

Easy! Smooth!

Factory Gateway -> GP-4201T

Replacement Guidebook

## Preface

This guidebook introduces the procedures to replace a unit in Factory Gateway with a unit in GP-4201T.

Model in use	Model No.	Recommended Substitution
Factory Gateway	FGW-SE41-24V	<b>GP-4201T</b>

## Safety Information

### HAZARD OF OPERATOR INJURY, OR UNINTENDED EQUIPMENT DAMAGE

Before operating any of these products, be sure to read all related manuals thoroughly.

Failure to follow these instructions can result in death, serious injury or unintended equipment damage.

## GP4000 Series Model Number

GP4000 series model number partly differs depending on a specification. Before placing an order, please make sure of the model number.

**PFXGP4 \* 0 \* \* \* \* \***  







A
B
C
D
E
F

A	2	GP-4200 series (3.5")
	3	GP-4300 series (5.7")
	4	GP-4400 series (7.5"/7.0"W)
	5	GP-4500 series (10.4")
	6	GP-4600 series (12.1")
B	01	RS-232C/422/485
	03	RS-485 (isolation)
C	T	TFT color LCD
	W	TFT color LCD (Wide Type)
D	A	Analog Resistive Film Touch Panel
	M	Matrix Resistive Film Touch Panel
E	A	AC Type Power Supply
	D	DC Type Power Supply
F	W	GP-4201TW/4301TW/4401WW/4501TW
	C	Coated model
	WC	Coated model of GP-4301TW

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## Chapter 1 Specification Comparison

### 1.1 Specifications of Factory Gateway and GP-4201T

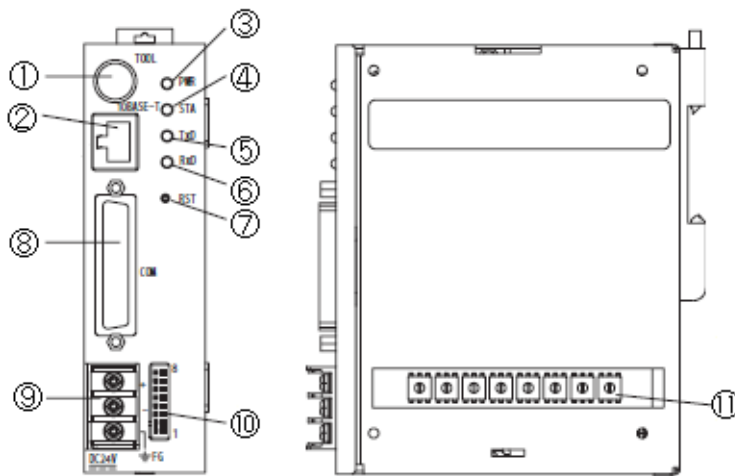
		Factory Gateway	GP-4201T
			
<b>Display Type</b>		-	TFT color LCD
<b>Display Colors, Levels</b>		-	<b>UP!</b> 65,536 colors (without blink)/ 16,384 colors (with blink)
<b>Display Resolution</b>		-	QVGA (320x240 pixels)
<b>Panel Cutout Dimensions (mm)</b>		-	118.5(W)x92.5(H)
<b>External Dimensions (mm)</b>		37(W)x135.5(H)x122(D)	132(W)x106(H)x42(D)
<b>Touch Panel Type</b>		-	Resistive film (Analog)
<b>Memory</b>	<b>Application</b>	-	<b>UP!</b> 16MB
	<b>SRAM</b>	-	<b>UP!</b> 320KB
<b>Backup Battery</b>		Secondary Battery (Rechargeable Lithium battery)	
<b>Rated Input Voltage</b>		DC 24V	
<b>Serial I/F</b>	<b>COM1</b>	D-Sub 25 pin (plug) RS-232C/422	D-Sub 9 pin (plug) RS-232C/422/485 <a href="#">-&gt;See 4.5.1</a>
<b>Ethernet Interface</b>		10BASE-T	<b>UP!</b> 10BASE-T/100BASE-TX
<b>USB I/F</b>	<b>Type A</b>	-	✓
	<b>Type mini B</b>	-	<a href="#">-&gt;See 2.3</a>
<b>Tool Connector I/F</b>		✓	-

