GP6000 Series

Advanced Model

User Guide



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The information provided in this document contains general descriptions, technical characteristics and/or recommendations related to products/solutions.

This document is not intended as a substitute for a detailed study or operational and site-specific development or schematic plan. It is not to be used for determining suitability or reliability of the products/solutions for specific user applications. It is the duty of any such user to perform or have any professional expert of its choice (integrator, specifier or the like) perform the appropriate and comprehensive risk analysis, evaluation and testing of the products/solutions with respect to the relevant specific application or use thereof.

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Advanced Model Safety Information

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.

WARNING

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

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result** in minor or moderate 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 the Document Advanced Model

About the Document

Document Scope

This document describes the specifications, installation, operation, and maintenance of the GP6000 Series Advanced Model, which is an HMI (Human Machine Interface) device used in industrial or factory automation systems.

This document is intended for users who design systems, or install and maintain components.

Validity Note

This document is valid for the GP6000 Series Advanced Model.

The characteristics of the products described in this document are intended to match the characteristics that are available on www.pro-face.com. As part of our corporate strategy for constant improvement, we may revise the content over time to enhance clarity and accuracy. If you see a difference between the characteristics in this document and the characteristics on www.pro-face.com, consider www.pro-face.com to contain the latest information.

Product Related Information

This product has been designed, developed and manufactured for use in industrial or factory automation systems.

- The product is not appropriate for use with aircraft control devices, medical lifesupport equipment, central trunk data transmission (communication) devices, or nuclear power control devices, due to inherent requirements for extremely high levels of safety and reliability.
- When using the product with transportation vehicles (trains, cars, and ships), disaster and crime prevention devices, safety equipment, or medical devices unrelated to life-support systems, use redundant and/or failsafe system designs to ensure reliability and safety.

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

Advanced Model About the Document

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. The DC model is designed to use 12 to 24 Vdc, and the AC model is designed to use 100 to 240 Vac. Always check whether your device is DC or AC powered before applying power.
- When using this product 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.

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

Please design a safety circuit external to this product so that the entire system operates safely even if the external power supply or this product fails or malfunctions.

- Interlocks and other circuits designed to interrupt or prevent equipment operation (such as emergency stops, protective circuits, and opposing action circuits) and circuits that prevent machine damage, such as positioning mechanisms, should be constructed external to the product.
- The product stops operation when it detects an abnormality such as a
 watchdog timer error. If an error occurs in the input/output control area, which
 cannot be monitored, it may lead to unexpected input/output behavior.
 Therefore, it is important to configure an external fail-safe circuit or
 mechanism.
- Problems with the relay or transistor in the output unit may cause the output to remain either in the ON or OFF state. Install an external monitoring circuit for output signals that may cause a serious accident.

Design the circuit so that power is supplied to the external device or load control power supply connected to this product before it starts.

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.

Do not create any switches on the touch panel that may cause personal injury, property damage, or compromise the safety of the equipment. Design the system so that controls for important operations are managed by devices other than this product, or by independent hardware switches.

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.

About the Document Advanced Model

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.
- 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.
- Follow all applicable safety standard, local regulations and directives.

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.

Advanced Model About the Document

 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.

Precautions on using models with projected capacitive touch panel

Models with a projected capacitive (PCAP) touch panel may operate abnormally when the display surface is wet.

AWARNING

LOSS OF CONTROL

- Do not touch the touch panel area during operating system startup.
- Do not operate when the touch panel surface is wet.
- If the touch panel surface is wet, remove any excess water with a soft cloth before operation.

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

NOTE:

- If Touch Mode is set to Water detection mode, when an abnormal touch (such as water) occurs, touch is disabled for a few seconds to avoid accidental touch. Normal touch operation recovers a few seconds after the abnormal touch condition is removed. You can change the Touch Mode in System Settings.
- While the system is starting up, as the touch panel initial values are being checked, do not touch the touch panel area.

About the Document Advanced Model

NOTICE

EQUIPMENT DAMAGE

- Do not press on the display of this product with excessive force or with a hard object.
- Do not press on the touch panel with a pointed object, such as the tip of a mechanical pencil or a screwdriver.
- Handle this product carefully to prevent puncture, bursting, or cracking of the panel material.

Failure to follow these instructions can result in equipment damage.

Compared to conventional analog resistive film, projected capacitive touch panels have higher transmittance and lighter touch operation, as well as supporting multitouch. As it is able to detect weak changes in capacitance, projected capacitive touch panels are susceptible to environmental noise.

While our products have been optimized for industrial environmental noise and conform to CE marking, our products cannot support all environmental noise.

Please consider the following in the installation environment to avoid touch malfunction.

Example:

To reduce the noise voltage of the enclosure of the equipment housing this product:

- Implement noise countermeasures in the equipment. For example, install a noise filter on the inverter, servo amplifier, or other equipment. Refer to the manufacturer's instruction manual.
- · Attach a ground wire noise filter to the FG connection of equipment.
- Connect the enclosure for the equipment to the building. For example, connect to the concrete or steel reinforcement parts of the building.

NOTE: If there is a lot of environmental noise, because the noise filter for the touch panel controller has to run, touch response may become slow.

General Cybersecurity Information

In recent years, the growing number of networked machines and production plants has seen a corresponding increase in the potential for cyber threats, such as unauthorized access, data breaches, and operational disruptions. You must, therefore, consider all possible cybersecurity measures to help protect assets and systems against such threats.

To help keep your Pro-face products secure and protected, it is in your best interest to implement the cybersecurity best practices as described in the Cybersecurity Best Practices document.

Pro-face provides additional information and assistance:

- Visit the Security Notification page to find security notifications.
- · Contact us to report vulnerabilities and incidents.

Product Related Cybersecurity Information

Refer to Cybersecurity, page 13.

Advanced Model About the Document

Environmental Data

For product compliance and environmental information, refer to the Pro-face Environmental Data Program.

Available Languages of the Document

The document is available in these languages:

- English (GP6000-MM01-EN)
- French (GP6000-MM01-FR)
- German (GP6000-MM01-DE)
- Spanish (GP6000-MM01-ES)
- Italian (GP6000-MM01-IT)
- Chinese (GP6000-MM01-CS)
- Japanese (GP6000-MM01-JA)
- Korean (GP6000-MM01-KO)

Related Documents

Title of documentation	Reference number
Cybersecurity Best Practices	Refer to General Cybersecurity Information, page 11.
HMI/IPC Cybersecurity Guide	PFHMIIPCCS-MM01-EN (ENG)
	PFHMIIPCCS-MM01-JA (JPN)

You can download the manuals related to this product, such as the software manual, from the Pro-face download page (www.pro-face.com/trans/en/manual/1085.html).

Information on Non-Inclusive or Insensitive Terminology

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QR Code is a registered trademark of DENSO WAVE INCORPORATED in Japan and other countries.

Product names used in this manual may be the registered trademarks owned by the respective proprietors.

Cybersecurity Advanced Model

Cybersecurity

Cybersecurity Guideline

Use this product inside a secure industrial automation and control system. Total protection of components (equipment/devices), systems, organizations, and networks from cyber attack threats requires multi-layered cyber risk mitigation measures, early detection of incidents, and appropriate response and recovery plans when incidents occur. For more information about cybersecurity, refer to the Pro-face HMI/IPC Cybersecurity Guide.

https://www.proface.com/en/download/manual/cybersecurity_guide

AWARNING

POTENTIAL COMPROMISE OF SYSTEM AVAILABILITY, INTEGRITY, AND CONFIDENTIALITY

- Change default passwords at first use to help prevent unauthorized access to device settings, controls and information.
- Disable unused ports/services and default accounts, where possible, to minimize pathways for malicious attacks.
- Place networked devices behind multiple layers of cyber defenses (such as firewalls, network segmentation, and network intrusion detection and protection).
- Apply the latest updates and hotfixes to your Operating System and software.
- Use cybersecurity best practices (for example: least privilege, separation of duties) to help prevent unauthorized exposure, loss, modification of data and logs, interruption of services, or unintended operation.

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

Security Seal

This product has a security seal attached, which helps detect unauthorized repairs or modifications to the product. Once the security seal is removed, it cannot be reapplied, increasing the product's security risk.

AWARNING

POTENTIAL COMPROMISE OF SYSTEM AVAILABILITY, INTEGRITY, AND CONFIDENTIALITY

- · Do not remove the security seal on the product.
- Do not use products with removed security seals.

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

Advanced Model Overview

Overview

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Model Numbers

Model List

Series		Display size	Model number
GP6000 Series (Advanced Model)	Panel mount type	10-inch	PFXGP6540TMAI PFXGP6540TMDI
		10-inch wide	PFXGP6540WCAI PFXGP6540WCDI
		12-inch	PFXGP6640TMAI PFXGP6640TMDI
		12-inch wide	PFXGP6640WCAI PFXGP6640WCDI
		15-inch	PFXGP6740TMAI PFXGP6740TMDI
		15-inch wide	PFXGP6740WCAI PFXGP6740WCDI
		19-inch wide	PFXGP6840WCAI PFXGP6840WCDI
		22-inch wide	PFXGP6940WCAI PFXGP6940WCDI
	DIN mount type	-	PFXGP6B40AI PFXGP6B40DI

NOTE: All model numbers may be followed by any letter or number.

Model Number Configuration

The following describes the configuration of model numbers.

Digit	Category	Number	Description
13	(Prefix)	PFX	-
46	Series	GP6	-
7	Display size	5	10"
		6	12"
		7	15"
		8	19"
		9	22"
		В	No display (DIN mount type)
8, 9	Туре	40	Advanced

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Digit	Category	Number	Description
10	LCD	Т	TFT
		W	Wide TFT
		(none)*1	No display (DIN mount type)
11	Touch panel	С	Multi (PCAP)
		М	Analog (multi-touch)
		(none)*1	No display (DIN mount type)
12	Power supply	Α	AC
		D	DC
13 and later	Supported software, others	1	GP-Pro EX

^{*1} The digit is skipped if it does not have the corresponding identification number.

Package Contents

Package Contents (Panel Mount Type)

Verify all items listed here are present in your package.

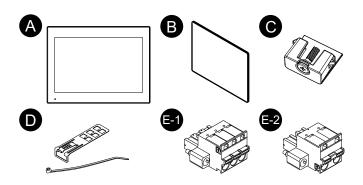
If you find anything damaged or missing, please contact customer support immediately.

AWARNING

UNINTENDED EQUIPMENT OPERATION

Do not use damaged products or accessories.

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



- A. GP6000 Series Advanced Model x 1
- B. Installation gasket (attached to this product) x 1
- C. Installation fasteners (to install on a panel)4 pieces (for 10-inch, 12-inch, 10-inch wide and 12-inch wide models)8 pieces (for 15-inch, 15-inch wide, 19-inch wide and 22-inch wide models)
- D. USB cable clamp (Type-A) x 2 set (2 clips and 2 ties)
- E. Power connector x 1 (E-1 for DC, E-2 for AC)
- F. Instruction sheet x 1

Advanced Model Overview

Package Contents (DIN Mount Type)

Verify all items listed here are present in your package.

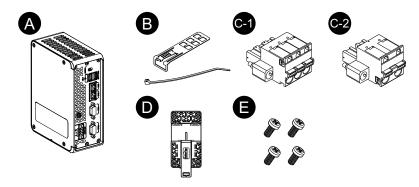
If you find anything damaged or missing, please contact customer support immediately.

AWARNING

UNINTENDED EQUIPMENT OPERATION

Do not use damaged products or accessories.

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

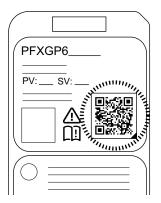


- A. GP6000 Series Advanced Model x 1
- B. USB cable clamp (Type-A) x 2 set (2 clips and 2 ties)
- C. Power connector x 1 (C-1 for DC, C-2 for AC)
- D. DIN rail attachment x 1
- E. M4 screw (length: 10 mm [0.39 in])*1 x 4
- F. Instruction sheet x 1
- *1 These screws are used to attach the DIN rail attachment to the product.

Product Revision and QR Code

You can identify the product version (PV) and the software version (SV) from the product label.

You can also check the contents of this manual by using the QR code on the product label. Confirm the location of the QR code below and refer to the manual.



Overview Advanced Model

Certifications and Standards

The certifications and standards listed below may include those that are not yet acquired. Please check the product marking and the following URL for the latest acquisition status.

https://www.pro-face.com/trans/en/manual/1002.html

Agency Certifications

All models

Underwriters Laboratories LLC., UL 61010-2-201 and CSA C22.2
 N°61010-2-201, for Industrial Control Equipment used in Ordinary Locations

Only DC models

- Underwriters Laboratories LLC., UL 121201 and CSA C22.2 N°213, for Industrial Control Equipment used in Class I, Division 2 Hazardous (Classified) Locations
- IECEx / ATEX for use in zone 2 gas /zone 22 dust
- CCCEx
- KCs
- EU RO Mutual Recognition (EU RO MR) following IACS UR E10
- China Classification Society (CCS)
- Det Norske Veritas (DNV)
- Nippon Kaiji Kyokai (NK)

Compliance Standards

Europe:

CE/UKCA

- Directive 2014/35/EU (Low Voltage)
- Directive 2014/30/EU (EMC)
- Directive 2014/34/EU (ATEX)

Australia, New Zealand:

RCM

Korea:

KC

Hazardous Substances

This product is designed to be compliant with the following environmental regulations, even if the product may not fall directly in the scope of the regulation:

- RoHS, Directive 2011/65/EU and 2015/863/EU
- RoHS China, Standard GB/T 26572
- REACH regulation EC 1907/2006

End of Life (WEEE)

The product contains electronic boards. It must be disposed of in specific treatment channels. The product contains cells and/or storage batteries which

Advanced Model Overview

must be collected and processed separately when they have run out and at the end of product life (Directive 2012/19/EU).

Refer to Maintenance, page 89 when extracting cells and batteries from the product. These batteries do not contain a weight percentage of heavy metals over the threshold notified by European Battery Regulation 2023/1542.

KC Markings

기종별	사용자안내문
A급 기기 (업무용 방송통신기자재)	이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적 으로 합니다.

Federal Communication Commission Radio Frequency Interference Statement - For USA

FCC Radio Interference Information

This product has been tested and found to comply with the Federal Communications Commission (FCC) limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial, industrial or business environment. This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause or be subject to interference with radio communications. To minimize the possibility of electromagnetic interference in your application, observe the following two rules:

- Install and operate this product in such a manner that it does not radiate sufficient electromagnetic energy to cause interference in nearby devices.
- Install and test this product to ensure that the electromagnetic energy generated by nearby devices does not interfere with the operation of this product.

AWARNING

ELECTROMAGNETIC / RADIO INTERFERENCE, UNINTENDED EQUIPMENT OPERATION

Check for electromagnetic and radio interference. If interference is detected, take the following actions.

- Increase the distance between this product and the interfering equipment.
- Reorient this product and the interfering equipment.
- Reroute power and communication lines to this product and the interfering equipment.
- Connect this product and the interfering equipment to different power supplies.
- Always use shielded cables when connecting this product to a peripheral device or another computer.

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

Overview Advanced Model

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this product.

Hazardous Location Installation - For USA and Canada

General

This product 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 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. The DC model is designed to use 12 to 24 Vdc, and the AC model is designed to use 100 to 240 Vac. Always check whether your device is DC or AC powered before applying power.

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

Advanced Model Overview

AWARNING

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.
- Always use shielded/grounded 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.

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.

Device Connectivity Advanced Model

Device Connectivity

What's in This Chapter

System Design	21
Accessories	22

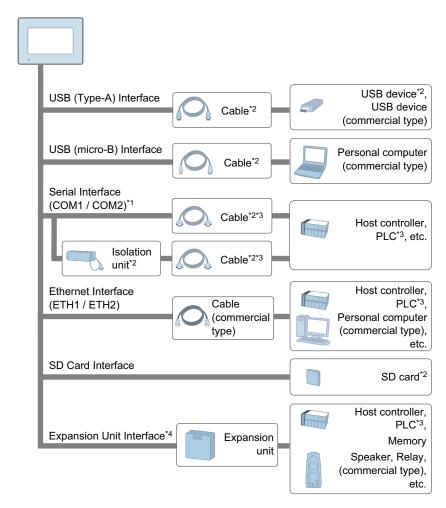
System Design

System Design (Panel Mount Type)

This section describes the system configuration with this product and peripheral equipment.

NOTE:

- The number of interfaces may vary depending on the model. Refer to Parts Identification and Functions, page 26.
- External storage devices used with this product should be formatted with the FAT, FAT32, or exFAT file system.



- *1 The isolation unit can only be installed on the COM1 port. To use the isolation unit, set the pin 9 of the COM1 port to VCC.
- *2 Refer to Accessories, page 22.
- *3 For information on how to connect controllers and other types of equipment, refer to the corresponding device driver manual of your screen editing software.
- *4 This interface is currently unavailable.

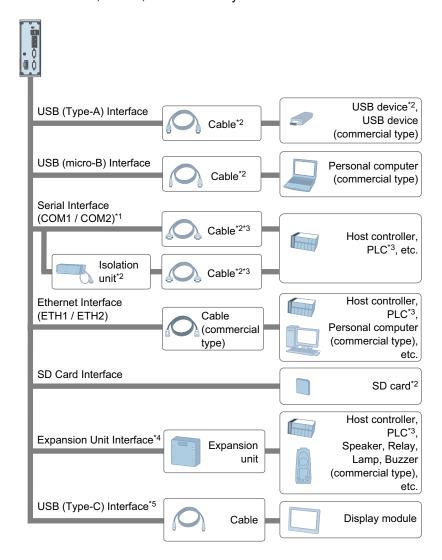
Advanced Model Device Connectivity

System Design (DIN Mount Type)

This section describes the system configuration with this product and peripheral equipment.

NOTE:

- The number of interfaces may vary depending on the model. Refer to Parts Identification and Functions, page 26.
- External storage devices used with this product should be formatted with the FAT, FAT32, or exFAT file system.



- *1 The isolation unit can only be installed on the COM1 port. To use the isolation unit, set the pin 9 of the COM1 port to VCC.
- *2 Refer to Accessories, page 22.
- *3 For information on how to connect controllers and other types of equipment, refer to the corresponding device driver manual of your screen editing software.
- *4 This interface is currently unavailable.
- *5 The USB (Type-C) interface supports DisplayPort Alternate Mode. This interface is currently unavailable.

Accessories

This section introduces optional items that are sold separately.

Device Connectivity Advanced Model

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

https://www.pro-face.com

For host controllers and connection cables, refer to the corresponding device driver manual of your screen editing software.

Product name	Product number	Description	
Serial Interface			
9-pin to 25-pin RS-232C Conversion Cable (0.2 m)	PFXZC3CBCVR21	Cable for converting a D-Sub 9-pin plug to a D-Sub 25-pin socket (RS-232C). (0.2 m [0.66 ft])	
RS-422 9/25-pin Conversion Cable (0.2 m)	PFXZCBCBCVR41	Cable for converting a D-Sub 9-pin plug to a D-Sub 25-pin socket (RS-422). (0.2 m [0.66 ft])	
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.	
Terminal Block Conversion Adapter	PFXZC3ADR41	Connects output from a serial interface with an RS-422 terminal block.	
RS-232C Isolation Unit	PFXZC3ADISR21	Connects a host controller to this product and provides isolation (RS-232C and RS-422 are switchable).	
COM Port Conversion Adapter	PFXZC3ADCM1	Connects optional RS-422 communication items to serial interface.	
USB (micro-B) Interface			
USB Transfer Cable	PFXZUSCBMB2	Cable for transferring screen data from a PC (USB Type-A) to this product (USB micro-B).	
USB (micro-B) Front Cable	PFXZCIEXMB2	Extension cable that attaches USB interface to front panel.	
USB (Type-A) Interface			
USB Front Cable (1 m)	PFXZC5CBUBEX1	Extension cable that attaches USB interface to front panel.	
Enhanced front USB cover (with screw)*1	PFXZCDCVUS1	Front USB cover with fixing screw, corresponding to IP66F, IP67F, Type 1/4X Indoor use only /13 or ATEX certifications (5 pieces/set).	
SD Card Interface			
SD Memory Card	PFXZCBSD4GC41	SD memory card (4 GB), SDHC	
	PFXZCSD16GC101	SD memory card (16 GB, pSLC), SDHC	
	PFXZCSD32GC101	SD memory card (32 GB, pSLC), SDHC	
	PFXYP6SD64GCX	SD memory card (64 GB), SDXC	
Others			
Screen Protection Sheet	PFXZCBDS101	Disposable, dirt-resistant sheet for 10.4-inch screen (5 sheets/set).	
	PFXZC7DS121	Disposable, dirt-resistant sheet for 12.1-inch screen (5 sheets/set).	
	PFXZC3DS151	Disposable, dirt-resistant sheet for 15-inch screen (5 sheets/set).	
UV Protection Sheet	PFXZCFUV101	Sheet to protect the display from ultraviolet light, for 10-inch screen (1 sheet).	

