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Update History

Date	Edition	Updated Slide	Description
2022/09/06	1st	-	Newly created
2023/02/02	2nd	7, 9	 Correction of backup memory type for ST6000 Series (SRAM → NVRAM)
2023/12/01	3rd	3-11 15, 17 19 26, 40 29-42	 Newly added slide in response to safety requirement Add "blink or no blink" info in Display colors Update info on supported Standards Supported EZ LAN adapter (P/N: PFXZCGEUUE1) Added "Software" contents (merged with Software Replacement Guidebook)
2024/08/23	4th	17 42	 The external dimensions of PFXST6500TADE was not correct. The correct information is W315 x H241 x D55.3 mm. 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.

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 "GP4000 Series W Model" to "ST6000 Series (ST-6300TA / ST-6500TA)". The recommended substitute models are as follows.

Model in use			Recommended	d substitutes
GP-4301TW	PFXGP4301TADW	\rightarrow	ST-6300TA (GP-Pro EX)	PFXST6300TADE
GP-4501TW	PFXGP4501TADW	\rightarrow	ST-6500TA (GP-Pro EX)	PFXST6500TADE

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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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.

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: 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.

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.

Table of Contents

1	Summary				
2	Haro	dware Section			
	2-1	Specification Comparison			
	2-2	Standards Compatibility			
	2-3	Hardware Compatibility			
	2-4	Option Compatibility			
	2-5	Other Important Notes on Hardware			
3	Soft	ware Section			
	3-1	Replacement Procedure			
	3-2	Software Compatibility			
	3-3	Other Important Notes on Software			

1. Summary

The replacement from GP4000 series W Model to ST-6300TA / 6500TA generally keeps compatibility, but the following is the main point to note.

• Display resolution: ST6000 series have a better resolution so it's necessary to convert resolution by the software to use old project data from GP4000 series W model. For more details, please refer to the <u>3. Software Section</u> in this document.

GP-4301TW	320 x 240 pixels (QVGA)	ST-6300TA	640 x 480 pixels (VGA)
GP-4501TW	640 x 480 pixels (VGA)	ST-6500TA	800 x 600 pixels (SVGA)



2. Hardware Section



2-1. GP-4301TW vs ST-6300TA Specification comparison -1. Basic information-

		PFXGP4301TADW	PFXST6300TADE	Compatibility
Display Size		5.7"	5.7"	✓
Display Type		TFT color LCD	TFT color LCD	✓
Display Colors	3	65,536 colors (no blink) / 16,384 colors (blink)	262,000 colors (no blink)	-
Display Resolution		320 x 240 pixels (QVGA)	640 x 480 pixels (VGA)	Need to change resolution setting by Software
Backlight		White LED (not user replaceable)	White LED (not replaceable)	- Backlight is not replaceable.
	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%)	This spec becomes lower.
Panel Cutout I	Dimensions	W156 x H123.5 mm	W156 x H123.5 mm	✓
External Dime	ensions	W169.5 x H137 x D59.5 mm	W169.5 x H137 x D58 mm	Only the depth length is different.
Touch Panel	Туре	Resistive film (analog, single touch)	Resistive film (analog, single touch)	✓
	Service life	1 million times or more	1 million times or more	✓
Memory	Application	FLASH EPROM 8MB	FLASH EPROM 64MB	UP!
	Backup Memory	Screen area: SRAM 128KB	Screen area: NVRAM 320KB Variable area: NVRAM 64KB	Please refer to FAQ for the available capacity of each memory.
Backup Battery		Rechargeable battery / Secondary battery for clock data backup	Replaceable battery / Primary battery for clock data backup	UP! Battery can be replaced by user.
Input Voltage		DC 24V	DC 24V	✓

2-1. GP-4301TW vs ST-6300TA Specification comparison -2. Interface-

		PFXGP4301TADW	PFXST6300TADE	Compatibility
Serial I/F	COM1	RS-232C (D-Sub 9pin Plug)	RS-232C (D-Sub 9pin Plug)	Places should the second for the
	COM2	RS-422/485 (D-Sub 9pin Plug)	RS-422/485 (D-Sub 9pin Plug)	Please check the <u>manual</u> for the communication cable.
Ethernet I/F		10BASE-T/100BASE-TX (RJ-45) x1	10BASE-T/100BASE-TX (RJ-45) x1	✓
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	-	-
	Type micro-B	-	USB 2.0 x1 -USB transfer cable(PFXZUSCBMB2) or commercial USB micro-B transfer cable	USB I/F changed from USB Type mini-B to Type micro-B.
Auxiliary I/O I/F		-	-	✓
Sound Output I/F		-	-	✓
Field Bus / Ex	pansion Unit I/F	-	-	✓

