

Pro-face

by **Schneider** Electric

Replacement Guidebook

GP3000U Series → SP5000X Series

Preface

This guidebook introduces the procedures to replace a unit in GP3000U Series with a SP5000X Series.

Model in use	Model No.	Recommended Substitution
GP-3300U	AGP3300-U1-D24	SP-5490WA + SP-5B90 -> see 1.1
GP-3600U	AGP3600-U1-D24-CA1M	SP-5690WA + SP-5B90 -> see 1.2
GP-3650U	AGP3650-U1-D24	SP-5690WA + SP-5B90 -> see 1.3

'Display' and 'Box' of SP5000X series can be separated, so you can freely select a suitable combination of them depending to use. This guidebook introduces specifications for a combination of SP-5490WA or SP-5690WA and SP-5B90.



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.

Contents

<u>CHAPTER 1</u>	<u>SPECIFICATION COMPARISON</u>	<u>5</u>
1.1.	SPECIFICATION OF GP-3300U AND SP-5490WA + SP-5B90	5
1.2.	SPECIFICATION OF GP-3600U AND SP-5690WA+SP-5B90	8
1.3.	SPECIFICATION OF GP-3650U AND SP-5690WA+SP-5B90	11
<u>CHAPTER 2</u>	<u>COMPATIBILITY OF HARDWARE</u>	<u>14</u>
2.1.	LOCATIONS OF CONNECTOR	14
2.2.	USB TRANSFER CABLE	16
2.3.	INTERFACE	17
2.3.1.	SERIAL INTERFACE	17
2.3.2.	AUXILIARY I/O INTERFACE (AUX)	17
2.3.3.	SOUND OUTPUT INTERFACE	17
2.3.4.	CANOPEN INTERFACE, MULTI MEDIA	17
2.3.5.	CF CARD INTERFACE	18
2.4.	PERIPHERAL UNITS AND OPTION UNITS	18
2.4.1.	BARCODE/ 2D [TWO-DIMENSIONAL] CODE READER CONNECTION	18
2.4.2.	PRINTER CONNECTION	18
2.4.3.	EXPANSION UNIT	18
2.4.4.	ISOLATION UNIT	19
2.5.	BACKUP BATTERY	19
2.6.	SUPPORTED FEATURES	19
2.7.	POWER CONSUMPTION	20
2.8.	DISPLAY RESOLUTION	20
2.9.	ABOUT PRO-SERVER EX	20
2.10.	OTHER NOTES	20
<u>CHAPTER 3</u>	<u>REPLACEMENT PROCEDURE</u>	<u>21</u>
3.1.	WORK FLOW	21
3.2.	PREPARATION	22
3.3.	RECEIVE SCREEN DATA FROM GP3000U SERIES	23
3.4.	CHANGE THE DISPLAY UNIT TYPE	28

3.5.	TRANSFER THE SCREEN DATA TO SP5000X SERIES	28
3.6.	DIFFERENCES OF SOFTWARE	32

CHAPTER 4 COMMUNICATION WITH DEVICE/PLC **33**

4.1.	SHAPES AND COMMUNICATION METHOD OF COM PORTS	33
4.2.	SIGNALS OF COM PORTS	33
4.3.	CABLE DIAGRAM FOR REPLACEMENT	34
4.4.	MULTILINK CONNECTION	34

CHAPTER 5 APPENDIX **35**

5.1.	CHANGING THE SETTING OF THE EXTERNAL MEDIA TO USE	35
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Chapter 1 Specification Comparison

1.1. Specification of GP-3300U and SP-5490WA + SP-5B90

	GP-3300U	SP-5490WA+SP-5B90
		
Display Type	High brightness TFT Color LCD (LCD alone, 1000cd/m2)	
Display Colors	65,536 colors	UP! 262,144 colors
Display Resolution	5.7" QVGA (320x240 pixels)	UP! 7.0"W WVGA (800x480 pixels) -> see 2.8
Reflection	Glare	UP! Non-Glare
Panel Cut Dimensions	W156.0 x H123.5mm	NEW! W190.0 x H135.0mm
External Dimensions	W167.5 x H135 x D59.5mm	NEW! W203.6 x H148.6 x D68mm *1
Effective Display Area	W115.2 x H86.4mm	W152.4 x H91.4mm
Touch Panel Type	Resistive film (Analog, Single-touch)	
Surrounding Air Temperature	0~50°C	UP! -30~65°C
Storage Temperature	-20~60°C	UP! -30~70°C
Shock Resistance	15G	UP! 40G
Vibration Resistance	1G	UP! 2G
UV Protect	None	UP! Yes
Polution Degree	2	UP! 3
Rate	IP65F, TYPE 1 *2 (Indoor use only)	UP! IP66F, IP67F, UL50E Type4X (Indoor and outdoor use) *2 *3

Memory	Application	6MB	UP! 64MB
	SRAM	SRAM : 320KB	NEW! NVRAM : 320KB
Backup Battery		Secondary Battery (Rechargeable Lithium battery)	NEW! Primary Battery -> see 2.5
Input Voltage		DC24V	NEW! DC 12 to 24V
Serial I/F	COM1	D-Sub9 pin (plug) RS-232C/422/485	D-Sub9 pin (plug) RS-232C/422/485
	COM2	D-Sub9 pin (socket) RS-422/485	NEW! D-Sub9 pin (plug) RS-232C/422/485 -> see 2.3.1 see Chapter 4
Ethernet I/F		1 port 10/100MB	UP! 2 ports 10/100/1000MB
Memory		CF Card	NEW! SD Card -> see 2.3.5
USB I/F	TypeA	1 port	UP! 2 ports
	Type MiniB	-	UP! 1 port
Printer I/F		USB Type A -> see 2.4.2	
AUX Output I/F		-	UP! ✓ -> see 2.3.2
Sound Output I/F		Speaker Output:70mW(Rated Load:8Ω, Frequency:1kHz), Connector: 2-piece terminal block (AUX) x1	UP! Speaker Output: 300mW or more (Rated Load: 8Ω, Frequency: 1kHz) LINE Output: 1.4Vp-p (Rated Load: 10kΩ) Connector: 2-piece terminal block(AUX) x 1 -> see 2.3.3
Expansion Unit I/F (Communication Unit)		✓	✓ -> see 2.4.3
Expansion Memory		✓	NEW! -*4

Certification	UL508	UP! UL61010, C1D2, ATEX/IECEX Zone 2/22
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*1: Dimension for the case that putting together SP-5490WA and SP-5B90.

*2: The front face of this product, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification.

*3: PV:02 or later support this rate. PV:01 models are IP66F (Not support IP67F, UL50E Type4X (indoor and outdoor use))

*4: No expansion unit, but SP5000X series has more memory space than GP3000 series + expansion memory.

