Expansion Unit

Hardware Guide

EXZH-MM01-EN.00
05/2026

Pro-face™
by Schneider Electric

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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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Table of Contents

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 outlines the specifications and installation procedures for the expansion unit, which is an optional component designed for the GP6000 Series Advanced Model of our HMI (Human Machine Interface) device.

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

Validity Note

This document is valid for the expansion units.

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

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 equipment 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 the equipment and the power supply prior to installing or removing this 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 the equipment.
- Use only the specified voltage when operating the equipment.
- When using this product in Class I, Division 2, Groups A, B, C, and D hazardous locations, install this product in an enclosure that prevents the operator from touching the equipment without the use of tools.

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

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

⚠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.

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 the equipment.
- Do not use the equipment as the only means of control for critical system functions such as motor start/stop or power control.
- Do not use the equipment as the only notification device for critical alarms, such as device overheating or overcurrent.
- Use only the software provided with the equipment. If you use other software, please confirm the operation and safety before use.
- Follow all applicable safety standard, local regulations and directives.

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

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 in GP6000 Series Advanced Model User Guide.

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

Related Documents

Title of documentation	Reference number
Cybersecurity Best Practices	Refer to General Cybersecurity Information, page 6.
GP6000 Series Advanced Model User Guide	English (GP6000-MM01-EN) French (GP6000-MM01-FR) German (GP6000-MM01-DE) Spanish (GP6000-MM01-ES) Italian (GP6000-MM01-IT) Chinese (GP6000-MM01-CS) Japanese (GP6000-MM01-JA) Korean (GP6000-MM01-KO)

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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Overview

What's in This Chapter

Model Numbers

Model List

Series	Model name	Model number
Expansion interface unit	Serial interface expansion unit	PFXZHMUSIO1
	Ethernet interface expansion unit	PFXZHETH1
	AUX interface expansion unit	PFXZHMUAUX1
Expansion memory unit	Backup memory expansion unit	PFXZHMUEM1

Package Contents

Verify all items listed here are present in your package.

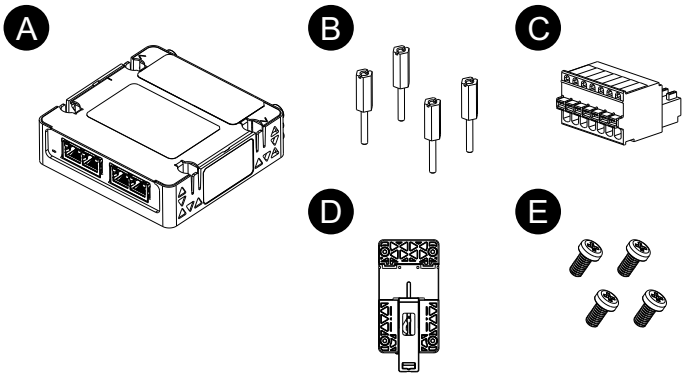
If you find anything damaged or missing, please contact customer support immediately.

⚠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. Expansion unit x 1
B. Installation screw x 4
C. AUX connector x1 (AUX interface expansion unit only)
D. DIN rail attachment*1 x 1

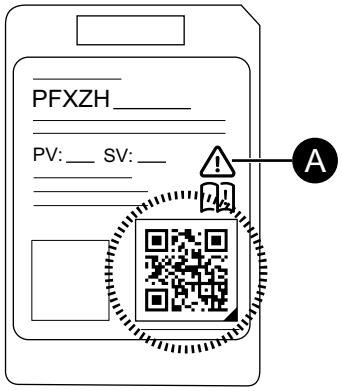
E. M4 screw*1 (length: 10 mm [0.39 in]) x 4

*1 Use only when installing three or more expansion units on a DIN rail.

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, and that you must use copper wire rated for 75 °C (167 °F) or higher. Refer to "Wiring the Power Supply" section in the GP6000 Series Advanced Model User Guide.

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

NOTE: The expansion units are approved when installed on the HMI's main unit. Additionally, please check the product marking on the main unit.

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

Compliance Standards

Europe:

CE/UKCA

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

Australia, New Zealand:

- RCM

Korea:

- KC

Hazardous Substances

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

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

End of Life (WEEE)

The product contains electronic boards. It must be disposed of in specific treatment channels. It must be collected and processed separately at the end of product life (Directive 2012/19/EU).

KC Markings

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

Federal Communication Commission Radio Frequency Interference Statement - For USA

FCC Radio Interference Information

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

possibility of electromagnetic interference in your application, observe the following two rules:

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

⚠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.

Hazardous Location Installation - For USA and Canada

General

This product is suitable for use in Class I, Division 2, Groups A, B, C, and D hazardous locations or in non-hazardous locations. Before installing or using this product, confirm that the Hazardous Location certification appears on the product labeling.

NOTE: Some products are not yet rated as suitable for use in hazardous locations. Always use your product in conformance with the product labeling and this manual.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the equipment 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 the equipment and the power supply prior to installing or removing this 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 the equipment.
- Use only the specified voltage when operating the equipment.

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

⚠WARNING

EXPLOSION HAZARD

- Do not use the equipment in hazardous environments or locations other than Class I, Division 2, Groups A, B, C, and D.
- Substitution of any components may impair suitability for Class I, Division 2.
- Always confirm the UL 121201 or CSA C22.2 No.213 hazardous location rating of your device before installing or using it in a hazardous location.
- To apply or remove the supply power from the equipment installed in a Class I, Division 2 hazardous location, you must either: A) Use a switch located outside the hazardous environment, or B) Use a switch certified for Class I, Division 1 operation inside the hazardous area.
- Do not connect or disconnect equipment unless power has been switched off or the area is known to be non-hazardous. This applies to all connections including power, ground, serial, parallel, and network connections.
- Do not install any components, equipment, or accessories manufactured by us or by OEM unless these have also been qualified as suitable for use in Class I, Division 2, Groups A, B, C, and D locations.
- Always use shielded/grounded cables in hazardous locations.
- Do not attempt to install, operate, modify, maintain, service, or otherwise alter this product except as permitted in this manual. Unpermitted actions may impair the suitability of this product for Class I, Division 2 operation.

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

Make sure that this product is properly rated for the location. If the intended location does not presently have a Class, Division and Group rating, then users should consult the appropriate authorities having jurisdiction in order to determine the correct rating for that hazardous location.

