Easy! Smooth!

Replacement Guidebook

GP4000M Series → STM6000 Series (GP-Pro EX)

The 3rd Edition   August 2024
SE01-Guide-GP4000TWtoST6000WA-EN-03

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

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Update History

Date	Edition	Updated Slide	Description
2021/12/15	1	-	Newly created
2022/09/01	2	16 22 25	Updated to the latest information for STM6000 Series (GP-Pro EX) • Standards compatibility (UKCA added) • Option compatibility (EZ Tower Light is now supported) • Software compatibility (Pro-Server EX is now fully supported.)
2024/08/20	3	3-9 27 32-44	• Newly added slides in response to safety requirement • Updated the compatibility table for the following options (CA3-CBLCBT232-01 / CA3-CBLCBT422-01) • Added Software section (integrated with Software Replacement Book)

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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.

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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 "GP4000M Series" to "STM6000 Series (GP-Pro EX)".
The recommended substitute models are as follows.

Model in use			Recommended substitutes	
GP-4201TM (Modular Type)	PFXGM4201TAD	→	STM-6200WA(GP-Pro EX)	PFXSTM6200WADE
GP-4301TM (Modular Type)	PFXGM4301TAD		STM-6400WA(GP-Pro EX)	PFXSTM6400WADE
GP4000M Multi-Converter	PFXGM4B01D	→	STM6000 Gateway (GP-Pro EX)	PFXSTM6B00DE

Validity Note

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

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

Registered Trademarks

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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

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.

⚠ 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.

About this book

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.

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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

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Table of Contents

1. Summary

The replacement from GP4000M series to STM6000 series generally keeps compatibility, but the followings are the main points to note.

- Display size: STM6000 series are bigger than GP4000M series.

GP4000M series	STM6000 series
3.5"	4.3"W
5.7"	7"W

- Display resolution: STM6000 series have a better resolution but need to convert resolution by the software to use old project data from GP4000M series. For more details, please refer to Chapter1 from software replacement procedure "Replacement Guidebook (Software)_EN.pdf" included in the zip file.

GP-4201TM	320 x 240 pixels (QVGA)	STM-6200WA	480 x 272 pixels (WQVGA)
GP-4301TM	320 x 240 pixels (QVGA)	STM-6400WA	800 x 480 pixels (WVGA)
GP4000M Multi-Converter	320 x 240 pixels (QVGA)	STM6000 Gateway	480 x 272 pixels (WQVGA) 800 x 480 pixels (WVGA)

- External Dimensions: STM6000 series will be bigger than GP4000M series, it is necessary to check the dimensions of the HMI installation location. Please see the next page for the comparison.

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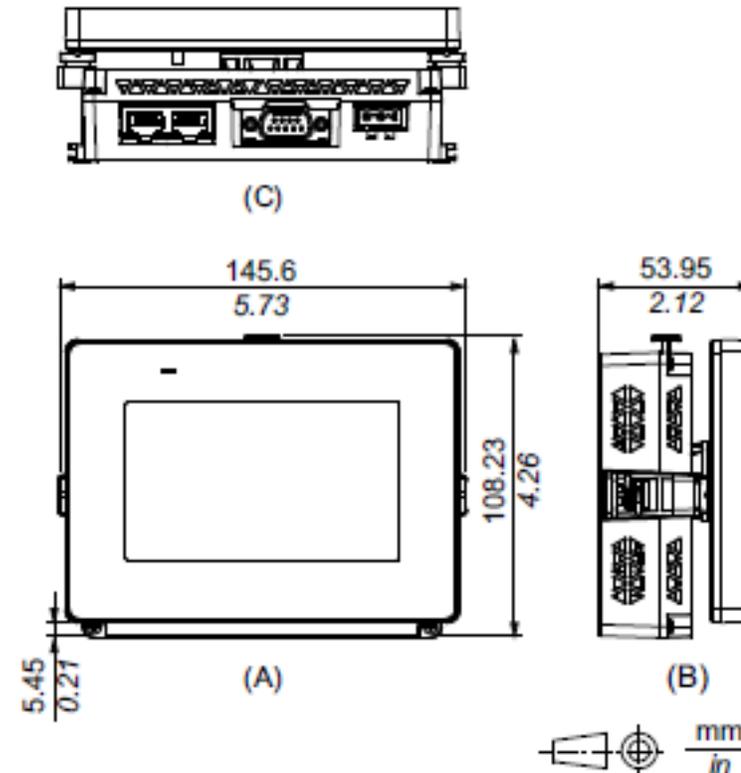by Schneider Electric

Public

1. Summary

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

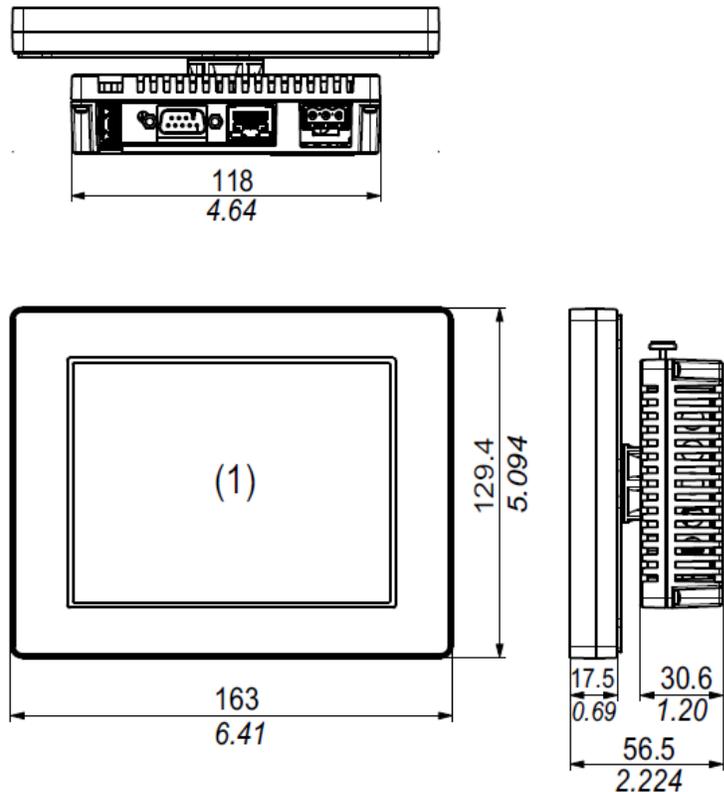| GP-4201TM	STM-6200WA	Differences from GP-4201TM to STM-6200WA (mm)
W118 x H98.15 x D56.3 (with Rear module)	W145.6 x H108.23 x D53.95 (with Rear module)	W+27.6 x H+10.08 x D-2.35