1.2. Specification of GP-3600U and SP-5690WA+SP-5B90

	GP-3600U	SP-5690WA+SP-5B90
		
Display Type	TFT Color LCD (LCD alone, 800cd/m2)	UP! High brightness TFT Color LCD (LCD alone, 1000cd/m2)
Display Colors	65,536 colors	UP! 262,144 colors
Display Resolution	12.1" SVGA (800×600 pixels)	NEW! 12"W WXGA (1,280×800 pixels) -> see 2.8
Reflection	Glare	UP! Non-Glare
Panel Cut Dimensions	W301.5 x H227.5mm	NEW! W295.0 x H217.0mm
External Dimensions	W313 x H239 x D56mm	NEW! W308.5 x H230.5 x D68mm *1
Effective Display Area	W248.0 x H186.5mm	W261.1 x H163.2mm
Touch Panel Type	Resistive film (Analog, Single-touch)	
Surround Air Temperature	0~50°C	UP! -30~70°C
Storage Temperature	-20~60°C	UP! -30~70°C
Vibration Resistance	15G	UP! 40G
Shock Resistance	1G	UP! 2G
Polution Degree	2	UP! 3
Rate	IP65F, TYPE 1 *2 (Indoor use only)	UP! IP66F, IP67F, UL50E Type4X (Indoor and outdoor use) *2 *3

Memory	Application	16MB	UP! 64MB
	SRAM	SRAM : 320KB	NEW! NVRAM : 320KB
Backup Battery		Secondary Battery (Rechargeable Lithium battery)	UP! Primary Battery -> see 2.5
Input Voltage		DC24V	NEW! DC 12 to 24V
Serial I/F	COM1	D-Sub9 pin (plug) RS-232C/422/485	D-Sub9 pin (plug) RS-232C/422/485
	COM2	D-Sub9 pin (socket) RS-422/485	NEW! D-Sub9 pin (plug) RS-232C/422/485 -> see 2.3.1 see Chapter 4
Ethernet I/F		1 port 10 /100MB	UP! 2 ports 10/100/1000MB
Memory		CF Card	NEW! SD Card -> see 2.3.5
USB I/F	Type A	2 ports (1.1)	UP! 2 ports (2.0)
	Type MiniB	-	UP! 1 port
Printer I/F		USB Type A -> see 2.4.2	
AUX Output I/F		✓ -> see 2.3.2	
Sound Output I/F		Speaker Output:70mW(Rated Load:8Ω, Frequency:1kHz), Connector: 2-piece terminal block (AUX) x1	UP! Speaker Output: 300mW or more (Rated Load: 8Ω, Frequency: 1kHz) LINE Output: 1.4Vp-p (Rated Load: 10kΩ) Connector: 2-piece terminal block(AUX) x 1 → See 2.3.3
CANopen I/F		✓ (Built-in)	NEW! ✓ (Option) -> see 2.3.4
Expansion Unit I/F (Communication Unit)		✓	✓ -> see 2.4.3

Expansion Unit I/F (Image Unit)	✓	- -> see 2.6
Expansion Memory	✓	-*4

*1: Demension for the case that putting together SP-5690WA and SP-5B90.

*2: The front face of this product, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification.

*3: PV:02 or later support this rate. PV:01 models are IP66F (Not support IP67F, UL50E Type4X (indoor and outdoor use))

*4: No expansion unit, but SP5000X series has more memory space than GP3000 series + expansion memory.

1.3. Specification of GP-3650U and SP-5690WA+SP-5B90

		GP-3650U	SP-5690WA+SP-5B90
			
Display Type		TFT Color LCD (LCD alone, 800cd/m2)	UP! High brightness TFT Color LCD (LCD alone, 1000cd/m2)
Display Colors		65,536 colors	UP! 262,144 colors
Display Resolution		12.1" SVGA (800x600 pixels)	UP! 12"W WXGA (1,280x800 pixels) -> see 2.8
Reflection		Glare	UP! Non-Glare
Panel Cut Dimensions		W301.5 x H227.5mm	NEW! W295.0 x H217.0mm
External Dimensions		W313 x H239 x D56mm	NEW! W308.5 x H230.5 x D68mm *1
Effective Display Area		W248.0 x H186.5mm	W261.1 x H163.2mm
Touch Panel Type	Resistive film (Analog, Single-touch)		
Surround Air Temperature		0~50°C	UP! -30~70°C
Storage Temperature		-20~60°C	UP! -30~70°C
Vibration Resistance		15G	UP! 40G
Shock Resistance		1G	UP! 2G
Polution Degree		2	UP! 3
Rate		IP65F, TYPE 1 *2 (Indoor use only)	UP! IP66F, IP67F, UL50E Type4X (Indoor and outdoor use) *2 *3
Memory	Application	16MB	UP! 64MB

	SRAM	SRAM : 320KB	NEW! NVRAM : 320KB
Backup Battery		Secondary Battery (Rechargeable Lithium battery)	UP! Primary Battery -> see 2.5
Input Voltage		DC24V	NEW! DC 12 to 24V
Serial I/F	COM1	D-Sub9 pin (plug) RS-232C/422/485	D-Sub9 pin (plug) RS-232C/422/485
	COM2	D-Sub9 pin (socket) RS-422/485	NEW! D-Sub9 pin (plug) RS-232C/422/485 -> see 2.3.1 see Chapter 4
Ethernet I/F		1 port 10 /100MB	UP! 2 ports 10/100/1000MB
Memory		CF Card	NEW! SD Card -> see 2.3.5
USB I/F	Type A	2 ports (1.1)	UP! 2 ports (2.0)
	Type Mini B	No	UP! 1 port
Printer I/F		USB Type A -> see 2.4.2	
AUX Output I/F		✓ -> see 2.3.2	
Sound Output I/F		Speaker Output:70mW(Rated Load:8Ω, Frequency:1kHz), Connector: 2-piece terminal block (AUX) x1	UP! Speaker Output: 300mW or more (Rated Load: 8Ω, Frequency: 1kHz) LINE Output: 1.4Vp-p (Rated Load: 10kΩ) Connector: 2-piece terminal block(AUX) x 1 -> see 2.3.3
Multimedia		Video-in x 1 Mic-in x 1 Play/Record Video	-
Expansion Unit I/F (Communication Unit)		✓	✓ -> see 2.4.3
Expansion Unit I/F (Image Unit)		✓	- -> see 2.6
Expansion Memory		✓	-*4

