



Easy! Smooth!

Replacement Guidebook

GP4000 Series W Model → ST6000 Series GP-Pro EX Model (ST-6x00WA)

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*Products may be changed or discontinued without notice. Please check our website for the latest information.

Update History

Date	Edition	Updated Slide	Description
2021/01/26		-	Newly created
2023/02/02	2 nd Edition	6, 8,10,12,14 31	Correction of backup memory type for ST6000 Series (SRAM → NVRAM) Software compatibility page updated
2023/10/08	3 rd Edition	Add: 3-11 Update: 15,17, 19, 21, 23 Update: 17, 18, 27, 31, 41 Add: 43-56	Newly added slide in response to safety requirement Add “blink or no blink” info in Display colors Updated slides to add GP-4203T information Added Software section (integrated with Software Replacement Book)
2024/8/23	4 th Edition	56	Added information of the workarounds for Blink function on ST6000 Series

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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.

DANGER

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

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.

About this book

Document Scope

This guidebook introduces the procedures to replace a unit from “GP4000 Series W Model” to “ST6000 Series GP-Pro EX Model”. The recommended substitute models are as follows.

Model in use			Recommended substitutes	
GP-4201TW	PFXGP4201TADW			
GP-4201T	PFXGP4201TAD	→	ST-6200WA (GP-Pro EX)	PFXST6200WADE
GP-4203T (MPI)	PFXGP4203TAD			
GP-4301TW	PFXGP4301TADW	→	ST-6400WA (GP-Pro EX)	PFXST6400WADE
GP-4401WW	PFXGP4401WADW			
GP-4501TW	PFXGP4501TADW	→	ST-6600WA (GP-Pro EX)	PFXST6600WADE

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.

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About this book

Related Documents

You can download the manuals related to this product, such as the software manual, from our website.

<https://www.proface.com/en/download/search>

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.

DANGER

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.

About this book

⚠ DANGER

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 [Hazardous Location 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.

⚠ WARNING

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.

⚠ WARNING

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.

About this book

⚠ WARNING

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>

⚠ WARNING

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:

<https://www.pro-face.com/trans/en/manual/1087.html>

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.

DANGER

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.

▲ WARNING

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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1. Summary

When replacing from GP4000 Series W Model to ST6000 Series GP-Pro EX Model, please note the following points.

- Display resolution: ST6000 Series has a better resolution. You need to convert resolution by the software to use old project data from GP4000 Series. To check the replacement procedure, refer to [3. Software Section](#) in this document.

GP-4201TW, GP-4201T, GP-4203T	320 x 240 pixels (QVGA)	ST-6200WA (GP-Pro EX)	480 x 272 pixels (WQVGA)
GP-4301TW	320 x 240 pixels (QVGA)	ST-6400WA (GP-Pro EX)	800 x 480 pixels (WVGA)
GP-4401WW	800 x 480 pixels (WVGA)		
GP-4501TW	640 x 480 pixels (VGA)	ST-6600WA (GP-Pro EX)	1,280 x 800 pixels (WXGA)

- Panel Cut Dimensions: As the panel cut dimension are not compatible, it is necessary to adjust the panel cut size.

GP-4301TW	W156 x H123.5 mm	ST-6400WA (GP-Pro EX)	W190 x H135 mm
GP-4401WW	W204.5 x H159.5 mm		
GP-4501TW	W301.5 x H227.5 mm	ST-6600WA (GP-Pro EX)	W295 x H217 mm

- External dimensions: As the external dimensions are different, it is necessary to check the dimensions of the HMI installation location.

GP-4201TW, GP-4201T, GP-4203T	W132 x H106 x D42 mm	ST-6200WA (GP-Pro EX)	W134.5 x H108.5 x D43 mm
GP-4301TW	W169.5 x H137 x D59.5 mm	ST-6400WA (GP-Pro EX)	W208 x H153 x D45 mm
GP-4401WW	W218 x H173 x D60 mm		
GP-4501TW	W315 x H241 x D56 mm	ST-6600WA (GP-Pro EX)	W313 x H235 x D50 mm

- Serial Interface: The serial interface specification is different between GP-4201TW, GP-4203T(MPI) and ST6000 Series. For details, refer to "[2-6. Other Important Notes on Hardware](#)".

- SD Card Interface: GP-4501TW has a SD card interface, but ST-6600WA doesn't have it. Please use a USB storage for the functions used with SD card.

2. Hardware Section

2-1. GP-4201TW vs ST-6200WA Specification comparison -1. Basic information-

	GP-4201TW	ST-6200WA	Points to note when replacing
Display type	TFT color LCD	TFT color LCD	
Display size	3.5"	4.3"W	
Resolution	320 x 240 pixels (QVGA)	480 x 272 pixels (WQVGA)	Need to change resolution setting by Software
Display colors	65,536 colors (No blink) / 16,384 colors (Blink)	16 million colors (No blink)	Blink function is not supported
Backlight	White LED (not user replaceable)	White LED (not replaceable)	Backlight is not replaceable
Backlight service life	50,000 hours or more (continuous operation at 25 ° C [77 ° F] before backlight brightness decreases to 50%)	50,000 hours or more (continuous operation at 25 ° C [77 ° F] before backlight brightness decreases to 25%)	
Panel cut dimensions	W118.5 x H92.5 mm	W118.5 x H92.5 mm	
External dimensions	W132 x H106 x D42 mm	W134.5 x H108.5 x D43 mm	
Touch panel type	Resistive film (analog, single touch)	Resistive film (analog, single touch)	
Touch panel service life	1 million times or more	1 million times or more	
Memory	Application memory	FLASH EPROM 8MB	Please refer to the FAQ for the available capacity of each memory
	Backup memory	SRAM 128KB	
Battery (clock data backup)	Rechargeable battery / Secondary battery for clock data backup	Replaceable battery / Primary battery for clock data backup	Battery can be replaced by user
Rated input voltage	DC 24V	DC 24V	
Power consumption	9.6W or less	6.9W or less	

2-1. GP-4201TW vs ST-6200WA Specification comparison -2. Interface-

		GP-4201TW	ST-6200WA	Points to note when replacing
Serial I/F	COM1	RS-232C (D-Sub 9pin Plug)	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug)	Please refer to 2.6. Other important notes on Hardware in this document.
	COM2	RS-422/485 (D-Sub 9pin Plug)	-	
Ethernet I/F		-	10BASE-T/100BASE-TX (RJ-45) x 1	
CF Card I/F		-	-	
SD Card I/F		-	-	
USB I/F	Type A	USB 2.0 x1 -USB transfer cable (CA3-USBCB-01)	USB 2.0 x1	No screen data transfer via Type A
	Type mini-B	USB 2.0 x1 -USB data transfer cable(ZC9USCBMB1) or commercial USB mini-B transfer cable	-	USB I/F changed from USB Type mini-B to Type micro-B.
	Type micro-B	-	USB 2.0 x1 -USB transfer cable(PFXZUSCBMB2) or commercial USB micro-B transfer cable	
Auxiliary I/O I/F		-	-	
Sound Output I/F		-	-	
Expansion Unit I/F		-	-	

Hardware Manual: [ST6000 Series Hardware Manual](#)

2-1. GP-4201/4203T vs ST-6200WA Specification comparison -1. Basic information-

	GP-4201T	GP-4203T	ST-6200WA	Points to note when replacing
Display type	TFT color LCD		TFT color LCD	
Display size	3.5"		4.3"W	
Resolution	320 x 240 pixels (QVGA)		480 x 272 pixels (WQVGA)	Need to change resolution setting by Software
Display colors	65,536 colors (No blink) / 16,384 colors (Blink)		16 million colors (No blink)	Blink function is not supported.
Backlight	White LED (not user replaceable)		White LED (not replaceable)	Backlight is not replaceable.
Backlight service life	50,000 hours or more (continuous operation at 25 ° C [77 ° F] before backlight brightness decreases to 50%)		50,000 hours or more (continuous operation at 25 ° C [77 ° F] before backlight brightness decreases to 25%)	
Panel cut dimensions	W118.5 x H92.5 mm		W118.5 x H92.5 mm	
External dimensions	W132 x H106 x D42 mm		W134.5 x H108.5 x D43 mm	
Touch panel type	Resistive film (analog, single touch)		Resistive film (analog, single touch)	
Touch panel service life	1 million times or more		1 million times or more	
Memory	Application memory	FLASH EPROM 16MB	FLASH EPROM 64MB	Please refer to the FAQ for the available capacity of each memory.
	Backup memory	SRAM 320KB	NVRAM 320KB	
Battery (clock data backup)	Rechargeable battery / Secondary battery for clock data backup		Replaceable battery / Primary battery for clock data backup	Battery can be replaced by user.
Rated input voltage	DC 24V		DC 24V	
Power consumption	9.6W or less		6.9W or less	

2-1. GP-4201/4203T vs ST-6200WA Specification comparison -2. Interface-

		GP-4201T	GP-4203T	ST-6200WA	Points to note when replacing
Serial I/F	COM1	RS-232C/422/485 (D-Sub 9pin Plug)	RS-485 (Isolated) (D-Sub 9pin Socket)	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug)	Please refer to 2.6. Other important notes on Hardware in this document.
	COM2	-	-	-	
Ethernet I/F		10BASE-T/100BASE-TX (RJ-45) x1		10BASE-T/100BASE-TX (RJ-45) x 1	
CF Card I/F		-		-	
SD Card I/F		-		-	
USB I/F	Type A	USB 2.0 x1 -USB transfer cable (CA3-USBCB-01)		USB 2.0 x1	No screen data transfer via Type A
	Type mini-B	USB 2.0 x1 -USB data transfer cable(ZC9USCBMB1) or commercial USB mini-B transfer cable		-	USB I/F changed from USB Type mini-B to Type micro-B.
	Type micro-B	-		USB 2.0 x1 -USB transfer cable(PFXZUSCBMB2) or commercial USB micro-B transfer cable	
Auxiliary I/O I/F		-		-	
Sound Output I/F		-		-	
Expansion Unit I/F		-		-	

Hardware Manual: [ST6000 Series Hardware Manual](#)