## Chapter 2 Compatibility of Hardware

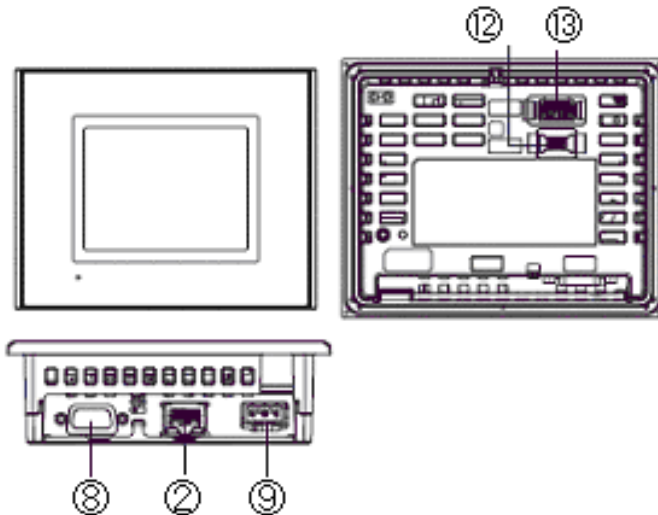
### 2.1 Locations of connector

Connector locations on Factory Gateway and GP-4201T are as follows:

Factory Gateway



GP-4201T



Interface names

	Factory Gateway	GP-4201T
1	Tool Connector	-
2	Ethernet Interface	
3	Power LED (PWR)	-
4	Error Status LED (STA)	-
5	Serial I/F LED (TxD)	-
6	Serial I/F LED (RxD)	-
7	Reset Switch (RST)	-
8	Serial Interface (COM1)	
9	Power Input Terminal Block	Power Supply Connector
10	DIP Switch	-
11	Rotary Switches	-
12	-	USB I/F (Type mini B)
13	-	USB I/F (Type A)



## 2.2 IP address

When Factory Gateway is replaced with GP-4201T, the place where an IP address is specified is changed. For IP Address Setting of GP-4201T, refer to 'M.4.1 Assigning an IP address to the Display'

"M.4.1 Assigning an IP address to the Display"

[http://www.pro-face.com/otasuke/files/manual/gpproex/new/refer/mergedProjects/maintenance/maintenance\\_pr\\_ipaddress.htm](http://www.pro-face.com/otasuke/files/manual/gpproex/new/refer/mergedProjects/maintenance/maintenance_pr_ipaddress.htm)

## 2.3 Installation

When Factory Gateway is replaced with GP-4201T, DIN Rail is not used in installing GP-4201T. For details, refer to "2. Installation Procedure" of GP4000 series manual.



Installation Procedure

[http://www.pro-face.com/otasuke/files/manual/gp\\_hard/GP4X-MT11-BTH\\_eng.pdf](http://www.pro-face.com/otasuke/files/manual/gp_hard/GP4X-MT11-BTH_eng.pdf)

## 2.4 Transfer cable

To transfer screen data to GP-4201T, use a USB transfer cable or Ethernet.

The USB cables that can be used for GP-4201T are as follows;

	Model	Connector Type	Connector on GP
Options	CA3-USBCB-01	 Type A      Type A	USB (Type A)
	ZC9USCBMB1	 Type A      Type mini B	USB (Type mini B)
Commercial Item	-		

GP-4201T is necessary to use a new transfer cable because it's not compatible.

## 2.5 Power Consumption

The power consumption of GP-4201T is lower than Factory Gateway.

Factory Gateway	GP-4201T
10W or less	9.6W or less

For the detailed electric specifications, see the hardware manual.

## 2.6 Materials/Colors of the body

The materials and the colors of Factory Gateway and GP-4201T are as follows:

	Factory Gateway	GP-4201T
Color	Light Gray	
Material	Metal	Resin with glass

## 2.7 About Pro-Server

If the Pro-Server with Pro-Studio is used, please use the Pro-Server EX Ver.1.30 or later. For details of the installation, refer to the