Hardware Manual: <u>ST6000 Series Hardware Manual</u>



2-1. GP-4501TW vs ST-6500TA Specification comparison -1. Basic information-

		PFXGP4501TADW	PFXST6500TADE	Compatibility
Display Size		10.4"	10.4"	✓
Display Type		TFT color LCD	TFT color LCD	✓
Display Colors	3	65,536 colors (no blink) / 16,384 colors (blink)	16 million colors (no blink)	-
Display Resolution		640 x 480 pixels (VGA)	800 x 600 pixels (SVGA)	Need to change resolution setting by Software
Backlight		White LED (not user replaceable)	White LED (not replaceable)	- Backlight is not replaceable.
	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%)	This spec becomes lower.
Panel Cutout I	Dimensions	W301.5 x H227.5 mm	W301.5 x H227.5 mm	✓
External Dime	ensions	W315 x H241 x D56 mm	W315 x H241 x D55.3 mm	Only the depth length is different.
Touch Panel	Туре	Resistive film (analog, single touch)	Resistive film (analog, single touch)	✓
	Service life	1 million times or more	1 million times or more	✓
Memory	Application	FLASH EPROM 16MB	FLASH EPROM 64MB	UP!
	Backup Memory	Screen area: SRAM 128KB	Screen area: NVRAM 320KB Variable area: NVRAM 64KB	Please refer to FAQ for the available capacity of each memory.
Backup Battery		Replaceable battery / Primary battery for clock data backup	Replaceable battery / Primary battery for clock data backup	✓
Input Voltage		DC 24V	DC 24V	✓

2-1. GP-4501TW vs ST-6500TA Specification comparison -2. Interface-

		PFXGP4501TADW	PFXST6500TADE	Compatibility
Serial I/F	COM1	RS-232C (D-Sub 9pin Plug)	RS-232C (D-Sub 9pin Plug)	Places should the second for the
	COM2	RS-422/485 (D-Sub 9pin Plug)	RS-422/485 (D-Sub 9pin Plug)	Please check the <u>manual</u> for the communication cable.
Ethernet I/F		10BASE-T/100BASE-TX (RJ-45) x1	10BASE-T/100BASE-TX (RJ-45) x1	✓
CF Card I/F		-	-	✓
SD Card I/F		Yes	Yes	✓
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	-	-
	Type micro-B	-	USB 2.0 x1 -USB transfer cable(PFXZUSCBMB2) or commercial USB micro-B transfer cable	USB I/F changed from USB Type mini-B to Type micro-B.
Auxiliary I/O I/F		-	-	✓
Sound Output I/F		-	-	✓
Field Bus / Ex	pansion Unit I/F	-	-	✓

Hardware Manual: <u>ST6000 Series Hardware Manual</u>



2-2. Standards compatibility

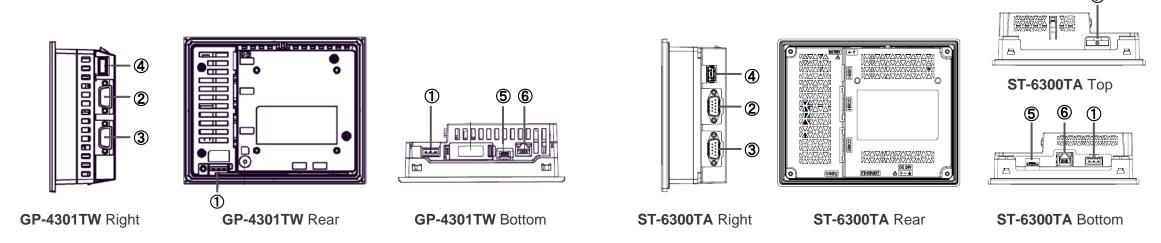
Certification	GP-4301TW / GP-4501TW	ST-6300TA / ST-6500TA
CE (EN61000-6-4, EN61000-6-2, EN61131-2)	✓	✓
UKCA	✓	✓
UL/cUL	✓ (UL508) (CSA C22.2 No.142)	✓ (UL61010-2-201) (CSA C22.2 No.61010-2-201)
UL/cUL Class 1, Div. 2	✓ (ANSI/ISA12.12.01) (CSA C22.2 No213)	✓ (UL121201) (CSA C22.2 No213)
ATEX (Zones 2/22, equipment category 3 Gas Dust)	,	✓
IECEx (Zones 2/22, equipment category 3 Gas Dust)	· ·	·
UKEX	\checkmark	Planned *1
KCs	✓	Planned *1
NEPSI → CCC-Ex	✓	Planned *1
RCM (C-Tick)	✓	✓
EAC (GOST-R)	✓	✓
RoHS for EU	\checkmark	,
RoHS for China	V	✓
REACH	✓	✓
CCC *apply for CCC exemption	-	-
KC	✓	✓
Marine (DNV, ABS, LR, BV, NK, RINA, CCS)	DNV, ABS, LR, BV, NK, RINA, CCS	Certified by EU RO MR *2
WEEE	✓	✓