2-1. GP-4301TW vs ST-6400WA Specification comparison -1. Basic information-

	GP-4301TW	ST-6400WA	Points to note when replacing
Display type	TFT color LCD	TFT color LCD	
Display size	5.7"	7"W	
Resolution	320 x 240 pixels (QVGA)	800 x 480 pixels (WVGA)	Need to change resolution setting by Software
Display colors	65,536 colors (No blink) / 16,384 colors (Blink)	16 million colors (No blink)	Blink function is not supported.
Backlight	White LED (not user replaceable)	White LED (not replaceable)	Backlight is not replaceable.
Backlight service life	50,000 hours or more (continuous operation at 25 ° C [77 ° F] before backlight brightness decreases to 50%)	50,000 hours or more (continuous operation at 25 ° C [77 ° F] before backlight brightness decreases to 25%)	
Panel cut dimensions	W156 x H123.5 mm	W190 x H135 mm	Need to adjust the panel cut size.
External dimensions	W169.5 x H137 x D59.5 mm	W208 x H153 x D45 mm	
Touch panel type	Resistive film (analog, single touch)	Resistive film (analog, single touch)	
Touch panel service life	1 million times or more	1 million times or more	
Memory	Application memory	FLASH EPROM 8MB	Please refer to the FAQ for the available capacity of each memory.
	Backup memory	SRAM 128KB	
Battery (clock data backup)	Rechargeable battery / Secondary battery for clock data backup	Replaceable battery / Primary battery for clock data backup	Battery can be replaced by user.
Rated input voltage	DC 24V	DC 24V	
Power consumption	10.5W or less	9W or less	

2-1. GP-4301TW vs ST-6400WA Specification comparison -2. Interface-

		GP-4301TW	ST-6400WA	Points to note when replacing
Serial I/F	COM1	RS-232C (D-Sub 9pin Plug)	RS-232C (D-Sub 9pin Plug)	Please refer to 2.6. Other important notes on Hardware in this document.
	COM2	RS-422/485 (D-Sub 9pin Plug)	RS-422/485 (D-Sub 9pin Plug)	
Ethernet I/F		10BASE-T/100BASE-TX (RJ-45) x1	10BASE-T/100BASE-TX (RJ-45) x2	
CF Card I/F		-	-	
SD Card I/F		-	-	
USB I/F	Type A	USB 2.0 x1 -USB transfer cable (CA3-USBCB-01)	USB 2.0 x1	No screen data transfer via Type A
	Type mini-B	USB 2.0 x1 -USB data transfer cable(ZC9USCBMB1) or commercial USB mini-B transfer cable	-	USB I/F changed from USB Type mini-B to Type micro-B.
	Type micro-B	-	USB 2.0 x1 -USB transfer cable(PFXZUSCBMB2) or commercial USB micro-B transfer cable	
Auxiliary I/O I/F		-	-	
Sound Output I/F		-	-	
Expansion Unit I/F		-	-	

Hardware Manual: [ST6000 Series Hardware Manual](#)

2-1. GP-4401WW vs ST-6400WA Specification comparison -1. Basic information-

	GP-4401WW	ST-6400WA	Points to note when replacing
Display type	TFT color LCD	TFT color LCD	
Display size	7"	7"	
Resolution	800 x 480 pixels (WVGA)	800 x 480 pixels (WVGA)	
Display colors	65,536 colors (No blink) / 16,384 colors (Blink)	16 million colors (No blink)	Blink function is not supported.
Backlight	White LED (not user replaceable)	White LED (not replaceable)	Backlight is not replaceable.
Backlight service life	50,000 hours or more (continuous operation at 25 ° C [77 ° F] before backlight brightness decreases to 50%)	50,000 hours or more (continuous operation at 25 ° C [77 ° F] before backlight brightness decreases to 25%)	
Panel cut dimensions	W204.5 x H159.5 mm	W190 x H135 mm	Need to adjust the panel cut size
External dimensions	W218 x H173 x D60 mm	W208 x H153 x D45 mm	
Touch panel type	Resistive film (analog, single touch)	Resistive film (analog, single touch)	
Touch panel service life	1 million times or more	1 million times or more	
Memory	Application memory	FLASH EPROM 16MB	Please refer to the FAQ for the available capacity of each memory.
	Backup memory	SRAM 128KB	
Battery (clock data backup)	Replaceable battery / Primary battery for clock data backup	Replaceable battery / Primary battery for clock data backup	
Rated input voltage	DC 24V	DC 24V	
Power consumption	12W or less	9W or less	

2-1. GP-4401WW vs ST-6400WA Specification comparison -2. Interface-

		GP-4401WW	ST-6400WA	Points to note when replacing
Serial I/F	COM1	RS-232C (D-Sub 9pin Plug)	RS-232C (D-Sub 9pin Plug)	Please refer to 2.6. Other important notes on Hardware in this document.
	COM2	RS-422/485 (D-Sub 9pin Plug)	RS-422/485 (D-Sub 9pin Plug)	
Ethernet I/F		10BASE-T/100BASE-TX (RJ-45) x1	10BASE-T/100BASE-TX (RJ-45) x2	
CF Card I/F		-	-	
SD Card I/F		Yes	-	To keep using the functions that were working with SD Card, use a USB Memory instead.
USB I/F	Type A	USB 2.0 x1 -USB transfer cable (CA3-USBCB-01)	USB 2.0 x1	No screen data transfer via Type A
	Type mini-B	USB 2.0 x1 -USB data transfer cable(ZC9USCBMB1) or commercial USB mini-B transfer cable	-	USB I/F changed from USB Type mini-B to Type micro-B.
	Type micro-B	-	USB 2.0 x1 -USB transfer cable(PFXZUSCBMB2) or commercial USB micro-B transfer cable	
Auxiliary I/O I/F		-	-	
Sound Output I/F		-	-	
Expansion Unit I/F		-	-	

Hardware Manual: [ST6000 Series Hardware Manual](#)

2-1. GP-4501TW vs ST-6600WA Specification comparison -1. Basic information-

	GP-4501TW	ST-6600WA	Points to note when replacing
Display type	TFT color LCD	TFT color LCD	
Display size	10.4"	12.1"W	
Resolution	640 x 480 pixels (VGA)	1,280 x 800 pixels (WXGA)	Need to change resolution setting by Software
Display colors	65,536 colors (No blink) / 16,384 colors (Blink)	16 million colors (No blink)	Blink function is not supported.
Backlight	White LED (not user replaceable)	White LED (not replaceable)	Backlight is not replaceable
Backlight service life	50,000 hours or more (continuous operation at 25 ° C [77 ° F] before backlight brightness decreases to 50%)	50,000 hours or more (continuous operation at 25 ° C [77 ° F] before backlight brightness decreases to 25%)	
Panel cut dimensions	W301.5 x H227.5 mm	W295 x H217 mm	Need to adjust the panel cut size
External dimensions	W315 x H241 x D56 mm	W313 x H235 x D50 mm	
Touch panel type	Resistive film (analog, single touch)	Resistive film (analog, single touch)	
Touch panel service life	1 million times or more	1 million times or more	
Memory	Application memory	FLASH EPROM 16MB	Please refer to the FAQ for the available capacity of each memory
	Backup memory	SRAM 128KB	
Battery (clock data backup)	Replaceable battery / Primary battery for clock data backup	Replaceable battery / Primary battery for clock data backup	
Rated input voltage	DC 24V	DC 24V	
Power consumption	17W or less	18.4W or less	

2-1. GP-4501TW vs ST-6600WA Specification comparison -2. Interface-

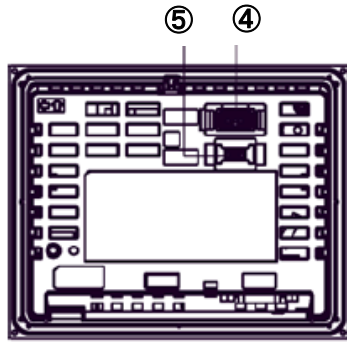
		GP-4501WW	ST-6600WA	Points to note when replacing
Serial I/F	COM1	RS-232C (D-Sub 9pin Plug)	RS-232C (D-Sub 9pin Plug)	Please refer to 2.6. Other important notes on Hardware in this document.
	COM2	RS-422/485 (D-Sub 9pin Plug)	RS-422/485 (D-Sub 9pin Plug)	
Ethernet I/F		10BASE-T/100BASE-TX (RJ-45) x1	10BASE-T/100BASE-TX (RJ-45) x2	
CF Card I/F		-	-	
SD Card I/F		Yes	-	To keep using the functions that were working with SD Card, use a USB Memory instead.
USB I/F	Type A	USB2.0 x1 -USB transfer cable (CA3-USBCB-01)	USB 2.0 x1	No screen data transfer via Type A
	Type mini-B	USB2.0 x1 -USB data transfer cable(ZC9USCBMB1) or commercial USB mini-B transfer cable	-	USB I/F changed from USB Type mini-B to Type micro-B.
	Type micro-B	-	USB 2.0 x1 -USB transfer cable(PFXZUSCBMB2) or commercial USB micro-B transfer cable	
Auxiliary I/O I/F		-	-	
Sound Output I/F		-	-	
Expansion Unit I/F		-	-	

Hardware Manual: [ST6000 Series Hardware Manual](#)

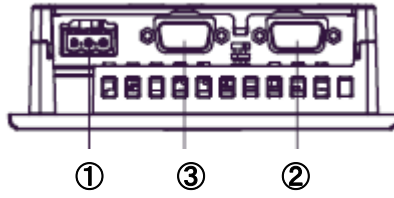
2-2. Standards compatibility

Certification	GP4000 Series W Model	ST6000 Series (GP-Pro EX)
CE (EN61000-6-4, EN61000-6-2, EN61131-2)	✓	✓
UKCA	✓	✓
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)	✓	-
IECEx (Zones 2/22, equipment category 3 Gas Dust)	✓	-
UKEX	✓	-
KCs	✓	-
NEPSI → CCC-Ex	✓	-
RCM (C-Tick)	✓	✓
EAC (GOST-R)	✓	✓
RoHS for EU	✓	✓
RoHS for China	✓	✓
REACH	✓	✓
CCC *apply for CCC exemption	-	-
KC	✓	✓
Marine (DNV-GL, ABS, LR, BV, NK, RINA, CCS)	DNV-GL, ABS, LR, BV, NK, RINA, CCS	-
WEEE	✓	✓