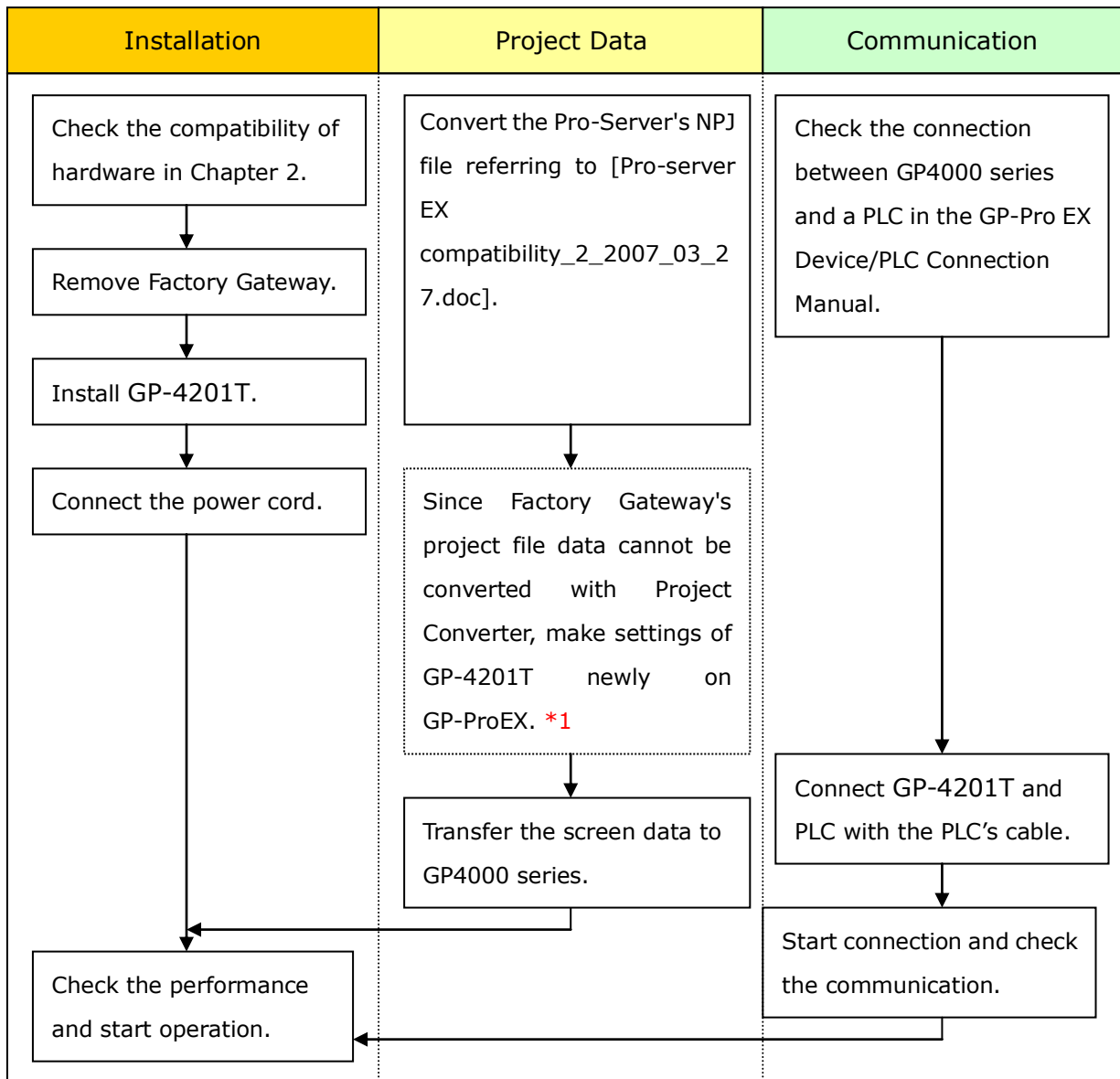
[http://www.pro-face.com/otasuke/qa/server\\_ex/replace/](http://www.pro-face.com/otasuke/qa/server_ex/replace/).

## 2.8 Other Notes

- Do not expose GP4000 series to direct sunlight.
- Do not use GP4000 series outdoors.
- Do not turn on GP4000 series if condensation has occurred inside the device.
- When you are continuously using GP4000 series without oxygen, the brightness might decrease. Please ventilate the control panel periodically.

## Chapter 3 Replacement Procedure

### 3.1 Work Flow



\*1: When [GP-Web Series] is set for GP Type on GP-PRO/PBIII, the project file data cannot be also converted.

Change the model to GP2000 series on GP-ProPBIII for Windows and convert the project file data or create a new screen on GP-ProEX.