Advanced Model Device Connectivity

Product name	Product number	Description
Environment Cover	PFXZCDOP101	Disposable, environmental resistant cover for 10-inch screen (1 sheet).
	PFXZCDOP121	Disposable, environmental resistant cover for 12-inch screen (1 sheet).
	PFXZCDOP151	Disposable, environmental resistant cover for 15-inch screen (1 sheet).
Anti-glare Sheet	PFXZCAG5W1	Prevent reflections, dirt-resistant sheet for 10-inch wide display (5 sheets/set).
	PFXZCAG6W1	Prevent reflections, dirt-resistant sheet for 12-inch wide display (5 sheets/set).
	PFXZCAG7W1	Prevent reflections, dirt-resistant sheet for 15-inch wide display (5 sheets/set).
	PFXZCAG8W1	Prevent reflections, dirt-resistant sheet for 19-inch wide display (5 sheets/set).
	PFXZCAG9W1	Prevent reflections, dirt-resistant sheet for 22-inch wide display (5 sheets/set).
Panel Cutout Adapter*2	PFXZC4AT101	Panel cutout adapter for mounting 10-inch model in cutout for GP-2500/2600 Series, AGP-3500L/ AGP-3500S/ AGP-36*0T/ AGP-36*0U.
	PFXZHAT7W1	Panel cutout adapter for mounting 15-inch wide model in cutout for SP-5700WC.
	PFXZHAT8W1	Panel cutout adapter for mounting 19-inch wide model in cutout for SP-5800WC.

^{*1} Supported by 12-inch and 15-inch models only.

Maintenance Accessories

This section lists replacement parts.

Product name	Product number	Description	
Box Module		·	
Box Module (DC)*1	PFXGP6Z40DI	Box module (DC model) for GP6000 Series Advanced Model (panel mount type).	
Box Module (AC)*1	PFXGP6Z40AI	Box module (AC model) for GP6000 Series Advanced Model (panel mount type).	
Display Module	Display Module		
10-inch Display Module	PFXDM6500TM	10-inch display module with front USB port, SVGA, 16 M colors, analog multitouch.	
12-inch Display Module	PFXDM6600TM	12-inch display module with front USB port, XGA, 16 M colors, analog multitouch.	
15-inch Display Module	PFXDM6700TM	15-inch display module with front USB port, XGA, 16 M colors, analog multitouch.	

^{*2} The range for the allowable panel thickness varies depending on the panel cutout adapter. For information, refer to the panel cutout adapter instruction sheet.

Device Connectivity Advanced Model

Product name	Product number	Description
10-inch Wide Display Module	PFXDM6500WC	10-inch wide display module, WXGA, 16 M colors, projected capacitive multi-touch.
12-inch Wide Display Module	PFXDM6600WC	12-inch wide display module, WXGA, 16 M colors, projected capacitive multi-touch.
15-inch Wide Display Module	PFXDM6710WC	15-inch wide display module, full HD, 16 M colors, projected capacitive multi-touch.
19-inch Wide Display Module	PFXDM6800WC	19-inch wide display module, full HD, 16 M colors, projected capacitive multi-touch.
22-inch Wide Display Module	PFXDM6900WC	22-inch wide display module, full HD, 16 M colors, projected capacitive multi-touch.
Installation Fastener		
Installation Fastener	PFXZCAF1	Fastener for installing the product into a solid panel (4 pieces/set).
Installation Gasket		
Installation Gasket for 10-inch	PFXZCDWG101	Provides dust and moisture resistance when 10-inch model is installed into a solid panel (1 piece).
Installation Gasket for 12-inch	PFXZCDWG121	Provides dust and moisture resistance when 12-inch model is installed into a solid panel (1 piece).
Installation Gasket for 15-inch	PFXZCDWG151	Provides dust and moisture resistance when 15-inch model is installed into a solid panel (1 piece).
Installation Gasket for 10-inch wide	PFXZCDWG102	Provides dust and moisture resistance when 10-inch wide model is installed into a solid panel (1 piece).
Installation Gasket for 12-inch wide	PFXZCDWG122	Provides dust and moisture resistance when 12-inch wide model is installed into a solid panel (1 piece).
Installation Gasket for 15-inch wide	PFXZCHWG154	Provides dust and moisture resistance when 15-inch wide model is installed into a solid panel (1 piece).
Installation Gasket for 19-inch wide	PFXZCWG8W1	Provides dust and moisture resistance when 19-inch wide model is installed into a solid panel (1 piece).
Installation Gasket for 22-inch wide	PFXZCWG9W1	Provides dust and moisture resistance when 22-inch wide model is installed into a solid panel (1 piece).
Power Supply Connector		
Power Connector (DC)	PFXZC7CNACL1	Connector with fixable screws to connect DC power supply cables (Straight type, 5 pieces/set).
Power Connector (AC)	PFXZCCNAC1	Connector with fixable screws to connect AC power supply cable (Straight type, 5 pieces/set).
USB Cable Clamp		
USB Clamp Type-A (1 port)	PFXZCBCLUSA1	Clamp to prevent disconnection of USB cable (USB Type-A, 1 port, 5 clamps/set).

^{*1} The ambient air temperature of the Box Module is determined by the Display Module it is installed in. For details, refer to Environmental Specifications (Panel Mount Type), page 38.

Parts Identification and Functions

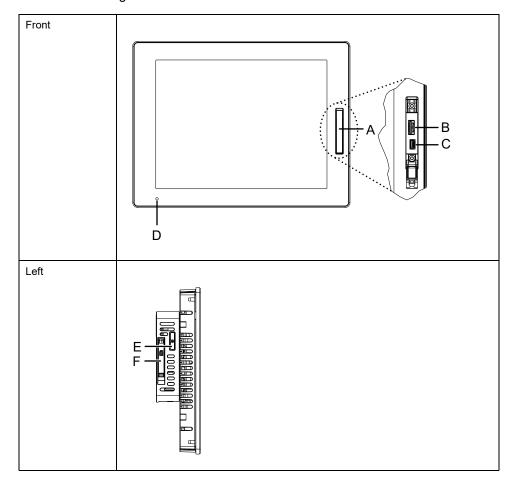
What's in This Chapter

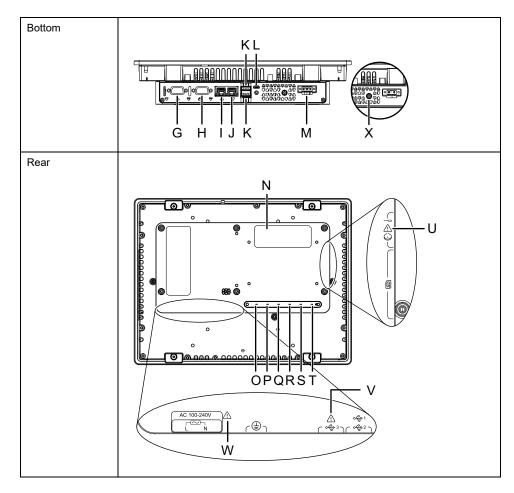
Parts Identification (Panel Mount Type)	26
LED Indications (Panel Mount Type)	
Parts Identification (DIN Mount Type)	
LED Indications (DIN Mount Type)	

Parts Identification (Panel Mount Type)

Parts Identification (10, 12, 15-inch Model)

NOTE: The figures below show the 12-inch model.





A. Front USB cover

B. Front USB (Type-A) interface*1

C. Front USB (micro-B) interface*1

D. Status LED (front LED)

E. Battery slot

F. SD card slot cover

G. Serial interface (COM2)

H. Serial interface (COM1)

I. Ethernet interface (ETH2)*2

J. Ethernet interface (ETH1)

K. USB (Type-A) interface (x 2)

L. USB (micro-B) interface

M. Power connector

N. Expansion unit interface*3

O. Status LED (STA)

P. Error LED (ERR)

Q. COM1 LED (COM1)

R. COM2 LED (COM2)

S. USB storage LED (USB)

T. SD card access LED (SD)

U. Safety alert symbol*4

V. Safety alert symbol*5

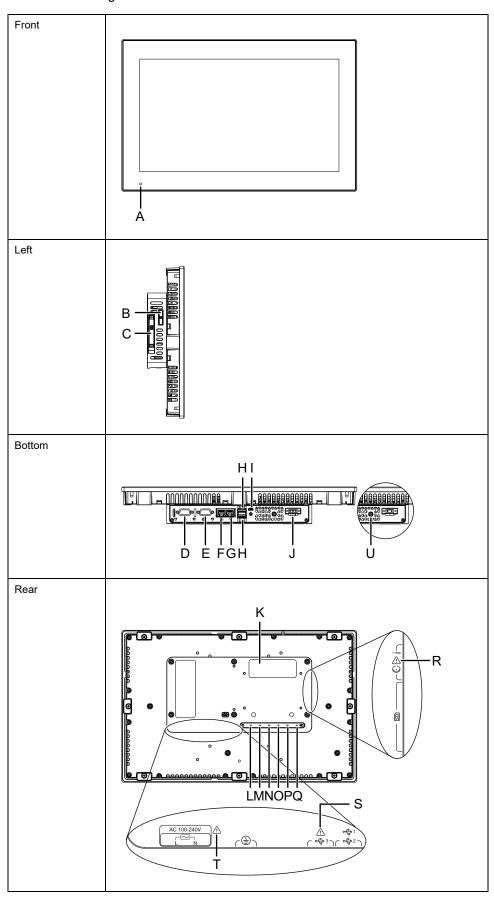
W. Safety alert symbol (AC model only)*6

X. PE terminal (used for AC model only)

- *1 The factory default for the Front USB ports (Type-A and micro-B) is disabled. To enable it, change the setting in the **System Settings**. For details, refer to Display, page 117.
- *2 The factory default for the ETH2 port is disabled. Use the **System Settings** to change it. For details, refer to Ethernet, page 118.
- *3 This interface is currently unavailable.
- *4 Identifies the safety messages about the battery in Replacing the Battery, page 93.
- *5 Identifies the safety messages about the USB (micro-B) interface in Cable Connections, page 47.
- *6 Identifies the safety messages about the power wiring in Wiring the Power Supply, page 73.

Parts Identification (10, 12, 15, 19, 22-inch Wide Model)

NOTE: The figures below show the 15-inch wide model.



A. Status LED (front LED)

L. Status LED (STA)

B. Battery slot

M. Error LED (ERR)

C. SD card slot cover	N. COM1 LED (COM1)
D. Serial interface (COM2)	O. COM2 LED (COM2)
E. Serial interface (COM1)	P. USB storage LED (USB)
F. Ethernet interface (ETH2)*1	Q. SD card access LED (SD)
G. Ethernet interface (ETH1)	R. Safety alert symbol*3
H. USB (Type-A) interface (x 2)	S. Safety alert symbol*4
I. USB (micro-B) interface	T. Safety alert symbol (AC model only)*5
J. Power connector	U. PE terminal (used for AC model only)

K. Expansion unit interface*2

- *1 The factory default for the ETH2 port is disabled. Use the **System Settings** to change it. For details, refer to Ethernet, page 118.
- *2 This interface is currently unavailable.
- *3 Identifies the safety messages about the battery in Replacing the Battery, page 93.
- *4 Identifies the safety messages about the USB (micro-B) interface in Cable Connections, page 47.
- *5 Identifies the safety messages about the power wiring in Wiring the Power Supply, page 73.

LED Indications (Panel Mount Type)

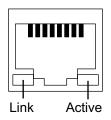
Status LED (Front LED)

After the power is turned on, the normal status indication by the LED is: red light > blinking orange > green light.

Color	Indicator	HMI operation
Green	ON	In operation/Offline
	Blinking (ON/OFF every 3 seconds)	Backlight OFF (Standby Mode)
Orange	Blinking	Software starting up
Red	ON	Power is ON.
-	OFF	Power is OFF.

For other LED indications, refer to the manual of your screen editing software.

Ethernet LED



Color	Indicator	Description
Green (Link)	ON	Data transmission is available.
	OFF	No connection or error
Green (Active)	Blinking	Data transmission in progress
	ON	No data transmission
-	OFF	No connection or error

Rear LEDs

Status LED

The indicator is the same as the status LED on the front of the product.

Please refer to Status LED (Front LED), page 29.

Error LED

The indicator is the same as the Error LED on DIN Mount Type.

Please refer to Error LED, page 33.

COM1/COM2 LED

The indicator is the same as the COM1/COM2 LED on DIN Mount Type.

Please refer to COM1/COM2 LED, page 33.

USB Storage LED

The indicator is the same as the USB Storage LED on DIN Mount Type.

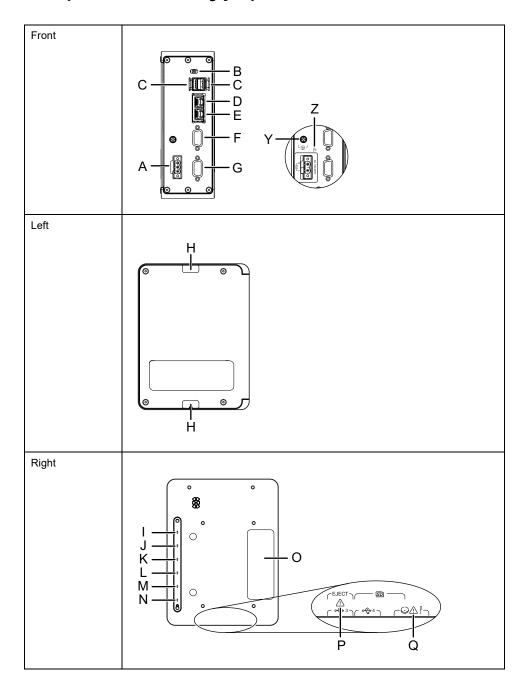
Please refer to USB Storage LED, page 34.

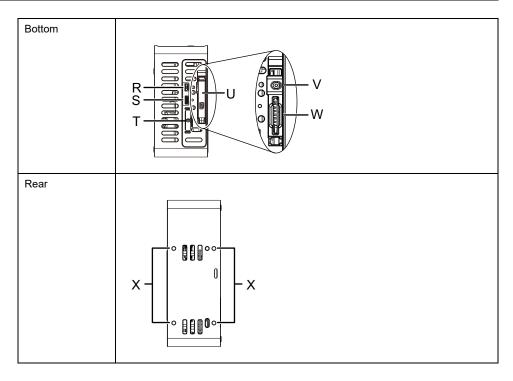
SD Card Access LED

The indicator is the same as the SD Card Access LED on DIN Mount Type.

Please refer to SD Card Access LED, page 34.

Parts Identification (DIN Mount Type)



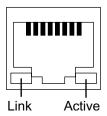


- A. Power connector
- B. USB storage eject button*1
- C. USB (Type-A) interface (x 2)
- D. Ethernet interface (ETH1)
- E. Ethernet interface (ETH2)*2
- F. Serial interface (COM1)
- G. Serial interface (COM2)
- H. Security seal*3
- I. Status LED (STA)
- J. Error LED (ERR)
- K. COM1 LED (COM1)
- L. COM2 LED (COM2)
- M. USB storage LED (USB)

- N. SD card access LED (SD)
- O. Expansion unit interface*4
- P. Safety alert symbol*5
- Q. Safety alert symbol*6
- R. USB (micro-B) interface
- S. USB (Type-C) interface*7
- T. Battery slot cover
- U. SD card slot cover
- V. SD card eject button*1
- W. SD card slot
- X. Screw holes for attaching the DIN rail
- attachment
- Y. PE terminal (used for AC model only)
- Z. Safety alert symbol (AC model only)*8
- *1 For details, refer to Eject Button, page 52.
- *2 The factory default for the ETH2 port is disabled. Use the **System Settings** to change it. For details, refer to Ethernet, page 118.
- *3 For details, refer to Security Seal, page 13.
- *4 This interface is currently unavailable.
- *5 Identifies the safety messages about the USB (micro-B) interface in Cable Connections, page 47.
- *6 Identifies the safety messages about the battery in Replacing the Battery, page 93.
- *7 The USB (Type-C) interface supports DisplayPort Alternate Mode. This interface is currently unavailable.
- *8 Identifies the safety messages about the power wiring in Wiring the Power Supply, page 73.

LED Indications (DIN Mount Type)

Ethernet LED



Color	Indicator	Description
Green (Link)	ON	Data transmission is available.
	OFF	No connection or error
Green (Active)	Blinking	Data transmission in progress
	ON	No data transmission
-	OFF	No connection or error

LED Indications (DIN Mount Type)

Status LED

After the power is turned on, the normal status indication by the LED is: red light > blinking orange > green light.

Color	Indicator	HMI operation
Green	ON	In operation/Offline
Orange	Blinking	Software starting up
Red	ON	Power is ON.
-	OFF	Power is OFF.

For other LED indications, refer to the manual of your screen editing software.

Error LED

Color	Indicator	Description
Red	ON	Major error is detected.
	Blinking	Minor error is detected.
-	OFF	Normal operation

COM1/COM2 LED

Color	Indicator	Description
Yellow	ON	Data transmission in progress
-	OFF	No data transmission

USB Storage LED

Color	Indicator	Description
Green (Active)	ON	The USB Storage device is inserted.
-	OFF	The USB Storage device is not inserted. Or is not being accessed.

SD Card Access LED

Color	Indicator	Description
Green (Active)	ON	The SD card is inserted.
-	OFF	The SD card is not inserted. Or is not being accessed.

