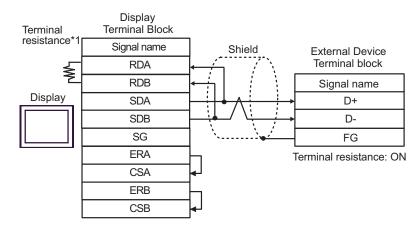
### • 1:1 Connection



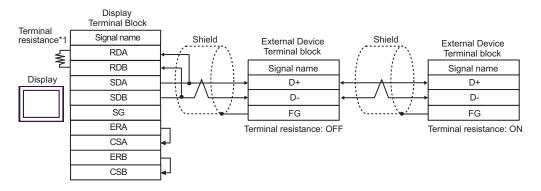


# 4G)

### 1:1 Connection



#### • 1:n Connection

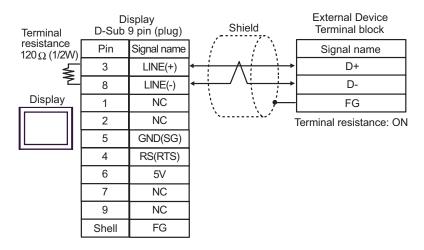


\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

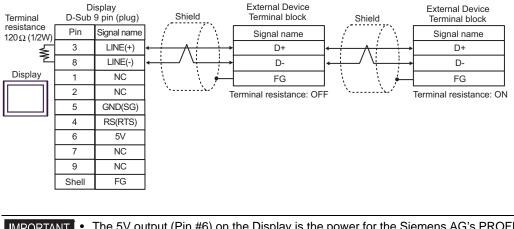
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

### 4H)

### • 1:1 Connection



#### • 1:n Connection



**MPORTANT** 

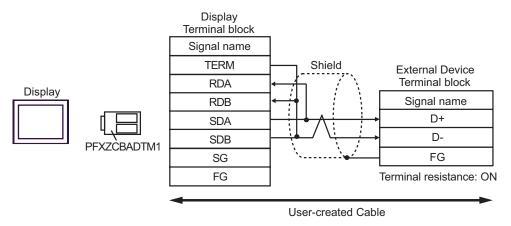
The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