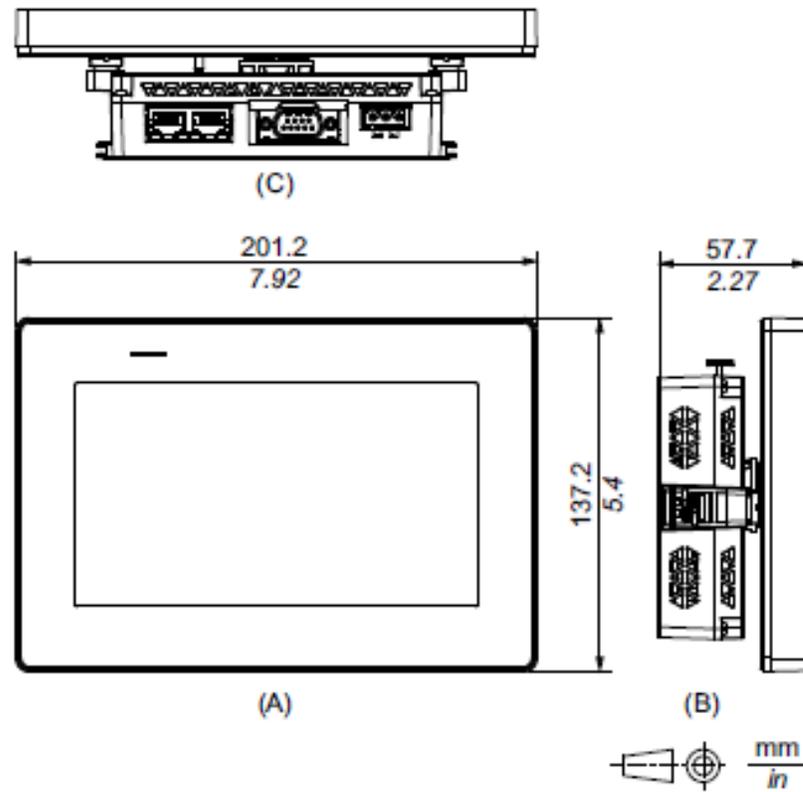**GP-4201TM**

STM-6200WA

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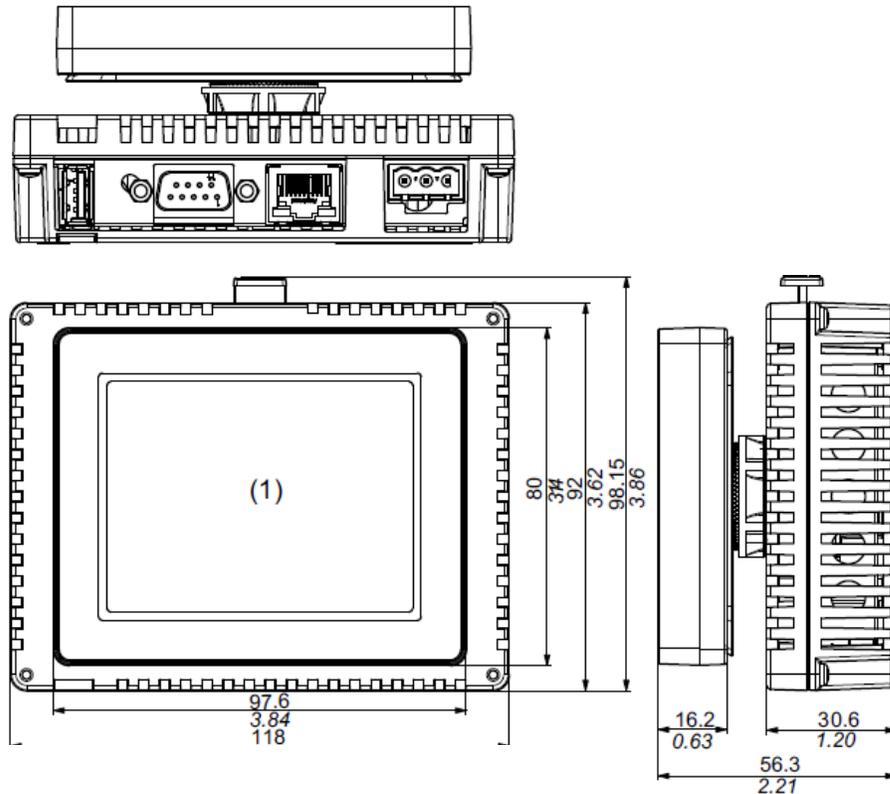
1. Summary

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

| GP-4301TM	STM-6400WA	Differences from GP-4201TM to STM-6200WA (mm)
W163 x H129.4 x D56.5 (with Rear module)	W201.2 x H137.2 x D57.7 (with Rear module)	W+38.2 x H+7.8 x D+1.2

GP-4301TM

STM-6400WA
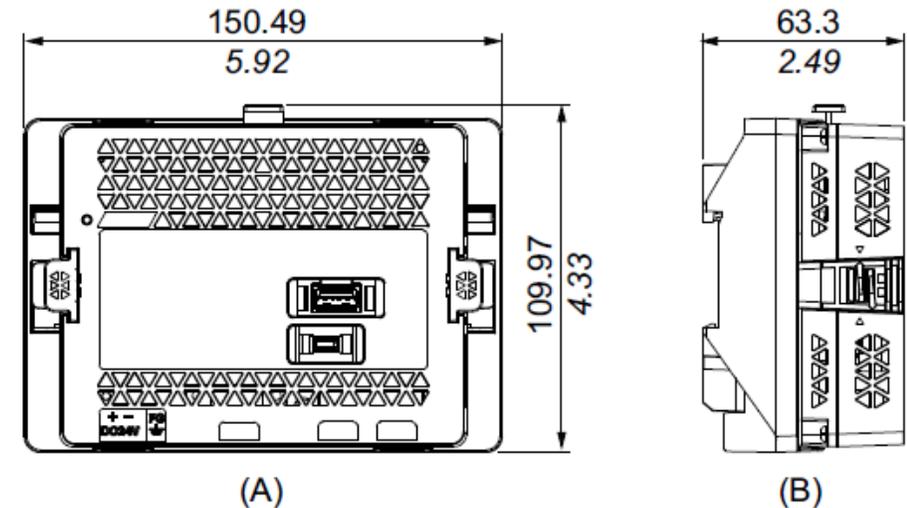
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1. Summary

External Dimensions: GP4000M Multi-Converter vs STM6000 Gateway

GP4000M Multi-Converter	STM6000 Gateway	Differences from GP-4201TM to STM-6200WA (mm)
W131.35 x H109.83 x D53.9 (With Rear Module Installation Adapter)	W150.49 x H109.97 x D63.3 (With Rear Module Installation Adapter)	W+19.14 x H+0.14 x D+9.4

