

Pro-face®

PS-3600G Series
Installation Guide

Essential Safety Precautions



■ System Design

- Do not create PS-G touch panel switches that could possibly endanger the safety of personnel or equipment. A malfunction of the PS-G unit, its I/O unit(s), cable(s), or other related equipment can cause unexpected output signals, leading to a serious accident. Be sure to design all important machine operation switches so they are operated via a separate control system, and not via the PS-G.
- Do not create PS-G touch panel switches to control machine safety operations, such as an emergency stop switch. Install these switches as separate hardware switches, otherwise severe bodily injury or equipment damage can occur.
- Be sure to design your system so that a communication fault between the PS-G and its host controller will not cause equipment to malfunction. This is to prevent any possibility of bodily injury or equipment damage.
- Do not use the PS-G as a warning device for critical alarms that can cause serious operator injury, machine damage or can halt system operation. Critical alarm indicators and their control/activator units must be designed using stand-alone hardware and/or mechanical interlocks.
- Do not use the PS-G with aircraft control devices, aerospace equipment, central trunk data transmission (communication) devices, nuclear power control devices, or medical life support equipment, due to these devices' inherent requirements of extremely high levels of safety and reliability.
- Be sure to use redundant and/or failsafe system designs to ensure adequate levels of system reliability and safety when using the PS-G with transportation vehicles (trains, cars and ships), disaster and crime prevention devices, various types of safety equipment, non-life support related medical devices, and other similar equipment.
- After the PS-G unit's backlight burns out the touch panel is still active, unlike the PS-G unit's "Standby Mode". If the operator fails to notice that the backlight is burned out and touches the panel, a potentially dangerous machine operation error can occur. Therefore, do not create PS-G unit touch panel switches that may cause injury and/or equipment damage.
If your PS-G unit's backlight suddenly turns OFF, use the following steps to determine if the backlight is actually burned out.
 - 1) If the PS-G unit's "Backlight Control" is not set and the screen has gone blank, your backlight is burned out.
 - 2) If the PS-G unit's "Backlight Control" is set to Standby Mode and the screen has gone blank, and touching the screen or performing another input operation does not cause the display to reappear, your backlight is burned out.

■ Handling

- Do not modify the PS-G unit. Doing so may cause a fire or an electric shock.
- Do not operate the PS-G in an environment where flammable gases are present, since it may cause an explosion.

■ Wiring

- To prevent an electric shock be sure to disconnect your PS-G unit's power cord from the power supply before wiring the PS-G.
- Do not use voltage beyond the PS-G unit's specified range. Doing so may cause a fire or an electric shock.

■ Maintenance

- Do not connect or disconnect Host and PS-G unit communication cables while the PS-G is turned ON.
- The PS-G uses a lithium battery for backing up its internal clock data and the battery may explode if it is replaced incorrectly. When replacement is required, use a Pro-face-designated replacement or an equivalent product.

CAUTION

■ Installation

- Be sure all cable connectors are securely attached to the PS-G unit. A loose connection may cause incorrect input or output signals.

■ Wiring

- Be sure to ground the PS-G unit's FG wire separately from other equipment FG lines. Also, be sure to use a grounding resistance of 100Ω or less and a 2mm^2 [0.0062inch^2] or thicker wire, or your country's applicable standard. Otherwise, electric shock or malfunctions may result.
- Be sure to use only the designated torque to tighten the PS-G unit's terminal block screws. If these screws are not tightened firmly, it may cause a short-circuit, fire or incorrect unit operation.
- Be sure that metal particles and wiring debris do not fall inside the PS-G unit. They can cause a fire, malfunction or incorrect unit operation.

■ Maintenance

- Do not reset or turn the PS-G OFF, or insert or remove the CF Card while the PS-G unit's CF Card is being accessed. Otherwise, CF Card internal data may be damaged or lost.

■ Unit Disposal

- When the product is disposed of, it should be done so according to your country's regulations for similar types of industrial waste.

■ General Safety Precautions

- Do not press on the PS-G unit's display with excessive force or with a hard object, since it can damage the display. Also, do not press on the touch panel with a pointed object, such as the tip of a mechanical pencil or a screwdriver, since doing so can damage the touch panel.
- Do not install the PS-G where the ambient temperature exceeds the specified range. Doing so may cause a unit malfunction.
- To prevent abnormally high temperatures from occurring inside the PS-G, do not restrict or block the PS-G unit's rear-face ventilation slots.
- Do not operate the PS-G in areas where large, sudden temperature changes can occur. These changes can cause condensation to form inside the PS-G, possibly causing it to malfunction.
- Do not allow water, liquids or metal fragments to enter inside the PS-G unit's case, since they can cause either a malfunction or an electric shock. The allowable pollution degree is 2.
- Do not operate or store the PS-G in locations where it can be exposed to direct sunlight, high temperatures, excessive dust, moisture or vibration.
- Do not operate or store the PS-G where chemicals evaporate, or where chemicals are present in the air.