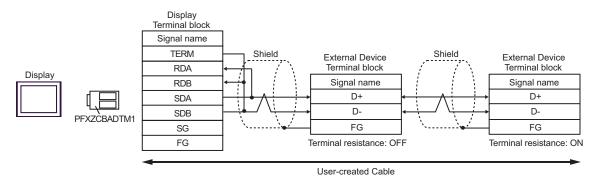
			l
I NI	$\mathbf{\Omega}$	FE .	
I N	U		

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

# 4I)

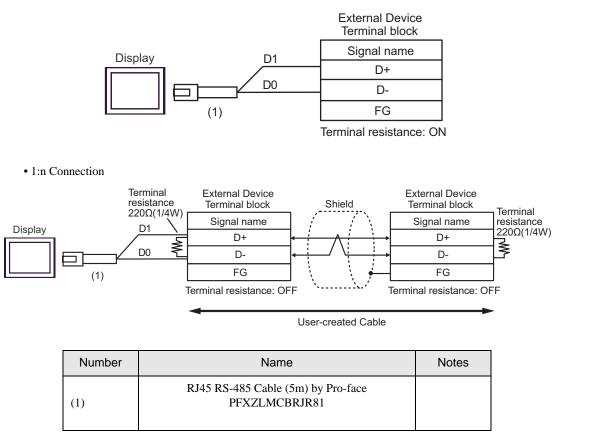
• 1:1 Connection





# 4J)

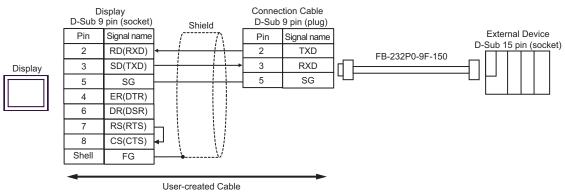
1:1 Connection

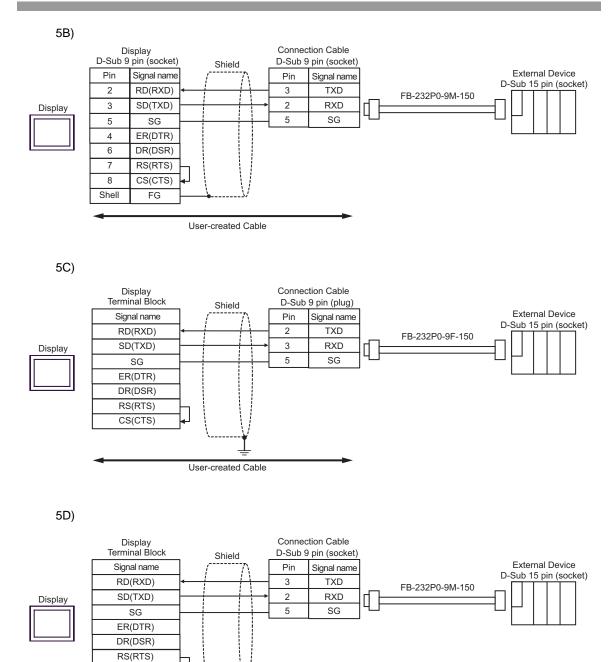


Display (Connection Port)		Cable	Remarks
GP3000 (COM1) GP4000 <sup>*1</sup> (COM1) ST (COM1)	5A	User-created Cable + Cable FB-232P0-9F-150 by Fatek Automation Corporation	
LT3000 (COM1) IPC*2 PC/AT	5B	User-created Cable + Cable FB-232P0-9M-150 by Fatek Automation Corporation	Cable length:
CD (105 (COMI))	5C	User-created Cable + Cable FB-232P0-9F-150 by Fatek Automation Corporation	15m or less
GP-4105 (COM1)	5D	User-created Cable + Cable FB-232P0-9M-150 by Fatek Automation Corporation	
LT-4*01TM (COM1)	5E	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21 + Cable FB-232P0-9F-150 by Fatek Automation Corporation	
	5F	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21 + Cable FB-232P0-9M-150 by Fatek Automation Corporation	

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

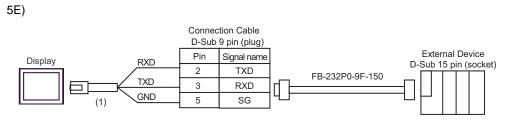
5A)





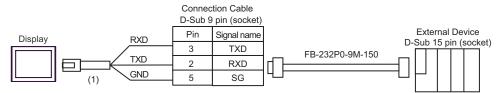
CS(CTS)

User-created Cable



Number	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

5F)



Number	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

Display (Connection Port)		Cable	Remarks
GP3000 <sup>*1</sup> (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST <sup>*2</sup> (COM2) LT3000 (COM1)	6A 6B	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable User-created Cable	
GP3000 <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	
	6D	Online adapter by Pro-face CA4-ADPONL-01 + User-created Cable	Cable length:
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	1,000m or less
	6F	User-created Cable	
GP-4106 (COM1) GP-4107 (COM1) GP-4*03T <sup>*5</sup> (COM2) GP-4203T (COM1)	6G 6H	User-created Cable User-created Cable	
GP4000 <sup>*6</sup> (COM2) GP-4201T (COM1)		RS-422 Terminal Block Conversion Adapterby Pro-face PFXZCBADTM1 <sup>*7</sup> + User-created cable	
LT-4*01TM (COM1)	6B 6J	User-created cable RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

\*1 All GP models except AGP-3302B

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

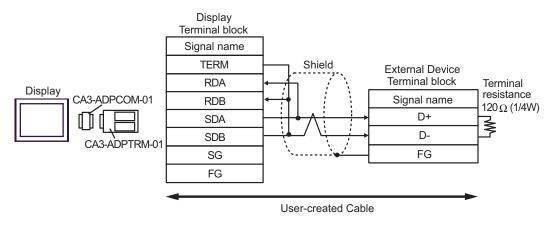
\*3 All GP models except the GP-3200 Series and AGP-3302B

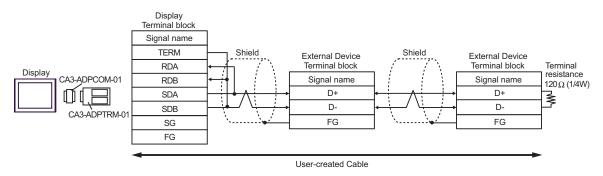
\*4 Available only with a COM port that supports RS422/485 (2wire). <sup>CP</sup>■ IPC COM Port (page 6)

- \*5 Except GP-4203T
- \*6 All GP4000 models except GP-4100 Series, GP-4\*01TM, GP-4201T and GP-4\*03T
- \*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 6A.