GP4000M Multi-Converter
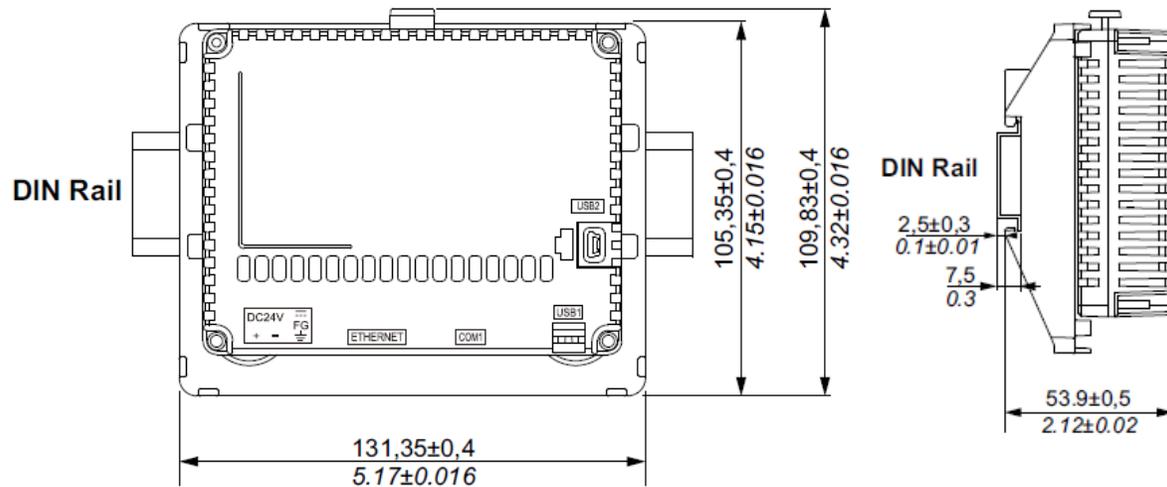
STM6000 Gateway

2. Hardware Section

Public

2-1. GP-4201TM vs STM-6200WA(GP-Pro EX) Specification comparison

	GP-4201TM	STM-6200WA (GP-Pro EX)	Compatibility
Display Size	3.5"	4.3"W	**UP!**
Display Type	TFT color LCD	TFT color LCD	✔
Display Colors	65,536 color	16 million color	**UP!**
Display Resolution	320 x 240 pixels (QVGA)	480 x 272 pixels (WQVGA)	- Need to change resolution setting by Software
Backlight	White LED (Not replaceable)	White LED (Not replaceable)	✔
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 Cutout Dimensions (mm)	Without an Anti-rotation Tee :22.50 x 1.5~6mm x 3~6mm With an Anti-rotation Tee:22.50 x 4.00mm x 30.00mm	Without an Anti-rotation Tee :22.50 x 1.5~6mm x 3~6mm With an Anti-rotation Tee:22.50 x 4.00mm x 30.00mm	✔
External Dimensions	W118 x H98.15 x D56.3 (with Rear module)	W145.6 x H108.23 x D53.95 (with Rear module)	-
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	FLASH EPROM 8MB	FLASH EPROM 64MB	**UP!** Please refer to the FAQ for the available capacity of each memory.
Memory — Local Storage	-	-	
Memory — Backup Memory	nvSRAM 128KB	MRAM 320KB	
Backup Battery	-	Not replaceable battery/Primary battery for clock data backup	**UP!**
Input Voltage	24Vdc	24Vdc	✔
Mounting	22.5mm hole mount	22.5mm hole mount	✔

2-1. GP-4201TM vs STM-6200WA (GP-Pro EX) Specification comparison -2. Interface-

		GP-4201TM	STM-6200WA (GP-Pro EX)	Compatibility
Serial I/F	COM1	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug)	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug) Isolation unit	✔ Please check the manual for the communication cable.
	COM2	-	-	✔
Ethernet I/F		x1: IEEE802.3i/ IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	x2: IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	**UP!**
CF Card I/F		-	-	✔
SD Card I/F		-	-	✔
USB I/F	Type A	x1 USB 2.0	x1 USB 2.0	✔
	Type mini B	x1 USB2.0 -USB data transfer cable(ZC9USCBMB1) or commercial USB miniB transfer cable	-	- USB I/F changed from USB Type mini-B to Type micro-B.
	Type micro B	-	x1 USB 2.0 -USB transfer cable(PFXZUSCBMB2) or commercial USB micro-B transfer cable	
Auxiliary I/O I/F		-	-	✔
Sound Output I/F		-	-	✔
Field Bus / Expansion Unit I/F		-	-	✔

Hardware Manual: https://www.proface.com/en/download/stm6000/manual/hardware

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2-1. GP-4301TM vs STM-6400WA (GP-Pro EX) Specification comparison -1. Basic Information-

		GP-4301TM	STM-6400WA (GP-Pro EX)	Compatibility
Display Size		5.7"	7"W	**UP!**
Display Type		TFT color LCD	TFT color LCD	✔
Display Colors		65,536 color	16 million color	**UP!**
Display Resolution		320 x 240 pixels (QVGA)	800 x 480 pixels (WVGA)	- Need to change resolution setting by Software
Backlight		White LED (Not replaceable)	White LED (Not replaceable)	✔
	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 Cutout Dimensions (mm)		Without an Anti-rotation Tee :22.50 x 1.5~6mm x 3~6mm With an Anti-rotation Tee:22.50 x 4.00mm x 30.00mm	Without an Anti-rotation Tee :22.50 x 1.5~6mm x 3~6mm With an Anti-rotation Tee :22.50 x 4.00mm x 30.00mm	✔
External Dimensions		W163 x H129.4 x D56.5 (with Rear module)	W201.2 x H137.2 x D57.7 (with Rear module)	-
Touch Panel	Type	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!** Please refer to the FAQ for the available capacity of each memory.
	Local Storage	-	-	
	Backup Memory	nvSRAM 128KB	MRAM 320KB	
Backup Battery		-	Not replaceable battery/Primary battery for clock data backup	**UP!**
Input Voltage		24Vdc	24Vdc	✔
Mounting		22.5mm hole mount	22.5mm hole mount	✔

Public

2-1. GP-4301TM vs STM-6400WA (GP-Pro EX) Specification comparison -2. Interface-

		GP-4301TM	STM-6400WA (GP-Pro EX)	Compatibility
Serial I/F	COM1	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug)	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug) Isolation unit	✔ Please check the manual for the communication cable.
	COM2	-	-	✔
Ethernet I/F		x1: IEEE802.3i/ IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	x2: IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	**UP!**
CF Card I/F		-	-	✔
SD Card I/F		-	-	✔
USB I/F	Type A	x1 USB 2.0	x1 USB 2.0	✔
	Type mini B	x1 USB2.0 -USB data transfer cable(ZC9USCBMB1) or commercial USB miniB transfer cable	-	- USB I/F changed from USB Type mini-B to Type micro-B.
	Type micro B	-	x1 USB 2.0 -USB transfer cable(PFXZUSCBMB2) or commercial USB micro-B transfer cable	
Auxiliary I/O I/F		-	-	✔
Sound Output I/F		-	-	✔
Field Bus / Expansion Unit I/F		-	-	✔

Hardware Manual: https://www.proface.com/en/download/stm6000/manual/hardware

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2-1. GP4000M Multi-Converter vs STM6000 Gateway (GP-Pro EX) Specification comparison -1. Basic Information-

		GP4000M Multi-Converter	STM6000 Gateway (GP-Pro EX)	Compatibility
Input Voltage		24Vdc	24Vdc	✔
Ambient air temperature		0 to 50 ° C (Storage Temperature: -20 to 60 ° C)	0 to 50 ° C (Storage Temperature: -20 to 60 ° C)	✔
Display Colors		65,536 color	16 million color	**UP!**
Display Resolution		320 x 240 pixels (QVGA)	480 x 272 pixels (WQVGA) 800 x 480 pixels (WVGA)	- Need to change resolution setting by Software
Number of connected drivers		2	2	✔
External Dimensions (mm)		W131.35 x H109.83 x D53.9 (With Rear Module Installation Adapter)	W150.49 x H109.97 x D63.3 (With Rear Module Installation Adapter)	-
Memory	Application	FLASH EPROM 8MB	FLASH EPROM 64MB	**UP!** Please refer to the FAQ for the available capacity of each memory.
	Local Storage	-	-	
	Backup Memory	nvSRAM 128KB	MRAM 320KB	
Backup Battery		-	Not replaceable battery/Primary battery for clock data backup	**UP!**
Structure		IP20	IP20	✔
Mounting		DIN Rail mount	DIN Rail mount	✔