Corrosive chemicals : Acids, alkalines, liquids containing salt

Flammable chemicals : Organic Solvents

- Do not use paint thinner or organic solvents to remove dirt or oil from the PS-G unit's surface. Instead, use a soft cloth moistened with a diluted neutral detergent.
- Do not use or store the PS-G in areas with direct sunlight, since the sun's ultraviolet rays may cause the LCD's quality to deteriorate.
- Do not store the PS-G in an area where the temperature is lower than that recommended in the PS-G unit's specifications. Doing so may cause the LCD display's liquid to congeal, which can damage the LCD. Also, if the storage area's temperature becomes higher than the specified level, the LCD's liquid may become isotropic, causing irreversible damage to the LCD. Therefore, only store the PS-G in areas where temperatures are within the PS-G unit's specifications.
- After turning OFF the PS-G, be sure to wait a few seconds before turning it ON again. The PS-G may not operate correctly if it is restarted too quickly.
- Due to the possibility of unexpected accidents, be sure to back up the PS-G unit's data regularly.

■ LCD Panel Usage Precautions

- The LCD panel's liquid contains an irritant. If the panel is damaged and any of this liquid contacts 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.
- The PS-G unit's LCD screen may show unevenness in the brightness of certain images or at some contrast settings. This is an LCD characteristic and not a product defect.
- The PS-G unit's LCD screen pixels may contain minute black and white-colored spots. This is an LCD characteristic and not a product defect.
- The color displayed on the PS-G unit's LCD screen may appear different when seen from outside the specified viewing angle. This is an LCD characteristic and not a product defect.
- When the same image is displayed on the PS-G unit's screen for a long period, an afterimage may appear when the image is changed. If this happens, turn off the PS-G, wait 10 seconds and then restart the unit. This is an LCD characteristic and not a product defect.
- To prevent an afterimage:
 - * Set the PS-G unit's display OFF feature when you plan to display the same screen image for a long period of time.
 - * Change the screen image periodically and try to not display the same image for a long period of time.

PS-3600G Series Model Names

The term "PS-3600G" Series refers to the following PS-G model numbers:

Series	Model	Description	Power Input Type
PS-3600G	PS3600G-T41	Windows®CE 5.0 (Japanese/English version) is preinstalled as the operating system. Input voltage AC100/240V.	AC type
	PS3600G-T41-24V	Windows®CE 5.0 (Japanese/English version) is preinstalled as the operating system. Input voltage DC24V.	DC type

UL/c-UL Approval

PS3600G-T41 is a UL/c-UL recognized component (UL File No. 171486).

Product Model No.	UL Registration Model No.
PS3600G-T41	3384001-11

This product conforms to the following standards:

- (A) UL60950-1 Information Technology Equipment-Safety-Part1
(B) CAN/CSA-C22.2 No.60950-1 (c-UL recognition) Information Technology Equipment-Safety-Part1

PS3600G-T41-24V is a UL/c-UL listed product (UL File No. 220851).

Product Model No.	UL Registration Model No.
PS3600G-T41-24V	3384001-12

This product conforms to the following standards:

- (A) UL508 Industrial Control Equipment
(B) CSA-C22.2 No.14-95 (c-UL recognition) Industrial Control Equipment

<Cautions>

Be aware of the following items when building the PS-G into an end-use product:

- The PS-G unit's rear face is not approved as an enclosure. When building the PS-G unit into an end-use product, be sure to use an enclosure that satisfies standards as the end-use product's overall enclosure.
- The PS-G unit must be used indoors only.
- Install and operate the PS-G with its front panel facing outwards.
- If the PS-G is mounted so as to cool itself naturally, be sure to install it in a vertical panel. Also, it's recommended that the PS-G should be mounted at least 100 mm away from any other adjacent structures or machine parts. The temperature must be checked on the final product in which the PS-G is installed.

CE Marking

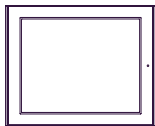
PS3600G-T41 is CE marked product that conforms to EMC directives and the Low-voltage directive EN55011 Class A, EN61000-6-2 and EN60950. PS3600G-T41-24V is CE marked, EMC compliant products. PS3600G-T41-24V also conforms to EN55011 Class A, EN61000-6-2 directives.

For detailed CE marking information, please contact your local PS-G distributor.

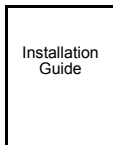
Package Contents

The following items are included in the PS-G unit's package. Before using the PS-G, please check that all items listed here are present.