# 6A)

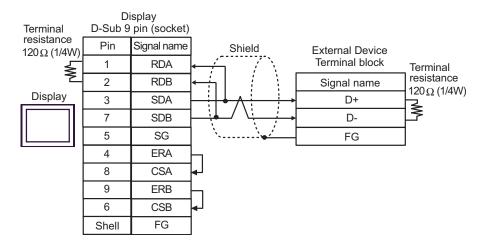
1:1 Connection



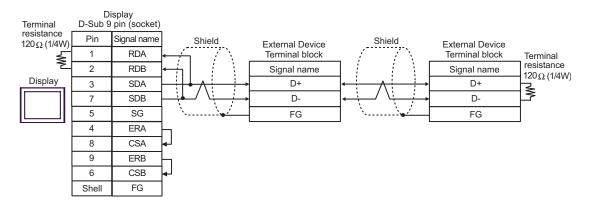


# 6B)

1:1 Connection

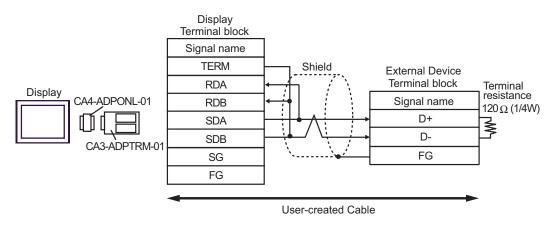


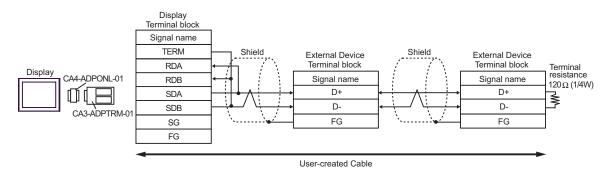
### 1:n Connection



# 6C)

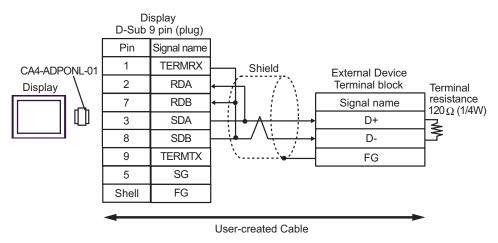
1:1 Connection

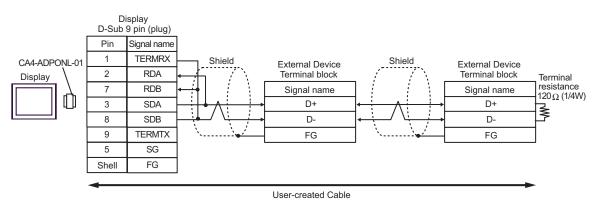




# 6D)

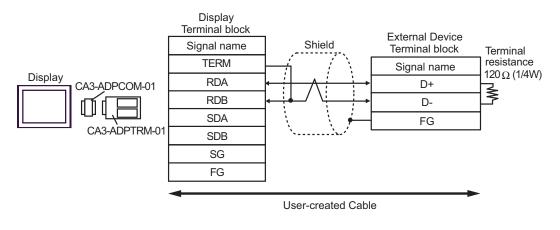
• 1:1 Connection



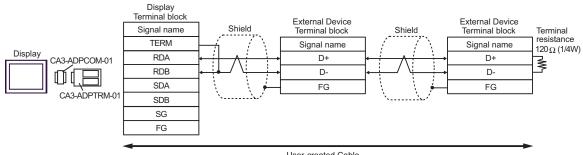


# 6E)

• 1:1 Connection



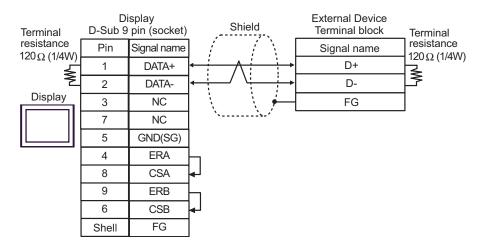
• 1:n Connection

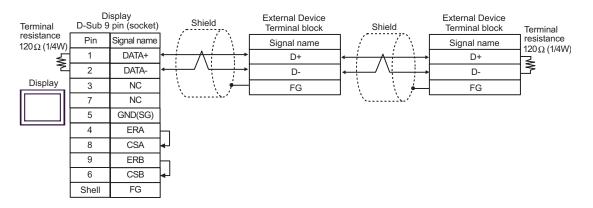


User-created Cable

# 6F)

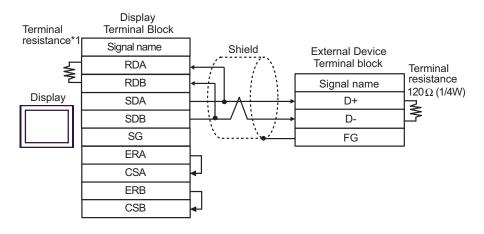
1:1 Connection



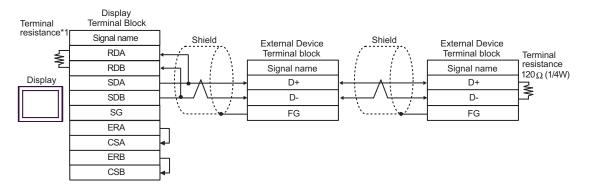


# 6G)

1:1 Connection



### • 1:n Connection

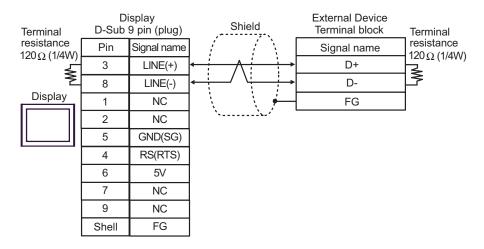


