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# **Update History**

Date	Edition	Updated Slide	Description
2021/12/07	1	-	Newly created
2022/09/01	2	15 21 24	Updated to the latest information for ST6000 Series (GP-Pro EX)  • Standards compatibility (UKCA added)  • Option compatibility (EZ Tower Light is now supported)  • Software compatibility (Pro-Server EX is now fully supported.)
2024/08/23	3	3-11 28 33-45	<ul> <li>Newly added slides in response to safety requirement</li> <li>Updated the compatibility table for the following options (CA3-CBLCBT232-01 / CA3-CBLCBT422-01)</li> <li>Added Software section (integrated with Software Replacement Book)</li> </ul>



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As part of a group of responsible, inclusive companies, we are updating our communications that contain non-inclusive terminology. Until we complete this process, however, our content may still contain standardized industry terms that may be deemed inappropriate by our customers.



## Safety Information

### **Important Information**

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

### **A** DANGER

**DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.

### **A** CAUTION

**CAUTION** indicates a hazardous situation which, if not avoided, **could result** in minor or moderate injury.

### WARNING

**WARNING** indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

### NOTICE

**NOTICE** is used to address practices not related to physical injury.

### **Please Note**

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation and has received safety training to recognize and avoid the hazards involved.

### **Document Scope**

This guidebook introduces the procedures to replace a unit from "GP4000M Series W Model" to "ST6000 Series GP-Pro EX Model". The recommended substitute models are as follows.

Model in use			Recommended s	ubstitutes
GP-4201TM (Modular Type)	PFXGM4201TAD	$\rightarrow$	ST-6200WA (GP-Pro EX)	PFXST6200WADE
GP-4301TM (Modular Type)	PFXGM4301TAD		ST-6400WA (GP-Pro EX)	PFXST6400WADE

### **Validity Note**

This documentation is valid for this product.

The technical characteristics of the devices described in the present document also appear online. To access the information online, go to our website. https://www.pro-face.com

The characteristics presented in the present document should be the same as those that appear online. In line with our policy of constant improvement we may revise content over time to improve clarity and accuracy. In the event that you see a difference between the document and online information, use the online information as your reference.

### **Registered Trademarks**

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### **Related Documents**

You can download the manuals related to this product, such as the software manual, from our website. <a href="https://www.proface.com/en/download/search">https://www.proface.com/en/download/search</a>

### **Product Related Information**

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

### **AADANGER**

#### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements
  of the system, and prior to installing or removing any accessories, hardware,
  or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.
- Use only the specified voltage when operating this product. This product is designed to use 24 Vdc. Always check whether your device is DC powered before applying power.
- When using ST-6•00TA in Class I, Division 2, Groups A, B, C, and D
  hazardous locations, install this product in an enclosure that prevents the
  operator from touching the back of this product without the use of tools.

Failure to follow these instructions will result in death or serious injury.



### **ADANGER**

#### POTENTIAL FOR EXPLOSION

For ST-6•00WA:

- Do not use this product in hazardous environments.
- Do not connect or disconnect this product unless power has been switched off or the area is known to be non-hazardous.
- Do not attempt to install, operate, modify, maintain, service, or otherwise alter this product except as permitted in this manual.
- Confirm that the USB cable has been attached with the USB cable clamp before using the USB interface.
- Use the USB (micro-B) interface for temporary connection only during maintenance and setup of the device.

Failure to follow these instructions will result in death or serious injury.

For ST-6•00TA installation in hazardous location, refer to <u>Hazardous Location</u> Installation - For USA and Canada.

Critical alarm indicators and system functions require independent and redundant protection hardware and/or mechanical interlocks.

When you cycle power, wait at least 10 seconds after it has been turned off. If this product is restarted too quickly, it may not operate correctly.

In the event the screen cannot be properly read, for example, if the backlight is not functioning, it may be difficult or impossible to identify a function. Functions that may present a hazard if not immediately executed, such as a fuel shut-off, must be provided independently of this product. The machine's control system design must take into account the possibility of the backlight no longer functioning and the operator being unable to control the machine or making mistakes in the control of the machine.

### **AWARNING**

#### LOSS OF CONTROL

- The designer of any control scheme must consider the potential failure modes of control paths and, for certain critical control functions, provide a means to achieve a safe state during and after a path failure. Examples of critical control functions are emergency stop and overtravel stop, power outage and restart.
- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of unanticipated transmission delays or failures of the link
- · Observe all accident prevention regulations and local safety guidelines.
- Each implementation of this product must be individually and thoroughly tested for proper operation before being placed into service.
- The machine control system design must take into account the possibility of the backlight no longer functioning and the operator being unable to control the machine, or making errors in the control of the machine.

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

For additional information, refer to NEMA ICS 1.1 (latest edition), "Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control" and to NEMA ICS 7.1 (latest edition), "Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems" or their equivalent governing your particular location.

### **AWARNING**

#### UNINTENDED EQUIPMENT OPERATION

- The application of this product requires expertise in the design and programming of control systems. Only persons with such expertise should be allowed to program, install, alter, and apply this product.
- · Follow all applicable safety standard, local regulations and directives.

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

### **AWARNING**

#### UNINTENDED EQUIPMENT OPERATION

- Do not use this product as the only means of control for critical system functions such as motor start/stop or power control.
- Do not use this equipment as the only notification device for critical alarms, such as device overheating or overcurrent.
- Use only the software provided with this product. If you use other software, please confirm the operation and safety before use.

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

The following characteristics are specific to the LCD panel and are considered normal behavior:

- LCD screen may show unevenness in the brightness of certain images or may appear different when seen from outside the specified viewing angle. Extended shadows, or crosstalk may also appear on the sides of screen images.
- LCD screen pixels may contain black and white colored spots and color display may seem to have changed.
- When experiencing vibrations within a certain frequency range and vibration acceleration is above what is acceptable, the LCD screen may partially turn white. Once the vibration condition ends, the whitening of the screen is resolved.
- When the same image is displayed on the screen for a long period, an afterimage may appear when the image is changed.
- The panel brightness may decrease when used for a long time in an environment continuously filled with inert gas. To prevent deterioration of panel brightness, regularly ventilate the panel. For more information, please contact customer support. https://www.pro-face.com/trans/en/manual/1015.html

### **AWARNING**

#### SERIOUS EYE AND SKIN INJURY

The liquid in the LCD panel contains an irritant:

- Avoid direct skin contact with the liquid.
- · Wear gloves when you handle a broken or leaking unit.
- Do not use sharp objects or tools in the vicinity of the LCD panel.
- Handle the LCD panel carefully to prevent puncture, bursting, or cracking of the panel material.
- If the panel is damaged and any liquid comes in contact with your skin, immediately rinse the area with running water for at least 15 minutes. If the liquid gets in your eyes, immediately rinse your eyes with running water for at least 15 minutes and consult a doctor.

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

### NOTICE

#### REDUCTION OF SERVICE LIFE OF PANEL

Change the screen image periodically and try not to display the same image for a long period of time.

Failure to follow these instructions can result in equipment damage.



## Cybersecurity

### **Cybersecurity Best Practices**

To help keep your Pro-face products secure and protected, we recommend that you implement the cybersecurity best practices. Following the recommendations may help significantly reduce your company's cybersecurity risk. For the recommendations, refer to the following URL: <a href="https://www.pro-face.com/trans/en/manual/1087.html">https://www.pro-face.com/trans/en/manual/1087.html</a>



## Hazardous Location Installation - For USA and Canada

### General

ST-6•00TA is suitable for use in Class I, Division 2, Groups A, B, C, and D hazardous locations or in non-hazardous locations. Before installing or using this product, confirm that the Hazardous Location certification appears on the product labeling.

NOTE: Some products are not yet rated as suitable for use in hazardous locations. Always use your product in conformance with the product labeling and this manual.

### **AADANGER**

#### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements
  of the system, and prior to installing or removing any accessories, hardware,
  or cables.
- Unplug the power cable from both this product and the power supply.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.
- Use only the specified voltage when operating this product. This product is designed to use 24 Vdc. Always check whether your device is DC powered before applying power.

