

# Easy! Smooth! GP4100(Monochrome) -> GP4100(Color) Replacement Guidebook

## Preface

This guidebook introduces the procedures to replace a unit in GP4100(Monochrome) with a unit in GP4100(Color) series.

Model in use	Model No.	Recommended Substitution	
GP-4104G	PFXGP4104G1D		
GP-4104W	PFXGP4104W1D	GP-41141	
GP-4105G	PFXGP4105G1D		
GP-4105W	PFXGP4105W1D	GP-41151	
GP-4106G	PFXGP4106G1D	CD 4116T	
GP-4106W	PFXGP4106W1D	GF-41101	

The backlight color of GP410xG : Grean/Orange/Red The backlight color of GP410xW : White/Pink/Red

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.

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# **Chapter 1 Specification Comparison**

# 1.1 Specifications of GP4100(Monochrome) and GP4100(Color)

		GP4100(Monochrome)	GP4100(Color)	
			US 2702 Discrete Disc	
Display Size		3.5″	4.3″ <b>UP!</b>	
Disp	lay Туре	pe STN monochrome LCD TFT color LCD		
Displa	ay Colors	256 colors (without blink)	65,536 colors (without blink) UP! -> <u>See 2.3</u>	
Display	Resolution	200 x 80 pixels	480 x 272 pixels	
			UP! -> <u>See 2.4</u>	
Pane	el Cutout	W 105mm x H 66mm	W 112.5mm x H 77.5mm	
Dimens	sions (mm)		-> <u>See 2.2</u>	
External	Dimensions	W 116.5mm x H 77.5mm	W 124.9mm × H 90.4mm	
(mm)		x D 28 8mm	× D 38.8mm	
			→ <u>See 2.2</u>	
Touch	ach Panel Type Resistive film (Analog)		m (Analog)	
Applicat	ion Memory	2.2MB UP! 8MB		
Backup Memory FLASH EPROM 128KB		OM 128KB		
Backu	n Pattory	None	UP! Option	
Dacku	ip battery		RTC Battery Set (PFXZGPRTC1)	
	<b>DE 333C</b>	Only GP4105	Only GP4115T	
Serial	K3-232C	9-pin, 2-piece terminal block	9-pin, 2-piece terminal block	
I/F	RS-422/48	Only GP4106	Only GP4116T	
	5	9-pin, 2-piece terminal block	9-pin, 2-piece terminal block	
Ethernet Interface		Only GP4104	Only GP4114T	
		10BASE-T/100BASE-TX	10BASE-T/100BASE-TX	
USB	Туре А	✓ -> <u>See 2.5</u>		
I/F	Type mini B	B ✓ -> <u>See 2.5</u>		

# **Chapter 2 Compatibility of Hardware**

#### 2.1 Locations of connector

Connector locations on GP4100 (Monochrome) and GP4100 (Color) are as follows:





#### Interface names

	GP4100(Monochrome)	GP4100(Color)	
1	Power Supply Connector		
2	Serial Interface (COM1)		
3	USB Interface (Type A)Ethernet Interface		
4	USB Interface (Type mini B)		
5	DIP switch (Only GP4106/GP4116)		
6	Ethernet I/F		
7	- RTC Battery Set Cover		

#### 2.2 External Dimensions and Panel cutout

GP4100(Color) is larger than GP4100(Monochrome).

The Panel Cutout Adapter (model number: PFXZCFAD31) is required for replacement.

However, when attached Panel Cutout Adapter (model number: PFXZCFAD31), GP4100 (Color) protrudes forward <u>11.3mm</u>.



**External Dimensions with Panel Cutout Adapter** 

2 Panel cutout adapter
3 Installation panel
W and H are the same as the external dimensions of GP4100(Monochrome)
W: 124.9 mm
H: 90.4 mm

1 GP4100 (Color) panel

D: 11.3 mm X: 1.5...6 mm

#### 2.3 Display Colors

The display color of GP4104/GP4105/GP4106 is monochrome, but

GP4114/GP4115/GP4116 has a TFT color LCD. After replacement, the display color changes from monochrome to color.

