

PS-3650A/PS-3651A

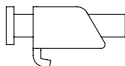
Installation Guide

Caution

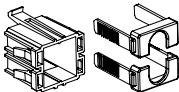
Be sure to read the "Warning/Caution Information" on the attached sheet before using the product.

Package Contents

- (1) PS-A Unit (1)
- (2) English and Japanese Installation Guides (one of each) <This Guide>
- (3) Warning/Caution Information (1)
- (4) Installation Gasket (1) (attached to the PS-A unit)
- (5) Installation Fasteners (Set of 4)



- (6) USB Cable Clamp (2 ports) (2)



- (7) Power Plug (1)



AC type
(5.08mm[0.2in.]
pitch)



DC type
(7.62mm[0.3in.]
pitch)

IMPORTANT

- Be careful when installing the PS-A not to damage the built-in HDD.

This unit has been carefully packed, with special attention to quality. However, should you find anything damaged or missing,

please contact your local PS-A distributor immediately.

When you order a PS-A unit built to your specifications, the PS-A package should include an Installation Guide for any optional items included. Please use that guide to check that all components are included in each optional item's package.

About the Manual

For detailed information on PS-A series, refer to the following manuals.

- PS-3650A/PS-3651A Series Hardware Manual
- PS-3650A/PS-3651A Series Reference Manual
- PS-3650A/PS-3651A Series API Reference Manual

Manual can be downloaded from Pro-face Home Page.

URL

<http://www.pro-face.com/otasuke/>

NOTE

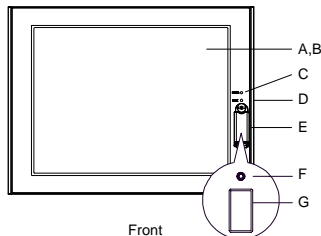
- The drivers and utilities for PS-A can be downloaded from Pro-face Home Page.

This Installation guide is for the following models:

- PS3650A-T42
- PS3650A-T42-24V
- PS3651A-T42
- PS3651A-T42-24V
- PS3650A-T42S
- PS3650A-T42S-24V
- PS3651A-T42S
- PS3651A-T42S-24V

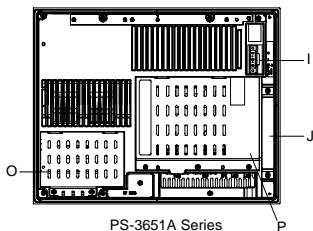
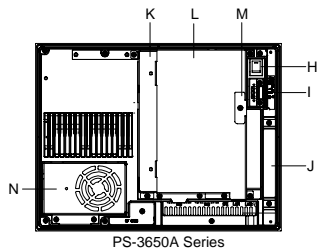
Please refer to related manuals or installation guides for PS-3650A/3651A Series that are not listed above.

Part Names and Functions

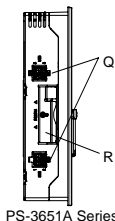
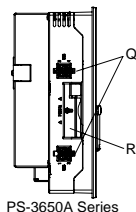