Specifications Advanced Model

Specifications

What's in This Chapter

General Specifications (Panel Mount Type)	3:	2
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Functional Specifications		
Interface Specifications		

General Specifications (Panel Mount Type)

Electrical Specifications (Panel Mount Type)

10, 12, 15-inch (AC Model)

		10-inch, AC model	12-inch, AC model	15-inch, AC model	
Rated input voltage		100240 Vac			
Input voltage limits		85264 Vac			
Rated frequenc	у	50/60 Hz			
Rated frequenc	y range	4763 Hz			
Voltage dip/sho immunity	rt interruption	20 ms or less			
Power consumption	When power is supplied to expansion units	52 VA	55 VA	57 VA	
	When power is not supplied to expansion units	37 VA	39 VA	42 VA	
	When power is not supplied to external devices	34 VA	35 VA	36 VA	
	When screen turns off the backlight (standby mode)	31 VA	31 VA	31 VA	
In-rush current		30 A or less			
Noise immunity		Noise voltage: 1,500 Vp-p, Pulse duration: 1 μs, Rise time: 1 ns (via noise simulator)			
Dielectric strength		1,500 Vac for 1 minute (between power terminal and PE terminal)			
Insulation resistance		$500~\text{Vdc},10~\text{M}\Omega$ or more (between power terminal and PE terminal)			

10, 12, 15-inch (DC Model)

	10-inch, DC model	12-inch, DC model	15-inch, DC model
Rated input voltage	1224 Vdc		
Input voltage limits	10.828.8 Vdc		
Voltage dip/short interruption immunity	12 Vdc: 1.25 ms or le 24 Vdc: 5 ms or less	SS	

Advanced Model Specifications

		10-inch, DC model	12-inch, DC model	15-inch, DC model
Power consumption	When power is supplied to expansion units	41 W	45 W	48 W
	When power is not supplied to expansion units	23 W	26 W	29 W
	When power is not supplied to external devices	16 W	20 W	22 W
	When screen turns off the backlight (standby mode)	13 W	13 W	14 W
In-rush current		30 A or less		
Noise immunity		Noise voltage: 1,000 Vp-p, Pulse duration: 1 μs, Rise time: 1 ns (via noise simulator)		
Dielectric strength		1,000 Vac for 1 minute (between power terminal and FG terminal)		
Insulation resistance		$500~\text{Vdc},10~\text{M}\Omega$ or more (between power terminal and FG terminal)		

10, 12, 15, 19, 22-inch Wide (AC Model)

		10-inch wide, AC model	12-inch wide, AC model	
Rated input voltage		100240 Vac		
Input voltage limits		85264 Vac		
Rated frequency		50/60 Hz		
Rated frequency range		4763 Hz		
Voltage dip/short interruption immunity		20 ms or less		
Power consumption	When power is supplied to expansion units	52 VA	57 VA	
	When power is not supplied to expansion units	37 VA	42 VA	
	When power is not supplied to external devices	35 VA	36 VA	
	When screen turns off the backlight (standby mode)	31 VA	31 VA	
In-rush current		30 A or less		
Noise immunity		Noise voltage: 1,500 Vp-p, Pulse duration: 1 µs, Rise time: 1 ns (via noise simulator)		
Dielectric strength		1,500 Vac for 1 minute (between power terminal and PE terminal)		
Insulation resistance		$500~\text{Vdc},10~\text{M}\Omega$ or more (between power terminal and PE terminal)		

		15-inch wide, AC model	19-inch wide, AC model	22-inch wide, AC model	
Rated input voltage		100240 Vac	100240 Vac		
Input voltage limits		85264 Vac	85264 Vac		
Rated frequenc	у	50/60 Hz			
Rated frequenc	y range	4763 Hz			
Voltage dip/sho immunity	rt interruption	20 ms or less			
Power consumption	When power is supplied to expansion units	61 VA	66 VA	69 VA	
	When power is not supplied to expansion units	46 VA	49 VA	52 VA	
	When power is not supplied to external devices	39 VA	45 VA	47 VA	
	When screen turns off the backlight (standby mode)	32 VA	33 VA	37 VA	
In-rush current		30 A or less			
Noise immunity		Noise voltage: 1,500 Vp-p, Pulse duration: 1 μs, Rise time: 1 ns (via noise simulator)			
Dielectric strength		1,500 Vac for 1 minute (between power terminal and PE terminal)			
Insulation resistance		500 Vdc, 10 $M\Omega$ or more (between power terminal and PE terminal)			

10, 12, 15, 19, 22-inch Wide (DC Model)

		10-inch wide, DC model	12-inch wide, DC model
Rated input voltage		1224 Vdc	
Input voltage lin	nits	10.828.8 Vdc	
Voltage dip/sho immunity	rt interruption	12 Vdc: 1.25 ms or less 24 Vdc: 5 ms or less	
Power consumption	When power is supplied to expansion units	42 W	47 W
	When power is not supplied to expansion units	23 W	28 W
	When power is not supplied to external devices	16 W	21 W
	When screen turns off the backlight (standby mode)	13 W	14 W
In-rush current		30 A or less	

	10-inch wide, DC model	12-inch wide, DC model	
Noise immunity	Noise voltage: 1,000 Vp-p, Pulse duration: 1 µs, Rise time: 1 ns (via noise simulator)		
Dielectric strength	1,000 Vac for 1 minute (between power terminal and FG terminal)		
Insulation resistance	500 Vdc, 10 M Ω or more (betwee terminal)	en power terminal and FG	

		15-inch wide, DC model	19-inch wide, DC model	22-inch wide, DC model	
Rated input voltage		1224 Vdc	1224 Vdc		
Input voltage lin	nits	10.828.8 Vdc			
Voltage dip/short interruption immunity		12 Vdc: 1.25 ms or le 24 Vdc: 5 ms or less	SS		
Power consumption	When power is supplied to expansion units	50 W	60 W	61 W	
	When power is not supplied to expansion units	31 W	39 W	41 W	
	When power is not supplied to external devices	24 W	32 W	33 W	
	When screen turns off the backlight (standby mode)	14 W	16 W	17 W	
In-rush current		30 A or less			
Noise immunity		Noise voltage: 1,000 Vp-p, Pulse duration: 1 μs, Rise time: 1 ns (via noise simulator)			
Dielectric strength		1,000 Vac for 1 minute (between power terminal and FG terminal)			
Insulation resistance		500 Vdc, 10 $M\Omega$ or more (between power terminal and FG terminal)			

Environmental Specifications (Panel Mount Type)

Use and store this product in areas that conform to the specified conditions.

NOTE: When using any of the options for this product, check the specifications for special conditions or cautions that may apply to this product.

Physical environment			
Ambient air temperature*1	10", 12", 15", 10" wide, 12" wide, 15" wide 060 °C (32140 °F) 19" wide, 22" wide 050 °C (32122 °F) Temperature class (T-Code): T4		
Storage temperature	-2060 °C (-4140 °F)		
Ambient air and storage humidity	1090% RH (Non condensing, wet bulb temperature 39 °C [102.2 °F] or less)		
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)		
Pollution degree	For use in Pollution Degree 2 environment		
Corrosive gases	Free of corrosive gases		

Atmospheric pressure (operating altitude)	8001,114 hPa (2,000 m [6,561 ft] or lower)		
Mechanical environment			
Vibration resistance	IEC/EN 61131-2 compliant 59 Hz Single amplitude 3.5 mm (0.14 in) 9150 Hz Fixed acceleration: 9.8 m/s ² X, Y, Z directions for 10 cycles (approximately 100 minutes)		
Shock resistance	IEC/EN 61131-2 compliant 147 m/s², X, Y, Z directions for 3 times		
Electrical environment			
Electrical fast transient/burst immunity	IEC 61000-4-4 2 kV: Power port 1 kV: Signal ports		
Electrostatic discharge immunity	Contact discharge method: 6 kV Air discharge method: 8 kV (IEC/EN 61000-4-2 Level 3)		

^{*1} When the ambient air temperature is from 0 $^{\circ}$ C to 40 $^{\circ}$ C (32 $^{\circ}$ F to 104 $^{\circ}$ F), the product is classified as temperature class T6.

ACAUTION

INOPERATIVE EQUIPMENT

- Do not operate or store the product where chemicals evaporate, or where chemicals are present in the air. Chemicals refer to the following: A)
 Corrosive chemicals: Acids, alkalines, liquids containing salt, B) Flammable chemicals: Organic solvents.
- Do not allow water, liquids, metal, and wiring fragments to enter the panel case.

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

Structural Specifications (Panel Mount Type)

10, 12, 15-inch Model

	10-inch	12-inch	15-inch
Grounding	DC model: Functional grounding: Grounding resistance of 100 Ω or less, 2 mm² (14 AWG) or thicker wire, or your country's applicable standard (SG and FG are connected inside the product). AC model: Protective grounding: Grounding resistance of 100 Ω or less, 2 mm² (14 AWG) or thicker wire, or your country's applicable standard (SG and PE are connected inside the product).		
Cooling method	Natural air circulation		
Structure*1	Front When using a factory-installed front USB cover: IP65F, IP67F, UL 50/50E, Type 1 When using a front USB cover with screw (PFXZCDCVUS1): IP66F, IP67F, UL 50/50E, Type 1, Type 4X (indoor use only), Type 12, Type 13 NOTE: On the front panel when properly installed in an enclosure and not using the front panel USB port. Rear IP20		
External dimensions (W x H x D)	272.5 x 214.5 x 64 mm (10.73 x 8.44 x 2.52 in)	315 x 241 x 64 mm (12.4 x 9.49 x 2.52 in)	397 x 296 x 64 mm (15.63 x 11.65 x 2.52 in)

	10-inch	12-inch	15-inch
Panel cutout dimensions (W x H)*2*3	259 x 201 mm (10.2 x 7.91 in) Panel thickness range: 1.65 mm (0.060.2 in)	301.5 x 227.5 mm (11.87 x 8.96 in) Panel thickness range: 1.65 mm (0.060.2 in)	383.5 x 282.5 mm (15.1 x 11.12 in) Panel thickness range: 1.65 mm (0.060.2 in)
Weight	3.1 kg (6.83 lb) or less	3.7 kg (8.16 lb) or less	5 kg (11.02 lb) or less

10, 12, 15, 19, 22-inch Wide Model

	10-inch wide	12-inch wide
Grounding	DC model: Functional grounding: Grounding resistance of 100 Ω or less, 2 mm² (14 AWG) or thicker wire, or your country's applicable standard (SG and FG are connected inside the product). AC model: Protective grounding: Grounding resistance of 100 Ω or less, 2 mm² (14 AWG) or thicker wire, or your country's applicable standard (SG and PE are connected inside the product).	
Cooling method	Natural air circulation	
Structure*1	 Front IP66F, IP67F, UL 50/50E, Type 1, Type 4X (indoor use only), Type 12, Type 13 Rear IP20 	
External dimensions (W x H x D)	268.5 x 198.5 x 64 mm (10.57 x 7.81 x 2.52 in)	308.5 x 230.5 x 64 mm (12.15 x 9.07 x 2.52 in)
Panel cutout dimensions (W x H)*2*3	255 x 185 mm (10.04 x 7.28 in) Panel thickness range: 1.6 3 mm (0.060.12 in)	295 x 217 mm (11.61 x 8.54 in) Panel thickness range: 1.6 5 mm (0.060.2 in)
Weight	3.2 kg (7.05 lb) or less	3.85 kg (8.49 lb) or less

	15-inch wide	19-inch wide	22-inch wide
Grounding	DC model: Functional grounding: Grounding resistance of 100 Ω or less, 2 mm² (14 AWG) or thicker wire, or your country's applicable standard (SG and FG are connected inside the product). AC model: Protective grounding: Grounding resistance of 100 Ω or less, 2 mm² (14 AWG) or thicker wire, or your country's applicable standard (SG and PE are connected inside the product).		
Cooling method	Natural air circulation		
Structure*1	 Front IP66F, IP67F, UL 50/50E, Type 1, Type 4X (indoor use only), Type 12, Type 13 Rear IP20 		
External dimensions (W x H x D)	408 x 264 x 64 mm (16.06 x 10.39 x 2.52 in)	463.6 x 293.6 x 66 mm (18.25 x 11.56 x 2.6 in)	532.6 x 330.6 x 66 mm (20.97 x 13.02 x 2.6 in)
Panel cutout dimensions (W x H)*2*3	394 x 250 mm (15.51 x 9.84 in) Panel thickness range: 1.65 mm (0.060.2 in)	449.5 x 279.5 mm (17.7 x 11.0 in) Panel thickness range: 1.65 mm (0.060.2 in)	518.5 x 316.5 mm (20.41 x 12.46 in) Panel thickness range: 1.65 mm (0.060.2 in)
Weight	5.3 kg (11.68 lb) or less	6.4 kg (14.1 lb) or less	7.5 kg (16.53 lb) or less

^{*1} The front of this product has been tested to comply with the specified standards when installed in a solid panel. However, it is not intended for use in all environments. In environments where the product is exposed to liquids (including jets and sprays) for extended periods, there is a risk that liquids may enter the product due to causes such as peeling of the protective sheet or damage to the

front glass cover. In such environments, implement appropriate protective measures based on the specific conditions. Therefore, prior to installing this product, be sure to confirm the type of conditions that will be present in this product's operating environment.

If the installation gasket is used for a long period of time, or if this product and its gasket are removed from the panel, the original level of protection cannot be kept. To maintain the original protection level, be sure to replace the installation gasket regularly.

*2 The dimensional tolerance for the width and height of the mounting hole is +1/-0 mm (+0.04/-0 in). All the corners have a radius of R3 mm (R0.12 in) or less.

*3 Even if the installation wall thickness is within the specified range, depending on the wall's material, size, and installation location of this product and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

NOTE: IP65F, IP66F and IP67F are not part of UL certification.

NOTICE

EQUIPMENT DAMAGE

- Ensure this product is not in permanent and direct contact with oils.
- Do not press on the display of this product with excessive force or with a hard object.
- Do not press on the touch panel with a pointed object, such as the tip of a mechanical pencil or a screwdriver.
- Do not expose the product to direct sunlight.

Failure to follow these instructions can result in equipment damage.

NOTICE

STORAGE AND OPERATION OUTSIDE OF SPECIFICATIONS

- Store this product in areas where temperatures are within the product's specifications.
- Do not restrict or block the product's ventilation slots.

Failure to follow these instructions can result in equipment damage.

NOTICE

GASKET AGING

- Inspect the gasket periodically as required by your operating environment.
- Replace the gasket at least once a year, or as soon as scratches or dirt become visible.

Failure to follow these instructions can result in equipment damage.

General Specifications (DIN Mount Type)

Electrical Specifications (DIN Mount Type)

AC Model

Rated input voltage	100240 Vac
Input voltage limits	85264 Vac

Rated Frequency		50/60 Hz	
Rated Frequency Range		4763 Hz	
Voltage drop (at rated input voltage)		20 ms or less	
Power consumption	When power is supplied to expansion units and expansion display*1	75 VA	
	When power is not supplied to expansion units and expansion display	37 VA	
	When power is not supplied to external devices	29 VA	
In-rush current		30 A or less	
Noise immunity		Noise voltage: 1,500 Vp-p, Pulse duration: 1 μs, Rise time: 1 ns (via noise simulator)	
Dielectric strength		1,500 Vac for 1 minute (between power terminal and PE terminal)	
Insulation resistance		500 Vdc, 10 M Ω or more (between power terminal and PE terminal)	

DC Model

Rated input voltage		1224 Vdc	
Input voltage limits		10.828.8 Vdc	
Voltage drop (at rated input voltage)		12 Vdc: 1.25 ms or less 24 Vdc: 5 ms or less	
Power consumption	When power is supplied to expansion units and expansion display*1	70 W	
	When power is not supplied to expansion units and expansion display	20 W	
	When power is not supplied to external devices	12 W	
In-rush current		30 A or less	
Noise immunity		Noise voltage: 1,000 Vp-p, Pulse duration: 1 μs, Rise time: 1 ns (via noise simulator)	
Dielectric strength		1,000 Vac for 1 minute (between power terminal and FG terminal)	
Insulation resistand	се	500 Vdc, 10 M Ω or more (between power terminal and FG terminal)	

Environmental Specifications (DIN Mount Type)

Use and store this product in areas that conform to the specified conditions.

NOTE: When using any of the options for this product, check the specifications for special conditions or cautions that may apply to this product.

Physical environment		
Ambient air temperature*1	-2060 °C (-4140 °F)	
	Temperature class (T-Code): T4	
Storage temperature	-2060 °C (-4140 °F)	
Ambient air and storage humidity	1090% RH (Non condensing, wet bulb temperature 39 °C [102.2 °F] or less)	

	•
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution degree	For use in Pollution Degree 2 environment
Corrosive gases	Free of corrosive gases
Atmospheric pressure (operating altitude)	8001,114 hPa (2,000 m [6,561 ft] or lower)
Mechanical environment	
Vibration resistance	IEC/EN 61131-2 compliant 59 Hz Single amplitude 3.5 mm (0.14 in) 9150 Hz Fixed acceleration: 9.8 m/s² X, Y, Z directions for 10 cycles (approximately 100 minutes)
Shock resistance	IEC/EN 61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Electrical environment	
Electrical fast transient/burst immunity	IEC 61000-4-4 2 kV: Power port 1 kV: Signal ports
Electrostatic discharge immunity	Contact discharge method: 6 kV Air discharge method: 8 kV (IEC/EN 61000-4-2 Level 3)

^{*1} When the ambient air temperature is from -20 °C to 40 °C (-4 °F to 104 °F), the product is classified as temperature class T6.

ACAUTION

INOPERATIVE EQUIPMENT

- Do not operate or store the product where chemicals evaporate, or where chemicals are present in the air. Chemicals refer to the following: A)
 Corrosive chemicals: Acids, alkalines, liquids containing salt, B) Flammable chemicals: Organic solvents.
- Do not allow water, liquids, metal, and wiring fragments to enter the panel case

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

Structural Specifications (DIN Mount Type)

Grounding	DC model: Functional grounding: Grounding resistance of 100 Ω or less, 2 mm² (14 AWG) or thicker wire, or your country's applicable standard (SG and FG are connected inside the product). AC model: Protective grounding: Grounding resistance of 100 Ω or less, 2 mm² (14 AWG) or thicker wire, or your country's applicable standard (SG and PE are connected inside the product).
Cooling method	Natural air circulation
Structure	IP20
External dimensions (W x H x D)	173 x 131.7 x 63 mm (6.81 x 5.19 x 2.48 in)
Weight	1.4 kg (3.08 lb) or less

Functional Specifications

Display Specifications

10, 12, 15-inch Model

	10-inch	12-inch	15-inch
Display type	TFT Color LCD		
Display size	10.4"	12.1"	15"
Resolution	800 x 600 pixels (SVGA) 1,024 x 768 pixels (XGA)		A)
Effective display area (W x H)	211.2 x 158.4 mm (8.31 x 6.24 in)	245.76 x 184.32 mm (9.68 x 7.26 in)	304.13 x 228.1 mm (11.97 x 8.98 in)
Display colors	16 million colors For details about display colors, refer to the manual of your screen editing software.		
Backlight	White LED (Not user replaceable. Please contact customer support.)		
Backlight service life	50,000 hours or more (continuous operation at 25 °C [77 °F] before backlight brightness decreases to 50%)		
Brightness control	0100 (adjusted with touch panel or software)		

10, 12, 15, 19, 22-inch Wide Model

	10-inch wide	12-inch wide
Display type	TFT Color LCD	
Display size	10.1" wide	12.1" wide
Resolution	1,280 x 800 pixels (WXGA)	
Effective display area (W x H)	216.96 x 135.6 mm (8.54 x 5.34 in)	261.12 x 163.2 mm (10.28 x 6.43 in)
Display colors	16 million colors For details about display colors, refer to the manual of your screen editing software.	
Backlight	White LED (Not user replaceable. Please contact customer support.)	
Backlight service life	50,000 hours or more (continuous operation at 25 °C [77 °F] before backlight brightness decreases to 50%)	
Brightness control	0100 (adjusted with touch panel or software)	

	15-inch wide	19-inch wide	22-inch wide
Display type	TFT Color LCD		
Display size	15.6" wide	18.5" wide	21.5" wide
Resolution	1,920 x 1,080 pixels (FI	HD)	
Effective display area (W x H)	344.16 x 193.59 mm (13.55 x 7.62 in)	408.96 x 230.04 mm (16.1 x 9.06 in)	476.64 x 268.11 mm (18.77 x 10.56 in)
Display colors	16 million colors For details about display colors, refer to the manual of your screen editing software.		
Backlight	White LED (Not user replaceable. Please contact customer support.)		
Backlight service life	50,000 hours or more (continuous operation at 25 °C [77 °F] before backlight brightness decreases to 50%)		
Brightness control	0100 (adjusted with touch panel or software)		

Touch Panel

	10-inch, 12-inch, 15-inch	10-inch wide, 12-inch wide, 15-inch wide, 19-inch wide, 22-inch wide
Touch panel type	Resistive film (analog)	Projected capacitive (PCAP) with optimized noise filter
Touch points	Multi-touch (two-point touch)	Multi-touch (two-point touch)
Touch panel service life	1 million times or more	50 million times or more
Touch panel resolution	1,024 x 1,024	2,048 x 2,048
Touch mode	Not applicable	Standard mode, Water detection mode, Glove mode NOTE: Change the mode in the System Settings.

Memory

System memory*1	eMMC Flash 4 GB (operating system, project data and other data)
Backup memory*1	NVRAM 512 KB

^{*1} For the usage capacity of each memory, refer to the following URL. https://www.pro-face.com/trans/en/manual/1082.html

Clock

RTC accuracy	Deviation of ±65 seconds per month (at 25 °C [77 °F] and power is OFF).
Clock data backup	Lithium metal battery (primary battery, replaceable) Battery life: 5 years (approximate)

Variations in operating conditions and battery life can cause clock deviations from -380 to +90 seconds per month. If you use this product in a system where timing is critical, adjust the clock at regular intervals.

If the battery is depleted or removed, the clock data will be lost. To replace the battery, refer to Replacing the Battery, page 93.

Interface Specifications

Specifications of Each Interface

Use only the SELV (Safety Extra-Low Voltage) circuit to connect the interfaces.

