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Update History

| Date | Edition | Updated Slide | Description |
|------------|-----------------|---------------|--|
| 2023/09/27 | 1 st | - | Newly created |
| 2024/08/23 | 2 nd | Slide 41 | 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 "GP3000 Series (GP-3500S)" to "ST6000 Series GP-Pro EX Model (ST-6600WA)". The recommended substitute models are as follows.

| | Model in use | | | ended substitutes |
|----------|-----------------------|---|-------------|-------------------|
| GP-3500S | AGP3500-S1-D24 *1 | | | |
| | AGP3500-S1-D24-M *1*2 | | ST-6600WA | PFXST6600WADE |
| | AGP3500-S1-AF *1 | 7 | (GP-Pro EX) | |
| GP-3500L | AGP3500-L1-D24 *3 | | | |

^{*1:} End of Sale on October 31, 2012

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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^{*2:} This is a coated model. As for ST6000 Series, there is no coated model in Standard lineup. You can request the coated model as Lite Customization. For the detail, please contact Customer Service.

^{*3:} End of Sale on September 30, 2013

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 | Hard | dware Section | | |
| | 2-1 | Specification Comparison | | |
| | 2-2 | Standards Compatibility | | |
| | 2-3 | Interface Compatibility | | |
| | 2-4 | Installation Method Compatibility | | |
| | 2-5 | Option Compatibility | | |
| | 2-6 | Other Important Notes on Hardware | | |
| 3 | Soft | ware Section | | |
| | 3-1 | Replacement Procedure | | |
| | 3-2 | Software Compatibility | | |

Other Important Notes on Software

1. Summary

When replacing from GP3000 Series (GP-3500S/L) to ST6000 Series (ST-6600WA), please note the following points.

• Display Type: GP-3500L has a Monochrome Amber/Red LCD, but ST-6600WA has a TFT Color LCD. As the screen will look different, please check on the actual unit.

Display resolution: ST-6600WA has a better resolution. You need to convert resolution by the software to use old project data from GP-3500S/L. To check the replacement

procedure, refer to 3. Software Section in this document.

GP3000 Series (10.4") GP-3500S/L

640 x 480 pixels (VGA)

ST6000 Series (12.1") ST-6600WA (GP-Pro EX)

1,280 x 800 pixels (WXGA)

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

GP3000 Series (10.4") GP-3500S/L

W204.5 x H159.5 mm

ST6000 Series (12.1") ST-6600WA (GP-Pro EX)

W295 x H217 mm

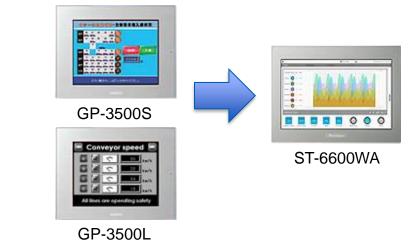
External dimensions: As the external dimensions are different, it is necessary to check the dimensions of the HMI installation location.

GP3000 Series (10.4") GP-3500S/L

W313 x H239 x D56 mm

ST6000 Series (12.1") ST-6600WA (GP-Pro EX)

W313 x H235 x D50 mm



- Power Supply: ST6000 Series has DC Power Supply Type only. When replacing GP-3500S (AC model) to ST-6600WA, changing to DC power supply is required.
- Serial Interface: The serial interface specification is different between GP-3500S/L and ST-6600WA. For details, refer to "2-5: Other Important Nots on Hardware".
- CF Card Interface: ST-6600WA doesn't have this interface. Please use a USB storage for the functions used with CF card.
- USB Interface (Type A): GP-3500S/L has two USB ports (USB Type A), but ST-6600WA has only one. If devices are connected to both USB ports on GP-3500S/L, use an USB hub for multiple connections on ST-6600WA. For details, refer to "2-5: Other Important Nots on Hardware".
- Auxiliary Input/Output I/F: External Reset Input and 3 Outputs (RUN Output, System Alarm Output, and External Buzzer Output) used with GP-3500S/L cannot be used.
- Sound Output I/F: The sound out function used with GP-3500S/L cannot be used with ST-6600WA.
- Expansion Unit: ST-6500TA doesn't have this interface. The expansion unit used with GP-3500S/L cannot be used with ST-6500WA.

2. Hardware Section



2-1. GP-3500S/L vs ST-6600WA Specification Comparison - 1. Basic Information -

| | | GP-3500S | GP-3500L | ST-6600WA | Points to note when replacing |
|------------------------|--------------------|--|--------------------------------|---|---|
| Display type | | STN Color LCD | Monochrome LCD | TFT color LCD | |
| Display siz | ze | 10.4" | | 12.1" | |
| Resolution | n | 640 x 480 pixe | els (VGA) | 1,280 x 800 pixels (WXGA) | Need to change resolution setting by software |
| Display co | olors | 4,096 colors | Black and White (16 shades) | 16 million colors | |
| Backlight | | CCFL | CCFL (Not user replaceable) | White LED (not replaceable) | Backlight is not replaceable |
| Backlight service life | | 50,000 hours or more (continuou backlight brightness de | | 50,000 hours or more (continuous operation at 25° C before backlight brightness decreases to 25%) | |
| Panel cut | dimensions | W301.5 x H22 | 27.5 mm | W295 x H217 mm | |
| External d | dimensions | W313×H239> | CD56 mm | W313 x H235 x D50 mm | |
| Touch par | nel type | Resistive film (analo | g, single touch) | Resistive film (analog, single touch) | |
| Touch par | nel service life | 1 million times | s or more | 1 million times or more | |
| Maraani | Application memory | FLASH EPROM | /I 16MB *1 | FLASH EPROM 64MB | Refer to FAQ for the available |
| Memory | Backup memory | SRAM 32 | 0KB | NVRAM 320KB | capacity of each memory |
| Battery (cl | lock data backup) | Rechargeable / Secondary | | Replaceable battery / Primary battery | Can be replaced by user |
| Rated input voltage | | DC model: DC 24V AC model: AC 100-240V | DC 24V | DC 24V | ST6000 Series has only DC model. On replacement from AC model, need to change the power supply to DC. |
| | nsumption | DC model: DC24V 50W or less AC model: AC100V 90VA or less AC240V 108VA or less | 50W or less | 18.4W or less | |

^{*1:} On display units before Rev.4, the screen area is 8 MB.