Failure to follow these instructions will result in death or serious injury.

### **▲WARNING**

#### **EXPLOSION HAZARD**

- Do not use this product in hazardous environments or locations other than Class I, Division 2, Groups A, B, C, and D.
- Substitution of any components may impair suitability for Class I, Division 2.
- Always confirm the UL 121201 or CSA C22.2 No.213 hazardous location rating of your device before installing or using it in a hazardous location.
- To apply or remove the supply power from this product installed in a Class I, Division 2 hazardous location, you must either: A) Use a switch located outside the hazardous environment, or B) Use a switch certified for Class I, Division 1 operation inside the hazardous area.
- Do not connect or disconnect equipment unless power has been switched off or the area is known to be non-hazardous. This applies to all connections including power, ground, serial, parallel, and network connections.
- Do not install any components, equipment, or accessories manufactured by us or by OEM unless these have also been qualified as suitable for use in Class I, Division 2, Groups A, B, C, and D locations.
- Never use unshielded/ungrounded cables in hazardous locations.
- · Use only non-incendive USB devices.
- Do not attempt to install, operate, modify, maintain, service, or otherwise alter this product except as permitted in this manual. Unpermitted actions may impair the suitability of this product for Class I, Division 2 operation.

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

Make sure that this product is properly rated for the location. If the intended location does not presently have a Class, Division and Group rating, then users should consult the appropriate authorities having jurisdiction in order to determine the correct rating for that hazardous location.

## Hazardous Location Installation - For USA and Canada

### **Operation and Maintenance**

The systems have been designed for compliance with relevant spark ignition tests.

### **AWARNING**

#### **EXPLOSION HAZARD**

In addition to the other instructions in this manual, observe the following rules when installing this product in a hazardous location:

- Wire the equipment in accordance with the National Electrical Code article 501.10 (B) for Class I, Division 2 hazardous locations.
- Install this product in an enclosure suitable for the specific application.

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

**NOTE:** IP65F is not part of UL certification.

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On replacement from GP4000M series to ST6000 series, the following points are the main points to note.

 Installation method: It is different between ST6000 series and GP4000M series. Please see the next page for the comparison.

GP-4201TM	Φ22.5 mm circular hole mount	ST-6200WA	W118.5 x H92.5 mm square panel cut mount
GP-4301TM	Φ22.5 mm circular hole mount	ST-6400WA	W190 x H135 mm square panel cut mount

Display size: ST6000 series are bigger than GP4000M series.

GP-4201TM	3.5"	ST-6200WA	4.3"W
GP-4301TM	5.7"	ST-6400WA	7"W

 Display resolution: ST6000 series have a better resolution but need to convert resolution by the software to use old project data from GP4000M series. For more details, please refer to Chapter1 from software replacement procedure "Replacement Guidebook (Software) EN. pdf" included in the zip file.

GP-4201TM	320 x 240 pixels (QVGA)	ST-6200WA	480 x 272 pixels (WQVGA)
GP-4301TM	320 x 240 pixels (QVGA)	ST-6400WA	800 x 480 pixels (WVGA)

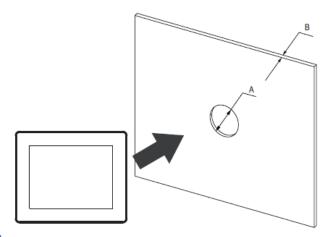
 External dimensions: ST6000 series are bigger than GP4000M series. It is necessary to check the dimensions of the HMI installation location.



### Panel Cut Dimensions: GP-4201TM vs ST-6200WA

GP-4201TM	ST-6200WA
Φ22.5 mm circular hole mount	W118.5 x H92.5 mm square panel cut mount

### **GP-4201TM**



#### **Dimensions**

Unit	A (mm)	A (in)	B (mm) (1)	B (in) (1)	B (mm) (2)	B (in) (2)
GP-4201TM GP-4301TM	+0 22.50 -0.30	+0 0.88 -0.01	1.5 to 6	0.06 to 0.23	3 to 6	0.11 to 0.23

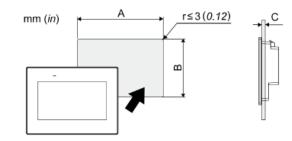
#### The Material of the panel

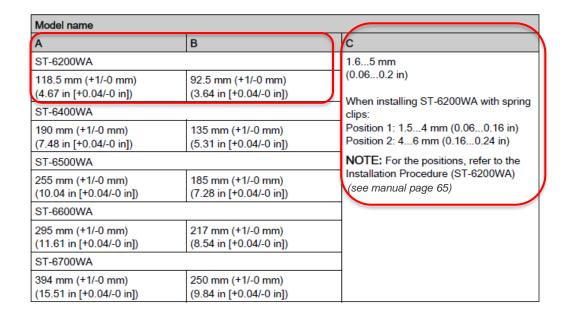
- (1) Steel sheet
- (2) Glass fiber reinforced plastics (minimum GF30)

**NOTE:** Without the tee option, the rotating torque that can be supported by the display module is 2.5 N•m (22.12 in-lb).

### **ST-6200WA**

Based on the panel cut dimensions, open a mount hole on the panel.

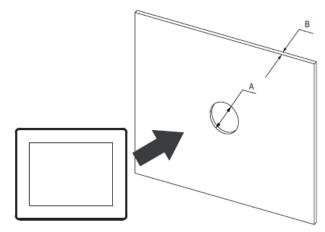




### Panel Cut Dimensions: GP-4301TM vs ST-6400WA

GP-4301TM	ST-6400WA
Φ22.5 mm circular hole mount	W190 x H135 mm square panel cut mount

### **GP-4301TM**



#### Dimensions

Unit	A (mm)	A (in)	B (mm) (1)	B (in) (1)	B (mm) (2)	B (in) (2)
GP-4201TM GP-4301TM	+0 22.50 -0.30	+0 0.88 -0.01	1.5 to 6	0.06 to 0.23	3 to 6	0.11 to 0.23

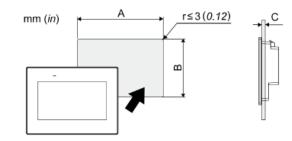
#### The Material of the panel

- (1) Steel sheet
- (2) Glass fiber reinforced plastics (minimum GF30)

**NOTE:** Without the tee option, the rotating torque that can be supported by the display module is 2.5 N•m (22.12 in-lb).

### **ST-6400WA**

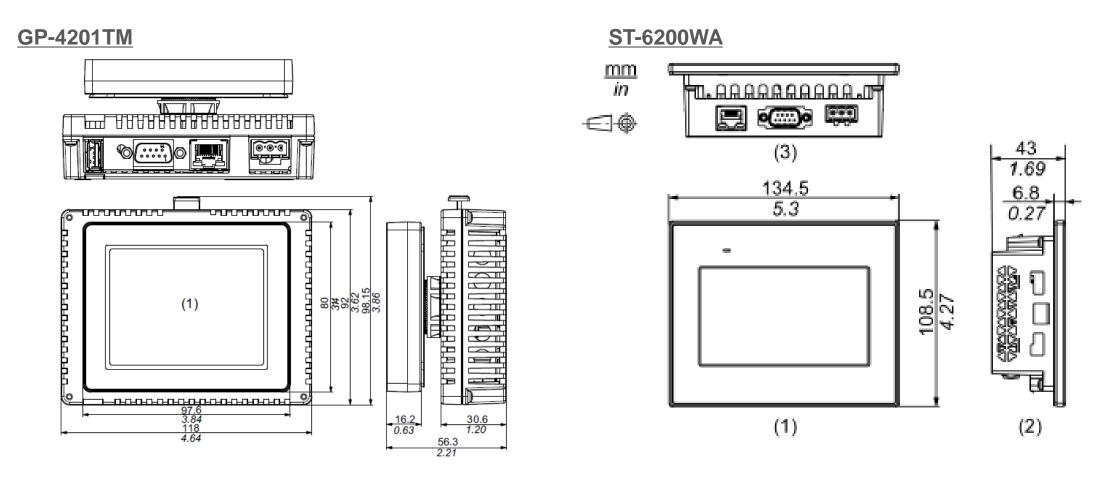
Based on the panel cut dimensions, open a mount hole on the panel.