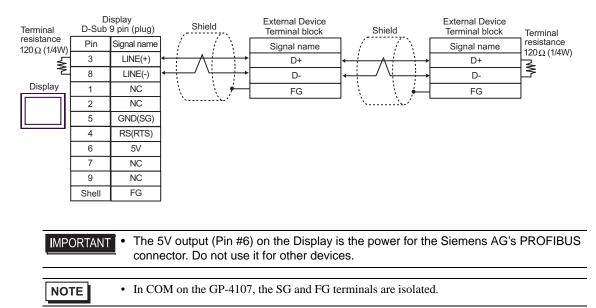
\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

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

### 6H)

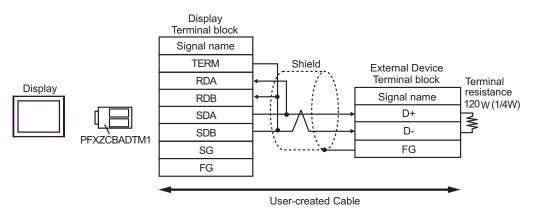
1:1 Connection

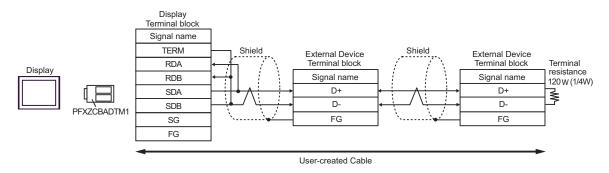




# 6I)

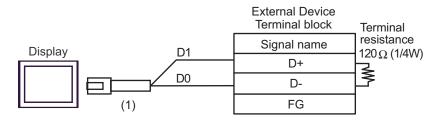
1:1 Connection



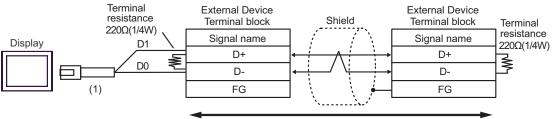


# 6J)

• 1:1 Connection



• 1:n Connection



User-created Cable

Number	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

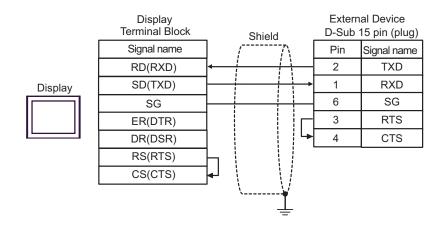
Display (Connection Port)		Cable	Remarks
GP3000 (COM1) GP4000 <sup>*1</sup> (COM1) ST (COM1) LT3000 (COM1) IPC <sup>*2</sup> PC/AT	7A	User-created Cable	Cable length: 15m or less
GP-4105 (COM1)	7B	User-created Cable	
LT-4*01TM (COM1)	7C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

