

GPH6000 Series

User Guide

GPH6000-MM01-EN.00

11/2025

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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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Safety Information

Important Information

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

! DANGER

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

! 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

Document Scope

This document describes the specifications, installation, operation, and maintenance of the GPH6000 Series, 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 GPH6000 Series.

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 life-support 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.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.
- Use only the specified voltage when operating this product. This product is designed to use 24 Vdc. Always check whether your device is DC powered before applying power.
- Do not disassemble or modify the product.

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

! DANGER

EXPLOSION HAZARD

- Do not use this product in hazardous environments. (areas where flammable or combustible gases, vapors, dust, etc. exist)
- Do not connect or disconnect this product unless power has been switched off or the area is known to be non-hazardous.
- Do not attempt install, operate, modify, maintain, service, or otherwise alter this product except as permitted in this manual.

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.

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.

! WARNING

LOSS OF CONTROL

- The designer of any control scheme must consider the potential failure modes of control paths and, for certain critical control functions, provide a means to achieve a safe state during and after a path failure. Examples of critical control functions are emergency stop and overtravel stop, power outage and restart.
- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of unanticipated transmission delays or failures of the link.
- Observe all accident prevention regulations and local safety guidelines.
- Each implementation of this product must be individually and thoroughly tested for proper operation before being placed into service.
- The machine control system design must take into account the possibility of the backlight no longer functioning and the operator being unable to control the machine, or making errors in the control of the machine.

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

For additional information, refer to NEMA ICS 1.1 (latest edition), "Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control" and to NEMA ICS 7.1 (latest edition), "Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems" or their equivalent governing your particular location.

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

- The application of this product requires expertise in the design and programming of control systems. Only persons with such expertise should be allowed to program, install, alter, and apply this product.
- Follow all applicable safety standard, local regulations and directives.
- Do not use this product as the only means of control for critical system functions such as motor start/stop or power control.
- Do not use this equipment as the only notification device for critical alarms, such as device overheating or overcurrent.
- Use only the software provided with this product. If you use other software, please confirm the operation and safety before use.

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

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

Do not step on or pull cable.

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

⚠ CAUTION

RISK OF INJURY, EQUIPMENT DAMAGE

- Do not trip over the cable.
- Always use the hand strap during operation to avoid dropping the product.

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

The following characteristics are specific to the LCD panel and are considered normal behavior:

- LCD screen may show unevenness in the brightness of certain images or may appear different when seen from outside the specified viewing angle. Extended shadows, or crosstalk may also appear on the sides of screen images.
- LCD screen pixels may contain black and white colored spots and color display may seem to have changed.
- When experiencing vibrations within a certain frequency range and vibration acceleration is above what is acceptable, the LCD screen may partially turn white. Once the vibration condition ends, the whitening of the screen is resolved.
- When the same image is displayed on the screen for a long period, an afterimage may appear when the image is changed.
- The panel brightness may decrease when used for a long time in an environment continuously filled with inert gas. To prevent deterioration of panel brightness, regularly ventilate the panel. For more information, please contact customer support.
<https://www.pro-face.com/trans/en/manual/1015.html>

⚠ WARNING

SERIOUS EYE AND SKIN INJURY

The liquid in the LCD panel contains an irritant:

- Avoid direct skin contact with the liquid.
- Wear gloves when you handle a broken or leaking unit.
- Do not use sharp objects or tools in the vicinity of the LCD panel.
- Handle the LCD panel carefully to prevent puncture, bursting, or cracking of the panel material.
- If the panel is damaged and any liquid comes in contact with your skin, immediately rinse the area with running water for at least 15 minutes. If the liquid gets in your eyes, immediately rinse your eyes with running water for at least 15 minutes and consult a doctor.

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

NOTICE

REDUCED SERVICE LIFE

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 touch panel may operate abnormally when the display surface is wet.

⚠ WARNING

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.

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 multi-

touch. 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 FG noise flowing into 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.

Regarding Open-source Software

The complete list of the open-source components included in the product, and the licenses thereof, may be found in the user interface of the product. From the **System Settings**, select **System > Legal**. For at least three (3) years from delivery of this product (and, if provided by the applicable license, for the period in which this product is officially supported by Schneider Electric), Schneider Electric will give to any third party who contacts it at the contact information provided below, for a charge no more than the cost of physically performing source code distribution, a complete machine-readable copy of the corresponding source code (as defined in the applicable license) and of the installation instructions (if provided for, and as defined by the applicable license) of the open source components covered under LGPL or GPL licenses or other licenses with the obligation to do so.

Contact Information: <https://www.pro-face.com/trans/en/manual/1015.html>

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.

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 (GPH6000-MM01-EN)
- French (GPH6000-MM01-FR)
- German (GPH6000-MM01-DE)
- Spanish (GPH6000-MM01-ES)
- Italian (GPH6000-MM01-IT)
- Chinese (GPH6000-MM01-CS)
- Japanese (GPH6000-MM01-JA)
- Korean (GPH6000-MM01-KO)

NOTE: The original document is in English; the documents in the other languages are translations from the English.

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

As a responsible, inclusive company, Schneider Electric is constantly updating its communications and products that contain non-inclusive or insensitive terminology. However, despite these efforts, our content may still contain terms that are deemed inappropriate by some customers.

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

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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

⚠ WARNING

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.

⚠ WARNING

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.

Overview

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Product Overview

GPH6000 Series is a handheld type programmable display used as an interface for machine control and monitoring in industrial or factory automation systems.

- Ethernet and serial interfaces are available for operations in accordance with user needs.
- This product has an emergency stop switch and an enabling switch. Once integrated with the machine control system, the safety provided by the stop function and enabling function allow for improved Performance Level (PL) and Safety Integrity Level (SIL) operations. For details, refer to Safety Parameters, page 30.

This product is designed to be held on the forearm, which keeps the other hand free to operate the emergency stop switch and the control buttons on the front face of the product.



The enabling switch is located on the left side of the product. To operate the product while the enabling switch is active, either hold the product with your right forearm or grip it with both hands.



Safety Requirements

- The emergency stop switch and enabling switch are used as part of a comprehensive risk reduction strategy. Make sure the device, its installation and associated configuration satisfy your risk assessment and associated risk reduction strategy.

- When designing, installing or operating any emergency stop device and enabling device, you must ensure that the national and international standards and regulations that apply to your application are fulfilled. The national and international safety of machinery regulations specific to the application must be observed.
- Commissioning and operating this product in a safety related part of a control system may only be performed by persons who are authorized to commission and operate systems in accordance with established functional safety standards.

Model Numbers

Model List

Series	Display size	Model number
GPH6000 Series	Wired type	7-inch wide
		10-inch wide

Model Number Configuration

The following describes the configuration of model numbers.

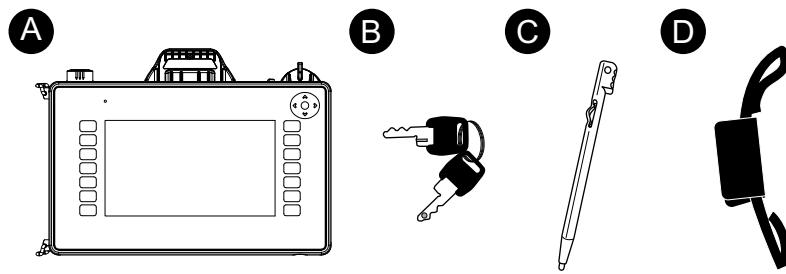
Digit	Category	Number	Description
1...3	(Prefix)	PFX	-
4...6	Model	GPH	-
7	Series	6	-
8	Display size	4	7"
		5	10"
9, 10	Type	00	Wired
11	LCD	W	Wide TFT
12	Touch panel	A	Analog
		C	Multi (PCAP)
13	Power supply	D	DC

Package Contents

Verify all items listed here are present in your package.

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

⚠ WARNING	
UNINTENDED EQUIPMENT OPERATION	
Do not use damaged products or accessories.	
Failure to follow these instructions can result in death, serious injury, or equipment damage.	

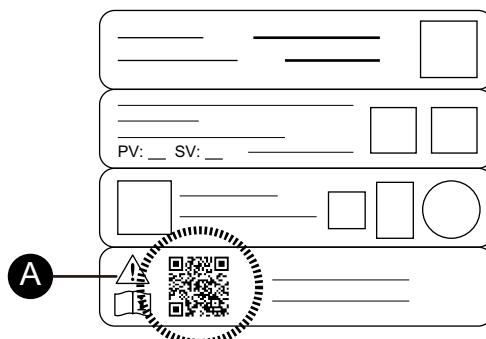


- A. GPH6000 Series (this product) x 1
- B. Key (attached to this product) x 1 set (2 pieces)
- C. Touch pen (attached to this product) x 1
- D. Hand strap (attached to this product) x 1
- E. Instruction sheet x 1

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.



- A. This mark indicates that you can refer to this manual by using the QR code.

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

- Underwriters Laboratories LLC., UL 61010-2-201 and CSA C22.2 N°61010-2-201, for Industrial Control Equipment used in Ordinary Locations
- EAC certification (Russia, Belarus, Kazakhstan)

Compliance Standards

Europe:

CE/UKCA

- Directive 2014/30/EU (EMC)

Australia, New Zealand:

- RCM

Korea:

- KC

Hazardous Substances

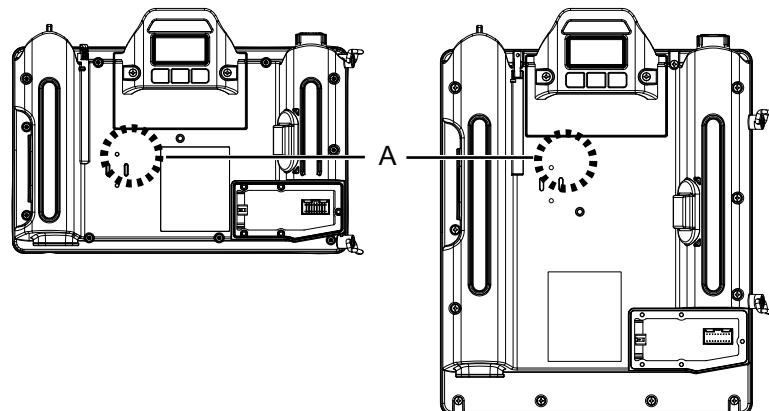
This product is designed to be compliant with the following environmental regulations, even if the product may not fall directly in the scope of the regulation:

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

These batteries do not contain a weight percentage of heavy metals over the threshold notified by European Battery Regulation 2023/1542.



A. Location of built-in battery

KC Markings

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

⚠ WARNING

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.

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

Device Connectivity

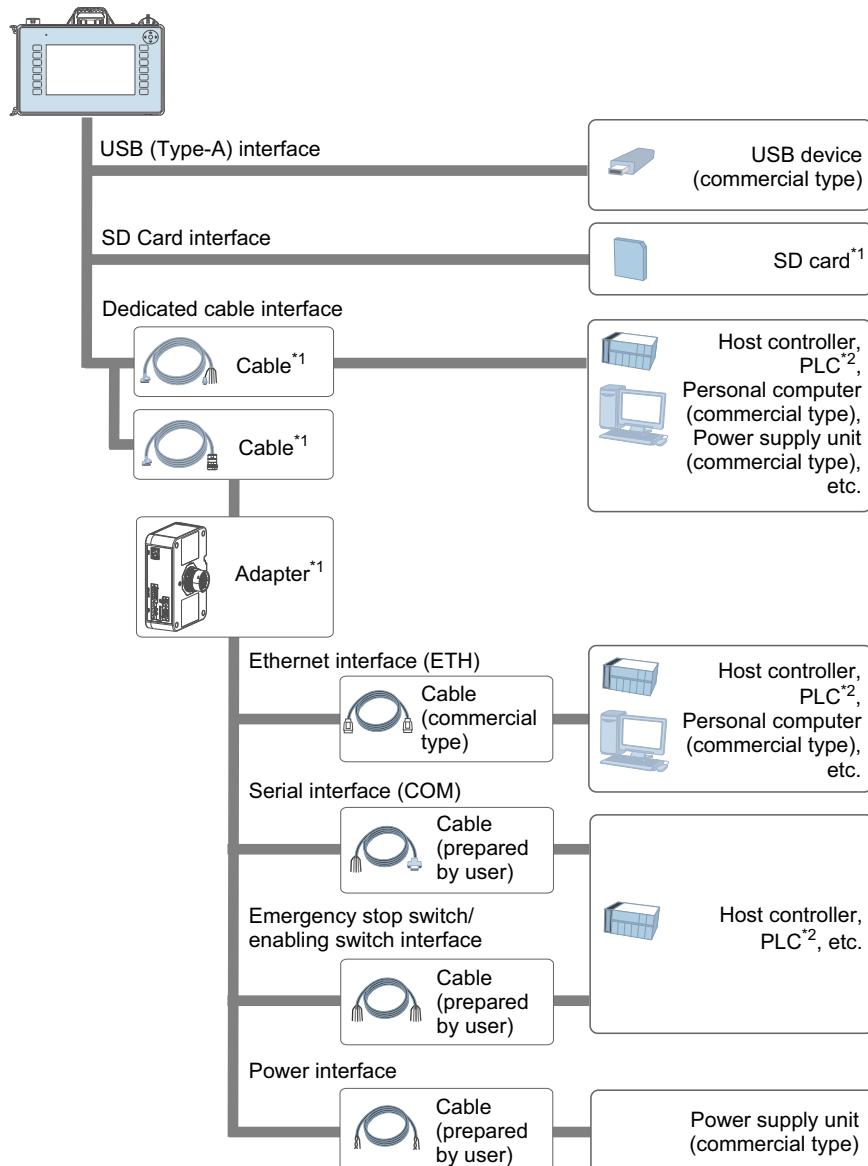
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System Design

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

NOTE: External storage devices used with this product should be formatted with the FAT or FAT32 file system.



^{*1} Refer to Accessories, page 20.

^{*2} For information on how to connect controllers and other types of equipment, refer to the corresponding device driver manual of your screen editing software.

Accessories

This section introduces optional items that are sold separately.

Products may change or be discontinued without notice. Please check our website for the latest information.
<https://www.pro-face.com>

Product name	Product number	Description
SD Card interface		
SD Memory Card	PFXZCBS4GC41	SD memory card (4 GB), SDHC
	PFXZCSD16GC101	SD memory card (16 GB), SDHC
	PFXZCSD32GC101	SD memory card (32 GB), SDHC
Dedicated Cable and Adapter		
Direct connection cable*1	PFXZHCBL0UT5M	Cable for directly connecting the GPH6000 Series (wired type) to the host controller, 5 m (16.4 ft).
	PFXZHCBL0UT10M	Cable for directly connecting the GPH6000 Series (wired type) to the host controller, 10 m (32.8 ft).
Wired adapter connection cable	PFXZHCBL0COM5M	Cable for connecting the GPH6000 Series (wired type) and wired adapter, 5 m (16.4 ft).
	PFXZHCBL0COM10M	Cable for connecting the GPH6000 Series (wired type) and wired adapter, 10 m (32.8 ft).
	PFXZHCBL0COM20M	Cable for connecting the GPH6000 Series (wired type) and wired adapter, 20 m (65.6 ft). Serial communication is not possible when using this cable.
Wired adapter*1	PFXZHADPCOM	Conversion adapter for the GPH6000 Series (wired type).
Wall hanging adapter	PFXZHWALADP	Adapter for hanging the GPH6000 Series on a wall.
Others		
Grip	PFXZHGRIP	Grip to make the GPH6000 Series 10-inch wide model easier to hold.
Screen protection sheet	PFXZCBDS72	Disposable, dirt-resistant sheet for the 7-inch wide display (5 sheets/set).
Anti-glare sheet	PFXZCAG5W1	For preventing reflections, dirt-resistant sheet for 10-inch wide display (5 sheets/set).

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

Maintenance Accessories

This section lists replacement parts.

Product name	Product number	Description
Touch pen	PFXZHTPEN4W	Touch pen for the GPH6000 Series 7-inch wide model (5 pieces/set).
	PFXZHTPEN5W	Touch pen for the GPH6000 Series 10-inch wide model.
Hand strap	PFXZHSTRAP	Hand strap for the GPH6000 Series.

Maintenance Accessories for Wired Adapter

This section lists replacement parts.

Product name	Product number	Description
Maintenance kit for wired adapter	PFXZHCOMKIT	One set includes four types of interface connectors (1 piece each), installation gasket (1 piece), and installation screws (4 pieces), connector cover (1 piece).

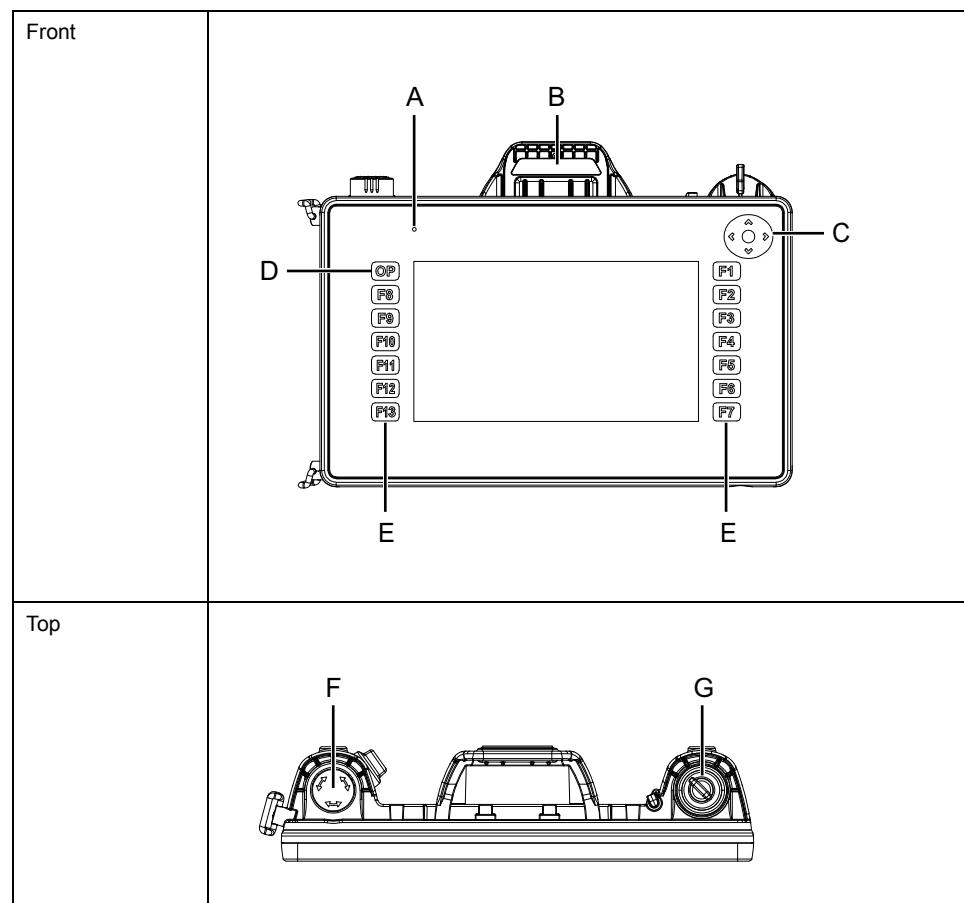
Parts Identification and Functions

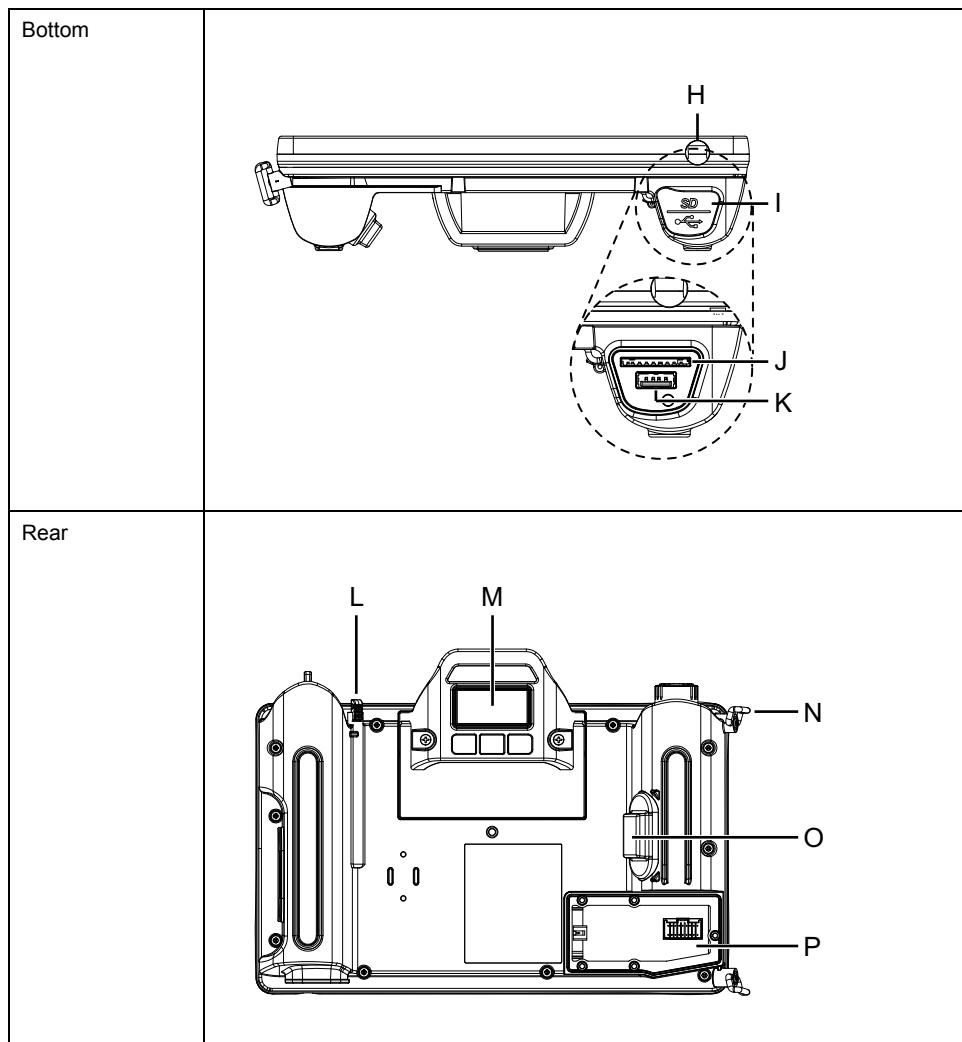
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Parts Identification