Front

| | Name | Description | | | | | | | | | | | | |
|------------------------------------|---|--|----------------------|-------------|----------------|---|------------------------------------|--------------------------------------|--------------|--|-----------------------|---|---------|--------------|
| A | Display | Display Area | | | | | | | | | | | | |
| B | Touch Panel | User input is available by means of touching the panel. | | | | | | | | | | | | |
| C | Power LED / Status Lamp (POWER) | <p>The lamp shows the status of the PS-A's power and operation. The display colors and their details are as follows.</p> <table><tr><th>LED</th><th>PS-A Status</th></tr><tr><td>Green (lit)</td><td>Normal Operation (power is on)</td></tr><tr><td>Green (blinking)</td><td>Soft OFF state</td></tr><tr><td>Orange (lit)</td><td>System monitor error</td></tr><tr><td>Orange/Red (blinking)</td><td>Backlight burnout is detected</td></tr><tr><td>Not lit</td><td>Power is OFF</td></tr></table> | LED | PS-A Status | Green (lit) | Normal Operation (power is on) | Green (blinking) | Soft OFF state | Orange (lit) | System monitor error | Orange/Red (blinking) | Backlight burnout is detected | Not lit | Power is OFF |
| LED | PS-A Status | | | | | | | | | | | | | |
| Green (lit) | Normal Operation (power is on) | | | | | | | | | | | | | |
| Green (blinking) | Soft OFF state | | | | | | | | | | | | | |
| Orange (lit) | System monitor error | | | | | | | | | | | | | |
| Orange/Red (blinking) | Backlight burnout is detected | | | | | | | | | | | | | |
| Not lit | Power is OFF | | | | | | | | | | | | | |
| D | DISK Access Lamp (DISK) | <p>The lamp shows the status PS-A's DISK access and battery operation. The display colors and their details are as follows.</p> <table><tr><th>LED</th><th>PS-A Status</th></tr><tr><td>Green (lit)</td><td>When HDD or IDE is accessed</td></tr><tr><td>Not lit</td><td>When neither HDD nor IDE is accessed</td></tr><tr><td>Orange (lit)</td><td>PS-A is in operation with backup battery</td></tr><tr><td>Red (lit)</td><td>PS-A is in suspension with backup battery</td></tr></table> | LED | PS-A Status | Green (lit) | When HDD or IDE is accessed | Not lit | When neither HDD nor IDE is accessed | Orange (lit) | PS-A is in operation with backup battery | Red (lit) | PS-A is in suspension with backup battery | | |
| LED | PS-A Status | | | | | | | | | | | | | |
| Green (lit) | When HDD or IDE is accessed | | | | | | | | | | | | | |
| Not lit | When neither HDD nor IDE is accessed | | | | | | | | | | | | | |
| Orange (lit) | PS-A is in operation with backup battery | | | | | | | | | | | | | |
| Red (lit) | PS-A is in suspension with backup battery | | | | | | | | | | | | | |
| E | Front Cover | — | | | | | | | | | | | | |
| F | Hardware Reset Switch (RESET) | Restart PS-A. | | | | | | | | | | | | |
| E | Front USB Interface (USB) | <p>1 port. Complies with USB 1.1. Uses a "TYPE-A" connector.</p> <table><tr><td>Power supply voltage</td><td>DC 5V ±5%</td></tr><tr><td>Output current</td><td>Each port: 500mA(max.), 5 ports total: 500mA(max.)</td></tr><tr><td>The maximum communication distance</td><td>5m</td></tr></table> | Power supply voltage | DC 5V ±5% | Output current | Each port: 500mA(max.), 5 ports total: 500mA(max.) | The maximum communication distance | 5m | | | | | | |
| Power supply voltage | DC 5V ±5% | | | | | | | | | | | | | |
| Output current | Each port: 500mA(max.), 5 ports total: 500mA(max.) | | | | | | | | | | | | | |
| The maximum communication distance | 5m | | | | | | | | | | | | | |

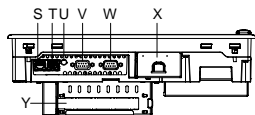


Rear

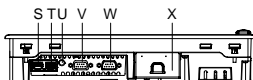


Side

| | Name | Description | |
|---|---------------------------|---|---|
| H | Power Switch | Supported by AC type only. | |
| I | Power Connector | For connection, install a power plug, which is one of accessories, to the power cable. | |
| J | Mask Cover | — | |
| K | Expansion Board Base | PS-3650A Series only. | |
| L | Expansion Board Cover | The PCI board installation interface is located in the cover opening. PS-3650A Series only | |
| M | Expansion Board Supporter | PS-3650A Series only | |
| N | Fan Unit | PS-3650A Series only | |
| O | Memory Slot Cover | PS-3651A Series only | |
| P | DISK Cover | PS-3651A Series only | |
| Q | USB Interface (USB) | Side: comply with USB 2.0 (4 ports). "TYPE-A" connector. | |
| | | Power supply voltage | DC 5V ±5% |
| | | Output current | Each port:500mA(max.), 5 ports total:500mA(max.) |
| | | The maximum communication distance | 5m |
| R | PCMCIA Slot Cover | 1 slot under the cover. Complies with Type II. | |



PS-3650A Series



PS-3651A Series

Bottom

| | Name | Description |
|---|--|---|
| S | Ethernet Interface (LAN2) | 10BASE-T/100BASE-TX/1000BASE-T Auto Changeover. This interface uses an RJ-45 type modular jack connector. |
| T | Ethernet Interface (LAN1) | 10BASE-T/100BASE-TX Auto Changeover. This interface uses an RJ-45 type modular jack connector. |
| U | Speaker Output Interface (SPEAKER OUT) | Mini jack connector. |
| V | RAS Interface (RAS) | RAS port type 2ch General-Purpose Input/Output. D-Sub 9-pin socket type. |
| | Serial Interface (COM2) | Serial 2 port type D-Sub 9-pin plug. RS-232C compliant (RI Only). |
| W | Serial Interface (COM1) | D-Sub 9-pin plug. RS-232C, RS-422, RS-485 Changeover. |
| X | CF Card Interface Cover | CF card interface is under the cover. Type II-compliant slot, or Type 1 x 1 slot. |
| Y | Expansion Slot | PS-3650A Series only. |

IMPORTANT

- When attaching peripheral units to the PS-A, be sure the PS-A's power cord is disconnected from the main power supply.