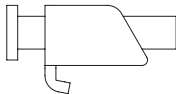
PS-G Unit (1)



Installation Guide (1)



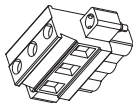
Installation Fasteners (4/set)



Installation Gasket (1)
(Attached to the PS-G unit)



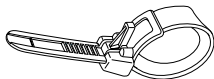
Power Plug (1)
(Attached to the PS-G unit, PS3600G-T41-24V only)



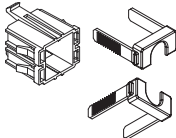
CD-ROM(1)



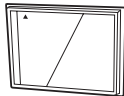
USB Cable Clamp (1)



USB Holder 1 set
(One holder and two covers)



CF Card (1)
(Attached to the PS-G unit)



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

About the Manual

The PS-G unit's CD-ROM contains the following PDF manual files.

- PS-3600G Series User Manual (ps3600ge.pdf)

Reading a PDF file requires installation of the Adobe Corporation's Adobe® Reader®.

■ Adobe Reader 6.0 Installation

To install the Adobe Reader software, follow the steps given below.

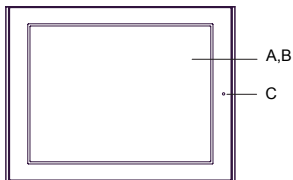
- (1) This software, in the form of a self-extracting file, is located in this CD-ROM in the folder titled [reader\Eng\AdbRdr60_enu_full.exe], and double-click on the file icon to begin the Reader installation.
- (2) After installation begins, follow the instructions given.

■ Viewing the PDF manual

To view the PDF manual contained in this CD-ROM, follow the steps given below.

- (1) Use the Explorer software to locate the file [manual\Eng\ps3600ge.pdf].
- (2) Double-click on the PDF file's icon. Adobe Reader will automatically start and the first page of the PDF manual will appear.

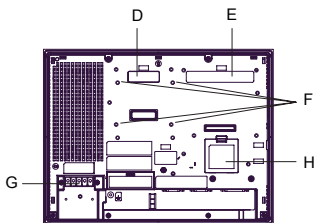
Part Names



Front
(Common to PS3600G-T41
and PS3600G-T41-24V)

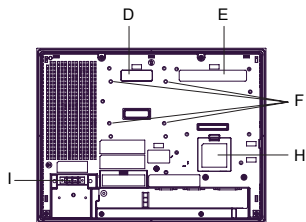
- A: Display
- B: Touch Panel
- C: Status LED

LED	PS-G Status
Green (lit)	Normal operation (power is ON).
Orange (lit)	Indicates the RAS function.
Red (lit)	System error.
Green (blinking)	When accessing CF card.
Not lit	Power is OFF.



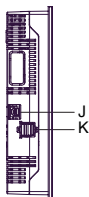
Back
(PS3600G-T41)

- D: Expansion Unit Interface 1 (EXT1)
- E: Expansion Unit Interface 2 (EXT2)
- F: Arm Attachment Screw Holes



Back
(PS3600G-T41-24V)

- G: Power Input Terminal Block
- H: Backup Battery Cover
- I: Power Plug Connector



Left Side
(Common to PS3600G-T41
and PS3600G-T41-24V)

J: USB Client Interface (TOOL)

K: USB Host Interface (USB)



Right Side
(Common to PS3600G-T41
and PS3600G-T41-24V)



Bottom
(PS3600G-T41)

L: RAS Interface (RAS)

M: Serial Interface (COM2)

N: Serial Interface (COM1)

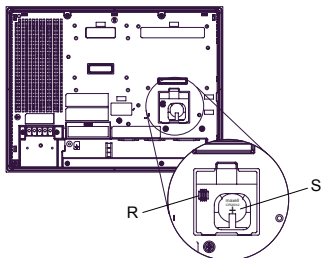
O: Ethernet Interface (LAN)

P: Speaker output interface

Q: CF Card Cover



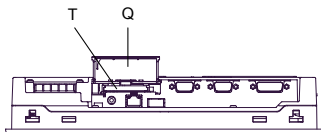
Bottom
(PS3600G-T41-24V)



R: Dip Switches

S: Backup Battery

With Backup Battery Cover open
(Common to PS3600G-T41
and PS3600G-T41-24V)



T: CF Card Interface

With Backup Battery Cover open
(Common to PS3600G-T41
and PS3600G-T41-24V)

Specifications

■ Electrical

		PS3600G-T41	PS3600G-T41-24V
Power Supply	Input Voltage	AC100V to 240V	DC24V
	Rated Voltage	AC85V to 264V	DC19.2V to DC28.8V
	Rated Frequency	50/60Hz	-
	Allowable Voltage Drop	1cycle (max.)	10ms (max.)
	Power Consumption	72VA (max.)	32W (max.)
	In-Rush Current	60A (max.) (Excluding the input surge current (0.2 ms max.) to the built-in noise filter.)	30A (max.)
Voltage Endurance		AC1500V 20mA for 1 minute	AC1000V 20mA for 1 minute
Insulation Resistance		DC500V 10MΩ (min.)	