	10-inch, 12-inch, 15-inch	10-inch wide, 12-inch wide, 15-inch wide, 19-inch wide, 22-inch wide, DIN mount type
Serial interface (COM1)		
Connector	D-Sub 9 pin (plug)	
Asynchronous transmission	RS-232C	
Data length	7 or 8 bits	

	10-inch, 12-inch, 15-inch	10-inch wide, 12-inch wide, 15-inch wide, 19-inch wide, 22-inch wide, DIN mount type	
Stop bit	1 or 2 bits		
Parity	None, odd, or even		
Data transmission speed	2,400115,200 bps		
Serial interface (COM2)			
Connector	D-Sub 9 pin (plug)		
Asynchronous transmission	RS-422/485		
Data length	7 or 8 bits		
Stop bit	1 or 2 bits		
Parity	None, odd, or even		
Data transmission speed	2,400115,200 bps, 187,500 bps	s (MPI)	
USB (Type-A) interface			
Connector	USB 2.0 (Type-A) x 3*1	USB 2.0 (Type-A) x 2	
Power supply voltage	5 Vdc ±5%	,	
Maximum current supplied	500 mA/port*2		
Maximum transmission distance	5 m (16.4 ft)		
USB (micro-B) interface			
Connector	USB 2.0 (micro-B) x 2*1	USB 2.0 (micro-B) x 1	
Maximum transmission distance	5 m (16.4 ft)		
USB (Type-C) interface*3			
Connector	-	USB 2.0 (Type-C) x 1	
Power supply voltage	-	5 Vdc ±5% or 12 Vdc ±5%, USB power delivery (source) supported	
Maximum current supplied	-	When power supply voltage is 5 Vdc ±5%: 1 A When power supply voltage is 12 Vdc ±5%: 2.5 A	
Maximum transmission distance	-	5 m (16.4 ft)	
Ethernet interface			
Connector	Modular jack (RJ-45) x 2*4		
Standard	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX/1000BASE-T*5		
SD card interface			
Connector SD card slot x 1			
Standard	SD/SDHC/SDXC, UHS-I supported		

^{*1} The factory default for the Front USB ports (Type-A and micro-B) is disabled. For instructions on enabling the USB ports, refer to Display, page 117.

^{*2} For USB allowable current to provided is limited 1 A total.

^{*3} DIN mount type only. The USB (Type-C) interface supports DisplayPort Alternate Mode. This interface is currently unavailable.

^{*4} The factory default for the ETH2 port is disabled. Use the **System Settings** to change it. For details, refer to Ethernet, page 118.

^{*5} For 1000BASE-T communication, use twisted pair Ethernet cables with a rating of category 5e or higher.

Interface Connection

Cable Connections

AWARNING

EXPLOSION HAZARD

- 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.
- · Always use shielded/grounded cables in hazardous locations.
- · Use only non-incendive USB devices.
- Use the USB (micro-B) interface for temporary connection only during maintenance and setup of the device.
- Do not use the USB (micro-B) interface in hazardous locations.

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

Division 2 hazardous location regulations require that all cable connections be provided with adequate strain relief and positive interlock. As this product does not provide adequate strain relief for the USB connection (USB micro-B interface) on this product, use only non-incendive USB devices. Never connect or disconnect a cable while power is applied at either end of the cable. All communication cables should include a chassis ground shield. This shield should include both copper braid and aluminum foil. The D-Sub style connector housing must be a metal conductive type (for example, molded zinc) and the ground shield braid must be terminated directly to the connector housing. Do not use a shield drain wire.

The outer diameter of the cable must be suited to the inner diameter of the cable connector strain relief so that a reliable degree of strain relief is maintained. Always secure the D-Sub connectors to the workstation-mating connectors via the two screws located on both sides.

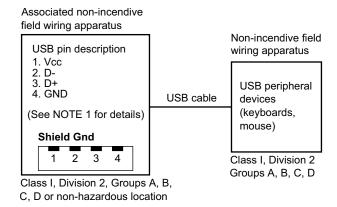
USB Connection

Non-incendive field wiring apparatus (keyboards, mouse) are permitted for use on the front USB port (Type-A) of associated field wiring non-incendive apparatus (this product).

In addition to being non-incendive, any equipment connected to the front USB ports must satisfy the following criteria.

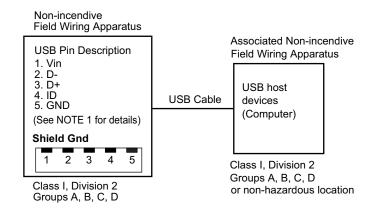
The following figure shows the USB cable wiring (Document No.: NNZ2083601)

<Type-A>



Circuit parameters	Front USB (Type-A)
Open-circuit voltage = V _{oc}	5.25 Vdc
Short-circuit current = I _{sc}	1,560 mA
Associated capacitance = C _a	265 μF
Associated inductance = L _a	16 µH

<micro-B>



Circuit parameters	Front USB (micro-B)
Maximum input voltage = V _{max}	5.25 Vdc
Maximum load current = I _{max}	0.1 mA
Internal capacitance = C _i	0.12 μF
Internal inductance = L _i	16 µH

NOTE:

1. The above tables list the non-incendive circuit parameters.

The Entity Concept allows interconnection of non-incendive apparatus with associated apparatus – not specifically examined combinations – as a system when the approved values of V_{oc} (or U_o) and I_{sc} (or I_o) for the associated apparatus are less than or equal to Vmax (U_i) and Imax (I_i) for the non-incendive apparatus, and the approved values of C_a (C_o) and C_o for the associated apparatus are greater than or equal to C_o + C_o and C_o and C_o for the non-incendive field wiring apparatus.

2. Associated non-incendive field wiring apparatus and non-incendive field wiring apparatus shall satisfy the following:

Associated non-incendive field wiring apparatus	-	Non-incendive field wiring apparatus
V _{oc}	≤	V _{max}
I _{sc}	≤	I _{max}
Ca	≥	C _i + C _{cable}
La	≥	L _i + L _{cable}

3. If the electrical parameters of the cable are unknown, the following values may be used:

 $C_{cable} = 196.85 \text{ pF/m} (60 \text{ pF/ft})$

 $L_{cable} = 0.656 \, \mu H/m \, (0.20 \, \mu H/ft)$

4. Wiring methods must be in accordance with the electrical code of the country where it is used.

This product must be installed in an enclosure. If installed in a Class I, Division 2 location, the enclosure must be capable of accepting one or more Division 2 wiring methods.

AWARNING

EXPLOSION HAZARD

- Verify the power, input, and output (I/O) wiring are in accordance with Class I, Division 2 wiring methods.
- 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.
- Do not disconnect equipment while the circuit is live or unless the area is known to be free of ignitable concentrations.
- Remove power before attaching or detaching any connectors to or from this
 product.
- Ensure that power, communication, and accessory connections do not place excessive stress on the ports. Consider the vibration in the environment when making this determination.
- Securely attach power, communication, and external accessory cables to the panel or cabinet.
- Use only commercially available USB cables.
- Use only non-incendive USB configurations.
- Confirm that the USB cable has been attached with the USB cable clamp before using the USB interface.

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

Serial Interface

Precautions for Connecting Serial Interface

The serial interface is not isolated. The SG (signal ground) and FG (frame ground) terminals are connected inside the product. When the serial interface connector is D-Sub, connect the FG wire to the shell.

NOTE: For information on how to connect controllers and other types of equipment, refer to the corresponding device driver manual of your screen editing software.

AADANGER

ELECTRIC SHOCK AND FIRE

- Verify that a ground loop is not created when you set up the system.
- When the SG and FG on the external device are not isolated, connect the product's SG to the SG on the external device.
- Connect the SG to a known reliable ground connection to reduce the risk of damaging the circuit.

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

ACAUTION

LOSS OF COMMUNICATION

- Do not put excessive stress on the communication ports of all connections.
- Securely attach communication cables to the panel wall or cabinet.
- Use a D-Sub 9 pin connector that has jack screws.

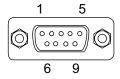
Failure to follow these instructions can result in injury or equipment damage.

NOTE: Use within the rated current.

RS-232C (COM1)

D-Sub 9 pin plug connector

Product side:



Pin No.	RS-232C		
	Signal name	Direction	Meaning
1	CD	Input	Carrier detect
2	RD (RXD)	Input	Receive data
3	SD (TXD)	Output	Send data
4	ER (DTR)	Output	Data terminal ready
5	SG	-	Signal ground
6	DR (DSR)	Input	Data set ready
7	RS (RTS)	Output	Request to send

Pin No.	RS-232C		
	Signal name	Direction	Meaning
8	CS (CTS)	Input	Send possible
9	CI (RI)/VCC	Input/-	+5 Vdc ±5% Output 0.25 A*1
Shell	FG	_	Frame ground (common with SG)

^{*1} When using RS-232C pin #9, enable CI (RI)/VCC with the software.

Recommended jack screw is #4-40 (UNC).

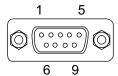
Recommendations:

- Cable Connector: XM3D-0921 manufactured by OMRON Corporation.
- Cable Cover: XM2S-0913 manufactured by OMRON Corporation.
- Jack Screw (#4-40 UNC): XM2Z-0073 manufactured by OMRON Corporation.

RS-422/485 (COM2)

D-Sub 9 pin plug connector

Product side:



Pin No.	RS-422/RS-485		
	Signal name	Direction	Meaning
1	RDA	Input	Receive data A (+)
2	RDB	Input	Receive data B (-)
3	SDA	Output	Send data A (+)
4	ERA	Output	Data terminal ready A (+)
5	SG	-	Signal ground
6	CSB	Input	Send possible B (-)
7	SDB	Output	Send data B (-)
8	CSA	Input	Send possible A (+)
9	ERB	Output	Data terminal ready B (-)
Shell	FG	_	Frame ground (common with SG)

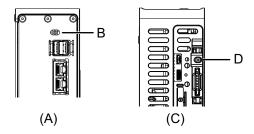
Recommended jack screw is #4-40 (UNC).

Recommendations:

- Cable Connector: XM3D-0921 manufactured by OMRON Corporation.
- Cable Cover: XM2S-0913 manufactured by OMRON Corporation.
- Jack Screw (#4-40 UNC): XM2Z-0073 manufactured by OMRON Corporation.

Eject Button

The DIN mount type has two eject buttons, one for the SD card and one for the USB storage.



- A. Front side
- B. USB storage eject button
- C. Bottom side
- D. SD card eject button

Each eject button has two functions.

USB storage eject button

- Pressing the eject button once enables you to Safely Remove Hardware. After the USB storage is disconnected (unmounted), the USB storage LED turns off.
- If you power on the product while holding down the USB storage eject button, the product boots up with the default IP address and the System Settings is available for configuration. For more information, refer to Forgot IP Address, page 111.

SD card eject button

- Pressing the eject button once will enable you to Safely Remove Hardware.
 When the SD card is disconnected (unmounted), the SD card access LED turns off. For SD card removal, refer to Removing the SD Card, page 85.
- If you press and hold the SD card eject button for more than four seconds, the product will reboot. When the status LED turns off and then lights up red, release the eject button.

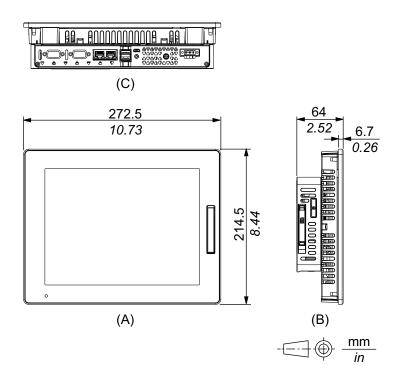
Dimensions Advanced Model

Dimensions

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External Dimensions (10-inch	Model)	53
External Dimensions (12-inch	Model)	54
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External Dimensions (DIN Mo	unt Type)	59

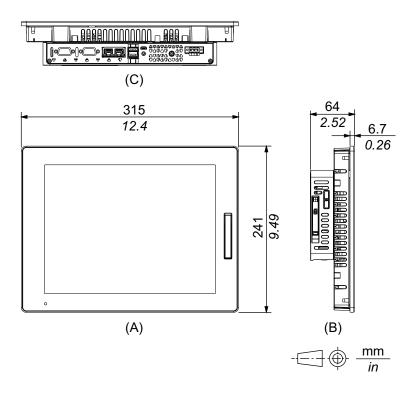
External Dimensions (10-inch Model)



- A. Front
- B. Left
- C. Bottom

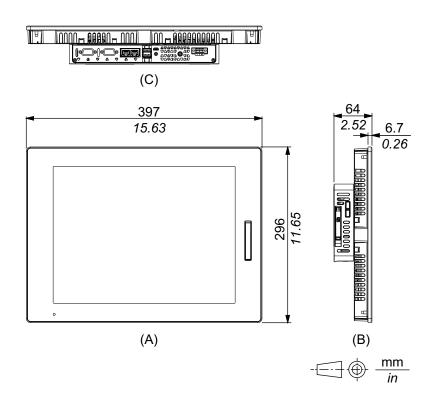
Advanced Model Dimensions

External Dimensions (12-inch Model)



- A. Front
- B. Left
- C. Bottom

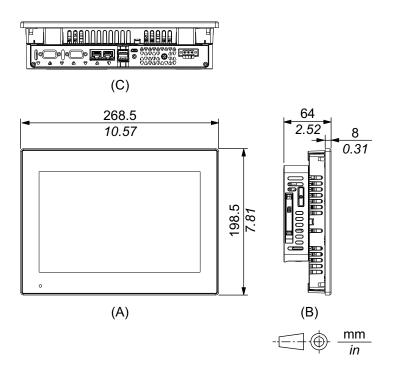
External Dimensions (15-inch Model)



Dimensions Advanced Model

- A. Front
- B. Left
- C. Bottom

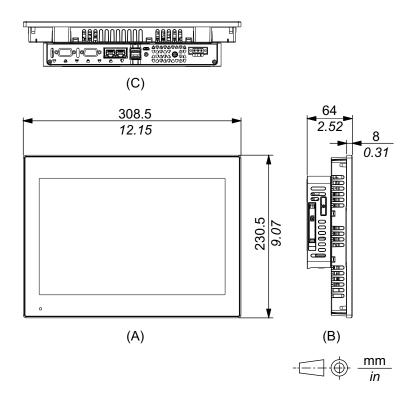
External Dimensions (10-inch Wide Model)



- A. Front
- B. Left
- C. Bottom

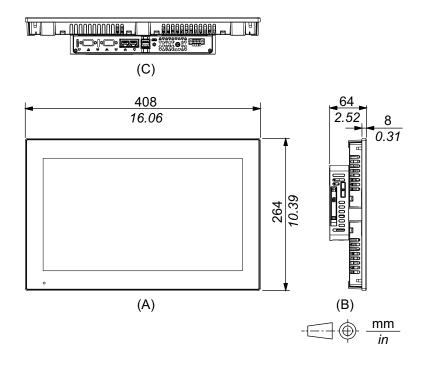
Advanced Model Dimensions

External Dimensions (12-inch Wide Model)



- A. Front
- B. Left
- C. Bottom

External Dimensions (15-inch Wide Model)

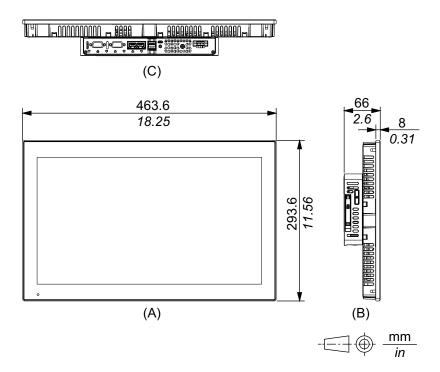


A. Front

Dimensions Advanced Model

- B. Left
- C. Bottom

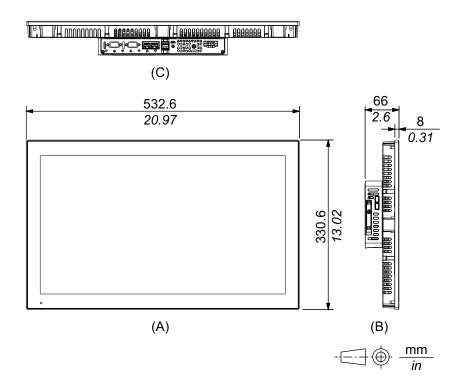
External Dimensions (19-inch Wide Model)



- A. Front
- B. Left
- C. Bottom

Advanced Model Dimensions

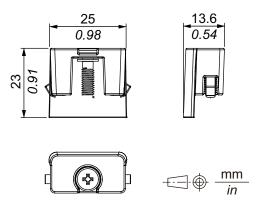
External Dimensions (22-inch Wide Model)



- A. Front
- B. Left
- C. Bottom

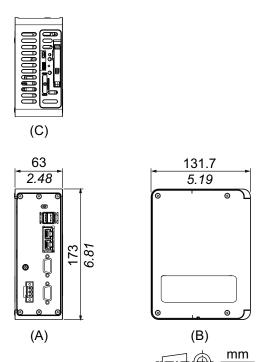
Installation Fastener

External Dimensions



Dimensions Advanced Model

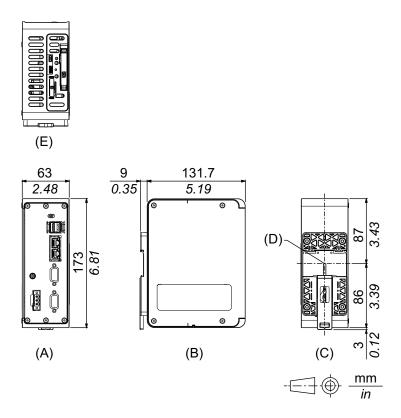
External Dimensions (DIN Mount Type)



- A. Front
- B. Left
- C. Bottom

Advanced Model Dimensions

Dimensions with DIN Rail Attachment Installed



- A. Front
- B. Left
- C. Rear
- D. Center of installation to the DIN rail
- E. Bottom

Installation and Wiring Advanced Model

Installation and Wiring

What's in This Chapter

Installation of Panel Mount Type	61
Installation of DIN Mount Type	
Wiring the Power Supply	73
USB Cable Clamp	
Front USB Cover	
SD Card Installation	84
Isolation Unit Installation Procedure	86

Installation of Panel Mount Type

Precautions for Building into an End-use Product

This product is designed for use on flat surfaces of UL 50/50E, Type 1, Type 4X (indoor use only), Type 12 or Type 13 enclosure.

Mount this product in an enclosure that provides a clean, dry, robust and controlled environment (IP65F, IP66F, IP67F, UL 50/50E, Type 1, Type 4X [indoor use only], Type 12 or Type 13 enclosure).

For 10-inch wide, 12-inch wide, 15-inch wide, 19-inch wide and 22-inch wide models, the front surface is rated for IP66F, IP67F, UL 50/50E, Type 1, Type 4X (indoor use only), Type 12 and Type 13 enclosure.

For 10-inch, 12-inch and 15-inch models, when using a factory-installed front USB cover (without screw), the front surface is rated for IP65F, IP67F, UL 50/50E and Type 1 enclosures. When using a front USB cover (with screw) (PFXZCDCVUS1), the front surface is rated for IP66F, IP67F, UL 50/50E, Type 1, Type 4X (indoor use only), Type 12 and Type 13 enclosure.

Display front surface			Enclosure front
10-inch, 12-inch and 15-inch		10-inch wide/	— surface
Without screw	With screw	15-inch wide/ 15-inch wide/ 19-inch wide/ 22-inch wide	
IP65F, IP67F, UL 50/50E, Type 1	IP66F, IP67F, UL 50/50E, Type 1, Type 4X (indoor use only), Type 12, Type 13	IP66F, IP67F, UL 50/50E, Type 1, Type 4X (indoor use only), Type 12, Type 13	IP65F, IP66F, IP67F, UL 50/50E, Type 1, Type 4X (indoor use only), Type 12, Type 13

For 10-inch, 12-inch and 15-inch models, regardless of using a factory-installed front USB cover or a front USB cover with screw, when the front USB cover is open, the front surface is rated for UL 50/50E and Type 1 enclosure.

Be aware of the following when building this product into an end-use product:

- The rear face of this product is not approved as an enclosure. When building
 this product into an end-use product, be sure to use an enclosure that satisfies
 standards as the end-use product's overall enclosure.
- Install this product in an enclosure with mechanical rigidity.
- This product is not designed for outdoor use. UL certification obtained is for indoor use only.
- Install and operate this product with its front panel facing outward.

NOTE: IP65F, IP66F and IP67F are not part of UL certification.

Advanced Model Installation and Wiring

Installation Requirements

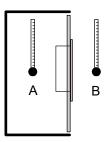
ACAUTION

RISK OF BURNING INJURY

- Do not touch the bezel or rear chassis during operation.
- Wear appropriate gloves when operating the front USB in ambient temperatures greater than 45 °C (113 °F).

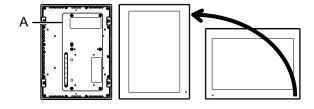
Failure to follow these instructions can result in injury or equipment damage.

