

**Pro-face**

by Schneider Electric

# GP4000H Series Installation Guide



Please read the “Warning/Caution Information” on the attached sheet before using the product.

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## Important Information

### Notice

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, 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 Pro-face 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.

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

Be aware of the following:

- This product is not designed for outdoor use. UL certification obtained is for indoor use only.

## Model Numbers

Series	Model name	Model number*1	Description
GP4000H Series	GP-4311HT	PFXGP4311HTAD	Without any stop switch and a key switch
		PFXGP4311HTADER	With an emergency stop switch
		PFXGP4311HTADERK	With an emergency stop switch and a key switch
		PFXGP4311HTADEYK	With a stop switch and a key switch
		PFXGP4311HTADEGK	

\*1 Includes models with additional alphanumeric characters at the end of the model number.

## Global Code

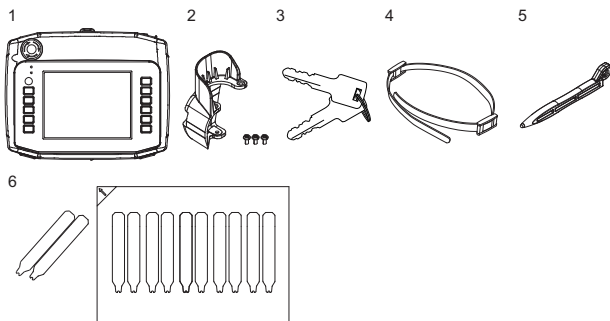
A global code is assigned to every Pro-face product as a universal model number.

For more information on product models and their matching global codes, please refer to the following URL.

<http://www.pro-face.com/trans/en/manual/1003.html>

## Package Contents

The following items are included in the package. Before using this product, please confirm that all items listed here are present.



- 1 GP4000H Series (this product): 1
- 2 Stop Switch Guard: 1, Attachment Screws: 3  
(Only models equipped with an emergency stop switch or a stop switch)
- 3 Key: 2 (Only models equipped with a key switch)
- 4 Hand Strap: 1
- 5 Touch Pen: 1 (attached to this product)
- 6 Function Switch Sheet (2 piece/set): 1 set (attached to this product), 5 sets  
(for replacement)
- 7 Connector Cover: 1 (attached to this product)
- 8 GP4000H Series Installation Guide (this guide): 1
- 9 Warning/Caution Information: 1
- 10 Emergency Stop Switch Instruction Sheet: 1

This product has been carefully packed, with special attention to quality. However, should you find anything damaged or missing, please contact your local distributor immediately.

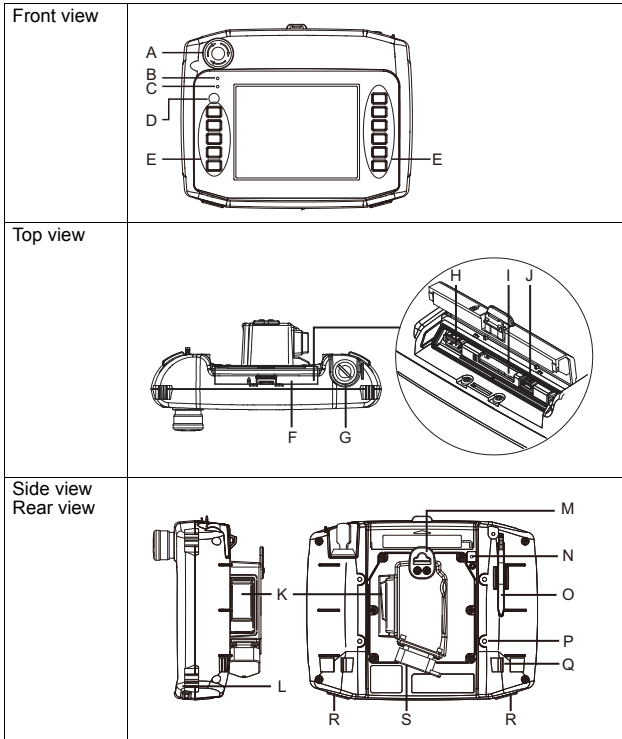
## About the Manual

In addition to this guide, for the detailed information on this product, refer to the GP4000H Series Hardware Manual. You can download the manual from our website at

<http://www.pro-face.com/trans/en/manual/1001.html>.

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

## Part Numbers and Functions



A: Emergency stop switch / stop switch (see page 16)

B: Status LED (POWER) (see page 11)

C: Operation LED (O.P.) (see page 11)

D: Operation switch

When the operation switch function is enabled in the screen editing software, accepts inputs from the touch panel or function keys only while the operation switch is pressed. For details, refer to manual of your screen editing software.



**E: Function switches**

Use your screen editing software to set up operations associated with switches. For details, refer to the manual of your screen editing software.