Model name						
Α	В	С				
ST-6200WA		1.65 mm				
118.5 mm (+1/-0 mm) (4.67 in [+0.04/-0 in])	92.5 mm (+1/-0 mm) (3.64 in [+0.04/-0 in])	(0.060.2 in)				
ST-6400WA		When installing ST-6200WA with spring clips:				
190 mm (+1/-0 mm) (7.48 in [+0.04/-0 in])	135 mm (+1/-0 mm) (5.31 in [+0.04/-0 in])	Position 1: 1.54 mm (0.060.16 in) Position 2: 46 mm (0.160.24 in)				
ST-6500WA		NOTE: For the positions, refer to the				
255 mm (+1/-0 mm) (10.04 in [+0.04/-0 in])	185 mm (+1/-0 mm) (7.28 in [+0.04/-0 in])	Installation Procedure (ST-6200WA) (see manual page 65)				
ST-6600WA						
295 mm (+1/-0 mm) 217 mm (+1/-0 mm) (11.61 in [+0.04/-0 in]) (8.54 in [+0.04/-0 in])						
ST-6700WA	•					
394 mm (+1/-0 mm) (15.51 in [+0.04/-0 in])	250 mm (+1/-0 mm) (9.84 in [+0.04/-0 in])					

External Dimensions: GP-4201TM vs ST-6200WA

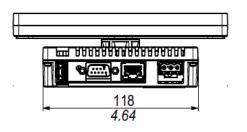
GP-4201TM	ST-6200WA	Differences from GP-4201TM to ST-6200WA (mm)
W118 x H98.15 x D56.3 (with Rear module)	W134.5 x H108.5 x D43	W+16.5 x H+10.35 x D-13.3

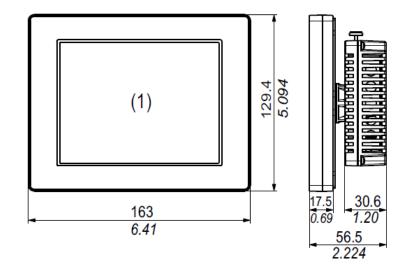


External Dimensions: GP-4301TM vs ST-6400WA

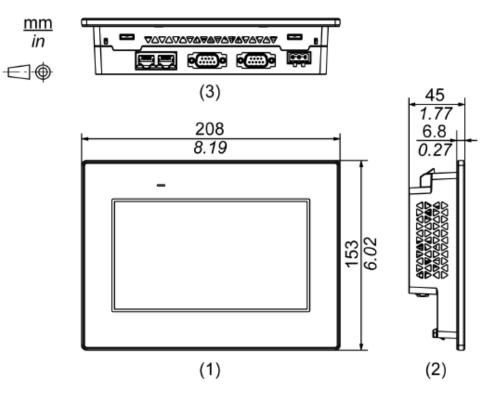
GP-4301TM	ST-6400WA	Differences from GP-4301TM to ST-6400WA (mm)
W163 x H129.4 x D56.5 (with Rear module)	W208 x H153 x D45	W+45 x H+23.6 x D-11.5

### **GP-4301TM**





### **ST-6400WA**



# 2. Hardware Section



## 2-1. GP-4201TM vs ST-6200WA (GP-Pro EX) Spec Comparison -1. Basic information-

		GP-4201TM	ST-6200WA (GP-Pro EX)	Compatibility
Display Size		3.5"	4.3"W	UP!
Display Type		TFT color LCD	TFT color LCD	<b>✓</b>
Display Colors	6	65,536 color	16 million color	UP!
Display Resolution		320 x 240 pixels (QVGA)	480 x 272 pixels (WQVGA)	Need to change resolution setting by Software
Backlight		White LED (Not replaceable)	White LED (Not replaceable)	•
	Service life	50,000 hours or more (continuous operation at 25 $^{\circ}$ C [77 $^{\circ}$ F] before backlight brightness decreases to 50%)	50,000 hours or more (continuous operation at 25 $^{\circ}$ C [77 $^{\circ}$ F] before backlight brightness decreases to 25%)	-
Panel Cutout Dimensions (mm)		Without an Anti-rotation Tee :22.50 x 1.5~6mm x 3~6mm With an Anti-rotation Tee:22.50 x 4.00mm x 30.00mm	W118.5 x H92.5 mm	-
External Dime	ensions	W118 x H98.15 x D56.3 (with Rear module)	W134.5 x H108.5 x D43 mm	-
Touch Panel	Туре	Resistive film (analog, single touch)	Resistive film (analog, single touch)	<b>✓</b>
	Service life	1 million times or more	1 million times or more	<b>✓</b>
Memory	Application	FLASH EPROM 8MB	FLASH EPROM 64MB	UP!
	Local Storage	-	-	Please refer to the FAQ for the available capacity
	Backup Memory	nvSRAM 128KB	MRAM 320KB	of each memory.
Backup Battery		-	Replaceable battery/Primary battery for clock data backup	UP!
Input Voltage		DC 24V	DC 24V	<b>✓</b>
Mounting		22.5mm hole mount	Panel cut mount	-

## 2-1. GP-4201TM vs ST-6200WA (GP-Pro EX) Spec Comparison -2. Interface-

		GP-4201TM	ST-6200WA (GP-Pro EX)	Compatibility
Serial I/F	COM1	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug)	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug) Isolation unit	Please check the manual for the communication cable.
	COM2	-	-	✓
Ether net I/F		x1: IEEE802.3i/ IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	x1: IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	<b>~</b>
CF Card I/F		-	-	<b>✓</b>
SD Card I/F		-	-	<b>✓</b>
USB I/F	Туре А	x1 USB2.0 -USB transfer cable (CA3-USBCB-01)	x1 USB 2.0	<b>~</b>
	Type mini B	x1 USB2.0 -USB data transfer cable(ZC9USCBMB1) or commercial USB miniB transfer cable	-	- USB I/F changed from
	Type micro B	-	x1 USB 2.0 -USB transfer cable(PFXZUSCBMB2) or commercial USB microB transfer cable	USB Type mini-B to Type micro-B.
Auxiliary I/O	I/F	-	-	<b>✓</b>
Sound Outpu	ıt I/F	-	-	<b>✓</b>
Field Bus / E	xpansion Unit I/F	-	-	<b>✓</b>

Hardware Manual: ST6000 Series Hardware Manual



## 2-1. GP-4301TM vs ST-6400WA (GP-Pro EX) Spec Comparison -1. Basic information-

		GP-4301TM	ST-6400WA (GP-Pro EX)	Compatibility
Display Size		5.7"	7"W	UP!
Display Type		TFT color LCD	TFT color LCD	<b>✓</b>
Display Colors	6	65,536 color	16 million color	UP!
Display Resolution		320 x 240 pixels (QVGA)	800 x 480 pixels (WVGA)	Need to change resolution setting by Software
Backlight		White LED (Not replaceable)	White LED (Not replaceable)	<b>/</b>
	Service Life	50,000 hours or more (continuous operation at 25 $^{\circ}$ C [77 $^{\circ}$ F] before backlight brightness decreases to 50%)	50,000 hours or more (continuous operation at 25 $^{\circ}$ C [77 $^{\circ}$ F] before backlight brightness decreases to 25%)	-
Panel Cutout Dimensions (mm)		Without an Anti-rotation Tee :22.50 x 1.5~6mm x 3~6mm With an Anti-rotation Tee:22.50 x 4.00mm x 30.00mm	W190 x H135 mm	-
External Dime	ensions	W163 x H129.4 x D56.5 (with Rear module)	W208 x H153 x D45 mm	-
Touch Panel	Туре	Resistive film (analog, single touch)	Resistive film (analog, single touch)	<b>✓</b>
	Service Life	1 million times or more	1 million times or more	<b>✓</b>
Memory	Application	FLASH EPROM 8MB	FLASH EPROM 64MB	UP!
	Local Storage	-	-	Please refer to the FAQ for the available capacity
	Backup Memory	nvSRAM 128KB	MRAM 320KB	of each memory.
Backup Batter	у	-	Replaceable battery/Primary battery for clock data backup	UP!
Input Voltage		DC 24V	DC 24V	<b>✓</b>
Mounting		22.5mm hole mount	Panel cut mount	-