^{*1:} Please contact our Customer Service for the latest information.



^{*2:} EU RO MR (EU Recognized Organization Mutual Recognition) covers ABS, BV, CCS, CRS, DNV, IRS, KR, LR, NK, PRS and RINA.

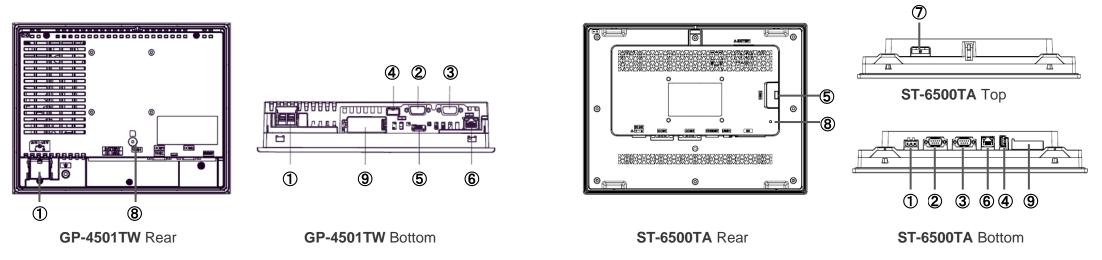
2-3. Hardware compatibility – Interface



	GP-4301TW	ST-6300TA
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	-	Battery Slot

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

2-3. Hardware compatibility – Interface



	GP-4501TW	ST-6500TA
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	-	Battery Slot
8	SD Card Access LED	SD Card Status LED
9	SD Card Interface Cover / Replacement Battery Cover	SD Card Slot

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

2-3. Hardware compatibility – About the installation method

GP-4301TW / GP-4501TW ST-6300TA / ST-6500TA Insert the installation fasteners into HMI's insertion slots on the top Insert the installation fastener hooks into the insertion slots of and bottom sides. Slide the fasteners to the back. this product. Installation Installation Panel fastener Installation panel Insertion slots Slots In a clockwise direction, tighten the installation fastener's screws with a screwdriver. The necessary Use a Phillips screwdriver to tighten each fastener screw. torque is 0.5 N·m (4.4 lb-in). The necessary torque is 0.5 N·m (4.4 lb-in).

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

Please note that the end date of sales may be subject to change. We appreciate your understanding. For up-to-date information on the latest sales, click here.(https://www.proface.com/en/product/discon/top)

	Product Name	GP-4301TW GP-4501TW	ST-6300TA ST-6500TA	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.)	~
ace	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.)	~
Serial Interface	Mitsubishi PLC 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)	~
Seria	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.	V

	Product Name	GP-4301TW GP-4501TW	ST-6300TA ST-6500TA	Description	Compatibility
	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.	~
	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).	~
Serial Interface	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	~
Serial II	, , ,	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	~
0,	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.	V
	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).	~