- Check that the installation wall or cabinet surface is flat, in good condition and has no jagged edges. Metal reinforcing strips may be attached to the inside of the wall, near the panel cutout, to increase its rigidity.
- Decide on the thickness of the enclosure wall, based on the level of strength required. Even if the installation wall thickness is within the specified range, depending on the wall's material, size, and installation location of this product and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened. For the specified wall thickness range, refer to Panel Cutout Dimensions, page 63.
- Check that the ambient air temperature and the ambient humidity are within their specified ranges in Environmental Specifications (Panel Mount Type), page 38. When installing this product in a cabinet or enclosure, the ambient air temperature is the cabinet's or enclosure's internal and external temperature.



- A. Internal temperature
- B. External temperature
- Be sure that heat from surrounding equipment does not cause this product to exceed its standard operating temperature.
- When mounting this product in portrait orientation, ensure that the right side of this product faces up. In other words, the power connector on the DC model, or the power terminal block on the AC model, should be at the right.

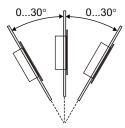
NOTE: Please make sure your applications support portrait orientation of the display.



A. Power connector

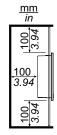
Installation and Wiring Advanced Model

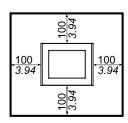
• When installing this product in a slanted position, the product face should not incline more than 30°.



• For easier maintenance, operation and improved ventilation, install this product at least 100 mm (3.94 in) away from adjacent structures and other equipment as shown in the following illustration:

NOTE: Ensure that you have enough space to insert and remove the external storage.





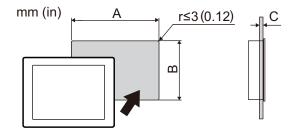
Pressure Differences

When applying and installing this product, it is important that steps are taken to eliminate any pressure difference between the inside and the outside of the enclosure in which this product is mounted. Higher pressure inside the enclosure can cause delamination of the front membrane of the display. Even a small pressure difference inside the enclosure will act on the large area of the membrane and can result in sufficient force to delaminate the membrane and thus cause failure of the touch capability. Pressure differences can often occur in applications where there are multiple fans and ventilators moving air at different rates in different rooms. Please follow these techniques to ensure that this product's function is not impacted by this mis-application:

- 1. Seal all conduit connections inside of the enclosure, especially those that lead to other rooms that may be at a different pressure.
- 2. Where applicable, install a small weep hole at the bottom of the enclosure to allow equalization of the internal and external pressure.

Panel Cutout Dimensions

Based on the panel cutout dimensions, open a mounting hole on the panel.



A. Width

B. Height

Advanced Model Installation and Wiring

C. Panel thickness

The dimensional tolerance for the width and height of the mounting hole is +1/-0 mm (+0.04/-0 in). All the corners have a radius of R3 mm (R0.12 in) or less.

Model Name		
Α	В	С
10-inch	·	•
259 mm (10.2 in)	201 mm (7.91 in)	1.65 mm (0.060.2 in)
12-inch	·	
301.5 mm (11.87 in)	227.5 mm (8.96 in)	1.65 mm (0.060.2 in)
15-inch		•
383.5 mm (15.1 in)	282.5 mm (11.12 in)	1.65 mm (0.060.2 in)
10-inch wide		
255 mm (10.04 in)	185 mm (7.28 in)	1.63 mm (0.060.12 in)
12-inch wide	·	•
295 mm (11.61 in)	217 mm (8.54 in)	1.65 mm (0.060.2 in)
15-inch wide	•	•
394 mm (15.51 in)	250 mm (9.84 in)	1.65 mm (0.060.2 in)
19-inch wide		
449.5 mm (17.7 in)	279.5 mm (11.0 in)	1.65 mm (0.060.2 in)
22-inch wide	·	
518.5 mm (20.41 in)	316.5 mm (12.46 in)	1.65 mm (0.060.2 in)

Installation Procedure

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. The DC model is designed to use 12 to 24 Vdc, and the AC model is designed to use 100 to 240 Vac. Always check whether your device is DC or AC powered before applying power.
- When using this product 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.

Installation and Wiring Advanced Model

NOTICE

EQUIPMENT DAMAGE

- · Always use the installation gasket.
- Keep this product stabilized in the panel cutout while you are installing or removing the screw fasteners.

Failure to follow these instructions can result in equipment damage.

NOTICE

BROKEN ENCLOSURE

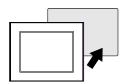
Do not exert more torque than the amount specified.

Failure to follow these instructions can result in equipment damage.

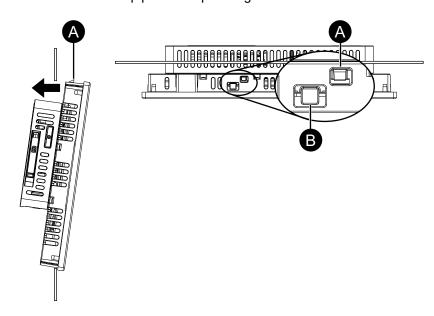
1. Check that the gasket is seated securely into the bezel's groove, which runs around the perimeter of the display panel frame.

NOTE: Always use the installation gasket, since it absorbs vibration in addition to repelling water. For the procedure on replacing the installation gasket, refer to Replacing the Installation Gasket, page 90.

2. Based on the Panel Cutout Dimensions, page 63, open a mount-hole on the panel and attach the product to the panel from the front side.



NOTE: This product has an anti-drop lock at the top to prevent it from falling. Insert the bottom part of the product into the panel opening, and then insert the top part while pressing the unlock button.

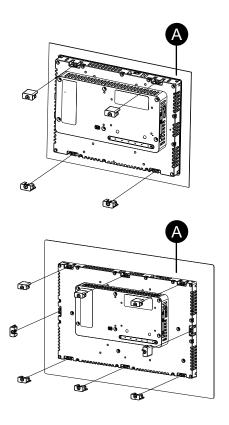


- A. Anti-drop lock
- B. Unlock button

Advanced Model Installation and Wiring

3. Insert the installation fasteners into the bracket openings at the top, bottom, left and right, and tighten the M4 screws little by little, alternating between diagonally-positioned screws.

NOTE: The necessary torque is 0.7 N•m (6.2 lb-in).



A. Panel

Number of Installation Fasteners

The number of installation fasteners for each model is as follows.

10-inch, 12-inch, 10-inch wide, 12-inch wide	Top - 2, Bottom - 2
15-inch, 15-inch wide, 19-inch wide, 22-inch wide	Top - 3, Bottom - 3, Left - 1, Right - 1

Removal Procedure

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.

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

Installation and Wiring Advanced Model

ACAUTION

RISK OF INJURY

Do not drop this product when you remove it from the panel.

- Hold this product in place after removing the fasteners.
- · Use both hands.
- While pushing on the anti-drop lock, be careful not to hurt your fingers.

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

NOTICE

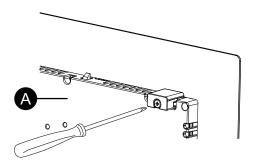
EQUIPMENT DAMAGE

- Keep this product stabilized in the panel cutout while you are installing or removing the screw fasteners.
- Remove this product while pushing the anti-drop lock or by making sure the lock does not touch the panel.

Failure to follow these instructions can result in equipment damage.

1. Loosen, in small increments, the M4 screws of installation fasteners in opposite corners to eventually remove the screws.

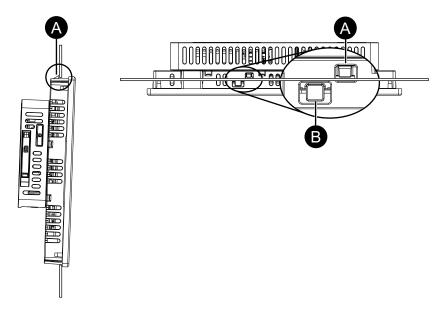
NOTE: For the number of installation fasteners on your model, refer to Number of Installation Fasteners in step 3 of Installation Procedure, page 64.



A. Rear side

Advanced Model Installation and Wiring

2. Press the Unlock button at the top of the product to depress the anti-drop lock, then slowly remove the product from the panel.



- A. Anti-drop lock
- B. Unlock button

Installation of DIN Mount Type

Precautions for Installing onto an End-use Product

Be aware of the following when installing this product to an end-use product:

- This equipment is an open-type device and is meant to be installed in an
 enclosure suitable for the environment. Install in an enclosure where the
 equipment is inaccessible without the use of tools.
- Install this product in an enclosure with mechanical rigidity.

Installation Requirements (DIN Mount Type)

ACAUTION

RISK OF BURNING INJURY

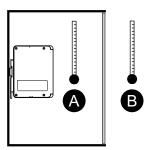
Wear appropriate gloves when touching the product in ambient temperatures greater than 45 °C (113 °F).

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

- Check that the installation wall or cabinet surface is flat, in good condition and has no jagged edges. Metal reinforcing strips may be attached to the inside of the wall, near the installation location, to increase its rigidity.
- Depending on the wall's material, size, and installation location of this product and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

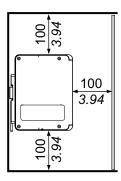
Installation and Wiring Advanced Model

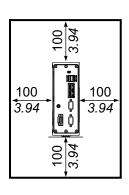
 Check that the ambient air temperature and the ambient humidity are within their specified ranges in Environmental Specifications (DIN Mount Type), page 42. When installing this product in a cabinet or enclosure, the ambient air temperature is the cabinet's or enclosure's internal and external temperature.



- A. Internal temperature
- B. External temperature
- Be sure that heat from surrounding equipment does not cause this product to exceed its standard operating temperature.
- For easier maintenance, operation and improved ventilation, install this
 product at least 100 mm (3.94 in) away from adjacent structures and other
 equipment as shown in the following illustration:

NOTE: Ensure that you have enough space to insert and remove the external storage.





mm in

Advanced Model Installation and Wiring

Installing onto DIN Rail

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. The DC model is designed to use 12 to 24 Vdc, and the AC model is designed to use 100 to 240 Vac. Always check whether your device is DC or AC powered before applying power.
- When using this product 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.

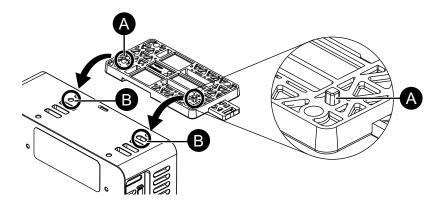
Failure to follow these instructions will result in death or serious injury.

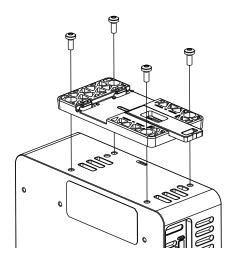
NOTE:

- Use the rail compatible with IEC 60715 TH35-7.5 for this product.
- In environments where this product will experience vibration and shock, it
 is recommended to secure this product to the DIN rail with commercially
 available DIN rail end stoppers after installation.
- 1. With its backside facing up, place the product on a clean, flat, level surface.

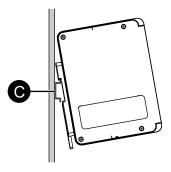
Installation and Wiring Advanced Model

2. Attach the DIN rail attachment included in the package to the product. Insert the two protrusions of the DIN rail attachment into the holes on the back of the product. Then, tighten with the four M4 screws included. The necessary torque is 0.7 N•m (6.2 lb-in).





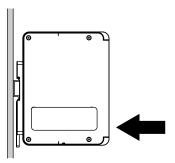
- A. Protrusion
- B. Holes
- 3. Hook the top groove of the DIN rail attachment to the top part of the DIN rail.



C. DIN rail

Advanced Model Installation and Wiring

4. Push the bottom part onto the rail until you hear a click.



Removal from DIN Rail

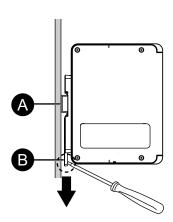
AADANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

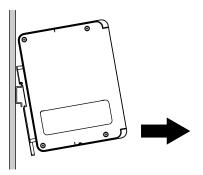
- Remove all power from the device before removing any covers or elements
 of the system, and prior to installing or removing any accessories, hardware,
 or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.

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

 Using a tool such as a screwdriver, pull the hook in the direction indicated by the arrow.



- A. DIN rail
- B. Hook
- 2. Pull the bottom portion of this product forward to remove.



Wiring the Power Supply

AC/DC Power Cord Preparation

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.
- Remove power before wiring this product's power terminals.
- 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. The DC model is designed to use 12 to 24 Vdc, and the AC model is designed to use 100 to 240 Vac. Always check whether your device is DC or AC powered before applying power.
- Since this product is not equipped with a power switch, be sure to connect a power switch to the power supply.
- · Be sure to ground this product's PE/FG terminal.

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

NOTE:

- The SG (signal ground) and PE/FG (protective earth/functional ground) terminals are connected internally in this product.
- When the PE/FG terminal is connected, be sure the wire is grounded. Not grounding this product can result in excessive electromagnetic interference (EMI).
- Make sure the ground wire is either the same or heavier gauge than the power wires.
- Do not use aluminum wires in the power supply's power cord.
- Use copper wire rated for 75 °C (167 °F) or higher.
- The conductor type of DC power cord is solid or stranded wire.
- If the ends of the individual wires are not twisted correctly, the wires may
 create a short circuit. When inserting a wire into the DC power connector, hold
 down the opening button and insert the wire while the internal spring is
 depressed. Alternatively, you can crimp and insert either a pin terminal or
 ferrule terminal.
- Use the SELV (Safety Extra-Low Voltage) circuit and LIM (Limited Energy) circuit for DC input.
- Use a maximum 20 A branch circuit protective device for AC input.
- AC models obtain UL certification for use in environments rated at Overvoltage Category II or lower.

AC/DC power cord	
Power cord cross sectional area	0.753.5 mm ² (1812 AWG)*1
Conductor type	Solid or stranded wire*2
Conductor length	10 mm (0.39 in)

AC/DC power cord	
Recommended screwdriver*3	SZS 0.6x3.5 (1205053)
Recommended pin terminals*3	3201288 AI 0,75 -10 GY 3200182 AI 1 -10 RD 3200195 AI 1,5 -10 BK 3202533 AI 2,5 -10 BU
Recommended pin terminal crimp tool*3	CRIMPFOX 6

^{*1} Thick wires are recommended to minimize voltage drops in the wire.

^{*3} Items are manufactured by Phoenix Contact.

AC grounding wire	
Power cord cross sectional area	2 mm ² (14 AWG) or greater
Ring terminal size*1	A. Φ4.3 mm (0.17 in) or more B. 7.2 mm (0.28 in) or less
Recommended ring terminal*2	V2-P4 V5.5-S4

^{*1} To prevent a short circuit caused by loose screws, use a crimp-type terminal with an insulating sleeve.

How to Connect the AC Power Cord

- 1. Confirm the power cord is not connected to the power supply.
- 2. Remove the M4 screw on the product's PE terminal, and with the ring terminal still attached, connect the grounding wire and tighten the screw.

NOTE:

- The necessary torque is 1.5 N•m (13.3 lb-in).
- If the wire is not connected to the PE terminal properly, touch may not respond normally.
- 3. Crimp a pin terminal properly to the end of each power cable wire.
- 4. Push the opening button with a small and flat screwdriver to open the desired pin hole.

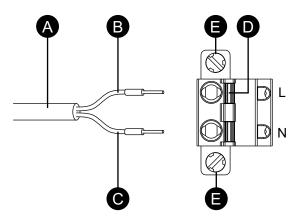
^{*2} When using stranded wires, confirm the allowable current of the wire.

^{*2} Items are manufactured by J.S.T Mfg. Co., Ltd.

5. Insert each power cord wire into its corresponding hole. Release the opening button to clamp the wire in place.

NOTE:

- When using stranded wire, do not short with neighboring wires.
- When connecting with stranded wires, do not solder the stranded wires.

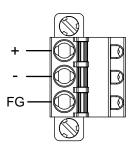


- A. Power cord
- B. Black
- C. White
- D. Opening button
- E. Screw
- 6. After inserting all two power cord wires, insert the AC power connector into the power connector on this product.
- 7. Tighten the screws on both sides of the connector to secure it.

NOTE: The necessary torque is 0.3 N•m (2.7 lb-in).

How to Connect the DC Power Cord

DC Power Connector: Spring Clamp Terminal Blocks



+	1224 Vdc
-	0 Vdc
FG	Functional ground (Connect the FG terminal properly to ground.)

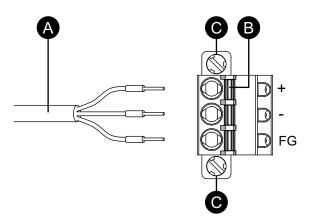
Connection Procedure

- 1. Confirm the power cord is not connected to the power supply.
- Check the rated voltage and remove the "DC24V" sticker on the DC power supply connector.
- Push the opening button with a small and flat screwdriver to open the desired pin hole.

4. Insert each power cord wire into its corresponding hole. Release the opening button to clamp the wire in place.

NOTE:

- When using stranded wire, do not short with neighboring wires.
- · Do not solder the cable connection.



- A. Power cord
- B. Opening button
- C. Screw
- 5. After inserting all three power cord wires, insert the DC power connector into the power connector on this product.
- 6. Tighten the screws on both sides of the connector to secure it.

NOTE: The necessary torque is 0.3 N·m (2.7 lb-in).

Power Supply Precautions

ADANGER

SHORT CIRCUIT, FIRE, OR UNINTENDED EQUIPMENT OPERATION

- Install and fasten this product in an installation panel or cabinet prior to connecting power supply and communication lines.
- Securely attach power cables to an installation panel or cabinet.
- Avoid excessive force on the power cable.

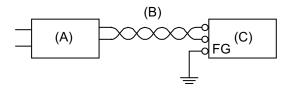
Failure to follow these instructions will result in death or serious injury.

- This product's power cord should not be bundled with or kept close to main circuit lines (high voltage, high current), power lines, or input/output lines, and their various systems should be kept separate. When power lines cannot be wired via a separate system, use shielded cables for input/output lines.
- An independent DC power supply is recommended on the DC model. (The DC power supply should be located close to the product.)
- If there is an excess amount of noise on the power supply line, reduce the noise with a noise filter before turning on the power.
- Connect a surge protection device to handle power surges.
- To increase noise resistance, attach a ferrite core to the power cable.

Power Supply Connections

 Use the SELV (Safety Extra-Low Voltage) circuit and LIM (Limited Energy) circuit for DC input.

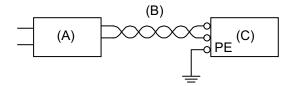
• If the voltage variation is outside the prescribed range, connect a regulated power supply.



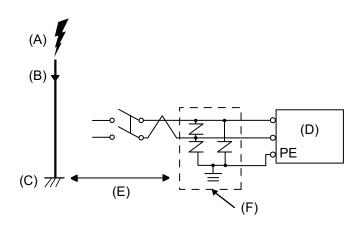
- A. Regulated power supply
- B. Twisted-pair cord
- C. This product

For AC model

 Select a power supply, low in noise, for between the line and ground. If there is an excess amount of noise, connect an insulating transformer. Use constant voltage and insulating transformers with capacities that exceed the Power Consumption value.



- A. Insulating transformer
- B. Twisted-pair cord
- C. This product
- The following shows a surge protection device connection:



- A. Lightning
- B. Lightning rod
- C. Ground
- D. This product
- E. Provide adequate distance
- F. Surge protection device

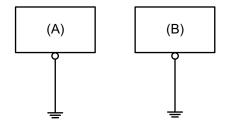
Attach a surge protection device to prevent damage to this product as a result
of a lightning induced power surge from a large electromagnetic field
generated from a direct lightning strike. We also strongly recommend to
connect the crossover grounding wire of this product to a position close to the
ground terminal of the surge protection device.

It is expected that there will be an effect on this product due to fluctuations in grounding potential when there is a large surge flow of electrical energy to the lightning rod ground at the time of a lightning strike. Provide adequate distance between the lightning rod grounding point and the surge protection device grounding point.

Grounding

Independent Grounding

Always ground the PE/FG (protective earth/functional ground) terminal. Be sure to separate this product from the PE/FG of other devices as shown below.



- A. This product
- B. Other device

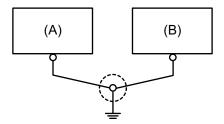
Precautions

- Check that the grounding resistance is 100 Ω or less.*1
- The PE/FG wire should have a cross sectional area 2 mm² (14 AWG) or greater*1. Create the connection point as close as possible to this product, and make the wire as short as possible. When using a long grounding wire, replace the thin wire with a thicker wire, and place it in a duct.
- The SG and PE/FG terminals are connected internally in this product. When connecting the SG line to another device, be sure that no ground loop is formed.
- *1 Observe local codes and standards.