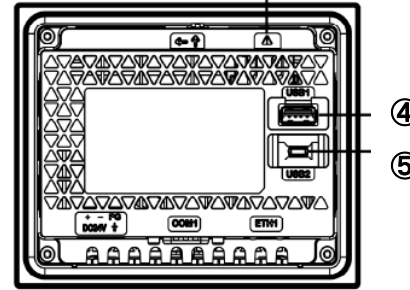
2-3. Interface compatibility – GP-4201TW vs ST-6200WA



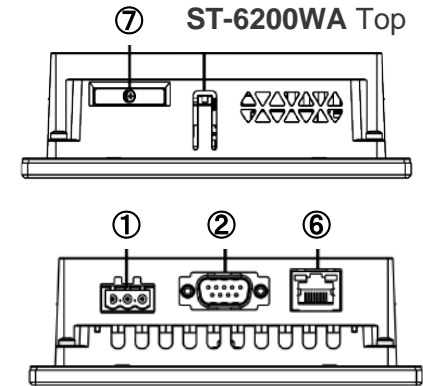
GP-4201TW Rear



GP-4201TW Bottom



ST-6200WA Rear

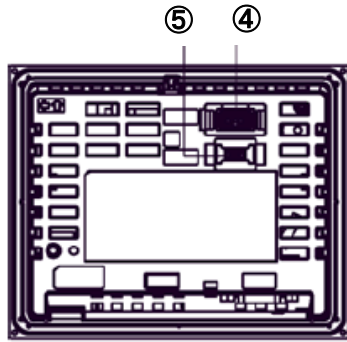


ST-6200WA Bottom

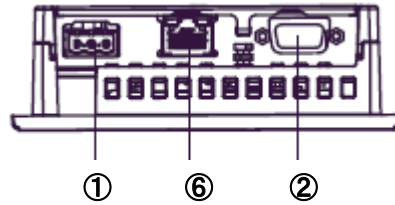
	GP-4201TW	ST-6200WA
①	Power Connector (DC)	Power Connector (DC)
②	Serial Interface (COM1)	Serial Interface (COM1)
③	Serial Interface (COM 2)	-
④	USB (Type A) Interface	USB (Type A) Interface
⑤	USB (mini-B) Interface	USB (micro-B) Interface
⑥	-	Ethernet Interface(ETH1)
⑦	-	Battery Slot

Please check [ST6000 Series Hardware Manual](#) for details such as interface specifications and pin assignments.

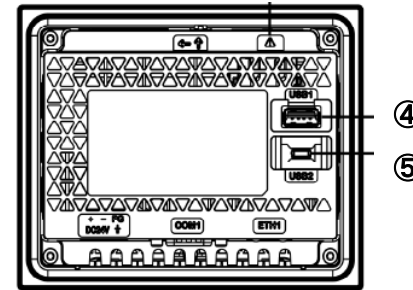
2-3. Interface compatibility – GP-4201/4203T vs ST-6200WA



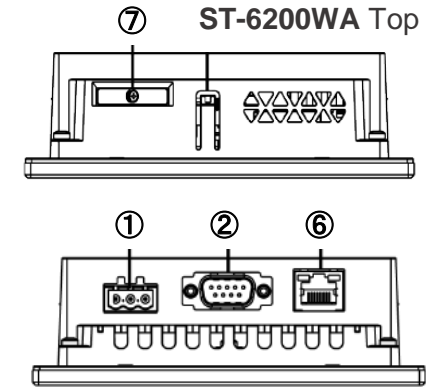
GP-4201 / 4203T Rear



GP-4201 / 4203T Bottom



ST-6200WA Rear

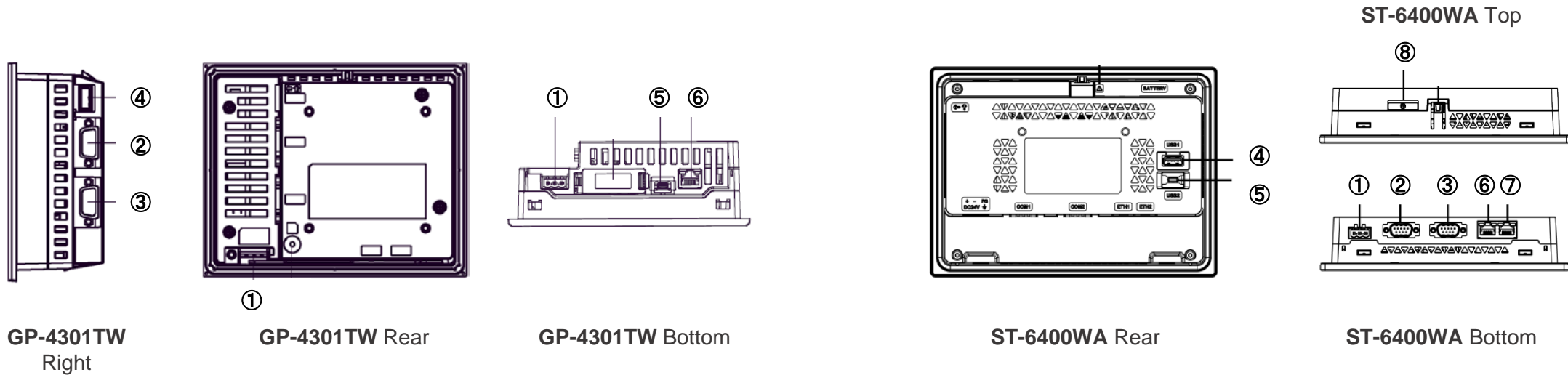


ST-6200WA Bottom

	GP-4201T, GP-4203T	ST-6200WA
①	Power Connector (DC)	Power Connector (DC)
②	Serial Interface (COM1)	Serial Interface (COM1)
③	-	-
④	USB (Type A) Interface	USB (Type A) Interface
⑤	USB (mini-B) Interface	USB (micro-B) Interface
⑥	Ethernet Interface(ETH1)	Ethernet Interface(ETH1)
⑦	-	Battery Slot

Please check [ST6000 Series Hardware Manual](#) for details such as interface specifications and pin assignments.

2-3. Interface compatibility – GP-4301TW vs ST-6400WA

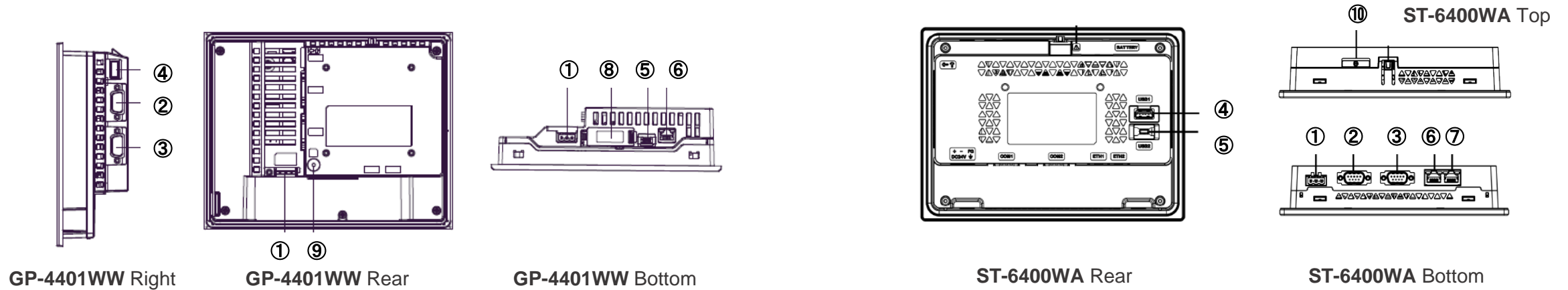


	GP-4301TW	ST-6400WA
①	Power Connector (DC)	Power Connector (DC)
②	Serial Interface (COM1)	Serial Interface (COM1)
③	Serial Interface (COM 2)	Serial Interface (COM 2)
④	USB (Type A) Interface	USB (Type A) Interface
⑤	USB (mini-B) Interface	USB (micro-B) Interface
⑥	Ethernet Interface(ETH1)	Ethernet Interface(ETH1)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

NOTE: Please be careful when replacing, as the wiring will change significantly.

Please check [ST6000 Series Hardware Manual](#) for details such as interface specifications and pin assignments.

2-3. Interface compatibility – GP-4401WW vs ST-6400WA

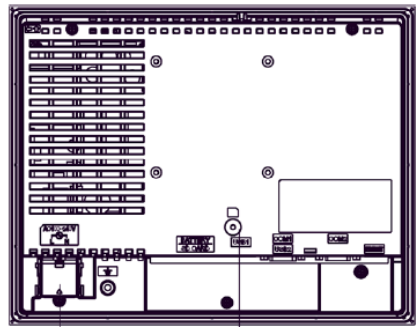


	GP-4401WW	ST-6400WA
①	Power Connector (DC)	Power Connector (DC)
②	Serial Interface (COM1)	Serial Interface (COM1)
③	Serial Interface (COM 2)	Serial Interface (COM 2)
④	USB (Type A) Interface	USB (Type A) Interface
⑤	USB (mini-B) Interface	USB (micro-B) Interface
⑥	Ethernet Interface(ETH1)	Ethernet Interface(ETH1)
⑦	-	Ethernet Interface(ETH2)
⑧	SD Card Interface	-
⑨	SD Card Access LED	-
⑩		Battery Slot

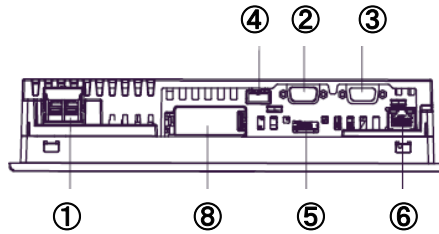
NOTE: Please be careful when replacing, as the wiring will change significantly.