Operation and Maintenance

The systems have been designed for compliance with relevant spark ignition tests.

⚠WARNING

EXPLOSION HAZARD

In addition to the other instructions in this manual, observe the following rules when installing the equipment in a hazardous location:

- Wire the equipment in accordance with the National Electrical Code article 501.10 (B) for Class I, Division 2 hazardous locations.
- Install the equipment in an enclosure suitable for the specific application.

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

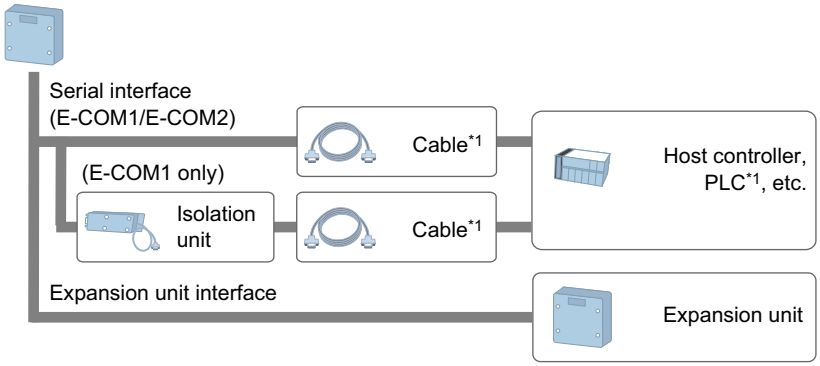
Device Connectivity

What's in This Chapter

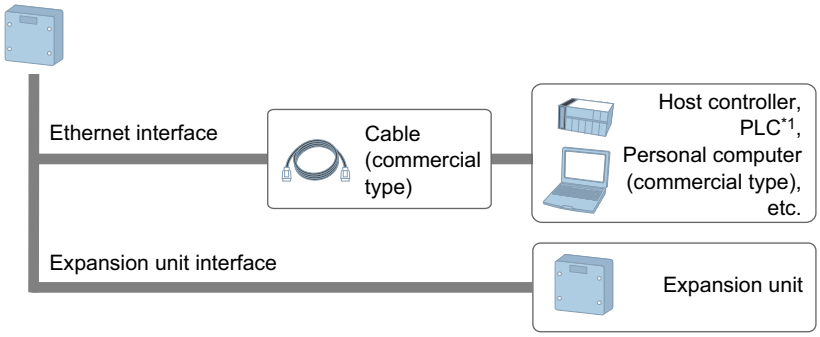
System Design

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

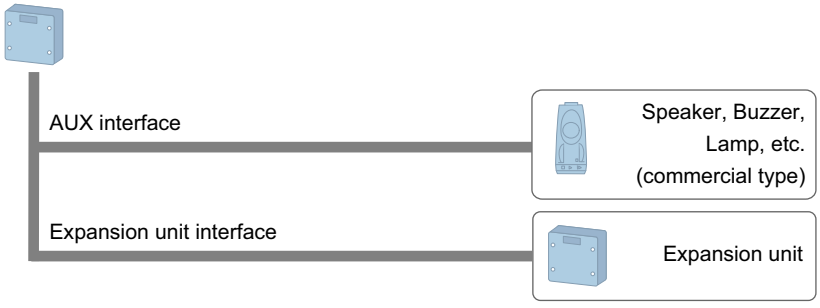
Serial interface expansion unit



Ethernet interface expansion unit



AUX interface expansion unit



Backup memory expansion unit

*1 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 number of expansion units that can be connected to the GP6000 Series Advanced Model (main unit) is as follows.

- Panel mount type: 2
- DIN mount type: 5

NOTE:

- Only one each of serial interface expansion unit, Ethernet interface expansion unit, and AUX interface expansion unit can be connected to the main unit. Up to two backup memory expansion units can be connected to the main unit.
- When installing multiple types of expansion units, install the backup memory expansion unit in the position farthest from the main unit. There is no requirement for the order of other expansion units.

Expansion unit combination table

	Serial interface expansion unit	Ethernet interface expansion unit	AUX interface expansion unit	Backup memory expansion unit
Serial interface expansion unit	-	✓	✓	✓
Ethernet interface expansion unit	✓	-	✓	✓
AUX interface expansion unit	✓	✓	-	✓
Backup memory expansion unit	✓	✓	✓	✓

Accessories

This section introduces optional items that are sold separately.

Maintenance Accessories

This section lists replacement parts.

Product name	Product number	Description
AUX Connector	PFXZCDCNAUX1	AUX connector required in case an external output is used (5 pieces/set).

Parts Identification and Functions

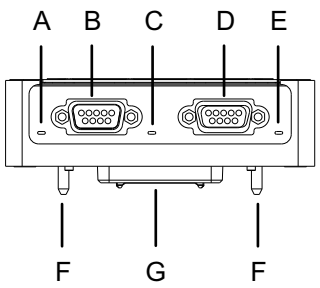
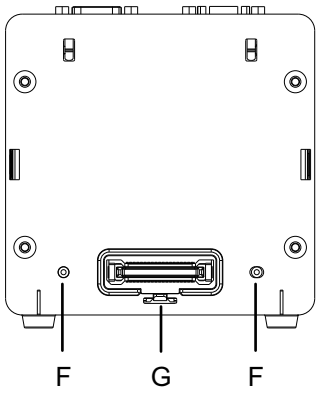
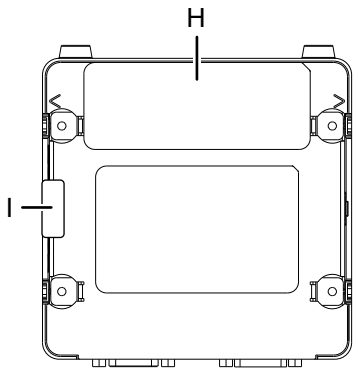
What's in This Chapter

Serial Interface Expansion Unit

This section describes the serial interface expansion unit (model number: PFXZHMUSIO1).

Add COM ports by installing this unit to the main unit (GP6000 Series Advanced Model).

Parts Identification of Serial Interface Expansion Unit

Front	
Bottom	
Top	

A. Status LED (STA)

B. Expansion serial interface (E-COM1)

C. E-COM1 LED

D. Expansion serial interface (E-COM2)

E. E-COM2 LED

F. Installation pins

G. Expansion unit interface

H. Expansion unit interface*1

I. Security seal*2

*1 There is the expansion unit interface connector under the label. Remove the label only when installing the next expansion unit.