2-1. GP-3500S/L vs ST-6600WA Specification Comparison - 2. Interface -

| | | GP-3500S | GP-3500L | ST-6600WA | Points to note when replacing | |
|-------------------|--------------|-----------------|-----------------------------|--|---|--|
| Serial I/F | COM1 | RS-232C/422/485 | (D-Sub 9pin Plug) | RS-232C (D-Sub 9pin Plug) | Please refer to 2.5. Other important notes on | |
| Seliai I/F | COM2 | RS-422/485 (D- | Sub 9pin Socket) | RS-422/485 (D-Sub 9pin Plug) | Hardware in this document. | |
| Ethernet I/F | | 10BASE-T/100BA | SE-TX (RJ-45) x 1 | 10BASE-T/100BASE-TX (RJ-45) x 2 | | |
| CF Card I/F | | • | / | - | To keep using the functions that were working with CF Card, use a USB Memory instead. | |
| SD Card I/F | | | - | - | | |
| | Type A | | 1.1 x 2 e (CA3-USBCB-01) | USB 2.0 x1 | No screen data transfer via Type A Only 1 port on ST-6600WA | |
| USB I/F | Type mini-B | | - | - | | |
| | Type micro-B | | - | USB 2.0 x1 - USB transfer cable (PFXZUSCBMB2) or commercial USB micro-B transfer cable | | |
| Auxiliary I/O I/F | | • | | - | External Reset Input and 3 Outputs (RUN Output, System Alarm Output, and External Buzzer Output) that can be used for GP3000 series cannot be used. | |
| Sound Output I/F | | ~ | | - | The sound output function for GP3000 Series cannot be used. | |
| Expansion U | Jnit I/F | | / | - | The expansion unit (such as CC-LINK Unit) for GP3000 Series cannot be used. | |

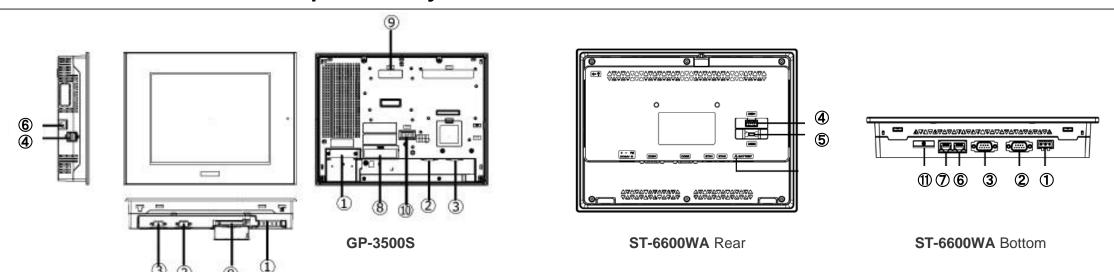
Hardware Manual: ST6000 Series Hardware Manual



2-2. Standards Compatibility

| Certification | GP-3500S/L | ST-6600WA |
|---|--|--|
| CE (EN61000-6-4, EN61000-6-2, EN61131-2) | ✓ | ✓ |
| UKCA | - | ✓ |
| UL/cUL | ✓ (UL508) (CSA C22.2 No.142) | ✓ (UL61010-2-201) (CSA C22.2 No.61010-2-201) |
| UL/cUL Class 1, Div. 2 | ✓ (ANSI/ISA12.12.01) (CSA C22.2 No213) | ✓ (UL121201) (CSA C22.2 No213) |
| ATEX (Zones 2/22, equipment category 3 Gas Dust) | ✓ | - |
| IECEx (Zones 2/22, equipment category 3 Gas Dust) | - | - |
| UKEX | - | - |
| KCs | - | - |
| NEPSI → CCC-Ex | - | - |
| RCM (C-Tick) | - | ✓ |
| EAC (GOST-R) | ✓ | ✓ |
| RoHS for EU | ✓ | ✓ |
| RoHS for China | ✓ | ✓ |
| REACH | ✓ | ✓ |
| CCC *apply for CCC exemption | - | - |
| KC | ✓ | ✓ |
| Marine (DNV, ABS, LR, BV, NK, RINA, CCS) | - | - |
| WEEE | ✓ | ✓ |