**F: Maintenance cover****G: Key switch (see page 16)****H: USB (Type A) interface****I: SD card slot****J: USB (mini-B) interface****K: 3-position enable switch (see page 16)****L: Neck strap attachment slot****M: Hanger**

A hanger for temporarily hanging this product on a wall. We recommend using the panel, hooks and screws defined below with the Hanger.

Panel	Panel thickness: 1 to 1.6 mm (0.04 to 0.06 in) <sup>*1</sup> Panel width: 14 mm (0.55 in) or more.
Hook	Diameter 7 mm (0.27 in) or less, rod-shaped or S-shaped hook.
Screw	M4 pan-head machine screw, which head diameter is 7 mm (0.27 in) or less.

<sup>\*1</sup> Even if the installation wall thickness is within the recommended range, depending on 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.

**N: SD card access LED (see page 11)****O: Touch pen****P: Wall adapter attachment slots**

By attaching a Wall Mount Adapter (sold separately), you can secure this product to a panel or commercially available arm.

**Q: Hand strap attachment slots****R: Insertion hole (with cover) for function switch sheet****S: Interface for direct-connect cable (with connector cover)**

## LED Indications

### Status LED

Color	Indicator	HMI operation	Logic program operation <sup>*1</sup>
Green	ON	Offline	–
		In operation	RUN
	Flashing	In operation	STOP
	LED fade <sup>*1</sup>	Backlight OFF (Standby Mode)	
Orange	Flashing	Software starting up.	
Red	ON	Power is turned ON.	
	Flashing	In operation	Major error
–	OFF	Power is turned OFF.	

\*1 Make sure your screen editing software supports the function.

### Operation LED

Color	Indicator	Description
Green	ON	Indicates the Operation Switch is ON.
–	OFF	Indicates the Operation Switch is OFF.

### SD card Access LED

Color	Indicator	Description
Green	ON	The SD Card is inserted.
–	OFF	The SD Card is not inserted or is not being accessed.

## Electrical Specifications

Power supply	Rated input voltage	24 Vdc	
	Input voltage limits	19.2...28.8 Vdc	
	Voltage drop	10 ms or less	
	Power consumption	Maximum power consumption	12 W or less
		When power is not supplied to external devices	8 W or less
In-rush current	35 A or less		
Voltage endurance	500 Vac, 20 mA for 1 minute (between charging and FG terminals)		
Insulation resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)		

## Environmental Specifications

Physical environment	Surrounding air temperature	0...40 °C (32...104 °F)
	Storage temperature	-20...60 °C (-4...140 °F)
	Surrounding air and storage humidity	10...90% RH (non-condensing, wet bulb temperature 39 °C [102.2 °F] or less)
	Dust	0.1 mg/m <sup>3</sup> (10 <sup>-7</sup> oz/ft <sup>3</sup> ) 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)

## Interface

Interface for direct-connect cable

Description		Signal name	
Key switch output	b-contact	KEY_NC	
	a-contact	KEY_NO	
3-position enable switch output	a-contact	ENB0A	
	a-contact	ENB0B	
	a-contact	ENB1A	
	a-contact	ENB1B	
Emergency stop switch / stop switch output	a-contact	EMG0A	
	a-contact	EMG0B	
	b-contact	EMG1A	
	b-contact	EMG1B	
	b-contact	EMG2A	
	b-contact	EMG2B	
Serial signal		(When the RS-232C is used) CD	(When the RS-422 or RS-485 is used) RDA
		RD(RXD)	RDB
		SD(TXD)	SDA
		RS(RTS)	SDB
		SG	SG
		ER(DTR)	ERA
		CI(RI)/VCC	ERB
		CS(CTS)	CSA
		DR(DSR)	CSB
Ethernet signal		TX+	
		TX-	
		RX+	
		RX-	
Power input		DC24V	
		0V	
Frame ground (common with SG)		FG	

## Connection with Peripheral Equipment

A direct-connect cable (sold separately) is required to connect to external devices for communication, power, or wiring of switches.

A conversion adapter (model number: AGP3000H-ADPCOM-01) is required to build a system with an external output interface, such as DOUT.

**NOTE:**

- Use SELV (Safety Extra-Low Voltage) circuit and LIM (Limited Energy circuit) for DC power.
- Use only the SELV (Safety Extra-Low Voltage) circuit to connect the COM, USB, and LAN interfaces.

### Accessories for connecting the external devices to this product directly

Prepare one of the following direct-connect cables (no connector). For cable specifications and wiring, refer to the corresponding cable installation guide or the GP4000H Series Hardware Manual.