*2 Refer to "Cybersecurity" page in GP6000 Series Advanced Model User Guide.

LED Indications

Status LED

Color	Indicator	Description
Green	ON	In operation
-	OFF	The expansion unit is not ready to use.

E-COM1/COM2 LED

Color	Indicator	Description
Yellow	Blinking	Communicating
-	OFF	No data transmission

Expansion Serial Interface (E-COM)

Serial interface (E-COM1)	
Connector	D-Sub 9 pin (plug)
Asynchronous transmission	RS-232C/RS-422/RS-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
Serial interface (E-COM2)	
Connector	D-Sub 9 pin (socket)
Asynchronous transmission	Isolated RS-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, 187,500 bps (MPI)

Precautions for Connecting Serial Interface

E-COM1 is not isolated. The SG (signal ground) and FG (frame ground) are connected inside the product. When the serial interface connector is D-Sub, connect the FG wire to the shell.

E-COM2 is isolated. The SG (signal ground) and FG (frame ground) are separated inside the product.

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.

⚠⚠DANGER

ELECTRIC SHOCK AND FIRE

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

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

⚠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.
- Use a D-Sub 9 pin connector that has jack screws.

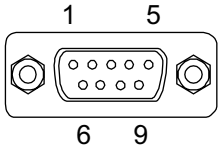
Failure to follow these instructions can result in injury or equipment damage.

NOTE: Use within the rated current.

RS-232C/RS-422/RS-485 (E-COM1)

D-Sub 9 pin plug connector

Product side:



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

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

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

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

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

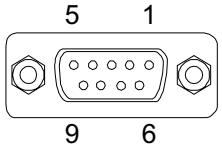
Recommendations:

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

Isolated RS-485 (E-COM2)

D-Sub 9 pin socket connector

Product side:



Pin No.	RS-485 (isolated)		
	Signal name	Direction	Meaning
1	NC	–	No connection
2	NC	–	No connection
3	Line A	Input/Output	Transfer data A (+)
4	RS (RTS)	Output	Request to send
5	SG	–	Signal ground
6	VCC	–	+5 Vdc ±5% External output 0.075 A*1

Pin No.	RS-485 (isolated)		
	Signal name	**Direction**	**Meaning**
7	NC	–	No connection
8	Line B	Input/Output	Data B (-)
9	NC	–	
Shell	FG	–	Frame ground*2 (Not connected with SG)

*1 You can supply power to the Siemens PROFIBUS connector only. You cannot supply power to the device/PLC.

*2 The SG and FG are isolated.

Ethernet Interface Expansion Unit

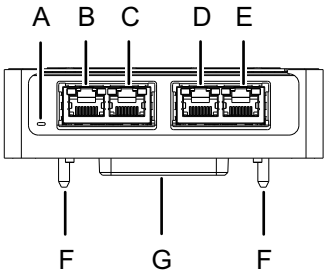
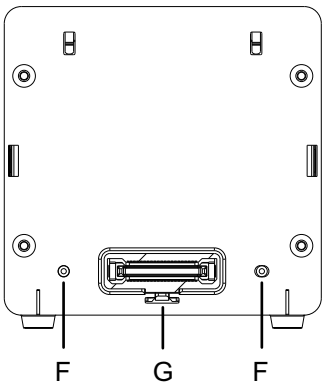
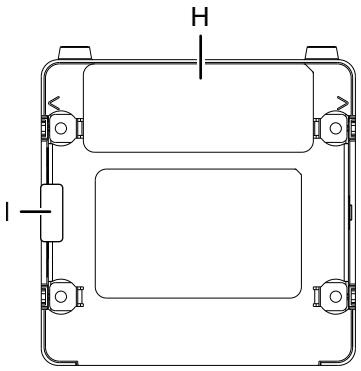
This section describes the Ethernet interface expansion unit (model number: PFXZHETH1).

This is a switching hub designed to expand LAN ports.

When this unit is attached to the main unit (GP6000 Series Advanced Model), **Ethernet** > **E-ETH** appears in the **System Settings** menu. Please change the network properties, such as the IP address, so they are on the same network as the peripheral equipment to connect to this unit. For more information about the **System Settings**, refer to GP6000 Series Advanced Model User Guide.

NOTE: If necessary, you can forward IP packets received to other interfaces by configuring in the **System Settings**, **Security** > **IP Forwarding**.

Parts Identification of Ethernet Interface Expansion Unit

Front	
Bottom	
Top	

A. Status LED (STA)

B. Expansion Ethernet interface (E-ETH1)

C. Expansion Ethernet interface (E-ETH2)

D. Expansion Ethernet interface (E-ETH3)

E. Expansion Ethernet interface (E-ETH4)

F. Installation pins

G. Expansion unit interface

H. Expansion unit interface*1

I. Security seal*2

*1 There is the expansion unit interface connector under the label. Remove the label only when installing the next expansion unit.

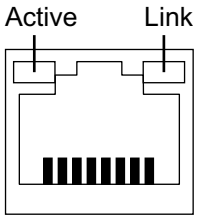
*2 Refer to "Cybersecurity" page in GP6000 Series Advanced Model User Guide.

LED Indications

Status LED

Color	Indicator	Description
Green	ON	In operation
-	OFF	The expansion unit is not ready to use.

Ethernet LED



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

Expansion Ethernet Interface (E-ETH)

Connector	Modular jack (RJ-45) x 4
Standard	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX/ 1000BASE-T*1
Maximum communication distance	100 m (328.1 ft)

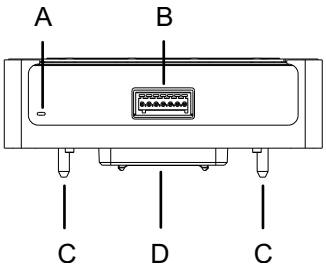
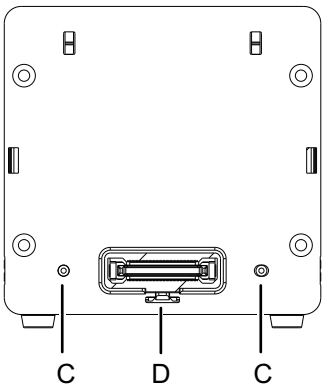
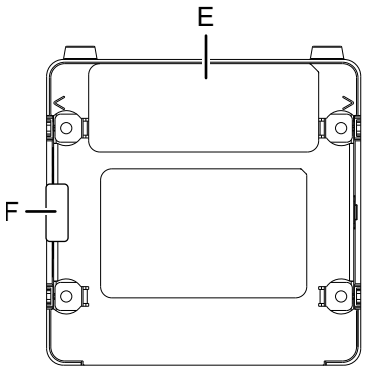
*1 For 1000BASE-T communication, use twisted pair Ethernet cables with a rating of category 5e or higher.