## 3.2 Preparation

Requirements for receiving screen data from Factory Gateway. *1	<p><b>Factory Gateway:</b></p> <p>If Factory Gateway's settings are made with 'Factory Gateway Configuration Tool', GP-PRO/PBIII for Windows cannot be used.</p> <p>Prepare 'Factory Gateway Configuration Tool'.</p> <p>For download, go to the following site.</p> <p>(<a href="http://www.pro-face.com/otasuke/download/update/server/fqw_v412.htm">http://www.pro-face.com/otasuke/download/update/server/fqw_v412.htm</a>)</p>
	<p><b>Factory Gateway:</b></p> <p>PC in which GP-PRO/PBIII for Windows V6.1 or later is installed. *2</p>
	<p>Transfer Cable</p> <p>(The following three types of cables are available.)</p> <ul style="list-style-type: none"> <li>• GPW-CB02 (D-sub 9 pin to PC)</li> <li>• GPW-CB03 (USB to PC) *3</li> <li>• GP430-CU02-M or GPW-SET (D-sub 25 pin to PC)</li> </ul> <p>* Possible to send/receive a screen via Ethernet.</p>
Requirements for converting screen data of Factory Gateway and transferring the converted data to GP-4201T	<p>PC in which GP-Pro EX Ver.3.0 or later is installed</p>
	<p>Transfer Cable</p> <p>(The following three types of cables are available.)</p> <ul style="list-style-type: none"> <li>• A USB transfer cable (model: CA3-USBCB-01)</li> <li>• A USB data-transfer cable (model: ZC9USCBMB1)</li> <li>• A commercial USB cable (USB Type A/mini B)</li> </ul> <p>* Possible to send/receive a screen with a USB storage device or via Ethernet.</p>

\*1: This step is required if screen data is saved only in the GP unit, not in any other device

\*2: Please use the same version or later as or than that of the software used during creating screens on Factory Gateway. If you don't know the version, we recommend you to use the newest version. The newest version is GP-PRO/PBIII for Windows C-Package03 (SP2) V7.29. Those who have GP-PRO/PBIII for Windows C-Package03 V7.0 can download it from our web site called [OtasukePro!] (<http://www.pro-face.com/otasuke/download/update/>).

\*3: GPW-CB03 is supported by GP-PRO/PBIII for Windows C-Package02 (SP2) V6.23 or later. You need to install a driver from [Download] on our Web site called [OtasukePro!] (<http://www.pro-face.com/otasuke/download/driver/>).

### 3.3 Transfer screen data to GP-4201T

Transfer the project file after display unit type change to GP-4201T.

You can transfer data to GP-4201T via;

- An USB transfer cable (model: CA3-USBCB-01)
- An USB data transfer cable (model: ZC9USCBMB1)
- A commercial USB cable (USB Type A/mini B)
- An USB storage device
- Ethernet

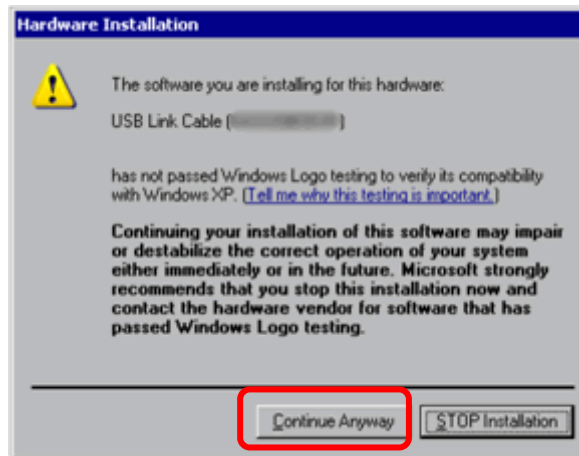
But this section explains, as an example, how to transfer screen data via an USB transfer cable (model: CA3-USBCB-01).



- (1) Connect your PC and the GP unit of GP-4201T with an USB transfer cable. If the driver of the cable has not been installed on you PC, a dialog box will appear. Please follow the instructions.

#### NOTE

- The "Hardware Installation" dialog box as follows may appear during installing the driver of a USB depending on the security level of Windows® XP. Click [Continue Anyway] to start installing the driver. When installation is completed, click [Finish].