General Specifications

■ Electrical Specifications

| | | AC Power Supply | DC Power Supply |
|-----------------------|------------------------------------|--|---|
| Power Supply | Input Voltage | AC100/240V | DC24V |
| | Rated Voltage | AC85 to 265V | DC19.2 to 28.8V |
| | Rated Frequency | 50/60Hz | — |
| | Allowable Voltage Drop | 1 cycle or less (Voltage drop interval must be 1s or more.) | 5ms or less |
| | Power Consumption | PS-3650A Series: 110VA or less PS-3651A Series: 95VA or less | PS-3650A Series: 80W or less PS-3651A Series: 40W or less |
| | In-Rush current (room temperature) | AC100V : 30A or less AC240V : 50A or less | 30A or less |
| Voltage Endurance | | AC1,500V 20mA for 1minute (between charging and FG terminals) | AC1,000V 20mA for 1 minute (between charging and FG terminals) |
| Insulation Resistance | | DC500V 10M Ω (min.) (between charging and FG terminals) | |

■ Environmental Specifications

| | | PS-3650A Series | PS-3651A Series |
|----------|-----------------------------|--|---|
| Physical | Surrounding Air Temperature | 0 to 50 °C : without HDD 5 to 50 °C : with HDD | 0 to 50 °C : without HDD 5 to 45 °C : with HDD |
| | Storage Temperature | -20 to +60°C | |
| | Ambient Humidity | 10 to 90% RH (Not condensing, wet bulb temperature: 39°C or less. with HDD: 29°C or less.) | |
| | Storage Humidity | 10 to 90% RH (Not condensing, wet bulb temperature: 39°C or less.) | |
| | Dust | 0.1mg/m ³ and below (Non-conductive levels) | |
| | Pollution Degree | For use in Pollution Degree 2 environment | |

IMPORTANT

- When using any of the PS-A's optional devices, be sure to check that device's specifications for any special conditions or cautions that may apply to its use.
- Be aware that not only does the Hard Disk have a fixed lifetime, but that accidents can always occur. Therefore, be sure to back up your Hard Disk's data regularly, or prepare another Hard Disk unit that can be used for backup.
- The Hard Disk lifetime given here may be reduced due to unforeseen environmental factors, however, generally speaking, the disk should last for 20,000 hours (of operation) or approximately 5 years, whichever comes first, at an operating temperature of 20°C and 333 hours of operation per month. (HDD access frequency of 20% or less)
- Using the Hard Disk in an environment that is excessively hot and/or humid will shorten the disk's usage lifetime. A wet bulb temperature of 29°C or less is recommended. This is equivalent to the following data.

| | | | | |
|-------------|-----------------------|--|-----------------------|--|
| Temperature | at 35°C | | at 40°C | |
| Humidity | no higher than 64% RH | | no higher than 44% RH | |

- In order to extend the lifetime of the hard disk, Pro-face recommends you set the Windows[®] XP (classic) [Control panel]-[Power Options]-[Power Options Properties]-[Power Schemes]-[Turn off hard disks] selection to turn the hard disk off when the unit is not being operated. A setting of 5 minutes is recommended.

DIP Switches

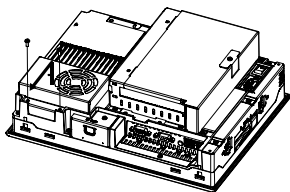
1. Changing Settings

To set the DIP switches which are on the PS-A's circuit board, remove the PS-A's Fan Unit or Memory Slot Cover.

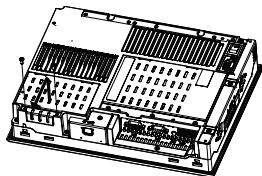
IMPORTANT

- Use a screwdriver to loosen or tighten the screws. Be sure not to tighten screws too tightly, since it may damage the unit.
 - Be careful when removing or inserting any screws that they do not fall inside the PS-A.
- (1) Turn OFF the power switch of the PS-A and remove the power cable. Place the PS-A on a flat, level surface facing the display face downwards.

- (2) Unscrew the screws (2) as you see on the following figure, then remove the Fan Unit or the Memory Slot Cover.