AUX Interface Expansion Unit

This section describes the AUX interface expansion unit (model number: PFXZHMUAUX1).

Add an AUX port by installing this unit to the main unit (GP6000 Series Advanced Model).

Parts Identification of AUX Interface Expansion Unit

Front	
Bottom	
Top	

A. Status LED (STA)

B. Auxiliary output/ Speaker output interface (E-AUX)

C. Installation pins

D. Expansion unit interface

E. Expansion unit interface*1

F. Security seal*2

*1 There is the expansion unit interface connector under the label. Remove the label only when installing the next expansion unit.

*2 Refer to "Cybersecurity" page in GP6000 Series Advanced Model User Guide.

LED Indications

Status LED

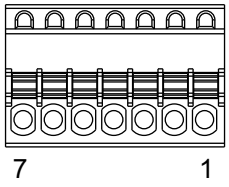
Color	Indicator	Description
Green	ON	In operation
-	OFF	The expansion unit is not ready to use.

Expansion AUX Interface (E-AUX)

Sound output	Speaker output	300 mW or more (Rated load: 8 Ω, Frequency: 1 kHz)
	LINE output	1.4 Vp-p (Rated load: 10 kΩ)
	Connector	2-piece terminal block (AUX) x 1
AUX output	AUX output	Alarm output/Buzzer output x 1
	Rated voltage	24 Vdc
	Rated current	50 mA
	Connector	2-piece terminal block (AUX) x 1

AUX connector
Model number: PFXZCDCNAUX1

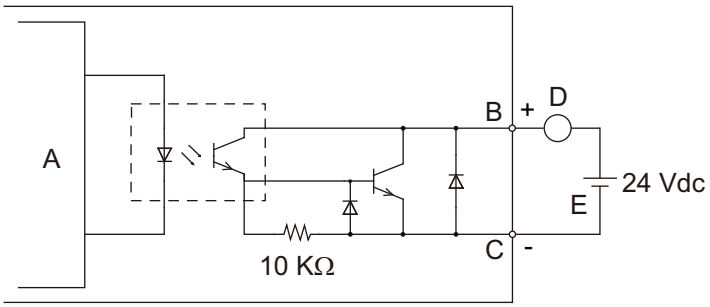
Cable side:



Pin No.	Signal name	Direction	Meaning
1	LineOut	Output	Line out
2	LineOut_GND	Output	Line out ground
3	SP+	Output	Speaker+
4	SP-	Output	Speaker-
5	NC	–	No connection
6	ALARM+/BUZZER+	Output	(Can be changed via software)
7	ALARM-/BUZZER-	Output	

NOTE: For information on how to wire, refer to Wiring of AUX Connector, page 41.

Output circuit



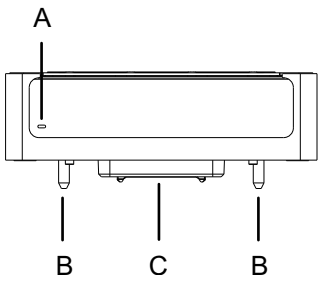
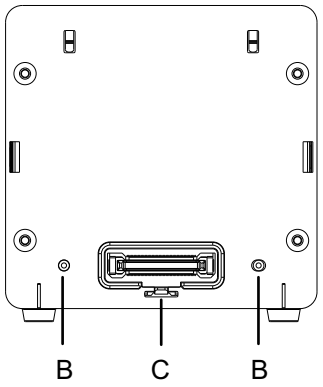
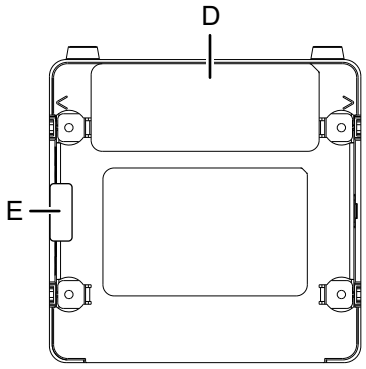
A. Internal circuit
B. Pin number 6: ALARM+/BUZZER+
C. Pin number 7: ALARM-/BUZZER-
D. Load
E. External power

Backup Memory Expansion Unit

This section describes the backup memory expansion unit (model number: PFXZHMUEM1).

If the backup memory capacity of the main unit (GP6000 Series Advanced Model) is insufficient for your needs, installing this unit adds 2 MB of additional memory.

Parts Identification of Backup Memory Expansion Unit

Front	
Bottom	
Top	

A. Status LED (STA)

B. Installation pins

C. Expansion unit interface

D. Expansion unit interface*1

E. Security seal*2

*1 There is the expansion unit interface connector under the label. Remove the label only when installing the next expansion unit.

*2 Refer to "Cybersecurity" page in GP6000 Series Advanced Model User Guide.

LED Indications

Status LED

Color	Indicator	Description
Green	ON	In operation
-	OFF	The expansion unit is not ready to use.

Expansion Backup Memory

Backup memory	NVRAM 2 MB

NOTE: For information on data that can be stored in the backup memory, refer to the manual of your screen editing software.

Specifications

What's in This Chapter

General Specifications

Electrical Specifications

The power is supplied from the main unit. Use the SELV (Safety Extra-Low Voltage) circuit and LIM (Limited Energy) circuit for DC input.