When the setting of the display unit type is changed from a monochrome model to a color one on GP-Pro EX, the data may be displayed in colors depending on the GP-Pro EX version or settings of the drawing/the parts on the screens.

After changing the display unit type, please confirm the display colors of the drawing or the parts on the screens just in case.

#### 2.4 Resolution

The display resolution of GP4100 (Monochrome) is different from that of GP4100 (Color).

For GP4100 (Color), the screen area gets larger.

When the setting of the display unit type is changed from GP410x to GP411x on GP-Pro EX, 'Convert Resolution' can be selected.

'Convert Resolution' is the function for adjusting the size and layout of each object automatically.

(But some objects can be adjusted automatically. After changing the display unit type, please confirm the size/layout of the drawing or the parts on the screens just in case.)

🍰 Change Dis	splay Unit
Current Display	·
Series	GP4000 Series
	GP-41** Series
Model	GP-4104
Orientation	Landscape
Touch Panel	Analog
·	Ŷ
New Display	
Series	GP4000 Series 🔹
	GP-41** Series 🔹
Model	GP-4114T 👻
Orientation	Landscape 🔻
Touch Panel	Analog
Convert R	esolution
	Change Cancel

#### 2.5 Transfer cable

To transfer screen data to GP4100 (Color), use a USB transfer cable or Ethernet. The USB cables that can be used for GP4100 (Color) are as follows;

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

The same USB transfer cable as the one for GP4100 (Monochrome) can be used.

#### 2.6 GP-Pro EX Trial version

GP-Pro EX Trial version supports to edit and transfer to GP4100 (Monochrome) . But for GP4100 (Color), it supports to <u>edit only</u>.

If you want to transfer to GP4100 (Color), please purchase the lisence of GP-Pro EX.

#### 2.7 Peripheral units and options

2.5.1 Barcode reader connection
Like GP4100 (Monochrome), GP4100 (Color) allows you to connect a barcode
reader on its USB interface (TypeA) or its serial interface. However,
The models GP4100 (Color) supports will be announced at Pro-face support web.
(http://www.pro-face.com/otasuke/qa/3000/0056 connect e.html).

#### 2.6.2 Printer Connection

Like GP4100 (Monochrome), GP4100 (Color) allows you to connect a printer on its USB interface (Type A).

The models GP4100 (Color) supports will be announced at Pro-face support web. (<u>http://www.pro-face.com/otasuke/qa/3000/0056\_connect\_e.html</u>).

#### **2.8 Power Consumption**

The power consumption of GP4100 (Monochrome) is different from that of GP4100 (Color).

power	GP4100 (Monochrome)			GP4100 (Color)		
consumption	GP4104	GP4105	GP4106	GP4114	GP4115	GP4116
When power is	2.7W	3.0W	3.0W	3.9W	3.4W	3.6W
not supplied	or less	or less	or less	or less	or less	or less
to USB devices						
When power is	6.0W	6.2W	6.2W	8.1W	7.5W	7.7W
supplied to	or less	or less	or less	or less	or less	or less
USB devices						

For the detailed electric specifications, see the hardware manual.

#### **2.9 Colors of the body**

The colors of GP4100 (Monochrome) and GP4100 (Color) are as follows:

	GP4100	GP4100 (Color)
	(Monochrome)	
Color	White	Light Glay

#### 2.10 Changing Backlight Color

GP4100(Color) doesn't support the function of changing backlight color. Please substitute another function as follows.

How to change	GP4100 (Monochrome)	GP4100(Color)
Set the backlight	Set [Backlight color]	Substitute
attributes for each	at [Screen attributes]	[Background color]
screen		at [Screen attributes]
Switch the backlight	Write data to System variable	Substitute Scrolling alarm
attributes from	"#H_BackLightColor"	message or Lamp
D-Script		

#### FAQ: How can I switch the backlight of GP4100(Monochrome)?

http://global.pro-face.com/faq/index.html?page=content&id=FA61008&actp=searc h&viewlocale=en\_US&searchid=1456907989927&answerid=16777216&searchid=&l ocale=en\_US&redirect=true

#### 2.11 Backup Battery

Turning OFF or resetting GP4100(Monochrome) initializes the clock. But if you use RTC Battery Set (model number PFXZGPRTC1) in GP4100(Color), you can backup clock data.