Parts Identification (7-inch Wide)





A: Status LED	I: USB/SD slot cover
B: Hanger	J: SD card slot
C: Navigator*1	K: USB (Type-A) interface
D: Operation switch (OP)*1	L: Touch pen
E: Function keys (F1...F13)*1	M: Magnetic holder
F: Emergency stop switch*2	N: Hand strap hook
G: Key switch	O: Enabling switch*2
H: Security seal*3	P: Dedicated cable installation opening*4

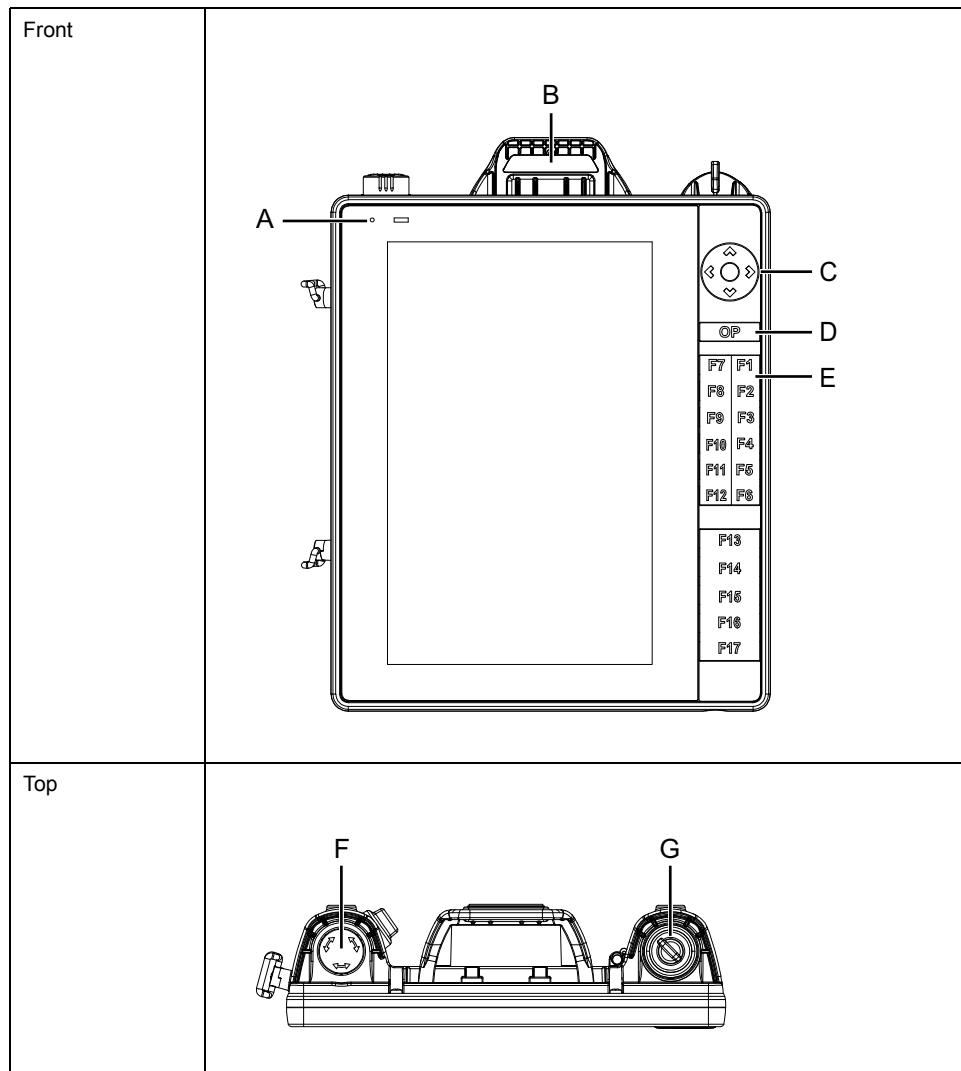
*1 Program the operation of each key using the screen editing software. When the operation switch function is enabled in the screen editing software, this product accepts inputs from the touch panel or function keys only while the operation switch is pressed. For details, refer to the manual of the screen editing software.

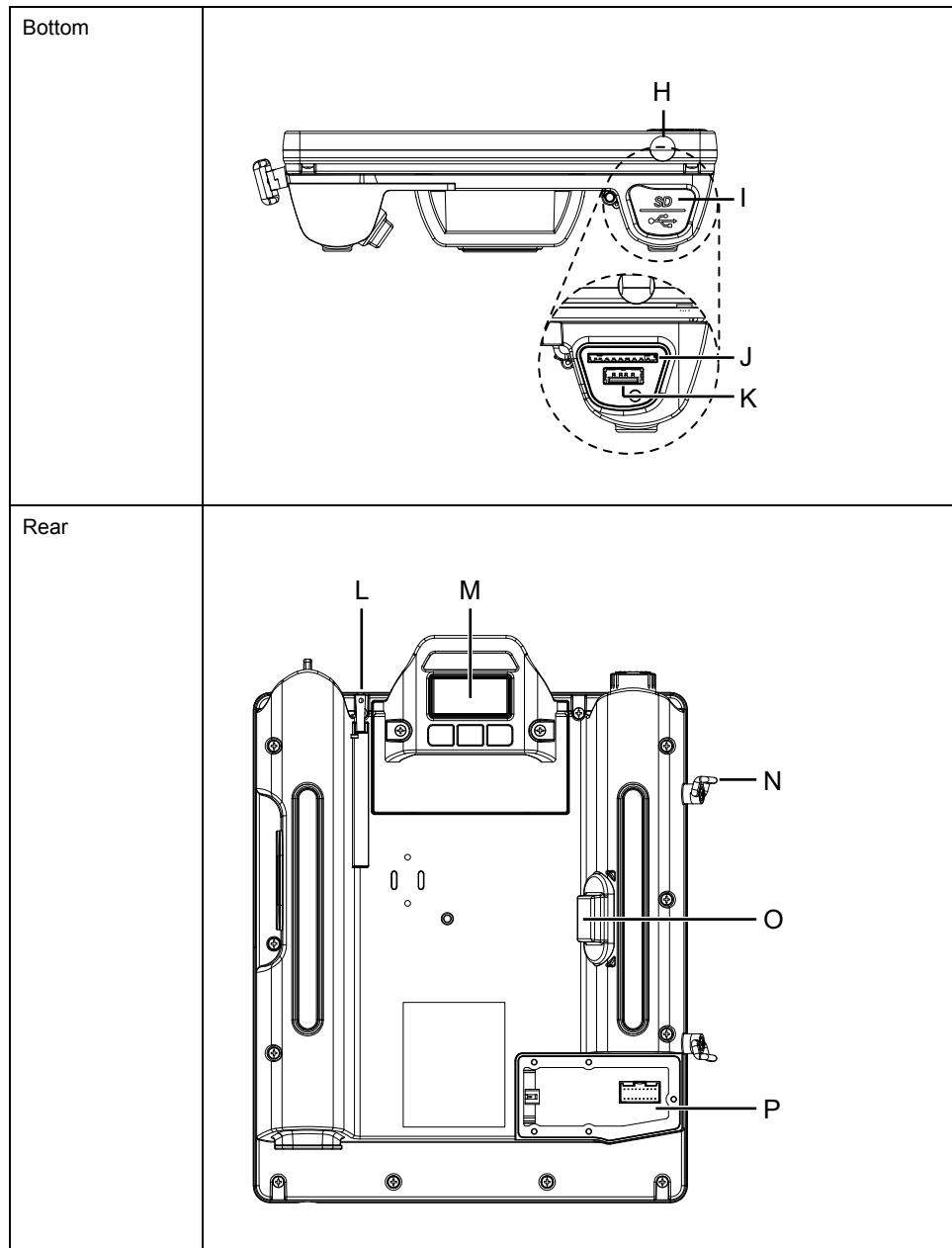
*2 For safety function parameters, refer to Product Overview, page 14.

*3 For details, refer to Security Seal, page 13.

*4 For instructions on how to install the cable, refer to Installing the Dedicated Cable, page 40.

Parts Identification (10-inch Wide)





A: Status LED

I: USB/SD slot cover

B: Hanger

J: SD card slot

C: Navigator^{*1}

K: USB (Type-A) interface

D: Operation switch (OP)^{*1}

L: Touch pen

E: Function keys (F1...F17)^{*1}

M: Magnetic holder

F: Emergency stop switch^{*2}

N: Hand strap hook

G: Key switch

O: Enabling switch^{*2}H: Security seal^{*3}P: Dedicated cable installation opening^{*4}

^{*1} Program the operation of each key using the screen editing software. When the operation switch function is enabled in the screen editing software, this product accepts inputs from the touch panel or function keys only while the operation switch is pressed. For details, refer to the manual of the screen editing software.

^{*2} For safety function parameters, refer to Product Overview, page 14.

^{*3} For details, refer to Security Seal, page 13.

^{*4} For instructions on how to install the cable, refer to Installing the Dedicated Cable, page 40.

LED Indications

Status LED

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

Color	Indicator	HMI operation
Green	ON	In operation
	Blinking (ON/OFF every 3 seconds)	Backlight OFF (Standby Mode)
Yellow	ON	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.

Specifications

What's in This Chapter

General Specifications	27
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General Specifications

Electrical Specifications

	7-inch wide	10-inch wide
Rated input voltage	24 Vdc	
Input voltage limits	19.2...28.8 Vdc	
Voltage dip/short interruption immunity	10 ms or less (at rated input voltage)	
Power consumption	0.5 A @ 24 Vdc	0.55 A @ 24 Vdc
In-rush current	30 A or less	
Dielectric strength	500 Vac for 1 minute (between power terminal and SG terminal)	
Insulation resistance	500 Vdc, 10 MΩ or more (between power terminal and SG terminal)	

Environmental Specifications

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	-20...60 °C (-4...140 °F)
Storage temperature	-20...70 °C (-4...158 °F)
Ambient air and storage humidity	5...85% RH (Non condensing, wet bulb temperature 39 °C [102.2 °F] or less)
Dust	0.1 mg/m ³ (10 ⁻⁷ oz/ft ³) or less (non-conductive levels)
Pollution degree	For use in Pollution Degree 2 environment
Corrosive gases	Free of corrosive gases
Atmospheric pressure (operating altitude)	800...1,114 hPa (2,000 m [6,561 ft] or lower)
Mechanical environment	
Vibration resistance	IEC/EN 61131-2 compliant 5...9 Hz Single amplitude 3.5 mm (0.14 in) 9...150 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/s ² , X, Y, Z directions for 3 times
Drop resistance	1 m (3.28 ft)
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)

⚠ CAUTION

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 product.

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

Structural Specifications

	7-inch wide	10-inch wide
Cooling method	Natural air circulation	
Structure	IP65F ^{*1}	
External dimensions (W x H x D)	270 x 189 x 63 mm (10.63 x 7.44 x 2.48 in)	242 x 295 x 64 mm (9.53 x 11.61 x 2.52 in)
Weight	1,100 g (2.43 lb) or less	1,500 g (3.31 lb) or less

*1 This is the protective structure when the cover connected to the product and the optional cable are correctly installed. 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. Confirm the types of conditions in the product's operating environment.

NOTE: IP65F is not part of the 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.
- Store this product in areas where temperatures are within the product's specifications.

Failure to follow these instructions can result in equipment damage.

Functional Specifications

Display Specifications

	7-inch wide	10-inch wide
Display type	TFT Color LCD	
Display size	7" wide	10" wide
Resolution	1,024 x 600 pixels (WSVGA)	800 x 1,280 pixels (WXGA)
Display colors	16 million colors	
Backlight	White LED (Not replaceable.)	
Backlight service life	30,000 hours or more (continuous operation at 25 °C [77 °F] before backlight brightness decreases to 50%)	50,000 hours (continuous operation at 25 °C [77 °F] before backlight brightness decreases to 50%)
Brightness control	0...100 (Adjusted with touch panel or software)	

Touch Panel

	7-inch wide	10-inch wide
Touch panel type	Resistive film (analog)	Projected capacitive
Touch points	Single touch	Multi-touch
Touch panel service life	1 million times or more	1 million times or more

The 7-inch wide model does not support multi-touch (two-point touch/multi-point touch). If you touch multiple points on the touch panel, it will operate as if you touched the center-point of the multiple touches.

For example, if you touch two or more points on the touch panel and at the center of the touches is a switch for a drive system, even though you did not directly touch that switch, it may function as if you did.

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

Do not touch two or more points on a touch panel that does not support Multi-touch (two-point touch/multi-point touch).

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

NOTE: For information on how to calibrate the touch position for the 7-inch wide model, refer to Touch Panel Calibration, page 77.

Memory

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

¹ How much of each memory you can use depends on your screen editing software. Please refer to the following URL.
<https://www.pro-face.com/trans/en/manual/1082.html>

Clock

RTC accuracy	< 100 ppm at 25 °C (77 °F)
Clock data backup	Rechargeable lithium-ion battery (not replaceable) Backup time: 1 month 25 °C (77 °F) when fully charged

If you use this product in a system where timing is critical, adjust the clock at regular intervals.

NOTE: For information on how to adjust clock data, refer to Date & Time, page 86.

Safety Parameters

The following parameters allow for Performance Level (PL) and Safety Integrity Level (SIL) applications:

$$\lambda \text{ DU single channel} = 3.02 \times 10^{-6} \text{ (1/h)} \\ \text{MTTFd} = 1/3.02 \times 10^{-6} \text{ (1/h)} = 331,125 \text{ hours} = 37.7 \text{ years}$$

(MTTFd \approx MTBFd)

NOTE: The MTTFd value is valid only if it does not exceed the annual average number of operations in the following parameter table.

Probabilistic Properties

	Emergency stop switch	Enabling switch
Annual average number of operations	12,000 cycles/year	48,000 cycles/year
Working days per year	240 days/year	240 days/year
Working hours per day	16 h/day	16 h/day
Working hours per year	3,840 h/year	3,840 h/year
Resulting cycle period	1,152 seconds (19.2 minutes)	288 seconds (4.8 minutes)

Interface Specifications

Specifications of Each Interface

USB (Type-A) interface	Connector	USB 2.0 (Type-A) x 1
	Power supply voltage	5 Vdc $\pm 5\%$
	Maximum current supplied	100 mA
	Maximum transmission distance	5 m (16.4 ft)
SD card interface	-	SD card slot (storage) x 1
	Standard	SD/SDHC
Dedicated Cable Interface		
Emergency stop switch	Contacts	Break contact (normally closed): 2
	Rated operational voltage	35 Vdc
	Rated operating current	2 A
	Bounce time	less than 10 ms

	Applicable standards*1	EN 60947-5-1, EN 60947-5-5, EN 13850, EN 60204-1
	Mechanical life*2	30,000 operations or more
	Electrical life	30,000 operations or more
	Degree of protection	IP65
Enabling switch	Contacts	Arbeit contact (normally open): 2 3-position switch
	Rated operational voltage	30 Vdc
	Rated operating current	1 A
	Applicable standards*1	IEC 60947-5-8, IEC/EN 60947-5-1, UL508, CSA C22.2 No.14
	Mechanical life*2	Position 1 → 2 → 1: 1,000,000 operations or more Position 1 → 2 → 3 → 1: 100,000 operations or more Operation frequency: 1,200 operations/hour
	Electrical life*2	100,000 operations or more Operation frequency: 1,200 operations/hour
	Degree of protection	IP65
Key switch	Contacts	Changeover contact: 1
	Rated operational voltage	10...250 Vdc
	Rated operating current	2 A @ 24 Vdc
	Mechanical life	65,000 cycles
	Degree of protection	IP65
Ethernet interface	Standard	IEEE802.3i / IEEE802.3u, 10BASE-T / 100BASE-TX
Serial interface (COM)	Asynchronous transmission	RS-232C/422/485

*1 The overall system may not meet these standards if implemented outside the parameters. Follow these standards when designing the system.

*2 The actual number of operations varies based upon environment, duty cycle and load.

Interface Connection

A dedicated cable (sold separately) is required to connect to external devices for communication, power, or wiring of switches. You can also connect using a dedicated conversion adapter (sold separately) if necessary. For product numbers, refer to Accessories, page 20.

NOTE:

- UL certification for this product is with the conversion adapter and dedicated cables.
- Use only the SELV (Safety Extra-Low Voltage) circuit to connect the interfaces.
- For information on how to install the dedicated cables and conversion adapters, please refer to Installation and Wiring, page 40.
- For instructions on how to connect to other devices, refer to the corresponding device driver manual of your screen editing software.

 **DANGER**
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.
- Use only the specified voltage when operating this product. This product is designed to use 24 Vdc. Always check whether your device is DC powered before applying power.

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

Serial Interface

Communication with the external device is possible via a dedicated cable (and conversion adapter). For information on how to connect controllers and other types of equipment, refer to the corresponding device driver manual of the screen editing software.

NOTE:

- You can switch the communication method between RS-232C and RS-422/RS-485 via the software.
- The serial interface is not isolated. The SG (signal ground) and FG (frame ground) terminals are separated inside this product.

 **DANGER**
ELECTRIC SHOCK

- Make a direct connection between the FG (frame ground) terminal and ground.
- Do not connect other devices to ground through the FG (frame ground) terminal of this device.
- Install all cables according to local codes and requirements. If local codes do not require grounding, follow a reliable guide such as the US National Electrical Code, Article 800.

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

RS-232C

RS-232C		
Signal name	Direction	Description
DTR	Output	Data terminal ready
DCD	Input	Data carrier detect
DSR	Input	Data set ready
RI	Input	Ring Indicator
-	-	(Reserved)
FG	-	Frame ground
SG	-	Signal ground

RS-232C		
Signal name	Direction	Description
FG	-	Frame ground
TX	Output	Send data
RX	Input	Receive data
RTS	Output	Request to send
CTS	Input	Send possible

RS-422/485

RS-422/485		
Signal name	Direction	Description
SG	-	Signal ground
FG	-	Frame ground
TXP (SDA)	Output	Send data A (+)
RXP (RDA)	Input	Receive data A (+)
TXN (SDB)	Output	Send data B (-)
RXN (RDB)	Input	Receive data B (-)

Emergency Stop Switch

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

- The suitability of using the emergency stop switch should be determined by a risk assessment of the system.
- Before operating this product on the actual system, as well as periodically, check its operation (proof test).
- Perform testing under controlled conditions. For example, when testing the emergency stop switch, the operator must be outside the working range of the moving machine.
- Unlock after confirming safety.

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

NOTICE

EQUIPMENT DAMAGE

Do not expose the switch to excessive shock or vibration.

Failure to follow these instructions can result in equipment damage.

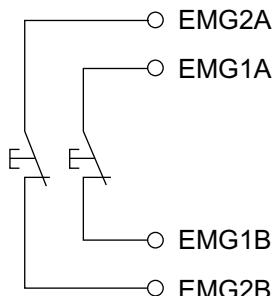
This product has an illuminated push button switch with two break contacts (b-contact, normally closed) as the emergency stop switch. While the emergency stop switch is showing red, it indicates that the emergency stop function is able to run.