Model number	Description
GP3000H-CBLH-10M	Hard-type cable. Heavy-duty type. Equipped with common mode filter.
GP3000H-CBLS-3M	Soft-type cable. Standard type. Equipped with common mode filter.
GP3000H-CBLS-5M	
GP3000H-CBLS-10M	

### Accessories for connecting Conversion Adapter to this product

Prepare the conversion adapter or one of the following direct-connect cables (with connector). For conversion adapter specifications and wiring, refer to the conversion adapter installation guide.

**NOTE:** UL certification has been achieved for this product with the conversion adapter, and with the following direct-connect cables.

Model number	Description
GP3000H-CBLHD-10M	Hard-type cable. Heavy-duty type.
GP3000H-CBLSD-3M	Soft-type cable. Standard type.
GP3000H-CBLSD-5M	
GP3000H-CBLSD-10M	

 **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.
- Always use a properly rated voltage sensing device to confirm power is off.
- 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 this product is DC powered before applying power.

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

 **DANGER****ELECTRIC SHOCK AND FIRE**

When using the SG terminal to connect an external device to this product:

- Verify that a short-circuit loop is not created when you set up the system.
- Connect the SG terminal to remote equipment when the external device is not isolated.
- Connect the SG terminal 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****EQUIPMENT DAMAGE**

- To prevent damage, do not allow the cable's connector to drop or hit against anything hard.
- Connect peripheral equipment first, and connect this product last. Otherwise, the RS-232C/RS-422/RS-485 circuit may become inoperable.
- Properly terminate unused wires to help avoid short-circuits by other signals or metal parts.
- After cable length adjustment, connect the shield on the cable to the FG terminal.

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

## Switch

### Emergency Stop Switch / Stop Switch

With this product incorporating an emergency stop switch or a stop switch, the switch activates the contact output, when the switch is enabled. To reset the stop status (lock status), pull the button forward, or turn the button in the direction indicated by the arrow.

When the switch is pressed, ON/OFF status are as follows:

Signal name	Sop reset	Stop
EMG0	0 (OFF)	1 (ON)
EMG1	1 (ON)	0 (OFF)
EMG2	1 (ON)	0 (OFF)

**NOTE:** When using a model without an emergency stop switch or without a stop switch, disconnect (NC) these signal lines.

### 3-Position Enable Switch

The 3-position enable switch has three positions: 1) Not pressed (released position), 2) Pressed to the intermediate position, 3) Pressed to the innermost position (fully closed).

When the switch is set at each position, ON/OFF status are as follows:

Signal name	Not pressed	Pressed to the intermediate position	Pressed to the innermost position
ENB0	0 (OFF)	1 (ON)	0 (OFF)
ENB1	0 (OFF)	1 (ON)	0 (OFF)

**NOTE:** The contact is OFF when the switch is pressed to the innermost position then returned to the not pressed position.

### Key Switch

Turning the key turns this product's power supply ON or OFF.

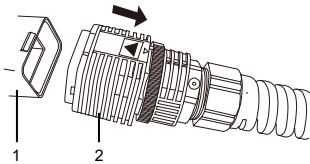
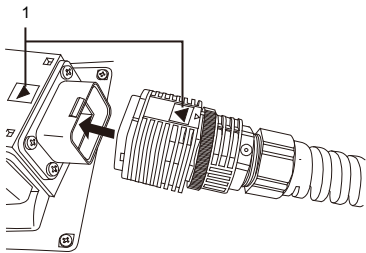
Signal name	Turn OFF this product	Turn ON this product
KEY_NO	0 (OFF)	1 (ON)
KEY_NC	1 (ON)	0 (OFF)

**NOTE:**

- When the key is not turned to ON or OFF, either the "KEY\_NO" or the "KEY\_NC" signal is ON. These signals will not simultaneously turn OFF.
- These signal lines must be disconnected (NC) when the model without a key switch is used.

## Attaching the Cable

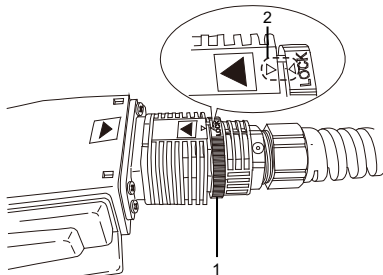
Connect the direct-connect cable to this product.

Step	Action
1	<p>Before connection, remove the cable's connector cap and this product's connector cover. To remove the cable's connector cap, pull out the cable by holding the cable connector.</p>  <p>1 Cable's connector cap 2 Cable connector</p> <p><b>NOTE:</b> To disconnect this cable from the connector cap, be sure to hold the cable connector and pull it out. If you hold other parts of this cable (lock ring, etc.), the cable cannot be disconnected.</p>
2	<p>As illustrated, line up the arrow on this product with the arrow on the cable. Insert the cable connector into the product connector until you hear it click.</p>  <p>1 Arrows</p> <p><b>NOTE:</b> Be sure to insert the cable connector as shown.</p>



## Connection

- 3 Turn the cable connector lock ring to lock the connector, so that the small arrow (for LOCK) on the lock ring is aligned with the small arrow on the cable connector.