	Product Name	GP-4301TW GP-4501TW	ST-6300TA ST-6500TA	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!
	USB Transfer Cable	-	PFXZUSCBMB2	Cable for transferring screen data from a PC (USB Type A) to this product (USB micro-B).	Use the option for ST6000 series.
	USB Cable (5m)	FP-US00	FP-US00	Connects a USB printer (Type B).	✓
ace	USB Front Cable (1m)	CA5-USBEXT-01	CA5-USBEXT-01	Extension cable that attaches USB interface (Type A) to front panel.	~
Interface	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!
USB	USB (micro-B) Front Cable	-	PFXZCIEXMB2	Extension cable that attaches USB interface (micro-B) to front panel.	Use the option for ST6000 series.
	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
	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).	V



	Product Name		GP-4301TW GP-4501TW	ST-6300TA ST-6500TA	Description	Compatibility
	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 mo fixing plate	ounting	PFXZCETWHA1	PFXZCETWHA1	USB Connection Type Monolithic EZ Tower Light tube mounting with fixing plate 3 tiers, Ø60, lighting and flashing with a buzzer.	✓
ace	EZ Tower Light with bas mounting	se .	PFXZCETWW1	PFXZCETWW1	USB Connection Type Monolithic EZ Tower with base mounting 3 tiers, Ø60, lighting and flashing with a buzzer.	✓
3 Interface	EZ LAN Adapter		PFXZCGEUUE1	PFXZCGEUUE1	An adapter to expand an Ethernet port to HMI	✓
USB	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	✓
	SD Memory Card		PFXZCBSD4GC41	PFXZCBSD4GC41	SD Memory Card (4GB)	✓
	Screen Protection	5.7"	PFXZCBDS61	PFXZCBDS61	Disposable, dirt-resistant sheet for the GP unit screen	✓
e	Sheet	10.4"	PFXZCBDS101	PFXZCBDS101	(5 sheets/set)	✓
Other	UV Protection Sheet	5.7"	PFXZCFUV61	PFXZCFUV61	Sheet to protect the display from dirt and ultraviolet light	✓
	OV Protection Sneet	10.4"	PFXZCFUV101	PFXZCFUV101	(1 sheet/set)	✓
	Environment Cover	5.7"	PFXZCBOP61	PFXZCBOP61	Disposable, environmental resistant cover for the GP unit screen	✓
	Environment Cover 10.4"	PFXZCBOP121	-	(1 sheet/set)	-	

	Product Name		GP-4301TW GP-4501TW	ST-6300TA ST-6500TA	Description	Compatibility
		All GP4000W	PFXZCBAF1	-	Used to install the GP unit into a solid panel (4 pieces/set)	NEW!
	Installation Fastener	ST-6300TA ST-6500TA	-	PFXZC3AT1	Installation fastener (4 pieces/set)	Use the option for ST6000 series.
		GP-4301TW	PFXZCBWG61	-		
	Installation Gasket	GP-4501TW	PFXZCBWG121	-	Provides dust and moisture resistance when this product is	NEW!
	Installation Gasket	ST-6300TA	-	PFXZHWG31	installed into a solid panel (1 piece).	Use the option for ST6000 series.
		ST-6500TA	-	PFXZHWG51		
Maintenance	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.
Maint	DC Power Supply Connector	GP-4301TW	PFXZCBCNDC1	-	Connector to connect DC power supply cables (5 pieces/set)	NEW!
	DC Power Supply Connector (Right-angle)	GP-4501TW	PFXZCBCNDC2	-	Right-angle connector to connect DC power supply cables (5 pieces/set)	Use the option for ST6000 series.
	DC Power Supply Connec	ctor	-	CA5-DCCNM-01	Connector to connect DC power supply cables (5 pieces/set)	
	Battery for Memory Backup		PFXZCBBT1	-	Primary battery for memory and time data backup (1 piece) For GP-4501TW/GP4401WW	NEW!
	Battery for Data Backup		-	PFXZGEBT1	Primary battery for memory and time data backup (1 piece) For all ST6000 series	Use the option for ST6000 series.
	Panel Cutout Adapter		CA4-ATM10-01	-	Panel cutout adapter for mounting GP-4501TW in cutout for GP-2500/2600 series.	-