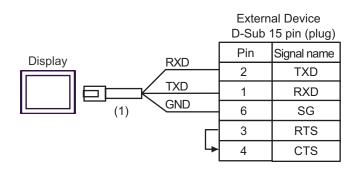
\*1 All GP4000 models except GP-4100 Series and GP-4203T

\*2 Available only with a COM port that supports RS232C. <sup>CP</sup>■ IPC COM Port (page 6)

7A)

	Display D-Sub 9 pin (socket)		Shield		External Device D-Sub 15 pin (plug)			
	Pin	Signal name			Pin	Signal name		
Display	2	RD(RXD)	<b>←</b>			—[	2	TXD
	3	SD(TXD)					1	RXD
	5	SG	$\vdash$				6	SG
	4	ER(DTR)			L	3	RTS	
	6	DR(DSR)				└>[	4	CTS
	7	RS(RTS)	$\mathbf{H}$					
	8	CS(CTS)	<b>↓</b> \					
	Shell	FG	<u> </u>	•	Ŋ			





Number	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

7C)

Display (Connection Port)		Cable	Remarks
GP3000 <sup>*1</sup> (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) ST <sup>*2</sup> (COM2) LT3000 (COM1)	8A 8B	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable User-created Cable	
GP3000 <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	
	8D	Online adapter by Pro-face CA4-ADPONL-01 + User-created Cable	Cable length:
IPC*4		COM port conversion adapter by Pro-face. CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created Cable User-created Cable	1,000m or less
GP-4106 (COM1)	8F 8G	User-created Cable	_
GP-4107 (COM1) GP-4*03T <sup>*5</sup> (COM2) GP-4203T (COM1)	8H	User-created Cable	
GP4000 <sup>*6</sup> (COM2) GP-4201T (COM1)	8I 8B	RS-422 Terminal Block Conversion Adapter by Pro-face PFXZCBADTM1 <sup>*7</sup> + User-created cable User-created cable	
LT-4*01TM (COM1)	8J	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

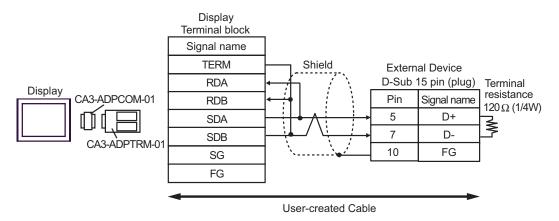
\*1 All GP models except AGP-3302B

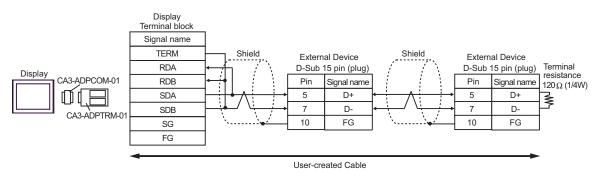
\*2 All ST models except AST-3211A and AST-3302B

\*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>(2)</sup> ■ IPC COM Port (page 6)
- \*5 Except GP-4203T

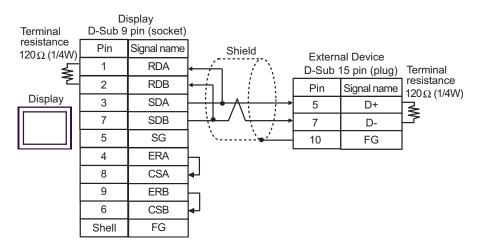
- \*6 All GP4000 models except GP-4100 Series, GP-4\*01TM, GP-4201T and GP-4\*03T
- \*7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 8A.
  - 8A)
  - 1:1 Connection