2-3. Interface Compatibility

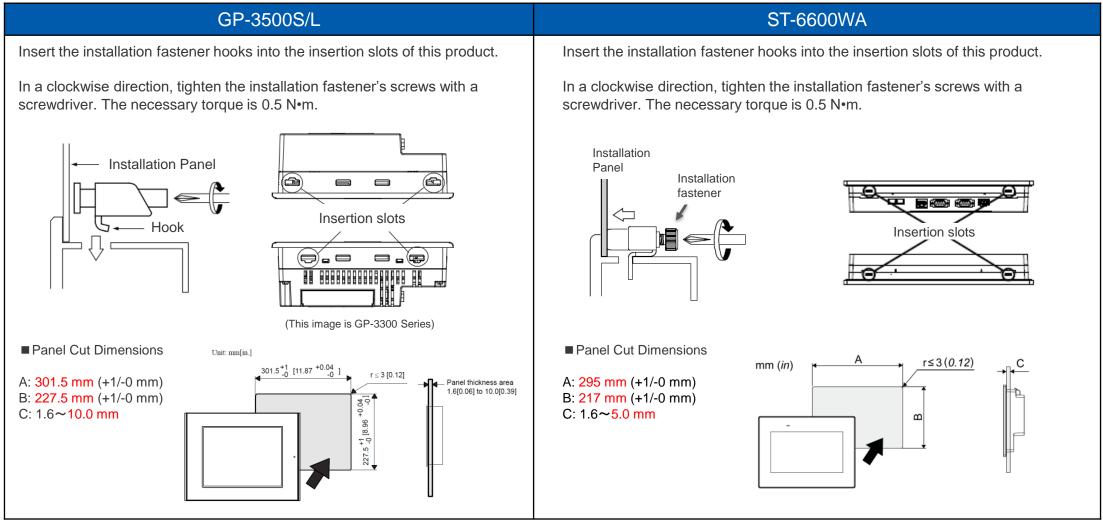


| | GP-3500S/L | ST-6600WA |
|-----|--|---------------------------|
| 1 | Power Connector (DC) / Power Input Terminal Block (AC) | Power Connector (DC) |
| 2 | Serial Interface (COM1) | Serial Interface (COM1) |
| 3 | Serial Interface (COM2) | Serial Interface (COM2) |
| 4 | USB (Type A) Interface (2 ports) | USB (Type A) Interface |
| (5) | - | USB (micro-B) Interface |
| 6 | Ethernet Interface | Ethernet Interface (ETH1) |
| 7 | - | Ethernet Interface (ETH2) |
| 8 | CF Card Interface | - |
| 9 | Expansion Unit Interface | - |
| 10 | Auxiliary I/O / Sound Output Interface (AUX) | - |
| 11) | - | Battery Slot |

NOTE: Please be careful when replacing, as the wiring will change significantly. Please check <u>ST6000 Series Hardware Manual</u> for details such as interface specifications and pin assignments.

2-3. Installation Method Compatibility

The installation method of ST-6600WA is generally the same as GP-3500S, but the panel cut dimensions are different. As there's no option for panel cutout adapter, it is necessary to adjust the panel size by user.



NOTE: The installation fasteners for GP3000 Series (P/N: CA3-ATFALL-01) cannot be used for ST-6600WA. Please use the fasteners for ST-6600WA (P/N: PFXZCIAFTF1). Please check <u>ST6000 Series Hardware Manual</u> for installation requirements and procedure.

2-4. Option compatibility – Serial Interface

| Product Name | GP-3500S/L | ST-6600WA | Description | Compatibility |
|--|--|--|--|---------------|
| RS-232C Cable (5m) | CA3-CBL232/5M-01 | CA3-CBL232/5M-01 | Cable for RS-232C connection between various hosts and this product | V |
| RS-422 Cable (5m) | CA3-CBL422/5M-01 | CA3-CBL422/5M-01 | Cable for RS-422 connection between various hosts and this product (Socket Type) | V |
| RS-422 Cable (5m) | CA3-CBL422-01 | CA3-CBL422-01 | Cable for RS-422 connection between various hosts and this product (Plug Type) | V |
| Mitsubishi PLC A-Series Connection Cable (5m) | CA3-CBLA-01 | CA3-CBLA-01 | Cable for directly connecting an A Series CPU | V |
| Mitsubishi PLC Q-Series Connection Cable (5m) | CA3-CBLQ-01 | CA3-CBLQ-01 | Cable for directly connecting a Q Series CPU | V |
| Mitsubishi PLC Q-Series Link Cable (5m) | CA3-CBLLNKMQ-01 | CA3-CBLLNKMQ-01 | Cable for directly connecting a Q Series Link Unit | V |
| 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) | Cable for directly connecting an FX Series CPU | V |
| Omron PLC SYSMAC Link Cable (5m) | CA3-CBLSYS-01 | CA3-CBLSYS-01 | Cable for directly connecting a SYSMAC Link Unit | V |
| Siemens TTY Converter Cable (5m) | CA6-CBLTTY/5M-01 | CA6-CBLTTY/5M-01 | Cable for connecting a PLC S5 series to this product | V |
| MPI Cable (3.5m) | ST03-A2B-MPI21-PFE GP3000-MPI21-PFE CA3-MPI-PG1-PFE CA3-MPI-PGN-PFE | ST03-A2B-MPI21-PFE | Connects a host controller to this product for MPI communication. | V |
| Multi-Link Cable (5m) | CA3-CBLMLT-01 * End of sale | CA3-CBLMLT-01 * End of sale | Connects a host controller to this product for multi-link (n:1) | ~ |
| | - | PFXZCBCBML1 | communication. | NEW |