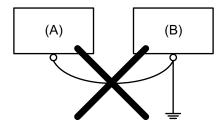
Common Grounding

Electromagnetic Interference (EMI) can be created if devices are improperly grounded. EMI can cause loss of communication. If independent grounding is not possible, use a common grounding point as shown in the configuration below. Do not use any other configuration for common grounding.

Correct grounding



- A. This product
- B. Other device Incorrect grounding



- A. This product
- B. Other device

USB Cable Clamp

Precautions for Connecting the USB Cable

AWARNING

EXPLOSION HAZARD

- Verify the power, input, and output (I/O) wiring are in accordance with Class I, Division 2 wiring methods.
- 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.
- Do not disconnect equipment while the circuit is live or unless the area is known to be free of ignitable concentrations.
- Remove power before attaching or detaching any connectors to or from this product.
- Ensure that power, communication, and accessory connections do not place excessive stress on the ports. Consider the vibration in the environment when making this determination.
- Securely attach power, communication, and external accessory cables to the panel or cabinet.
- Use only commercially available USB cables.
- · Use only non-incendive USB configurations.
- Suitable for use in Class I, Division 2, Groups A, B, C, D Hazardous Locations.
- Confirm that the USB cable has been attached with the USB cable clamp before using the USB interface.

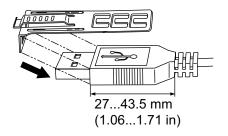
Failure to follow these instructions can result in death, serious injury, or equipment damage.

Attaching USB Clamp Type-A

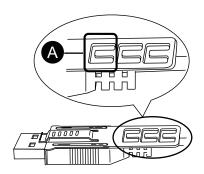
When using a USB device, attach a USB cable clamp to the USB interface to prevent the USB cable from being disconnected.

NOTE: Watch your fingers. The edge of the clip is sharp.

1. Mount the clip to the USB mark connector shell so that it overlaps. The clip matches the 27 to 43.5 mm (1.06 to 1.71 in) length of the USB connector.

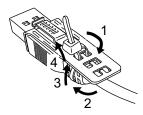


2. Align the clip and the USB cable connector shell. Adjust the position of the holes where the clip is attached. To ensure stability, select the clip-hole position that is closest to the base of the connector shell.



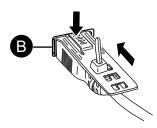
A. Hole for tie to pass through

3. As shown, pass the tie through the clip hole. Next, turn the tie and pass it through the head so that the USB cable can pass through the center of the tie loop. The clip is now attached to the USB cable.



NOTE:

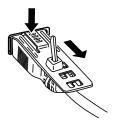
- Check the direction of the head beforehand. Make sure the USB cable is through the center of the tie loop and that the tie can pass through the head.
- When attaching the cable clamp for USB port 2, make sure the head is on the cable side and not the clip side.
- You can substitute the tie provided with PFXZCBCLUSA1, or other commercially available ties with a width of 4.8 mm (0.19 in) and thickness of 1.3 mm (0.05 in).
- 4. While pressing the grip on the clip, insert the cable from step 3 all the way into the USB host interface. Make sure that the clip tab is secured to the USB cable attached to this product.



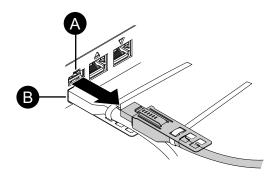
B. USB Type-A interface

Removing USB Clamp Type-A

Remove the USB cable while pushing the grip section of the clip.



If you use the panel mount type and both USB ports 1 and 2 have USB cables with clamps, remove the cable first from USB port 1.

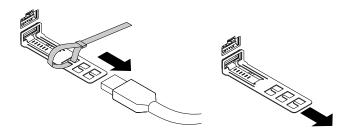


A. USB port 1

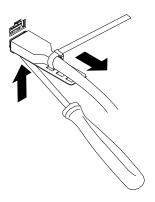
B. USB port 2

Removing USB Cable from USB Port 2

Cut or loosen the cable tie of the USB port 2 clamp, remove the USB cable first, and then remove the USB clamp.



Alternatively, pull the USB cable out along with the clamp while pressing down on the grip part of the clip, using a tool such as a screwdriver.



Front USB Cover

Opening the Front USB Cover

For 10-inch, 12-inch and 15-inch models, when using a factory-installed front USB cover (without screw), the front surface is rated for IP65F, IP67F, UL 50/50E, or Type 1 enclosure. When using a front USB cover (with screw) (PFXZCDCVUS1), the front surface is rated for IP66F, IP67F, UL 50/50E, Type 1, Type 4X (indoor use only), Type 12 and Type 13 enclosure.

Regardless of using a factory-installed front USB cover or a front USB cover with screw, when the cover is open, the front surface is rated for UL 50/50E and Type 1 enclosure.

NOTE: IP65F, IP66F and IP67F are not part of UL certification.

ACAUTION

RISK OF INJURY

When opening the Front USB Cover, be careful not to injure your fingers.

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

NOTICE

BROKEN ENCLOSURE

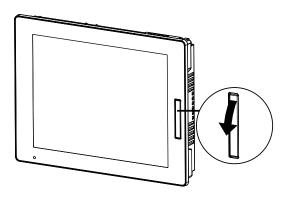
Do not exert more torque than the amount specified.

Failure to follow these instructions can result in equipment damage.

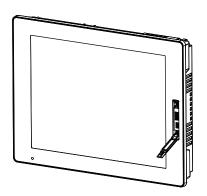
1. Place your finger or a tool (such as a screwdriver) in the gap on the top of the front USB cover and pull out as illustrated.

NOTE:

- When using front USB cover (PFXZCDCVUS1), loosen a top M3 screw.
- The necessary torque is 0.5 N•m (4.4 lb-in).



2. The USB interface can be seen once you pull out the front USB cover.



SD Card Installation

Precaution When Handling the SD Card

NOTICE

LOSS OF DATA

When using a SD card:

- Make sure you regularly back up the SD card data.
- While a SD card is accessed, do not turn off or reset this product, and do not remove the SD card.
- Before removing the SD card from this product, stop all operations on the SD card.
- Make sure of the SD card's orientation before inserting it into the SD card slot

Failure to follow these instructions can result in equipment damage.

NOTICE

LOSS OF DATA

When handling the SD card:

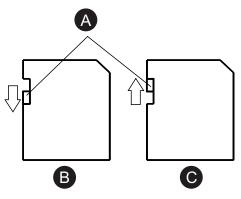
- Avoid storing the SD card where there is static electricity or electromagnetic waves.
- Avoid storing the SD card in direct sunlight, near a heater, or other locations where high temperatures can occur.
- Do not bend the SD card.
- Do not drop or strike the SD card against another object.
- Keep the SD card dry.
- · Do not touch the SD card connectors.
- · Do not disassemble or modify the SD card.
- Use only SD cards formatted with the specified file system.

Failure to follow these instructions can result in equipment damage.

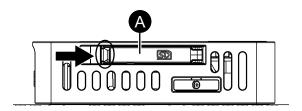
The file systems that this product supports are FAT, FAT32, and exFAT. This product does not recognize external storage formatted with NTFS.

Inserting the SD Card

NOTE: As shown in the image below (example on the left-hand side), you can set the Write-Control Tab to prevent write operations to the SD card. Push the tab up, as shown in the example on the right-hand side, to release the lock and enable writing to the SD card. Before using a commercial-type SD card, read the manufacturer's instructions.

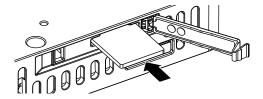


- A. Write-control tab
- B. Write disabled (enable to read)
- C. Write enabled
- 1. Touch the housing or ground connection (not the power supply) to discharge any electrostatic charge from your body.
- Open the SD card slot cover. To open, lightly push the edge of the cover in the direction of the arrow.



A. SD card slot cover

3. Insert the SD card into the SD card slot with the front face of the SD card facing up.

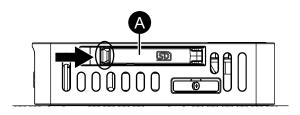


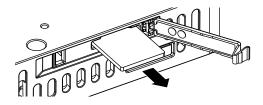
- 4. Push until you hear it "click".
- 5. Close the SD card slot cover.

Removing the SD Card

If you remove the SD card while it is in use, you risk corrupting the data. Before removing the SD card from this product, stop all operations on the SD card.

Make sure the SD card access LED is off, then open the SD card slot cover.
 To open the slot cover, lightly push the edge of the cover in the direction of the arrow.

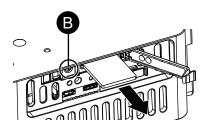




A. SD card slot cover

NOTE:

- When using a DIN Mount Type, open the SD card cover to find the SD card eject button. Press the eject button to Safely Remove Hardware.
 When this product and the SD card are disconnected, the SD card access LED turns off.
- Do not hold down the SD card eject button. If you press and hold the eject button, the product will reboot. For more information, refer to Eject Button, page 52.



B. SD card eject button

2. Push the SD card once to release, then pull out the card.

NOTE: After using the SD card, store the SD card in its case or in another safe location.

3. Close the SD card slot cover.

Isolation Unit Installation Procedure

You can install the Isolation Unit to the back of this product or to the installation panel. For details such as settings when using the Isolation Unit, refer to the product manual.

AADANGER

HAZARD OF ELECTRIC SHOCK OR EXPLOSION

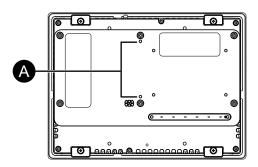
Prior to connecting the Isolation Unit to this product, confirm that this product's power supply is completely turned OFF.

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

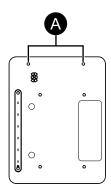
NOTE:

- Install the Isolation Unit to a stable surface.
- Do not leave the Isolation Unit hanging by its cord.
- Be careful with wire placement. Overlapping cords may cause noise.
- 1. Check the locations of two screw holes on the rear of this product.

Panel mount type

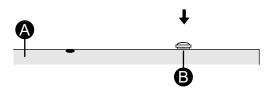


DIN mount type

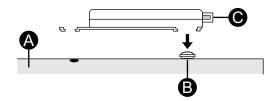


A. Screw holes

2. Install one of the two attachment screws included in the Isolation Unit to this product. Use a torque of 0.5 N•m (4.4 lb-in).



- A. This product
- B. Attachment screw
- 3. Attach the Isolation Unit to this product.



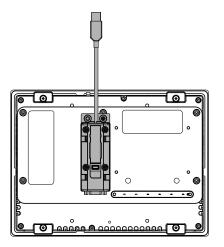
- A. This product
- B. Attachment screw
- C. Isolation unit

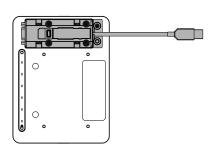
4. Slide the Isolation Unit in the direction of the arrow so the Isolation Unit is hooked by the screw from Step 2.



5. Secure the Isolation Unit in place with another attachment screw. Use a torque of 0.5 N•m (4.4 lb-in).







Maintenance Advanced Model

Maintenance

What's in This Chapter

Regular Cleaning	89
Periodic Check Points	89
Replacing the Installation Gasket	90
Replacing the Display Module or Box Module	91
Replacing the Battery	
Replacing the Backlight	
After-sales Service	

Regular Cleaning

Cleaning This Product

NOTICE

EQUIPMENT DAMAGE

- · Power off this product before cleaning it.
- Do not use hard or pointed objects to operate the touch panel.
- Do not use paint thinner, organic solvents, or a strong acid compound to clean the unit.

Failure to follow these instructions can result in equipment damage.

When this product gets dirty, wipe this product with a soft, dry cloth or a soft cloth soaked in only water and wrung tightly.

NOTE: When the product is very dirty, soak the soft cloth in water with a neutral detergent, wring the cloth tightly and wipe the product while avoiding the product label.

Periodic Check Points

Operation Environment

- Is the ambient air temperature within the allowable range? Refer to followings:
 - Environmental Specifications (Panel Mount Type), page 38
 - Environmental Specifications (DIN Mount Type), page 42
- Is the ambient air humidity within the specified range? Refer to followings:
 - Environmental Specifications (Panel Mount Type), page 38 Environmental Specifications (DIN Mount Type), page 42
- · Is the operating atmosphere free of corrosive gasses?

When this product is inside a panel, the ambient environment refers to the interior of the panel.

Electrical Specifications

Is the input voltage appropriate? Refer to followings:

Electrical Specifications (Panel Mount Type), page 35 Electrical Specifications (DIN Mount Type), page 41

Advanced Model Maintenance

 Are all power cords and cables connected properly? Are there any loose cables?

- Are all installation fasteners holding the unit securely?
- Are there scratches or traces of dirt on the installation gasket?

Unit Disposal

When disposing this product, dispose it in a manner appropriate to, and in accordance with, your country's industrial machinery disposal/recycling standards.

Replacing the Installation Gasket

The installation gasket provides protection against dust and moisture. The gasket must be inserted correctly into the groove for moisture resistance for this product.

NOTICE

GASKET AGING

- Inspect the gasket periodically as required by your operating environment.
- Replace the gasket at least once a year, or as soon as scratches or dirt become visible.

Failure to follow these instructions can result in equipment damage.

NOTICE

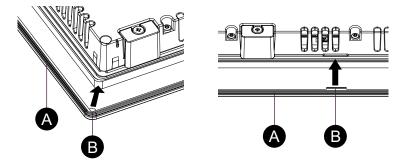
EQUIPMENT DAMAGE

Be careful not to stretch the gasket unnecessarily.

Failure to follow these instructions can result in equipment damage.

- 1. Place the product on a flat, level surface, with the display face pointing down.
- 2. Remove the gasket from the product.
- 3. Attach the new gasket to the product. Insert the protrusions from the four corners of the gasket into the corresponding holes in the corners of the product. Depending on your model, there may be additional protrusions. In the following, refer to the figure on the right and insert the protrusions accordingly.

NOTE: When using a tool to insert the gasket, make sure the tool does not catch the rubber gasket and cause a tear.



- A. Installation gasket
- B. Protruding point

Maintenance Advanced Model

Replacing the Display Module or Box Module

When using the Panel Mount Type, you can replace the Display Module with the same display type.

For replacement products, refer to the Maintenance Accessories, page 24.

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. The DC model is designed to use 12 to 24 Vdc, and the AC model is designed to use 100 to 240 Vac. Always check whether your device is DC or AC powered before applying power.

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

Removing the Display Module

ACAUTION

RISK OF INJURY, EQUIPMENT DAMAGE

Do not drop the Box Module when you remove it from the product.

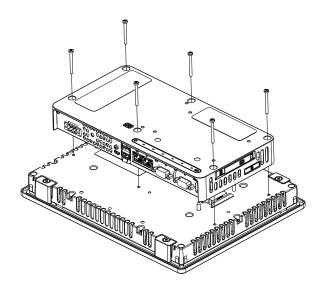
- Do not remove the Box Module while the product is attached to the panel.
- Hold this product in place after removing the screws.
- · Use both hands.

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

1. Place the product on a clean and level surface with the screen facing down.

Advanced Model Maintenance

Remove the six screws on the rear face, then remove the Box Module.
 M3 screw, length: 30 mm (1.18 in)



Installing the Display Module

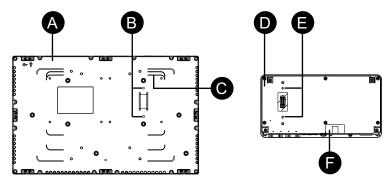
NOTICE

EQUIPMENT DAMAGE

Do not exert more torque than the amount specified.

Failure to follow these instructions can result in equipment damage.

- Place the Display Module on a clean and level surface with the screen facing down.
- 2. Cover the Box Module so that its outline fits in the appropriate guidelines and you can enter the installation pins through the holes.



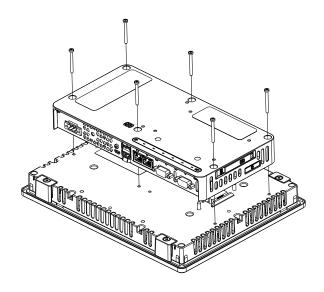
- A. Display module (rear)
- B. Installation pins
- C. Guideline
- D. Box module (rear)
- E. Pin holes
- F. Security seal*1
- *1 Do not remove the security seal. For details, refer to Security Seal, page 13.

Maintenance Advanced Model

3. Tighten the six screws to attach the Box Module.

M3 screw, length: 30 mm (1.18 in)

NOTE: The necessary torque is 0.5 N·m (4.4 lb-in).



Replacing the Battery

This product uses a primary battery for data backup of the internal clock. If the battery is depleted, the clock data will be lost. Use only the BR2032 (manufactured by Panasonic Corporation) battery as a replacement.

AADANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Follow the procedures step by step to replace the battery correctly and safely.
- Before replacing the battery, turn off this product's power.

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

ADANGER

EXPLOSION, FIRE, OR CHEMICAL HAZARD

- · Use only the identical replacement battery for this product.
- · Do not cause a short circuit.
- Recycle or properly dispose of used batteries.
- Do not recharge, disassemble or heat above 80 °C (176 °F).
- Use your hands or insulated tools to remove or replace the battery.
- Maintain proper polarity when inserting and connecting a new battery.

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

Advanced Model Maintenance

NOTICE

LOSS OF DATA

- Replace the battery regularly every five years after you purchase this product.
- · Insert the battery before reconnecting the power supply.
- · Allow only qualified personnel to replace the battery.

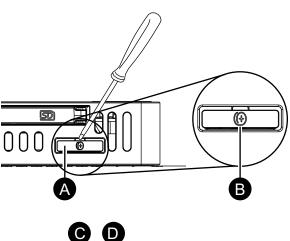
Failure to follow these instructions can result in equipment damage.

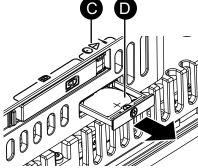
NOTE:

- Insert the battery before reconnecting the power supply. Otherwise, the clock will not work properly.
- After reconnecting the power supply, set up the clock again. Refer to your screen editing software manual on how to set up the clock.

Battery replacement procedure

- 1. Disconnect the power supply from this product.
- Touch the housing or ground connection to discharge any electrostatic charge from your body.
- 3. Place the product face down on a clean, flat, level surface.
- 4. Insert a flat head screwdriver into the groove of the battery slot to pull it out.

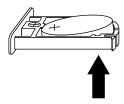




- A. Battery slot
- B. Battery symbol
- C. Safety alert symbol (see the previous safety messages)
- D. Battery

Maintenance Advanced Model

5. Remove the spent battery from the tray by touching the battery from the bottom.



- 6. Put the new battery on the tray in accordance with the polarity markings in the tray and on the battery.
- 7. Insert the tray into the battery slot.
- 8. Reconnect the power supply to this product.

Replacing the Backlight

Not user replaceable. Please contact customer support.

After-sales Service

For details on after-sales service, refer to our website.

https://www.pro-face.com/trans/en/manual/1015.html

Advanced Model System Settings

System Settings

What's in This Chapter

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How to display the System Settings	
Change Password	102
Reset Password	103
Adding/Deleting a User Account	104
nitialization (Factory Reset)	105
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Setup

After turning on the product for the first time, perform the system setup.

In the **System Settings**, configure the product's hardware configuration and network settings such as IP addresses.

Panel mount type

Refer to Set Up On Device, page 96.

DIN mount type

Refer to Set up via PC (Remote Setup), page 98.

Set Up On Device

This section describes how to configure the product on screen.

1. Power on the product.

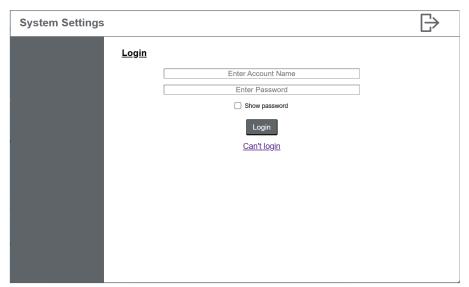
System Settings Advanced Model

2. The **Create Account** screen is displayed. Create an administrator user account for the **System Settings**. Enter the username and password, then touch the **Register** button.