## 2-1. GP-4301TM vs ST-6400WA (GP-Pro EX) Spec Comparison -2. Interface-

		GP-4301TM	ST-6400WA (GP-Pro EX)	Compatibility	
Serial I/F	COM1	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug)	RS-232C (D-Sub 9pin Plug) Isolation unit	Please check the manual for the communication cable.	
	COM2	-	RS-422/485 (D-Sub 9pin Plug)	UP!	
Ethernet I/F		x1: IEEE802.3i/ IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	x2: IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	UP!	
CF card I/F		-	-	<b>✓</b>	
SD card I/F		-	-	<b>✓</b>	
USB I/F	Туре А	x1 USB2.0 -USB transfer cable (CA3-USBCB-01)	x1 USB 2.0	~	
	Type mini B	x1 USB2.0 -USB data transfer cable(ZC9USCBMB1) or commercial USB miniB transfer cable	-	- USB I/F changed from	
	Type micro B	-	x1 USB 2.0 -USB transfer cable(PFXZUSCBMB2) or commercial USB microB transfer cable	USB Type mini-B to Type micro-B.	
Auxiliary I/O I	/F	-	-	<b>✓</b>	
Sound Outpu	t I/F	-	-	<b>✓</b>	
Field Bus / Ex	cpansion Unit I/F	-	-	<b>✓</b>	

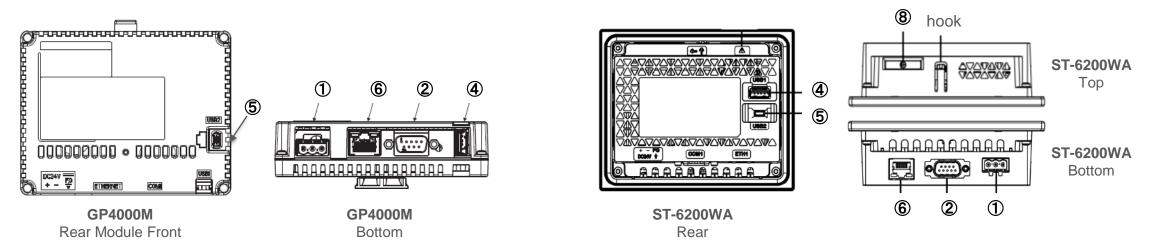
Hardware Manual: ST6000 Series Hardware Manual



# 2-2. Standards compatibility

Certification	GP4000M Series	ST6000 Series (GP-Pro EX)	
CE (EN61000-6-4, EN61000-6-2, EN61131-2)	<b>✓</b>	<b>✓</b>	
UKCA	<b>✓</b>	<b>✓</b>	
UL/cUL	(UL508) (CSA C22.2 No.142)	(UL61010-2-201) (CSA C22.2 No.61010-2-201)	
UL/cUL Class 1, Div. 2	(ANSI/ISA12.12.01) (CSA C22.2 No213)	(UL121201) (CSA C22.2 No213)	
ATEX (Zones 2/22, equipment category 3 Gas Dust)	<b>✓</b>		
IECEx (Zones 2/22, equipment category 3 Gas Dust)	•	-	
KCs	-	-	
NEPSI	-	-	
RCM (C-Tick)	✓	✓	
EAC (GOST-R)	✓	✓	
RoHS for EU	✓	✓	
RoHS for China	✓	✓	
REACH	<b>✓</b>	<b>✓</b>	
CCC *apply for CCC exemption	<del>-</del>	-	
KC	✓	✓	
Marine (DNV-GL, ABS, LR, BV, NK, RINA, CCS)	DNV-GL	-	
WEEE	✓	✓	

## 2-3. Interface compatibility – GP-4201TM vs ST-6200WA

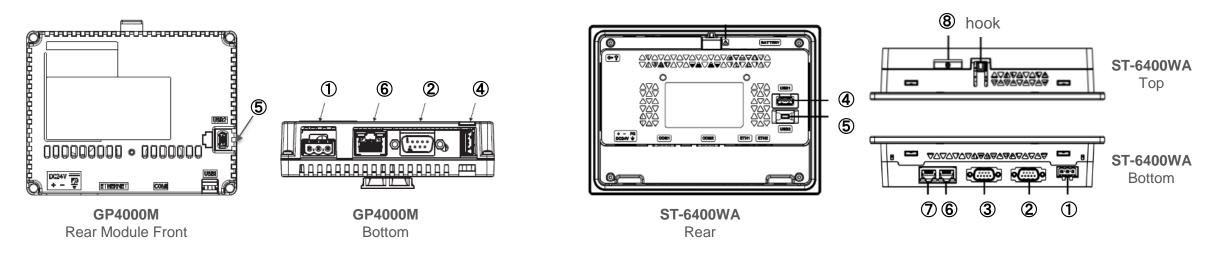


	GP-4201TM	ST-6200WA (GP-Pro EX)
1	Power Connector (DC)	Power Connector (DC)
2	Serial Interface (COM1)	Serial Interface (COM1)
3	-	-
4	USB (Type A) Interface	USB (Type A) Interface *1
5	USB (mini-B) Interface	USB (micro-B) Interface
6	Ethernet Interface (ETH1)	Ethernet Interface(ETH1)
7	-	-
8	-	Battery Slot

<sup>\*1:</sup> Interface of USB Type A changed from bottom to back of the module. Please be aware of the space in the panel.

Please check <u>ST6000 Series Hardware Manual</u> for details such as interface specifications and pin assignments.

## 2-3. Interface compatibility - GP-4301TM vs ST-6400WA

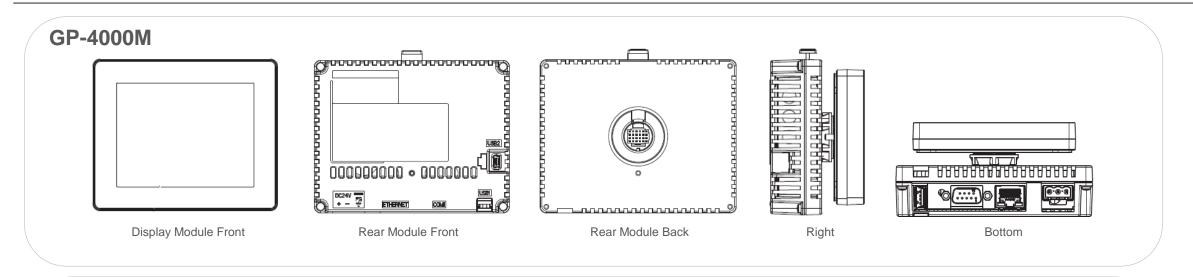


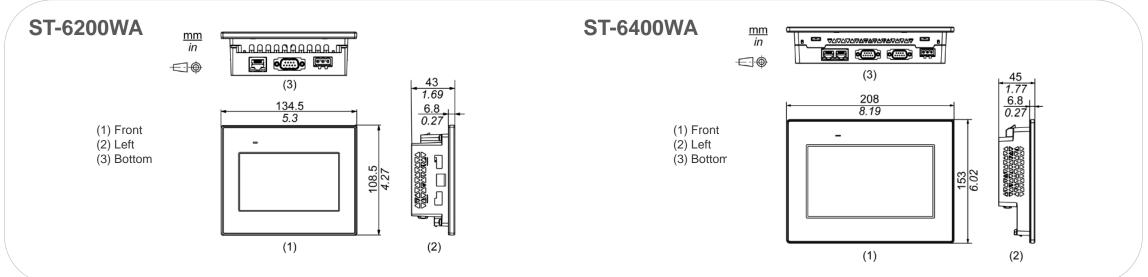
	GP-4301TM	ST-6400WA (GP-Pro EX)
1	Power Connector (DC)	Power Connector (DC)
2	Serial Interface (COM1)	Serial Interface (COM1)
3	-	Serial Interface (COM2)
4	USB (Type A) Interface	USB (Type A) Interface *1
5	USB (mini-B) Interface	USB (micro-B) Interface
6	Ethernet Interface (ETH1)	Ethernet Interface(ETH1)
7	-	Ethernet Interface(ETH2)
8	-	Battery Slot

<sup>\*1:</sup> Interface of USB Type A changed from bottom to back of the module. Please be aware of the space in the panel.