PS-3650A Series



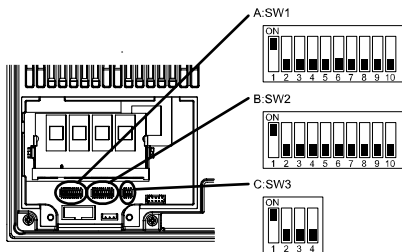
PS-3651A Series

2. DIP Switches Configuration

IMPORTANT

- Be sure to confirm what settings will be used by the other device and set the slide switches accordingly. Failure to do so can result in a unit malfunction or damage.
- Whenever changing the PS-A switches, be sure to first turn the PS-A's power supply OFF. Failure to do so can cause a PS-A malfunction.

DIP Switch Locations



| Switch Location | Switch Name | Description |
|-----------------|-----------------------|---|
| A | System Set SW1 | 10-point DIP switch. For the switches details, see Table (1). |
| B | Serial Mode Select SW | 10-point DIP switch. Designates COM1 communication settings. For the switches details, see Table (2). |
| C | System Set SW2 | 4-point DIP switch. For the switches details, see Table (3). |

| Switch No. | Description | ON | OFF | Notes |
|------------|--|--------------|----------|--|
| 1 | Used for the system. | Reserved | Reserved | Factory Settings: ON |
| 2 | Used for the system. | Reserved | Reserved | Factory Settings: OFF |
| 3 | Change Reset SW mode. *1 | Power button | Reset SW | Factory Settings: OFF |
| 4 | Sets up an enabled/disabled state for the port execution control function of hardware reset switch. *1 | Disabled | Enabled | Factory Settings: OFF |
| 5 | Used for the system. | Reserved | Reserved | Factory Settings: OFF |
| 6 | Sets up an enabled/disabled state for the front USB port execution control function. *2 | Disabled | Enabled | Factory Settings: OFF |
| 7 | Used for the system. | Reserved | Reserved | Factory Settings: OFF |
| 8 | Cancellation function of pushing two points on the touch panel | Enabled | Disabled | Factory Settings: OFF The middle point is not considered to be touched when the SW is ON. It is considered to be touched when the SW is OFF. |
| 9 | Used for the system. | Reserved | Reserved | Factory Settings: OFF |
| 10 | Changes COM1's # 9 pin (RI <---> +5V). Enabled only when RS-232C mode | +5V Output | RI | Factory Settings: OFF |

Table 1) System Set Switch 1

*1 The PS-A restarts when pressing the switch in the Soft OFF state. Soft OFF means Windows® has been shut down and the power is provided only for the electric circuit to boot system. This Soft OFF State is different from System Standby set by Windows®.

*2 Setting up an enabled/disabled state for the USB port execution control function is available for only Windows®. Make sure to disable the function of the setting when using another OS.

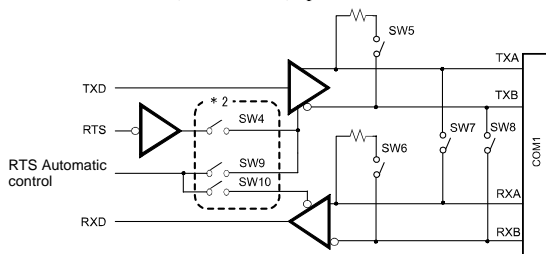
Factory setting is RS-232C. Only SW No.1 is ON.

| Switch No. | Description | ON | OFF | RS-232C | RS-422 | RS-485 |
|------------|--------------------------------------|--|--|---------|--------|----------|
| 1 | Changes COM1's communication method. | RS-232C | RS-422/RS-485 | ON | OFF | OFF |
| 2 | Changes COM1's communication method. | RS-422/RS-485 | RS-232C | OFF | ON | ON |
| 3 | Changes COM1's communication method. | RS-422/RS-485 | RS-232C | OFF | ON | ON |
| 4 | Changes TX data's output mode. | TX data output is controlled via the RTS signal. | TX data output is NOT controlled via the RTS signal. (normally output) | OFF | ON/OFF | ON/OFF*1 |