■ Environmental

Physical	Ambient Operating Temperature	0°C to 50°C
	Storage Temperature	-10°C to +60°C
	Ambient Humidity	10%RH to 90%RH (Wet bulb temperature: 39°C max. - no condensation.)
	Storage Humidity	10%RH to 90%RH (Wet bulb temperature: 39°C max. - no condensation.)
	Dust	0.1mg/m ³ max. (non-conductive levels)
	Pollution Degree	Pollution Degree 2
	Atmosphere	Free of corrosive gases
Mechanical	Vibration Resistance	IEC61131-2(JIS B 3502) compliant 5Hz to 9Hz Single amplitude 3.5mm 9Hz to 150Hz Fixed acceleration 9.8m/s ² X,Y,Z directions for 10 times (100min.)
Electrical	Noise Immunity (via noise simulator)	Noise Voltage: 1,500Vp-p Pulse Duration: 50ns, 500ns, 1µs Rise Time: 1ns
	Electrostatic Discharge Immunity	6kV (complies with EN 61000-4-2 Level 3)

■ Structural

Installation	Grounding	Grounding resistance of 100Ω, 2mm ² [0.0062inch ²] or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
	Structure	Rating ^{*1} : Equivalent to IP65f Installation method: Panel/VESA Arm
	Cooling Method	Natural air circulation
	Weight	Approx. 3.5kg [7.7lb.] (unit only)
	External Dimensions	W313mm [12.32in.] x H239mm [9.41in.] x D56mm [2.20in.]

*1 The front face of the PS-G unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the PS-G unit's level of resistance is equivalent to these standards, oils that should have no effect on the PS-G can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the PS-G's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the PS-G and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the PS-G be sure to confirm the type of conditions that will be present in the PS-G's operating environment.

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

Interfaces

Serial Interfaces

IMPORTANT

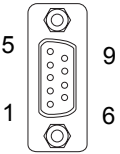
- The PS-G unit's serial port is not isolated. When the host (PLC) unit is also not isolated, be sure to connect the #5 SG (Signal Ground) terminal to reduce the risk of damaging the RS-232C circuit.
- Inside the PS-G unit, the SG (Signal Ground) and FG (Frame Ground) terminals are connected.
- When connecting an external device to the PS-G using the SG terminal, be sure to check that no short-circuit loop is created when you setup the system.

◆ COM1

This interface is used to connect an RS-232C cable. A D-sub 9-pin plug connector is used.

PS-G Connector	XM2C-0942-502LX <OMRON Co.>
Stacking Metal Fittings	#4-40 inch screws

Recommended cable Connector	XM2D-0901 <OMRON Co.>
Recommended cable Cover	XM2S-0913 <OMRON Co.>
Recommended Jack Screw	XM2Z-0073 <OMRON Co.>

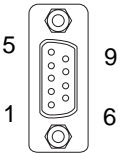
Pin Arrangement	Pin No.	RS-232C		
		Signal Name	Direction	Meaning
	1	CD	Input	Carrier Detect
	2	RD(RXD)	Input	Receive Data
	3	SD(TXD)	Output	Send Data
	4	ER(DTR)	Output	Data Terminal Ready
	5	SG	-	Signal Ground
	6	DR(DSR)	Input	Data Set Ready
	7	RS(RTS)	Output	Request to Send
	8	CS(CTS)	Input	Send Possible
	9	CI(RI)	Input	Called status display
	Shell	FG	-	Frame Ground (Common with SG)

◆ COM2

This interface is used to connect an RS-232C cable. A D-sub 9-pin plug connector is used.

PS-G Connector	XM2C-0942-502LX <OMRON Co.>
Stacking Metal Fittings	#4-40 inch screws

Recommended cable Connector	XM2D-0901 <OMRON Co.>
Recommended cable Cover	XM2S-0913 <OMRON Co.>
Recommended Jack Screw	XM2Z-0073 <OMRON Co.>

Pin Arrangement	Pin No.	RS-232C		
		Signal Name	Direction	Meaning
	1	NC	Input	Not Connected
	2	RD(RXD)	Input	Receive Data
	3	SD(TXD)	Output	Send Data
	4	NC	Output	Not Connected
	5	SG	-	Signal Ground
	6	NC	Input	Not Connected
	7	RS(RTS)	Output	Request to Send
	8	CS(CTS)	Input	Send Possible
	9	VCC	-	+5V ± 5% Output 0.25A ^{*1}
	Shell	FG	-	Frame Ground (Common with SG)

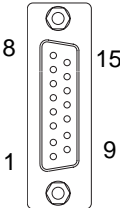
- *1 The VCC output is not protected against overcurrent.
To prevent damage or a unit malfunction, use only the rated current.