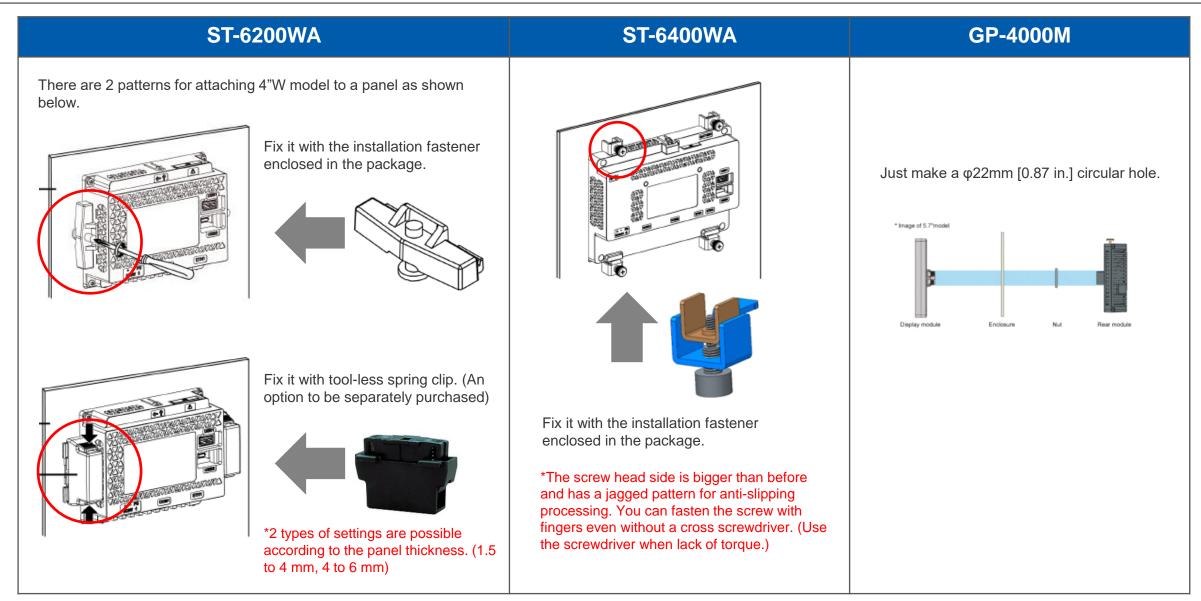
Please check <u>ST6000 Series Hardware Manual</u> for details such as interface specifications and pin assignments.

## 2-3. Interface compatibility





## 2-4. Installation method compatibility



Please check <u>ST6000 Series Hardware Manual</u> for installation requirements and procedure.

# 2-5. Option compatibility – Serial Interface

Product Name	GP4000M	ST6000 (GP-Pro EX)	Description	Compatibility
RS-232C Cable (5m)	CA3-CBL232/5M-01	CA3-CBL232/5M-01	Connects a host controller to the GP unit. (RS-232C)	<b>✓</b>
RS-422 Cable (5m)	CA3-CBL422/5M-01	CA3-CBL422/5M-01	Connects a host controller to the GP unit. (RS-422 / Socket Type)	~
Mitsubishi Q-Series Link Cable (5m)	CA3-CBLLNKMQ-01	CA3-CBLLNKMQ-01	Connects Mitsubishi PLC Q-Series (or other host controller) to the GP unit. (RS-232C)	~
Omron SYSMAC Link Cable (5m)	CA3-CBLSYS-01	CA3-CBLSYS-01	Connects Omron PLC SYSMAC Series unit (or other host controller) to the GP unit. (RS-232C)	~
Mitsubishi A-Series Connection Cable (5m)	CA3-CBLA-01	CA3-CBLA-01	Connects Mitsubishi PLC A, QnA Series programming console I/F to GP unit. (Simultaneous use of programming console is not possible.)	~
Mitsubishi Q-Series Connection Cable (5m)	CA3-CBLQ-01	CA3-CBLQ-01	Connects Mitsubishi PLC Q-Series programming console I/F to GP unit. (Simultaneous use of programming console is not possible.)	~
Mitsubishi FX-Series Connection Cable	CA3-CBLFX/1M-01 (1m) CA3-CBLFX/5M-01 (5m)	CA3-CBLFX/1M-01 (1m) CA3-CBLFX/5M-01 (5m)	Connects Mitsubishi PLC FX-Series programming console I/F and GP unit. (Simultaneous use of programming console is not possible.)	~
RS-422 Cable (5m)	CA3-CBL422-01	CA3-CBL422-01	Connects a host controller to the GP unit. (RS-422 / Plug Type)	~
2 Port Adapter Cable (5m)	CA3-MDCB11	CA3-MDCB11	Connects Mitsubishi PLC to the GP unit using 2 port adapter II (RS-422).	<b>V</b>
Mitsubishi A/QnA/FX Series 2 Port Adapter II	GP070-MD11	GP070-MD11	Allows simultaneous use of an GP unit Series unit and a Mitsubishi PLC A, QnA, FX Series peripheral device.	~
Terminal Block Conversion Adapter	CA3-ADPTRM-01	CA3-ADPTRM-01	Connects output from a serial interface with an RS-422 terminal block.	V
COM Port conversion Adapter	CA3-ADPCOM-01	CA3-ADPCOM-01	Connects optional RS-422 communication items to GP unit's COM1 port.	~
Multi-Link Cable (5m)	CA3-CBLMLT-01	CA3-CBLMLT-01	Connects a host controller to the GP for multi-link (n:1) communication.	V
9pin to 25pin RS-232C Conversion Cable (0.2m)	CA3-CBLCBT232-01	CA3-CBLCBT232-01	Connects a standard RS-232C cable (GP Connector, D-Sub 25-pin) to the GP.	V
9pin to 25pin RS-422 Conversion Cable (0.2m)	CA3-CBLCBT422-01	CA3-CBLCBT422-01	Connects a standard RS-422 cable (GP Connector, D-Sub 25-pin) to the GP.	V
MPI Cable (3.5m)	ST03-A2B-MPI21-PFE	ST03-A2B-MPI21-PFE	Connects a host controller to the GP unit for MPI communication.	V
RS-422 Terminal Block Conversion Adapter	-	PFXZCBADTM1	Connects output from a serial interface (D-sub 9 pin plug) directly to an RS-422 terminal block.	NEW!
RS-232C Isolation Unit	-	CA3-ISO232-01	Connects a host controller to this product and provides isolation (RS-232C and RS-422 are switchable).	NEW!