| Switch No. | Description | ON | OFF | RS-232C | RS-422 | RS-485 |
|------------|---|--|--|---------|--------|----------|
| 5 | Switches the TX termination resistance ON/OFF. | Inserts termination resistance of 220Ω between TXA and TXB. | No termination | OFF | ON | ON/OFF*2 |
| 6 | Switches the RX termination resistance ON/OFF. | Inserts termination resistance of 220Ω between RXA and RXB. | No termination | OFF | ON | ON/OFF*2 |
| 7 | Switches the shorting of TXA and RXA ON or OFF. | Shorts TXA and RXA (RS-485 mode) | No shorting (RS-422 mode) | OFF | OFF | ON |
| 8 | Switches the shorting of TXB and RXB ON or OFF | Shorts TXB and RXB (RS-485 mode) | No shorting (RS-422 mode) | OFF | OFF | ON |
| 9 | RTS Automatic control mode | The data is automatically controlled via the RTS signal. | The data is not automatically controlled via the RTS signal. | OFF | OFF | ON/OFF*1 |
| 10 | (enabled only when RS-485 mode). | | | OFF | OFF | ON/OFF*1 |

Table 2) Serial Mode Select Switch

Serial Mode Select Switches (SW4 to SW10) operate as shown in the circuit diagram below.



*1 To enable RTS automatic control of the TX output driver, set SW No. 9 and 10 ON, and set SW No. 4 OFF.

To enable control of the TX output driver via RTS signals, set SW No. 9 and 10 OFF, and set SW No. 4 ON

*2 If you use the termination resistance, base your settings on the connection specifications.

| Switch No. | Description | ON | OFF | Notes |
|------------|---|----------|----------|-----------------------|
| 1 | Changeover of a Master/Slave setting for primary CF Card I/F. | Master | Slave | Factory Settings: ON |
| 2 | Used for the system. | Reserved | Reserved | Factory Settings: OFF |
| 3 | Change Reset SW mode. ^{*1} | Enabled | Disabled | Factory Settings: OFF |
| 4 | Used for the system. | Reserved | Reserved | Factory Settings: OFF |

Table 3) System Set Switch 2

*1 In SOFT OFF state, input to RAS Interface DIN1(+), will start the PS-A. RAS port type only.

External Interfaces

Serial Interface (COM1, COM2)

The PS-A unit side connector is a D-Sub 9 pin plug type.

| | |
|------------------|-------------|
| Interfit Bracket | #4-40 (UNC) |
|------------------|-------------|

NOTE

- COM2 is an interface for the serial 2 port type only.

IMPORTANT

- Do not connect any pins to [NC].
- Connect the FG terminal line to the shell.
- Always connect the #5 SG (Signal Ground) of the PS-A unit to the connected device, especially if the connected device is also not isolated. Failure to do so may damage the RS232C/RS422/RS485 circuit.
- FG and SG terminals are internally connected in the PS-A. When connecting to another device, be sure not to create an SG shorting loop in your system.

COM1

COM1 can be changed to RS-232C, RS-422 or RS-485. (The factory setting is RS-232C.) To change this setting, open the PS-A unit's FAN Unit or Memory Slot Cover and set DIP switch on the circuit board to the desired position.

Please refer to "DIP Switches" on page 5 for details.

| Pin # | RS-232C | |
|-------|--------------------------|---|
| | Signal Name | Description |
| 1 | CD | Carrier Detect |
| 2 | RD(RXD) | Receive Data |
| 3 | SD(TXD) | Send Data |
| 4 | ER(DTR) | Data Terminal Ready |
| 5 | GND | Signal Ground (SG) |
| 6 | DR(DSR) | Data Set Ready |
| 7 | RS(RTS) | Request to Send |
| 8 | CS(CTS) | Clear to Send |
| 9 | CI(RI)/+5V ^{*1} | Called status display /+5V Output (Switching available) |
| Shell | FG | Frame Ground (Common with SG) |

*1 To change pin 9's RI/+5V setting, open the PS-A unit's rear cover and set the slide switch to the desired position. Please refer to "DIP Switches" on page 5 for details.

| Pin # | RS-422 | |
|-------|-------------|--------------------|
| | Signal Name | Description |
| 1 | RDA | Receive Data A (+) |
| 2 | RDB | Receive Data B (-) |
| 3 | SDA | Send Data A (+) |
| 4 | NC | No Connection |

| Pin # | RS-422 | |
|-------|-------------|-------------------------------|
| | Signal Name | Description |
| 5 | GND | Signal Ground (SG) |
| 6 | NC | No Connection |
| 7 | SDB | Send Data B (-) |
| 8 | NC | No Connection |
| 9 | NC | No Connection |
| Shell | FG | Frame Ground (Common with SG) |

| Pin # | RS-485 | |
|-------|-------------|-------------------------------|
| | Signal Name | Description |
| 1 | DATA + | Send/Receive Data(+) |
| 2 | DATA - | Send/Receive Data(-) |
| 3 | NC | No Connection |
| 4 | NC | No Connection |
| 5 | GND | Signal Ground (SG) |
| 6 | NC | No Connection |
| 7 | NC | No Connection |
| 8 | NC | No Connection |
| 9 | NC | No Connection |
| Shell | FG | Frame Ground (Common with SG) |