■ RAS Interface

RAS Interface. A D-sub 15-pin plug connector is used.

PS-G Connector	XM2C-1542-502L <OMRON Co.>
Stacking Metal Fittings	M2.6 (metric screw thread) screws

Recommended cable Connector	XM2D-1501 <OMRON Co.>
Recommended cable Cover	XM2S-1511 <OMRON Co.>

Pin Arrangement	Pin No.	Signal Name	Meaning
	1	ALARM-OUT (-)	Alarm Output (-)
	2	DOUT (-)	General-purpose Output (-)
	3	RESET-IN (-)	Remote Reset Input (-)
	4	DIN (-)	General-purpose Input (-)
	5	ALARM-OUT (+)	Alarm Output (+)
	6	DOUT0 (+)	General-purpose Output 0 (+)
	7	DOUT1 (+)	General-purpose Output 1 (+)
	8	DOUT2 (+)	General-purpose Output 2 (+)
	9	DOUT3 (+)	General-purpose Output 3 (+)
	10	RESET-IN (+)	Remote Reset Input (+)
	11	DIN0 (+)	General-purpose Input 0(+)
	12	DIN1 (+)	General-purpose Input 1 (+)
	13	DIN2 (+)	General-purpose Input 2 (+)
	14	DIN3 (+)	General-purpose Input 3 (+)
	15	NC	No Connection

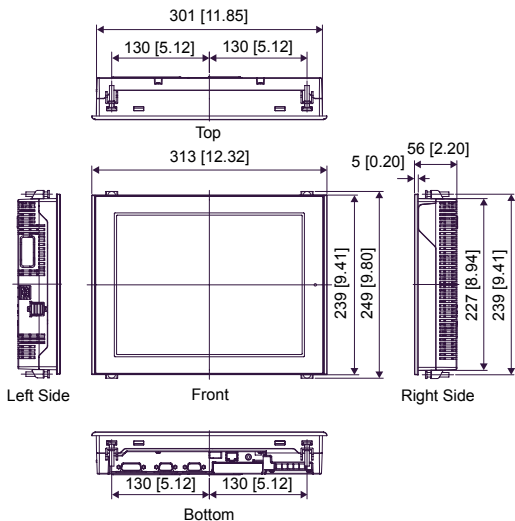
■ Ethernet Interface

The Ethernet transmission interface conforms to IEEE802.3u (10BASE-T/100BASE-TX). An RJ-45 type modular jack connector (8-pole) is used.

- **CF Card Interface**
For inserting a CF Card.
- **USB Host Interface**
Conforms to USB1.1. (TYPE-A conn.) Connect a USB connectable device here.
- **USB Client Interface**
Conforms to USB1.1. (TYPE-B conn.) Use this interface to connect to a personal computer through ActiveSync.
- **Expansion Unit Interface 1**
Used to connect an S-GMU bus-compliant Expansion Unit.
- **Expansion Unit Interface 2**
Used to connect a PCMCIA Card Adaptor Unit (PSG-PCM00).
- **Speaker Output Interface**
Used to connect a speaker. This interface uses a mini-pin jack-type connector.

Dimensions (With Installation Fastener)

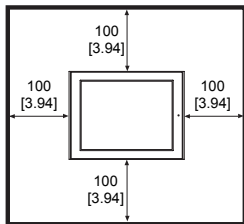
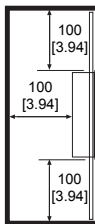
Unit: mm [in.]



Installing

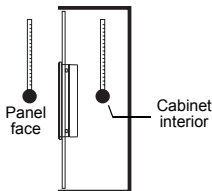
1 Installation Requirements

- For easier maintenance, operation, and improved ventilation, be sure to install the PS-G at least 100 mm [3.94 in.] away from adjacent structures and other equipment.

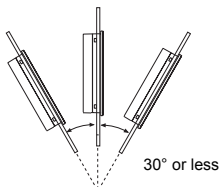


Unit: mm [in.]

- Be sure that the ambient operation temperature and the ambient humidity are within their designated ranges. (Ambient operation temperature: 0 to 50°C, Ambient humidity: 10 to 90%RH, Wet bulb temperature: 39°C max.) When installing the PS-G on the panel of a cabinet or enclosure, "Ambient operation temperature" indicates both the panel face and cabinet or enclosure's internal temperature.



- Be sure that heat from surrounding equipment does not cause the PS-G to exceed its standard operating temperature.
- When installing the PS-G in a slanted panel, the panel face should not incline more than 30°.