2-4. Option compatibility – Serial Interface

| Product Name | GP-3500S/L | ST-6600WA | Description | Compatibility |
|---|-------------------------------|-------------------------------|--|---------------|
| RS-232C 9-pin/25-pin Conversion Cable (20cm) | CA3-CBLCBT232-01 | CA3-CBLCBT232-01 | Cable for converting a D-Sub 9-pin plug to a D-Sub 25-pin socket | ~ |
| RS-422C 9-pin/25-pin Conversion | CA3-CBLCBT422-01 *End of sale | CA3-CBLCBT422-01 *End of sale | Cable for converting a D-Sub 9-pin plug to a D-Sub 25-pin socket | ~ |
| Cable (20cm) | - | PFXZCBCBCVR41 | | NEW |
| 2 Port Adapter Cable (5m) | CA3-MDCB11 *End of sale | CA3-MDCB11 *End of sale | Connects Mitsubishi PLC to this product using 2 port adapter II (RS-422). | • |
| Mitsubishi PLC A, QnA, FX Series 2 Port Adapter II | GP070-MD11 *End of sale | GP070-MD11 *End of sale | Allows simultaneous use of this product and a Mitsubishi PLC A, QnA, FX Series peripheral device. | • |
| COM Port Conversion Adapter | CA3-ADPCOM-01 | CA3-ADPCOM-01 | Connects optional RS-422 communication items to serial interface. | ~ |
| RS-422 Terminal Block Conversion Adapter | - | PFXZCBADTM1 | Connects output from a serial interface (D-sub 9 pin plug) directly to an RS-422 terminal block. | NEW |
| Terminal Block Conversion Adapter | CA3-ADPTRM-01 | CA3-ADPTRM-01 | Connects output from a serial interface (D-sub 9 pin socket) directly to an RS-422 terminal block. | ~ |
| RS-232C Isolation Unit *1 | CA3-ISO232-01 | CA3-ISO232-01 | Connects a host controller to this product and provides isolation (RS-232C and RS-422 are switchable). | ~ |
| RS-485 Isolation Unit | CA3-ISO485-01 | - | Connects a host controller to this product with provides isolation.(RS-422 and RS-485 are switchable.) | - |
| On-line adapter | CA4-ADPONL-01 | - | Terminal adapter in the case of performing RS-422/RS-485 communication at COM2 port. | - |
| Siemens COM Port Conversion Adapter | CA3-ADPSEI-01 | - | Connects Siemens PLCs to the AGP. (for RS-485 communication) | - |

^{*1:} You can use RS-232C isolation unit (CA3-ISO232-01) for GP4000 series instead. In this case, select "VCC" from [System Settings] -> [Device/PLC] in the [Project] menu on GP-Pro EX.



2-4. Option compatibility – USB Interface

| Product Name | GP-3500S/L | ST-6600WA | Description | Compatibility |
|--|---------------|--------------------------|---|--|
| USB Transfer Cable (2m) | CA3-USBCB-01 | - | Cable for transferring screen data between a PC (USB Type A) and this product (USB Type A) | A to A screen transfer is not available. |
| USB Transfer Cable | - | PFXZUSCBMB2 | Cable for transferring screen data from a PC (USB Type A) to this product (USB micro-B) | NEW |
| USB Cable (5m) | FP-US00 | FP-US00 | Connects a USB printer (Type B) | ✓ |
| USB Front Cable (1m) | CA5-USBEXT-01 | CA5-USBEXT-01 | Extension cable that attaches USB interface (Type A) to front panel | ✓ |
| USB (micro-B) Front Cable | - | PFXZCIEXMB2 | Extension cable that attaches USB interface (micro-B) to front panel | NEW |
| USB Clamp Type A (1 port) | - | PFXZCBCLUSA1 | Clamp to prevent disconnection of USB cable (USB/A, 1 port, 5 clamps/set) | NEW |
| USB-Serial (RS-232C) Conversion Cable (0.5m) | CA6-USB232-01 | CA6-USB232-01 | Cable for converting a USB interface into a serial interface (RS-232C) | ✓ |
| USB/RS-422/485 Conversion Adapter | - | PFXZCBCBCVUSR41 | Adapter for connecting this product (USB Type A) to an external device (RS-422/RS-485) | NEW |
| EZ Tower Light tube mounting fixing plate | - | PFXZCETWHA1 | USB Connection Type Monolithic EZ Tower Light tube mounting with fixing plate 3 tiers, Ø60, lighting and flashing with a buzzer | NEW |
| EZ Tower Light with base mounting | - | PFXZCETWW1 | USB Connection Type Monolithic EZ Tower with base mounting 3 tiers, Ø60, lighting and flashing with a buzzer | NEW |
| EZ Illuminated Switch | - | PFXZCCEUSG1 | A unit of 5 illuminated switches with multiple color LED easily connected with this product unit via USB | NEW |
| EZ Numpad | - | PFXZCCEUKB1 *End of sale | Numpad connected to this product via USB | NEW |
| EZ Fingerprint Recognition Unit | - | PFXZCCEUSS1 *End of sale | Fingerprint recognition unit connected to this product via USB | NEW |

2-4. Option compatibility - Other options

| Product Name | | GP-3500S/L | ST-6600WA | Description | Compatibility |
|-------------------------------|-----------------|---------------------|-------------|---|-----------------------------------|
| CF Card (128MB) | | CA3-CFCALL/128MB-01 | - | | - |
| CF Card (256MB) | | CA3-CFCALL/256MB-01 | - | | - |
| CF Card (512MB) | | CA3-CFCALL/512MB-01 | - | CF Card to insert into the CF card slot of this product. | - |
| CF Card (1GB) | | CA3-CFCALL/1GB-01 | - | | - |
| CF Card (2GB) | | CA3-CFCALL/2GB-01 | - | | - |
| CF Card Adapter | CF Card Adapter | | - | Used for read/write of CF Card data via a PC's PCMCIA slot. | - |
| Screen Protection | GP-3500S/L | CA3-DFS12-01 | - | Disposable, dirt-resistant sheet for the screen of this product. | NEW |
| Sheet | ST-6600WA | - | PFXZCDDS122 | (5 sheets/set) (Hard type) | Use the option for ST6000 series. |
| LIV/ Duesta ation. Chapt | GP-3500S/L | - | - | Sheet to protect the display from ultraviolet light, for 5.7-inch | NIENA |
| UV Protection Sheet ST-6600WA | | - | PFXZCFUV122 | screen (1 sheet). | NEW |
| Function Expansion Memory | | GP3000-EXDM01 | - | Pro-face's Screen Editor's alarm and text table Function Expansion Memory *Note that the GP's screen dimensions cannot be expanded. | - |