Please check [ST6000 Series Hardware Manual](#) for details such as interface specifications and pin assignments.

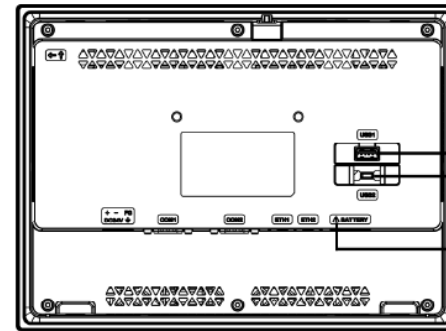
2-3. Interface compatibility – GP-4501TW vs ST-6600WA



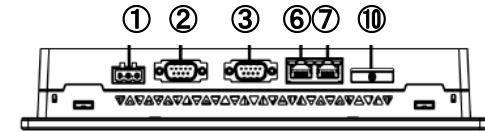
① ⑨
GP-4501TW Rear



GP-4501TW Bottom



ST-6600WA Rear



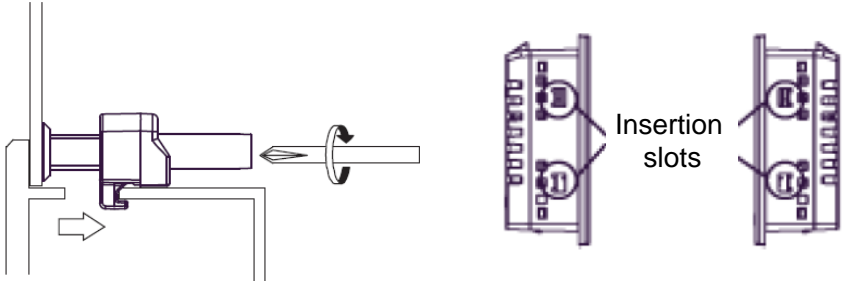
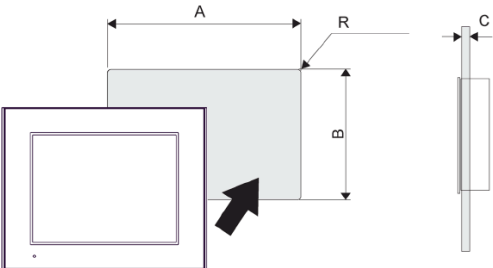
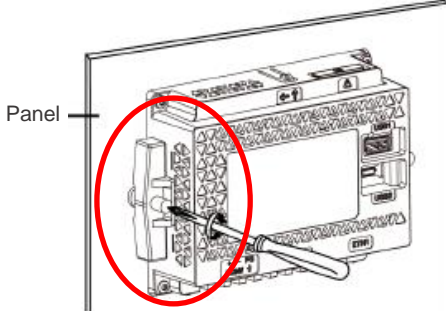
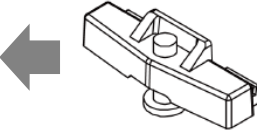
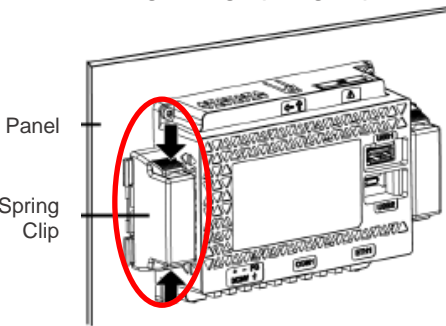

ST-6600WA Bottom

	GP-4501TW	ST-6600WA
①	Power Connector (DC)	Power Connector (DC)
②	Serial Interface (COM1)	Serial Interface (COM1)
③	Serial Interface (COM 2)	Serial Interface (COM 2)
④	USB (Type A) Interface	USB (Type A) Interface
⑤	USB (mini-B) Interface	USB (micro-B) Interface
⑥	Ethernet Interface(ETH1)	Ethernet Interface(ETH1)
⑦	-	Ethernet Interface(ETH2)
⑧	SD Card Interface	-
⑨	SD Card Access LED	-
		Battery Slot

Please check [ST6000 Series Hardware Manual](#) for details such as interface specifications and pin assignments.

2-4. Installation Method Compatibility – GP-4201TW/4201T/4203T vs ST-6200WA

Panel Cut Dimensions of ST-6200WA are the same as GP-4201TW, GP-4201T, GP-4203T.

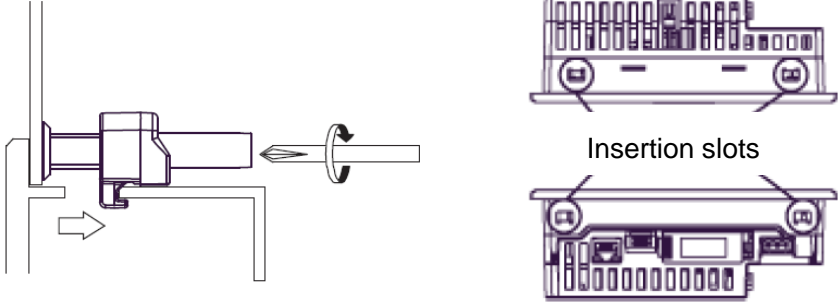
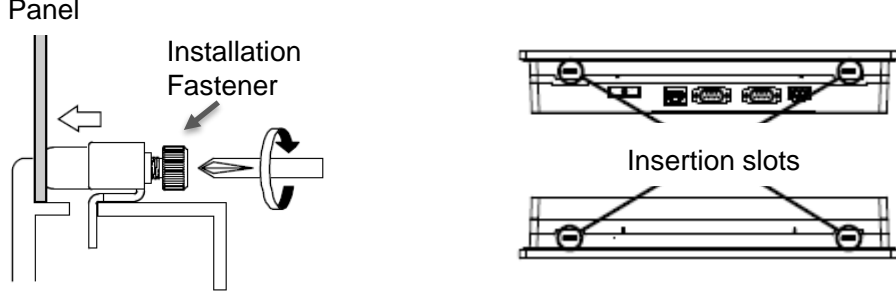
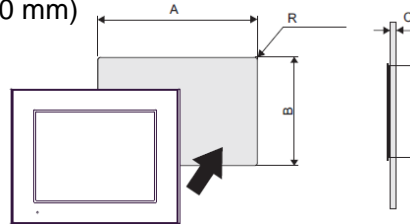
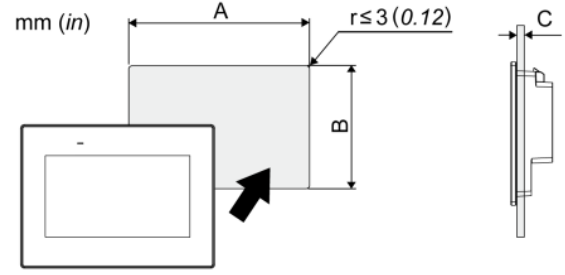
GP-4201TW, GP-4201T, GP-4203T	ST-6200WA
<p>Insert the installation fastener hooks into the insertion slots of this product.</p> <p>In a clockwise direction, tighten the installation fastener's screws with a screwdriver. The necessary torque is 0.5 N•m.</p>  <p>■ Panel Cut Dimensions</p> <p>A: 118.5 mm (+1/-0 mm) B: 92.5 mm (+1/-0 mm) C: 1.6~5.0 mm</p> 	<p>There are 2 patterns for attaching ST-6200WA to a panel as shown below.</p> <p>■ Installing using installation fasteners</p>  <p>Fix it with the installation fastener enclosed in the package. The torque required to tighten these screws is 0.5 N•m.</p>  <p>■ Installing using spring clips</p>  <p>Fix it with tool-less spring clip. (An option to be separately purchased)</p>  <p>*2 types of settings are possible according to the panel thickness. (1.5 to 4 mm, 4 to 6 mm)</p> <p>*Panel Cut Dimensions are the same as GP-4201TW, GP-4201T, GP-4203T.</p>

NOTE: The installation fasteners for GP4000 Series (P/N: PFXZCBAF1) cannot be used for ST-6200WA. For ST-6200WA, please use the ones for ST-6200WA (P/N: ZC9AF31) or Spring Clip (P/N: XBTZ3002).

Please check [ST6000 Series Hardware Manual](#) for installation requirements and procedure.

2-4. Installation Method Compatibility – GP-4301/4501TW vs ST-6400/6600WA

The installation method of ST-6400WA, ST-6600WA is generally the same as GP-4301TW, GP-4501TW, but **the panel cut dimensions are different. As there's no option for panel cutout adapter, it is necessary to adjust the panel cut size by user.**

GP-4301TW, GP-4501TW	ST-6400WA, ST-6600WA																		
<p>Insert the installation fastener hooks into the insertion slots of this product.</p> <p>In a clockwise direction, tighten the installation fastener's screws with a screwdriver. The necessary torque is 0.5 N•m.</p>	<p>Insert the installation fastener hooks into the insertion slots of this product.</p> <p>In a clockwise direction, tighten the installation fastener's screws with a screwdriver. The necessary torque is 0.5 N•m.</p>																		
																			