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2-1. GP4000M Multi-Converter vs STM6000 Gateway (GP-Pro EX) Specification comparison -2. Interface-

		GP4000M Multi-Converter	STM6000 Gateway (GP-Pro EX)	Compatibility
Serial I/F	COM1	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug)	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug) Isolation unit	✔ Please check the manual for the communication cable.
	COM2	-	-	✔
Ethernet I/F		x1: IEEE802.3i/ IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	x2: IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	**UP!**
CF Card I/F		-	-	✔
SD Card I/F		-	-	✔
USB I/F	Type A	x1 USB 2.0	x1 USB 2.0	✔
	Type mini B	x1 USB2.0 -USB data transfer cable(ZC9USCBMB1) or commercial USB miniB transfer cable	-	- USB I/F changed from USB Type mini-B to Type micro-B.
	Type micro B	-	x1 USB 2.0 -USB transfer cable(PFXZUSCBMB2) or commercial USB micro-B transfer cable	
Auxiliary I/O I/F		-	-	✔
Sound Output I/F		-	-	✔
Field Bus / Expansion Unit I/F		-	-	✔

Hardware Manual: https://www.proface.com/en/download/stm6000/manual/hardware

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2-2. Standards compatibility

Certification	GP4000M	STM6000 (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)	✔	Planned[1]
KCs	-	-
NEPSI	-	-
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	✔ DNV-GL[1], ABS, BV, RINA[1]
WEEE	✔	✔

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

2-3. Hardware compatibility
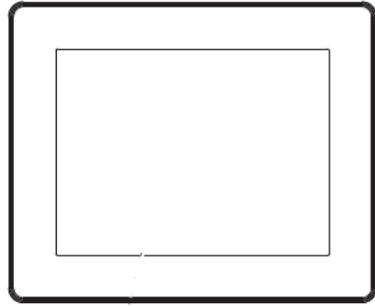
GP4000M
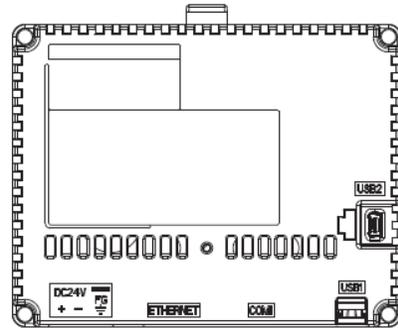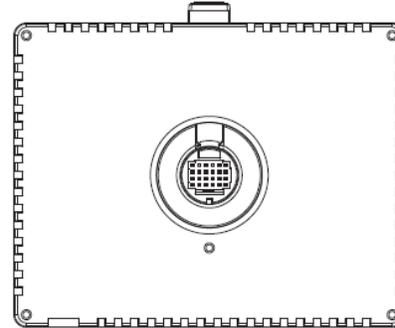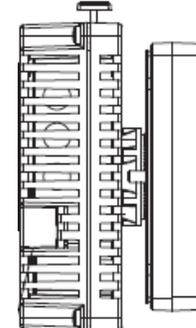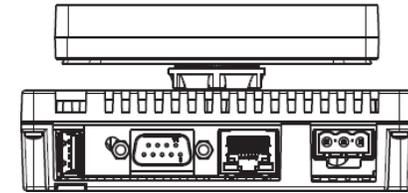
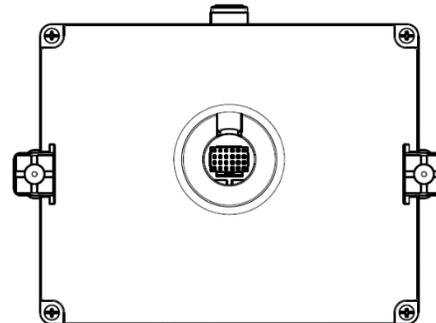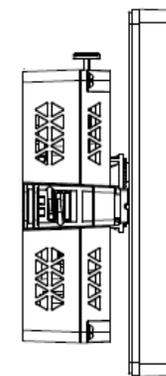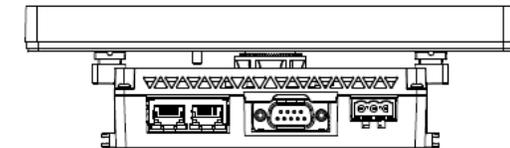| Display Module Front | Rear Module Front | Rear Module Back | Left | Bottom |

STM6000 (GP-Pro EX)
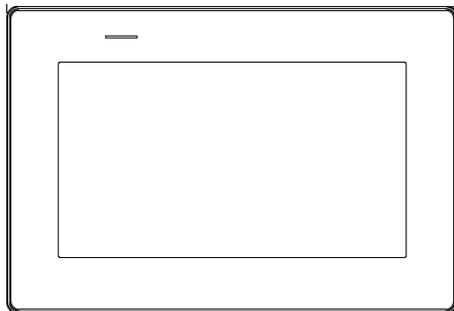
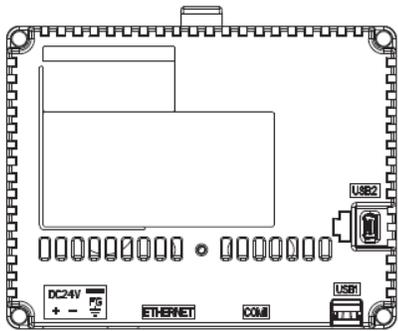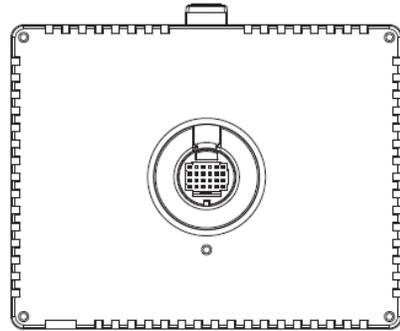| Display Module Front | Rear Module Front | Rear Module Back | Left | Bottom |

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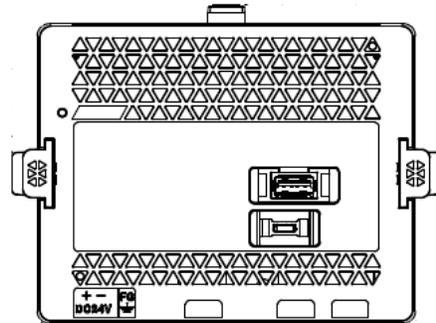
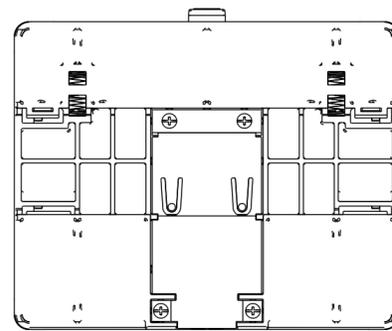# 2-3. Hardware compatibility