2-5. Other Important Notes on Hardware

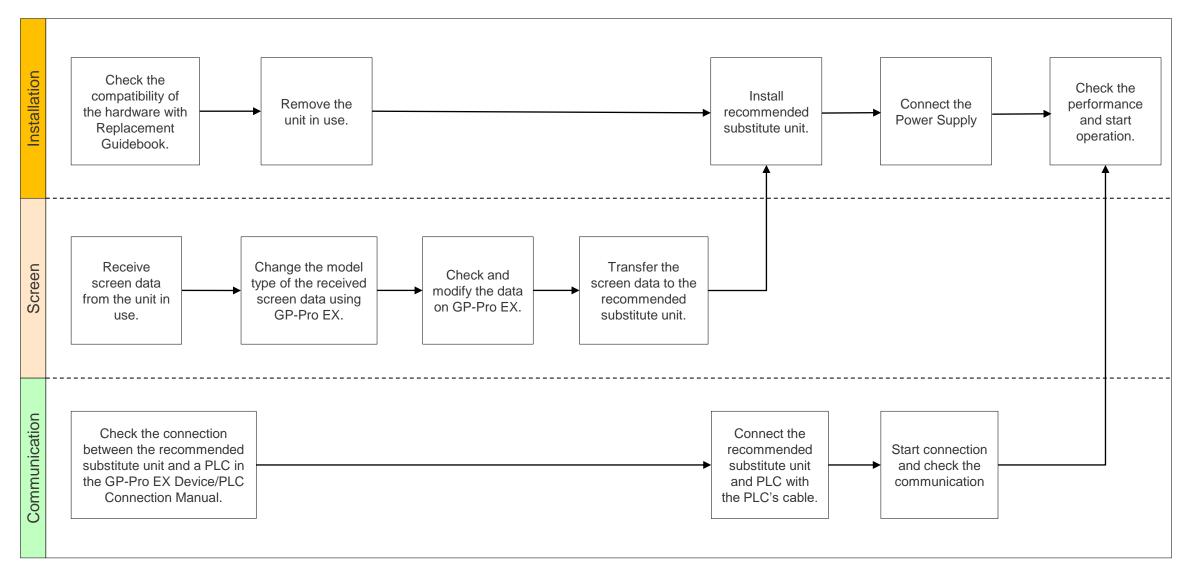
- Do not expose the hardware to direct sunlight. Recommend to use the option item "UV Protection Sheet" to protect the display from ultraviolet light.
- Do not use the hardware outdoors.
- Do not turn on the hardware if condensation has occurred inside the device.
- The panel brightness may decrease 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 following cables can be used)

USB transfer cable: CA3-USBCB-01 (Type A - Type A)

USB data transfer cable: ZC9USCBMB1(Type A- Type mini B)

or commercially available USB transfer cable (Type A- Type mini B)

*It's also possible to send/receive a screen via SD Card, 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

ST-6300TA/ST-6500TA supported version: Ver.4.09.400 or later

Transfer Cable (the following cables 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 SD card, USB storage device or Ethernet.



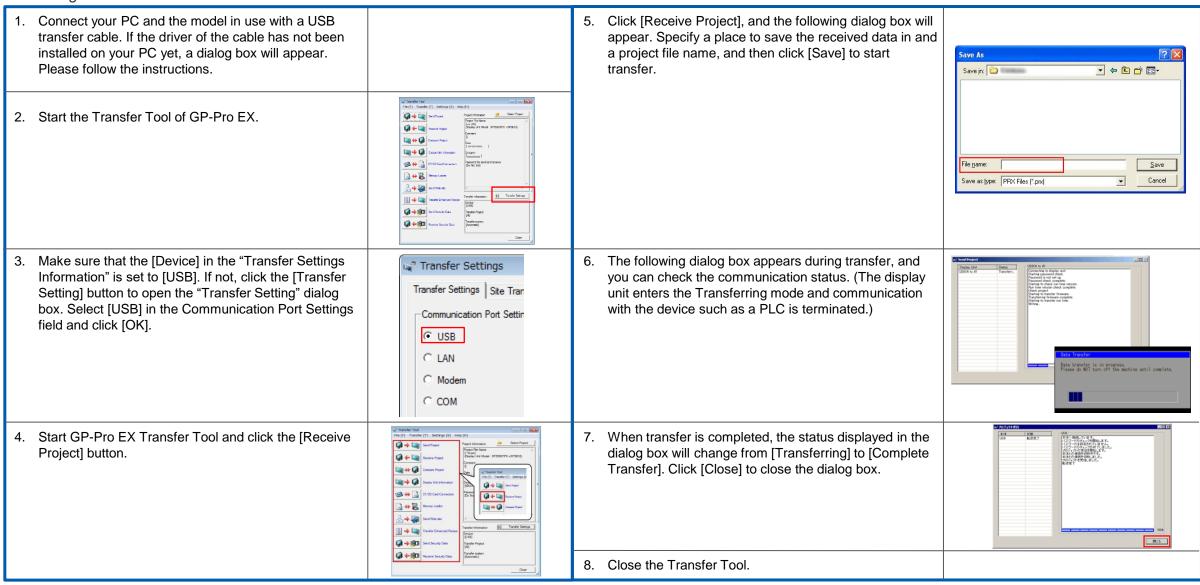
^{*1:} This step is required if screen data is saved only in the HMI unit, not in any other device.