<p>■ Panel Cut Dimensions</p> <table border="0"> <tr> <td>GP-4301TW</td> <td>GP-4401WW</td> </tr> <tr> <td>A: 156 mm (+1/-0 mm)</td> <td>A: 204.5 mm (+1/-0 mm)</td> </tr> <tr> <td>B: 123.5 mm (+1/-0 mm)</td> <td>B: 159.5 mm (+1/-0 mm)</td> </tr> <tr> <td>C: 1.6~5.0 mm</td> <td>C: 1.6~5.0 mm</td> </tr> </table> <p>GP-4501TW</p> <table border="0"> <tr> <td>A: 301.5 mm (+1/-0 mm)</td> </tr> <tr> <td>B: 227.5 mm (+1/-0 mm)</td> </tr> <tr> <td>C: 1.6~5.0 mm</td> </tr> </table> 	GP-4301TW	GP-4401WW	A: 156 mm (+1/-0 mm)	A: 204.5 mm (+1/-0 mm)	B: 123.5 mm (+1/-0 mm)	B: 159.5 mm (+1/-0 mm)	C: 1.6~5.0 mm	C: 1.6~5.0 mm	A: 301.5 mm (+1/-0 mm)	B: 227.5 mm (+1/-0 mm)	C: 1.6~5.0 mm	<p>■ Panel Cut Dimensions</p> <table border="0"> <tr> <td>ST-6400WA</td> </tr> <tr> <td>A: 190 mm (+1/-0 mm)</td> </tr> <tr> <td>B: 135 mm (+1/-0 mm)</td> </tr> <tr> <td>C: 1.6~5.0 mm</td> </tr> </table> <p>ST-6600WA</p> <table border="0"> <tr> <td>A: 295 mm (+1/-0 mm)</td> </tr> <tr> <td>B: 217 mm (+1/-0 mm)</td> </tr> <tr> <td>C: 1.6~5.0 mm</td> </tr> </table> 	ST-6400WA	A: 190 mm (+1/-0 mm)	B: 135 mm (+1/-0 mm)	C: 1.6~5.0 mm	A: 295 mm (+1/-0 mm)	B: 217 mm (+1/-0 mm)	C: 1.6~5.0 mm
GP-4301TW	GP-4401WW																		
A: 156 mm (+1/-0 mm)	A: 204.5 mm (+1/-0 mm)																		
B: 123.5 mm (+1/-0 mm)	B: 159.5 mm (+1/-0 mm)																		
C: 1.6~5.0 mm	C: 1.6~5.0 mm																		
A: 301.5 mm (+1/-0 mm)																			
B: 227.5 mm (+1/-0 mm)																			
C: 1.6~5.0 mm																			
ST-6400WA																			
A: 190 mm (+1/-0 mm)																			
B: 135 mm (+1/-0 mm)																			
C: 1.6~5.0 mm																			
A: 295 mm (+1/-0 mm)																			
B: 217 mm (+1/-0 mm)																			
C: 1.6~5.0 mm																			

NOTE: The installation fasteners for GP4000 Series (P/N: PFXZCBAF1) cannot be used for ST-6400/6600WA. Please use the fasteners for ST-6400/6600WA (P/N: PFXZCIAFTF1). Please check [ST6000 Series Hardware Manual](#) for installation requirements and procedure.

2-5. Option compatibility – Serial Interface

*Products may be changed or discontinued without notice.
Please check our website for the latest information.

Product Name	GP4000 W Model	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)	✓
RS-422 Cable (5m)	CA3-CBL422/5M-01	CA3-CBL422/5M-01	CA3-CBL422/5M-01 Connects a host controller to the GP unit. (RS-422 / Socket Type)	✓
RS-422 Cable (5m)	CA3-CBL422-01	CA3-CBL422-01	Connects a host controller to the GP unit. (RS-422 / Plug Type)	✓
Mitsubishi PLC A-Series Connection Cable (5m)	CA3-CBLA-01	CA3-CBLA-01	Connects Mitsubishi PLC A or QnA Series programming console I/F to GP unit. (Simultaneous use of programming consoles is not possible.)	✓
Mitsubishi PLC 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 consoles is not possible.)	✓
Mitsubishi PLC Q-Series Link Cable (5m)	CA3-CBLLNKM-01	CA3-CBLLNKM-01	Connects Mitsubishi PLC Q-Series (or other host controller) to the GP unit. (RS-232C)	✓
Mitsubishi PLC 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 consoles is not possible.)	✓
Omron PLC 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)	✓
Siemens TTY Converter Cable (5m)	CA6-CBLTTY/5M-01	CA6-CBLTTY/5M-01	Connects Siemens PLC S5 Series to the GP unit.	✓
MPI Cable (3.5m)	ST03-A2B-MPI21-PFE CA3-MPI-PG1-PFE CA3-MPI-PGN-PFE	ST03-A2B-MPI21-PFE	Connects a host controller to the GP unit for MPI communication.	✓
Multi-Link Cable (5m)	CA3-CBLMLT-01	CA3-CBLMLT-01	Connects a host controller to the GP unit for multi-link (n:1) communication. Please see "GP-Pro EX Device/PLC Connection Manual" for how to connect the cable.	✓
	PFXZCBCBML1	PFXZCBCBML1	Connects a host controller directly to the GP unit (D-sub 9 pin plug) for multi-link (n:1) communication.	✓

2-5. Option compatibility – Serial Interface

Product Name	GP4000 W Model	ST6000 (GP-Pro EX)	Description	Compatibility
9-pin-to-25-pin RS-232C Conversion Cable (0.2m)	CA3-CBLCBT232-01	CA3-CBLCBT232-01	Connects a standard RS-232C cable (D-Sub 25-pin socket) to the GP unit (D-sub 9-pin plug).	✓
RS-422 9/25-pin Conversion Cable (0.2m)	PFXZCBCBCVR41	PFXZCBCBCVR41	Connects a standard RS-422 cable (D-sub 25-pin socket) to the GP unit (D-sub 9 pin plug).	✓
2 Port Adapter Cable (5m)	CA3-MDCB11	CA3-MDCB11	Connects Mitsubishi PLC to the GP unit using 2 port adapter II (RS-422). Please see "GP Pro EX Device/PLC Connection Manual" for how to connect the cable. End of sale: 2019/12/26	✓
	PFXZCBCBMD1	PFXZCBCBMD1	Connects Mitsubishi PLC directly to the GP unit (D-sub 9 pin plug) using 2 port adapter II (RS-422). End of sale: 2019/12/26	✓
Mitsubishi PLC A, QnA, FX Series 2 Port Adapter II	GP070-MD11	GP070-MD11	Enables simultaneous use of a GP unit and a Mitsubishi PLC A, QnA, or FX Series peripheral device. End of sale: 2019/12/26	✓
COM Port Conversion Adapter	CA3-ADPCOM-01	CA3-ADPCOM-01	Connects optional RS-422 communication items to serial interface.	✓
RS-422 Terminal Block Conversion Adapter	PFXZCBADTM1	PFXZCBADTM1	Connects output from a serial interface (D-sub 9 pin plug) directly to an RS-422 terminal block.	✓
Terminal Block Conversion Adapter	CA3-ADPTRM-01	CA3-ADPTRM-01	Connects output from a GP unit's Serial Interface (D-sub 9 pin socket) directly with an RS-422 terminal block.	✓
RS-232C Isolation Unit	CA3-ISO232-01	CA3-ISO232-01	Connects a host controller to this product and provides isolation (RS-232C and RS-422 are switchable).	✓

2-5. Option compatibility – USB Interface

Product Name	GP4000 W Model	ST6000 (GP-Pro EX)	Description	Compatibility
USB Transfer Cable (2m)	CA3-USBCB-01	-	Cable for transferring screen data between a PC (USB Type A) and the GP unit (USB Type A).	- A to A screen transfer is not available.
USB Transfer Cable	ZC9USCBMB1	-	Cable for transferring screen data from a PC (USB Type A) to the GP unit (USB mini-B).	NEW! Use the option for ST6000 series.
USB Transfer Cable	-	PFXZUSCBMB2	Cable for transferring screen data from a PC (USB Type A) to this product (USB micro-B).	
USB Cable (5m)	FP-US00	FP-US00	Connects a USB printer (Type B).	✓
USB Front Cable (1m)	CA5-USBEXT-01	CA5-USBEXT-01	Extension cable that attaches USB interface (Type A) to front panel.	✓
USB Panel-mount Extension Cable (USB mini-B) (1 m)	ZC9USEXMB1	-	Extension cable that attaches to the USB (mini-B) interface on the front side of the operation panel.	NEW! Use the option for ST6000 series.
USB (micro-B) Front Cable	-	PFXZCIEXMB2	Extension cable that attaches USB interface (micro-B) to front panel.	
USB Clamp Type A (1 port)	PFXZCBCLUSA1	PFXZCBCLUSA1	Clamp to prevent disconnection of USB cable (USB/A, 1 port, 5 clamps/set)	✓ This clamp is included in the package of GP4000TW, not included in ST6000.
USB Clamp mini-B (1 port)	ZC9USCLMB1	-	Clamp to prevent disconnection of USB cable (USB/mini-B, 1 port, 5 clamps/set)	- No option available as micro-B clamp

2-5. Option compatibility – USB Interface

Product Name	GP4000 W Model	ST6000 (GP-Pro EX)	Description	Compatibility
USB-Serial (RS-232C) Conversion Cable (0.5m)	CA6-USB232-01	CA6-USB232-01	Cable for converting a USB interface into a serial interface (RS-232C).	✓
USB/RS-422/485 Conversion Adapter	PFXZCBCBCVUSR41	PFXZCBCBCVUSR41	Adapter for connecting this product (USB Type A) to an external device (RS-422/RS-485).	✓
EZ Tower Light tube mounting fixing plate	PFXZCETWHA1	PFXZCETWHA1	USB Connection Type Monolithic EZ Tower Light tube mounting with fixing plate 3 tiers, Ø60, lighting and flashing with a buzzer.	✓
EZ Tower Light with base mounting	PFXZCETWW1	PFXZCETWW1	USB Connection Type Monolithic EZ Tower with base mounting 3 tiers, Ø60, lighting and flashing with a buzzer.	✓
EZ LAN Adapter	PFXZCGEUUE1	-	An adapter to expand an Ethernet port to HMI	- Not supported
EZ Illuminated Switch	PFXZCCEUSG1	PFXZCCEUSG1	A unit of 5 illuminated switches with multiple color LED easily connected with this product unit via USB.	✓
EZ Numpad	PFXZCCEUKB1	PFXZCCEUKB1	Numpad connected to this product via USB.	✓
EZ Fingerprint Recognition Unit	PFXZCCEUSS1	PFXZCCEUSS1	Fingerprint recognition unit connected to this product via USB. End of sale: 2020/3/31	✓