Rated input voltage		12 Vdc
Input voltage limits		11.4...12.6 Vdc
Power consumption	Ethernet interface expansion unit	3.8 W
	Serial interface expansion unit	4.4 W
	AUX interface expansion unit	3.6 W
	Backup memory expansion unit	0.24 W

Environmental Specifications

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

Physical environment	
Ambient air temperature*1*2	-20...60 °C (-4...140 °F) Temperature class (T-Code): T4
Storage temperature	-20...60 °C (-4...140 °F)
Ambient air and storage humidity	10...90% 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	
Electrostatic discharge immunity	Contact discharge method: 6 kV Air discharge method: 8 kV (IEC/EN 61000-4-2 Level 3)

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

*2 Use the expansion unit within the ambient air temperature range of the main unit. For details, refer to GP6000 Series Advanced Model User Guide.

Structural Specifications

Structure		IP20
Cooling method		Natural air circulation
External dimensions (W x H x D)		112 x 113.7 x 31.6 mm (4.41 x 4.48 x 1.24 in)
Weight	Ethernet interface expansion unit	450 g (0.99 lb) or less
	Serial interface expansion unit	300 g (0.66 lb) or less
	AUX interface expansion unit	
	Backup memory expansion unit	

NOTE: IP20 is not part of UL certification.

Interface Specifications

Interface Connection

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

⚠WARNING

EXPLOSION HAZARD

- Always confirm the UL 121201 or CSA C22.2 No.213 hazardous location rating of the equipment before installing or using it in a hazardous location.
- To apply or remove the supply power from the equipment installed in a Class I, Division 2 hazardous location, you must either: A) Use a switch located outside the hazardous environment, or B) Use a switch certified for Class I, Division 1 operation inside the hazardous area.
- Do not connect or disconnect equipment unless power has been switched off or the area is known to be non-hazardous. This applies to all connections including power, ground, serial, parallel, and network connections.
- Always use shielded/grounded cables in hazardous locations.

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

Division 2 hazardous location regulations require that all cable connections be provided with adequate strain relief and positive interlock. All communication cables should include a chassis ground shield. This shield should include both copper braid and aluminum foil. The D-Sub style connector housing must be a metal conductive type (for example, molded zinc) and the ground shield braid must be terminated directly to the connector housing. Do not use a shield drain wire.

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

Specifications of Each Interface

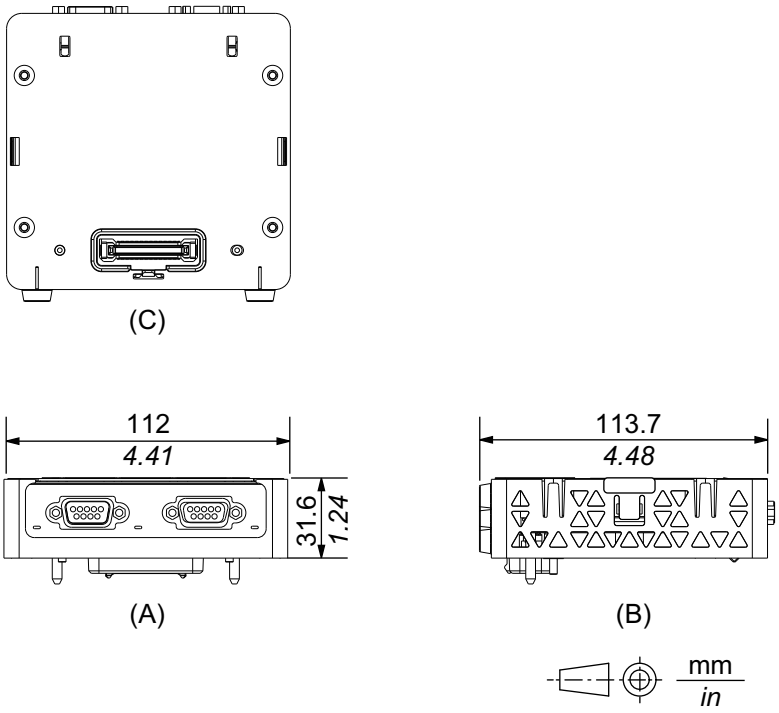
Dimensions

What's in This Chapter

Expansion Unit External Dimensions

All the types of optional expansion interface units have the same external dimensions (not including protrusions).

NOTE: The figures below show the serial interface expansion unit.



A. Front
B. Left
C. Bottom

Installation and Wiring

What's in This Chapter

Installation Requirements

⚠CAUTION

RISK OF BURNING INJURY

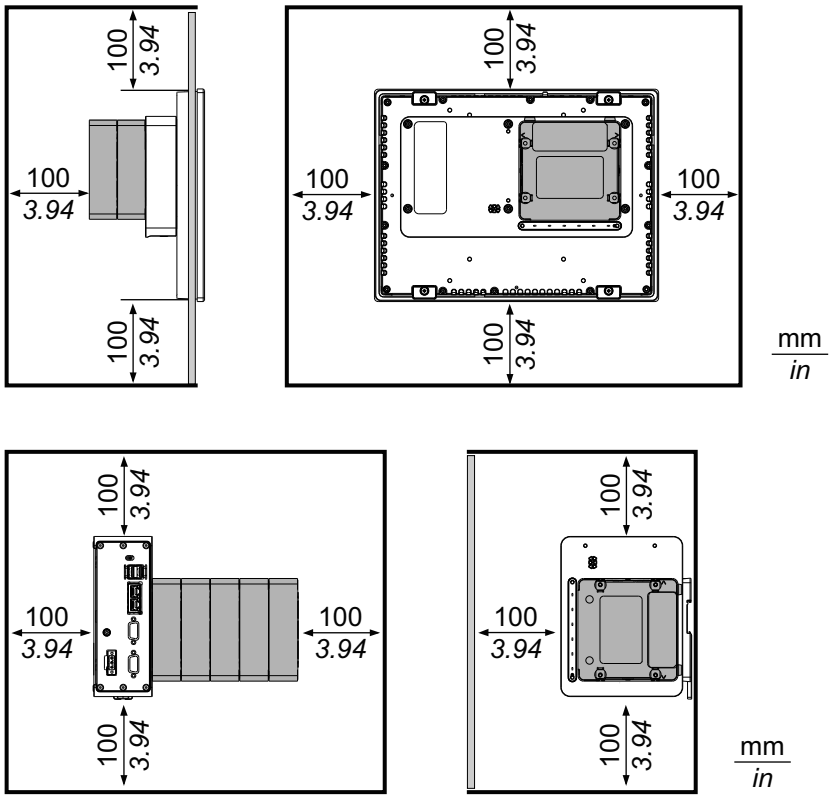
Wear appropriate gloves when touching the product in ambient temperatures greater than 45 °C (113 °F).