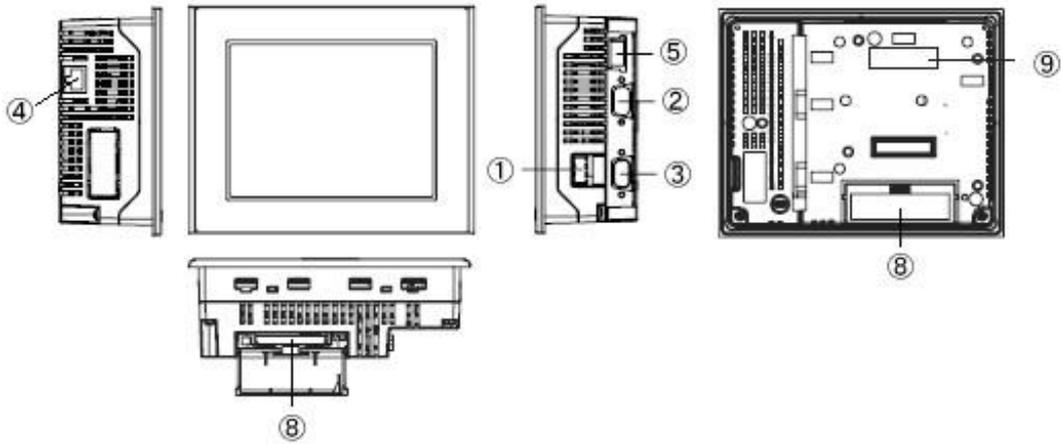
- *1: Dimension for the case that putting together SP-5690WA and SP-5B90.
- *2: The front face of this product, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification.
- *3: PV:02 or later support this rate. PV:01 models are IP66F (Not support IP67F, UL50E Type4X (indoor and outdoor use))
- *4: No expansion unit, but SP5000X series has more memory space than GP3000 series + expansion memory.

Chapter 2 Compatibility of Hardware

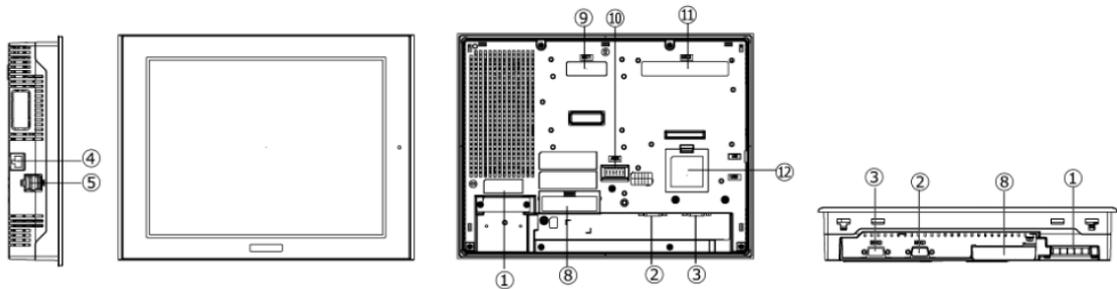
2.1. Locations of connector

Connector locations of GP3000U Series and SP5000X Series

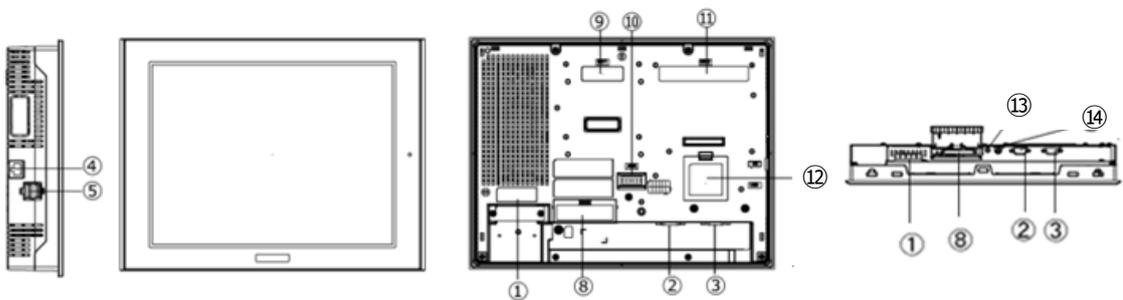
GP-3300U



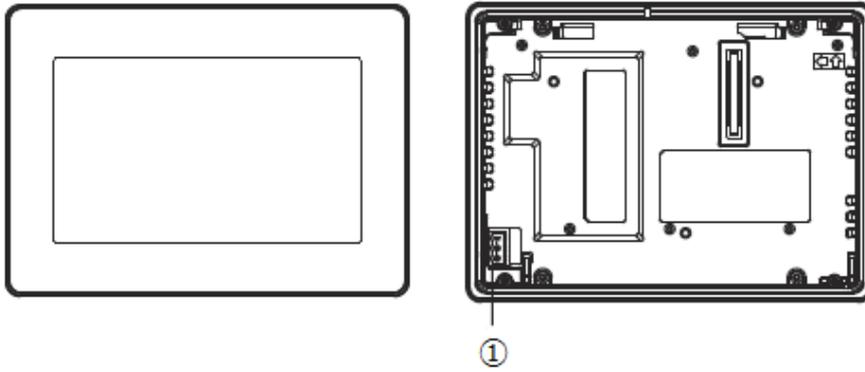
GP-3600U



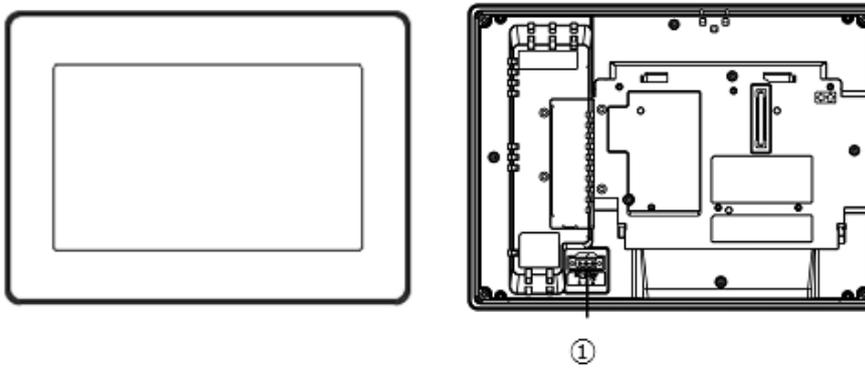
GP-3650U



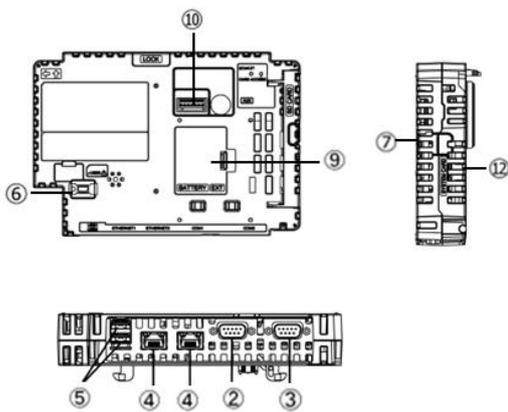
SP-5490WA



SP-5690WA



SP-5B90



	GP-3300U	GP-3600U	GP-3650U	SP-5490WA/SP5690WA SP-5B90
1	Power Connector			
2	Serial I/F (COM1)			
3	Serial I/F (COM2)			
4	Ethernet I/F			
5	USB I/F (Type A)			
6	-			USB I/F (Type mini B)
7	-			Storage Card Cover (There's a SD card I/F for storage under the cover.)
8	CF card I/F			-
9	Expansion Unit I/F			
10	-	AUX		
11	-	Expansion Unit I/F (Image Unit)		-
12	-	Expansion Memory		System Card Cover (There's a SD card I/F for storage under the cover.)
13	-		Sound Input I/F	-
14	-		Video Input I/F	-

2.2. USB Transfer cable

Like the GP3000U series, a USB transfer cable (CA3-USBCB-01) can be used for the SP5000X series. Also, a USB (Type mini B) cable (ZC9USCBMB1) and commercial cables can be used on the SP5000X series' side.