GP4000M Multi-Converter

Rear Module Front   Rear Module Back   Rear Module Installation Adapter Front   Left   Bottom
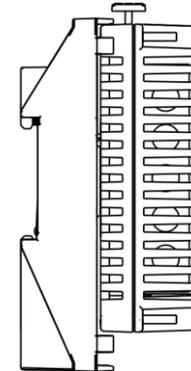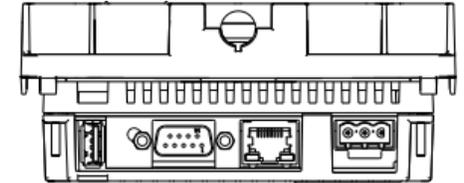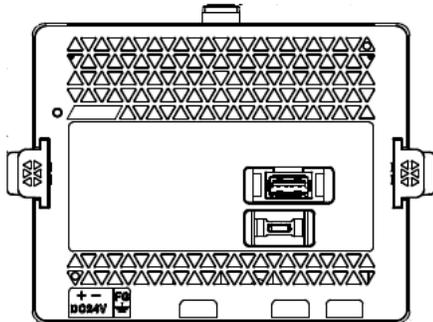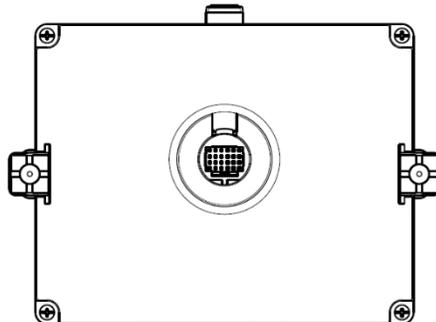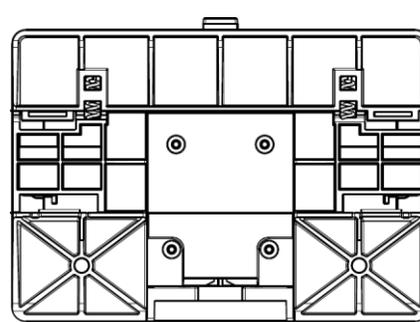
STM6000 Gateway (GP-Pro EX)

Rear Module Front   Rear Module Back   Rear Module Installation Adapter Front   Left   Bottom

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2-3. Hardware compatibility

GP4000M Back   GP4000M Bottom   STM6000 Back   STM6000 Bottom
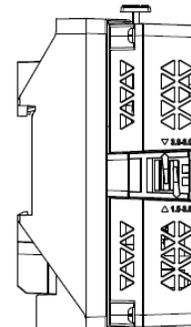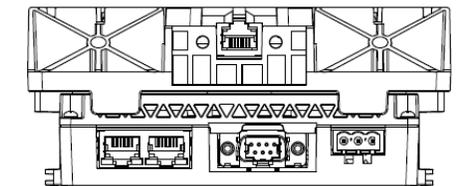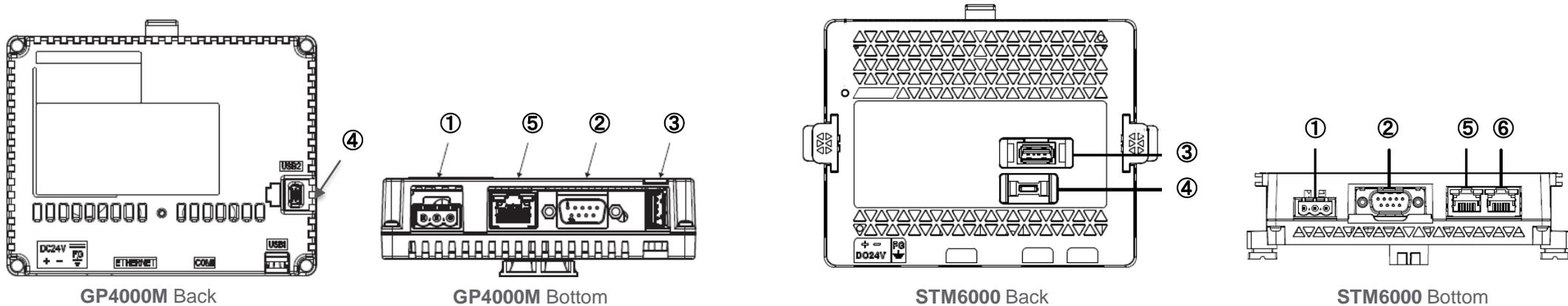
	GP4000M	STM6000 (GP-Pro EX)
①	Power Connector (DC)	Power Connector (DC)
②	Serial Interface (COM1)	Serial Interface (COM1)
③	USB (Type A) Interface	USB (Type A) Interface *1
④	USB (mini-B) Interface	USB (micro-B) Interface
⑤	Ethernet Interface (ETH1)	Ethernet Interface(ETH1)
⑥	-	Ethernet Interface(ETH2)

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

Please check STM6000 Series Hardware Manual for details such as interface specifications and pin assignments.

2-3. Hardware compatibility

Note about Installation

If the panel thickness is 3.8 mm (0.15 in) or less, push in the bumper on the rear module until you hear a click. If the panel thickness is more than 3.8 mm (0.15 in), do not change the bumper position.
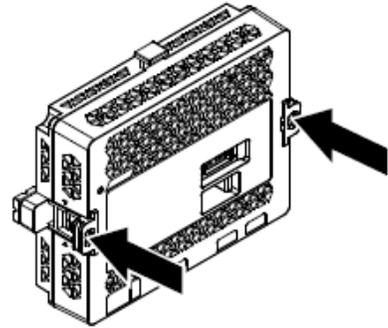
NOTE: To return the bumper to its original position, use a screwdriver or other tool as a lever to push the bumper up.
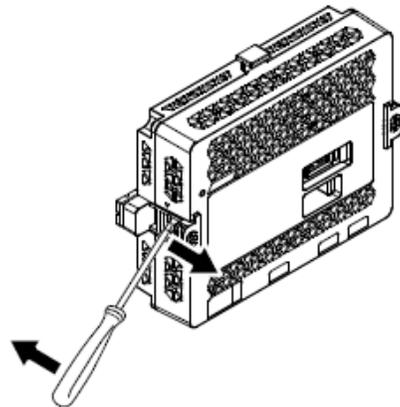
Please check STM6000 Series Hardware Manual for installation requirements and procedure.