#### 2.12 Other Notes

- Do not expose GP4100 (Color) to direct sunlight.
- Do not use GP4100 (Color) outdoors.
- Do not turn on GP4100 (Color) if condensation has occurred inside the device.
- When you are continuously using GP4100 (Color) without oxygen, the brightness might decrease. Please ventilate the control panel periodically.

### **Chapter 3 Replacement Procedure**

#### 3.1 Work Flow



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

#### 3.2 Preparation

Requirements for	GP4105/4016 GP-Pro EX Ver. 2.6 or later		
receiving screen data	GP4107 GP-Pro EX Ver. 2.7 or later		
from GP4100	(Available GP-Pro EX trial version /Transfer Tool) *2		
(Monochrome).*1	Transfer Cable		
	(The following three types of cables are available)		
	<ul> <li>An USB transfer cable (model: CA3-USBCB-01)</li> </ul>		
	An USB data-transfer cable (model: ZC9USCBMB1)		
	<ul> <li>A commercial USB cable (USB Type A/mini B)</li> </ul>		
	* Possible to send/receive a screen data via an USB storage		
	or Ethernet (GP-4104 only).		
Requirements for	PC in which GP-Pro EX Ver.4.05 or later is installed.		
converting screen	Transfer Cable		
data of GP4100	(The following three types of cables are available)		
(Monochrome) and	<ul> <li>An USB transfer cable (model: CA3-USBCB-01)</li> </ul>		
transferring the	An USB data-transfer cable (model: ZC9USCBMB1)		
converted data to	A commercial USB cable (USB Type A/mini B)		
GP4100 (Color)	* Possible to send/receive a screen data via an USB storage		
	or Ethernet (GP-4114 only).		

\*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 GP4100 (Monochrome). If you don't know the version, we recommend you to use the newest version. For the newest version, you can download the transfer tool from Pro-face Support web.

(http://www.pro-face.com/otasuke/download/freesoft/gpproex\_transfer.htm)

#### 3.3 Receive screen data from GP4100 (Monochrome)

You can transfer data to GP4100 (Monochrome) 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
- Via Ethernet (for GP4104 only)

But this section explains, as an example, how to receive screen data from GP4100 (Monochrome) using an USB transfer cable (model: CA3-USBCB-01). If you have backed up screen data, this step is unnecessary, skip to the next section [3.4 Change the Display Unit Type].



PC

USB transfer cable (CA3-USBCB-01)

GP

(1) Connect your PC and GP4100 (Monochrome) with a USB transfer cable.

If the driver of the cable has not been installed on your PC yet, 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].

Hardwar	e Installation
1	The software you are installing for this hardware:
	USB Link Cable (
	has not passed Windows Logo testing to verify its compatibility with Windows XP. ( <u>Tell me why this testing is important.</u> )
	Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
	Continue Anyway

 If the following symptoms appear on Microsoft Windows® 7, go to updating "USB Data Transfer Driver" on [OtasukePro!] for download.

(<u>http://www.pro-face.com/otasuke/download/freesoft/gpproex\_transfer.ht</u> <u>m</u>)

- 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) Start the Transfer Tool of GP-Pro EX.

and Transfer Tool	
File (F) Transfer (T) Settings (S) Help (H)	
Send Project	Project Information Contract Select Project
Receive Project	Project File Name  [Unitiled2 pn] [Unitiled2 pn] [Display Unit Model: ]] Comment
Compare Project	0 Date [12/3/2010 3:34 PM]
Display Unit Information	Designer [kenichiroo]
CF Card Connection	Password for send and receive
Memory Loader	Transfer Information
Send Web site	Device [US8]
	Transfer Project [Automatic]
	Transfer system [Automatic]
	Close

(3) 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].



(4) Start GP-Pro EX Transfer Tool and click the [Receive Project] button.



(5) Click [Receive Project], and the following dialog box will appear. Specify a place to save the received data in and a project file name, and then click [Save] to start transfer.