2-5. Option compatibility – Other options

Product Name		GP4000 W Model	ST6000 (GP-Pro EX)	Description	Compatibility
SD Memory Card		PFXZCBSD4GC41	-	SD Memory Card (4GB)	- ST6000 series do not have SD card slot.
Screen Protection Sheet	GP-4501TW	PFXZCBDS101	-	Disposable, dirt-resistant sheet for the GP unit screen (5 sheets/set)	<p>NEW! Use the option for ST6000 series.</p>
	GP-4401WW	PFXZCBDS72	-		
	GP-4301TW	PFXZCBDS61	-		
	GP-4201T/4203T GP-4201TW	CA6-DFS4-01	-		
UV Protection Sheet	GP-4501TW	PFXZCFUV101	-	Sheet to protect the display from dirt and ultraviolet light (1 sheet / set)	
	GP-4401WW	PFXZCFUV72	-		
	GP-4301TW	PFXZCFUV61	-		
	GP-4201T/4203T GP-4201TW	PFXZCFUV41	-		
Screen Protection Sheet	ST-6600WA	-	PFXZCDDS122	Disposable, dirt-resistant sheet for the display (5 sheets/set)	
UV Protection Sheet	ST-6600WA	-	PFXZCFUV122	Sheet to protect the display from dirt and ultraviolet light (1 sheet)	
Screen Protection Sheet with UV protected	ST-6700WA	-	PFXZCIDS152	Disposable, dirt-resistant sheet for the display and ultra-violet protection sheet (1 sheet /set)	
	ST-6500WA	-	PFXZCIDS102		
	ST-6400WA	-	PFXZCIDS72		
	ST-6200WA	-	PFXZCIDS42		

2-5. Option compatibility – Other options

Product Name		GP4000 W Model	ST6000 (GP-Pro EX)	Description	Compatibility
Environment Cover	GP-4501TW	PFXZCBOP121	-	Disposable, environmental resistant cover for the GP unit screen (1 sheet / set)	- Cannot be used for ST6000 series.
	GP-4401WW	PFXZCBOP71	-		
	GP-4301TW	PFXZCBOP61	-		
	GP-4201T/4203T GP-4201TW	PFXZCBOP41	-		
Spring Clip		-	XBTZ3002	Fasteners to attach this product to the mounting surface	NEW! This option is for ST-6200WA.

2-5. Option compatibility – Maintenance options

Product Name		GP4000 W Model	ST6000 (GP-Pro EX)	Description	Compatibility
Installation Fastener	All GP4000TW	PFXZCBAF1	-	Used to install the GP unit into a solid panel (4 pieces/set)	<p>NEW! Use the option for ST6000 series.</p>
	ST-6700WA ST-6600WA ST-6500WA ST-6400WA	-	PFXZCIAFTF1	Installation fastener (2 pieces/set)	
	ST-6200WA	-	PFXZCFAF31	Installation fastener (2 pieces/set)	
Installation Gasket	GP-4501TW	PFXZCBWG121	-	Provides dust and moisture resistance when this product is installed into a solid panel (1 piece).	<p>NEW! Use the option for ST6000 series.</p>
	GP-4401WW	PFXZCBWG71	-		
	GP-4301TW	PFXZCBWG61	-		
	GP-4201T/4203T GP-4201TW	PFXZCBWG41	-		
	ST-6700WA	-	PFXZCIWG153		
	ST-6600WA	-	PFXZCIWG123		
	ST-6500WA	-	PFXZCIWG103		
	ST-6400WA	-	PFXZCIWG73		
	ST-6200WA	-	PFXZCIWG43		
USB Clamp Type A (1 port)		PFXZCBCLUSA1	PFXZCBCLUSA1	Clamp to prevent disconnection of USB cable (USB/A, 1 port, 5 clamps/set)	<p>✓ This clamp is included in the package of GP4000TW, not included in ST6000.</p>

2-5. Option compatibility – Maintenance options

Product Name	GP4000 W Model	ST6000 (GP-Pro EX)	Description	Compatibility
DC Power Supply Connector	PFXZCBCNDC1	-	Connector to connect DC power supply cables (5 pcs/set)	-
DC Power Supply Connector (Right-angle)	PFXZCBCNDC2	-	Right-angle connector to connect DC power supply cables (5 pcs/set)	
DC Power Supply Connector	-	CA5-DCCNM-01	Connector to connect DC power supply cables (5 pcs/set)	
Battery for Memory Backup	PFXZCBBT1	-	Primary battery for memory and time data backup (1 piece) For GP-4501TW/GP4401WW	- Use the option for ST6000 series.
Battery for Data Backup	-	PFXZGEBT1	Primary battery for memory and time data backup (1 piece) For all ST6000 series	
Panel Cutout Adapter	CA4-ATM10-01	-	Panel cutout adapter for mounting GP-4501TW in cutout for GP-2500/2600 series.	-

2-6. Other Important Notes on Hardware

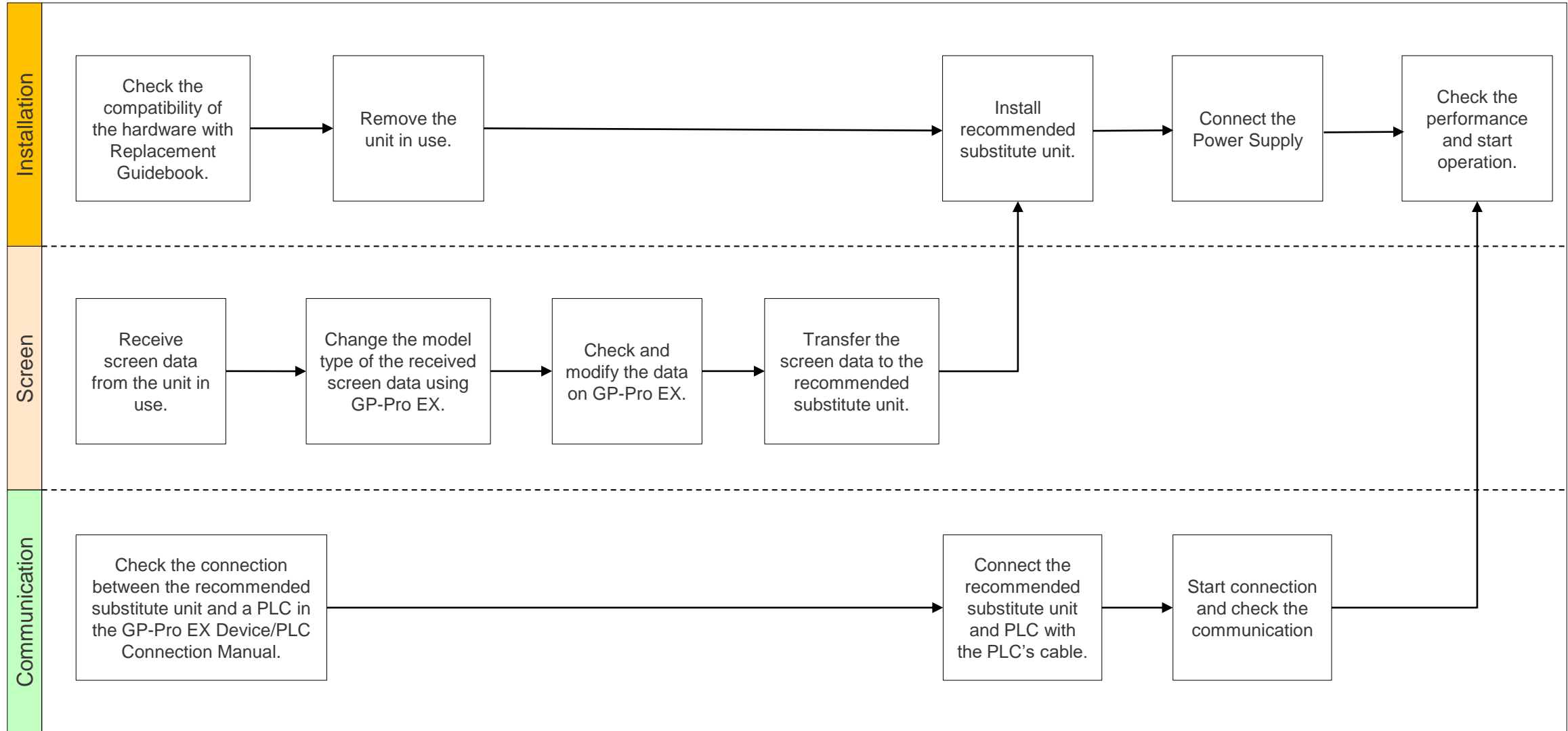
- About Serial Interface
 - The Serial Interface specifications of ST-6200WA are different from GP-4201TW, GP-4203T(MPI). For the details, please refer to "[ST6000 Series Hardware Manual](#)".
 - The RS-232C device that was connected via COM1 on GP-4201TW will be connected via COM1 on ST-6200WA. (The same cable connection can be used.)
The RS-422/485 device that was connected via COM2 on GP-4201TW will be connected via COM1 on ST-6200WA. Before ST-6200WA is connected, be sure to change the port setting to "COM1" in "Device/PLC Settings" on GP-Pro EX. Also, please check the communication settings again with "[GP-Pro-EX Device/PLC Connection Manual](#)" just in case.
 - When replacing GP-4203T (MPI) with ST-6200WA, please note that ST-6200WA does not support communication speeds of 187.5K bps (MPI). If MPI communication speed is required, replace it with other ST6000 series.
 - The cable connection of GP-4201T, GP-4301TW, GP-4501TW can be used for ST6000 Series. Before connecting with ST6000 Series, however, please check it again with "[GP-Pro-EX Device/PLC Connection Manual](#)".
 - By using "USB/RS-422/485 Conversion Adapter", you can use the USB interface of ST6000 Series as RS-422/485 Serial Interface. For the details, refer to "[USB/RS-422/485 Conversion Adapter Installation Guide](#)".
As the connectable devices with USB/RS-422/485 Adapter are limited, please also refer to "[USB/RS-422/485 Conversion Adapter Connection Guide](#)" to see the list of supported drivers.

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: CA3-USBCB-01 (Type A - Type A) *It's also possible to send/receive a screen via USB storage device, SD card (GP-4401WW, GP-4501TW only) or Ethernet (all models except for GP-4201TW).
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.