NOTE:

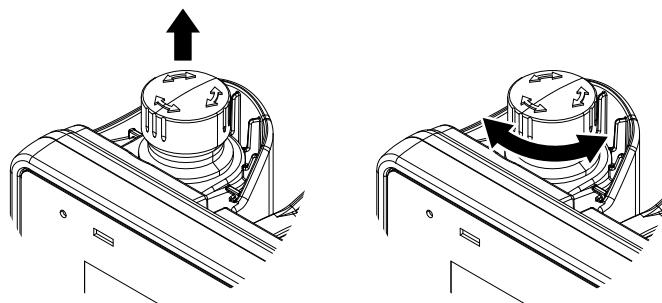
- The emergency stop switch lights up when the product is powered on.
- For the safety function parameters of this switch, refer to Safety Parameters, page 30.

The continuity state when the switch is pressed is as follows:

Signal name	Switch not pressed	Switch pressed
EMG1	1 (ON)	0 (OFF)
EMG2	1 (ON)	0 (OFF)



To unlock the switch, pull it up or turn it in the direction of the arrow.



Enabling Switch

NOTICE

EQUIPMENT DAMAGE

Do not expose the switch to excessive shock or vibration.

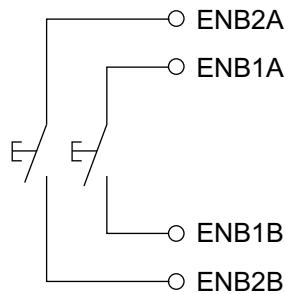
Failure to follow these instructions can result in equipment damage.

This product has a 3-position switch with two arbeit contacts (a-contact, normally open) as the enabling switch. While the enabling switch is pressed to the middle position (position 2), operation of the connected device is available.

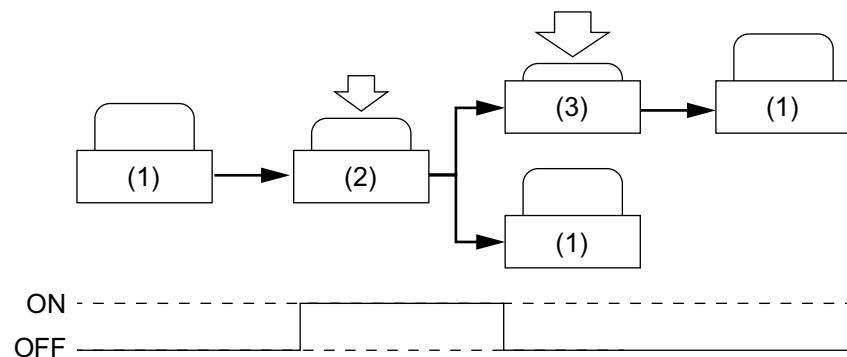
Releasing the switch (position 1) or pressing it firmly (position 3) prevents operation of the connected device.

The continuity status at each switch position are as follows:

Signal name	Position 1 (not pressed)	Position 2 (lightly pressed)	Position 3 (firmly pressed)
ENB1	0 (OFF)	1 (ON)	0 (OFF)
ENB2	0 (OFF)	1 (ON)	0 (OFF)

**NOTE:**

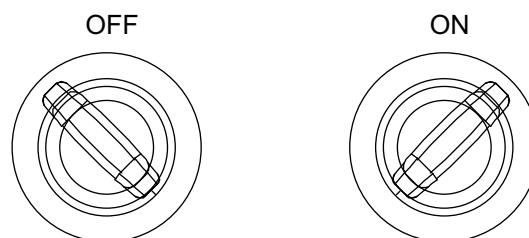
- For the safety function parameters of this switch, refer to Safety Parameters, page 30.
- While returning to position 1 from position 3, the contacts remain OFF.



Key Switch

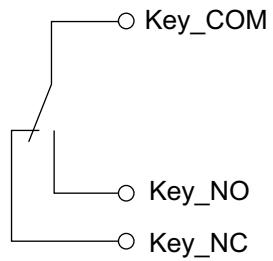
Turning the key turns the connected signal ON/OFF.

Either the "Key_NO" or the "Key_NC" signal is ON. These signals will not simultaneously turn OFF.



The continuity state when the switch is turned ON/OFF is as follows:

Signal name	Turn OFF	Turn ON
Key_NO	0 (OFF)	1 (ON)
Key_NC	1 (ON)	0 (OFF)



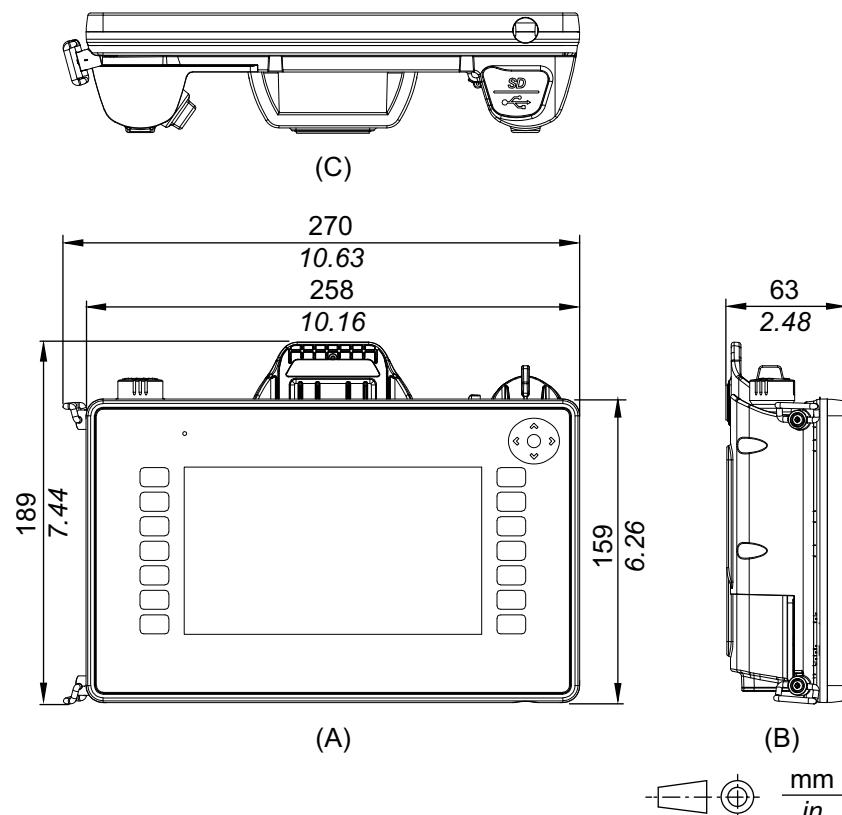
Dimensions

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External Dimensions (7-inch Wide)	37
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External Dimensions (7-inch Wide)

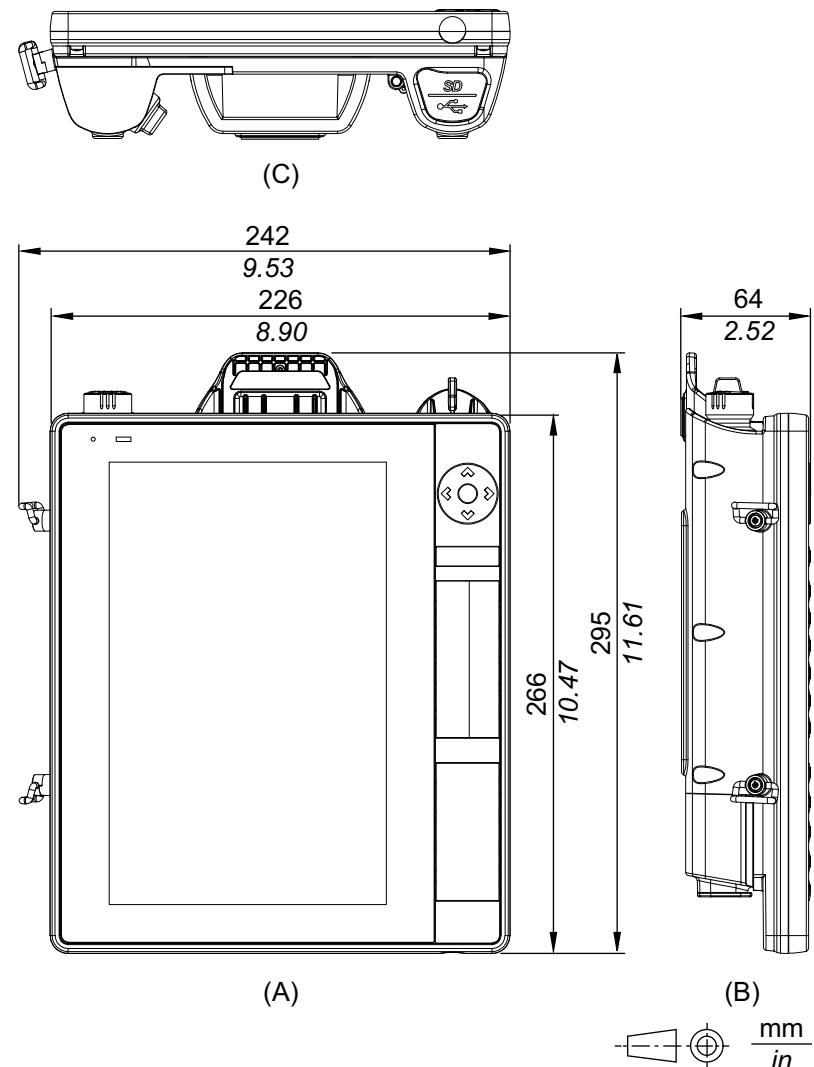
PFXGPH64•0WAD External Dimensions



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

External Dimensions (10-inch Wide)

PFXGPH65•0WCD External Dimensions



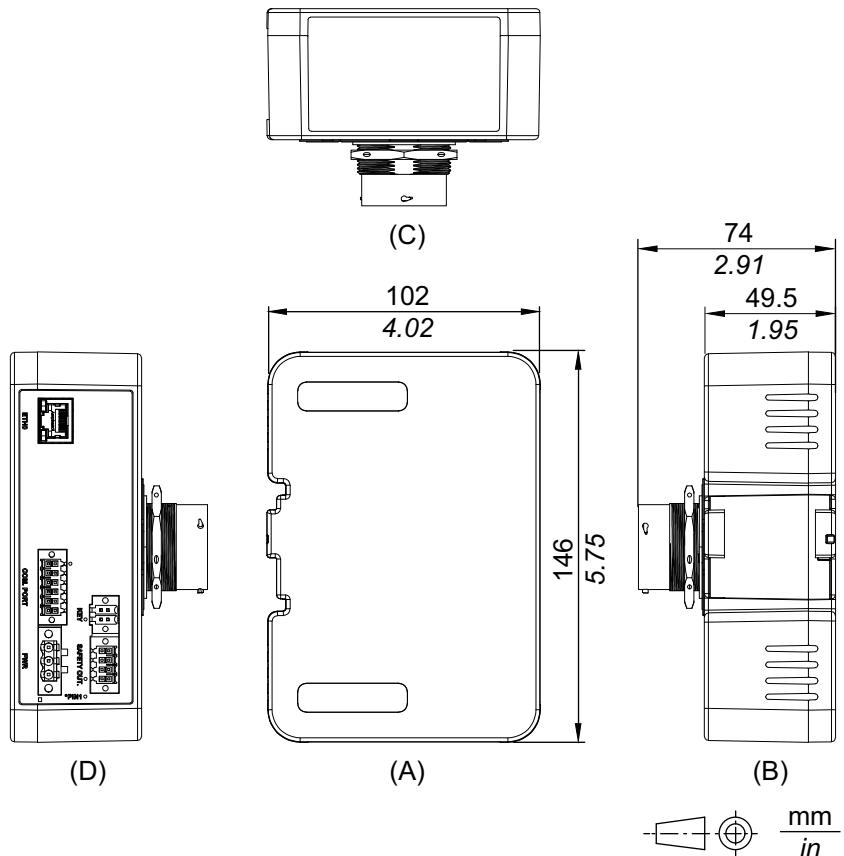
A. Front

B. Left

C. Bottom

Wired Adapter External Dimensions

PFXZHADPCOM External Dimensions



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

Installation and Wiring

What's in This Chapter

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Wiring the Wired Adapter	55
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Installing the Handheld Display (Wired Type)

Installation Flow

There are two ways to connect the handheld display to an external device: 1) Connecting with the direct connection cable, or 2) Connecting via the conversion adapter.

NOTE: UL certification issued for this product is with the conversion adapter and dedicated cables.

Connecting with the Direct Connection Cable

1. Prepare the direct connection cable. Refer to [Accessories](#), page 20.
2. Attach the cable to the handheld display. Refer to [Installing the Dedicated Cable](#), page 40.
3. Connect to the external device. Refer to [Wiring the Direct Connection Cable](#), page 42.
4. Connect to the power supply. After confirming that the wiring is correct, turn on the power.

Connecting via the Conversion Adapter

1. Prepare the conversion adapter and connection cable. Refer to [Accessories](#), page 20.
2. Attach the cable to the handheld display. Refer to [Installing the Dedicated Cable](#), page 40.
3. Install the conversion adapter to the panel and connect the cable to the adapter. Refer to [Installing the Wired Adapter](#), page 45.
4. Connect to the external device. Refer to [Wiring the Wired Adapter](#), page 55.
5. Connect to the power supply. After confirming that the wiring is correct, turn on the power.

Installing the Dedicated Cable

This section describes how to attach a dedicated cable to the hard-wired handheld display.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- 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. This product is designed to use 24 Vdc. Always check whether your device is DC 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 FG terminal.

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

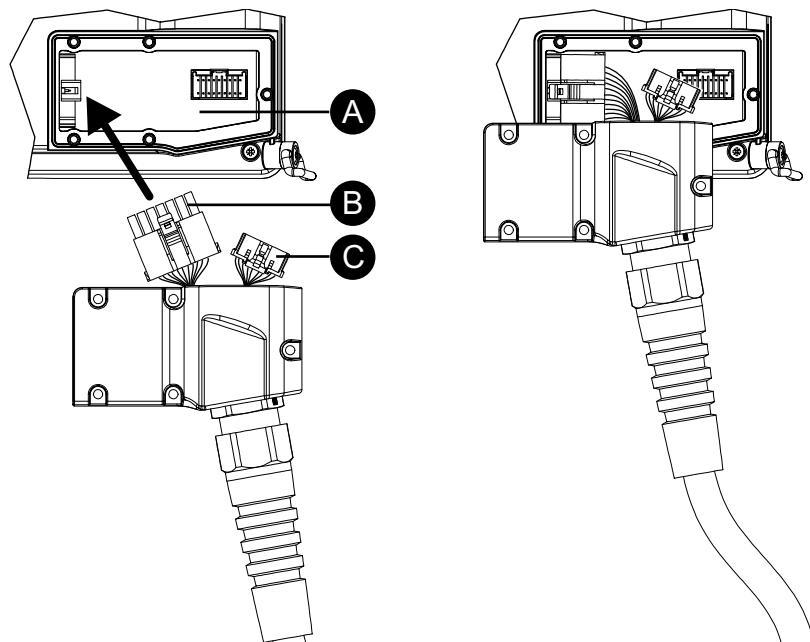
NOTICE

EQUIPMENT DAMAGE

Do not exert more torque than the amount specified.

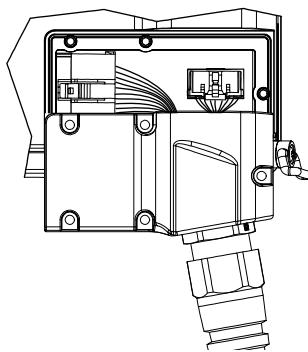
Failure to follow these instructions can result in equipment damage.

1. Place the product face down on a clean, flat, level surface.
2. Connect the larger connector on the cable to the connector in the dedicated cable installation opening on the rear of the product.

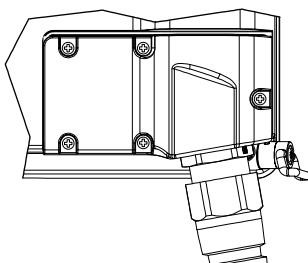


- A. Dedicated cable installation opening
- B. Larger connector
- C. Smaller connector

3. Connect the smaller connector of the cable to the connector on the rear of the product.



4. Use a screwdriver (Ph1) to fasten the five screws that come with the cable to secure it. The necessary torque is 0.6 N·m (5.3 lb-in).



Wiring the Direct Connection Cable

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- 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. This product is designed to use 24 Vdc. Always check whether your device is DC 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 FG terminal.

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

⚠ DANGER

SHORT CIRCUIT, FIRE, OR UNINTENDED EQUIPMENT OPERATION

Properly terminate unused wires to help avoid short-circuits by other signals or metal parts.

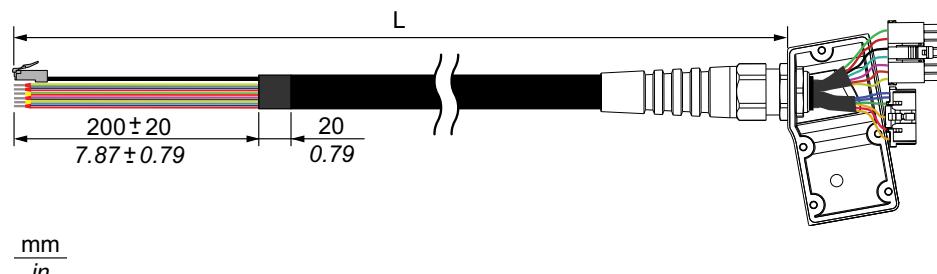
Failure to follow these instructions will result in death or serious injury.

Cable Specifications

Direct connection cable package contents

A. Installation screw (M3) x 5

B. Cable x 1



PFXZHCBLOUT5M

$L = 5,000 \pm 100 \text{ mm (} 196.85 \pm 3.94 \text{ in)}$

PFXZHCBLOUT10M

$L = 10,000 \pm 100 \text{ mm (} 393.70 \pm 3.94 \text{ in)}$

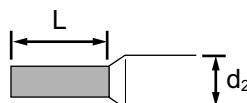
Connection destination	Signal name	Cable color	Cable diameter (outer diameter)	Wire gauge	Twisted pair ^{*1}
Power supply	24 Vdc	Brown	1.7 mm	AWG 18	
	0 Vdc	White	1.7 mm	AWG 18	
	FG (functional ground)	Black (Shield)	1.0 mm	Φ1.0 mm	
Emergency stop switch	EMG1A	Yellow	2.0 mm	AWG 16	
	EMG1B	Green			
	EMG2A	Grey			
	EMG2B	Pink			
Enabling switch	ENB1A	Red	1.25 mm	AWG 22	
	ENB1B	Blue			
	ENB2A	Black			
	ENB2B	Violet			
Key switch	Key_NO	White/Green	1.25 mm	AWG 22	
	Key_NC	Grey/Pink			
	Key_COM	Red/Blue			

Connection destination	Signal name	Cable color	Cable diameter (outer diameter)	Wire gauge	Twisted pair ^{*1}
Serial interface	DTR (RS-232C)	Brown/Green	1 mm	AWG 26	1
	DCD (RS-232C)	Grey/Brown			1
	DSR (RS-232C)	Yellow/Brown			2
	RI (RS-232C)	White/Yellow			2
	TX (RS-232C)/TXP (RS-422/485)	White/Pink			3
	RX (RS-232C)/RXP (RS-422/485)	White/Blue			4
	RTS (RS-232C)/TXN (RS-422/485)	Pink/Brown			3
	CTS (RS-232C)/RXN (RS-422/485)	Brown/Blue			4
	SG	White/Gray			
Ethernet interface	TX+	Yellow	1.05 mm	AWG 26	5
	RX+	White			6
	TX-	Orange			5
	RX-	Blue			6

*1 Twist the together the same numbered cables.

The direct cable has an RJ-45 connector for the Ethernet interface. The other cables are loose wires, each with a ferrule terminal.

The specifications of each ferrule terminal are as follows;



Ferrule terminal	Wire gauge	Connection destination
L2 = 6 mm, d2 = Φ 0.8 mm	AWG 16	Emergency stop device
L2 = 8 mm, d2 = Φ 1.2 mm	AWG 18	Power supply unit
L2 = 8 mm, d2 = Φ 1.7 mm	AWG 22 ~ 26	Enabling device, host controller, etc.