2-4. Option compatibility – Serial Interface

Product Name	GP4000M	STM6000 (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	Connects a host controller to the GP unit. (RS-422 / Socket Type)	✔
Mitsubishi Q-Series Link Cable (5m)	CA3-CBLLNKMQ-01	CA3-CBLLNKMQ-01	Connects Mitsubishi PLC Q-Series (or other host controller) to the GP unit. (RS-232C)	✔
Omron SYSMAC Link Cable (5m)	CA3-CBLSYS-01	CA3-CBLSYS-01	Connects Omron PLC SYSMAC Series unit (or other host controller) to the GP unit. (RS-232C)	✔
Mitsubishi A-Series Connection Cable (5m)	CA3-CBLA-01	CA3-CBLA-01	Connects Mitsubishi PLC A, QnA Series programming console I/F to GP unit. (Simultaneous use of programming console is not possible.)	✔
Mitsubishi Q-Series Connection Cable (5m)	CA3-CBLQ-01	CA3-CBLQ-01	Connects Mitsubishi PLC Q-Series programming console I/F to GP unit. (Simultaneous use of programming console is not possible.)	✔
Mitsubishi FX-Series Connection Cable	CA3-CBLFX/1M-01 (1m) CA3-CBLFX/5M-01 (5m)	CA3-CBLFX/1M-01 (1m) CA3-CBLFX/5M-01 (5m)	Connects Mitsubishi PLC FX-Series programming console I/F and GP unit. (Simultaneous use of programming console is not possible.)	✔
RS-422 Cable (5m)	CA3-CBL422-01	CA3-CBL422-01	Connects a host controller to the GP unit. (RS-422 / Plug Type)	✔
2 Port Adapter Cable (5m)	CA3-MDCB11	CA3-MDCB11	Connects Mitsubishi PLC to the GP unit using 2 port adapter II (RS-422).	✔
Mitsubishi A/QnA/FX Series 2 Port Adapter Ⅱ	GP070-MD11	GP070-MD11	Allows simultaneous use of an GP unit Series unit and a Mitsubishi PLC A, QnA, FX Series peripheral device.	✔
Terminal Block Conversion Adapter	CA3-ADPTRM-01	CA3-ADPTRM-01	Connects output from a serial interface with an RS-422 terminal block.	✔
COM Port conversion Adapter	CA3-ADPCOM-01	CA3-ADPCOM-01	Connects optional RS-422 communication items to GP unit's COM1 port.	✔
Multi-Link Cable (5m)	CA3-CBLMLT-01	CA3-CBLMLT-01	Connects a host controller to the GP for multi-link (n:1) communication.	✔
9pin to 25pin RS-232C Conversion Cable (0.2m)	CA3-CBLCBT232-01	CA3-CBLCBT232-01	Connects a standard RS-232C cable (GP Connector, D-Sub 25-pin) to the GP.	✔
9pin to 25pin RS-422 Conversion Cable (0.2m)	CA3-CBLCBT422-01	CA3-CBLCBT422-01	Connects a standard RS-422 cable (GP Connector, D-Sub 25-pin) to the GP.	✔
MPI Cable (3.5m)	ST03-A2B-MPI21-PFE	ST03-A2B-MPI21-PFE	Connects a host controller to the GP unit for MPI communication.	✔
RS-422 Terminal Block Conversion Adapter	-	PFXZCBADTM1	Connects output from a serial interface (D-sub 9 pin plug) directly to an RS-422 terminal block.	NEW!
RS-232C Isolation Unit	-	CA3-ISO232-01	Connects a host controller to this product and provides isolation (RS-232C and RS-422 are switchable).	NEW!

2-4. Option compatibility – USB Interface

Product Name	GP4000M	STM6000 (GP-Pro EX)	Description	Compatibility
USB Cable (5m)	-	FP-US00	Connects a USB printer (Type B)	**NEW!**
USB Front Cable (1m)	CA5-USBEXT-01	CA5-USBEXT-01	Extension cable attaching USB interface to front panel.	✔
USB- Serial (RS-232C) Conversion Cable(0.5m)	CA6-USB232-01	CA6-USB232-01	Cable for converting a GP unit's USB interface into a serial interface (RS-232C). Can be used to transfer project data created with the Screen Editor & Logic Program Software via a serial interface.*1	✔
USB Transfer Cable (USB Type A/mini-B) (1.8m)	ZC9USCBMB1	-	Cable for transferring screen data from a PC (USB Type A) to the GP unit (USB mini-B).	- Use the option of STM6000 series
USB Transfer Cable (USB Type A/micro-B)	-	PFXZUSCBMB2	Cable for transferring screen data from a PC (USB Type A) to this product (USB micro-B)	
USB Panel-mount Extension Cable (USB mini-B) (1m)	ZC9USEXMB1	-	Extension cable attaching to the USB (mini-B) interface on the front side of the operation panel.	- Use the option of STM6000 series.
USB (micro-B) Front Cable	-	PFXZCIEXMB2	Extension cable that attaches USB interface to front panel.	
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 Illumination Switch	PFXZCCEUSG1	PFXZCCEUSG1	A unit of 5 illuminated switches with multiple color LED easily connected with GP unit via USB.	✔
EZ Fingerprint Recognition Unit	PFXZCCEUSS1	PFXZCCEUSS1	Fingerprint recognition unit easily connected with GP unit via USB. (End of Sale: Dec. 27, 2019)	✔
EZ Numpad	PFXZCCEUKB1	PFXZCCEUKB1	Numpad connected to this product via USB.	✔
EZ Tower Light tube mounting with fixing plate	PFXZCETWHA1	PFXZCETWHA1	USB Connection Type Monolithic EZ Tower Light tube mounting with fixing plate 3 tiers,φ60, 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, φ60, lighting and flashing with a buzzer.	✔

*1: Requires am RS-232C cable (Prepared by the user) for connection.

2-4. Option compatibility – Others

Product Name		GP4000M	STM6000 (GP-Pro EX)	Description	Compatibility
Rear module installation adapter		PFXZXMADSA1	PFXZCM6DSA	DIN rail installation adapter for rear modules in non-display operation.	- Use adapter for STM6000 series.
Screen Protection Sheet	3.5 inch	CA6-DFS4-01	-	Disposable, dirt-resistant sheet for the GP unit's screen. (5sheets/set) (Hard type)	- Use Protection sheet for STM6000 series.
	5.7 inch	PFXZCBDS61	-		
UV Protection Sheet	3.5 inch	PFXZCFUV41	-	Sheet to protect the display from dirt and ultraviolet light (1 piece)	
	5.7 inch	PFXZCFUV61	-		
Screen Protection Sheet with UV Protected	4 inch wide	-	PFXZCIDS42	Disposable, dirt-resistant and ultraviolet protection sheet (1 sheet/set).	
	7 inch wide	-	PFXZCIDS72		
Spacer		-	PFXZCM6MP2	Plate for adjusting installation panel thickness for the 4-inch wide display module.	**NEW!**
		-	PFXZCM6MP4	Plate for adjusting installation panel thickness for the 7-inch wide display module.	**NEW!**
Display module / Rear module separation cable	3m	PFXZXMADSM31 *1	PFXZCM6SM3	Cable for use when installing the rear module and display module apart from the other.	- Use Separation cable for STM6000 series.
	5m	PFXZXMADSM51 *1	PFXZCM6SM5		
	10m	-	PFXZCM6SM10		

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

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

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2-4. Option compatibility – Maintenance

Product Name		GP4000M	STM6000 (GP-Pro EX)	Description	Compatibility
Rear module		-	PFXSTM6BE	Rear module for STM6000 Series. (GP-Pro EX supported model only)	**NEW!**
Display Module	3.5 inch	PFXXM4200TP	-	Display Module	- Use Display module for STM6000 series.
	5.7 inch	PFXXM4300TP	-		
	4 inch wide	-	PFXSTM62TP		
	7 inch wide	-	PFXSTM64TP		
Installation Gasket		-	PFXZCIWG44	Gasket that provides dust and moisture resistance, for a 4-inch wide display module (1 piece).	**NEW!**
		-	PFXZCIWG74	Gasket that provides dust and moisture resistance, for a 7-inch wide display module (1 piece).	**NEW!**
DC Power Supply Connector		PFXZGMCNDC1	CA5-DCCNM-01	Connector to connect DC power supply cables (5 pcs/set)	- Please use the option of STM6000 series.
USB Clamp Type A(for 1 port)		-	PFXZCBCLUSA1	Clamp to prevent disconnection of USB cable (for 1 port, USB Type A, 5 pieces/set)	**NEW!**
Display Installation Nut		PFXZGMNT1	PFXZGMNT1	Nut to install the display module (10 pcs/set).	✔
Socket Wrench		PFXZGMSW1	PFXZGMSW1	Socket wrench to tighten and loosen the display installation nut.	✔
Accessories Kit		PFXZGMAK1	-	Anti-rotation Tee, USB cable clamp to prevent disconnection (Type A, mini-B, for 1 port), 2mm-hight spacer to adjust installation panel thickness (1 piece/each)	- Please use the option of STM6000 series.
		-	PFXZCM6KIT	Anti-rotation Tee, USB cable clamp Type A, USB Clamp mini-B *1 (1 piece/each)	

*1: USB Clamp mini-B can be used for optional USB micro-B cables.