# 2-5. Option compatibility – USB Interface

Product Name	GP4000M	ST6000 (GP-Pro EX)	Description	Compatibility
USB Cable (5m)	-	FP-US00	Connects a USB printer (Type B)	NEW!
USB Front Cable (1m)	CA5-USBEXT-01	CA5-USBEXT-01	Extension cable attaching USB interface to front panel.	<b>V</b>
USB Clamp Type A (1 port)	-	PFXZCBCLUSA1	Clamp to prevent disconnection of USB cable (USB Type A, 1 port, 5 clamps/set).	NEW!
USB- Serial (RS-232C) Conversion Cable(0.5m)	CA6-USB232-01	CA6-USB232-01	Cable for converting a GP unit's USB interface into a serial interface (RS-232C). Can be used to transfer project data created with the Screen Editor & Logic Program Software via a serial interface.*1	V
USB Transfer Cable (USB Type A/mini-B) (1.8m)	ZC9USCBMB1	-	Cable for transferring screen data from a PC (USB Type A) to the GP unit (USB mini-B).	- Use the option of
USB Transfer Cable (USB Type A/micro-B)	-	PFXZUSCBMB2	Cable for transferring screen data from a PC (USB Type A) to this product (USB micro-B)	ST6000 series
USB Panel-mount Extension Cable (USB mini-B) (1m)	ZC9USEXMB1	-	Extension cable attaching to the USB (mini-B) interface on the front side of the operation panel.	- Use the option of
USB (micro-B) Front Cable	-	PFXZCIEXMB2	Extension cable that attaches USB interface to front panel.	ST6000 series.
USB/RS-422/485 Conversion Adapter	PFXZCBCBCVUSR41	PFXZCBCBCVUSR41	Adapter for connecting this product (USB Type A) to an external device (RS-422/RS-485).	V
EZ Illumination Switch	PFXZCCEUSG1	PFXZCCEUSG1	A unit of 5 illuminated switches with multiple color LED easily connected with GP unit via USB.	V
EZ Fingerprint Recognition Unit	PFXZCCEUSS1	PFXZCCEUSS1	Fingerprint recognition unit easily connected with GP unit via USB. (End of Sale: Dec. 27, 2019)	V
EZ Numpad	PFXZCCEUKB1	PFXZCCEUKB1	Numpad connected to this product via USB.	<b>~</b>
EZ Tower Light tube mounting with fixing plate	PFXZCETWHA1	PFXZCETWHA1	USB Connection Type Monolithic EZ Tower Light tube mounting with fixing plate 3 tiers, É"60, lighting and flashing with a buzzer.	<b>v</b>
EZ Tower Light with base mounting	PFXZCETWW1	PFXZCETWW1	USB Connection Type Monolithic EZ Tower with base mounting 3 tiers, É"60, lighting and flashing with a buzzer.	V

<sup>\*1:</sup> Requires am RS-232C cable (Prepared by the user) for connection.

# 2-5. Option compatibility – Others

Product Nar	ne	GP4000M	ST6000 (GP-Pro EX)	Description	Compatibility
Screen Protection Sheet	3.5 inch	CA6-DFS4-01	-	Disposable, dirt-resistant sheet for the GP unit screen (5 sheets/set)	
Screen Protection Sneet	5.7 inch	PFXZCBDS61	-	Disposable, diff-resistant sheet for the GP unit screen (5 sheets/set)	
LIV/ Protection Chart	3.5 inch	PFXZCFUV41	-	Sheet to protect the display from dirt and ultraviolet light (1 sheet /	Line the entire of CTC000
UV Protection Sheet	5.7 inch	PFXZCFUV61	-	set)	Use the option of ST6000 series.
Screen Protection Sheet	4 inch wide	-	PFXZCIDS72	Disposable, dirt-resistant sheet for the display and ultra-violet	
with UV protected	7 inch wide	-	PFXZCIDS42	protection sheet (1 sheet /set)	
Diamlay madula	3.5 inch	PFXXM4200TP	-	Display module for CD4000M Carios	
Display module	5.7 inch	PFXXM4300TP	-	Display module for GP4000M Series	
Display module/Rear	3m	PFXZXMADSM31	-	Cable with hook to install a rear module on a DIN rail while	- Installation mathed is different
module separation cable	5m	PFXZXMADSM51	-	connecting the rear module to a separated display module. *1	Installation method is different. Use the option of ST6000
Rear module installation adapter		PFXZXMADSA1	-	DIN rail installation adapter for rear modules in non-display operation.	series.
Spring Clip		-	XBTZ3002	Fasteners to attach this product to the mounting surface for ST-6200WA.	

#### \*1: Available for the product which meets the requirements below.

Names	PV	RL	SV
GP-4201TM (Modular Type)	03 or later	07 or later	4.0 or later
GP-4301TM (Modular Type)	03 or later	08 or later	4.0 or later
GP-4000M (Rear Modular Type)		All revisions	



# 2-5. Option compatibility – Maintenance

Product Name		GP4000M	ST6000 EX	Description	Compatibility
Display Installation Nut		PFXZGMNT1	-	Nut to install the display module (10 pcs/set).	
Socket Wrench		PFXZGMSW1	-	Socket wrench to tighten and loosen the display installation nut.	-
Accessories Kit		PFXZGMAK1	-	Anti-rotation Tee, USB cable clamp to prevent disconnection (Type A, Mini-B, for 1 port), 2mm-hight spacer to adjust installation panel thickness (1 piece/each)	-
la stellation Footone			PFXZCIAFTF1	In stallation footon on (O min and /o st)	NIE 14/I
Installation Fastener ST-6200V	ST-6200WA	-	PFXZCFAF31	Installation fastener (2 pieces/set)	NEW!
Installation Cooket	ST-6400WA	-	PFXZCIWG73	Provides dust and moisture resistance when this product is installed into a	NEW!
Installation Gasket ST-6200WA		-	PFXZCIWG43	solid panel (1 piece).	NEW:
DC Power Supply Connector		PFXZGMCNDC1	CA5-DCCNM-01	Connector to connect DC power supply cables (5 pcs/set)	Use the option of ST6000 Series.
Battery for Data Backup		-	PFXZGEBT1	Primary battery for memory and time data backup (1 piece)	-



## 2-6. Other Important notes on Hardware

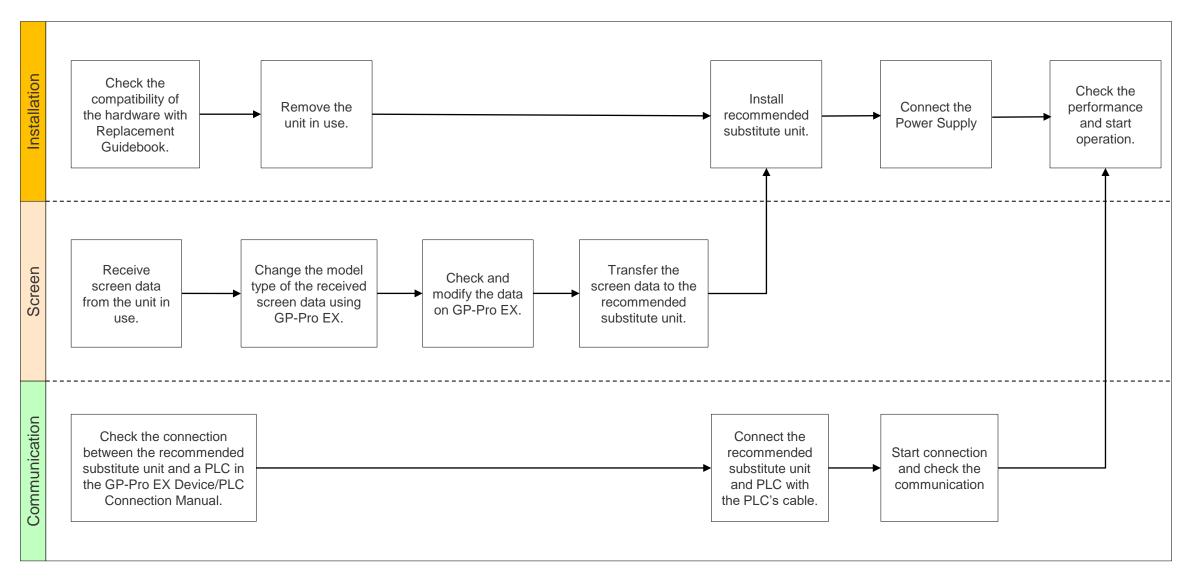
- Do not expose the hardware to direct sunlight. Recommend to use the option item "UV Protection Sheet" to protect the
  display from ultraviolet light.
- Do not use the hardware outdoors.
- Do not turn on the hardware if condensation has occurred inside the device.
- The panel brightness may decrease when used for a long time in an environment continuously filled with inert gas.
   Please ventilate the control panel periodically.