Connecting the DC Power Cord

NOTE:

- The SG (signal ground) and FG (functional ground) terminals are separated internally in this product.
- When the FG terminal is connected, be sure the wire is grounded. Not grounding this product can result in excessive electromagnetic interference (EMI).
- For more information about power connections, refer to [Wiring the Power Supply](#), page 58.

Installing the Wired Adapter

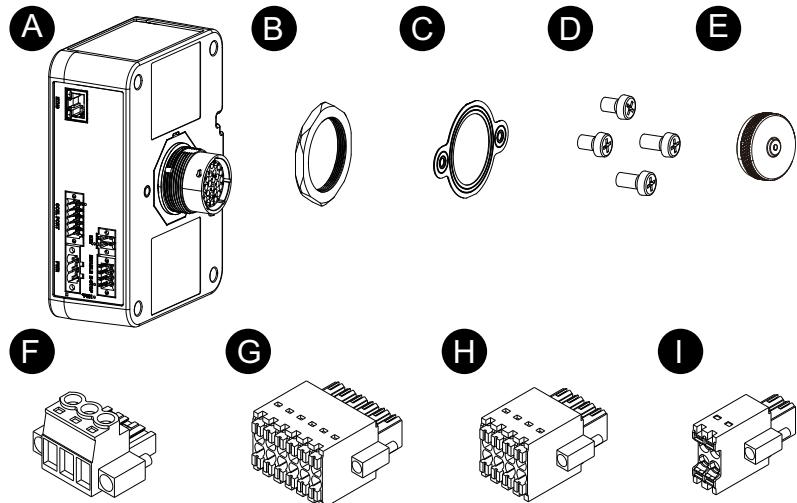
Wired Adapter Product Overview

The Wired Adapter is a GPH6000 Series wired type conversion adapter. Use a dedicated cable to connect the adapter to the handheld display.

Packaging Contents

Verify all items listed here are present in your package.

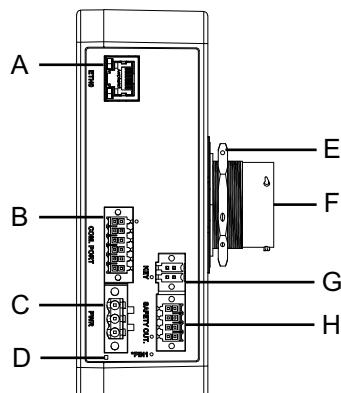
Please contact customer support immediately if you find anything damaged or missing.



- A. Wired adapter (PFXZHADPCOM) x 1
- B. Nut (attached to adapter) x 1
- C. Installation gasket x 1
- D. Installation screw (M4)*1
length: 6 mm [0.24 in] x 2
length: 8 mm [0.31 in] x 2
- E. Connector cover x 1
- F. DC power connector x 1
- G. Serial interface connector x 1
- H. Emergency stop switch/Enabling switch output connector x 1
- I. Key switch output connector x 1
- J. Instruction sheet x 1

*1 The length and number of screws that you should use will vary depending on the thickness of the panel. For details, refer to the Panel Cutout Dimensions, page 51.

Parts Identification



- A. Ethernet interface
- B. Serial interface (COM)
- C. Power supply
- D. Status LED*1
- E. Nut*2
- F. Dedicated cable connector
- G. Key switch output interface
- H. Emergency stop switch/Enabling switch output interface

*1 The light is green while power is supplied.

*2 Decide whether to use the nuts, dependent on the panel thickness and the number of screws installed. For details, refer to Panel Cutout Dimensions, page 51.

Wired Adapter Specification

Electrical Specifications of Wired Adapter

Rated input voltage	24 Vdc
Input voltage limits	19.2...28.8 Vdc
Voltage dip/short interruption immunity	10 ms or less (at rated input voltage)
Power consumption	Maximum: 0.55 A @ 24 Vdc Refer to the power consumption of your handheld display (wired type).
In-rush current	30 A or less
Dielectric strength	500 Vac for 1 minute (between power terminal and SG terminal)
Insulation resistance	500 Vdc, 10 MΩ or more (between power terminal and SG terminal)

Environmental Specifications of Wired Adapter

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

Physical environment	
Ambient air temperature	-20...60 °C (-4...140 °F)
Storage temperature	-20...70 °C (-4...158 °F)

Ambient air and storage humidity	5...85% RH (Non condensing, wet bulb temperature 39 °C [102.2 °F] or less)
Dust	0.1 mg/m ³ (10 ⁻⁷ oz/ft ³) or less (non-conductive levels)
Pollution degree	For use in Pollution Degree 2 environment
Corrosive gases	Free of corrosive gases
Atmospheric pressure (operating altitude)	800...1,114 hPa (2,000 m [6,561 ft] or lower)
Mechanical environment	
Vibration resistance	IEC/EN 61131-2 compliant 5...9 Hz Single amplitude 3.5 mm (0.14 in) 9...150 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/s ² , 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)

⚠ CAUTION

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 of Wired Adapter

Grounding	Functional grounding: Grounding resistance of 100 Ω or less, or your country's applicable standard.
Cooling method	Natural air circulation
Structure	IP20 (When the dedicated cable is properly connected, the protection structure on the front side of the panel is rated IP65F*1.)
External dimensions (W x H x D)	102 x 146 x 74 mm (4.02 x 5.75 x 2.91 in)
Weight	500 g (1.10 lb) or less

*1 This is the protective structure for the front side of the panel when the product is mounted on 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 various causes. In such environments, implement appropriate protective measures based on the specific conditions. Confirm the types of conditions in the product's operating environment.

NOTE: IP65F is not part of the UL certification.

NOTICE

EQUIPMENT DAMAGE

- Operate and 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.

Interface Specifications of Wired Adapter

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

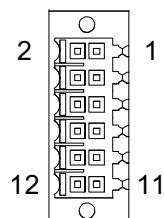
Ethernet interface	Connector	Modular jack (RJ-45) x 1
	Standard	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX
	Maximum communication distance ^{*1}	100 m (328.1 ft)
Serial interface (COM) ^{*1}	Connector	Plug-in connector (12-poles) x 1 Pitch: 3.5 mm (0.138 in)
	Asynchronous transmission	RS-232C/422/485
	Data length	7 or 8 bits
	Stop bit	1 or 2 bits
	Parity	None, odd, or even
	Data transmission speed	2,400...115,200 bps
	Maximum communication distance ^{*2}	When using RS-232C: 15 m (49.2 ft) When using RS-422 at 115,200 bps: 1,200 m (3,937 ft)
Emergency stop switch/ Enabling switch output interface	Connector	Plug-in connector (8-poles) x 1 Pitch: 3.5 mm (0.138 in)
Key switch output interface	Connector	Plug-in connector (4-poles) x 1 Pitch: 3.5 mm (0.138 in)
Power input interface	Connector	Plug-in connector (3-poles) x 1 Pitch: 5.08 mm (0.2 in)

^{*1} Serial communication is not possible when you connect this product to the adapter using the 20 m (65.6 ft) dedicated cable.

^{*2} The distance includes the cable length between the handheld display and the wired adapter.

Serial Interface (COM)

Product side:



Pin number	RS-232C		
	Signal name	Direction	Description
1	DTR	Output	Data terminal ready
2	DCD	Input	Data carrier detect
3	DSR	Input	Data set ready
4	RI	Input	Ring Indicator
5	-	-	(Reserved)
6	FG	-	Frame ground
7	SG	-	Signal ground
8	FG	-	Frame ground
9	TX	Output	Send data
10	RX	Input	Receive data
11	RTS	Output	Request to send
12	CTS	Input	Send possible

Pin number	RS-422/485		
	Signal name	Direction	Description
1...6	-	-	(Reserved)
7	SG	-	Signal ground
8	FG	-	Frame ground
9	TXP (SDA)	Output	Send data A (+)
10	RXP (RDA)	Input	Receive data A (+)
11	TXN (SDB)	Output	Send data B (-)
12	RXN (RDB)	Input	Receive data B (-)

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.

The SG (signal ground) and FG (frame ground) terminals are separated inside this product.

DANGER

ELECTRIC SHOCK

- Make a direct connection between the FG (frame ground) terminal and ground.
- Do not connect other devices to ground through the FG (frame ground) terminal of this device.
- Install all cables according to local codes and requirements. If local codes do not require grounding, follow a reliable guide such as the US National Electrical Code, Article 800.

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

CAUTION

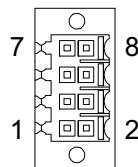
LOSS OF COMMUNICATION

- Do not put excessive stress on the communication ports of all connections.
- Securely attach communication cables to the panel wall or cabinet.

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

Emergency stop switch/Enabling switch output interface

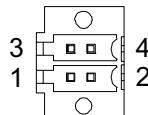
Product side:



Pin number	Signal name	Description
1	EMG1A	Emergency stop switch b-contact (normally closed)
2	EMG1B	Emergency stop switch b-contact (normally closed)
3	EMG2A	Emergency stop switch b-contact (normally closed)
4	EMG2B	Emergency stop switch b-contact (normally closed)
5	ENB1A	Enabling switch a-contact (normally open)
6	ENB1B	Enabling switch a-contact (normally open)
7	ENB2A	Enabling switch a-contact (normally open)
8	ENB2B	Enabling switch a-contact (normally open)

Key switch output interface

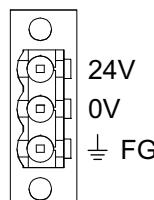
Product side:



Pin number	Signal name	Description
1	Key_NO	Key switch a-contact (normally open)
2	Key_NC	Key switch b-contact (normally closed)
3	-	(Reserved)
4	Key_COM	Key switch common terminal

Power input interface

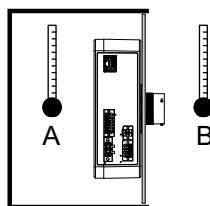
Product side:



Signal name	Description
24V	24 Vdc
0V	0 Vdc
FG	Functional ground

Installation Requirements

- 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 51.
- Check that the ambient air temperature and the ambient humidity are within their specified ranges. For details, refer to Environmental Specifications of Wired Adapter, page 46. When installing this product in a cabinet or enclosure, the ambient air temperature is the cabinet's or enclosure's internal and external temperature.



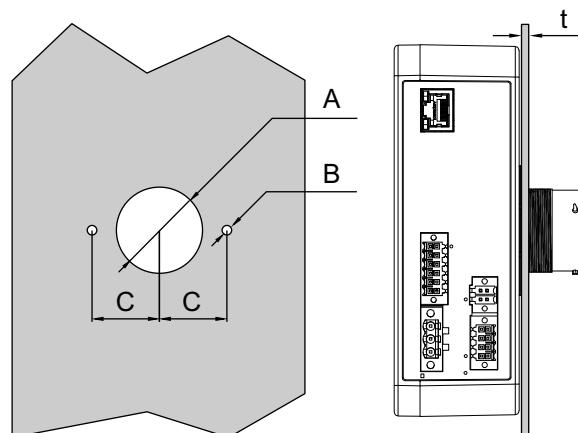
- A. Internal temperature
- B. External temperature
- Be sure that heat from surrounding equipment does not cause this product to exceed its standard operating temperature.

Panel Cutout Dimensions

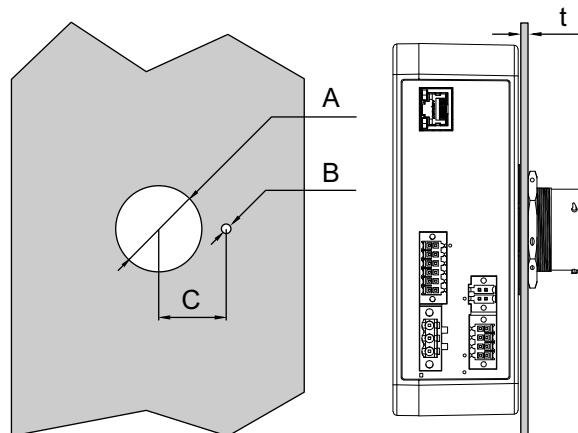
Based on the panel cutout dimensions, open a mounting hole on the panel.

A	B	C
$\Phi 39 \pm 0.15$ mm (1.53...1.54 in)	$\Phi 4.5 \pm 0.1$ mm (0.18 in)	30.5 ± 0.3 mm (1.19...1.21 in)

Installation example 1: Use two screws



Installation example 2: Use one screw and nut



Panel thickness	Screws	Number of screws	Nut
$1.5 \leq t < 3 \text{ mm}$ ($0.06 \leq t < 0.12 \text{ in}$)	M4, length: 6 mm (0.24 in)	2 pieces	No need to use nut.
$3 \leq t < 5 \text{ mm}$ ($0.12 \leq t < 0.2 \text{ in}$)	M4, length: 8 mm (0.31 in)	2 pieces	No need to use nut.
$1.5 \leq t < 3 \text{ mm}$ ($0.06 \leq t < 0.12 \text{ in}$)	M4, length: 6 mm (0.24 in)	1 piece	Need to use nut.

Installing the Adapter to Panel

This section describes how to install the wired adapter to the panel and connect it to the GPH6000 Series wired type.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.
- Use only the specified voltage when operating this product. This product is designed to use 24 Vdc. Always check whether your device is DC powered before applying power.

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

NOTICE

EQUIPMENT DAMAGE

- Always use the installation gasket.
- Keep this product stabilized in the panel cut while you are installing or removing the screws and fasteners.
- Do not exert more torque than the amount specified.

Failure to follow these instructions can result in equipment damage.

NOTICE**EQUIPMENT DAMAGE**

Do not allow the cable's connector to drop or hit against anything hard.

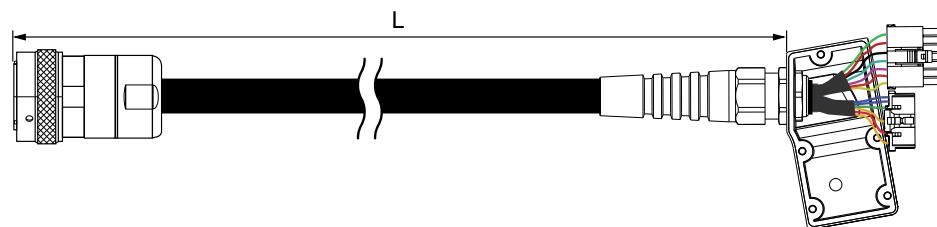
Failure to follow these instructions can result in equipment damage.

Prepare the dedicated cable in advance. For instructions on how to attach the cable to the product, refer to [Installing the Dedicated Cable, page 40](#).

Wired adapter connection cable package contents

A. Installation screw (M3) x 5

B. Cable x 1



PFXZHCBLCOM5M

$L = 5,000 \pm 100 \text{ mm (} 196.85 \pm 3.94 \text{ in)}$

PFXZHCBLCOM10M

$L = 10,000 \pm 100 \text{ mm (} 393.70 \pm 3.94 \text{ in)}$

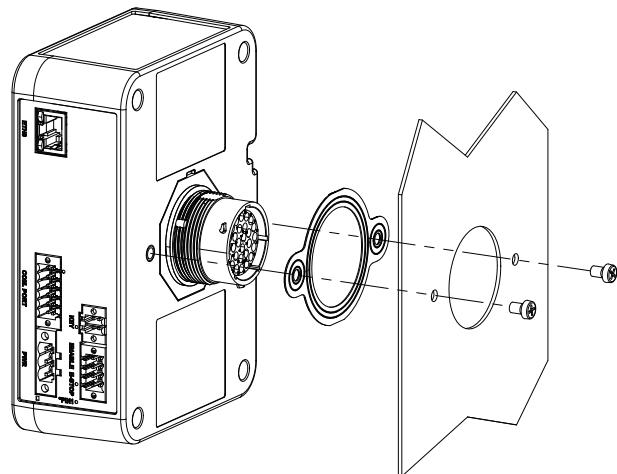
PFXZHCBLCOM20M

$L = 20,000 \pm 100 \text{ mm (} 787.40 \pm 3.94 \text{ in)}$

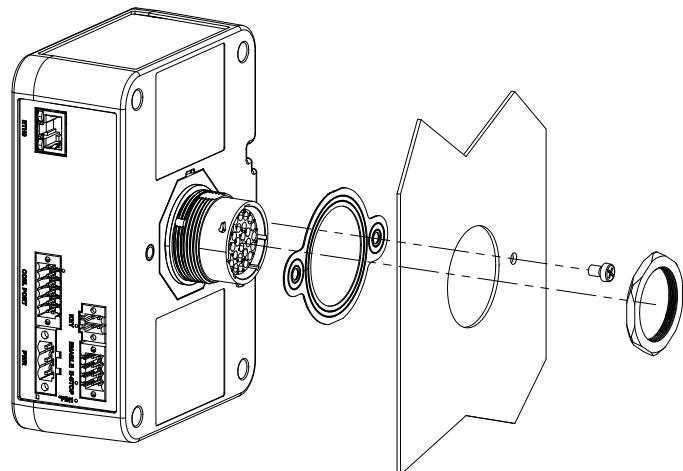
Installation Procedure

1. Based on the product's Panel Cutout Dimensions, page 51, cut out a mounting hole on the panel.
2. Remove the nut from the adapter.
3. Attach the supplied gasket to the cable connector on the adapter.
4. Insert the cable connection part of the adapter from the back side of the panel.

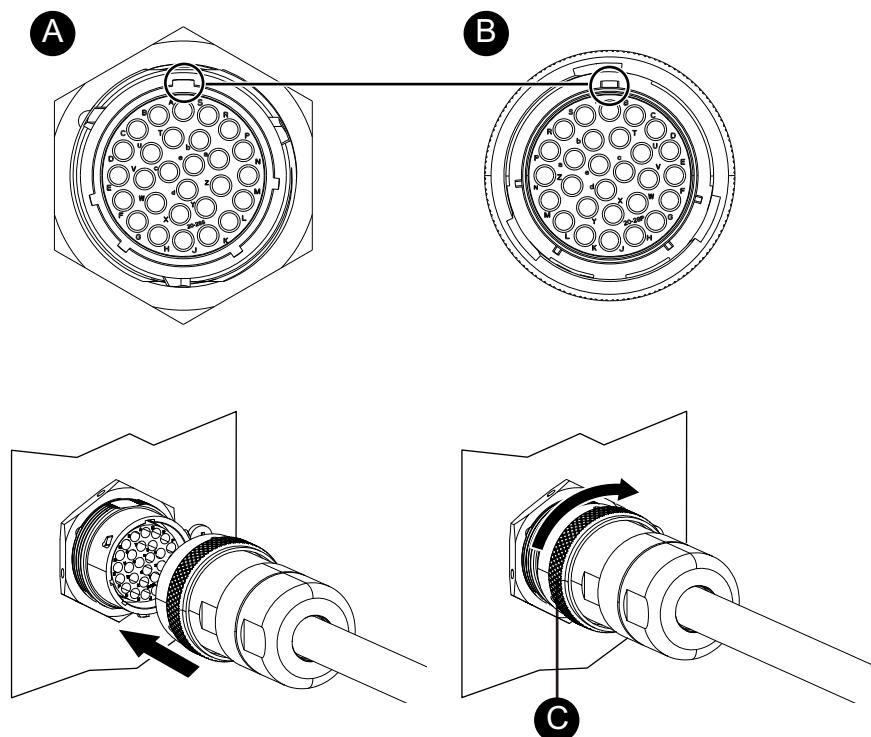
5. Affix the product to the panel with the screws (included). For instructions on how to use the screws, refer to the Panel Cutout Dimensions, page 51. Tighten the installation screws clockwise with a screwdriver (Ph2). The necessary torque is 0.6 N·m (5.3 lb-in).



NOTE: If using only one screw, install the nut.



6. Connect the cable. Check the shapes of connectors to attach them in the correct orientation. Turn the lock ring in the direction of the arrow to secure the cable.



- A. Connector on the adapter side
- B. Connector on cable side
- C. Lock ring

Wiring the Wired Adapter

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

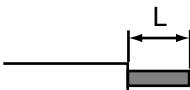
- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Remove power before wiring this product's power terminals.
- Always use a properly rated voltage sensing device to confirm power is off 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. This product is designed to use 24 Vdc. Always check whether your device is DC 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 FG terminal.

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

NOTE:

- The SG and FG terminals are separated inside this product.
- When the FG terminal is connected, be sure the wire is grounded. Not grounding this product can result in excessive electromagnetic interference (EMI).