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

2.3. Interface

2.3.1. Serial Interface

The SP5000X series has a COM port on the side of box module.

The pin array and the shapes of the plug and the socket differ between GP3000U Series COM2 port and SP-5B90 COM port. Because of this change, PLC connection cable that used for GP3000U Series with COM2 port cannot be used as it is. For details, refer to "[Chapter 4 Communication with Device/PLC](#)".

2.3.2. Auxiliary I/O Interface (AUX)

SP-5B90 has 'Auxiliary I/O Interface (AUX)', but either Alarm Output or Buzzer Output can be used (Alarm Output and Buzzer Output can be changed on GP-Pro EX.). Note that RUN Output and External Reset Output that used to be used for GP3000U Series cannot be used anymore.

2.3.3. Sound Output Interface

If sound output is needed, select SP-5B10(Power Box) and use AUX I/F.

When using Speaker Output, the output value has increased from 70mW to 300mW, so customers using an amplifier should be aware of it.

2.3.4. CANopen interface, Multi Media

If you used GP3000U Series CANOpen master model and its function, additional option should be prepared to use that function with SP-5B90.

Also, please note in advance that Multi Media function which was supported on GP3000U Series cannot be used with SP-5B90.

	GP3000U Series	SP-5B90
CANOpen master	Supported (AGP3600-U1-D24-CA1M)	Supported (Need to use Option – PFXZCHEUCAM1)
Multi Media	Supported (AGP3650-U1-D24)	Not supported

2.3.5. CF Card Interface

SP5000X Series is not equipped with a CF card slot. To save data on it, please use SD card or USB Flash memory instead of CF card.

SP-5B90 has 2 SD card interfaces, one for the system and the other for backup. Use the interface of the SD card for backup.

* When using a SD card with SP-5B90, please verify it supports the following specifications:

	File format	Maximum capacity
SD	FAT16	2GB
SDHC	FAT32	32GB

When the setting of the output destination folder is set to “CF Card” on GP-Pro EX, if you change the display unit type, the setting will automatically change to the one that uses a SD card.

To change the setting of the output destination folder, see [\[5.1 Changing the setting of the external media to use\]](#).

2.4. Peripheral units and option units

2.4.1. Barcode/ 2D [two-dimensional] code reader connection

Like GP3000U Series SP5000X Series allows you to connect a barcode reader to its USB interface (Type A) or its serial interface. In replacing GP3000X Series with SP5000X Series, verify proper operation of the barcode/2D code reader before use.

2.4.2. Printer connection

Like GP3000U Series, SP5000X Series allows you to connect a printer on its USB interface. In replacing GP3000U Series with SP5000X Series, verify proper operation of the printer before use.

2.4.3. Expansion Unit

If you used PROFIBUS unit for GP3000U Series (model:CA5-PFSALL/EX-01), please apply PROFIBUS DP Slave (model no.: PFXZCDEUPF1) for SP-5B90.

SP5000 Series Option List

<https://www.proface.com/en/product/hmi/sp5000/option>

The expansion unit (each kind of unit like CC-LINK Unit, VM unit) for GP3000U Series cannot be used for SP5000X Series.

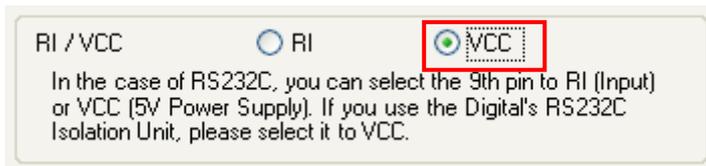
To use a VM unit or RGB unit, use GP4521T or GP4621T (standard brightness).

2.4.4. Isolation Unit

RS-485 isolation unit for GP3000U Series (CA3-ISO485-01) cannot be used for SP-5B90. On the other hand, you can use the RS-232C isolation unit (CA3-ISO232-01) for SP-5B90. The communication method (RS-232C/422) can be changed with DIP Switch on the unit.

Note for using RS-232C isolation unit (CA3-ISO232-01)

- Connect it to SP5000X series via COM1 (232C).
- In the case of RS-232C, it's necessary to set the 9th pin of the COM port to VCC.
[Settings on GP-ProEX]
Select "VCC" from [System Settings] -> [Device/PLC] in the [Project] menu on GP-Pro EX.



- RS-422/485 (2-wire type) communication and serial multilink are not supported.

2.5. Backup Battery

SP-5B90 does not use backup battery for Clock.

Supercapacitor (electric double-layer capacitor) can be back up clock data.

Please note the following points,

- When the voltage from the Supercapacitor is low, clock data is lost when this product is turned OFF. In order to charge up the super capacitor, power needs to be supplied to the main unit for 5 minutes or longer.
- The average period for backup is as follows:

Initial: Approximately 100 days

After 5 years: Approximately 30 days (used at ambient temperature of 25 °C [77 °F])

By connecting the Battery for Memory Backup (Model Number PFXZCBBT1) accessory, you can set up a backup period of up to 100 days or more.

2.6. Supported features

SP5000X Series does not support the following features.

- Recording/Playing a video
- Features using Image Unit (VM/DVI/RGB input)
- Camera-Viewer EX
- RPA
- PLC Ladder Monitor

2.7. Power Consumption

The power consumption of GP3000U series is different from that of SP5000X series.

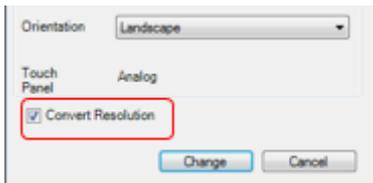
GP-3300U	GP-3600U/ GP-3650U	ST-5490WA+ SP-5B90	ST-5690WA+ SP-5B90
26W or less	50W or less	29W or less	37W or less

2.8. Display Resolution

To replace your GP3000U series to SP5000X, conversion of project file's resolution will be required.

- GP-3300U (QVGA) → SP-5490WA (WVGA)
- GP-3600U/3650U (SVGA) → SP-5690WA (WXGA)

If you check on [Convert Resolution] when changing the Display Unit type (as shown below), you can adjust both size and location of the part and the text relative to the display resolution automatically. But please note that their width gets larger due to change of horizontal resolution of the screen area. In this case, confirm their size and location and adjust them if necessary.