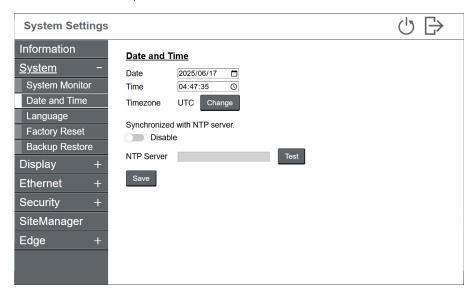
NOTE:

- Passwords should be at least 8 characters long and include at least one uppercase letter, one lowercase letter, one number, and one special character.
- Although you can operate the product without using password authentication, we recommend setting a password to keep the product secure.
- You can skip the creation of the administrator account and transfer the
 project files first. If you do that, you will be prompted to create an
 account the next time you try to view the System Settings.
- You can change the password at any time. For details, refer to Change Password, page 102.
- 3. The Welcome screen is displayed. Touch System Settings.
- 4. The **Login** screen is displayed. Enter the username and the password set earlier, then touch the **Login** button.

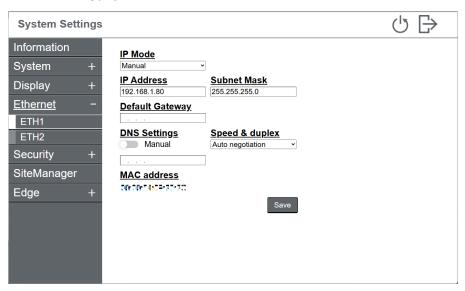


Advanced Model System Settings

 The System Settings menu screen is displayed. Select System > Date and Time to set the clock, and then touch the Save button.



6. From the menu, select **Ethernet**. Change the network settings as required and touch the **Save** button.



Change other settings as required. For information on system settings functions, refer to System Settings Menu, page 111.

NOTE: When creating the administrator account, if you selected the **Use password** option, you can add other user accounts. For information, refer to Adding/Deleting a User Account, page 104. Use the account that matches the specified use, such as using a standard user account for normal operations, and using the administrator account only for system development and maintenance.

- 8. Touch the logout icon at the top right of the screen. The **Welcome** screen is displayed.
- 9. Transfer the project file from the screen editing software. For information on how to transfer, refer to the manual of the screen editing software.

Set up via PC (Remote Setup)

This section describes how to configure the system settings from a browser by connecting the product to your computer.

This setup method is only available for DIN mount type.

System Settings Advanced Model

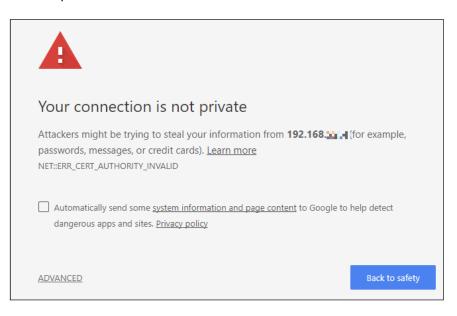
1. Attach an Ethernet cable to the LAN port (ETH1) of this product and connect your computer. To connect the computer to the same network as the product, change the computer's IP address and subnet mask as follows.

IP address: 192.168.1.* (any address other than 192.168.1.80)

Subnet Mask: 255.255.255.0

NOTE: If you are using Windows 11, set the IP address as follows:

- (1) From the Start menu, select Settings > Network & Internet.
- (2) Click **Properties** next to **Ethernet**.
- (3) Click **Edit** next to **IP Address Assignment**, select **Manual** from the drop-down menu, and then click **Save**.
- (4) Enable IPv4, then enter the IP address, subnet mask, etc.
- 2. Power on the product.
- 3. Open a web browser on the computer, then enter the following URL. https://192.168.1.80:8443/
- 4. When the connection is established, the HMI device send a certificate to use for the encryption. Since the certificate is not signed from a Certificate Authority you will get a warning message. Click on ADVANCED options and choose to proceed.



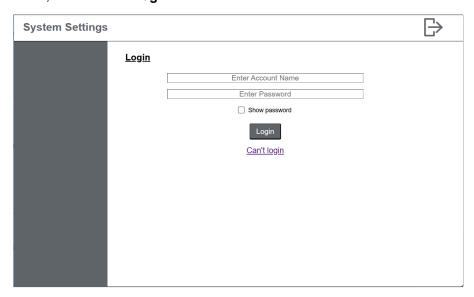
Advanced Model System Settings

5. The **Create Account** screen is displayed. Create an administrator user account for the **System Settings**. Enter the username and password, then click the **Register** button.



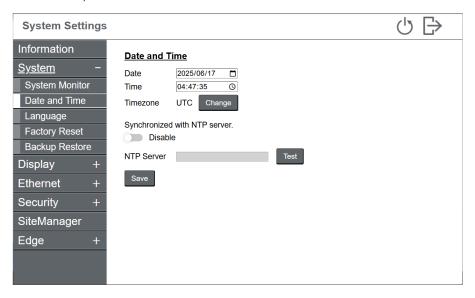
NOTE:

- Passwords should be at least 8 characters long and include at least one uppercase letter, one lowercase letter, one number, and one special character.
- Although you can operate the product without using password authentication, we recommend setting a password to keep the product secure.
- You can skip the creation of the administrator account and transfer the
 project files first. If you do that, you will be prompted to create an
 account the next time you try to view the System Settings.
- You can change the password at any time. For details, refer to Change Password, page 102.
- 6. The **Login** screen is displayed. Enter the username and the password set earlier, then click the **Login** button.

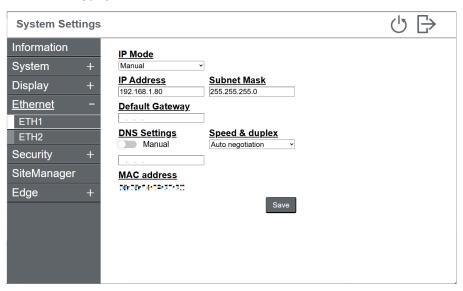


System Settings Advanced Model

7. The **System Settings** menu is displayed. Select **System > Date and Time** to set the clock, and then click the **Save** button.



8. From the menu, select **Ethernet**. Change the network settings as required and click the **Save** button.



9. Change other settings as required. For information on system settings functions, refer to System Settings Menu, page 111.

NOTE: You can also add other user accounts if you selected **Use password** when creating the administrator account. For details, refer to Adding/Deleting a User Account, page 104. Use the account appropriate to the situation, such as using the standard user account during normal operations and using the administrator account only during system development and maintenance.

- 10. Click the logout icon at the top right of the screen.
- 11. Transfer the project file from the screen editing software. For information on how to transfer, refer to the manual of the screen editing software.

How to display the System Settings

This section describes how to display the **System Settings** after transferring project files from the screen editing software.

Panel mount type

Please refer to the manual of your screen editing software.

Advanced Model System Settings

DIN mount type

 Attach the product to the network with an Ethernet cable in the product's LAN port. Connect the computer to the same network as the product by changing the computer's IP address and subnet mask.

2. Open a browser on the computer and enter the following URL.

https://<IP address>:8443/

Substitute your product's IP address for "<IP address>".

NOTE: If you do not know the product's IP address, refer to Forgot IP Address, page 111.

Change Password

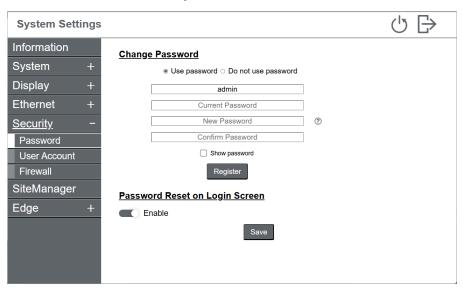
This section describes how to change the password when it is being used for authentication.

NOTE: If you are not using a password and want to change to using a password, reset the password settings. Refer to Reset Password, page 103.

1. Login to System Settings.

NOTE: For instructions on how to access **System Settings**, refer to How to display the System Settings, page 101.

2. From the menu, select **Security > Password**.



- 3. Enter the current password for the logged in user.
- Enter the new password and touch the Register button.

NOTE:

- Passwords should be at least 8 characters long and include at least one uppercase letter, one lowercase letter, one number, and one special character.
- If you don't want to use password authentication, select **Do not use** password. If you created another user account in addition to the
 administrator account, delete that user account first. You can delete
 the user account by selecting **Security** > **User Account** from the
 menu.

System Settings Advanced Model

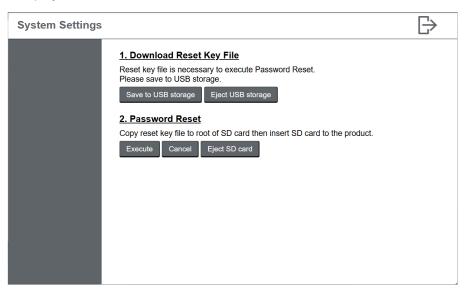
Reset Password

If you forget your password, you can reset it.

To perform a password reset, an optional SD card and commercially available USB storage are required. Please prepare external storage formatted with the FAT, FAT32, or exFAT file system.

NOTE:

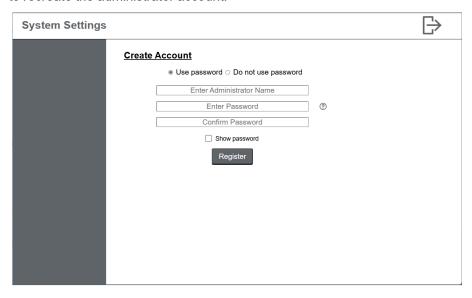
- If you forget the administrator password when Password Reset on Login Screen is disabled, you will not be able to reset the password or restore data in the product.
- When you perform a password reset, all accounts will also be reset.
- If you want to change from not using a password to using one, you will need to reset your password. Select **Security > Password** from the menu and skip to step 2 below.
- 1. In the **System Settings** login screen, touch **Can't login**. The following screen is displayed.



- Connect the USB storage to this product.
- 3. Touch the **Save to USB storage** button. The reset key file is saved to the USB storage.
- Touch the Eject USB storage button. Then make sure the USB storage LED is off.
- 5. Remove the USB storage from the product and connect it to a computer.
- 6. Copy the key file from the USB storage and paste it into the root directory of the SD card.
- 7. Remove the SD card from the computer and insert it into the product.
- 8. Touch the **Execute** button. The password reset is performed.

Advanced Model System Settings

9. The **Create Account** screen is displayed. Enter the username and password to recreate the administrator account.



NOTE: The reset key file cannot be used to reset other products. Please perform a reset, product by product.

Adding/Deleting a User Account

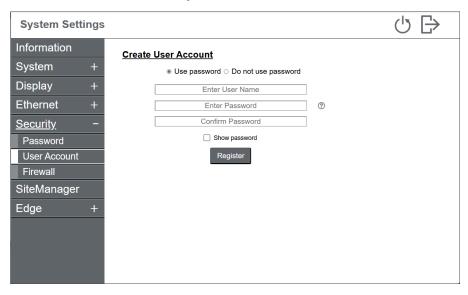
Create a standard user account separate from the administrator account created during setup. Only the administrator can add and delete user accounts.

NOTE:

- Only one standard user account can be added.
- If the administrator account is set to not use a password, you will not be able to create a standard user account.
- To protect your product from unintentional changes to the configuration, we recommend that you use the standard user account for normal product operations.
- 1. Login to **System Settings**.

NOTE: For instructions on how to access **System Settings**, refer to How to display the System Settings, page 101.

2. From the menu, select **Security** > **User Account**.



System Settings Advanced Model

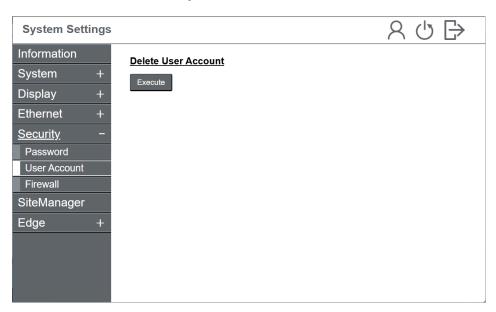
3. Enter the username and password, then touch **Register** button.

NOTE:

- Your password must be at least eight characters long and contain at least one uppercase letter, one lowercase letter, one number, and one special character.
- If you forget the password, delete the standard user account and create a new one. Please note that if you perform the password reset function, the administrator account will also be deleted.
- If you don't want to use password authentication, select **Do not use** password. In this case, the standard user account is used by default
 and the login screen will not display.

Delete user account

From the menu, select **Security > User Account**.



Initialization (Factory Reset)

This procedure resets the product to the state it was in when it was purchased. The data stored in the product will be erased and the system settings will be initialized to the factory default settings.

Only administrators can perform a factory reset.

The method for performing the factory reset depends on whether password authentication is used to log in to the system settings.

Factory Reset (When password is used), page 105

Factory Reset (When password is not used), page 106

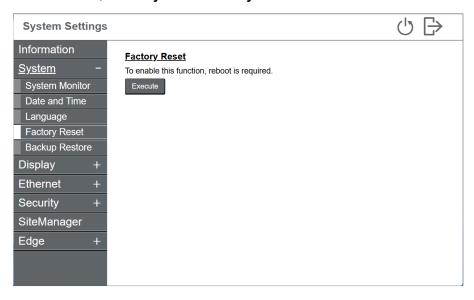
Factory Reset (When password is used)

1. Login to System Settings.

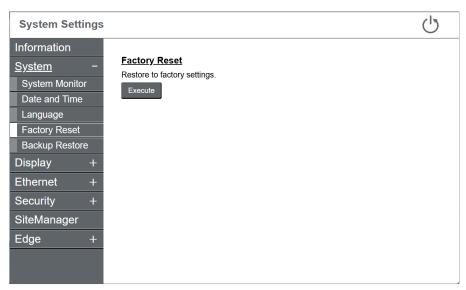
NOTE: For instructions on how to access **System Settings**, refer to How to display the System Settings, page 101.

Advanced Model System Settings

2. From the menu, select System > Factory Reset.



- Touch the Execute button. The product reboots.
- 4. Login to System Settings again.
- 5. From the menu, select **System > Factory Reset**.



6. Touch the **Execute** button. The factory reset is performed and the product reboots.



Factory Reset (When password is not used)

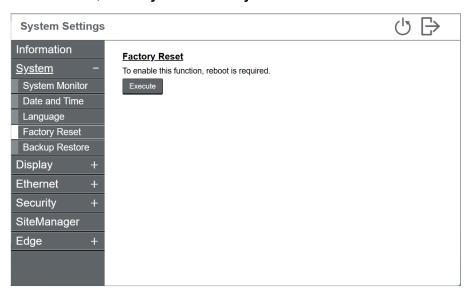
To perform a factory reset, an optional SD card and commercially available USB storage are required. Please prepare external storage formatted with the FAT, FAT32, or exFAT file system.

Display System Settings.

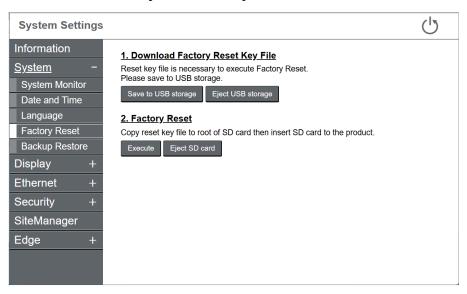
NOTE: For instructions on how to access **System Settings**, refer to How to display the System Settings, page 101.

System Settings Advanced Model

2. From the menu, select System > Factory Reset.



- 3. Touch the **Execute** button. The product reboots.
- 4. From the menu, select System > Factory Reset.



- Connect the USB storage to this product.
- Touch the Save to USB storage button. The reset key file is saved to the USB storage.
- Touch the **Eject USB storage** button. Then make sure the USB storage LED is off
- 8. Remove the USB storage from the product and connect it to a computer.
- Copy the key file from the USB storage and paste it into the root directory of the SD card.
- 10. Remove the SD card from the computer and insert it into the product.
- 11. Touch the **Execute** button. The factory reset is performed and the product reboots.



Advanced Model System Settings

NOTE: The reset key file cannot be used to reset other products. Please perform a reset, product by product.

Recovery (Backup and Restore)

Backs up the system settings, or all the data on the product, to external storage (USB storage device or SD card). You an also use the backup file to restore the product.

Only administrators can perform backups or restores.

To perform this function, external storage is required. For the recovery media, please prepare a dedicated external storage device that meets the following conditions.

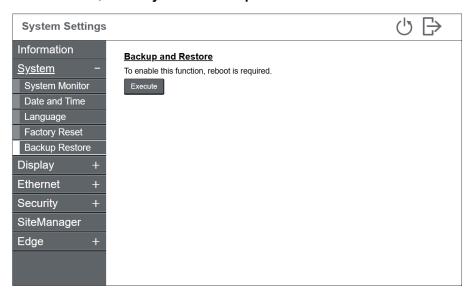
- 4 GB or more of free space
- Formatted with the FAT, FAT32, or exFAT file system

Creating recovery media

1. Login to System Settings.

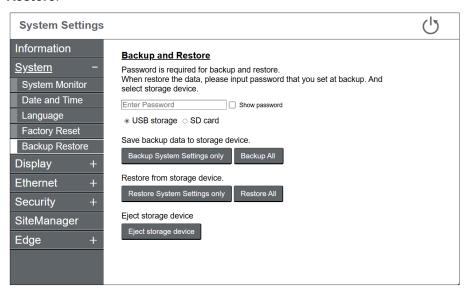
NOTE: For instructions on how to access **System Settings**, refer to How to display the System Settings, page 101.

2. From the menu, select **System > Backup Restore**.



- 3. Touch the **Execute** button. The product reboots.
- 4. Connect the external storage to the product.

 Login to the System Settings. From the menu, select System > Backup Restore.



- 6. Set a password for the backup and select the external storage to save to.
- Touch the Backup System Settings only button or Backup All button. A backup file is created in the external storage.
- 8. Touch the **Eject storage device** button. Make sure the corresponding LED is off, and then remove the external storage from the product.

Restoring the product using recovery media

- 9. Connect the external storage, which has the backup file, to the product.
- 10. Log in to the **System Settings**. From the menu, select **System > Backup Restore**. (Same as steps 1 to 6 above.)
- 11. Touch the **Restore System Settings only** button or the **Restore All** button. After restore is performed, the product reboots.

NOTICE LOSS OF DATA Do not turn off the power during backup or restore process. Failure to follow these instructions can result in equipment damage.

Troubleshooting

Product does not boot up properly

If for some reason the product does not boot up properly or you cannot open the **System Settings**, please try the following.

Panel mount type

Within 15 seconds of turning on the product, or as soon as the boot screen (splash screen) disappears, double-tap the bottom-left or bottom-right corner of the screen. The product will open the **System Settings**.



If you prepared recovery media, use it to perform a restore.

Refer to Recovery (Backup and Restore), page 108.

If you have not performed a backup, perform a factory reset.

Refer to Initialization (Factory Reset), page 105.

DIN mount type

Access the product from your computer by temporarily using the product's default IP address.

1. Attach an Ethernet cable to the LAN port (ETH1) of this product and connect your computer. Change the IP address and subnet mask of your computer so it connects to the same network as the product:

IP address: 192.168.1.* (any address other than 192.168.1.80)

Subnet Mask: 255.255.255.0

- Power on the product while holding down the USB storage eject button. The product boots up with the default IP address and the **System Settings** will be available for configuration.
- Open a web browser on the computer, then enter the following URL. https://192.168.1.80:8443/

If you prepared recovery media, use it to perform a restore.

Refer to Recovery (Backup and Restore), page 108.

If you have not performed a backup, perform a factory reset.

Refer to Initialization (Factory Reset), page 105.

NOTE: If you reboot the product, remote access using the default IP address is terminated.

Forgot Password

Reset the password. For instructions, refer to Reset Password, page 103.

Forgot IP Address

Panel mount type

You can open the System Settings to check the IP address.

DIN mount type

Access the product from your computer by temporarily using the product's default IP address.

 Attach an Ethernet cable to the LAN port (ETH1) of this product and connect your computer. Change the IP address and subnet mask of your computer so it connects to the same network as the product:

IP address: 192.168.1.* (any address other than 192.168.1.80)

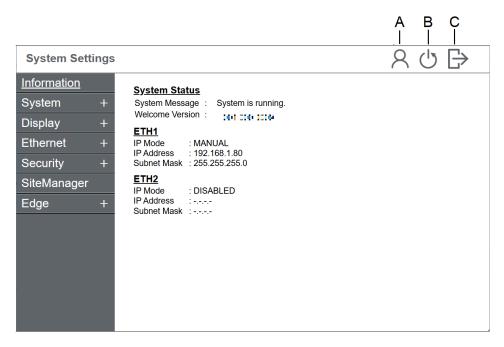
Subnet Mask: 255.255.255.0

- Power on the product while holding down the USB storage eject button. The
 product reboots with the default IP address and the System Settings will be
 available for configuration.
- Open a web browser on the computer, then enter the following URL. https://192.168.1.80:8443/
- 4. Log in to the **System Settings** and check the IP address. If you want to change the IP address, from the menu, select **Ethernet**.