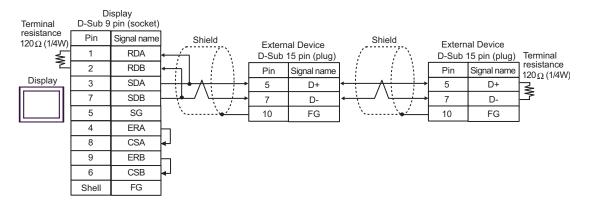




# 8B)

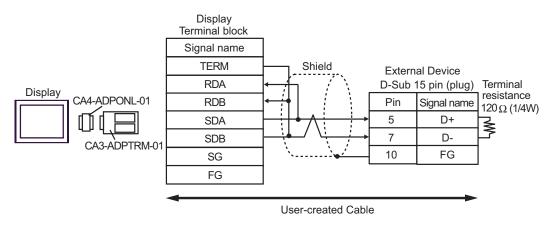
### 1:1 Connection

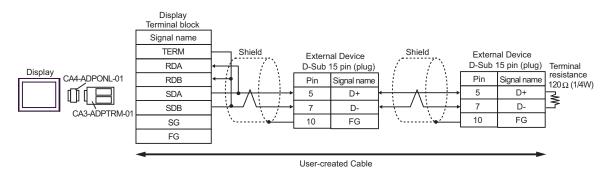




## 8C)

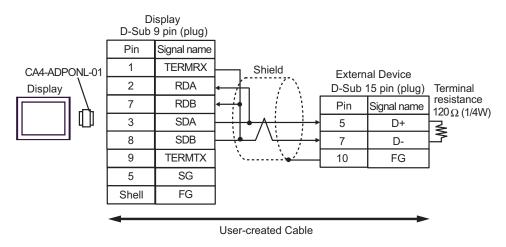
1:1 Connection



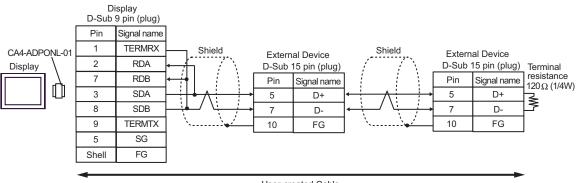


## 8D)

• 1:1 Connection



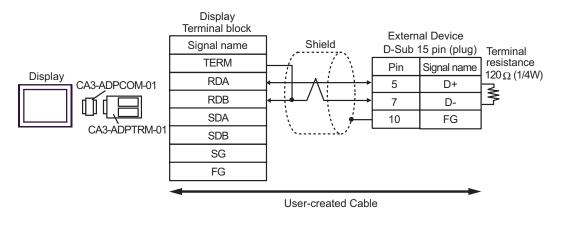
#### • 1:n Connection

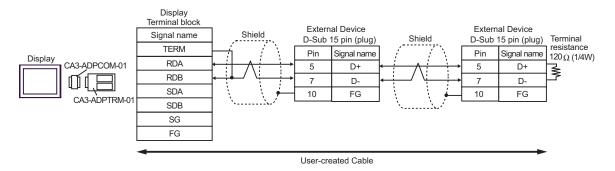


User-created Cable

## 8E)

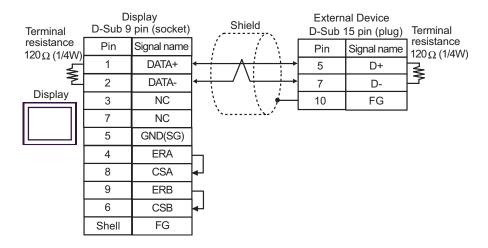
1:1 Connection

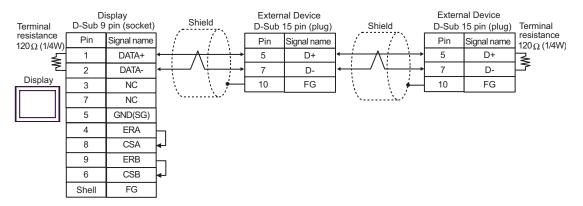




## 8F)

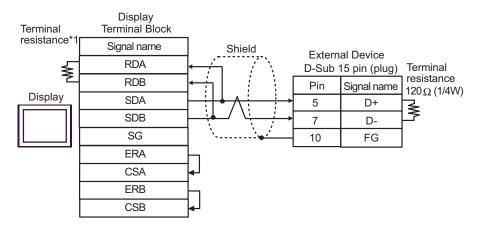
1:1 Connection



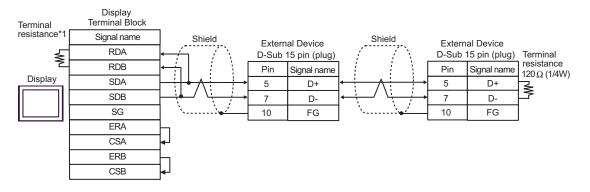


## 8G)

1:1 Connection



#### • 1:n Connection

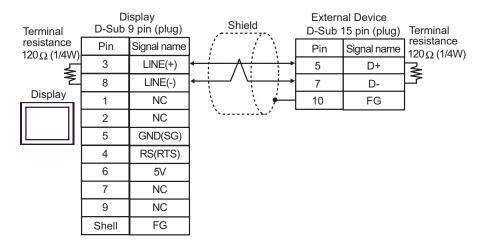


\*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

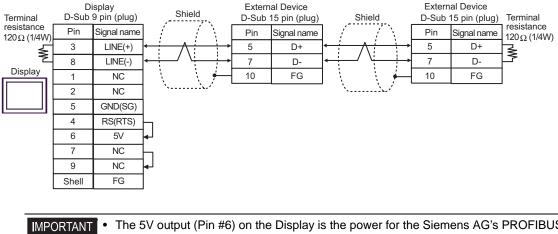
DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON

#### 8H)

1:1 Connection



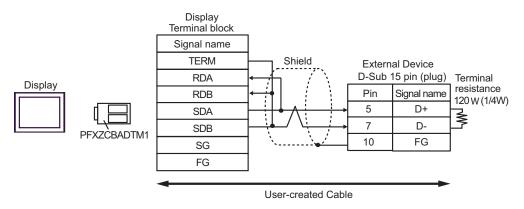
#### 1:n Connection

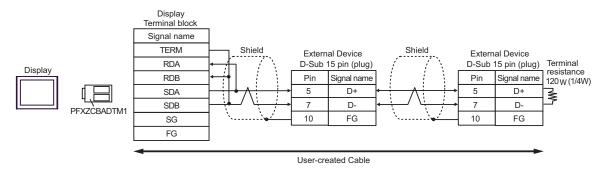


PORTANT •	The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS
	connector. Do not use it for other devices.

### 8I)

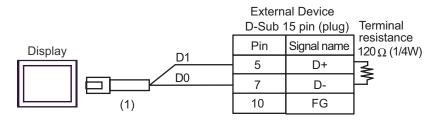
1:1 Connection



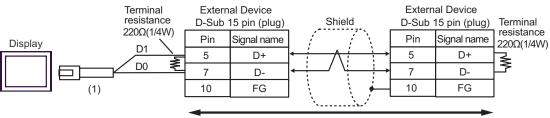


## 8J)

• 1:1 Connection



• 1:n Connection



User-created Cable

Number	Name	Notes
(1)	RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81	