Especially, if using Standard font for the font type, after resolution converter, the size will get smaller.

In that case, you can improve by using stroke font or image font.

2.9. About Pro-Server EX

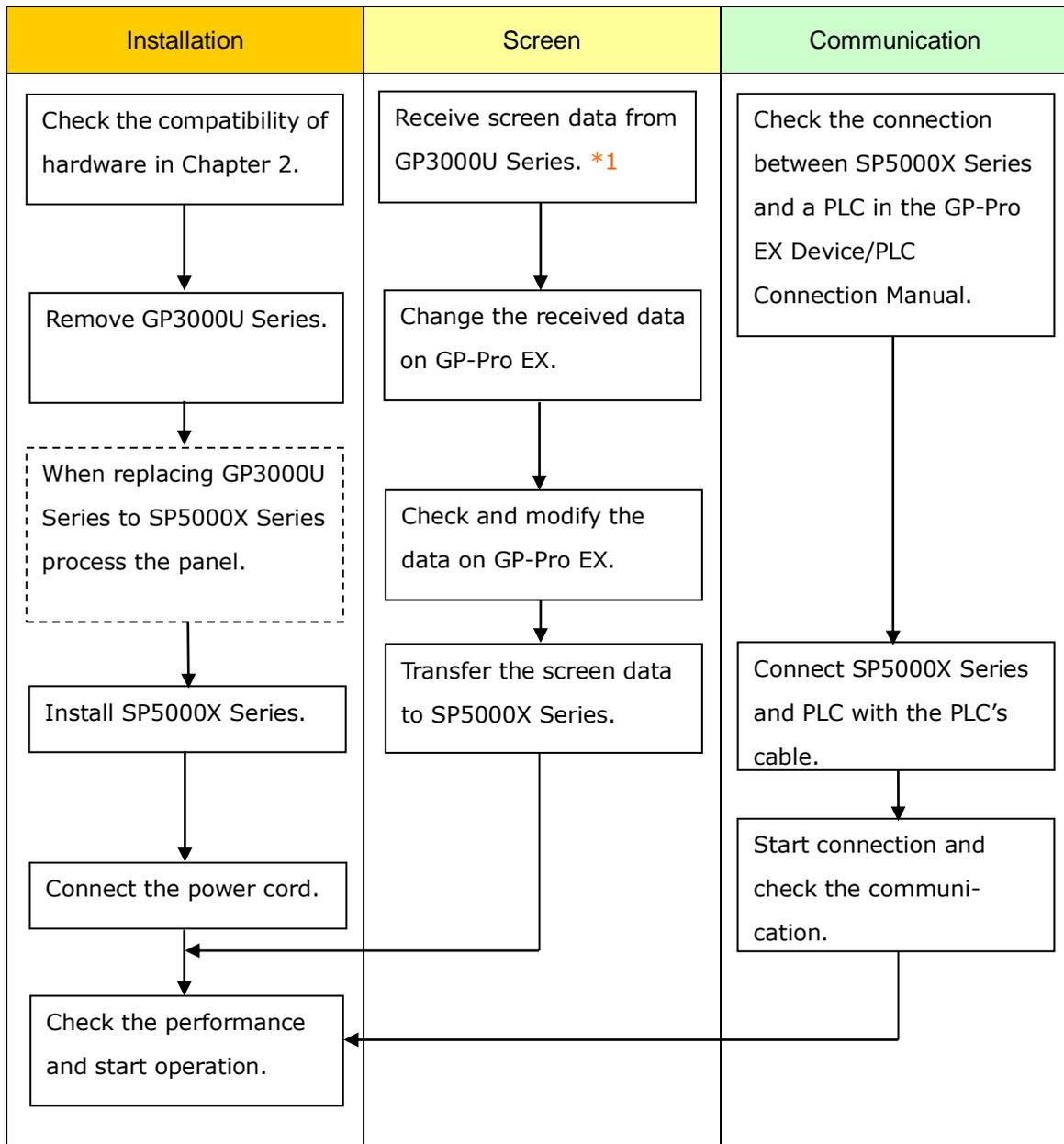
In case of you want to use Pro-Server EX with SP5000X, please use Pro-Server EX Ver.1.37 or later.

2.10. Other Notes

- Do not turn on SP5000X series if condensation has occurred inside the device.
- When you are continuously using SP5000X series 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 receiving screen data from GP3000U Series*1	PC in which GP-Pro EX Transfer Tool is installed. *2
	USB Transfer Cable (model: CA3-USBCB-01) * Possible to send/receive a screen via a CF card, a USB storage device or Ethernet.
Requirements for converting screen data of GP3000U Series and transferring the converted data to SP5000X Series.	PC with GP-Pro EX installed. *Ver4.08.200 or later
	Transfer Cable (The following three types of cables are available) <ul style="list-style-type: none"> • A USB transfer cable (model: CA3-USBCB-01) • A USB data-transfer cable (model: ZC9USCBMB1) • A commercial USB cable (USB Type A/mini B) * Possible to send/receive a screen via a SD card , a USB storage device or Ethernet.

*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 or later version of the software which was used during creating screens on GP3000U Series. 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 our web site called [OtasukePro!]

(http://www.pro-face.com/otasuke/download/freesoft/gpproex_transfer.htm).

3.3. Receive screen data from GP3000U Series

You can transfer data to GP3000U Series via;

- A USB transfer cable (model: CA3-USBCB-01)
- A CF card/USB storage device
- Ethernet

If you have backed up screen data, this step could be skipped.



- (1) Connect your PC and GP3000U Series with a USB transfer cable.

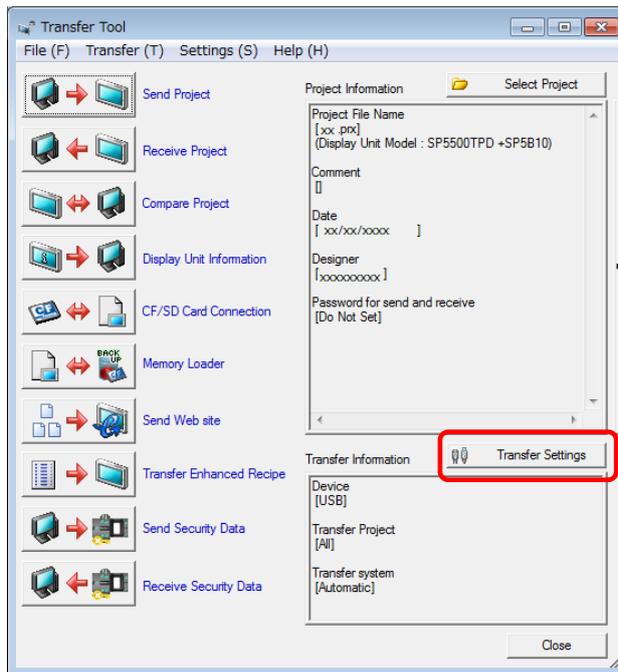
If the driver of the cable has not been installed on your PC yet, a dialog box will appear. Please follow the instructions.