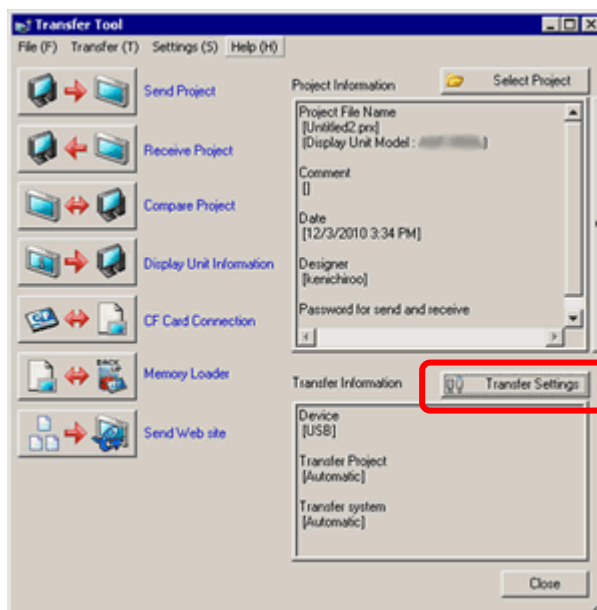


- If the following symptoms appear on Microsoft Windows® 7, go to updating "USB Data Transfer Driver" on [OtasukePro!] for download. ([http://www.pro-face.com/otasuke/download/freesoft/gpproex\\_transfer.htm](http://www.pro-face.com/otasuke/download/freesoft/gpproex_transfer.htm))
  - An error occurs when GP-Pro EX or Transfer Tool is installed
  - An error occurs when data is transferred via a USB transfer cable (model: CA3-USBCB-01).

- (2) Turn on the power of GP-4201T. The "Initial Start Mode" screen will appear on the display unit. After transferring a project file once, this screen will not appear again.



- (3) On the GP-Pro EX's State Toolbar, click the [Transfer Project] icon to open the Transfer Tool.



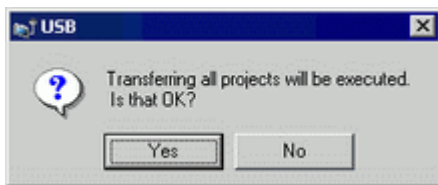
To transfer a different project file, click the [Select Project] button and select a project file.

- (4) Make sure that the [Device] in the "Transfer Settings Information" is set to [USB].

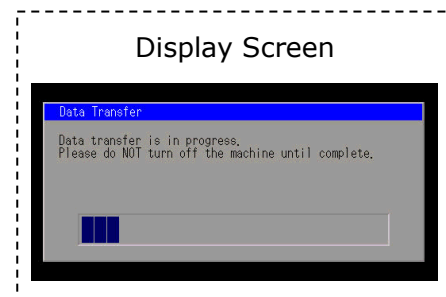
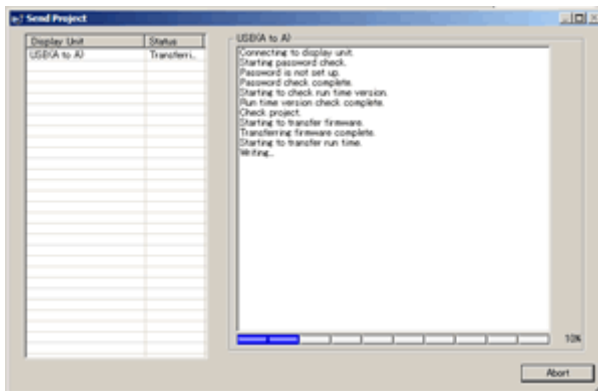
If not, click the [Transfer Setting] button to open the "Transfer Setting" dialog box. Select [USB] in the Communication Port Settings field and click [OK].



(5) Click [Send Project] to start transfer. When the following dialog box appears, click [Yes]. This dialog box doesn't appear when the same project file is sent again.



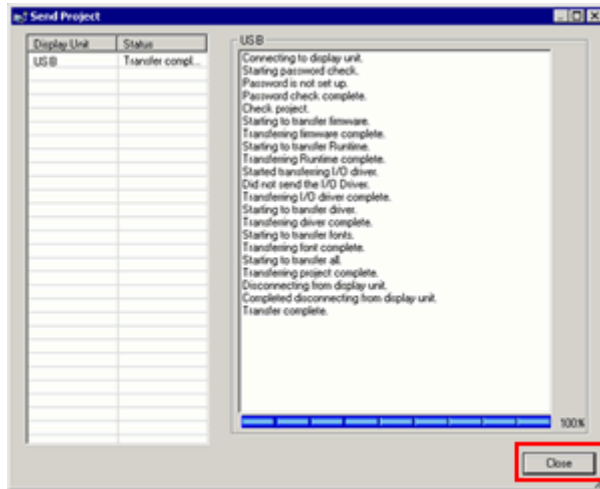
(6) The following dialog box appears during transfer and you can check the communication status. (The display unit enters the Transferring mode and communication with the device such as a PLC is terminated.)