Save As	? 🛛
Save in: 🔁	- 🖬 🍅 🖪 -
File <u>n</u> ame:	<u>S</u> ave
Save as type: PRX Files (*.prx)	Cancel

#### NOTE

When a file exists, the window that confirms whether or not to overwrite the file is displayed.

⚠	C:\Program Files Do you want to i	\Pro-face\GP-Pro   replace it?	EX\Database\Product	system A.prx already ex	ists.

(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.)

e. <sup>1</sup> Send Project		the state of the local division of the state	지미지	
Display Unit	Status	USD/A to AV		
USBIA to Al	Transferri.	Connecting to display unit. Darating password check, Plasaword is not set up. Plasaword check completin Darting to check run time version. Plan time version check complete.		
		Check project. Daufing to transfer firmware. Daufing to transfer run time. Weifing.		Display Screen
				Data Transfer Data transfer is in progress. Please do NOT turn off the machine until complete.
			108	
			Abort	

(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.

US 8	Transfer compl	Connecting to display unit.
		Staring paramotif directs, Paraword in ott at up Paraword in ott at up Paraword in ott at up Paraword in the starius Staring to Itarular Rimman. Staring to Itarular Rimanna. Staring to Itarular Rimanna. Director Itarular (10 director complete. Director Itarular (10 director complete. Director Itarular director Italian Staring to Itarular director Transfering 10 director complete. Staring to Itarular director Transfering To Itarular director Staring to Itarular director Starin
		1003

(8) Close the Transfer Tool.

#### 3.4 Change the Display Unit Type

Open the received project file (\*.prx) of GP4100 (Monochrome) on GP-Pro EX and change the display unit type to GP4100 (Color).

- (1) Open the received project file (\*.prx) on GP-Pro EX.
- (2) Click [System Settings]->[Display]->[Change Display] in [Project] menu and change the Display Unit type to the replacement model.

GP4000 Series	•
GP-41** Series	•
GP-4104	-
GP-4104 GP-4105 GP-4106 GP-4107	
GP-4114T GP-4115T GP-4116T	

(3) Click [Project]->[Save As ] and save the changed project file.

#### 3.5 Transfer screen data to GP4100 (Color)

Transfer the project file after display unit type change to GP4100 (Color). You can transfer data to GP4100 (Color) 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).



PC





USB transfer cable (CA3-USBCB-01)

GP

(1) Connect your PC and the GP unit of GP4100 (Color) 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.



(2) Turn on the power of GP4100 (Color). The "Initial Start Mode" screen will appear on the display unit. After transferring a project file once, this screen will not appear again.

Welcome		
この度はお買い求めいただき、 誠に ありがとうございます。 この状態のまま転送(セットアップ)を おこなってください。		
Thank you for purchasing this unit. To initialize , please download the Runtime system from the editor.		
USB		

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

⊯] Transfer Tool	
File (F) Transfer (T) Settings (S) Help (H)	
📢 🛶 🚉 Send Project	Project Information Select Project
Receive Project	Project File Name A [Unitified2.pn] [Display Unit Model : ] Comment
Compare Project	Date [12/3/2010 3:34 PM]
Display Unit Information	Designer [Renichiroo]
CF Card Connection	Password for send and receive
Amony Loader	Transfer Information
Send Web site	Device [US8]
	Transfer Project [Automatic]
	Transfer system [Automatic]
	Close

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.

🔊 USB			×	
?	Transferring all projects will be executed. Is that OK?			
	Yes	No		

(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.

#### 3.6 Differences of software

Some functions supported by GP4100 (Monochrome) are not supported by GP4100 (Color). For details of the supported parts and functions, refer to [Supported Featuers] of GP-Pro EX Reference Manual

(http://www.pro-face.com/otasuke/files/manual/gpproex/new/refer/gpproex.htm).

# 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).

#### 4.5 Specification of Serial Interface

The specification (signal and shape) of GP4100 (Color) is same as GP4100 (Monochroome).

The same connection cable as the one for GP4100 (Monochrome) can be used.