# 3. Software Section



## 3-1. Replacement Procedure – Workflow



## 3-1. Replacement Procedure - Preparation

Requirements for receiving screen data from the unit in use *1	PC in which GP-Pro EX Transfer Tool is installed. *2		
	Transfer Cable (the followings can be used) USB transfer cable: ZC9USCBMB1 (Type A – Type mini-B) or commercially available USB mini-B transfer cable *It's also possible to send/receive a screen via USB storage device or Ethernet.		
Requirements for converting screen data of the unit in use and transferring the converted data to Recommended substitute unit	PC with GP-Pro EX installed ST6000 Series supported version: Ver. 4.09.200 or later		
	Transfer Cable (the followings can be used) USB transfer cable: PFXZUSCBMB2 (Type A – Type micro-B) or commercially available USB micro-B transfer cable *It's also possible to send/receive a screen via USB storage device or Ethernet.		

<sup>\*1:</sup> This step is required if screen data is saved only in the HMI unit, not in any other device.

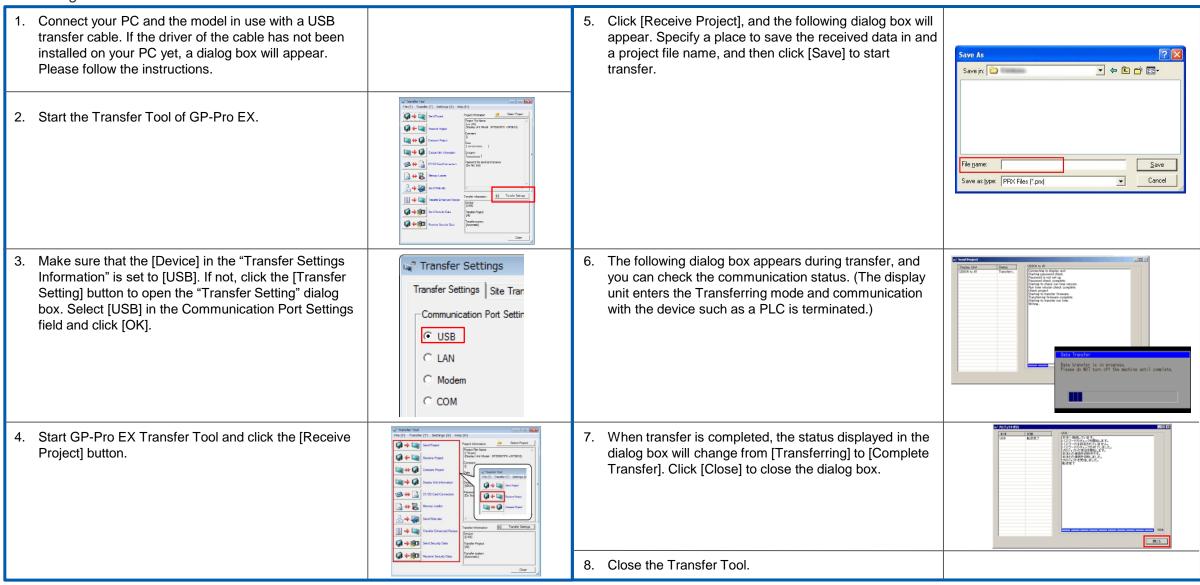
If you already have the screen data backup, please go to "3-1. Replacement Procedure – Change model to recommended substitute unit (GP-Pro EX)".

<sup>\*2:</sup> Please use the same or later version of the software used when creating screens on the old model. If you don't know the software version, we recommend that you use the latest one. You can download the latest transfer tool from our website.

https://www.pro-face.com/otasuke/

## 3-1. Replacement Procedure – Receive Screen data from the model in use (GP-Pro EX)

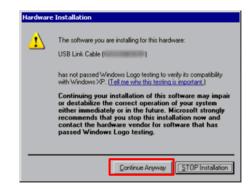
In this section, we will introduce how to receive screen data with a USB transfer cable as an example. If you have the backup of screen data, this step is not necessary. Please go to the next section.



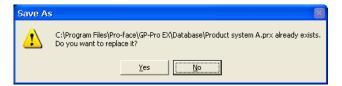
## 3-1. Replacement Procedure – Receive Screen data from the model in use (GP-Pro EX)

### **NOTES**

• The "Hardware Installation" dialog box as shown on the right 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].



When the file already exists, a window will appear asking if you want to overwrite the file.

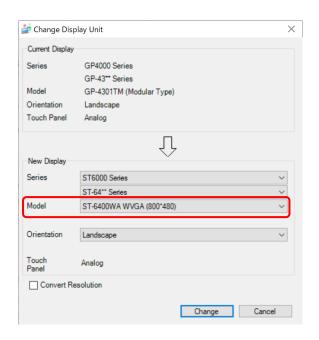


When receiving a project file that uses SD card/USB memory data such as Recipe Function (CSV data), the following dialog box will appear during the transfer. Please specify where to save the data.
 Click [OK] to return to the [Receive Project] dialog box and complete the transfer.





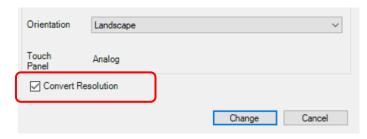
## 3-1. Replacement Procedure – Change model to recommended substitute unit (GP-Pro EX)



Change the Display unit from GP4000M Series to ST6000 Series.

The display can be changed from the menu bar "Project" → "System Settings" → "Display" → "Change Display" in GP-Pro EX.

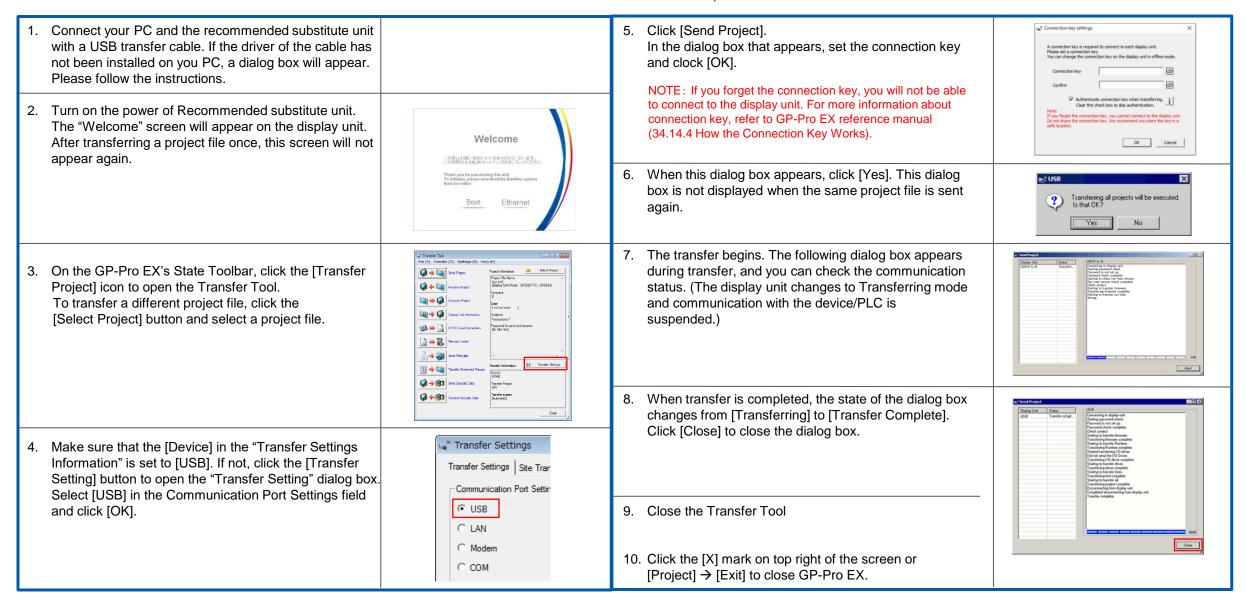
If you check on [Convert Resolution] when changing the Display Unit type (as shown below), you can adjust both size and location of the part and the text relative to the display resolution automatically. But still, you may need to adjust them manually. Please pay attention to the following points.