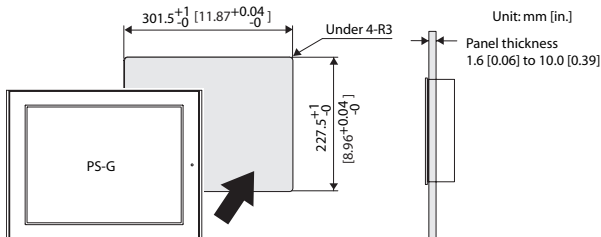


- When installing the PS-G in a slanted panel, and the panel face inclines more than 30°, the ambient temperature must not exceed 40°C. You may need to use forced air cooling (fan, A/C) to ensure the ambient operating temperature is 40°C or below.
- The PS-G Series unit does not support longitudinal mounting.

2 Installing the PS-G unit in a Panel

The PS-G unit is designed to be installed in a Panel. Refer to the following procedure to mount the PS-G unit.

- (1) Create a Panel Cut on the Panel surface as shown in the panel cut dimensions illustration.



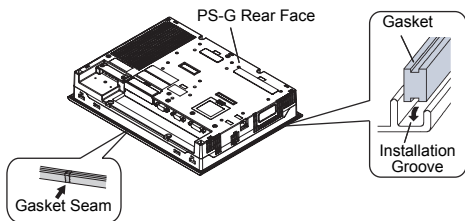
- (2) Confirm that the installation gasket is attached to the PS-G unit and then place the PS-G unit into the Panel from the front.

IMPORTANT

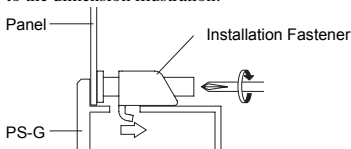
- It is strongly recommended that you use the installation gasket, since it absorbs vibration in addition to repelling water.

SEE →

For the procedure for replacing the installation gasket, refer to “PS-3600G Series User Manual”.

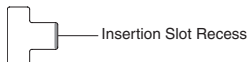


- (3) Insert the hook of the installation fastener into the insertion slot of the PS-G unit and tighten the back of the installation fastener using a screwdriver. For the position of the insertion slot, refer to the dimension illustration.



IMPORTANT

- Be sure to insert installation fasteners in the recessed portion of a installation fasteners hole. (Refer to the following figure.) If the fasteners are not correctly attached, the PS-G unit may shift or fall out of the panel.



- Tightening the screws with too much force can damage the PS-G unit's plastic case.
- The torque required to tighten these screws is 0.5 N•m.

NOTE

- The installation fastener's model number is CA3-ATFALL-01.

3 Mounting a VESA Arm

The PS-G unit can be mounted on a stand or wall by attaching a commercially available arm or wall-mounting adapter to the arm mounting hole (VESA-75 mm [2.95 in.] specification) on the rear face of the PS-G unit.

Secure the arm or adapter with M4 screws (maximum length: 6 mm [0.24 in.]). The tightening torque is 0.7 to 0.8 N•m. For the attaching procedure, refer to the instruction manual provided with the arm or wall-mounting adapter.

NOTE

- If the VESA arm is installed with the PCMCIA card adapter unit (PSG-PCM00) attached to the PS-G unit, the inclination of the display face might be limited depends on the form of the VESA arm.

Wiring

⚠ WARNING

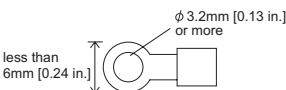
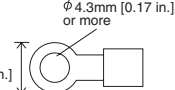
■ Wiring

- To avoid an electric shock, prior to connecting the PS-G unit's power cord terminals to the power terminal block, confirm that the PS-G unit's power supply is completely turned OFF, via a breaker, or similar unit.
- The PS3600G-T41 unit's are designed to use AC100 to 240 V input. The PS3600G-T41-24V is designed to use only DC24 V. Supplying a power voltage other than that specified will damage the power source and the PS-G unit.
- When the FG terminal is connected, be sure the wire is grounded.

1 Wiring for the PS3600G-T41 unit (AC100 to 240V)

Connect the power cord to the Power Input Terminal Block on the Rear of the PS-G unit.

■ Power Cord Specifications

	AC Power Cord	Grounding Wire
Power Cord	Double-insulated Wire 1.25 to 2.0 mm ² [0.0024 to 0.0062 inch ²] (16 to 14 AWG)	1.25 to 2.0 mm ² [0.0024 to 0.0062 inch ²] (16 to 14 AWG)
Recommended Ring Terminal ^{*1}	V2-MS3 compatible (J.S.T. Mfg. Co., Ltd)  less than 6mm [0.24 in.]	V2-P4 compatible (J.S.T. Mfg. Co., Ltd)  less than 7mm [0.28 in.]

*1 In order to prevent a short circuit caused by loose screws, make sure to use a crimp-type terminal with insulating sleeve.