NOTE: If you change the IP address or reboot the product, remote access using the default IP address is terminated.

System Settings Menu

This section describes the functions provided in the **System Settings**.



	Function	Description
Α	Switching accounts	Switch user accounts.
		This function is displayed if you have a standard user account in addition to the administrator account.
В	Reboot	Reboot the product.
С	Logout	Log out of the system settings and return to the previous screen.

Menu		Description
Information	-	Displays the system status, version information, etc.
System	System Monitor	Displays the number of times this product has been started, the total operating time, the temperature inside the product, etc. This also exports the system settings operation log.
	Date and Time	Set the product's internal clock.
	Language	Select the user interface language for the system settings.
	Factory Reset*1	Resets the product to the state it was in when it was purchased.
	Backup Restore*1	Back up the data in the product to a USB storage device and use the backup file to restore the product.
Display*3	Display1	Configure display settings such as brightness and touch areas.
Ethernet*1	ETH1/ETH2	Configure the Ethernet settings.
Security*2	Password	Change the login password.
	User Account*1	Register or delete standard user accounts separate from the account with administrator privileges.
	Firewall*1	Configure settings related to the firewall.
	External Access*1*4	Set whether to allow remote access to system settings.
SiteManager*1	-	Configure SiteManager to remotely access this product using Pro-face Connect.
Edge	General	Enable or disable the Edge Connector .

^{*1} Displays only if you are logged in with an administrator account.

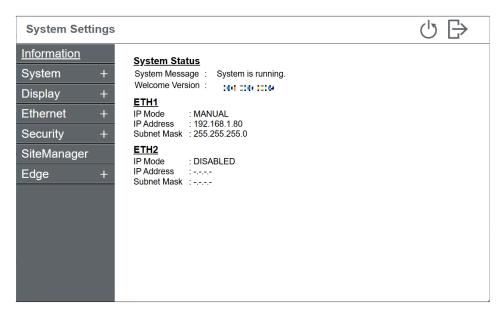
Information

Displays the system status, version information, etc.

^{*2} If password authentication is not used, this setting is not displayed.

^{*3} This interface will not appear on DIN mount type.

^{*4} This menu item appears on DIN mount types only.

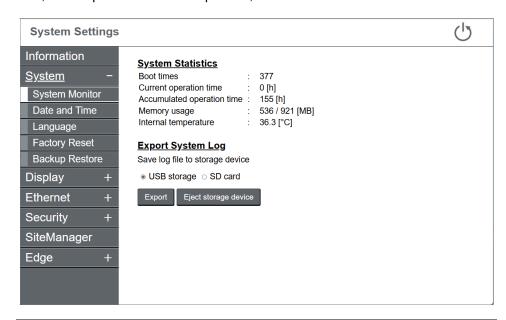


Function	Description
System Status	The system status and version information.
ETH1/ETH2	The network properties.

System

System Monitor

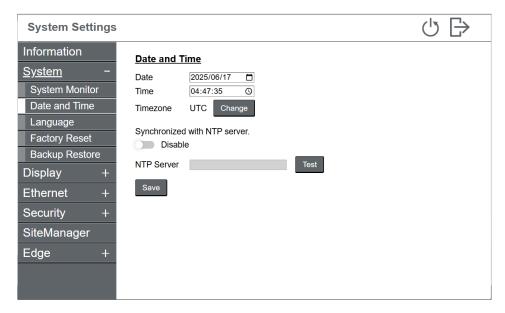
Displays the number of times this product has been started, the total operating time, the temperature inside the product, etc.



Function	Description
System Statistic	Displays the number of times this product has been started, the total operating time, the temperature inside the product, etc.
	Boot times and Accumulated operation time are not cleared even though you perform a factory reset or restore.
Export System Log	Exports the system settings operation log to external storage.
	To remove external storage after exporting the log data, touch the Eject storage device button. Make sure the corresponding LED is off, and then remove the external storage from the product.

Date and Time

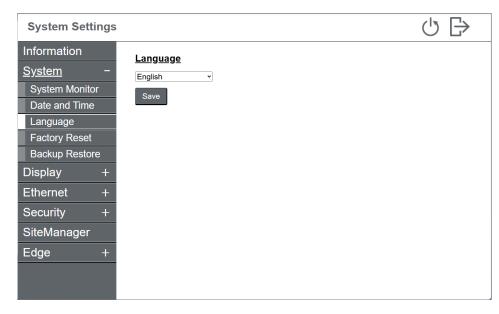
Set the clock on the product.



Function	Description
Date/Time	When the NTP server is disabled, set the date and time on the product.
Timezone	Select the time zone (region) in which the product is used.
Synchronized with NTP Server	Select whether to adjust the time so that it is synchronized with an NTP server.
	Default: Disable
NTP Server	Set the NTP server.

Language

Select the user interface language for the system settings.

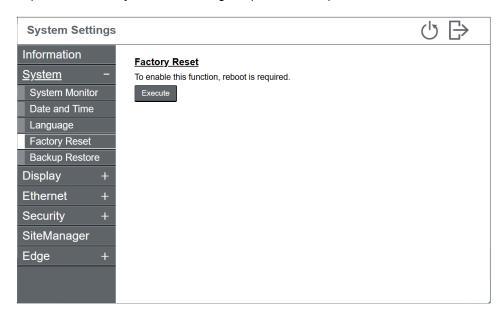


Function	Description
Language	Select either English or Japanese for the user interface language of the system settings.
	Default: English

Factory Reset

You can restore this product to the state it was in at the time of purchase. Only an administrator account can perform this function.

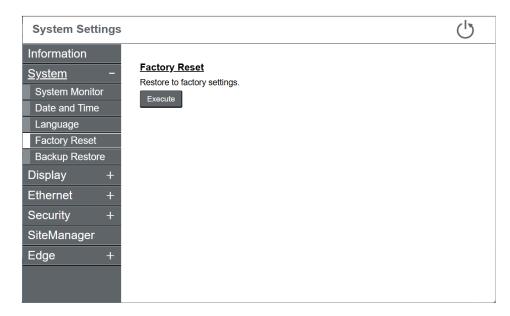
To perform a factory reset, rebooting the product is required.



After rebooting, the steps for factory reset differ depending on whether you are using a password or not.

When using password

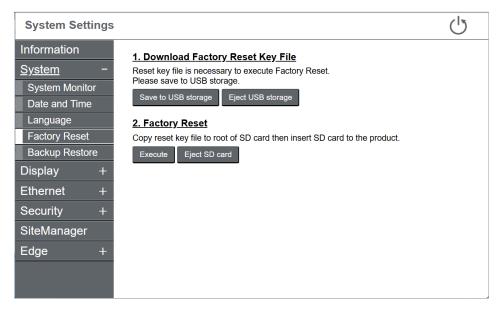
For instructions, refer to Factory Reset (When password is used), page 105.



When NOT using password

To perform a factory reset, create a reset key file and save it to external storage.

For instructions, refer to Factory Reset (When password is not used), page 106.



Function	Description
Save to USB storage	Create a reset key file and save it to the root of the USB storage device.
Eject USB storage	Disconnect (unmount) the USB storage.
	Confirm the USB storage LED is off, then remove the USB storage device from the product.
Execute	Use the reset key file in the SD card to perform a factory reset.
Eject SD card	Disconnect (unmount) the SD card.
	Confirm the SD card access LED is off, then remove the SD card from the product.

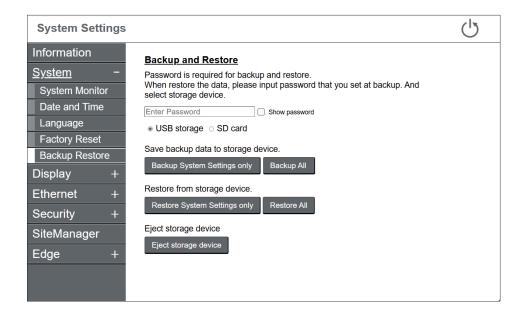
NOTE: The reset key file cannot be used to reset other products. Please perform a reset, product by product.

Backup Restore

Back up data in the product to an external storage, and restore the product using the backup file in the external storage. Only an administrator account can perform this function.

To perform backup or restore, rebooting the product is required.

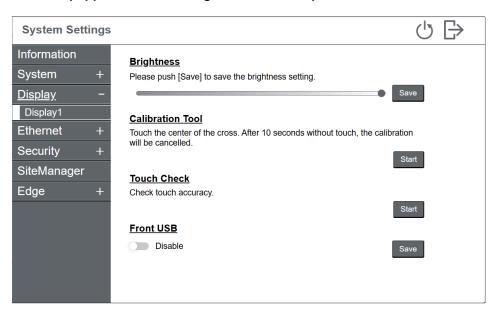
For instructions, refer to Recovery (Backup and Restore), page 108.



Display

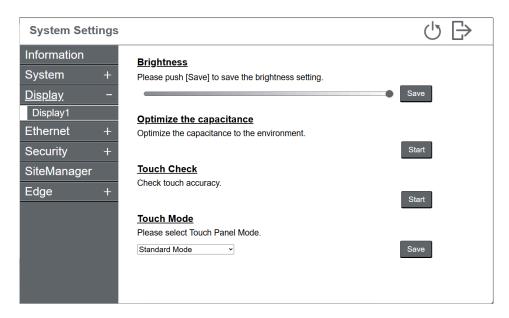
Configure display settings such as brightness and touch areas.

Models equipped with an analog resistive touch panel



Function	Description
Brightness	Set the display brightness.
Calibration Tool	Calibrate the touch coordinates.
Touch Check	Check the operation of the touch panel. The touched position will be highlighted.
Front USB	Toggle between enabling and disabling the front USB ports. Only displayed on models that have front USB ports.
	Default: Disable
	NOTE: Enabling the front USB ports may increase cybersecurity risks. We recommend disabling the front USB ports when they are not in use.

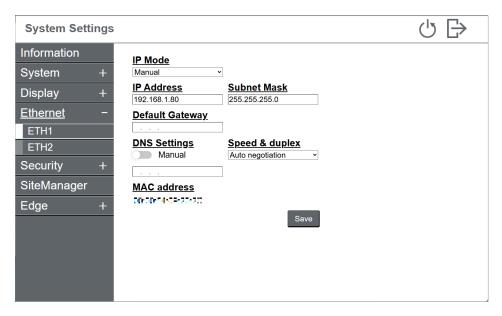
Models equipped with projected capacitive touch panel (PCAP)



Function	Description
Brightness	Set the display brightness.
Optimize the capacitance	Optimizing for capacitive touch. Wipe the screen clean to begin. Do not touch the screen until the process is complete.
Touch Check	Check the operation of the touch panel. The touched position will be highlighted.
Touch Mode	The following three modes are available to support your usage environment. Select the mode according to your usage environment.
	Standard Mode: Suitable for touch operations using your finger.
	Water Detection Mode: Mode where touch input becomes disabled when there are liquids, such as drops of water, on the screen. Suitable to prevent touch panel mis-operation due to liquids on the screen. After wiping the liquid or other foreign substance from the screen, touch input becomes enabled in about 2 seconds.
	Glove Mode : Mode suitable for use with gloves, such as rubber gloves.
	Default: Standard Mode NOTE:
	Depending on the type of glove, operation may not be possible.
	Because touch sensitivity is increased in this mode, it is more susceptible to environmental noise.

Ethernet

Configure the network settings. Only an administrator account can perform this function.



Function	Description
IP Mode	Select from Manual, Auto, or Disable.
	Default of ETH1: Manual
	Default of ETH2: Disable
IP Address	Set the IP address when you select Manual for the IP Mode .
	Default of ETH1: 192.168.1.80
	NOTE: Set the IP addresses so that ETH1/ETH2 are on different segments (network portions of the IP addresses).
Subnet Mask	Set the subnet mask when you select Manual for the IP Mode .
	Default of ETH1: 255.255.255.0
Default Gateway	Set the default gateway when you select Manual for the IP Mode .
DNS Settings	Select how the DNS server is specified, either Manual or Auto.
	Default of ETH1: Manual
Speed & duplex	Select the communication settings.
	Auto negotiation (default)
	100Base Full duplex
	100Base Half duplex
	10Base Full duplex
	10Base Half duplex
MAC address	The MAC address is displayed.

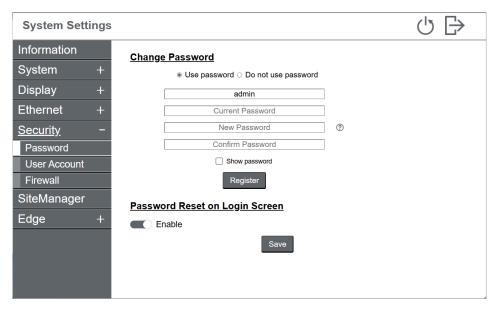
Security

Password

When using password

Change your password. For instructions, refer to Change Password, page 102.

NOTE: If no operations are performed on the screen for more than 10 minutes, you will be automatically logged out and returned to the login screen.



Function	Description	
Use password/Do not use password	Select whether to require password authentication to access system settings.	
	NOTE:	
	 If you change the setting from not using a password to using one, you will need to reset the password. 	
	 If a standard user account has been registered, it cannot be changed to Do not use password. Please delete the standard user account first, and then change the setting. 	
Enter Administrator Name/ Enter User Name	The currently logged in username is displayed. If you want to change the name, enter one that is 4 to 100 characters long.	
Current Password	Enter the password you are currently using.	
New Password/Confirm Password	Enter the new password. Refer to Password Requirements.	
Password Reset on Login Screen	If enabled, "Can't login" is displayed on the login screen. If you touch it, the password reset screen is displayed. For details, refer to Reset Password, page 103.	
	Default: Enable	
	NOTE: If disabled, you cannot reset the administrator password if you forget it. Please contact customer support. In this case, all data in the product will be lost.	

Password Requirements

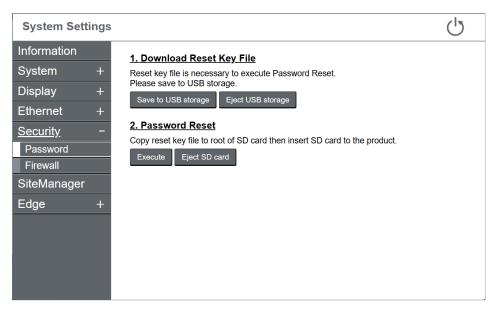
The password must meet the following requirements:

Number of characters	8 characters or more, 100 characters or less
Types of characters	 Use at least one of each of the following types of characters: Uppercase letter (A-Z) Lowercase letter (a-z) Number (0-9) Symbol (special character): ! "#\$% & '(apostrophe) () * + , / : ; < = > ? @ [\]^_` (grave accent) { }~

When NOT using password

If you want to change from not using password to using it, you need to reset your password. For instructions, refer to Reset Password, page 103.

To perform a password reset, an optional SD card and commercially available USB storage are required. Please prepare external storage formatted with the FAT, FAT32, or exFAT file system.

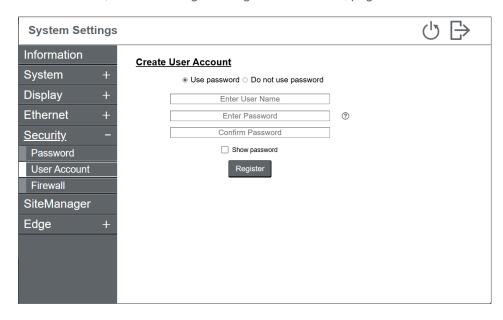


NOTE: The reset key file cannot be used to reset other products. Please perform a reset, product by product.

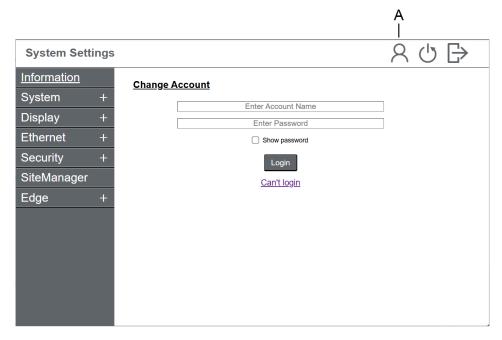
User Account

Add a user account. Only an administrator account can perform this function.

For instructions, refer to Adding/Deleting a User Account, page 104.



When you create the user account, a change account icon will appear at the top right of the screen. Touch that icon and the **Change Account** screen is displayed.



A. Change account

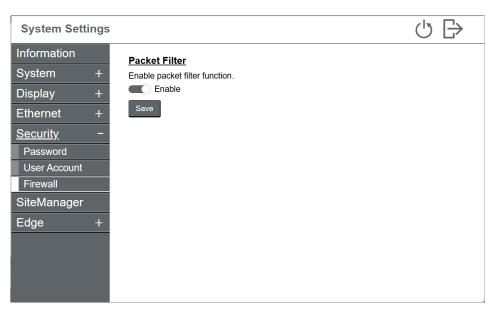
NOTE: When you perform a password reset, all accounts are reset.

Firewall

This function is available only to administrator accounts.

Toggle between enabling or disabling the packet filter function. When the packet filter function is enabled, the firewall monitors network traffic and determines whether to allow or block communication. We recommend this function with no changes to its default settings.

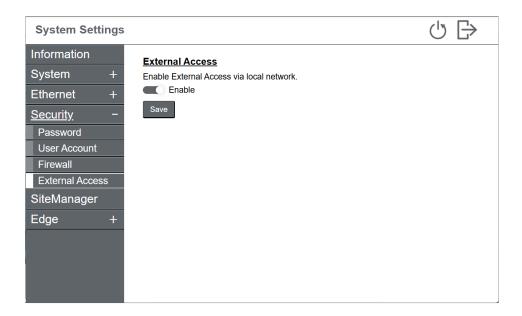
Default: Enable



External Access

This menu item appears only on DIN mount types. Set whether to allow access to the product's system settings from a remote computer. Only an administrator account can perform this function.

Default: Enable



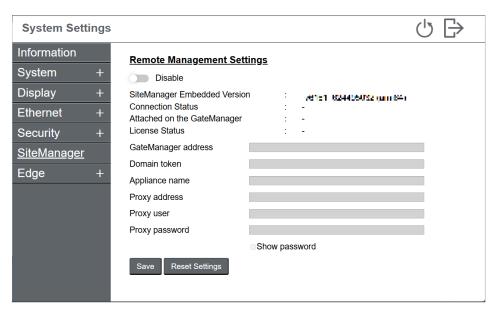
SiteManager

This function is available only to administrator accounts.

When using a PC or tablet to display and operate HMI products installed in remote locations, it is necessary to build a system that prevents unauthorized access by external entities. By installing Pro-face Connect (sold separately), you can build a secure remote access system.

Pro-face Connect consists of our HMI products on the work site (SiteManager), computers or tablets in the office (LinkManager), and a server to connect them (GateManager).

For more information about Pro-face Connect, refer to our website. https://www.pro-face.com



Function	Description		
Remote Management Settings	Enables the SiteManager function to remotely access this product with Pro-face Connect.		
	Default: Disable		
GeteManager address/ Domain token	Enter the IP address of the GateManager you want to access and the password (token) to connect to the GateManager.		

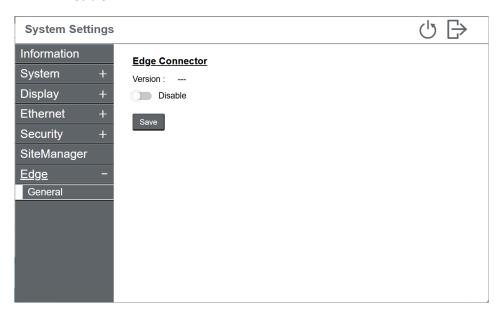
Function	Description		
	This information can be found at the bottom of the GateManager X.509 certificate emailed to you from GateManager.		
Appliance name	Enter the name of the target device (the name of SiteManager). The name set here is displayed on the GateManager.		
Proxy address/Proxy user/ Proxy password	If required, enter the proxy server IP address, account name, password.		
	For proxy server information, consult your network administrator.		

NOTE: When you delete the registered SiteManager from GateManager, you need to initialize SiteManager and reassign the license. Reset the settings and request the GateManager administrator to reassign the license. (You cannot use the same license. Reissuing a license will take 24 hours.)

Edge

When using **Edge Connector**, set it to Enabled.

Default: Disable



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As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.

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