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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.

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3. Software Section

3-1. Replacement Procedure – Workflow

Installation

- Check the compatibility of the hardware with Replacement Guidebook.
- Remove the unit in use.
- Install recommended substitute unit.
- Connect the Power Supply
- Check the performance and start operation.

Screen

- Receive screen data from the unit in use.
- Change the model type of the received screen data using GP-Pro EX.
- Check and modify the data on GP-Pro EX.
- Transfer the screen data to the recommended substitute unit.

Communication

- Check the connection between the recommended substitute unit and a PLC in the GP-Pro EX Device/PLC Connection Manual.
- Connect the recommended substitute unit and PLC with the PLC's cable.
- Start connection and check the communication

3-1. Replacement Procedure – Preparation

Requirements for receiving screen data from the unit in use *1	PC in which GP-Pro EX Transfer Tool is installed. *2
	Transfer Cable (the followings can be used) 　USB transfer cable: ZC9USCBMB1 (Type A – Type mini-B) 　or commercially available USB mini-B transfer cable 　*It's also possible to send/receive a screen via USB storage device or Ethernet.
Requirements for converting screen data of the unit in use and transferring the converted data to Recommended substitute unit	PC with GP-Pro EX installed 　STM6000 Series supported version: Ver. 4.09.350 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.

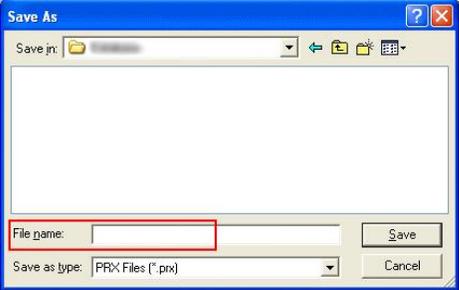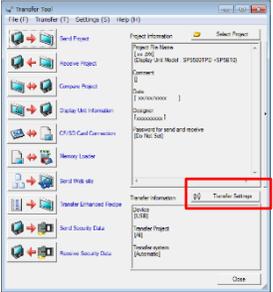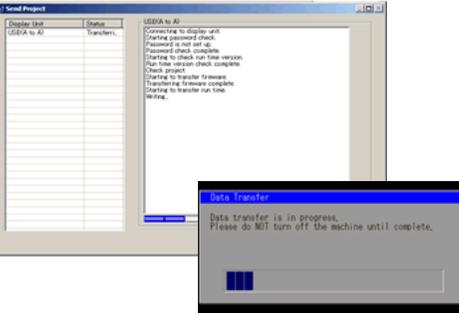*1: This step is required if screen data is saved only in the HMI unit, not in any other device.
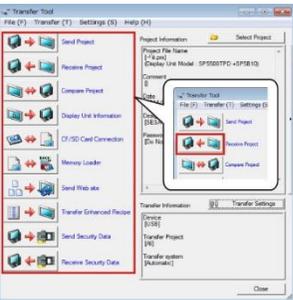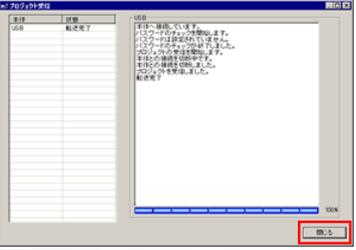　　If you already have the screen data backup, please go to "3-1. Replacement Procedure – Change model to recommended substitute unit (GP-Pro EX)".

*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/

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.

|			
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.		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.	
2. Start the Transfer Tool of GP-Pro EX.			
3. Make sure that the [Device] in the "Transfer Settings Information" is set to [USB]. If not, click the [Transfer Setting] button to open the "Transfer Setting" dialog box. Select [USB] in the Communication Port Settings field and click [OK].		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.)	
4. Start GP-Pro EX Transfer Tool and click the [Receive Project] button.		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.	
		8. Close the Transfer Tool.	

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

NOTES

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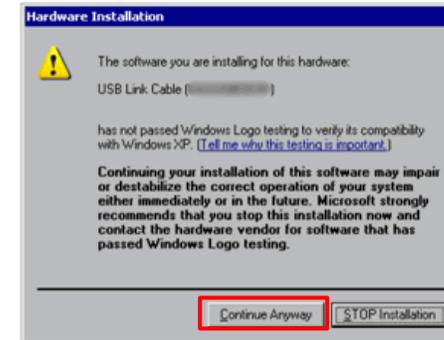

- When the file already exists, a window will appear asking if you want to overwrite the file.
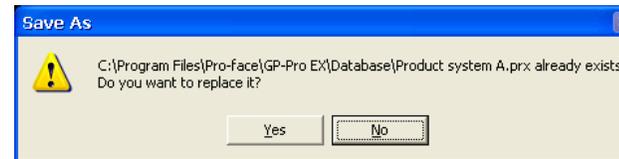
- When receiving a project file that uses SD card/USB memory data such as Recipe Function (CSV data), the following dialog box will appear during the transfer. Please specify where to save the data. Click [OK] to return to the [Receive Project] dialog box and complete the transfer.

3-1. Replacement Procedure – Change model to recommended substitute unit (GP-Pro EX)
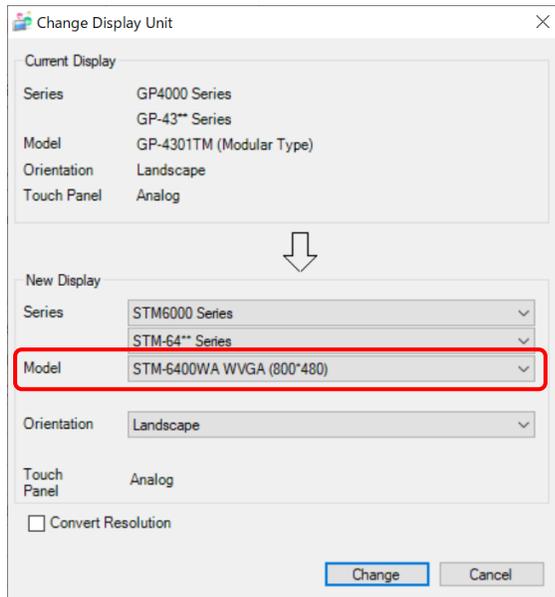
Change the Display unit from GP4000M Series to STM6000 Series.
The display can be changed from the menu bar "Project" → "System Settings" → "Display" → "Change Display" in GP-Pro EX.
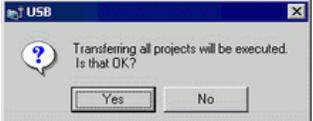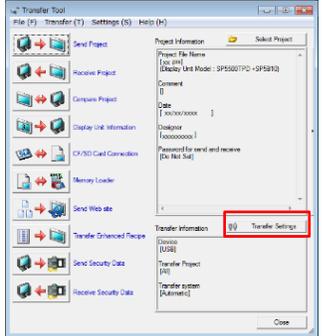
If you check on [Convert Resolution] when changing the Display Unit type (as shown below), you can adjust both size and location of the part and the text relative to the display resolution automatically. But still, you may need to adjust them manually. Please pay attention to the following points.
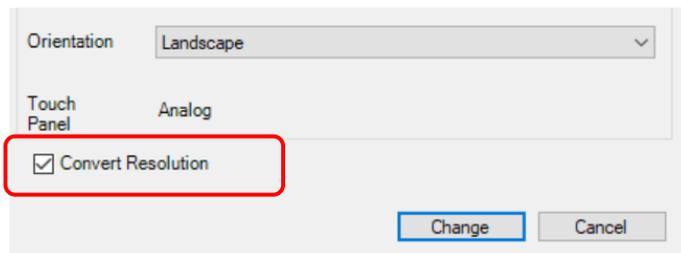
- A function that requires absolute coordinates. Please adjust the settings manually.
  - **Global window**
  - **Position Animation**
- Due to font size and resolution restrictions, manual changes may be required. Please resize them if needed
  - **Font:** In the case of using Standard font, the size 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.