◆COM2

| Pin # | RS-232C | |
|-------|-------------|-------------------------------|
| | Signal Name | Description |
| 1 | CD | Carrier Detect |
| 2 | RD(RXD) | Receive Data |
| 3 | SD(TXD) | Send Data |
| 4 | ER(DTR) | Data Terminal Ready |
| 5 | GND | Signal Ground (SG) |
| 6 | DR(DSR) | Data Set Ready |
| 7 | RS(RTS) | Request to Send |
| 8 | CS(CTS) | Clear to Send |
| 9 | CI(RI) | Called status display |
| Shell | FG | Frame Ground (Common with SG) |

■ RAS Interface

The PS-A unit side connector is a D-Sub 9 pin socket type.

| | |
|------------------|------------|
| Interfit Bracket | #4-40(UNC) |
|------------------|------------|

NOTE

- RAS is an interface for RAS port type only.

IMPORTANT

- Be sure to use only the rated voltage level when using pin # 1 (+12V) for external power output. Failure to do so can lead to a unit malfunction or accident.

| Pin # | Signal Name | Description |
|-------|-------------|--|
| 1 | +12V | Output Current: 100mA or less Output Voltage: 12V±5% |
| 2 | DOUT0(+) | Data out 0(+) |
| 3 | DOUT1(+) | Data out 1(+) |
| 4 | DIN0(+) | Data in 0(+) |
| 5 | DIN1(+) | Data in 1(+) ^{*1} |
| 6 | GND | Ground |
| 7 | DOUT0(-) | Data out 0(-) |
| 8 | DOUT1(-) | Data out 1(-) |
| 9 | DINCOM | Data in common |

^{*1} This pin can be used as an input start or external reset input of the RAS feature. The factory setting is data input.

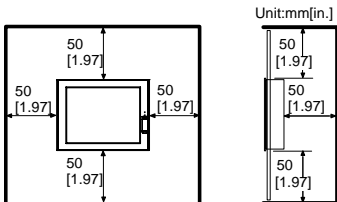
NOTE

- For the circuit diagram, refer to “PS-3650A/PS-3651A Series Hardware Manual”.

Installations

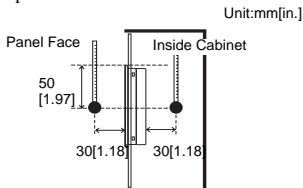
1. Installation Requirements

- For easier maintenance, operation, and improved ventilation, be sure to install the PS-A at least 50mm [1.97 in.] away from adjacent structures and other equipment.



- Be sure that the surrounding air temperature and the ambient humidity are within their designated ranges. Surrounding air temperature 0 to 50°C: (with HDD: PS-3650A - 5 to 50°C, PS-3651A - 0 to 45°C). Ambient humidity: 10 to 90% RH (wet bulb temperature: 39°C or less, with HDD 29°C or less).

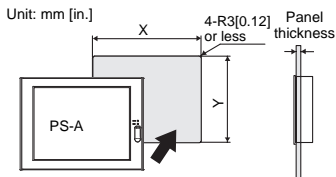
When installing the PS-A on the panel of a cabinet or enclosure, "Surrounding air temperature" indicates both the panel face and cabinet or enclosure's internal temperature.



- Be sure that heat from surrounding equipment does not cause the PS-A to exceed its standard operating temperature.

2. PS-A Installation

- Create a Panel Cut following the dimensions in the table below. Also, determine the panel thickness according to the panel thickness range with due consideration of panel strength.



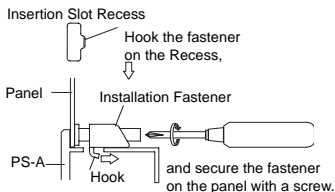
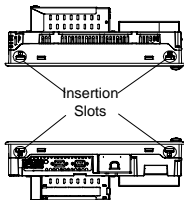
| PS-A | X | Y | Panel thickness |
|----------|--|---|-------------------------------|
| PS-3650A | 301.5 ⁺¹ ₋₀ [11.87 ^{+0.04} ₋₀] | 227.5 ⁺¹ ₋₀ [8.96 ^{+0.04} ₋₀] | 1.6[0.06] to 10.0[0.39] |

- Confirm that the installation gasket is attached to the PS-A unit and then place the PS-A 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. To replace the installation gasket, see "PS-3650A/PS-3651A Series Hardware Manual".