2-4. Option compatibility – Maintenance options

| Product N | lame | GP-3500S/L | ST-6600WA | Description | Compatibility |
|---------------------------|---------------|-----------------|--------------|---|-----------------------------------|
| Installation Footones | GP-3500S/L | CA3-ATFALL-01 | - | Installation fastener | NEW |
| Installation Fastener | ST-6600WA | - | PFXZCIAFTF1 | IIIStaliation rasterier | Use the option for ST6000 series. |
| Installation Coaket | GP-3500S/L | CA3-WPG12-01 | - | Provides dust and moisture resistance | NEW |
| Installation Gasket | ST-6600WA | - | PFXZCIWG123 | when this product is installed into a solid panel (1 piece). | Use the option for ST6000 series. |
| Replacement Backlight | GP-3500S only | PS501S-BU00 | - | This backlight is used for replacement. | - |
| Connector Cover | | CA3-BUSCVR-01 | - | Protects this product's rear face connector | - |
| AUX Connector | | CA5-AUXCNALL-01 | - | AUX connector for GP3000 series required in case an external output is used | - |
| USB Cable Clamp (2 por | rts) | CA5-USBATL-01 | - | USB Cable clamp for 2 port products to prevent disconnection | - |
| DC Power Supply Connector | | CA5-DCCNL-01 | - | Compositor to composit DC manual complex coldes | NEW |
| | | | CA5-DCCNM-01 | Connector to connect DC power supply cables | Use the option for ST6000 series. |
| Battery for Data Backup | | - | PFXZGEBT1 | Primary battery for memory and time data backup (1 piece) | NEW |



2-5. Other Important Notes on Hardware

About Serial Interface

- The Serial Interface specifications (such as pin assignment and the shape of plug/socket) of ST-6600WA are different from GP-3500S/L. For the details, please refer to "ST6000 Series Hardware Manual".
- The RS-232C device that was connected via COM1 on GP-3500S/L will be connected via COM1 on ST-6600WA. (The same cable connection can be used.)
- The RS-422/485 device that was connected via COM1 on GP-3500S/L will be connected via COM2 on ST-6600WA. (The same cable connection can be used.)
 Before ST-6600WA is connected, be sure to change the port setting to "COM2" in "Device/PLC Settings" on GP-Pro EX. Also, please check the communication settings again with "GP-Pro-EX Device/PLC Connection Manual" just in case.
- If you have configured GP-3500S/L to connect both COM1 and COM2 to the RS-422/485 devices, you will only be able to connect them via COM2 when replacing to ST-6600WA.
- By using "USB/RS-422/485 Conversion Adapter", you can use the USB interface of ST-6600WA as RS-422/485 Serial Interface. For the details, refer to "<u>USB/RS-422/485 Conversion Adapter Installation Guide</u>".
 As the connectable devices with USB/RS-422/485 Adapter are limited, please also refer to "<u>USB/RS-422/485 Conversion Adapter Connection Guide</u>" to see the list of supported drivers.



2-5. Other Important Notes on Hardware

- About USB Interface (Type A)
 - GP-3500S/L has two USB ports (USB Type A), but ST-6600WA has only one.
 If devices are connected to both USB ports on GP-3500S/L, use an USB hub for multiple connections on ST-6600WA.
 When making such multiple connections, please be sure to conduct operation check by yourself before use.
 - Also, since the power supply capacity (Bus Power) from the USB interface is limited, we recommend using a USB hub with a power supply.

NOTE: Several USB devices of the same category in the following table cannot be simultaneously used. Even if multiple USB devices of the same category are connected to the display unit, only the first USB device recognized by the display unit can be used.

| Category | USB Device |
|----------|---|
| 1 | Printer, USB-PIO converter |
| 2 | Keyboard, Numeric keys, Barcode reader |
| 3 | Mouse |
| 4 | USB storage (USB memory, CF/SD card reader, and so on) |
| 5 | USB transfer cable |
| 6 | USB-Serial (RS-232C) adapter cable, USB/RS-422/485 conversion adapter |
| 7 | EZ Tower Light |
| 8 | EZ Fingerprint Recognition Unit |
| 9 | EZ Illuminated Switch |
| 10 | EZ Numpad |
| 11 | EZ LAN Adapter |



2-5. Other Important Notes on Hardware

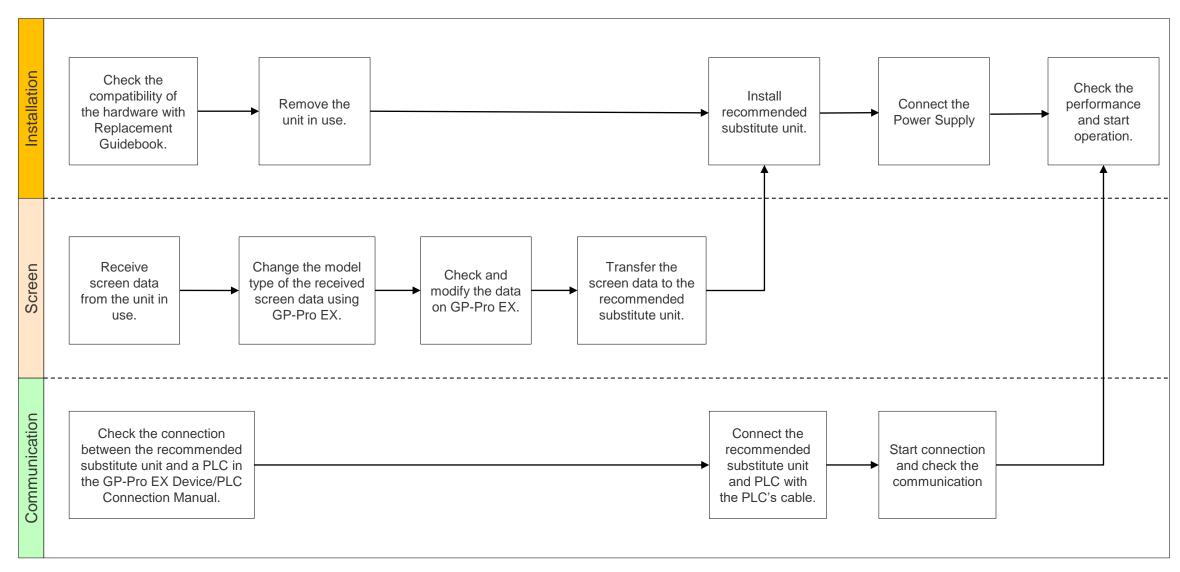
- Do not expose the hardware to direct sunlight. Recommend to use the option item "UV Protection Sheet" to protect the
 display from ultraviolet light.
- This product is not designed for outdoor use. UL certification obtained is for indoor use only.
- Do not turn on the hardware if condensation has occurred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