Wiring of Serial Interface and Each Switch

Serial interface connector, Emergency stop switch/Enabling switch connector, Key switch connector	
Connector	Plug-in connector (plug) Wire connection method: Push-in connection
Cord cross-section*1	0.14...1.5 mm ² (AWG 30...16)
Conductor type	Solid or stranded wire (For stranded wire, use ferrule terminals)
Conductor length (insulation stripping length)	10 mm (0.39 in) 
Compatible terminal types	Plastic collar ferrule: 0.14...1 mm ² , DIN 46228-4 compliant Wire and ferrule: 0.14...1.5 mm ² , DIN 46228-1 compliant
Recommended screwdriver	Flat-head screwdriver (size of blade: 0.4 x 2.5 mm), DIN5264 compliant

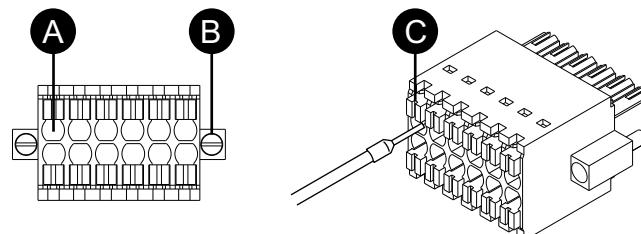
*1 Thick wires are recommended.

1. Check the pin assignment of each connector and insert the wire all the way into the insertion slot for each wire. For pin assignments, refer to [Interface Specifications of Wired Adapter](#), page 48.

NOTE: To remove the wire, press the release button with your finger or a screwdriver and pull out the wire.

2. After all the required wires are plugged in, insert the connectors into the adapter and secure with the connector fixing screw. The necessary torque is 0.15 to 0.2 N·m (1.33 to 1.77 lb-in).

NOTE: The figures below show the serial interface connector as an example.

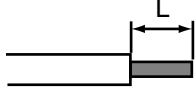


- A. Cord insertion port
- B. Connector fixing screw (M2)
- C. Release button

DC Power Cord Preparation

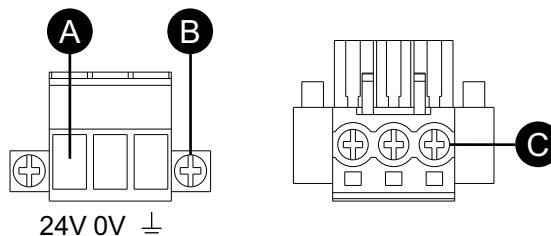
NOTE:

- The SG (signal ground) and FG (functional ground) terminals are separated internally in this product.
- When the FG terminal is connected, be sure the wire is grounded. Not grounding this product can result in excessive electromagnetic interference (EMI).
- For more information about power connections, refer to [Wiring the Power Supply](#), page 58.
- 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.
- The conductor type of the 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.
- Use copper wire rated for 75 °C (167 °F) or higher.
- Use a Class 2 power supply or SELV (Safety Extra-Low Voltage) circuit and LIM (Limited Energy) circuit for the DC input.

DC Power Connector	
Connector	Plug-in connector (plug) Wire connection method: Screw connection
Cord cross-section*1	0.2...4 mm ² (AWG 26...12)
Conductor type	Solid or stranded wire (For stranded wire, use ferrule terminals)
Conductor length (insulation stripping length)	7 mm (0.39 in) 
Compatible terminal types	Plastic collar ferrule: 0.2...2.5 mm ² , DIN 46228-4 compliant Wire and ferrule: 0.2...4.0 mm ² , DIN 46228-1 compliant
Recommended screwdriver	Phillips head screwdriver (size of blade: 0.6 x 3.5 mm), Ph1, Pz1

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

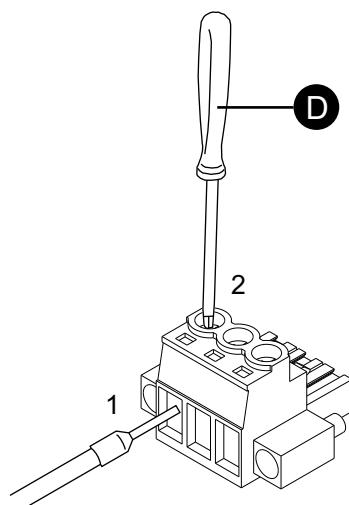
How to Connect the DC Power Cord



- A. Cord insertion slot
- B. Connector fixing screw (M2.5)
- C. Wire fixing screw (M2.5)

1. Confirm the power cord is not connected to the power supply.

2. Insert the power cord into the cord insertion slot.
3. Tighten the screw with a screwdriver (Ph1) to secure the cord. The necessary torque is 0.4 to 0.5 N·m (3.54 to 4.42 lb-in).



D. Screwdriver

4. After inserting all three power cord wires, insert the DC power connector into the adapter's power connector and secure with the connector fixing screw. The necessary torque is 0.2 to 0.25 N·m (1.77 to 2.21 lb-in).

Wiring the Power Supply

Power Supply Precautions

DANGER

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.

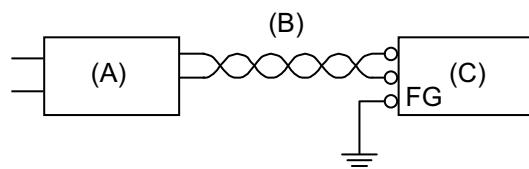
Failure to follow these instructions will result in death or serious injury.

- 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 for this product. (The DC power supply should be located close to the product, with twisted pair cabling as short as possible.)
- To increase noise resistance, attach a ferrite core to the power cable.

Power Supply Connections

- Use a Class 2 power supply or SELV (Safety Extra-Low Voltage) circuit and LIM (Limited Energy) circuit for the DC input.

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

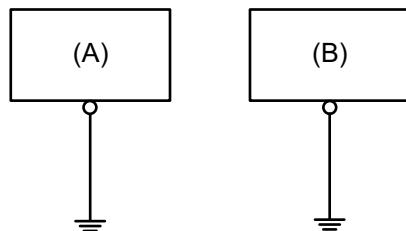


- A. Regulated power supply
- B. Twisted-pair cord
- C. This product

Grounding

Independent Grounding

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



- A. This product
- B. Other device

Precautions

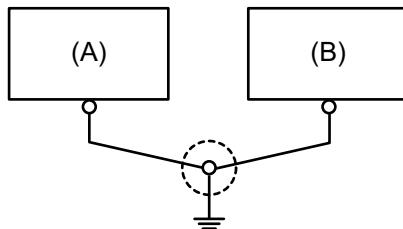
- Check that the grounding resistance is 100 Ω or less or your country's applicable standard.*1
- The FG wire should have a cross sectional area 2 mm² (AWG14) or greater*1. Create the connection point as close as possible to this product, and make the wire as short as possible. When using a long grounding wire, replace the thin wire with a thicker wire, and place it in a duct.
- The SG and FG terminals are separated internally in this product. When connecting the FG and SG, 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.

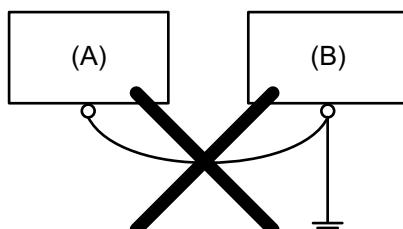
Correct grounding



A. This product

B. Other device

Incorrect grounding



A. This product

B. Other device

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:

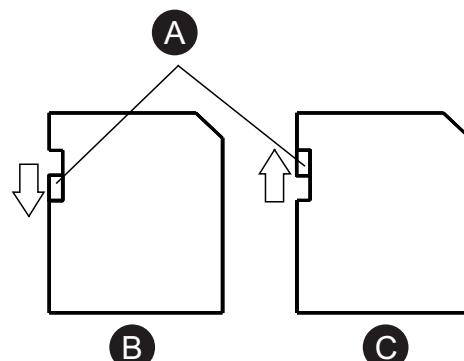
- Avoid storing the SD card where there is static electricity or electromagnetic waves.
- Avoid storing the SD card in direct sunlight, near a heater, or other locations where high temperatures can occur.
- Do not bend the SD card.
- Do not drop or strike the SD card against another object.
- Keep the 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 and FAT32. This product does not recognize external storage formatted with NTFS.

Inserting the SD Card

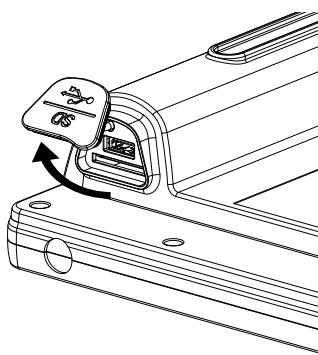
NOTE: As shown in the image below (example on the left-hand side), you can set the Write-Control Tab to prevent write operations to the SD card. Push the tab up, as shown in the example on the right-hand side, to release the lock and enable writing to the SD card. Before using a commercial-type SD card,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



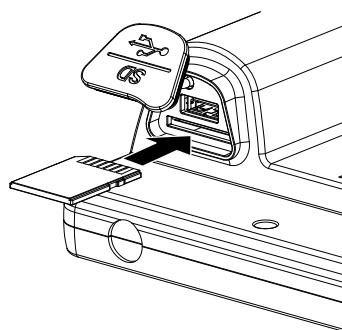
- A. Write-control tab
- B. Write disabled (enable to read)
- C. Write enabled

1. Touch the housing or ground connection (not the power supply) to discharge any electrostatic charge from your body.

2. Open the USB/SD slot cover on the bottom of the product.



3. Insert the SD card into the SD card slot with the rear face of the SD card pointing up.



4. Push until you hear it "click".
5. Close the 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.

For instructions on removing the SD card safely, refer to the corresponding topic in the manual of your screen editing software.

1. Touch the housing or ground connection (not the power supply) to discharge any electrostatic charge from your body.
2. Open the USB/SD slot cover on the bottom of the product.
3. 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.

4. Close the cover.

Attaching the Wall Hanging Adapter

By attaching a wall hanging adapter (sold separately), you can hang the product on the wall when not in use.

Product number: PFXZHWALADP

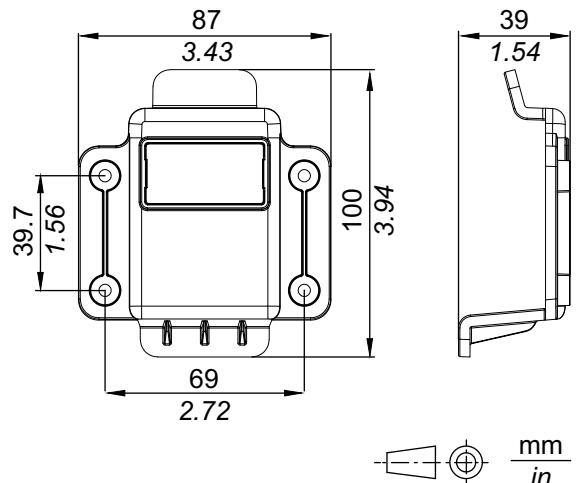
⚠ CAUTION

RISK OF INJURY, EQUIPMENT DAMAGE

Do not operate or wire the product while it is hung on the wall.

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

Dimensions

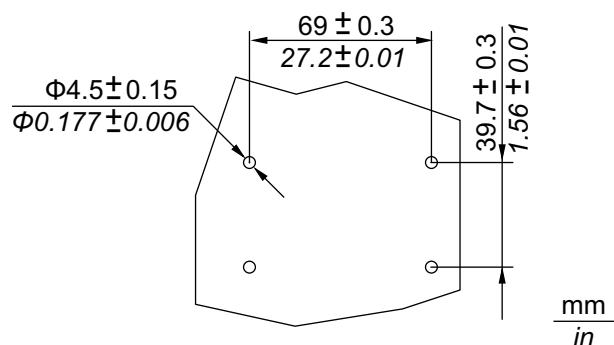


Installation Procedure

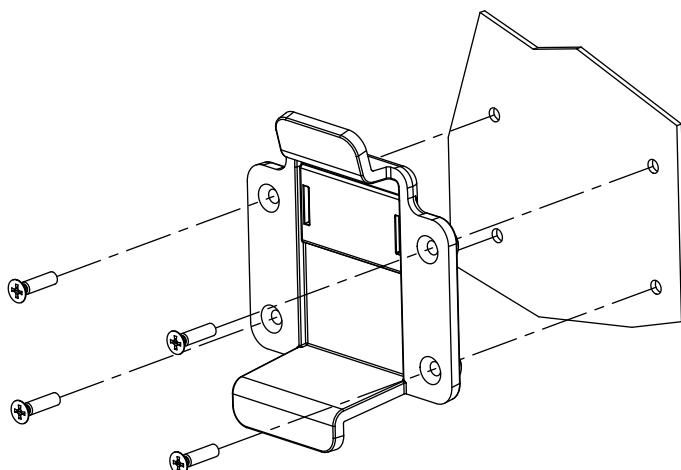
NOTE:

- Installation screws are not included. Depending on the installation surface, please prepare four M4 screws (screw head type: ISO 7046-1) or self-tapping screws yourself.
- Confirm the wall is strong enough (thickness of the wall, material, and so on) to withstand the weight of this product.

1. Drill holes in the wall for the M4 screws.



2. Attach the wall hanging adapter to the wall using M4 screws. The necessary torque is 1.3 N·m (11.5 lb-in).



NOTICE

EQUIPMENT DAMAGE

Do not exert more torque than the amount specified.

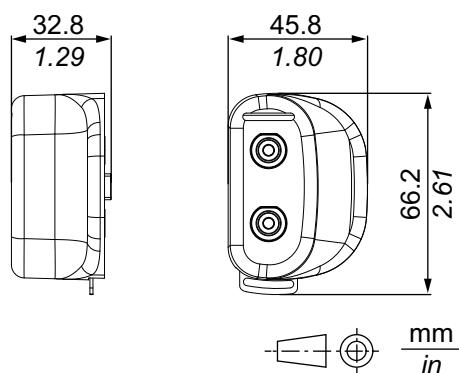
Failure to follow these instructions can result in equipment damage.

Attaching the Grip

The 10-inch wide model can have an optional grip (sold separately) that you attach to its back. Using the grip improves stability during operation.

Product number: PFXZHGRIP

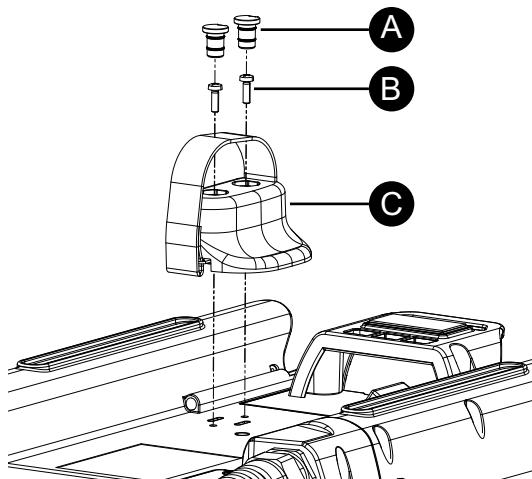
Dimensions



Installation Procedure

1. Place the product face down on a clean, flat, level surface.
2. Place the grip so that the screw holes on the grip line up with the screw holes on the back of the product.
3. Insert a screwdriver (Ph1) through the holes of the grip and secure it to the product with two M3 screws. The necessary torque is 0.6 N·m (5.3 lb-in).

4. Cover the holes of the grip with the caps.



- A. Cap
- B. Attachment screw (M3, length: 8 mm [0.31 in])
- C. Grip

NOTICE

EQUIPMENT DAMAGE

Do not exert more torque than the amount specified.

Failure to follow these instructions can result in equipment damage.

Maintenance

What's in This Chapter

Regular Cleaning	66
Periodic Check Points.....	66
After-sales Service	67

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 Environmental Specifications, page 27.
- Is the ambient air humidity within the specified range? Refer to Environmental Specifications, page 27.
- Is the operating atmosphere free of corrosive gasses?

When the dedicated adapter is inside a panel, the ambient environment refers to the interior of the panel.

Electrical Specifications

- Is the input voltage appropriate? Refer to Electrical Specifications, page 27.
- Are all power cords and cables connected properly? Are there any loose cables?
- Are all installation screws of the dedicated adapter holding the unit securely?
- Are there scratches or traces of dirt on the installation gasket of dedicated adapter?

Check the Safety Function Operation

The proof test should be executed at least once every 8,760 hours.

- Does the emergency stop switch work properly? Refer to Emergency Stop Switch, page 33.
- Does the enabling switch work properly? Refer to Enabling Switch, page 34.

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.

After-sales Service

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

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

System Settings

What's in This Chapter

Introduction.....	68
Setup	68
How to display the System Settings	72
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Add User Account	75
Touch Panel Calibration	77
Backup and Restore User Data	78
Update OS.....	78
Initialization (Device Restore).....	80
System Settings Menu	82

Introduction

After powering up this product for the first time, set up the system.

In the **System Settings**, configure the settings for the product hardware, such as the IP address and internal clock.

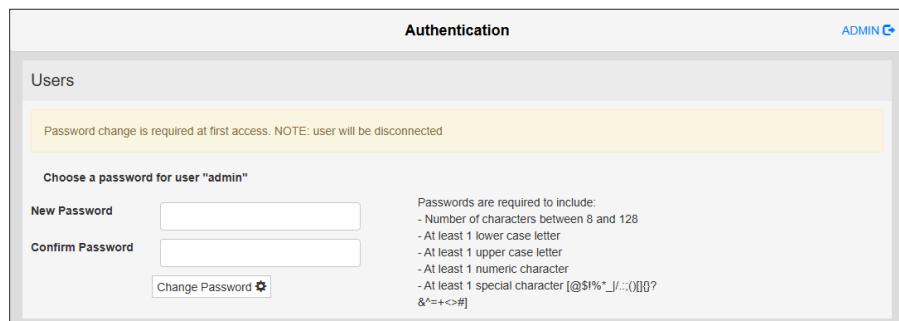
The **System Settings** user interface is based on HTML pages. You can interact with it either directly on the product screen (HMI device) or remotely via a web browser on a connected computer (development environment).

Password entry is required to log in to **System Settings**. Please manage your password appropriately so you do not forget it.

Setup

Set up on Device

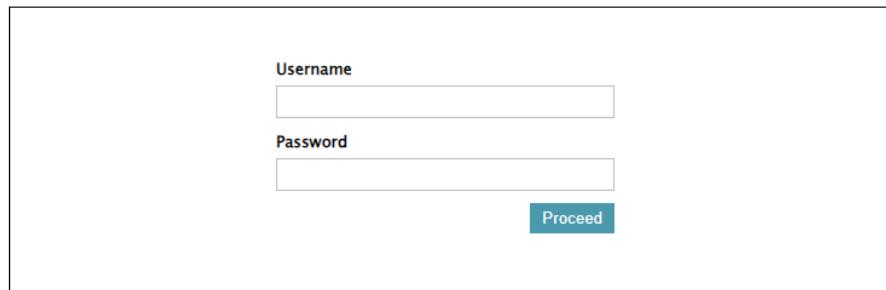
1. Power on the product.
2. The **Authentication** screen is displayed. Set the password for the administrator user account.



NOTE:

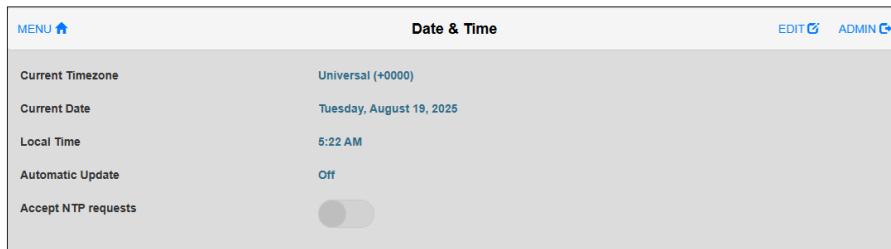
- Passwords should be at least 8 characters long and include at least one uppercase letter, one lowercase letter, one number, and one special character.
- You can change the password at any time. For details, refer to Change Password, page 74.
- Please be careful not to forget your password. If you forget the administrator password, you will need to initialize the product. Initializing (device restore) the product will result in the loss of user data stored in the product.

3. The **Welcome** screen is displayed. Touch **System Settings**.
4. The login screen is displayed. Enter the username "**admin**" and the password set earlier, then touch **Proceed**.



The image shows a login interface with two text input fields: 'Username' and 'Password', both currently empty. Below the fields is a blue rectangular button labeled 'Proceed'.