(7) When transfer is completed, the status displayed in the dialog box will change



from [Transferring] to [Complete Transfer]. Click [Close] to close the dialog box.



The display unit will be reset and a screen of the transferred project file will be displayed.

(8) Close the Transfer Tool.

(9) Click the [X] mark on top right of the screen or [Project]->[Exit] to close GP-Pro EX.

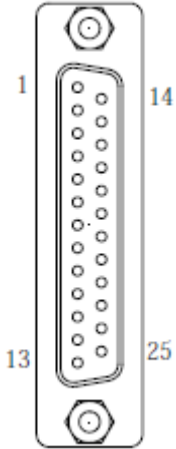
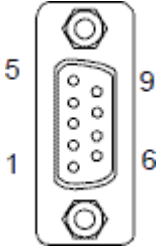
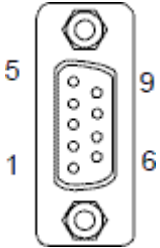
## Chapter 4 Communication with Device/PLC

### 4.1 Drivers

More connectable drivers will be added.

For the devices/PLC each driver supports, see [Connectable Devices] (<http://www.pro-face.com/product/soft/gpproex/driver/driver.html>).

### 4.2 Shapes of COM ports

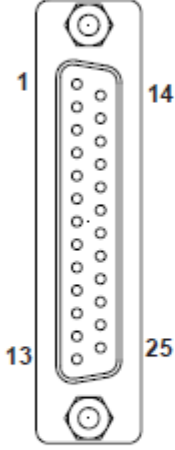
	Factory Gateway	GP-4201T
COM1	D-Sub 25 pin (plug) RS-232C/422	D-Sub 9 pin (plug) RS-232C/422/485
		
COM2	-	D-Sub9 pin (plug) RS-422/485
	-	

### 4.3 Signals of COM ports

#### 4.3.1 Signals of COM1

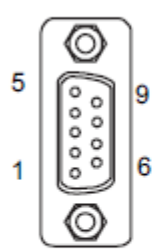
Factory Gateway

RS-232C/422

Pin Arrangement	Pin #	Signal Name	Condition
	1	FG	Frame Ground
	2	SD	Send Data (RS-232C)
	3	RD	Receive Data (RS-232C)
	4	RS	Request to Send (RS-232C)
	5	CS	Clear to Send (RS-232C)
	6	DR	Data Set Ready (RS-232C)
	7	SG	Signal Ground
	8	CD	Carrier Detect (RS-232C)
	9	TRMX	Termination (RS-422)
	10	RDA	Receive Data A (RS-422)
	11	SDA	Send Data A (RS-422)
	12	NC	No Connection(Reserved)
	13	NC	No Connection(Reserved)
	14	VCC	5V±5% Output 0.25A
	15	SDB	Send Data B (RS-422)
	16	RDB	Receive Data B (RS-422)
	17	RI	Ring Indicate (RS-232C)
	18	CSB	Clear to Send B (RS-422)
	19	ERB	Enable Receive B (RS-422)
	20	ER	Enable Receive (RS-232C)
	21	CSA	Clear to Send A (RS-422)
	22	ERA	Enable Receive A (RS-422)
	23	NC	No Connection(Reserved)
	24	NC	No Connection(Reserved)
	25	NC	No Connection(Reserved)

For GP-4201T

RS-232C (plug)

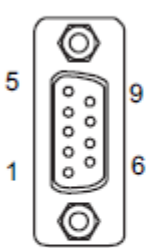
Pin Connection	Pin No.	RS-232C		
		Signal Name	Direction	Meaning
 <p>(GP unit side)</p>	1	CD	Input	Carrier Detect
	2	RD(RXD)	Input	Receive Data
	3	SD(TXD)	Output	Send Data
	4	ER(DTR)	Output	Data Terminal Ready
	5	SG	-	Signal Ground
	6	DR(DSR)	Input	Data Set Ready
	7	RS(RTS)	Output	Request to Send
	8	CS(CTS)	Input	Send possible
	9	CI(RI)/VCC	Input/-	Called Status Display +5V±5% Output 0.25A <sup>*1</sup>
	Shell	FG	-	Frame Ground (Common with SG)

\*1: RI and VICC of Pin 9 are switched on the software.