3. Software Section



3-1. Replacement Procedure - Workflow



3-1. Replacement Procedure - Preparation

| Requirements for receiving screen data from the unit in use *1 | PC in which GP-Pro EX Transfer Tool is installed. *2 |
|---|---|
| | Transfer Cable (the followings can be used) USB transfer cable: CA3-USBCB-01 (Type A - Type A) *It's also possible to send/receive a screen via CF card, USB storage device or Ethernet. |
| Requirements for converting screen data of the unit in use and transferring the converted data to Recommended | PC with GP-Pro EX installed ST-6600WA supported version: Ver. 4.09.200 or later |
| substitute unit | Transfer Cable (the followings can be used) USB transfer cable: PFXZUSCBMB2 (Type A – Type micro-B) or commercially available USB micro-B transfer cable *It's also possible to send/receive a screen via USB storage device or Ethernet. |

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

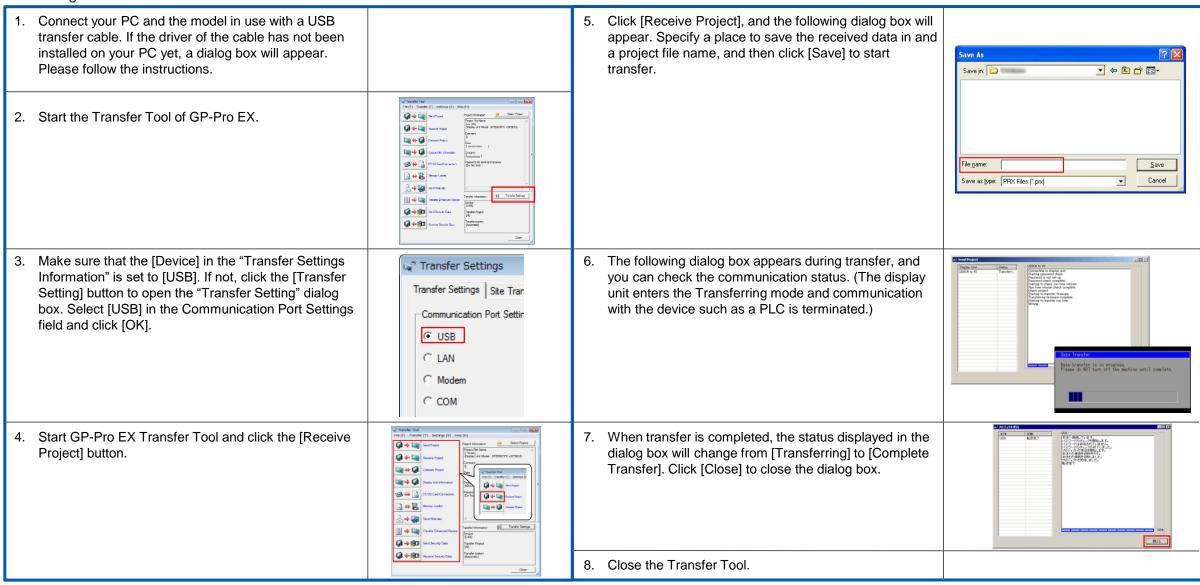
If you already have the screen data backup, please go to "3-1. Replacement Procedure – Change model to recommended substitute unit (GP-Pro EX)".

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

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

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

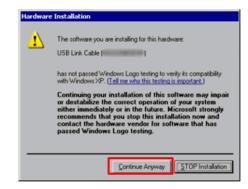
In this section, we will introduce how to receive screen data with a USB transfer cable as an example. If you have the backup of screen data, this step is not necessary. Please go to the next section.



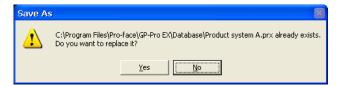
3-1. Replacement Procedure – Receive Screen data from the model in use (GP-Pro EX)

NOTES

1. 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].



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

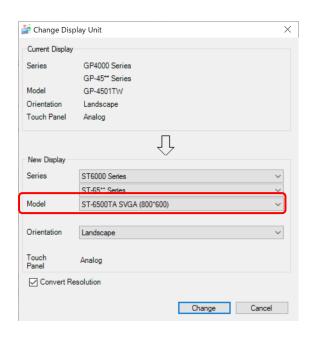


3. When receiving a project file that uses SD card/USB memory data such as Recipe Function (CSV data), the following dialog box will appear during the transfer. Please specify where to save the data. Click [OK] to return to the [Receive Project] dialog box and complete the transfer.