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

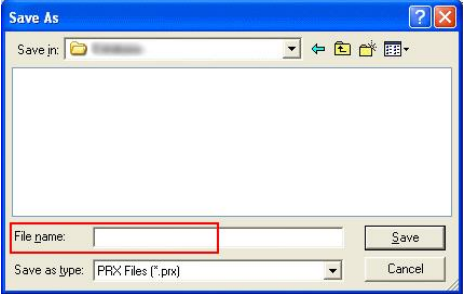
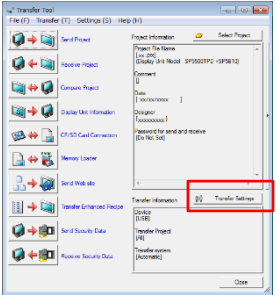

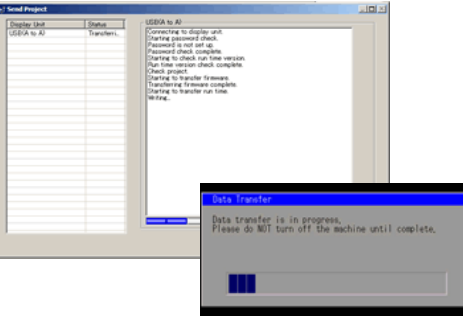
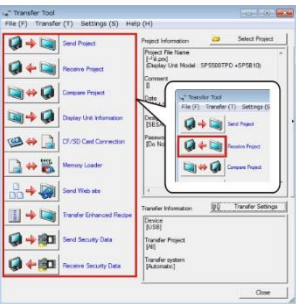
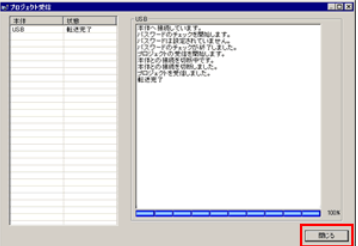
If you already have the screen data backup, please go to [“3-1. Replacement Procedure – Change model to recommended substitute unit \(GP-Pro EX\)”](#).

*2: 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)

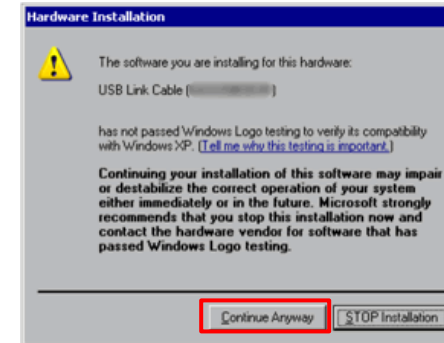
In this section, we will introduce how to receive screen data with a USB transfer cable as an example. If you have the backup of screen data, this step is not necessary. Please go to the next section.

<p>1. Connect your PC and the model in use 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.</p>		<p>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.</p>	
<p>2. Start the Transfer Tool of GP-Pro EX.</p>			
<p>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].</p>		<p>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.)</p>	
<p>4. Start GP-Pro EX Transfer Tool and click the [Receive Project] button.</p>		<p>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.</p>	
		<p>8. Close the Transfer Tool.</p>	

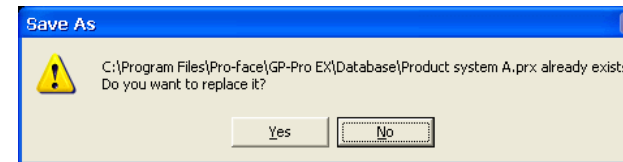
3-1. Replacement Procedure – Receive Screen data from the model in use (GP-Pro EX)

NOTES

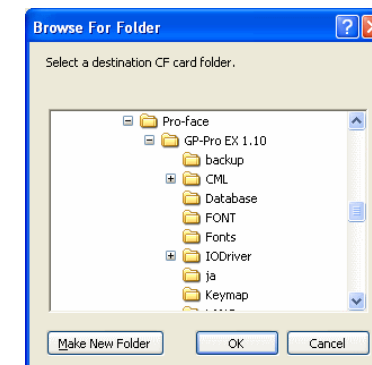
- The “Hardware Installation” dialog box as shown on the right may appear during installing the USB driver depending on the security level of Windows®. Click [Continue Anyway] to start installing the driver. When installation is completed, click [Finish].



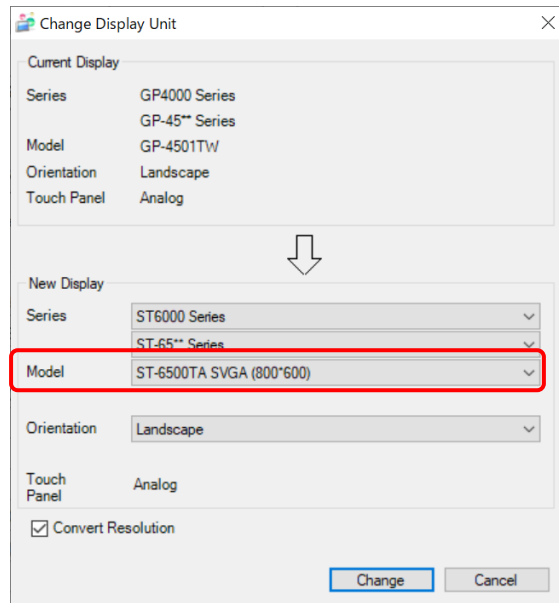
- When the file already exists, a window will appear asking if you want to overwrite the file.



- 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.

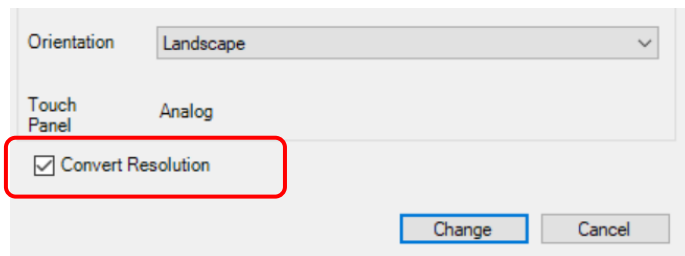


3-1. Replacement Procedure – Change model to recommended substitute unit (GP-Pro EX)



Change the Display unit from GP4000 Series to ST6000 Series.
The display can be changed from the menu bar “Project” → “System Settings” → “Display” → “Change Display” in GP-Pro EX.

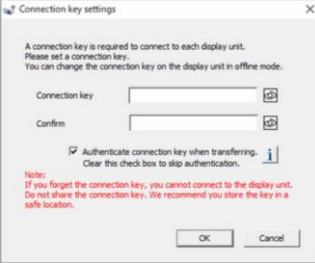

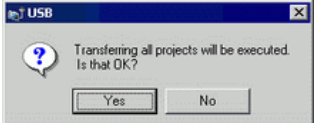
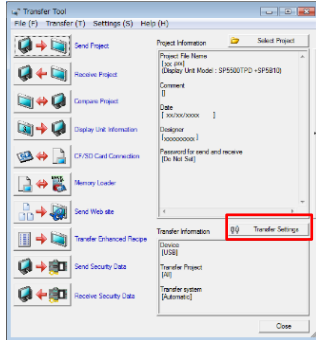
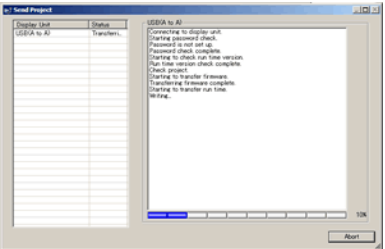
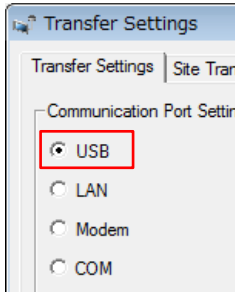
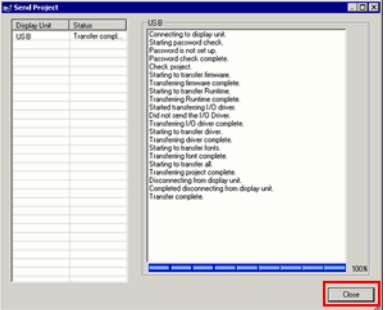
If you check on [Convert Resolution] when changing the Display Unit type (as shown below), you can adjust both size and location of the part and the text relative to the display resolution automatically. But still, you may need to adjust them manually. Please pay attention to the following points.



- 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.

<p>1. Connect your PC and the recommended substitute unit with a 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.</p>		<p>5. Click [Send Project]. In the dialog box that appears, set the connection key and click [OK].</p> <p>NOTE: If you forget the connection key, you will not be able to connect to the display unit. For more information about connection key, refer to GP-Pro EX reference manual (34.14.4 How the Connection Key Works).</p>	
<p>2. Turn on the power of Recommended substitute unit. The “Welcome” screen will appear on the display unit. After transferring a project file once, this screen will not appear again.</p>		<p>6. When this dialog box appears, click [Yes]. This dialog box is not displayed when the same project file is sent again.</p>	
<p>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.</p>		<p>7. The transfer begins. The following dialog box appears during transfer, and you can check the communication status. (The display unit changes to Transferring mode and communication with the device/PLC is suspended.)</p>	
<p>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].</p>		<p>8. When transfer is completed, the state of the dialog box changes from [Transferring] to [Transfer Complete]. Click [Close] to close the dialog box.</p> <p>9. Close the Transfer Tool</p> <p>10. Click the [X] mark on top right of the screen or [Project] → [Exit] to close GP-Pro EX.</p>	

3-2. Software Compatibility – GP-Pro EX Supported Feature Comparison

Specification UP in ST6000

NOT supported in ST6000

GP-Pro EX Feature		GP-4201TW / GP-4301TW GP-4401WW / GP-4501TW	GP-4201T GP-4203T	ST6000 (GP-Pro EX) ST-6x00WA
Display	Screen Area (Application memory, unit: byte)	16M (GP-4401WW / 4501TW) 8M (GP-4201TW / 4301TW)	16M	64M
	Portrait Installation	✓	✓	✓
	Function Expansion Memory	-	-	-
	Installing the USB/RS-422/485 Conversion Adapters	✓	✓	✓
	MAC Address Display	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
External Storage	CF Card	-	-	-
	SD Card	✓ (GP-4401WW / 4501TW)	-	-
	CFast Card	-	-	-
	USB storage	✓	✓	✓
	FTP server	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
System Settings	Drawing in 256 colors	✓	✓	✓
	Reverse Display	✓	✓	-
	Faded Color Blink	✓	✓	-
	Synchronize Text Display with Text Table	✓	✓	✓
	Time Zone settings	-	-	-
	Detect Backlight Burnout	-	-	-
	Dimmer settings	✓ *1	✓ *1	✓
	2-point touch / Multitouch	-	-	-
	Display the SD/USB Removal Icon	✓	✓	✓

*1: While dimmed, brightness settings you can use are 0 to 7.