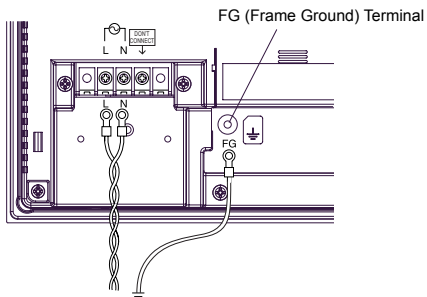
■ Connecting the Power Cord

When connecting the AC type power cord, be sure to follow the procedures given below.

- (1) Be sure that the PS-G's power cord is not plugged in to the power supply.
- (2) Remove the Terminal Strip's clear plastic cover.
- (3) Remove the screws from the two (2) terminals (L,N) and FG (Frame Ground) Terminal, position the Ring Terminals and reattach the screws. (Check each wire to make sure the connections are correct.)

IMPORTANT

- The torque required to tighten these screws are as follows:
Terminal Block: 0.5 to 0.6N•m
FG (Frame Ground) Terminal: 0.6 to 0.7N•m

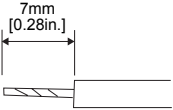


- (4) Reattach the Terminal Strip's clear plastic cover.

2 Wiring for the PS3600G-T41-24V unit (DC24V)

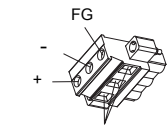
Connect the power cord to the Power Connector using the Power Plug on the Rear of the PS-G unit.

■ Power Cord Specifications

Power Cord Diameter	0.2 to 2.5mm ² [0.0001 to 0.0097inch ²] (24 to 12 AWG)
Conductor Type	Simple or Twisted Wire *1
Conductor Length	

*1 If the Conductor's end (individual) wires are not twisted correctly, the end wires may either short against each other, or against an electrode.

■ Power Plug Specifications

 <p>Power Cord Insertion holes</p>	+	24V
	-	0V
	FG	Grounding Terminal connected to the PS-G.

NOTE

- Be sure to twist the power cords, from the closer to the power plug.
- The power supply plug GMVSTBW2, 5/3-STF-7, 62 is made by Phoenix Contact.

■ Wiring

When connecting the Power Cord, use the following items when performing wiring. (Items are made by Phoenix Contact.)

Recommended Driver	SZF 1-0.6x3.5 (1204517)
Recommended Pin Terminals	AI 0.25-6BU (3201291) AI 0.34-8TQ (3200865) AI 0.5-8WH (3200014) AI 0.75-8GY (3200519) AI 1-8RD (3200030) AI 1.5-8BK (3200043) AI 2.5-8BU (3200522)
Recommended Pin Terminal Crimp Tool	CRIMPFOX ZA3 (1201882)

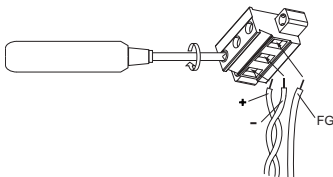
■ Connecting the Power Cord

When connecting the DC type power cord, be sure to follow the procedures given below.

- (1) Confirm that the power cord is unplugged from the power supply.
- (2) Loosen the three screws in the center of the Power Plug.
- (3) Strip the membrane of the power cord, twist the wire ends, and connect them to the Power Plug.
- (4) Fix it with screws.

IMPORTANT

- The torque required to tighten these screws is 0.5 to 0.6N•m.
- Do not solder the cable connection.



3 Power Supply Cautions

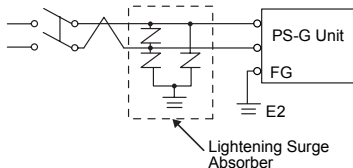
- When supplying power to the PS-G unit, please separate the input/output and operation unit lines.
- To increase the noise resistance quality of the power cord, simply twist each power wire before attaching the Ring Terminal.
- The power supply cable must not be bundled or positioned close to main circuit lines (high voltage, high current), or input/output signal lines.
- To avoid excess noise, make the power cord as short as possible.
- If the supplied voltage exceeds the PS-G unit's range, connect a constant voltage transformer.
- For between the line and ground, select a power supply that is low in noise. If there is an excess amount of noise, connect a noise reducing transformer.

IMPORTANT

- Use constant voltage and insulating transformers with capacities exceeding 100VA.
- Must be used with a Class 2 power supply. (DC24 V)
- Connect a lightening surge absorber, as shown in the diagram, to deal with power surges.

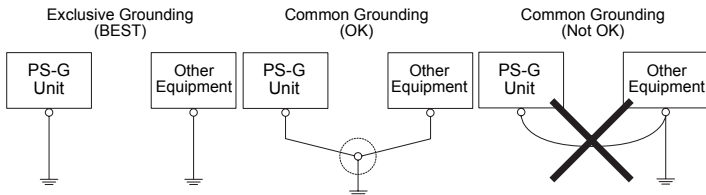
IMPORTANT

- Be sure to ground the surge absorber (E1) separately from the PS-G unit (E2).
- Select a surge absorber that has a maximum circuit voltage greater than that of the peak voltage of the power supply.