^{*2:} Please use the same or higher 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)

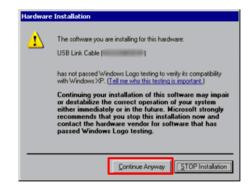
In this section, we will introduce how to receive screen data with a USB transfer cable as an example. If you have the backup of screen data, this step is not necessary. Please go to the next section.



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.

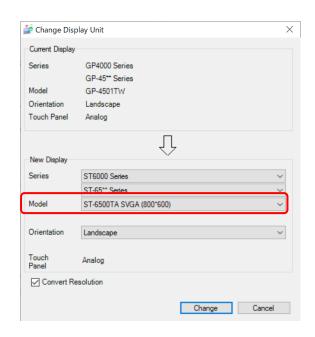


When receiving a project file that uses SD card/USB memory data such as Recipe Function (CSV data), the following dialog box will appear during the transfer. Please specify where to save the data.
 Click [OK] to return to the [Receive Project] dialog box and complete the transfer.





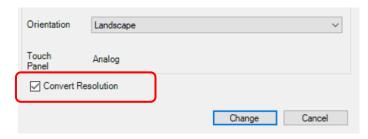
3-1. Replacement Procedure – Change model to recommended substitute unit (GP-Pro EX)



Change the Display unit from GP4000 Series to ST6000 Series.

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

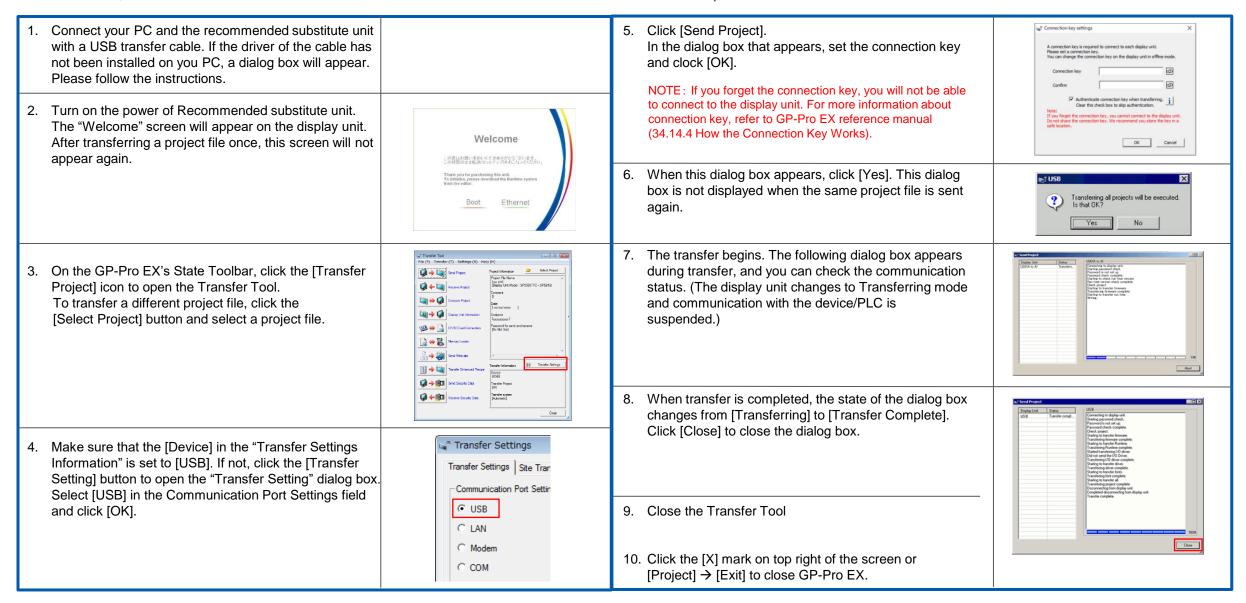
If you check on [Convert Resolution] when changing the Display Unit type (as shown below), you can adjust both size and location of the part and the text relative to the display resolution automatically. But still, you may need to adjust them manually. Please pay attention to the following points.