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

This product is designed to be attached to a main unit. When incorporating the equipment into an end-use product, follow the same installation conditions as those for the main unit. For details, refer to GP6000 Series Advanced Model User Guide.

- Depending on the wall's material, size, and installation location of the equipment and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.
- Check that the ambient air temperature and the ambient humidity are within their specified ranges.
- Be sure that heat from surrounding equipment does not cause the equipment to exceed its standard operating temperature.

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



Precautions for Installing onto an End-use Product

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

- When using this product with an open-type device, it is necessary to install the equipment in an enclosure suitable for the environment. Install in an enclosure where the equipment is inaccessible without the use of tools.
- Install the equipment in an enclosure with mechanical rigidity.

Installing onto the Main Unit

This section describes how to install the expansion unit to the GP6000 Series Advanced Model (panel mount type).

You can connect up to two expansion units to the GP6000 Series.

NOTE: Except for backup memory expansion unit, you cannot connect two expansion units of the same type. For details on the combinations when installing multiple expansion units, refer to System Design, page 14.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the equipment 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 the equipment and the power supply prior to installing or removing this 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 the equipment.
- Use only the specified voltage when operating the equipment.
- When using this product in Class I, Division 2, Groups A, B, C, and D hazardous locations, install this product in an enclosure that prevents the operator from touching the equipment without the use of tools.

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

⚠CAUTION

RISK OF INJURY, EQUIPMENT DAMAGE

Do not install or remove this product while the equipment is installed to the enclosure.

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

NOTICE

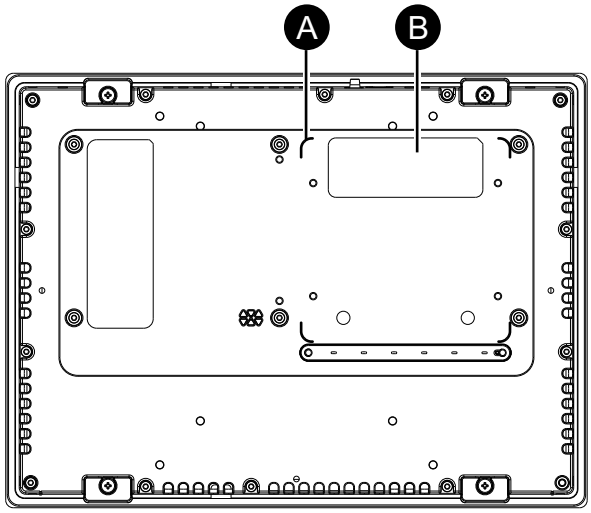
EQUIPMENT DAMAGE

Do not exert more torque than the amount specified.

Failure to follow these instructions can result in equipment damage.

1. Place the main unit with the display side facing down on a clean, flat, and level surface.
2. Touch the housing or ground connection (not the power supply) to discharge any electrostatic charge from your body.

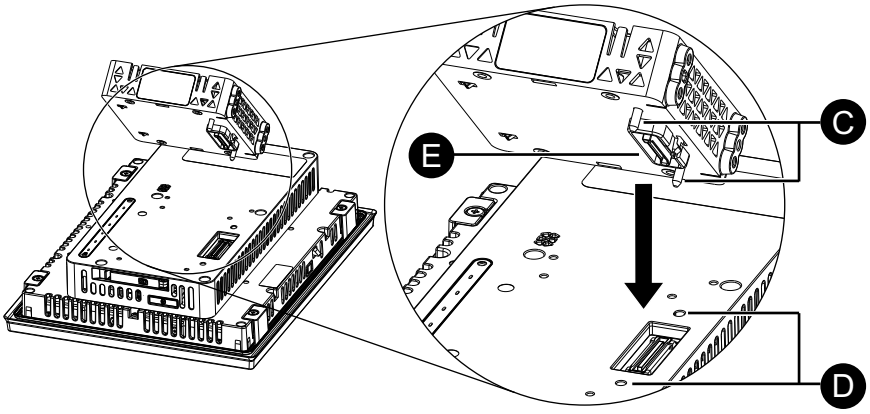
3. Peel off the label on the rear of the main unit.



A. Guideline

B. Label

4. Connect the expansion unit interface to the connector on the main unit. Place the expansion unit so that its outline fits within the guidelines and you can pass the installation pins through the holes.



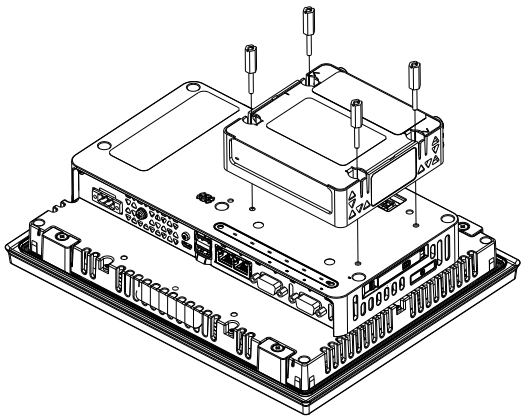
C. Installation pins

D. Holes

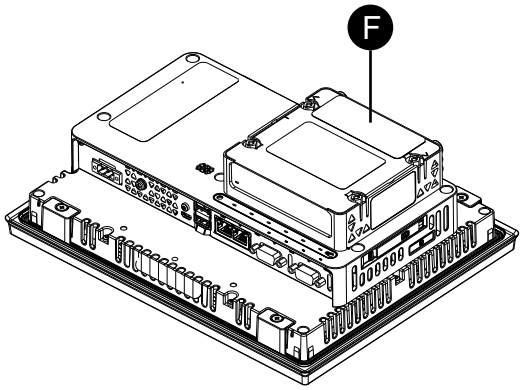
E. Expansion unit interface

5. Affix it to the main unit using the screws (4 pieces) included with the expansion unit. Tighten the screws with a hexagonal box screwdriver. The necessary torque is 0.5 N•m (4.4 lb-in).

   NOTE: A hexagonal box screwdriver with a 7 mm (0.27 in) width across flats of the hexagonal head and a 10 mm (0.39 in) outer diameter is recommended.