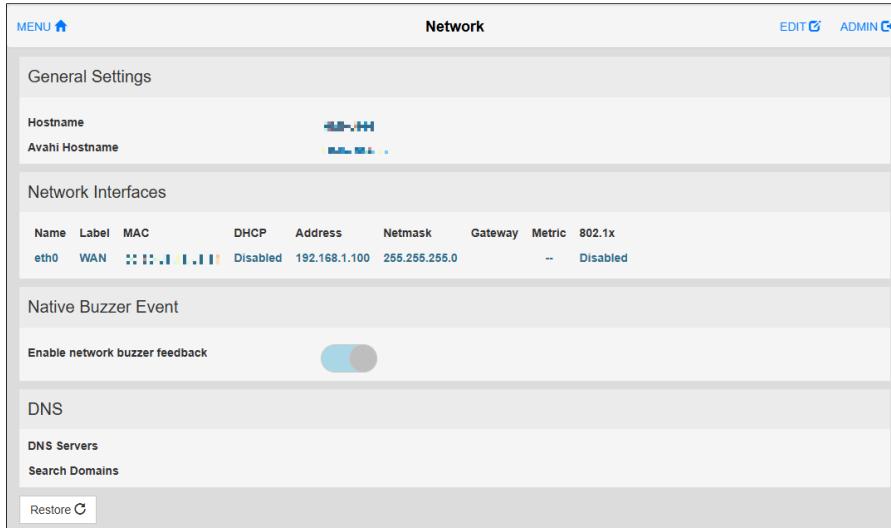
5. The system settings menu is displayed. From the menu, select **Date & Time**. To enter editing mode, in the top right-hand corner of the screen, touch **EDIT**. Set the date and time for the product's internal clock. In the top of the screen, touch **SAVE** to save the changes.



The image shows the 'Date & Time' settings screen. It lists the following information:

- Current Timezone: Universal (+0000)
- Current Date: Tuesday, August 19, 2025
- Local Time: 5:22 AM
- Automatic Update: Off
- Accept NTP requests: (Toggle switch)

6. From the menu, select **Network**. Select **Network Interface** and touch **EDIT**. Set the product's IP address, subnet mask, and so on. Touch **SAVE** to save the changes.



The image shows the 'Network' settings screen. It includes the following sections:

- General Settings**: Hostname (blue placeholder), Avahi Hostname (blue placeholder).
- Network Interfaces**: A table showing network interface details:

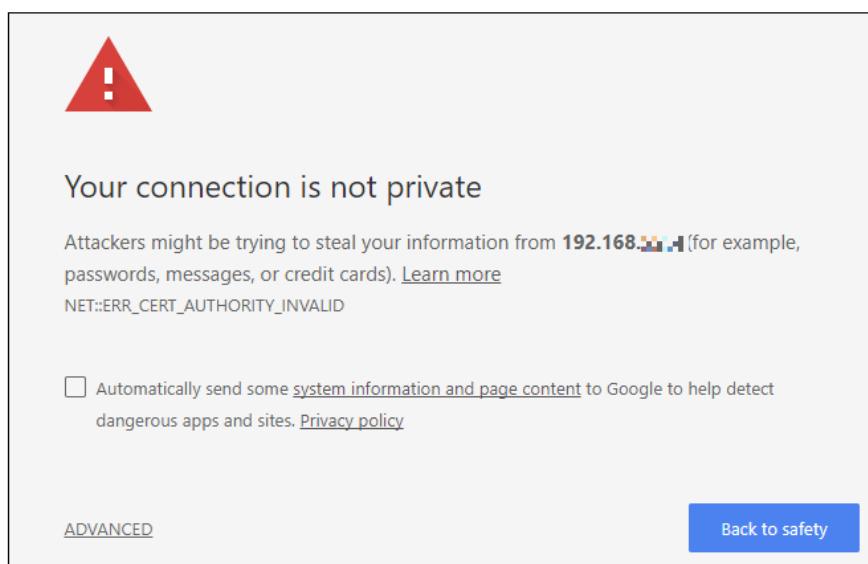
Name	Label	MAC	DHCP	Address	Netmask	Gateway	Metric	802.1x
eth0	WAN	00:0C:29:11:11:11	Disabled	192.168.1.100	255.255.255.0	--	--	Disabled
- Native Buzzer Event**: Enable network buzzer feedback (Toggle switch)
- DNS**: DNS Servers, Search Domains, Restore (button)

7. Change other settings as required.
8. From the menu, select **EXIT**. The **Welcome** screen is displayed.
9. Transfer the project file from the screen editing software.

NOTE: For information on how to display the system settings after project transfer, refer to **Display System Settings on the Product Screen**, page 72.

Set up via PC (Remote Setup)

1. Connect this product with the computer over Ethernet. 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 192.168.1.100)
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, and enter the following URL.
https://192.168.1.100/machine_config
4. When the connection is established, the HMI device sends 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.



5. The login screen will be displayed. Enter the following initial password, and click **Proceed**.

Default username: **admin**

Default password: **admin**

6. The **Authentication** screen is displayed. Set the password for the administrator user account.

The screenshot shows the 'Authentication' screen with the title 'Users'. A yellow banner at the top states: 'Password change is required at first access. NOTE: user will be disconnected'. Below this, a message says 'Choose a password for user "admin"'. There are two input fields: 'New Password' and 'Confirm Password'. To the right of these fields is a note: 'Passwords are required to include: - Number of characters between 8 and 128 - At least 1 lower case letter - At least 1 upper case letter - At least 1 numeric character - At least 1 special character (@\$!%*!/:()[]? &^=+<>#]'. A 'Change Password' button with a gear icon is at the bottom.

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.
- You can change the password at any time. For details, refer to [Change Password](#), page 74.
- Please be careful not to forget your password. If you forget the administrator password, you will need to initialize the product. Initializing (device restore) the product will result in the loss of user data stored in the product.

7. The login screen is displayed. Enter the username "**admin**" and the password set earlier, then click **Proceed**.

The screenshot shows the login interface with 'Username' and 'Password' fields. A 'Proceed' button is located at the bottom right.

8. The system settings menu is displayed. From the menu, select **Date & Time**. To enter editing mode, in the top right-hand corner of the screen, click **EDIT**. Set the date and time for the product's internal clock. At the top of the screen, click **SAVE** to save the changes.

The screenshot shows the 'Date & Time' settings screen. It includes fields for 'Current Timezone' (Universal (+0000)), 'Current Date' (Tuesday, August 19, 2025), 'Local Time' (5:22 AM), 'Automatic Update' (Off), and 'Accept NTP requests' (a toggle switch). Top navigation buttons include 'MENU' and 'EDIT' (highlighted in blue), and bottom buttons include 'Date & Time' and 'ADMIN'.

9. Change other settings as required.

NOTE: If you want to change the IP address, we recommend to first complete all the other necessary system settings.

10. From the menu, select **EXIT**. Return to the login 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.

NOTE: For information on how to display the system settings after project transfer, refer to [Display System Settings on the PC Screen](#), page 73.

How to display the System Settings

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

There are two ways to access the system settings:

- Display the **System Settings** on the product screen.

Display System Settings on the Product Screen, page 72.

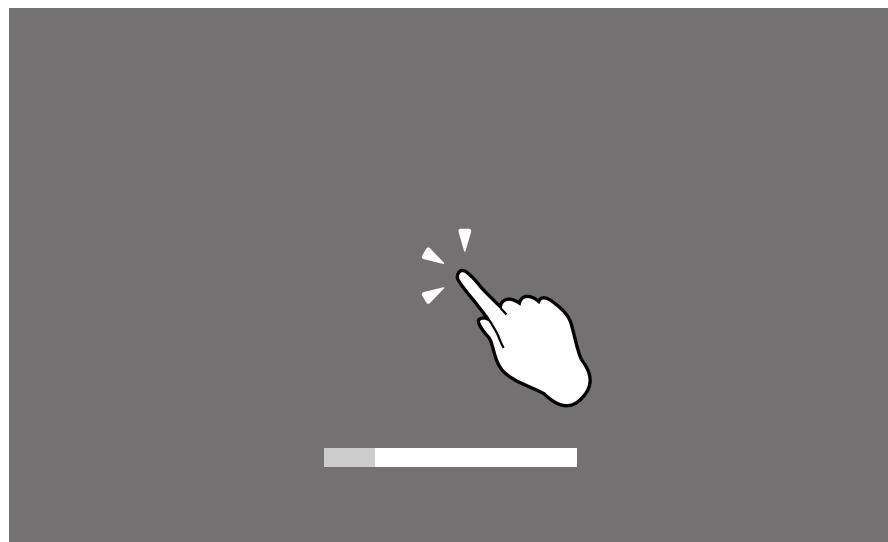
- Connect the product to a computer and display the **System Settings** using a web browser on the computer.

Display System Settings on the PC Screen, page 73.

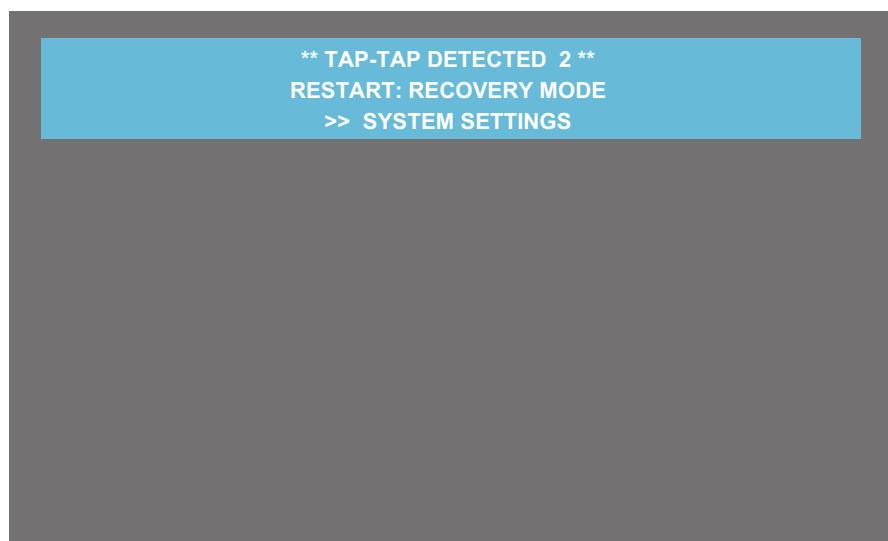
Display System Settings on the Product Screen

Tap-Tap operation

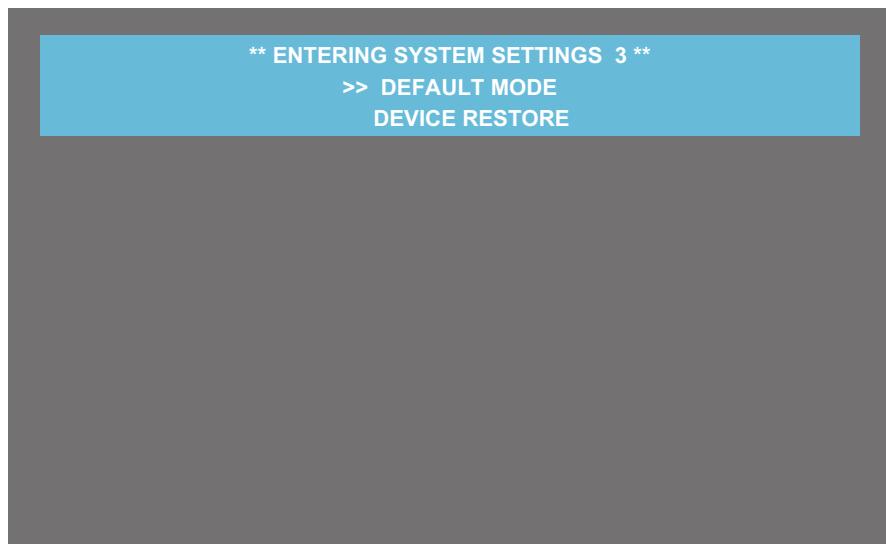
1. Turn on the product and immediately after the progress bar appears, tap the screen with your finger multiple times.



2. Tap-Tap menu appears at the top of the screen. "**SYSTEM SETTINGS**" is selected. Wait for 5 seconds without touching the screen.



3. The Tap-Tap menu will switch automatically."**DEFAULT MODE**" is selected. Wait for 5 more seconds without touching the screen.



4. The login screen for **SYSTEM SETTINGS** will be displayed. Enter your username and password.

The form contains two text input fields: 'Username' and 'Password', and a blue 'Proceed' button below them.

Display System Settings on the PC Screen

1. Connect your computer to the same network as this product and start a web browser.
2. Enter the URL below.
https://<IP address>/machine_config
NOTE:
 - Replace the <IP address> part above with the one you set.
 - Remote access uses the encrypted https protocol on port 443.
3. The login screen for **SYSTEM SETTINGS** will be displayed. Enter your username and password.

The form contains two text input fields: 'Username' and 'Password', and a blue 'Proceed' button below them.

Change Password

1. Log in to the system settings. Refer to How to display the System Settings, page 72.
2. From the menu, select **Authentication**. Touch **EDIT** at the top right of the screen to switch to editing mode.

Authentication

Roles

Users

Logged in as admin

Enabled	Username	Role	Expiration
admin	admin	admin	Never

Session

x.509 Certificate

Password policy

3. Touch the down arrow button on the right side of the screen.

Users

Enabled	Username	Role	Expiration
admin	admin	admin	Never

Reset accounts

4. Enter the new password and set the password validity period (number of days).

Users

Enabled	Username	Role	Expiration
admin	admin	admin	Never

New Password:

Confirm Password:

Password validity (days):

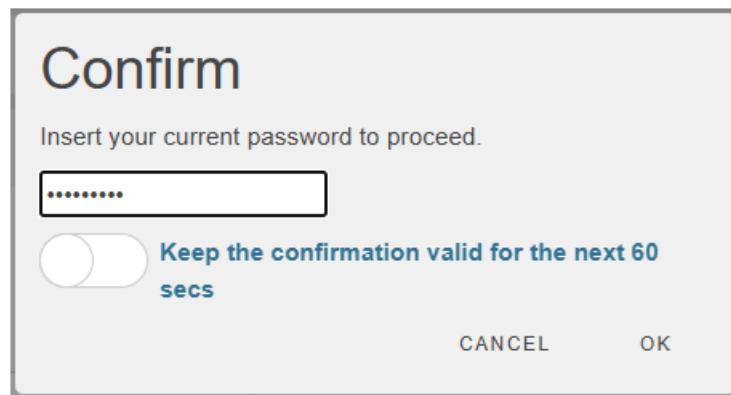
Update

Passwords are required to include:
- Number of characters between 8 and 128
- At least 1 lower case letter
- At least 1 upper case letter
- At least 1 numeric character
- At least 1 special character [@\$!%*_.!~(){}?&^=+<>#]

NOTE:

- You can also modify the password requirements. For information, refer to Authentication - **Password policy**. By default, passwords should be at least 8 characters long and include at least one uppercase letter, one lowercase letter, one number, and one special character.
- Please be careful not to forget your password. If you forget the administrator password, you will need to initialize the product. For information on how to initialize the product, refer to Initialization (Device Restore), page 80. If you do **Device Restore**, the user data within the product will be lost.

5. Touch the **Update** button. A confirmation dialog will appear. Enter the current password and touch **OK**. You will be automatically logged out, and the login screen will appear. If necessary, please log in again using your new password.

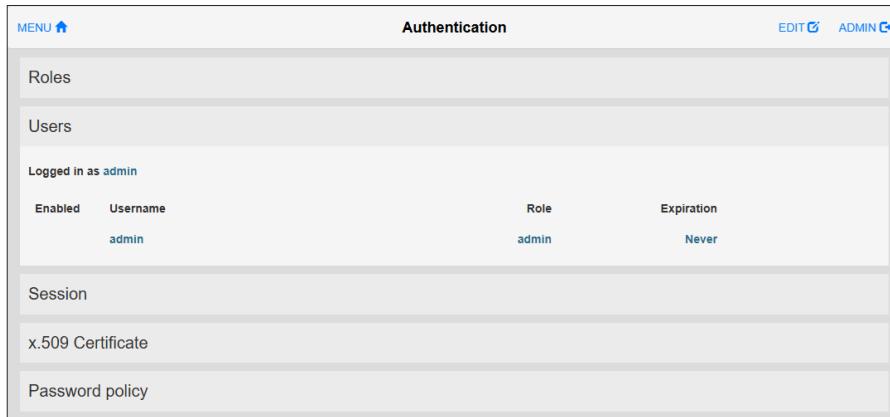


Add User Account

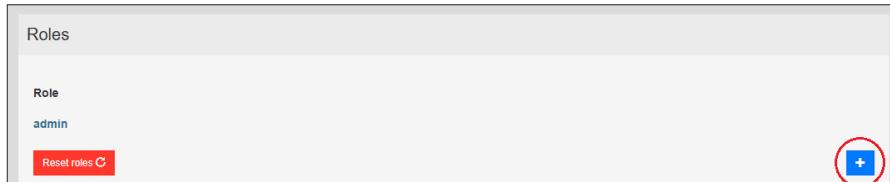
Users with administrator rights can register and define the roles of additional user accounts. The admin user can assign permissions to users for accessing features in the **System Settings** in accordance with their roles.

NOTE: You can create a maximum 50 users and 30 roles.

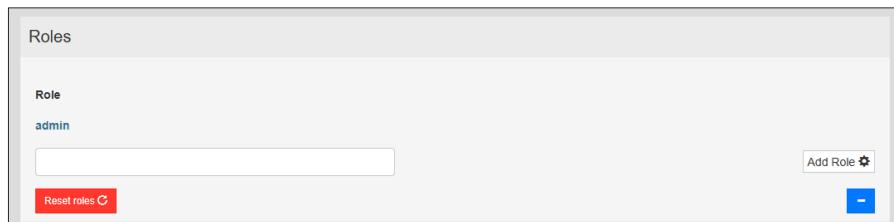
1. Log in to the System Settings. Refer to How to display the System Settings, page 72.
2. From the menu, select **Authentication**. At the top right of the screen, touch **EDIT** switch to editing mode.



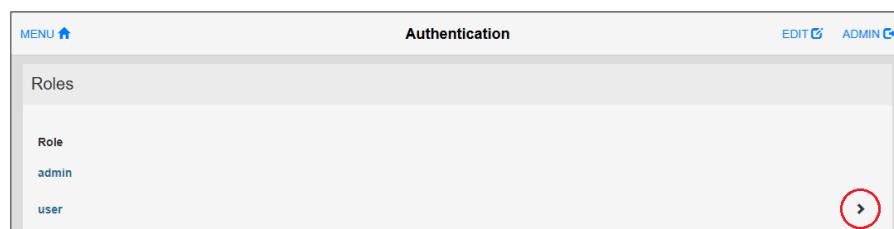
3. Select the **Roles** row and touch the plus button on the right edge of the screen.



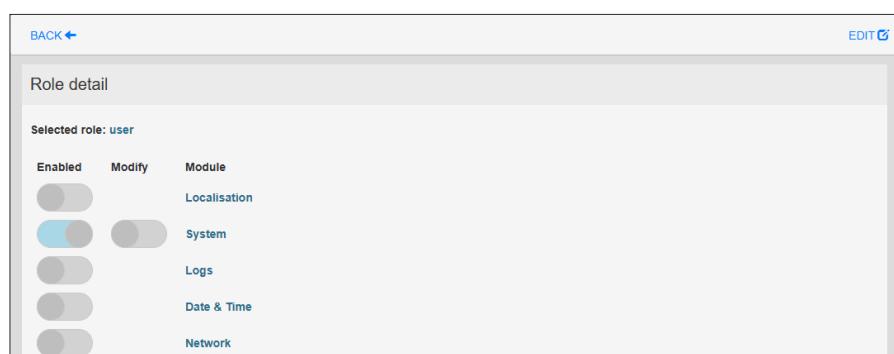
4. Enter a name for the new role and click the **Add Role** button.



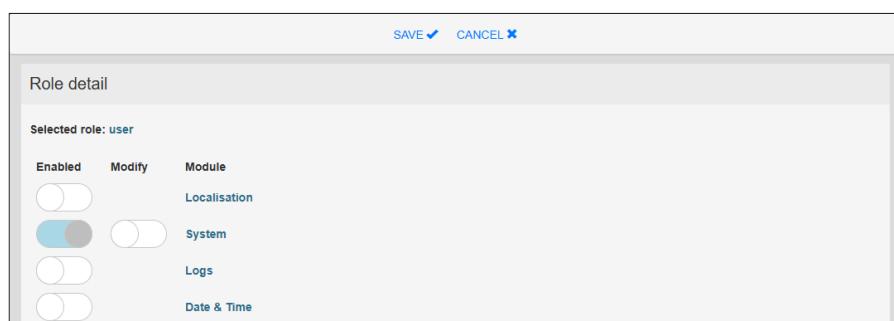
5. Touch **BACK**, and then touch the arrow icon beside the role that was added.



6. After the **Role detail** is displayed, in the top-right corner of the screen, touch **EDIT**.



7. Set the necessary access rights in accordance with the role and touch **SAVE**.



8. Touch **BACK**, then touch **EDIT**. Select the **Users** row and touch the plus button on the right edge of the screen.

9. Enter the username and select a role.

NOTE: Usernames are limited to 32 characters and must begin with a lowercase character.