- 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.



GP-Pro EX Feature		GP-4301TW / GP-4501TW	ST-6300TA / ST-6500TA	Compatibility
	Screen Area (Application memory, unit: byte)	16M (GP-4501TW) 8M (GP-4301TW)	64M	UP!
	Portrait Installation	Supported	Supported	✓
Display	Function Expansion Memory	-	-	✓
	Installing the USB/RS-422/485 Conversion Adapters	Supported	Supported	✓
	MAC Address Display	Supported	Supported	✓
	CF Card	-	-	✓
External	SD Card	Supported (GP-4501TW only)	Supported (ST-6500TA only)	✓
Storage	CFast Card	-	-	✓
	USB storage	Supported	Supported	✓
	FTP server	Supported	Supported	✓
	Drawing in 256 colors	Supported	Supported	✓
	Reverse Display	Supported	-	-
	Color Blink	Supported	-	-
	Synchronize Text Display with Text Table	Supported	Supported	✓
System Settings	Time Zone settings	-	-	✓
3 ·	Detect Backlight Burnout	-	-	✓
	Dimmer settings	Supported	Supported	✓
	2-point touch / Multitouch	-	-	✓
	Display the SD/USB Removal Icon	Supported	Supported	✓



GP-Pro EX Feature		GP-4301TW / GP-4501TW	ST-6300TA / ST-6500TA	Compatibility
	Screen Capture	Supported	Supported	✓
	SRAM Auto Backup	Supported (USB storage can be used for the models without SD/CF card slots)	Supported (USB storage can be used for the models without SD/CF card slots)	✓
System Settings	Image Font	Supported	Supported	✓
	Bitmap Font	Supported	Supported	✓
	Standard Font	Supported	Supported	✓
	Port Control	Supported	Supported	✓
	Number of Devices/PLCs that can communicate simultaneously	2	2	✓
	Specify Indirect Device	Supported	Supported	✓
Device/PLC Communication	Import Device/PLC tags	Supported	Supported	✓
Communication	Ethernet Multilink	Supported	Supported	✓
	Device Monitor	Supported	Supported	✓
	Ladder Monitor	-	-	✓
	Network Transfer	Supported	Supported	✓
	Modem Transfer	Supported	-	-
Transfer	SIO Transfer (COM Connection)	Supported	-	-
Hallstel	Memory loader feature	Supported	Supported	✓
	CF/SD Card Connection	Supported (GP-4501TW only)	Supported (ST-6500TA only)	✓
	Connection Key	Supported	Supported	✓

GP-Pro EX Feature		GP-4301TW / GP-4501TW	ST-6300TA / ST-6500TA	Compatibility
	Change Backlight Color	-	-	✓
	Clock Update Settings	Supported	Supported	✓
	Start Screen Settings	Supported	Supported	✓
	Date format on CSV file output	Supported	Supported	✓
	Divide destination folders by file numbers	Supported	Supported	✓
	Increase Alarm Type [Extended] settings and Text Table index numbers	-	-	✓
	Alarm Message Multiple Line Display	Supported	Supported	✓
	Attach Data Value to Operation Log	Supported	Supported	✓
Common	Changing passwords at run time (CSV file)	Supported	Supported	✓
Settings	Changing passwords at run time (password change screen)	Supported	Supported	✓
	Append Date/Time to CSV File Name	Supported	Supported	✓
	Transfer sampling CSV file to FTP	Supported	Supported	✓
	Transferring sampled data to the cloud	Supported	Supported	✓
	Indirectly specify Sampling Frequency and Alarm Settings	Supported	Supported	✓
	Sampling data/Enhanced recipe data format co-exist	Supported	Supported	✓
	Create a recipe (CSV data) index file at runtime	Supported	Supported	✓
	Enhanced Recipes	Supported	Supported	✓
	Extended Script copy file function	Supported	Supported	✓
	Global Trigger	Supported	Supported	✓