- (3) Insert each fastener's hook into the slot and tighten it with a screwdriver. Insert the installation fasteners securely into the insertion slot recess. There are eight insertion slots.



IMPORTANT

- Tightening the screws with too much force can damage the PS-A unit.
- The necessary torque is 0.5N•m.
- Be sure to insert installation fasteners in the recessed portion of an installation fasteners hole. If the fasteners are not correctly attached, the PS-A unit may shift or fall out of the panel.

Wiring

⚠ WARNING

- To avoid an electric shock, prior to connecting the PS-A unit's power cord terminals to the power terminal block, confirm that the PS-A unit's power supply is completely turned OFF, via a breaker, or similar unit.

- Supplying a power voltage other than that specified can damage the PS-A and the power supply.
- Since the DC power supply Type has no power ON/OFF switch, be sure to attach a breaker-type switch to its power cord.
- When the FG terminal is connected, be sure the wire is grounded.

IMPORTANT

- When the FG terminal is connected, be sure the wire is grounded. Not grounding the PS-A unit will result in excessive noise. Use your country's applicable standard for grounding.

■ Power Cord Specifications

Use copper conductors only.

| | |
|---------------------|--|
| Power Cord Diameter | 0.75 to 2.5mm ² (18 to 12 AWG) |
| Conductor Type | Solid or Stranded Wire* ¹ |
| Conductor Length | 10mm [0.39in.] |

*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.

■ Wiring

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

| | |
|---------------------------|---|
| Recommended Driver | SZS 0.6x3.5 (1205053) |
| Recommended Pin Terminals | AI 0.75-10GY (3201288) AI 1-10RD (3200182) AI 1.5-10BK (3200195) AI 2.5-12BU (3200962) |

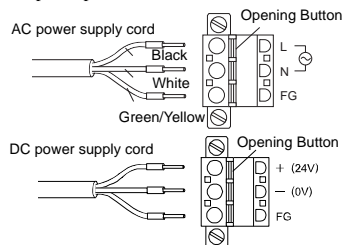
| | |
|---|---------------------------|
| Recommended Pin Terminal Crimp Tool | CRIMPFOX ZA3 (1201882) |
|---|---------------------------|

NOTE

- Accompanying AC type power supply plug is CA7-ACCNL-01 from Pro-face or FKC2.5/3-STF-5.08 is manufactured by Phoenix Contact.
- Accompanying DC type power supply plug is CA7-DCCNL-01 from Pro-face or GFKC2.5/3-STF-7.62 is manufactured by Phoenix Contact.

■ Connecting the Power Cord

- Confirm that the power is not supplied to the PS-A unit.
- Push the Opening button with a small and flat screw driver to open the desired pin hole.
- Insert each pin terminal into its each hole. Release the Opening button to clamp the pin in place.



- After inserting all three pins, insert the Power Plug into the Power Connector at PS-A. Fix the plug with two (2) slot screws.

IMPORTANT

- Confirm that all wires are connected correctly.
- The torque required to tighten these screws is 0.5 to 0.6N•m.

- To prevent the possibility of a terminal short, use a pin terminal that has an insulating sleeve.

1. Power Supply Cautions

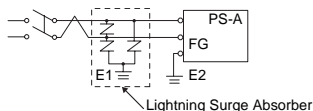
- Input and Output signal lines must be separated from the power control cables for operational circuits.
- To improve the noise resistance, be sure to twist the ends of the power cord wires before connecting them to the Power Plug.
- The PS-A unit's power supply cord should not be bundled with or kept close to main circuit lines (high voltage, high current), or input/output signal lines.
- To reduce noise, make the power cord as short as possible.
- If the supplied voltage exceeds the PS-A unit's range, connect a voltage transformer.
- Between the line and the ground, be sure to use a low noise power supply. If there is an excess amount of noise, connect a noise reducing transformer.
- The temperature rating of field installed conductors: 75°C only.

IMPORTANT

- Use voltage and noise reducing transformers with capacities exceeding Power Consumption value.
- Connect a surge absorber to handle power surges.

IMPORTANT

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



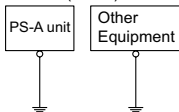
2. Grounding Cautions

- Be sure to create an exclusive ground for the Power Cord's FG terminal. Use a grounding resistance of 100Ω , a wire of 2mm^2 or thicker, or your country's applicable standard.
- The SG (signal ground) and FG (frame ground) terminals are connected internally in the PS-A unit.