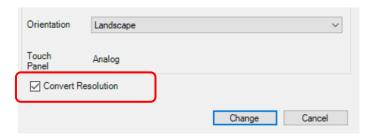
3-1. Replacement Procedure – Change model to recommended substitute unit (GP-Pro EX)



Change the Display unit from GP3000 Series to ST6000 Series.

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

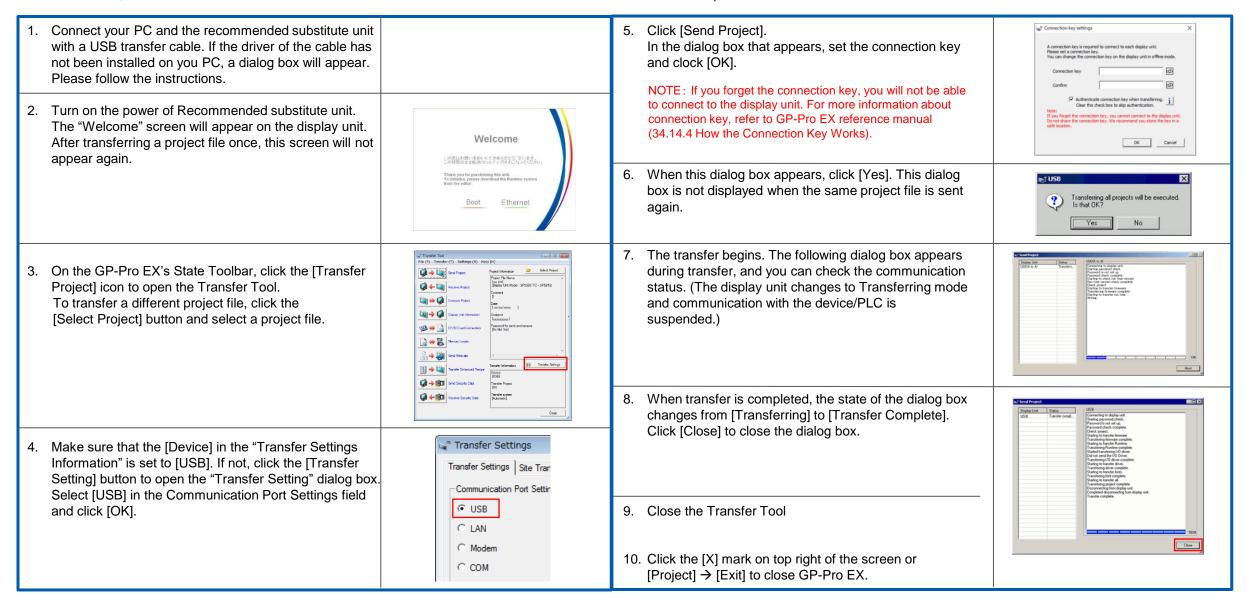
If you check on [Convert Resolution] when changing the Display Unit type (as shown below), you can adjust both size and location of the part and the text relative to the display resolution automatically. But still, you may need to adjust them manually. Please pay attention to the following points.



- 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.



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

| GP-Pro EX Feature | | AGP-3500S/L | ST-6600WA |
|---------------------|---|---|-----------|
| Display | Screen Area (Application memory, unit: byte) | 16M *1 | 64M |
| | Portrait Installation | ✓ | ✓ |
| | Function Expansion Memory | ✓ | - |
| | Installing the USB/RS-422/485 Conversion Adapters | - | ✓ |
| | MAC Address Display | In Area (Application memory, unit: byte) In Area (Application memory, unit: byte) In Installation In Expansion Memory In Installation In Expansion Memory In Installation In Installation | ✓ |
| | CF Card | ✓ | - |
| | SD Card | - | ✓ |
| External Storage | CFast Card | - | - |
| Storage | USB storage | ✓ | ✓ |
| | FTP server | ✓ | ✓ |
| | Drawing in 256 colors | ✓ (AGP-3500S only) | ✓ |
| | Reverse Display | I | - |
| | Faded Color Blink | ✓ (AGP-3500S only) | - |
| | Synchronize Text Display with Text Table | ✓ | ✓ |
| System Settings | Time Zone settings | - | - |
| Settings | Detect Backlight Burnout | ✓ | |
| | Dimmer settings | - | ✓ |
| | 2-point touch / Multitouch | - | - |
| | Display the SD/USB Removal Icon | - | ✓ |

^{*1:} On display units before Rev.4, the screen area is 8 MB.

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

| GP-Pro EX Feature | | AGP-3500S/L | ST-6600WA |
|-----------------------------|--|--|--|
| System | 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 |
| System Settings | Image Font | ✓ | ✓ |
| | Bitmap Font | ✓ | ✓ |
| | Standard Font | ✓ | ✓ |
| | Port Control | - | ✓ |
| | Number of Devices/PLCs that can communicate simultaneously | 4 | 2 |
| | Specify Indirect Device | ✓ | ✓ |
| Device/PLC Communication | Import Device/PLC tags | - | ✓ |
| *1 | Ethernet Multilink | ✓ | ✓ |
| | Device Monitor | ✓ | ✓ |
| | Ladder Monitor | ously models *support models *support county county final county final county models m | - |
| | Network Transfer | ✓ | ✓ |
| | Modem Transfer | ✓ | - |
| Transfer | SIO Transfer (COM Connection) | ✓ | - |
| | Memory loader feature | ✓ | ✓ |
| | CF/SD Card Connection | ✓ | - |
| | Connection Key | - | ✓ |

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

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

| GP-Pro EX Feature | | AGP-3500S/L | ST-6600WA |
|--------------------|--|-------------|-----------|
| | 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 | √ *1 | - |
| | Alarm Message Multiple Line Display | ✓ | ✓ |
| | Attach Data Value to Operation Log | ✓ | ✓ |
| | Changing passwords at run time (CSV file) | ✓ | ✓ |
| Common Settings | Changing passwords at run time (password change screen) | - | ✓ |
| Coungo | 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 | - | ✓ |

^{*1:} Requires attaching function expansion memory (optional part).