Enabled	Username	Role	Expiration
admin	user1	admin	Never

Username: user1
Role: admin
New Password: admin
Confirm Password: user
Password validity (days): 60

Passwords are required to include:
- Number of characters between 8 and 128
- At least 1 lower case letter
- At least 1 upper case letter
- At least 1 numeric character
- At least 1 special character [@\$!%*_.!::(){}?&^=+<>#]

Add user

10. Create a new password and specify how long it will be valid (in days).

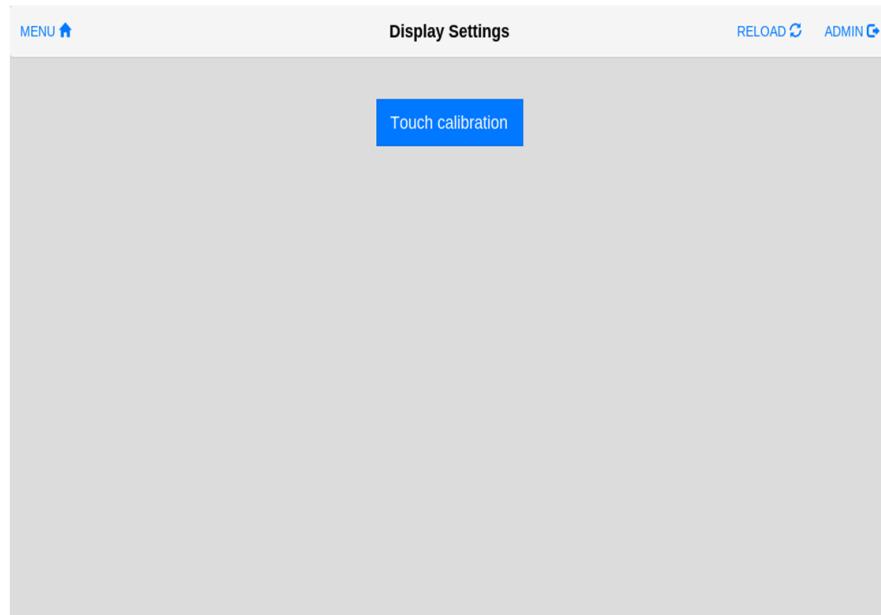
11. Touch the **Add user** button.

Touch Panel Calibration

Calibrate the touch areas.

NOTE: This feature is for the 7-inch wide model.

1. Use tap operations to log in to the system settings. Refer to Display System Settings on the Product Screen, page 72.
2. From the menu, touch **Display**.
3. The following screen appears. Touch **Touch calibration**.



4. A plus sign (+) appears one after another on the screen. Touch the center of the plus signs, in order.



Backup and Restore User Data

You can use a screen editing software function to back up the user data in the product to external storage. The backup data can also be restored to the product. For details, refer to the manual of the screen editing software.

Update OS

Updates the product system to the latest version. Keep the product system up to date to maximize product safety. The update file for this product is available for download from our website.

https://www.proface.com/en/download/gph6000/system_update

Update OS from PC

NOTICE

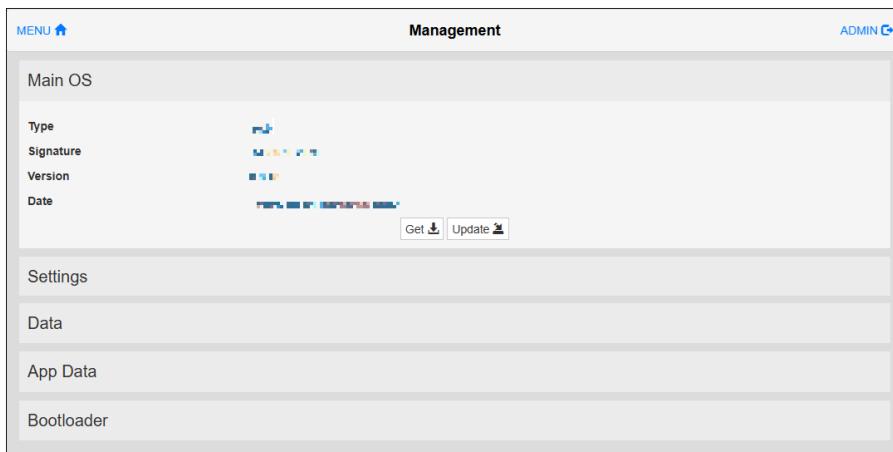
LOSS OF DATA, EQUIPMENT DAMAGE

Do not turn off the product while updating the system.

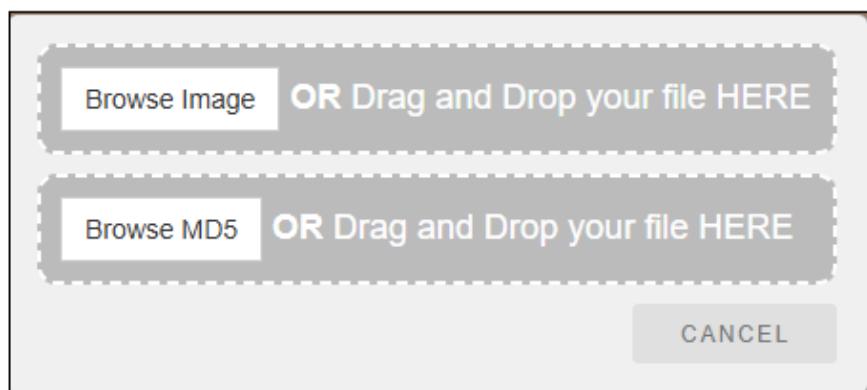
Failure to follow these instructions can result in equipment damage.

1. Connect your computer to the same network as this product and start a web browser.
2. Enter the URL below. And then log in the system settings as "admin". For details, refer to Display System Settings on the PC Screen, page 73.
https://<IP address>/machine_config
3. From the menu, select **Management**.

4. Expand **Main OS** and click the **Update** button.



5. A dialog box will appear. Click **Browse Image** and select the update file (.img). Then click **Browse MD5** and select the MD5 checksum file (.md5).

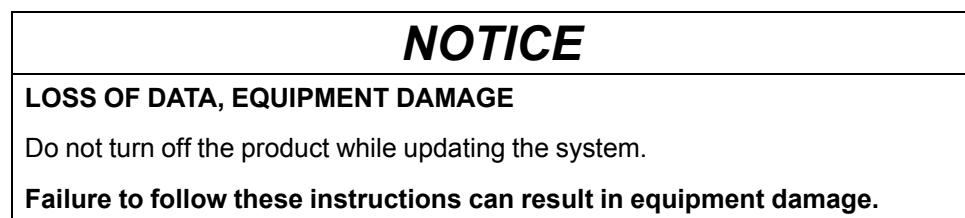


NOTE:

- Prepare the MD5 checksum file beforehand and store it in the same external storage as the update file.
On the Internet, find a tool to calculate the MD5 checksum of the file.
On Windows 10, you can also use the "CertUtil" utility from the command line. For example:
`CertUtil -hashfile mainos.tar.img MD5 > mainos.tar.img.md5`
(Replace the underlined portions in the above command with the update file name.)
- The MD5 checksum file should have the same name as the file to load, with the file extension ".md5".
- The MD5 checksum file should have only one line. If the utility that calculates the checksum generates a file with multiple lines, delete the additional lines.

6. Restart the product.

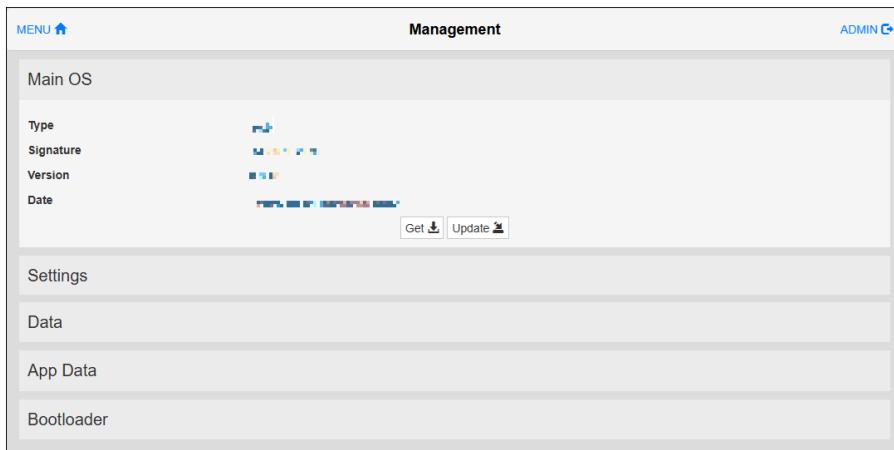
Update OS Using External Storage



Prepare external storage such as USB memory or an SD card in advance, and store the update file on them.

NOTE: Please format the external storage device with the FAT or FAT32 file system.

1. Turn off this product and connect the external storage.
2. Use the Tap-Tap operation to display the system settings. For details, refer to Display System Settings on the Product Screen, page 72.
3. Log in as "admin" and select **Management** from the menu.
4. Expand **Main OS** and touch the **Update** button.



5. A dialog box will appear. Touch **Browse Image** and select the update file (.img).



6. Restart the product.

Initialization (Device Restore)

If you forget the administrator password, you can restore your product to its factory settings.

Restoration Procedure

1. Perform **Device Restore**. The administrator password and all user data will be reset.
2. Set the new administrator password.

There are two ways to restore the product.

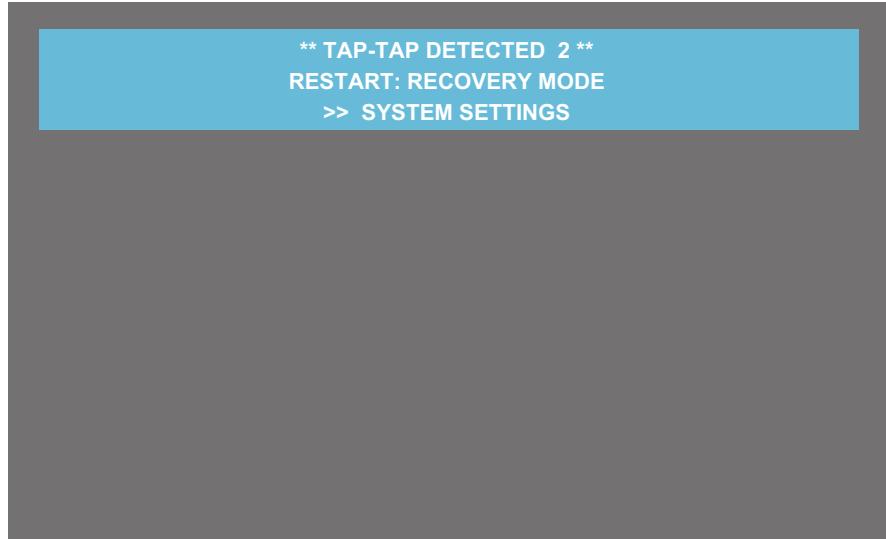
Device Restore via Tap-Tap Operation, page 81.

Device Restore via USB, page 81.

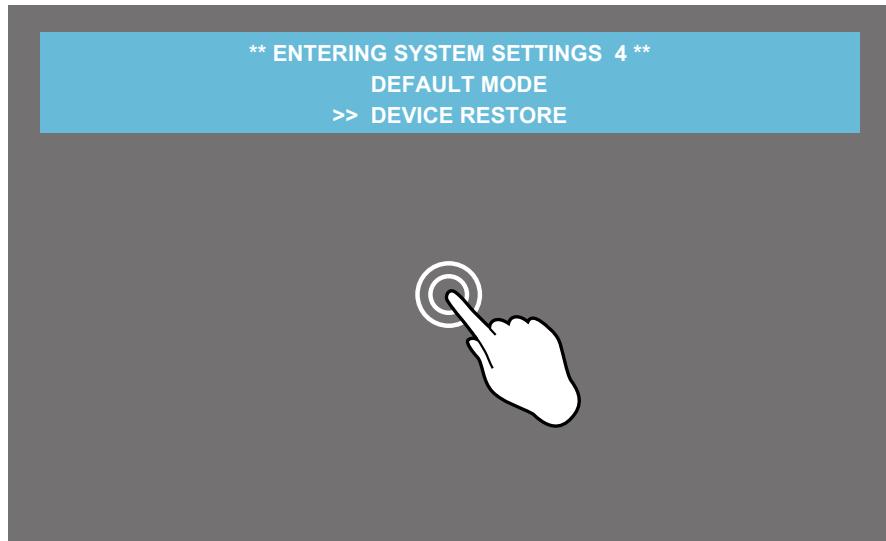
Device Restore via Tap-Tap Operation

NOTE: This procedure is only available if **System Settings > Services > "Enable device restore via TAP TAP option"** is set to enabled.

1. Turn off this product.
2. Turn on the product and immediately after the progress bar appears, tap the screen with your finger multiple times.
3. Tap-Tap menu appears on the top of the screen. "**SYSTEM SETTINGS**" is selected. Wait for 5 seconds without touching the screen.



4. The Tap-Tap menu will switch automatically. To select "**DEVICE RESTORE**", press and hold your finger on the screen for 5 seconds.



5. All user data is cleared, and the product restarts in its factory default state.

To set up the product, refer to Setup, page 68.

Device Restore via USB

NOTE: This procedure is only available if **System Settings > Services > "Enable device restore via USB"** is set to enabled.

1. Create a file named "device-factory-restore" into the USB memory and plug it into this product. (Any file format is fine.)

2. The product restore process starts automatically. The buzzer is played once at the beginning and 3 times at the end if the operation is successful.
3. The "device-factory-restore" file is deleted from the USB memory. All user data is cleared, and the product restarts in its factory default state.

To set up the product, refer to Setup, page 68.

Recovery

If the product does not start properly, you may be able to recover by booting into a special mode called **Recovery Mode**. From this mode you can open the device management dialog box to delete user data, restore system settings, or update the product firmware.

To boot the product in **Recovery Mode**, select one of the following procedures.

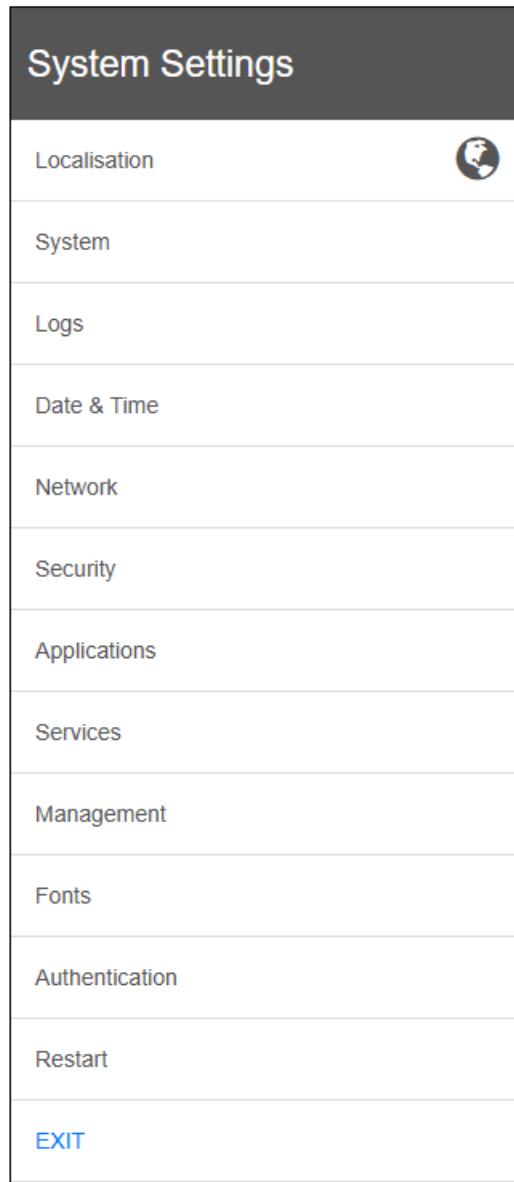
- A. Power on the product and immediately power off when you hear it beep-beep. Repeat this procedure three times, then power on the product again and wait for the **Recovery Mode** to appear.
- B. Create a file named "\$0030D8\$.bin" and put it inside an empty SD card. Insert the SD card into the product and power on the product. The product will start in **Recovery Mode**.

System Settings Menu

This section introduces the features in the **System Settings**.

NOTE:

- Screenshot images used in this section are for reference only. The actual screen display may differ due to system updates or other reasons.
- If your screen display includes a feature that is not described in this section, that feature is not supported.



Function	Description
Localisation	Select the language and keyboard for the system settings user interface.
System	Displays the current operation status of the product.
Logs	Exports the system logs in the product.
Date & Time	Set the date and time of the product's internal clock.
Network	Configure network settings such as the IP address.
Security	Controls access to the external storage connected to the product.
Applications	Add or remove applications and configure how they behave when you turn on your product.
Services	Enable/Disable the various services.
Management	Updates system components and applications.
Display¹	Calibrate the touch panel.
Fonts	Lists the available system fonts. You can also upload custom fonts. NOTE: Please note that using the font files may require a license.
Authentication	Manage permissions to access the system settings.
Restart	Restart the product.
EXIT	Log out from the system settings. Return to the screen before logging in.

*1 **Display** only appears in the menu when you log in to system settings with **TAP-TAP** operations on the 7-inch wide model. Refer to **Display System Settings** on the Product Screen, page 72.

To change system settings values, enter edit mode by touching the **EDIT** button at the top right of the screen. The **EDIT** button is available only in screens with modifiable parameters.

Localisation

Select the language and keyboard for the system settings user interface.

MENU 

Localisation

ADMIN 

Language:

<input checked="" type="checkbox"/>	English
	Italiano
	Deutsch
	Français
	简体中文
	繁體中文
	한국어
	日本語
	Español
	Português - Brasileiro
	Русский

Country Code:
(REQUIRED for WLAN Regulatory Domain)

00 Unspecified 

System keyboard layout:

Active Layout

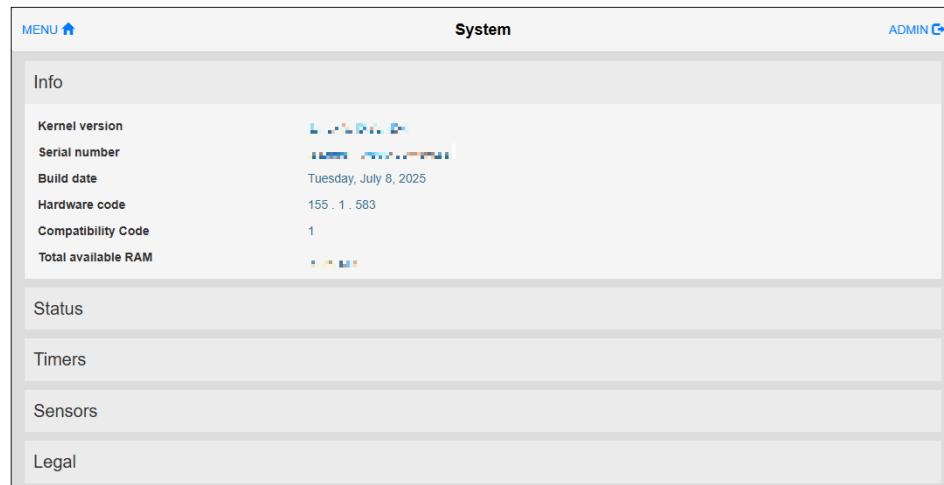
<input checked="" type="checkbox"/>	English (United States)
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Item	Description
Language	Select the user interface language for the system settings.
Country Code	Select the country code where the product will be used.
System keyboard layout	Select the software keyboard.

System

Displays the current operating status of the product.

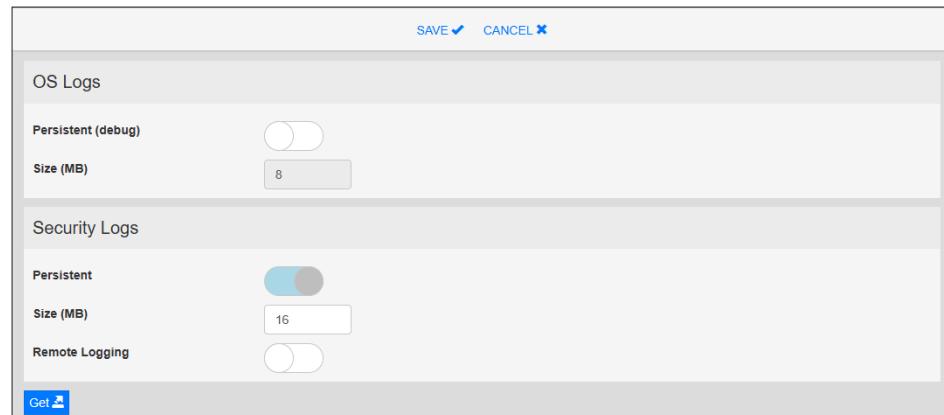


Item	Description
Info	Information such as the system version and build date and time is displayed.
Status	Displays status information such as uptime, free RAM capacity, and average CPU usage.
Timers	Displays the cumulative operating hours of the system and backlight.
Sensors	Displays the internal temperature of the product.
Legal	Displays legal information regarding components licensed under GPL/LGPL. Refer to Regarding Open-source Software, page 11.