6. To install the second expansion unit, peel off the label on the first expansion unit.

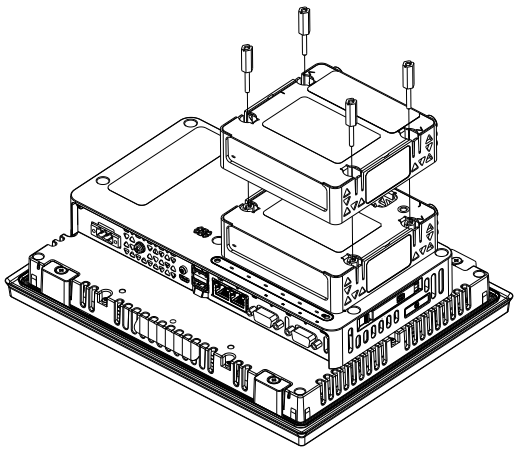


   F. Label

7. Connect the interface connector of the second expansion unit to the first expansion unit. Adjust so that you can pass the installation pins through the holes.

8. Affix it to the first expansion unit using the screws (4 pieces) included with the expansion unit. Tighten the screws with a hexagonal box screwdriver. The necessary torque is 0.5 N•m (4.4 lb-in).

   NOTE: A hexagonal box screwdriver with a 7 mm (0.27 in) width across flats of the hexagonal head and a 10 mm (0.39 in) outer diameter is recommended.



9. Install the main unit to the panel.

   NOTE:

   - For information on how to install the main unit on the panel, refer to "Installation to Panel" in GP6000 Series Advanced Model User Guide.
   - The DIN rail attachment included in the package is not used when installing the main unit on the panel.

Installing onto the Main Unit (DIN Mount Type)

This section describes how to install the expansion unit to the GP6000 Series Advanced Model (DIN mount type).

You can connect up to five expansion units to the GP6000 Series.

NOTE: Except for backup memory expansion unit, you cannot connect two expansion units of the same type. For details on the combinations when installing multiple expansion units, refer to System Design, page 14.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the equipment 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 the equipment and the power supply prior to installing or removing this 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 the equipment.
- Use only the specified voltage when operating the equipment.
- When using this product in Class I, Division 2, Groups A, B, C, and D hazardous locations, install this product in an enclosure that prevents the operator from touching the equipment without the use of tools.

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

⚠CAUTION

RISK OF INJURY, EQUIPMENT DAMAGE

Do not install or remove this product while the equipment is installed to the enclosure.

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

NOTICE

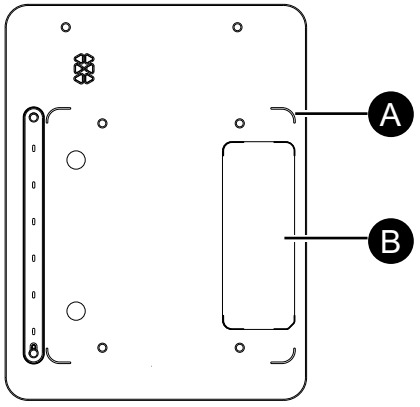
EQUIPMENT DAMAGE

Do not exert more torque than the amount specified.

Failure to follow these instructions can result in equipment damage.

1. Place the main unit with the right side facing up on a clean, flat, and level surface.
2. Touch the housing or ground connection (not the power supply) to discharge any electrostatic charge from your body.

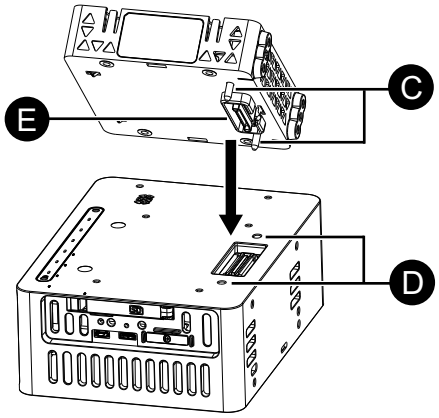
3. Peel off the label on the right side of the main unit.



A. Guideline

B. Label

4. Connect the expansion unit interface to the connector on the main unit. Place the expansion unit so that you can pass the installation pins through the holes.



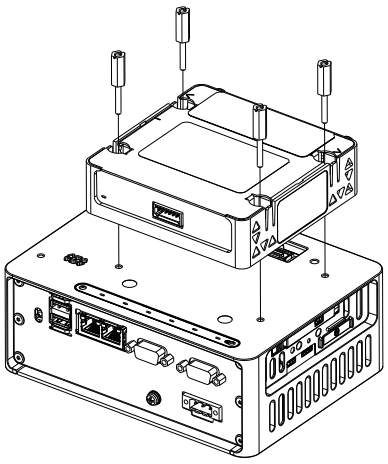
C. Installation pins

D. Holes

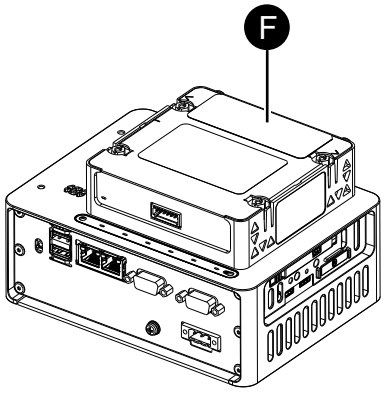
E. Expansion unit interface

5. Affix it to the main unit using the screws (4 pieces) included with the expansion unit. Tighten the screws with a hexagonal box screwdriver. The necessary torque is 0.5 N•m (4.4 lb-in).

   NOTE: A hexagonal box screwdriver with a 7 mm (0.27 in) width across flats of the hexagonal head and a 10 mm (0.39 in) outer diameter is recommended.



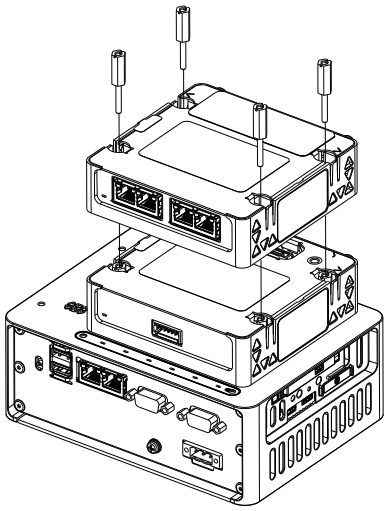
6. To install the second expansion unit, peel off the label on the first expansion unit.