4 Grounding Cautions

- Be sure to create an exclusive ground for the power cord's FG terminal. Check that the grounding resistance is less than $100\ \Omega$.
- Inside the PS-G unit, the SG (Signal Ground) and FG (Frame Ground) terminals are connected. When connecting an external device to the PS-G using the SG terminal, be sure to check that no short-circuit loop is created when you setup the system.
- The grounding wire should have a cross sectional area greater than 2mm^2 [0.0062inch^2]. Create the connection point as close to the PS-G unit as possible, 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.



5 Input/Output Signal Line Cautions

- Input and output signal lines must be separated from the power control cables for operating circuits.
- If this is not possible, use a shielded cable and connect the shield to the PS-G unit's frame.

Peripheral Devices Installation

1 USB Cable Clamp Attachment/Removal

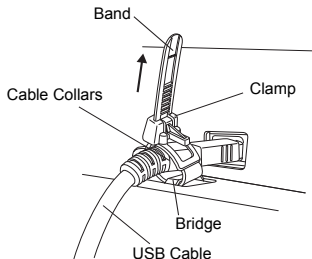
This clamp is used to prevent the USB cable connected to the USB Host Interface on the bottom of the PS-G unit from being unplugged due to vibration or other causes.

■ Attachment

As shown below, insert the USB Cable Clamp's band through the Bridge. Pass the USB cables through the Cable Clamp's band and securely tighten the clamp band around the cables.

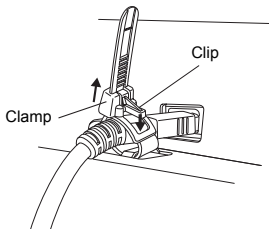
NOTE

- Be sure the clamp is securely holding the USB cable's plug and collar.
- Be sure the clamp is positioned as shown below, with the clamp pointing upwards - not to the side. This is to keep the clamp from interfering with nearby connectors and their cables.



■ Removal

To remove the clamp from the USB cables, push down on the clamp strap's clip to release it while pulling up on the clamp.

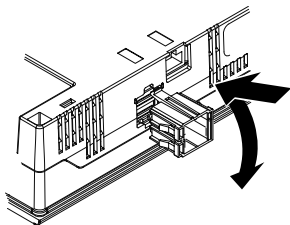


2 USB Holder Attachment/Removal

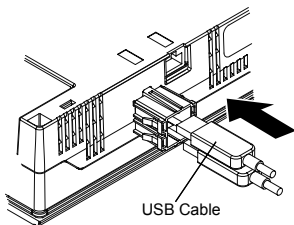
When using a USB device, attaching the USB holder to the USB Host Interface located on the side of the PS-G unit prevents the USB cable from becoming disconnected.

■ Attachment

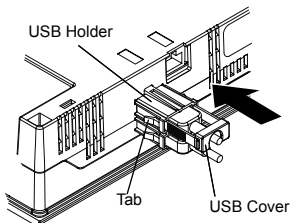
- (1) Attach the USB holder to the USB Host Interface part of the main unit. Hook the upper pick of the USB holder to the attachment hole of the main unit and then insert the lower pick as shown below to fix the USB holder.



- (2) Insert the USB cable into the USB Host Interface.



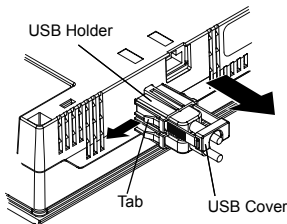
- (3) Attach the USB cover to fix the USB cable. Insert the USB cover into the tab of the USB holder.



In case of installing the second USB cable, repeat the steps (2) and (3).

■ Removal

- (1) Lift up the tab of the USB holder and then remove the USB cover as shown below.



- (2) After removing the USB cable, remove the picks pushing the USB holder from both top and bottom.

Replacing the Backlight

The PS-G's backlight can be replaced after it wears out. For the procedure for replacing the backlight, refer to "PS-3600G Series User Manual". The backlight's model number is CA3-BLU12-01.

Replacing the Backup Battery

The PS-G unit has an internal battery for backup of internal clock data.

For the procedure for replacing the battery, refer to "PS-3600G Series User Manual". The Lithium Battery CR2032 is made by Hitachi Maxell, Ltd.

⚠ CAUTION

- There is a danger of explosion if the PS-G unit's backup battery is incorrectly replaced. This battery should be replaced only with same or equivalent type recommended by Pro-face.
- Dispose of used batteries according to the battery manufacturer's instructions.

Note

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