NOTE

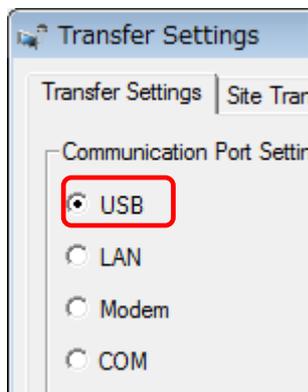
The “Hardware Installation” dialog box as shown below may appear during installing the USB driver depending on the security level of Windows®. Click [Continue Anyway] to start installing the driver. When installation is completed, click [Finish].



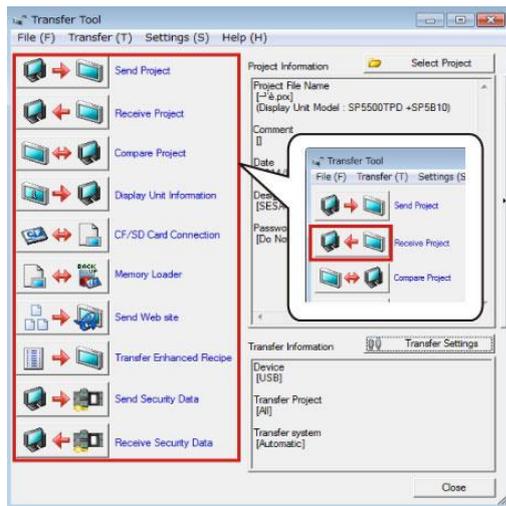
(2) Start the Transfer Tool of GP-Pro EX .



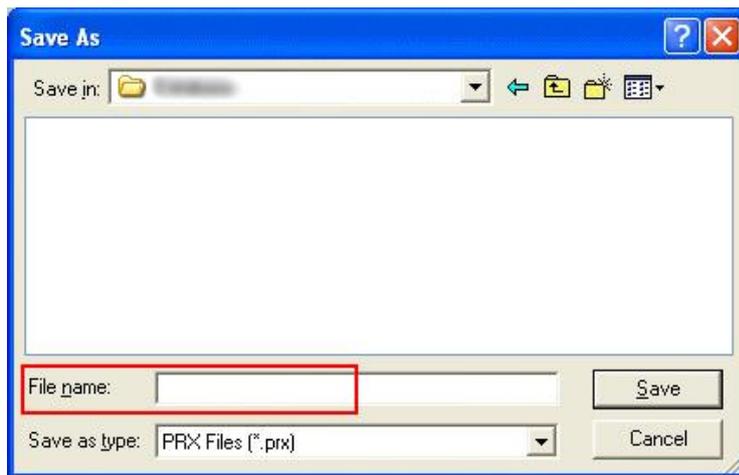
(3) Make sure that the [Device] in the “Transfer Settings Information” is set to [USB]. If not, click the [Transfer Setting] button to open the “Transfer Setting” dialog box. Select [USB] in the Communication Port Settings field and click [OK].



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

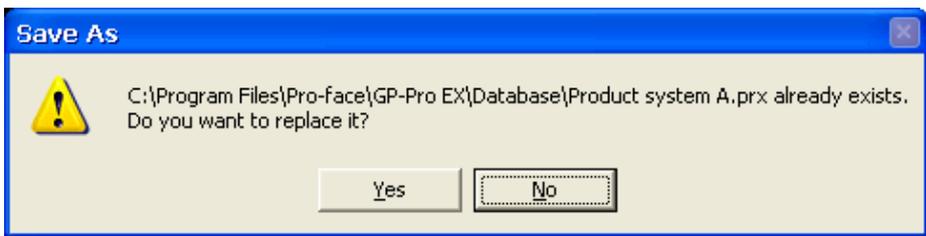


- (5) Click [Receive Project], and the following dialog box will appear. Specify a place to save the received data in and a project file name, and then click [Save] to start transfer.

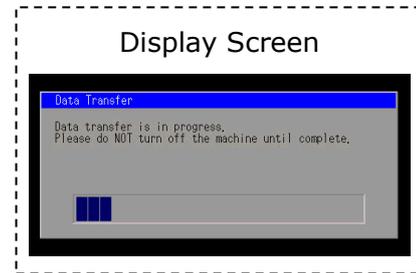
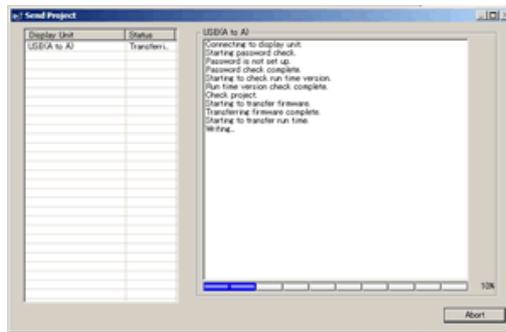


NOTE

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



- (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.)



NOTE

- (1) If you receive the project files that use CF card data such as Recipe Function (CSV data), the following dialog box will appear during transfer. Specify a place to save the CF card data in. Click [OK], and the [Receive Project] dialog box will return and transfer will be completed.



- (2) SP5000X Series that is a replacement model is not equipped with a CF card slot. If the display unit type is changed to SP5000X Series, the CF card setting will be replaced with the SD card setting automatically. To check or change the destination folder setting, see [\[5.1 Changing the setting of the external media to use\]](#).

3.4. Change the Display Unit Type

Open the received project file (*.prx) of GP3000U Series on GP-Pro EX and change the display unit type to SP5000X Series. (-> [see 2.8](#))

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

3.5. Transfer the screen data to SP5000X Series

Transfer the project file after the display unit type change to SP5000X Series.

You can transfer data to SP5000X Series 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)
- A SD card/USB storage device
- Ethernet
-

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



PC



USB transfer cable
(CA3-USBCB-01)



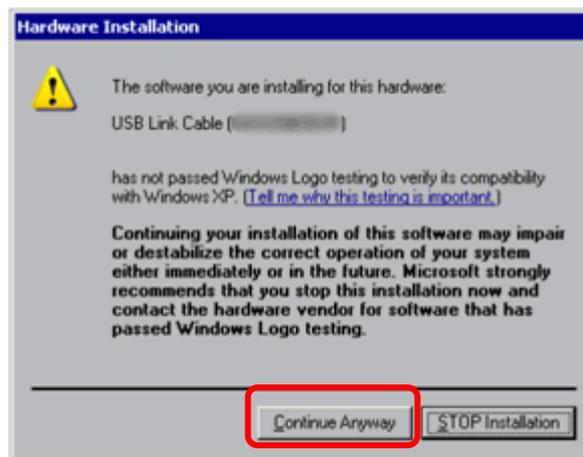
HMI

- (1) Connect your PC and the GP unit of SP5000X Series with a USB transfer cable. If the driver of the cable has not been installed on your PC, a dialog box will appear. Please follow the instructions.