#### Cable Diagram 9

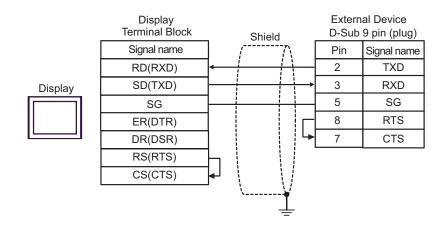
Display (Connection Port)		Cable	Remarks
GP3000 (COM1) GP4000 <sup>*1</sup> (COM1) ST (COM1) LT3000 (COM1) IPC <sup>*2</sup> PC/AT	9A	User-created Cable	Cable length: 15m or less
GP-4105 (COM1)	9B	User-created Cable	
LT-4*01TM (COM1)	9C	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

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

9A)

		splay pin (socket)	Shield		al Device 9 pin (plug)
	Pin	Signal name		Pin	Signal name
	2	RD(RXD)		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)	<b>↓</b> ↓ ↓		
	Shell	FG	<u> </u>		

9B)



		External Device D-Sub 9 pin (plug)		
Display		Pin	Signal name	
		2	TXD	
		3	RXD	
	ND	5	SG	

Number	Name	Notes
(1)	RJ45 RS-232C Cable (5m) by Pro-face PFXZLMCBRJR21	

9C)

: 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 t <b>15</b> ] *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 External Device set with GP-Pro EX. (Initial value [PLC1])			
Error Message	or Message Displays messages related to an error that has occurred.		
	Displays the IP address or device address of the External Device where an error has occurred, or error codes received from the External Device.		
Error Occurrence Area	<ul> <li>NOTE</li> <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>		

#### 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.