- 1 Lock ring  
2 Small arrows

## Removing the Cable

Step	Action
1	<p>Turn the lock ring so that the small arrow on the lock ring is displaced from the small arrow on the cable connector. Then, pull out the cable by holding the cable connector.</p> <p>(1) Turn the lock ring (2) Pull out the cable</p> <p><b>NOTE:</b> To disconnect the cable, be sure to hold the cable connector and pull it out. If you hold other parts of the cable (lock ring, etc.), the cable cannot be disconnected.</p>

**NOTE:** Whenever the cable is removed, you cover the connector with a connector cover.

## Installation

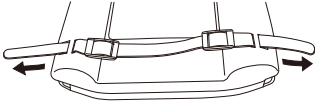
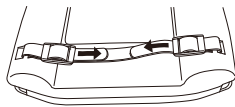
### ⚠ CAUTION

#### EQUIPMENT DAMAGE

- Use this product attached properly to a hand strap, neck strap (sold separately), or a wall hanging adapter (sold separately).
- Do not operate or wire this product while it is hung on the wall with the Hanger, attached to the rear.

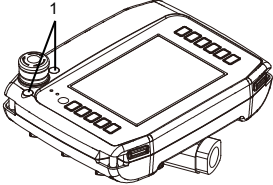
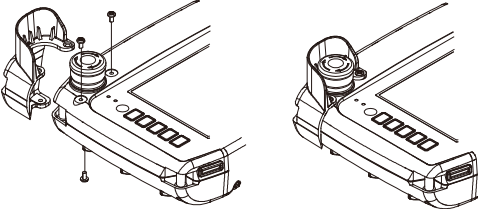
**Failure to follow these instructions can result in injury or equipment damage.**

## Attaching the Hand Strap

Step	Action
1	Insert the hand strap into the hand strap mounting slots of this product, as shown. 
2	Insert both ends of the hand strap into the buckles as shown, and fasten them securely. 

## Attaching the Stop Switch Guard

**NOTE:** When the stop switch guard is attached, the emergency stop switch or the stop switch is not conformable to safety standards (EC Machinery Directive IEC60204-1, etc.). If conforming to the safety standards is required, do not use the stop switch guard (included in this product).

Step	Action
1	Prepare the stop switch guard and 3 installation screws, included with this product.
2	Remove the stop switch guard hole covers at two places beside the emergency stop switch (or the stop switch). <div style="text-align: center;">  <p>1 Stop switch guard hole covers</p> </div>
3	Align the three screw holes of the stop switch guard with the screw holes of this product. And fasten the two points in the front, and the one point in the rear of this product with screws. The necessary torque is 0.5 N•m (4.4 lb-in). <div style="text-align: center;">  </div>

## NOTICE

### BROKEN ENCLOSURE

Do not exert more than 0.5 N•m (4.4 lb-in) of torque when tightening the screws.

**Failure to follow these instructions can result in equipment damage.**

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## Cleaning this product

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### ***NOTICE***

#### **EQUIPMENT DAMAGE**

- Power off this product before cleaning it.
- Do not use hard or pointed objects to operate the touch panel as you may damage the panel surface.
- 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, soak a soft cloth in water with a neutral detergent, wring the cloth tightly and wipe this product.

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## Standards

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For information on certifications and standards, such as certified models and certificates, see the product markings or the following URL:

<http://www.pro-face.com/trans/en/manual/1002.html>

### Inquiry

Do you have any questions about difficulties with your unit?

Please access our site any time that you need help with a solution.


[\*\*http://www.pro-face.com/trans/en/manual/1001.html\*\*](http://www.pro-face.com/trans/en/manual/1001.html)

### Note

Please be aware that Digital Electronics Corporation shall not be held liable by the user for any damages, losses, or third party claims arising from the uses of this product.

# 中国 RoHS 相关资料

(本资料是中国 RoHS 的必备资料。)  
 (この情報は、中国 RoHS に対して必要な情報です。)  
 (This information is essential for China RoHS.)

 部件名称 (Parts)	有毒有害物质或元素 (Toxic and Hazardous Substances or Elements)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6+)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
电子线路板 (Electronic board)	×	○	○	○	○	○
显示器 (LCD)	×	○	○	○	○	○
底座 & 罩盖 (Base & Cover)	○	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。

This table is made according to SJ/T 11364.

○：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 标准规定的限量要求以下。  
 Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the GB/T 26572 standard.

×：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 标准规定的限量要求。  
 Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the GB/T 26572 standard.

(企业可在此处，根据实际情况对上表中打“X”的技术原因进行进一步说明。)

(Corporate may provide further technical explanation to the 'X' in the table based on their own needs.)