NOTE

- The “Hardware Installation” dialog box as shown below may appear during installing the USB driver depending on the security level of Windows®.

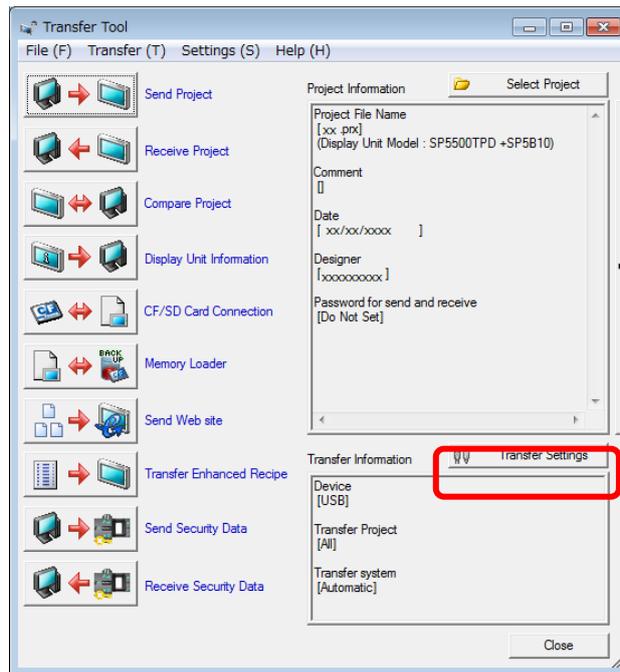
Click [Continue Anyway] to start installing the driver. When installation is completed, click [Finish].



- (2) Turn on the power of SP5000X Series. The “Initial Start Mode” screen will appear on the display unit. After transferring a project file once, this screen will not appear again.

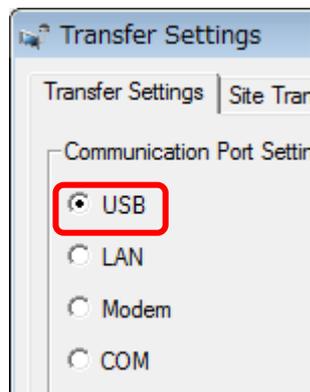


- (3) On the GP-Pro EX's State Toolbar, click the [Transfer Project] icon to open the Transfer Tool.

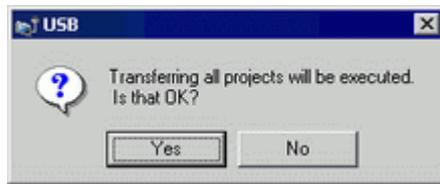


To transfer a different project file, click the [Select Project] button and select a project file.

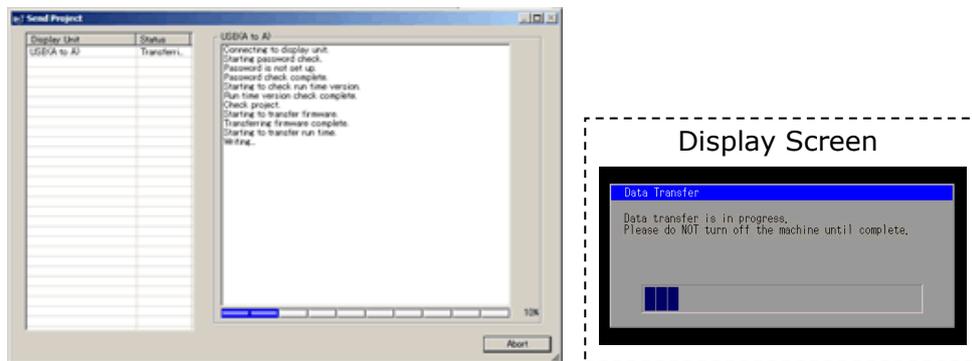
- (4) Make sure that the [Device] in the “Transfer Settings Information” is set to [USB]. If not, click the [Transfer Setting] button to open the “Transfer Setting” dialog box. Select [USB] in the Communication Port Settings field and click [OK].



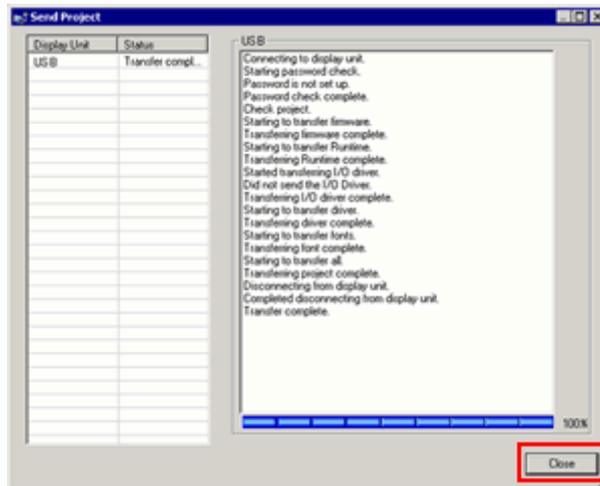
- (5) Click [Send Project] to start transfer.
When the following dialog box appears, click [Yes]. This dialog box doesn't appear when the same project file is sent again.



- (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.

3.6. Differences of software

Some functions which were supported by GP3000U Series are not supported by SP5000X Series. For details of the details of the supported parts and functions, refer to [Supported Features] 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. Shapes and Communication method of COM ports

	GP3000U Series	SP-5B90
COM1	D-Sub9 pin (plug) RS-232C/422/485	D-Sub9 pin (plug) RS-232C/422/485
COM2	D-Sub9 pin (<u>socket</u>) RS-422/485	D-Sub9 pin (<u>plug</u>) RS- <u>232C</u> /422/485

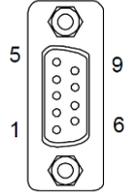
4.2. Signals of COM ports

For the using of RS-422/485 communication, the signal and the pin array differ between the COM2 port on GP3000U Series and SP-5B90.

Please note the below connector information before replacing to SP-5B90.

*Wiring for COM1 (RS-232C/422/485) is same for both of hardware.

*Wiring for COM2 (RS-422/485) for each of hardware is as below.