VCC Output is not protected from overcurrent.

Please follow the current rating to avoid false operation or breakdown.

RS-422/485 (plug)

Pin Connection	Pin No.	RS-422/RS-485		
		Signal Name	Direction	Meaning
 <p>(GP unit side)</p>	1	RDA	Input	Receive Data A (+)
	2	RDB	Input	Receive Data B (-)
	3	SDA	Output	Send Data A (+)
	4	ERA	Output	Data Terminal Ready A (+)
	5	SG	-	Signal Ground
	6	CSB	Input	Send Possible B (-)
	7	SDB	Output	Send Data B (-)
	8	CSA	Input	Send Possible A (+)
	9	ERB	Output	Data Terminal Ready B (-)
	Shell	FG	-	Frame Ground (Common with SG)

#### 4.4 Multilink Connection

For the communication drivers that support serial multi-link, see [[Which drivers support serial multilink communication?](#)]

([http://www.pro-face.com/otasuke/files/manual/gpproex/new/device/com\\_mlnk.htm](http://www.pro-face.com/otasuke/files/manual/gpproex/new/device/com_mlnk.htm)).

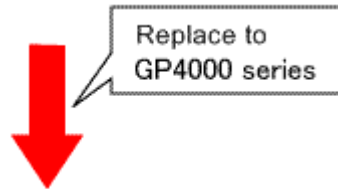
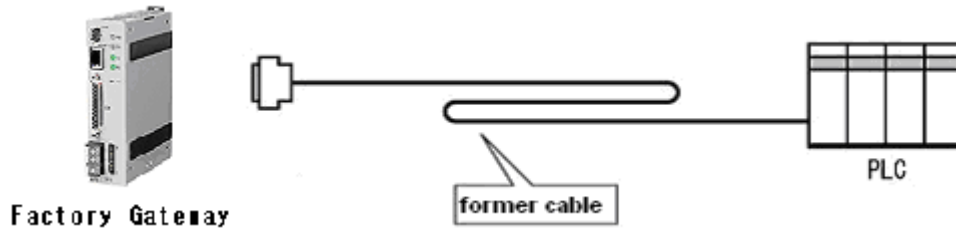
#### 4.5 Cable Diagram at the time of replacement

The connection cable for Factory Gateway can be used for GP-4201T. But please note that there are precautions and restrictions as described below.

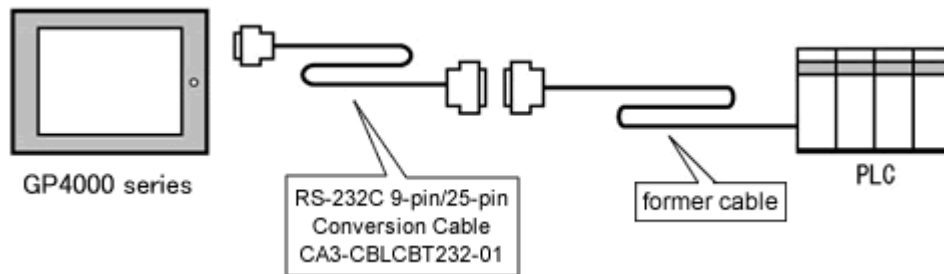
##### IMPORTANT

- Please check the connection configurations GP-4201T supports with GP-Pro EX Device/PLC Connection Manual before using a connection cable.  
(<http://www.pro-face.com/otasuke/files/manual/gpproex/new/device/index.htm>).
- **The Siemens MPI connection cable** cannot be used.  
Please refer to the above-mentioned GP-Pro EX Device/PLC Connection Manual and prepare a connection cable for GP-4201T newly.

4.5.1 When using a RS-232C connection cable  
 Factory Gateway System Configuration (**COM1**)



GP-4201T System Configuration (connecting to **COM1**)



To replace Factory Gateway with GP-4201T, prepare the following item.

Product Name	Model
RS-232C 9-pin/25-pin Conversion Cable (20cm)	CA3-CBLCBT232-01

#### 4.5.2 When using a RS-422 connection cable

When using a RS-422 cable, it's necessary to make a new cable because it's not compatible. For cable diagrams, refer to Device/PLC Connection Manual.

<http://www.pro-face.com/otasuke/files/manual/gpproex/new/device/index.htm>