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

| GP-Pro EX Feature | | AGP-3500S/L | ST-6600WA |
|--------------------|--|-------------|--|
| | Movie record/play feature | - | - |
| Common Settings | Use Image unit | - | - |
| | Sound Output Feature | ✓ | - |
| | AUX | ✓ | - |
| | Retentive Variables Function | ✓ | ✓ |
| | Selector List | ✓ | ✓ |
| | XY Graph (Historical Trend, Data Block Display Graph) | ✓ | - |
| | Picture Display [CF Image Display] / [SD Image Display] for showing JPEG files | ✓ | √USB storage can be used for the models without SD/CF card slots. *supported by Ver.4.09.450 or later |
| | Indirectly specify a block of Alarm parts | ✓ | ✓ |
| | Special Data Display [File Manager] sort function and default path | ✓ | ✓ |
| Parts | AUX Retentive Variables Function Selector List XY Graph (Historical Trend, Data Block Display Graph) Picture Display [CF Image Display] / [SD Image Display] for showing JPEG files Indirectly specify a block of Alarm parts Special Data Display [File Manager] sort function and default path | ✓ | ✓ |
| | | ✓ | |
| | Image Sensor Display | ✓ | - |
| | Animation | ✓ | ✓ |
| | Alarm History Message Flow Display | - | ✓ |
| | | - | - |
| | Alarm Analysis Function | - | - |

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

| GP-Pro EX Feature | | AGP-3500S/L | ST-6600WA |
|--|---|-------------|-----------|
| Logic Logic I/O D Funct RPA F GP-V Web Came Came Came Fina GP R Pro-fa Pro-fa Pro-S USB Input Equipment / Peripheral Equipment EZ To | Logic Program Operation | √ *1 | ✓ |
| | I/O Driver | - | - |
| | Function Block | √ *1 | ✓ |
| | RPA Function (end of support from Ver.4.09.400) | | - |
| | GP-Viewer EX | √ | ✓ |
| | Web Server (end of support from Ver.4.09.450) | - | - |
| | Camera-Viewer EX | - | - |
| Network | Pro-face Remote HMI | - | ✓ |
| | E-mail | - | ✓ |
| Camera-Viewer EX Network Pro-face Remote HMI | ✓ | ✓ | |
| | Pro-face Connect (models you can register as SiteManager) | - | ✓ |
| | Pro-Server EX | ✓ | ✓ |
| | USB Keyboard | ✓ | ✓ |
| Input | EZ Illuminated Switch | - | ✓ |
| | EZ Tower Light | - | ✓ |
| • | EZ Numpad | - | ✓ |
| | EZ Fingerprint Recognition Unit | - | ✓ |
| | EZ LAN Adapter | - | - |

^{*1:} Cannot use with USB-Serial (RS-232C) conversion cable.

| Supported Software | AGP-3500S/L | ST-6600WA | Compatibility of Project Data |
|---------------------|--|---|----------------------------------|
| GP-Pro EX | ✓ | ✓ Ver. 4.09.200 or later | |
| GP-PIO EX | https://www.pro-face.com/otasuke | /files/manual/gpproex/new/refer/gpproex.htm | • |
| Pro-Server EX | ✓ Ver. 1.37.200 or later | | |
| PIO-Server EX | https://www.pro-face.com/otasuke/files/manual/soft/server_ex/v1_37/ref/SRPreface.htm | | • |
| Pro-face Remote HMI | - | ✓ Ver. 1.60 or later | NEW |
| (iOS/Android) | | https://www.pro-face.com/otasuke/qa/remotehmi/faq.html | NEW |
| Pro-face Remote HMI | - | ✓ Ver. 1.42 or later | NEW |
| Client for Win | | https://www.proface.com/en/product/soft/remotehmi_client/download | NEW |
| Pro-face Connect | - | ✓ Ver. 9.6 or later | NEW |
| | | https://www.proface.com/en/product/soft/proface_connect/download | NEW |



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 GP3000 Series, the settings will be cancelled after changing the display to ST6000 Series in GP-Pro EX.

GP3000 Series



After converting the project to ST6000 Series



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

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



3-3. Other Important Notes on Software

- Changing the setting of the external media to use
 - If a CF card is used for GP-3300 series, after the display unit type of the project file is changed to ST6000 series, "a CF card" is automatically replaced with "a SD card" for the external media setting. ST-6600WA does not support SD card.

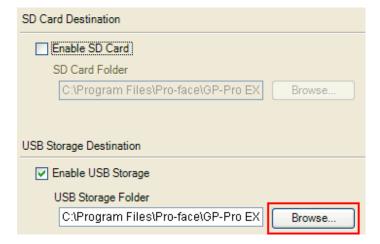
After conversion of the project file data, at GP-Pro EX Error Check, if the message, "The project contains features that require a SD card. However, the selected display does not support SD cards so these features will not run." appears, change the SD card setting to the USB storage setting

following the procedure below.





3) Click the [Browse] button and specify a destination folder.



- 4) Click [OK] to confirm the setting.
- 5) Click [Project]->[Save] to save changes.
- 6) Check each function that uses the CF Card and replace the setting with [USB Storage].

3-3. Other Important Notes on Software

- About Display colors (GP-3500L only)
 - The display color of GP-3500L is monochrome. As ST6000 Series do not support monochrome display, if you change the model to ST6000 Series, the display color will be changed to Color display. Therefore, after changing the model, be sure to check the color of the screen data with GP-Pro EX.