Pin Arrangement	Pin No.	GP3000U Series			SP-5B90		
		Signal Name	Direction	Meaning	Signal Name	Direction	Meaning
	1	TRMRX	-	Termination (Receive side:100Ω)	RDA	Input	Receive Data A (+)
	2	RDA	Input	Receive Data A (+)	RDB	Input	Receive Data B (-)
	3	SDA	Output	Send Data A (+)	SDA	Output	Send Data A (+)
	4	RS(RTS)	Output	Request for Send	ERA	Output	Data Terminal Ready A (+)
	5	SG	-	Signal Ground	SG	-	Signal Ground
	6	VCC *1	-	+5V±5% output 0.25A	CSB	Input	Send Possible B (-)
	7	RDB	Input	Receive Data B (-)	SDB	Output	Send Data B (-)
	8	SDB	Output	Send Data B (-)	CSA	Input	Send possible A (+)
	9	TRMTX	-	Termination (Receiver side: 100Ω)	ERB	Output	Data Terminal Ready B (-)
	Shell	FG	-	Frame Ground (Common with SG)	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.

4.3. Cable Diagram for replacement

◆COM1 cable

It can be used for the COM1 or COM2 on SP-5B90 without any change in wiring or additional option.

Please check the communication settings with GP-Pro EX Device/PLC Connection Manual just in case.

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

◆COM2 cable

For the following case only, it can be used for the COM1/COM2 on SP-5B90 if the "**COM Port Conversion Adapter (CA3-ADPCOM-01)**" is added to the GP's side.

When an online adapter (CA4-ADPONL-01) is attached to the cable you used with GP3000U Series, detach it.

- RS-422 cable (CA3-CBL422-01)
- 2-port adapter cable (CA3-MDCB11)+2-port adapter II (GP070-MD11)
- Multi-link cable (CA3-CBLMLT-01(5m))
- Connector terminal conversion adapter (CA3-ADPTRM-01)+RS-422 cable (homemade cable)
- MPI cable (GP3000-MPI21-PFE)
- SIEMENS COM port conversion adapter (CA3-ADPSEI-01)
+CA3-MPI-PGN-PFE or CA3-MPI-PG1-PFE

In all other cases, the operation is not guaranteed and it's recommended to prepare a new connection cable. To check the cable diagram, please refer to GP-Pro EX Device/PLC Connection Manual.

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

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).

Chapter 5 Appendix

5.1. Changing the setting of the external media to use

If a CF card is used for GP3000U Series, after the display unit type of the project file is changed to SP5000X Series, “a CF card” is automatically replaced with “a SD card” for the external media setting.

We would like to introduce the solution for the question you may have in replacement from GP3000U Series to SP5000X Series related to external media setting as below.

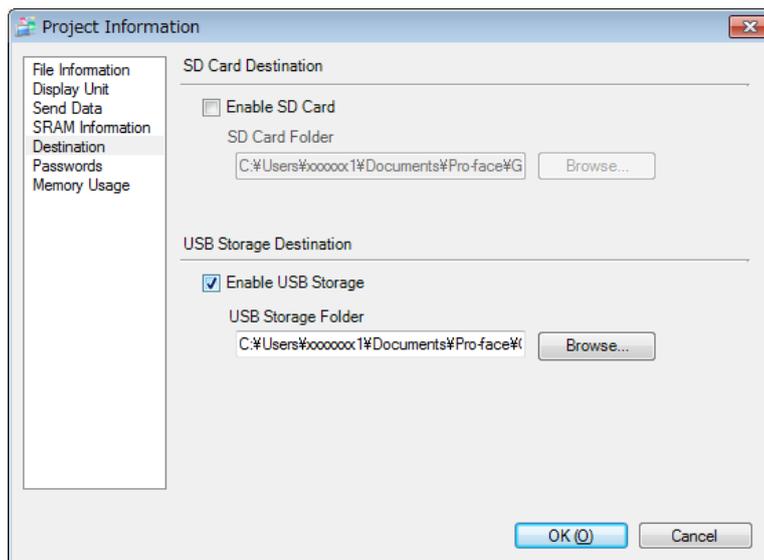
- (1) Want to use a USB flash drive instead of a SD card ->[Solution 1](#)
- (2) Want to check or change the SD card’s data output destination folder setting ->[Solution 2](#)

[Solution]

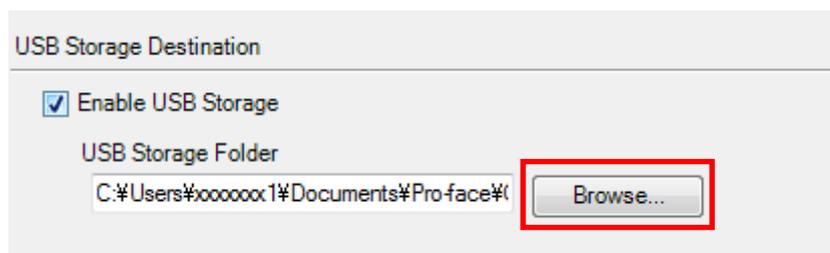
- (1) Want to use a USB flash drive instead of a SD card
You can change the external media setting from SD Card to the USB storage with following the steps.

<Procedure>

- i. Click [Project]->[Information]->[Destination Folder].
- ii. Uncheck “Enable SD Card” and check “Enable USB Storage”.



- iii. Click the [Browse] button and specify a destination folder.



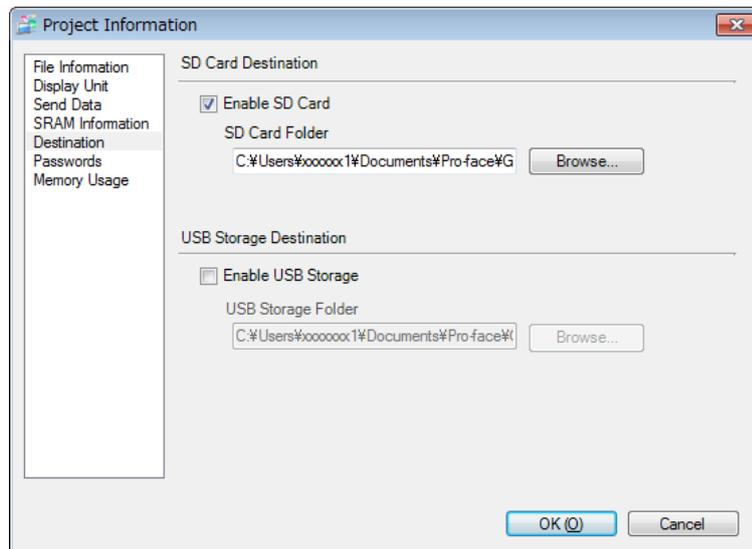
- iv. Click [OK] to confirm the setting.
- v. Click [Project]->[Save] to save changes.
- vi. Check each function that uses the CF card and replace the setting of [SD Card] with the one of [USB Storage].

NOTE

To check each function setting of GP-Pro EX, refer to GP-Pro EX Reference Manual.

(2) Want to check or change the SD card's data output destination folder setting When you want to check and change the destination folder setting, please refer below the steps to do.

- i. Click [Project]->[Information]->[Destination Folder].
- ii. The current setting is displayed.



- iii. After changing it, click [OK] to confirm the setting.
- iv. Click [Project]->[Save] to save changes.