GP-Pro EX Feature		GP-4301TW / GP-4501TW	ST-6300TA / ST-6500TA	Compatibility
	Movie record/play feature	-	-	✓
	Use Image unit	-	-	✓
Common Settings	Sound Output Feature	-	-	✓
	AUX	-	-	✓
	Retentive Variables Function	-	Supported	UP!
	Selector List	Supported	Supported	✓
	XY Graph (Historical Trend, Data Block Display Graph)	Supported	-	-
	Picture Display [CF Image Display] / [SD Image Display] for showing JPEG files	Supported (USB storage can be used for the models without SD/CF card slots)	Supported (USB storage can be used for the models without SD/CF card slots)	√
	Indirectly specify a block of Alarm parts	Supported	Supported	✓
	Special Data Display [File Manager] sort function and default path	Supported	Supported	✓
Parts	Special Data Display [File Manager] copy file to FTP	Supported	Supported	✓
	Message Display's Bulletin Message	Supported	Supported	✓
	Image Sensor Display	Supported	-	-
	Animation	Supported	Supported	✓
	Alarm History Message Flow Display	Supported	Supported	✓
	Alarm History / Sampling Data / Enhanced Recipe Data Refine Search / Sort Function	-	-	✓
	Alarm Analysis Function	-	-	✓

GP-Pro EX Feat	ure	GP-4301TW / GP-4501TW	ST-6300TA / ST-6500TA	Compatibility
	Logic Program Operation	Supported	Supported	✓
Logic	I/O Driver		-	✓
	Function Block	Supported	Supported	✓
	RPA Function (end of support from Ver.4.09.400)	-	-	-
	GP-Viewer EX	Supported	Supported	✓
	Web Server (end of support from Ver.4.09.450)	Supported	-	-
	Camera-Viewer EX	-	-	✓
Network	Pro-face Remote HMI	Supported	Supported	✓
Network	E-mail	Supported	Supported	✓
	GP Remote Printer Server	Supported	Supported	✓
	Pro-face Connect (models you can register as SiteManager)	Supported	Supported	√
	Pro-Server EX	Supported	Supported	✓
	USB Keyboard	Supported	Supported	✓
Input	EZ Illuminated Switch	Supported	Supported	✓
Equipment /	EZ Tower Light	Supported	Supported	✓
Peripheral Equipment (USB Device)	EZ Numpad	Supported	Supported	✓
	EZ Fingerprint Recognition Unit	Supported	Supported	✓
	EZ LAN Adapter	Supported	Supported	✓



3-2. Software compatibility – Supported Software Version

Software	GP-4301TW GP-4501TW	ST-6300TA ST-6500TA	Compatibility of Project Data
GP-Pro EX	✓ Ver. 3.01 or later (Ver. 3.0 or later for GP-4301TW)	✔ Ver. 4.09.400 or later	.,
GP-PIO EX	https://www.pro-face.com/otasuke/files/manual/gpproex/new/	refer/gpproex.htm	•
5 0 5V	✓ Ver. 1.30 or later	✔ Ver. 1.37.200 or later	
Pro-Server EX	https://www.pro-face.com/otasuke/files/manual/soft/server_ex/v1_37/ref/SRPreface.htm		
Pro-face Remote HMI	✓ Ver. 1.00 or later	✓ Ver. 1.60 or later	.,
(iOS/Android) *1	https://www.pro-face.com/otasuke/qa/remotehmi/faq.html		
Pro-face Remote HMI Client	✓ Ver. 1.40 or later	✓ Ver. 1.42 or later	. ,
for Win *1	https://www.proface.com/en/product/soft/remotehmi_client/download		
Due fore Connect *4	✓ Ver. 1.0 or later	✔ Ver. 9.6 or later	
Pro-face Connect *1	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	1.10	3.5 or later
HMI (iOS/Android)	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

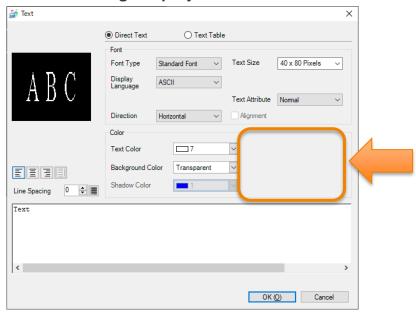
About Blink function

 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/fag/FAQ000268649