F. Label

7. Connect the interface connector of the second expansion unit to the first expansion unit. Adjust so that you can pass the installation pins through the holes.
8. Affix it to the first expansion unit using the screws (4 pieces) included with the expansion unit. Tighten the screws with a hexagonal box screwdriver. The necessary torque is 0.5 N•m (4.4 lb-in).

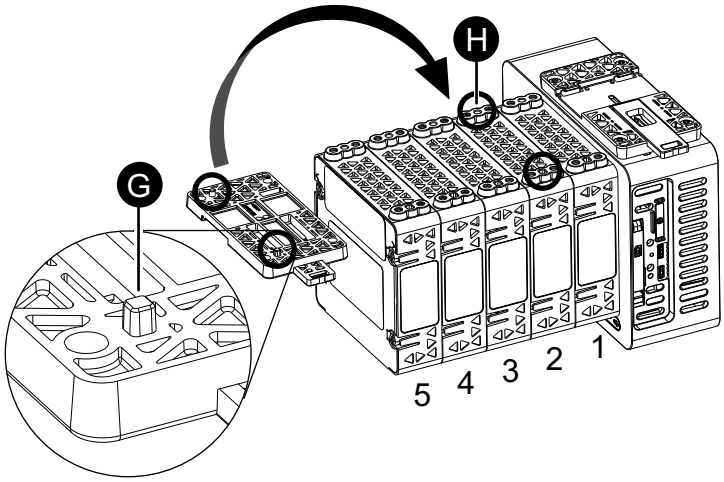
   NOTE: A hexagonal box screwdriver with a 7 mm (0.27 in) width across flats of the hexagonal head and a 10 mm (0.39 in) outer diameter is recommended.

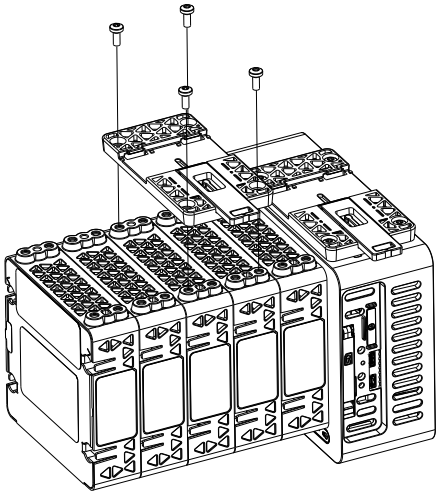


9. To install the third to fifth expansion units, repeat steps 6 to 8.
10. Install the DIN rail attachment to the main unit.

    NOTE: For installation instructions, refer to "Installing onto DIN Rail" in GP6000 Series Advanced Model User Guide.

11. When connecting three or more expansion units, use the supplied DIN rail attachment across the second and third expansion units, and then insert the two projections of the DIN rail attachment to the holes in the center of the back of the product. Then, use four included M4 screws and tighten them with a screwdriver to secure it. The necessary torque is 0.7 N•m (6.2 lb-in).





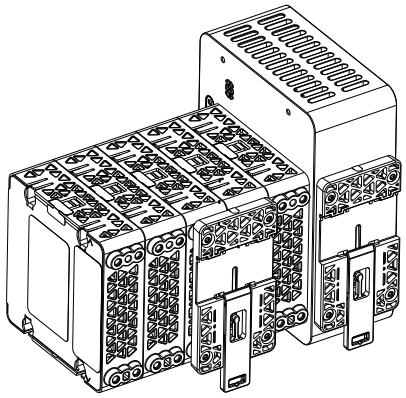
G. Protrusion

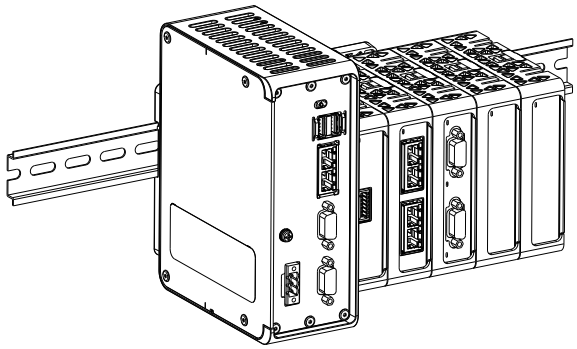
H. Holes

12. Install the main unit and expansion units on the DIN rail.

    NOTE:

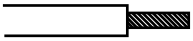
    - For information on how to install the equipment on the DIN rail, refer to "Installing onto DIN Rail" in GP6000 Series Advanced Model User Guide.
    - After installing the equipment to the DIN rail, we recommend securing them with commercially available DIN rail stop brackets.





Wiring of AUX Connector

This section describes how to connect external devices to the AUX interface expansion unit.

Cord cross sectional area	28...20 AWG
Wire type	Style 1015, Style 1007
Conductor length	8 mm (0.31 in) 
Recommended screwdriver*1	SZS 0.4 x 2.0 (1205202) manufactured by Phoenix Contact

*1 Point shape should have isolation properties meeting DIN 5264 and EN60900.

NOTE: Use copper wire rated for 75 °C (167 °F) or higher.

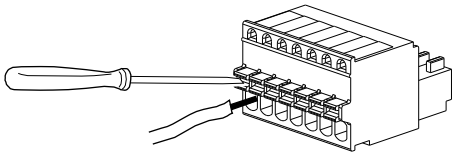
⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Make sure that there is no power supplied to the equipment before connecting or removing the cable.

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

1. Align the flat-head screwdriver with the groove of the spring release button, and while depressing the button insert the electric wire into the wire insertion slot (roundshaped hole).



2. Pull out the screwdriver from the release button. The wire insertion slot is then closed and the wire is held securely in place.
3. Insert the wired AUX connector into the AUX interface of this product.

Maintenance

What's in This Chapter

Regular Cleaning

Cleaning This Product

NOTICE
EQUIPMENT DAMAGE • Power off the equipment before cleaning it. • 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 28.
- Is the ambient air humidity within the specified range? Refer to Environmental Specifications, page 28.
- Is the operating atmosphere free of corrosive gasses?

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

Electrical Specifications

- Is the input voltage appropriate? Refer to Electrical Specifications, page 28.
- Are all cables connected properly? Are there any loose cables?
- Are all installation screws holding the unit securely?

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

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

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