3-2. Software Compatibility – GP-Pro EX Supported Feature Comparison

Specification UP in ST6000

NOT supported in ST6000

GP-Pro EX Feature		GP-4201TW / GP-4301TW GP-4401WW / GP-4501TW	GP-4201T GP-4203T	ST6000 (GP-Pro EX) ST-6x00WA
System Settings	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	✓USB storage can be used for the models without SD/CF card slots. *supported by Ver.4.09.450 or later
	Image Font	✓	✓	✓
	Bitmap Font	✓	✓	✓
	Standard Font	✓	✓	✓
	Port Control	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
Device/PLC Communication *1	Number of Devices/PLCs that can communicate simultaneously	2	4	2
	Specify Indirect Device	✓	✓	✓
	Import Device/PLC tags	✓	✓	✓
	Ethernet Multilink	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
	Device Monitor	✓	✓	✓
	Ladder Monitor	-	-	-
Transfer	Network Transfer	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
	Modem Transfer	✓	✓	-
	SIO Transfer (COM Connection)	✓	✓	-
	Memory loader feature	✓	✓	✓
	CF/SD Card Connection	✓ (GP-4401WW / 4501TW)	-	-
	Connection Key	✓	✓	✓

*1: Depends on the type of connected PLC/Device.

3-2. Software Compatibility – GP-Pro EX Supported Feature Comparison

Specification UP in ST6000

NOT supported in ST6000

GP-Pro EX Feature		GP-4201TW / GP-4301TW GP-4401WW / GP-4501TW	GP-4201T GP-4203T	ST6000 (GP-Pro EX) ST-6x00WA
Common Settings	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	✓	✓	✓
	Changing passwords at run time (CSV file)	✓	✓	✓
	Changing passwords at run time (password change screen)	✓	✓	✓
	Append Date/Time to CSV File Name	✓	✓	✓
	Transfer sampling CSV file to FTP	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
	Transferring sampled data to the cloud	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
	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	✓	✓	✓

3-2. Software Compatibility – GP-Pro EX Supported Feature Comparison

Specification UP in ST6000

NOT supported in ST6000

GP-Pro EX Feature		GP-4201TW / GP-4301TW GP-4401WW / GP-4501TW	GP-4201T GP-4203T	ST6000 (GP-Pro EX) ST-6x00WA
Common Settings	Movie record/play feature	-	-	-
	Use Image unit	-	-	-
	Sound Output Feature	-	-	-
	AUX	-	-	-
	Retentive Variables Function	-	✓	✓
Parts	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	✓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	✓	✓	✓
	Special Data Display [File Manager] copy file to FTP	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
	Message Display's Bulletin Message	✓	✓	✓
	Image Sensor Display	✓ (GP-4301TW / 4401WW / 4501TW)	✓	-
	Animation	✓	✓	✓
	Alarm History Message Flow Display	✓	✓	✓
	Alarm History / Sampling Data / Enhanced Recipe Data Refine Search / Sort Function	-	✓	-
	Alarm Analysis Function	-	✓	-

3-2. Software Compatibility – GP-Pro EX Supported Feature Comparison

Specification UP in ST6000

NOT supported in ST6000

GP-Pro EX Feature		GP-4201TW / GP-4301TW GP-4401WW / GP-4501TW	GP-4201T GP-4203T	ST6000 (GP-Pro EX) ST-6x00WA
Logic *1	Logic Program Operation	✓	✓	✓
	I/O Driver	-	-	-
	Function Block	✓	✓	✓
Network	RPA Function (end of support from Ver.4.09.400)	-	-	-
	GP-Viewer EX	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
	Web Server (end of support from Ver.4.09.450)	-	-	-
	Camera-Viewer EX	-	-	-
	Pro-face Remote HMI	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
	E-mail	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
	GP Remote Printer Server	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
	Pro-face Connect (models you can register as SiteManager)	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
	Pro-Server EX	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓
Input Equipment / Peripheral Equipment (USB Device)	USB Keyboard	✓	✓	✓
	EZ Illuminated Switch	✓	✓	✓
	EZ Tower Light	✓	✓	✓
	EZ Numpad	✓	✓	✓
	EZ Fingerprint Recognition Unit	✓	✓	✓
	EZ LAN Adapter	✓ (GP-4301TW / 4401WW / 4501TW)	✓	✓ (ST-6500T/6300T only)

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

3-2. Software compatibility

Specification UP in ST6000

NOT supported in ST6000

Supported Software	GP-4201TW / GP-4301TW GP-4401WW / GP-4501TW	GP-4201T GP-4203T	ST6000 (GP-Pro EX) ST-6x00WA	Compatibility of Project Data
GP-Pro EX	✓ Ver. 3.01 or later (Ver. 3.0 or later for GP-4301TW)		✓ Ver. 4.09.200 or later	✓
	https://www.pro-face.com/otasuke/files/manual/gpproex/new/refer/gpproex.htm			
Pro-Server EX	✓ Ver. 1.30 or later		✓ Ver. 1.37.200 or later	✓
	https://www.pro-face.com/otasuke/files/manual/soft/server_ex/v1_37/ref/SRPreface.htm			
Pro-face Remote HMI (iOS/Android) *1	✓ Ver. 1.0 or later		✓ Ver. 1.60 or later	✓
	https://www.pro-face.com/otasuke/qa/remotehmi/faq.html			
Pro-face Remote HMI Client for Win *1	✓ Ver. 1.40 or later		✓ Ver. 1.42 or later	✓
	https://www.proface.com/en/product/soft/remotehmi_client/download			
Pro-face Connect *1	✓ Ver. 1.0 or later		✓ Ver. 9.6 or later	✓
	https://www.proface.com/en/product/soft/proface_connect/download			

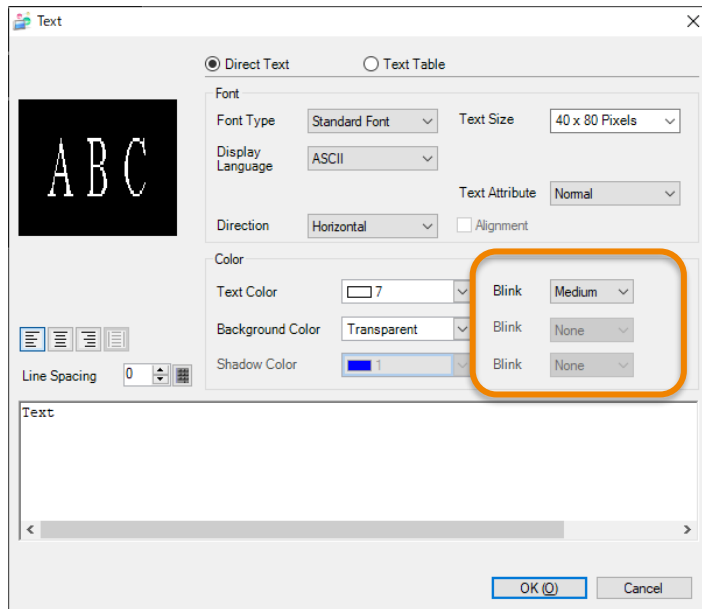
*1: Supported GP-Pro EX Version differs depending on the software.

Software	Version	Supported GP-Pro EX Version
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

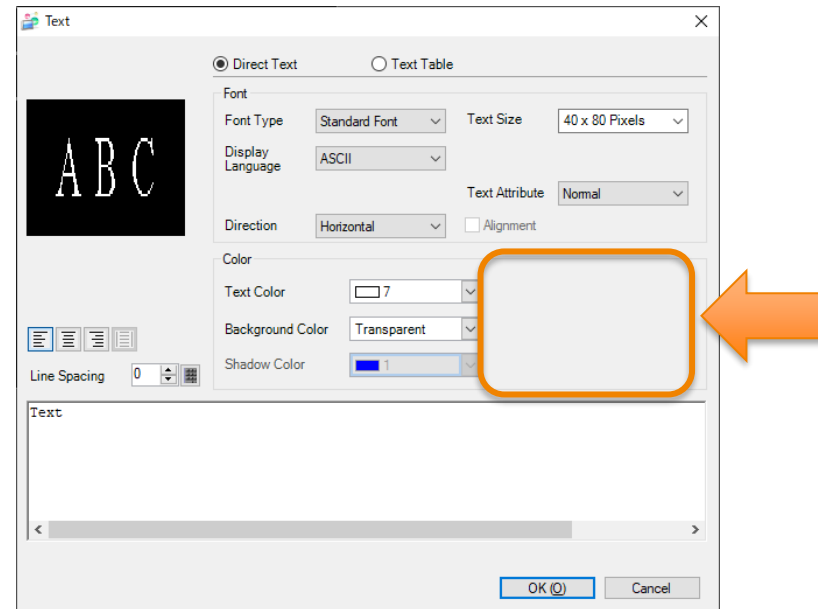
3-3. Other Important Notes on Software

- About Blink function
 - ST6000 Series do not support Blink function. Therefore, if you use the blink settings in GP4000 Series, the settings will be cancelled after changing the display to ST6000 Series in GP-Pro EX.

GP4000 Series



After converting the project to ST6000 Series



NOTE: We have a workaround to add blink functions to some of the parts/texts on ST6000 display by using the functions of the configuration software, GP-Pro EX. Refer to the following FAQ for the setting procedures.

<https://www.proface.com/en/support/faq/FAQ000268649>