- A function that requires absolute coordinates. Please adjust the settings manually.
  - Global window
  - Position Animation
- Due to font size and resolution restrictions, manual changes may be required. Please resize them if needed
  - Font: In the case of using Standard font, the size will be smaller. You can improve by using Stroke font or Image font.
  - Objects
  - Parts
  - Images
  - Alarm parts
- Position may differ from the original project. Please check the coordinate of the window and adjust if needed.
  - Window display

## 3-1. Replacement Procedure – Transfer screen data to recommended substitute unit (GP-Pro EX)

In this section, we will introduce how to transfer screen data with a USB transfer cable as an example.



GP-Pro EX Feature		GP4000M	ST6000 (GP-Pro EX)
Display	Screen Area (Application memory, unit: byte)	8M	64M
	Portrait Installation	✓	✓
	Function Expansion Memory	-	-
	Installing the USB/RS-422/485 Conversion Adapters	✓	✓
	MAC Address Display	✓	✓
	CF Card	-	-
	SD Card	-	-
External Storage	CFast Card	-	-
O to long o	USB storage	✓	✓
	FTP server	✓	✓
	Drawing in 256 colors	✓	✓
	Reverse Display	✓	-
	Faded Color Blink	-	-
	Synchronize Text Display with Text Table	✓	✓
System Settings	Time Zone settings	-	-
	Detect Backlight Burnout	-	-
	Dimmer settings	✓	✓
	2-point touch / Multitouch	-	-
	Display the SD/USB Removal Icon	✓	✓

GP-Pro EX Feature		GP4000M	ST6000 (GP-Pro EX)
	Screen Capture	✓	✓
	SRAM Auto Backup	✓USB storage can be used for the models without SD/CF card slots. *supported by Ver.4.09.450 or later	✓USB storage can be used for the models without SD/CF card slots. *supported by Ver.4.09.450 or later
System Settings	Image Font	✓	✓
	Bitmap Font	✓	✓
	Standard Font	✓	✓
	Port Control	-	✓
	Number of Devices/PLCs that can communicate simultaneously	2	2
Device/PLC	Specify Indirect Device	✓	✓
Communication *1	Import Device/PLC tags	✓	✓
ı	Ethernet Multilink	✓	✓
	Device Monitor	✓	✓
	Ladder Monitor	-	-
	Network Transfer	✓	✓
	Modem Transfer	✓	-
<b>-</b> ,	SIO Transfer (COM Connection)	✓	•
Transfer	Memory loader feature	<b>√</b> *2	✓
	CF/SD Card Connection	-	-
	Connection Key	-	✓

<sup>\*1:</sup> Depends on the type of connected PLC/Device.

<sup>\*2:</sup> When using the Memory Loader feature, make sure that the display module is mounted when you run the operation.

GP-Pro EX Feature		GP4000M	ST6000 (GP-Pro EX)
	Change Backlight Color	-	-
	Clock Update Settings	✓	✓
	Start Screen Settings	✓	✓
	Date format on CSV file output	✓	✓
	Divide destination folders by file numbers	✓	✓
	Increase Alarm Type [Extended] settings and Text Table index numbers	-	-
	Alarm Message Multiple Line Display	✓	✓
	Attach Data Value to Operation Log	✓	✓
Common	Changing passwords at run time (CSV file)	✓	✓
Settings	Changing passwords at run time (password change screen)	✓	✓
	Append Date/Time to CSV File Name	-	✓
	Transfer sampling CSV file to FTP	-	✓
	Transferring sampled data to the cloud	✓	✓
	Indirectly specify Sampling Frequency and Alarm Settings	✓	✓
	Sampling data/Enhanced recipe data format co-exist	✓	✓
	Create a recipe (CSV data) index file at runtime	✓	✓
	Enhanced Recipes	✓	✓
	Extended Script copy file function	✓	✓
	Global Trigger	✓	✓

GP-Pro EX Feature		GP4000M	ST6000 (GP-Pro EX)
	Movie record/play feature	-	-
	Use Image unit	-	-
Common Settings	Sound Output Feature	-	-
J	AUX	-	-
	Retentive Variables Function	-	✓
	Selector List	✓	✓
	XY Graph (Historical Trend, Data Block Display Graph)	✓	-
	Picture Display [CF Image Display] / [SD Image Display] for showing JPEG files	✓USB storage can be used for the models without SD/CF card slots. *supported by Ver.4.09.450 or later	✓USB storage can be used for the models without SD/CF card slots. *supported by Ver.4.09.450 or later
	Indirectly specify a block of Alarm parts	✓	✓
	Special Data Display [File Manager] sort function and default path	✓	✓
Parts	Special Data Display [File Manager] copy file to FTP	✓	✓
	Message Display's Bulletin Message	✓	✓
	Image Sensor Display	✓	-
	Animation	✓	✓
	Alarm History Message Flow Display	✓	✓
	Alarm History / Sampling Data / Enhanced Recipe Data Refine Search / Sort Function	-	-
	Alarm Analysis Function	-	-

GP-Pro EX Feature		GP4000M	ST6000 (GP-Pro EX)
	Logic Program Operation	✓	✓
Logic *1	I/O Driver	-	-
	Function Block	✓	✓
	RPA Function (end of support from Ver.4.09.400)	-	-
	GP-Viewer EX	✓	✓
	Web Server (end of support from Ver.4.09.450)	✓	-
	Camera-Viewer EX	-	-
Network	Pro-face Remote HMI	✓	✓
	E-mail	-	✓
	GP Remote Printer Server	✓	✓
	Pro-face Connect (models you can register as SiteManager)	-	✓
	Pro-Server EX	✓	✓
	USB Keyboard	✓	✓
Lancet Environment	EZ Illuminated Switch *2	✓	✓
Input Equipment / Peripheral Equipment (USB	EZ Tower Light *2	✓	✓
	EZ Numpad	✓	✓
Device)	EZ Fingerprint Recognition Unit	✓	✓
	EZ LAN Adapter	-	-

<sup>\*1:</sup> Notes for GP4000 Series: Unable to use with USB-Serial (RS-232C) adaptor cable or USB/RS-422/485 conversion adapter.

<sup>\*2:</sup> Connect via a self-powered USB hub.

## 3-2. Software compatibility

Software	GP4000M	ST6000 (GP-Pro EX)	Compatibility of Project Data	
CD Dro EV	✓ Ver. 2.7 or later *1	✓ Ver. 4.09.200 or later	. 4	
GP-Pro EX	https://www.pro-face.com/otasuke/files/manual/g	pproex/new/refer/gpproex.htm	•	
5 0 57440	✓ Ver. 1.32 or later	✔ Ver. 1.37.200 or later		
Pro-Server EX *2	https://www.pro-face.com/otasuke/files/manual/soft/server_ex/v1_37/ref/SRPreface.htm			
Pro-face Remote HMI (iOS/Android) *2	✓ Ver. 1.30 or later	✓ Ver. 1.60 or later		
	https://www.pro-face.com/otasuke/qa/remotehmi/faq.html		•	
Pro-face Remote HMI Client for Win *2	✓ Ver. 1.40 or later	✓ Ver. 1.42 or later		
	https://www.proface.com/en/product/soft/remotehmi_client/download		•	
Pro-face Connect *2	-	✓ Ver. 9.6 or later	UP!	
		https://www.proface.com/en/product/soft/proface_connect/download	UP!	

<sup>\*1:</sup> To use some functions such as Alarm Analysis, Ver. 3.0 or later is required.

<sup>\*2:</sup> The supported GP-Pro EX version differs depending on the software.

Software	Version	Supported GP-Pro EX Version
Pro-Server EX	1.32 or later	3.1 or later
Pro-face Remote HMI (iOS/Android)	1.10	3.5 or later
	1.20	3.6 or later
	1.30	4.0 or later
	1.31	4.02 or later
	1.41	4.03 or later
	1.42 or later	4.05 or later
Pro-face Remote HMI Client for Win	1.40 or later	4.03 or later
Pro-face Connect	1.0 or later	4.07.100 or later