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.		5. Click [Send Project]. In the dialog box that appears, set the connection key and clock [OK]. 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).	
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.	Welcome	6. When this dialog box appears, click [Yes]. This dialog box is not displayed when the same project file is sent again.	
3. On the GP-Pro EX's State Toolbar, click the [Transfer Project] icon to open the Transfer Tool. To transfer a different project file, click the [Select Project] button and select a project file.		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.)	
		8. When transfer is completed, the state of the dialog box changes from [Transferring] to [Transfer Complete]. Click [Close] to close the dialog box.	
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].	Transfer Settings	9. Close the Transfer Tool	
		10. Click the [X] mark on top right of the screen or [Project] → [Exit] to close GP-Pro EX.	
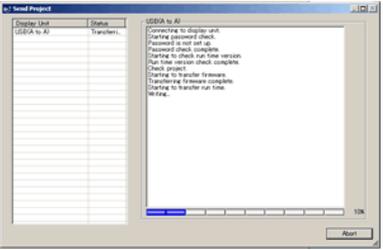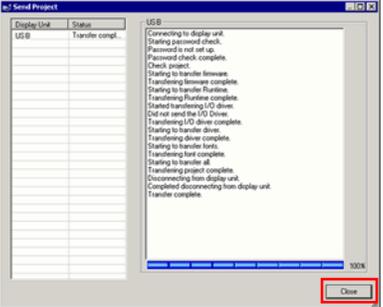
3-2. Software Compatibility – GP-Pro EX Supported Feature Comparison

GP-Pro EX Feature		GP4000M	STM6000 (GP-Pro EX)
Display	Screen Area (Application memory, unit: byte)	8M	64M
	Portrait Installation	✓	✓
	Function Expansion Memory	-	-
	Installing the USB/RS-422/485 Conversion Adapters	✓	✓
	MAC Address Display	✓	✓
External Storage	CF Card	-	-
	SD Card	-	-
	CFast Card	-	-
	USB storage	✓	✓
	FTP server	✓	✓
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	✓	✓
	2-point touch / Multitouch	-	-
	Display the SD/USB Removal Icon	✓	✓

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

GP-Pro EX Feature		GP4000M	STM6000 (GP-Pro EX)
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
	Image Font	✓	✓
	Bitmap Font	✓	✓
	Standard Font	✓	✓
	Port Control	-	✓
Device/PLC Communication *1	Number of Devices/PLCs that can communicate simultaneously	2	2
	Specify Indirect Device	✓	✓
	Import Device/PLC tags	✓	✓
	Ethernet Multilink	✓	✓
	Device Monitor	✓	✓
	Ladder Monitor	-	-
Transfer	Network Transfer	✓	✓
	Modem Transfer	✓	-
	SIO Transfer (COM Connection)	✓	-
	Memory loader feature	✓*2	✓
	CF/SD Card Connection	-	-
	Connection Key	-	✓

*1: Depends on the type of connected PLC/Device.
*2: When using the Memory Loader feature, make sure that the display module is mounted when you run the operation.

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

GP-Pro EX Feature		GP4000M	STM6000 (GP-Pro EX)
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	-	✓
	Transferring sampled data to the cloud	✓	✓
	Indirectly specify Sampling Frequency and Alarm Settings	✓	✓
	Sampling data/Enhanced recipe data format co-exist	✓	✓
	Create a recipe (CSV data) index file at runtime	✓	✓
	Enhanced Recipes	✓	✓
	Extended Script copy file function	✓	✓
	Global Trigger	✓	✓

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

GP-Pro EX Feature		GP4000M	STM6000 (GP-Pro EX)
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
	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	✓	✓
	Message Display's Bulletin Message	✓	✓
	Image Sensor Display	✓	-
	Animation	✓	✓
	Alarm History Message Flow Display	✓	✓
	Alarm History / Sampling Data / Enhanced Recipe Data Refine Search / Sort Function	-	-
	Alarm Analysis Function	-	-

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

GP-Pro EX Feature		GP4000M	STM6000 (GP-Pro EX)
Logic *1	Logic Program Operation	✓	✓
	I/O Driver	-	-
	Function Block	✓	✓
Network	RPA Function (end of support from Ver.4.09.400)	-	-
	GP-Viewer EX	✓	✓
	Web Server (end of support from Ver.4.09.450)	✓	-
	Camera-Viewer EX	-	-
	Pro-face Remote HMI	✓	✓
	E-mail	-	✓
	GP Remote Printer Server	✓	✓
	Pro-face Connect (models you can register as SiteManager)	-	✓
	Pro-Server EX	✓	✓
Input Equipment / Peripheral Equipment (USB Device)	USB Keyboard	✓	✓
	EZ Illuminated Switch *2	✓	✓
	EZ Tower Light *2	✓	✓
	EZ Numpad	✓	✓
	EZ Fingerprint Recognition Unit	✓	✓
	EZ LAN Adapter	-	-

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

3-2. Software compatibility – Supported software version

Software	GP4000M	STM6000 (GP-Pro EX)	Compatibility of Project Data
GP-Pro EX	✔ Ver. 2.7 or later *1 https://www.pro-face.com/otasuke/files/manual/gpproex/new/refer/gpproex.htm	✔ Ver. 4.09.350 or later	✔
Pro-Server EX *2	✔ Ver. 1.32 or later https://www.pro-face.com/otasuke/files/manual/soft/server_ex/v1_37/ref/SRPreface.htm	✔ Ver. 1.37.200 or later	✔
Pro-face Remote HMI (iOS/Android) *2	✔ Ver. 1.30 or later https://www.pro-face.com/otasuke/qa/remotehmi/faq.html	✔ Ver. 1.60 or later	✔
Pro-face Remote HMI Client for Win *2	✔ Ver. 1.40 or later https://www.proface.com/en/product/soft/remotehmi_client/download	✔ Ver. 1.42 or later	✔
Pro-face Connect *2	-	✔ Ver. 9.6 or later https://www.proface.com/en/product/soft/proface_connect/download	UP!

*1: To use some functions such as Alarm Analysis, Ver. 3.0 or later is required.
*2: The supported GP-Pro EX version differs depending on the software.

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

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