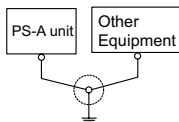
When connecting the SG line to another device, be sure that the design of the system/connection does not produce a shorting loop.

- The grounding wire should have a cross sectional area greater than 2mm^2 . Create the connection point as close to the PS-A 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.

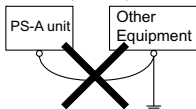
Exclusive Grounding
(BEST)



Common Grounding (OK)



Common Grounding
(Not OK)



3. Input/Output Signal Line Cautions

- All PS-A Input and Output signal lines must be separated from all operating circuit (power) cables.
- If this is not possible, use a shielded cable and ground the shield.
- To improve noise immunity, it is recommended to attach a ferrite core to the power cord.

To prevent the USB cable from coming off

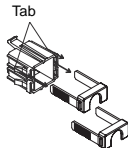
When using a USB device, attaching the USB holder to the USB Interface located on the side of the PS-A unit prevents the USB cable Interface from becoming disconnected.

NOTE

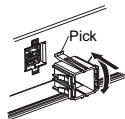
- The USB holder cannot be attached to the USB Interface located on the front of the PS-A.

■ Attaching the USB Holder

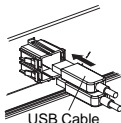
- (1) Before starting the procedure, lift up the tab on both sides of the USB Holder and remove the USB Cover.



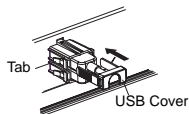
- (2) Attach the USB holder to the USB Interface on the side of the PS-A unit. Hook the upper pick of the USB holder to the attachment hole of the PS-A unit and then insert the lower pick as shown below to fix the USB holder.



- (3) Insert the USB cable into the USB Interface.



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



In case of installing the second USB cable, repeat the steps (3) and (4).

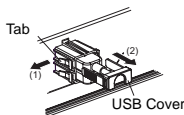
IMPORTANT

- When attaching the USB holder, be sure to attach both USB covers, no matter how many USB cables are connected.

■ Removing the USB Holder

Remove USB Holder by the reverse procedures to the attachment procedures.

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



- (2) Remove the USB cable.
- (3) Remove the picks pushing the USB holder from both top and bottom and then remove the USB holder from PS-A unit.

Installation prerequisites for standards

The following units are UL/c-UL listed products: (UL/c-UL File No.E220851)

| Product Model No. | UL/c-UL Registration Model No. |
|-------------------|--------------------------------|
| PS3650A-T42 | 3480801-02 |
| PS3650A-T42S | |
| PS3651A-T42 | 3480801-01 |
| PS3651A-T42S | |
| PS3650A-T42-24V | 3480801-12 |
| PS3650A-T42S-24V | |
| PS3651A-T42-24V | 3480801-11 |
| PS3651A-T42S-24V | |

For the detailed certification's information, refer to the Pro-face Home page.

<Cautions>

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

- The PS-A unit's rear face is not approved as an enclosure. When building the PS-A 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-A unit must be used indoors only.
- Install and operate the PS-A with its front panel facing outwards.
- If the PS-A is mounted so as to cool itself naturally, be sure to install it in a vertical panel. Also, it's recommended that the PS-A should be mounted at least 50mm [1.97in.] away from any other adjacent structures or machine parts. The temperature must be checked on the final product in which the PS-A is installed.
- For use on a flat surface of a Type 4X (Indoor Use Only) and/or Type 12 Enclosure.
- Type 4X (Indoor Use Only) and/or 12 Enclosure, when the hatch for Front USB Port is secured with a screw.
Type 1 Enclosure, when the hatch for Front USB Port is open.

CE Marking

- PS3650A-T42, PS3650A-T42S, PS3651A-T42, PS3651A-T42S units are CE marked product that conforms to EMC directives and Low Voltage Directives.
- PS3650A-T42-24V, PS3650A-T42S-24V, PS3651A-T42-24V, PS3651A-T42S-24V units are CE marked product that conforms to EMC directives.

For the detailed information, please be downloaded and refer the Declaration of Conformity from Pro-face Home Page.

Inquiry

Do you have any questions about difficulties with this product?
Please access our site anytime that you need help with a solution.

<http://www.pro-face.com/otasuke/>

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.

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California Proposition 65 Warning—Lead and Lead Compounds

Advertencia de la Proposición 65 de California—Plomo y compuestos de plomo

Avertissement concernant la Proposition 65 de Californie—Plomb et composés de plomb

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