Logs

This product records two types of system logs.

NOTE: To change the settings, touch **EDIT** at the top right of the screen to enter edit mode. The following image shows the Logs screen in edit mode.



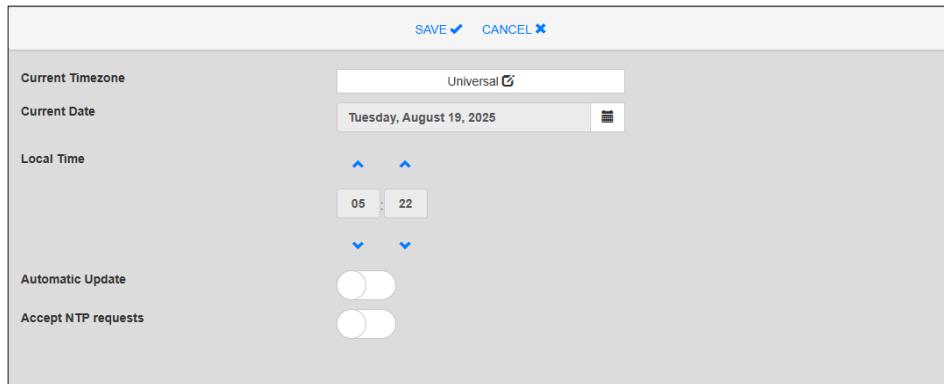
Item	Description
OS Logs	<p>Collects all the information related to the operation of the product from the time it is powered on until it is powered off.</p> <p>This log is used to verify that the product is functioning properly and to diagnose any malfunctions.</p> <p>Persistent (debug)</p> <p>When enabled, retains log files in the product even after the product is powered off.</p> <p>Default: Disable</p> <p>Size (MB)</p> <p>Displays the log file size. The System Manager cyclically writes to three files of this size.</p>
Security Logs	<p>Collects information about users who log in to the product and the operations they perform.</p> <p>Persistent</p> <p>Log files stored in the product are retained even after the product is powered off.</p> <p>Default: Enable (fixed value)</p> <p>Size (MB)</p> <p>Displays the file size. The System Manager cyclically writes to three files of this size.</p> <p>Remote Logging</p> <p>Enable to save logs to the remote Rsyslog server by specifying its IP address and port number.</p> <p>Default: Disable</p>

Touch **Get** to download the collected text-based log files compressed into a .gz file. The **messages** file contains primary system information, and the **audit** folder stores security-related data.

Date & Time

Set the date and time of the product's internal clock.

NOTE: To change the settings, touch **EDIT** button at the top right of the screen to enter edit mode. The following image shows the Date & Time screen in edit mode.



The screenshot shows the Date & Time settings screen in edit mode. At the top right are 'SAVE' and 'CANCEL' buttons. The screen includes fields for 'Current Timezone' (set to 'Universal'), 'Current Date' (set to 'Tuesday, August 19, 2025'), and 'Local Time' (set to '05:22'). Below these are two toggle switches: 'Automatic Update' (disabled) and 'Accept NTP requests' (disabled).

Item	Description
Current Timezone	Select the region where this product will be used.
Current Date / Local Time	Manually set the current date and time when Automatic Update is disabled.
Automatic Update	Automatically updates the time on the product by synchronizing with the NTP server.

Item	Description
	Default: Off
NTP Server	This setting appears when Automatic Update is enabled. Specify the NTP server.
Slow time adjustment (not more than one minute a day)	This setting appears when Automatic Update is enabled. Set whether to gradually adjust the time difference when synchronizing with the NTP server. Default: Disable If disabled, NTP can apply a significant correction to correct date and time drift. If enabled, NTP uses the standard correction rate of 500 ppm to correct drift. As a result, aligning the system time to the NTP server time could take a significant amount of time. (For example, to correct a difference of 5 minutes would take about 7 days.)
Accept NTP requests	Set whether to accept NTP server requests when Automatic Update is enabled. Default: Disable

Network

Configure network settings.

NOTE: To change the settings, touch **EDIT** at the top right of the screen to enter edit mode. The following image shows the Network screen in edit mode.

The screenshot shows the Network configuration screen in edit mode. At the top, there are 'SAVE' and 'CANCEL' buttons. The screen is divided into sections: 'General Settings' (Hostname, Avahi Hostname), 'Network Interfaces' (listing 'eth0' with 'WAN' label, MAC address, DHCP status, Address '192.168.1.100', Netmask '255.255.255.0', Gateway, Metric, and 802.1x options), 'Native Buzzer Event' (Enable network buzzer feedback toggle), and 'DNS' (DNS Servers and Search Domains sections with '+' buttons). A 'Restore' button is at the bottom.

Item	Description
General Settings	Hostname Set the device name.
Network Interfaces	Configure network properties. DHCP Set whether to use the DHCP client function. If enabled, the IP address assigned by the DHCP server will be used. Default: Disable Address Set the IP address. Default: 192.168.1.100

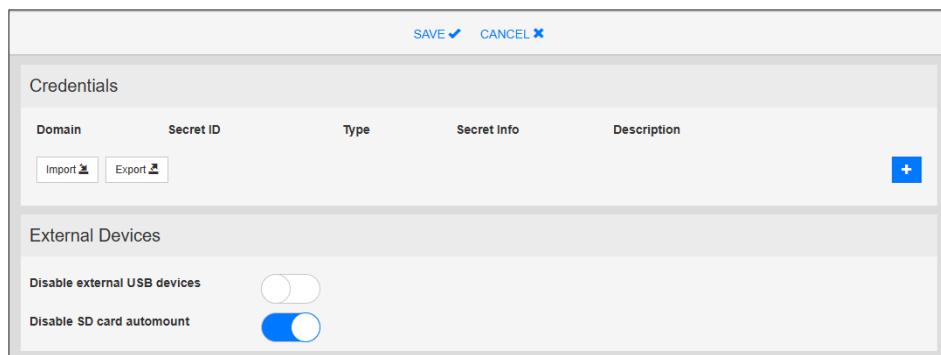
Item	Description
	<p>Netmask Set the subnet mask. Default: 255.255.255.0</p> <p>Gateway Set the gateway.</p> <p>801.2x This is the IEEE802.1X authentication setting. This model does not support wireless LAN.</p> <p>Default: Disable</p>
Native Buzzer Event	Enable to sound a buzzer when the product is connected to the network. Default: Enable
DNS	<p>DNS Servers Generally provided from the DHCP servers.</p> <p>Search Domains Optional domains that will be used in concatenation with the provided URLs.</p>

Security

Controls access to the external storage connected to the product.

NOTE:

- To change the settings, touch **EDIT** at the top right of the screen to enter edit mode. The following image shows the Security screen in edit mode.
- **Credentials** are not supported.



Item	Description
External Devices	<p>This setting toggles the availability of external storage devices.</p> <p>Disable external USB devices When set ON, USB storage devices are unavailable. Default: Off</p> <p>Disable SD card automount When this setting is ON, SD cards are not automatically mounted at product startup and are unavailable for use. Change the setting to OFF to enable automatic mounting and make SD cards available for use. Default: On</p>

Applications

Lists the applications installed on the product.

MENU 		Applications		ADMIN 
Name	Type	Autostart		
HMI_Runtime	container			
App Management 				

Item	Description
Name	Name of applications installed on the product.
Autostart	Set whether to automatically start the application when the product is turned on. Default for HMI_Runtime: Enable
App Management	Install/update the application. Also defines the startup sequence if multiple applications are installed. NOTE: <ul style="list-style-type: none"> Install, update, or delete commands cannot be performed while the application is running. However, if you are connected remotely from your computer, data will be deleted regardless of whether the application is running. Even if you delete HMI_Runtime, the user data remains in the product. To delete all data in the product, perform Device Restore. Refer to Initialization (Device Restore), page 80.

Services

You can check the usage status of the service functions provided by this product.

Click the service name to view associated parameters.

NOTE: Services that are not supported by this product may be displayed. If services that are not described in this manual are displayed, please use the default settings and do not make any changes.

MENU 		Service Settings		ADMIN 
Enable device restore via TAP TAP option				
Enable device restore via USB				
Enable TAP TAP menu via touchscreen/mouse				
Network Rate Limiter		Off		
Show loading bar during boot				
Web Server		On		

Item	Description	Default
Enable device restore via TAP TAP option¹	When enabled, you can restore the device by consecutively tapping the screen two or more times during product startup.	On
Enable device restore via USB¹	When enabled, you can restore the device using a USB storage device.	Off
Enable TAP TAP menu via touchscreen/mouse	When enabled, you can select commands from the Tap-Tap menu by touch or mouse.	On
Network Rate Limiter	When enabled, you can create rules to limit the number of packets that are transmitted through the network interface. For details, refer to Network Rate Limiter, page 90.	Off

Item	Description	Default
Show loading bar during boot	Enable/Disable the display of the progress bar while rebooting.	On
Web Server	Displays the parameters for configuring the web server. For details, refer to Web Server, page 91.	On

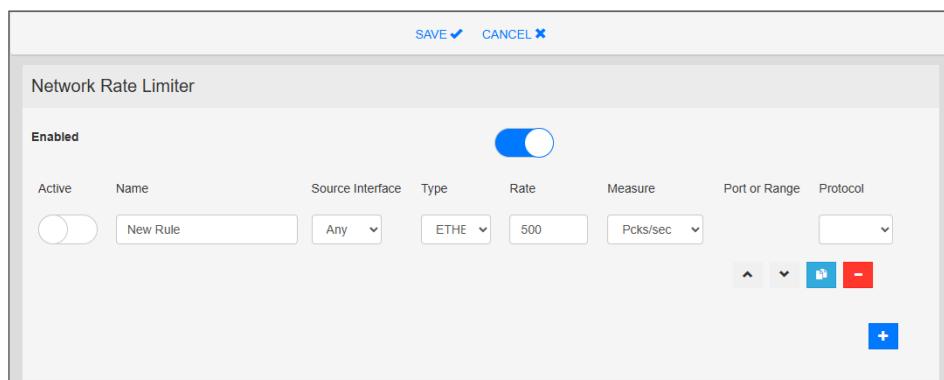
*1 We recommend enabling at least one device restore service. Disabling both better secures the device, but it will prevent you from recovering the administrator password if it is forgotten.

Network Rate Limiter

Enable to create rules to limit the maximum number of packets transmitted through the network interface. Restricting the number of requests that can be sent within a specific time frame helps to prevent network overload. This is also effective as a cybersecurity measure to suppress unintended excessive traffic, such as DDoS attacks and spam.

Default: Off

NOTE: To change settings, touch **EDIT** at the top right of the screen to enter edit mode. The following image shows the screen after enabling this feature in edit mode:



Item	Description
Active	Toggles between enabling and disabling the rule. Default: Disable
Name	Set a label to identify the rule.
Source Interface	Specifies the network interface for the rule.
Type	Select the data type of network packets to filter: ETHER , IP , SYN , or UNI
Rate	Set the amount of data or number of packets allowed per time unit.
Measure	Select the measurement unit. Pcks/sec : packets per second Pcks/min : packets per minute Mbps : megabits per second
Port or Range	Set the port or port range for the filtering of TCP or UDP protocols. Example setting a port range: 20-40
Protocol	Select the protocol type to match the data type. ETHER : IPV4 , ARP IP : IPV4 , TCP , UDP , ICMP

Web Server

Displays the parameters for configuring the web server. For security, we recommend keeping the default settings.

Default: On

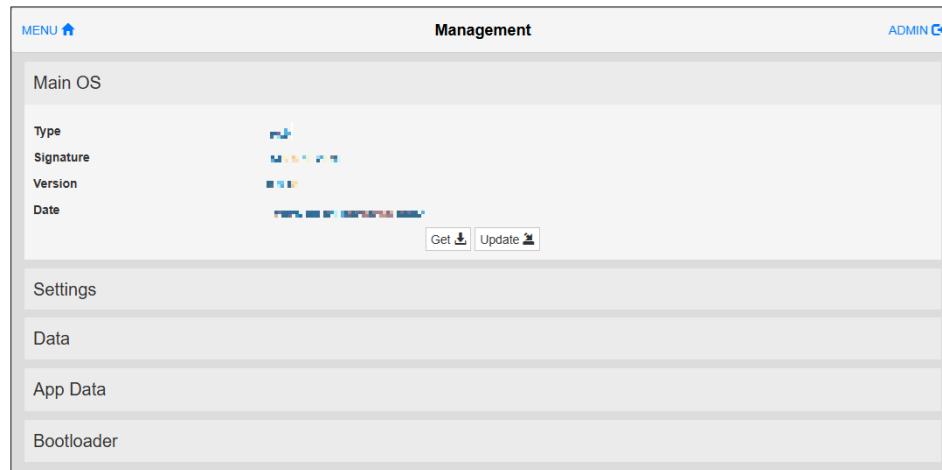
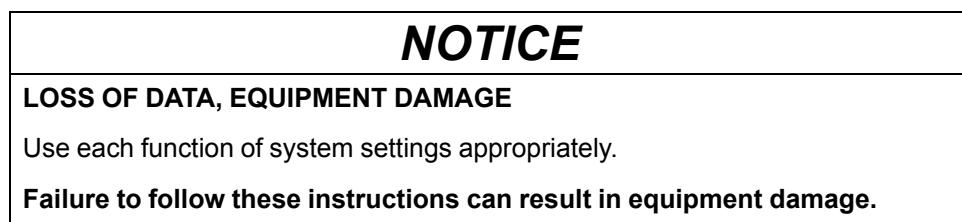


Item	Description
Allow only Secure HTTPS connections	When enabled, allows only HTTPS connections. Default: Enable
CORS domains enabled	When disabled, access to external domains is prohibited. When enabled, access to external domains listed in the CORS domains filter are allowed. Default: Disable NOTE: You can enter allowed domains one by one, or use regular expressions to define multiple domains. The regular expression must have the prefix "re:".

Management

You can check information such as the operating system, system settings, user data, and application versions and dates on your product. You can also update system components.

NOTE: Operations in the **Management** screen are critical. If not performed correctly, product damage may occur, requiring product repair.



Use the "**Get**" command to download data from this product. Use the "**Update**" command to upload data to this product. Selecting the "**Clear**" command will delete data on the product.

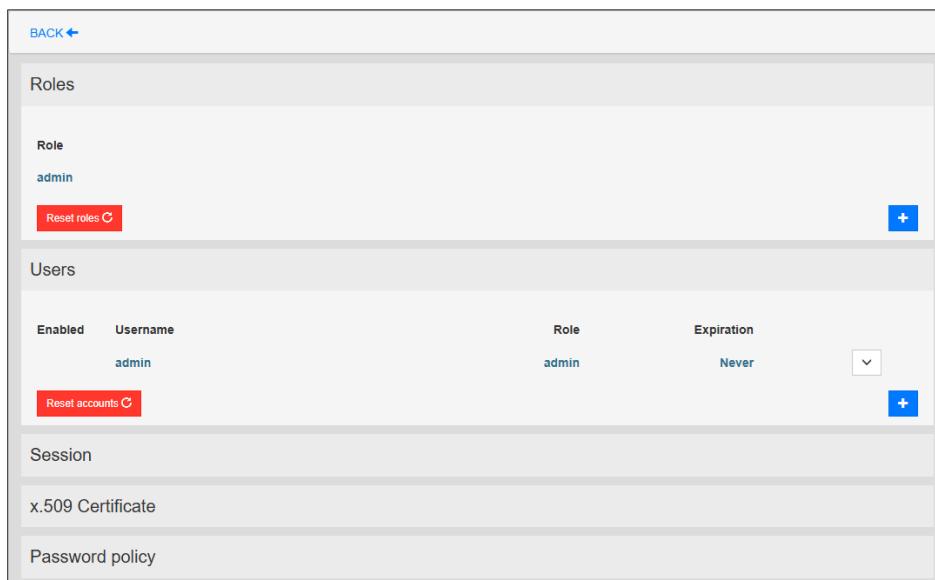
Item	Description
Main OS	This is the operating system that is normally used.
Settings	This is the area where configuration data for the system settings is stored.
Data	This is the area used by the application.
App Data	This is the area used by the application for user data.
Bootloader	This is the area where programs for starting the operating system are stored.

Authentication

Manage permissions for accessing the **System Settings**.

Change the password for logging in to system settings, add/delete user accounts, and set roles and permissions.

NOTE: To change the settings, touch **EDIT** at the top right of the screen to enter edit mode. The following image shows the Authentication screen in edit mode.



Item	Description
Roles	Add roles other than the Administrator role and set the access privileges for the features listed in the System Settings in accordance with their roles. NOTE: <ul style="list-style-type: none"> • You can add up to 30 roles. • This setting can only be set/changed when logged in with admin privileges.
Users	Change authentication passwords for user accounts. Also add/delete user accounts or change their roles. For details, refer to Users , page 93.
Session	Set the inactivity time, session time, and the number of failed login attempts allowed. For details, refer to Session , page 93.
x.509 Certificate	Personalize your product's x.509 certificate. For details, refer to x.509 Certificate , page 94.
Password policy	Customize password requirements. For details, refer to Password Policy , page 95.

Users

Change the authentication password used to log in to the system settings.

If you are logged in to the **System Settings** with an administrator account, you can add/delete other user accounts.

NOTE:

- To change the administrator password, refer to Change Password, page 74.
- You can add up to 50 user accounts. To add a new user account, refer to Add User Account, page 75.
- You can modify the password requirements. For details, refer to Password Policy, page 95.
- If you forget your administrator password, you can reset it by running device restore. For details, refer to Initialization (Device Restore), page 80.

Item	Description
Username	Set up to 32 characters for the user account name, which can include alphabetic characters, numbers, and the underscore (_) and hyphen (-). NOTE: The username must begin with a lowercase character.
Role	Select the user account's role in the Roles row.
New Password/Confirm Password	Enter the password for the user account.
Password validity (days)	Set the password expiration period to be between 8 and 720 days.

Session

Item	Description
Inactivity Timeout (minutes)	Amount of time a user can be inactive before the session expires and closes.
Session Timeout (minutes)	Maximum time allowed for a single work session before the user is prompted to re-authenticate.
Max user login attempts	The maximum number of failed login attempts allowed per minute, hour, and day for a single user. Upon exceeding this limit, the user is locked out.
Max host login attempts	The maximum number of failed login attempts allowed per minute, hour, and day for all users. Upon exceeding this limit, the user is locked out.

NOTE: A blocked account is unlocked when:

- the time limit expires
- the device is reset

x.509 Certificate

Personalize your product's x.509 certificate.

NOTE: This setting can only be set/changed when logged in with admin privileges.

The screenshot shows a configuration interface for an x.509 certificate. It includes fields for Device Name (HMI-c864), Organization, Unit, State, Location, Country, Valid (days) (36500), and Key Length (2048). A 'Generate' button is at the bottom right.

Item	Description
Device Name	The name of your device
Organization	The legal name of your organization
Unit	The division of your organization handling the certificate
State	The state/region where your organization is located
Location	The city where your organization is located
Country	The two-letter ISO code for the country where your organization is located
Valid (days)	Validity of the certificate
Key Length	The number of bits in the cryptographic key
Generate	Generate a self-signed certificate with your data

The product uses a self-certificate to encrypt the Internet communication through the HTTPS protocol. You can personalize the certificate with the data of your company and ask a certificate authority to authenticate it.

The procedure to personalize and authenticate your certificate is:

1. Fill the necessary parameters, then touch **Generate** button to generate a self-signed certificate with your data.

2. Export the "Certificate Signed Request".
3. Send the "Certificate Signed Request" to a certificate authority to authenticate it.
4. Import the signed certificate into the product.

Password Policy

This feature enables users to define custom password rules.

By default, passwords must be at least 8 characters long and include at least one uppercase character, one lowercase character, one number, and one special character.

Password policy

	Minimum	Maximum
Password length	8	128
Lowercase chars	1	<small>Recomended value: at least 1</small>
Uppercase chars	1	<small>Recomended value: at least 1</small>
Digits	1	<small>Recomended value: at least 1</small>
Symbols	1	<small>Recomended value: at least 1</small>

Restore defaults  Update 

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