PL3000 Series Hard Disk/SSD Unit Installation Guide

This instruction guide covers the following products.

- APL3000-HD60
- APL3000-SD16

The APL3000-HD60 is the hard disk unit for Pro-face's PL3000 series (hereafter referred as the "HDD unit").

The APL3000-SD16 is SSD unit for Pro-face's PL3000 series.

This HDD/SSD unit has built-in recording device to be used for loading the HDD slot of the PL.

Applicable model: PL3000 series (hereafter referred as the "PL")

About the Manual

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

- PL3000 Series Hardware Manual

Manuals for PL3000 series can be downloaded from Pro-face Home Page.
URL
http://www.pro-face.com/otasuke/

Safety Cautions

⚠WARNING

- Do not attempt to modify or open the HDD/SSD unit, since it can cause a shock or fire.
- When installing the HDD/SSD unit, be sure to read this guide "Installation" section's information completely to insure that the unit is correctly installed.

To Prevent Accidents

- To prevent from a unit malfunction, be sure to check that the PL unit's power is disconnected before installing the unit.
- Since the HDD/SSD unit is a precision instrument, be sure it is neither hit by nor pressed strongly against another object. After unpacking, be sure the unit is not dropped or jolted during installation. Also, a PL unit built in to a larger unit (i.e. operation panel) should be removed and packed separately prior to shipping.
- Be sure water, liquids or metal particles are not allowed to enter the HDD/SSD unit. Any of these may cause either a breakdown or an electrical shock.
- Do not place or store this unit in a location where there is direct sunlight, excessive heat, dust or vibration.
- Do not store or operate this unit near chemicals, or where there are chemical fumes.
- Do not allow anyone other than Pro-face's own service staff to perform maintenance or adjustments to this unit.
- Do not move or shift the PL unit while the HDD/SSD unit is installed and the PL unit's power is ON.
- Do not use the HDD/SSD unit in locations where corrosive gasses are present, since they can lead to a hard disk breakdown.
- To prevent the data damage, be sure to shut down the PL unit's OS according to the correct procedure before turning OFF the main power.
- To prevent HDD memory leaks, restart the OS periodically.
- The hard disk has the lifetime. To use it longer by steady operation, read the attached "Instructions for Using the Hard Disk" carefully.

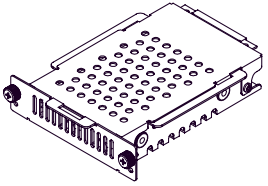
- In order to extend the lifetime of the hard disk, Pro-face recommends you set the Windows® [Control panel]-[Power Management option]-[Turn off hard disks] selection to turn the hard disk off when the unit is not being operated. A setting of 5 minutes is recommended.

Unit Disposal

- When this HDD/SSD unit is disposed of, it should be done so according to your country's regulations for similar types of industrial wastes.

Package Contents

(1) HDD Unit (1)
or SSD Unit main body (1)



(2) Installation Guide (1) (This Guide)

(3) Instructions for Using the Hard Disk (1) (HDD Unit Only)

Pro-face has taken the utmost care to ensure the quality of this product when it was shipped, however, should, for any reason, problems or damage have occurred during shipping, please contact your Pro-face representative immediately for service.

IMPORTANT

- This HDD/SSD unit has a finite usage lifetime. Therefore, be sure to back up all HDD/SSD data periodically and/or prepare a backup HDD/SSD unit.

Hardware Specifications

■ HDD Unit

Features

Capacity	60GB
Average Seek Time	12msec (TYP)
Power consumption	At Startup: 5.0W (MAX)
	Read/Write: 1.8W (TYP)
	During wait: 0.25W (TYP)
Interface	Serial ATA Rev.1.0a
Operation Lifetime	5 years, or 20,000 operating hours, whichever comes first
Weight	Approx. 800g

IMPORTANT

- The HDD unit's lifetime will vary, depending on the usage conditions and environment. The above value is calculated assuming an ambient temperature of 20°C and 333 hours of operation per month. (HDD access frequency of 20% or less)

Environment

Surrouding Air Temperature	5°C to 50°C
Storage Temperature	-20°C to +60°C
Ambient Humidity	10% to 90%RH (no condensation, wet bulb temperature: 29°C or less)
Storage Humidity	10% to 90%RH (no condensation, wet bulb temperature: 39°C or less)
Noise Resistance	Noise voltage: 1,500Vp-p Pulse width: 50ns, 500ns, 1µs (via Noise Simulator)
Electrostatic Discharge Immunity	6kV
Vibration Resistance	When operating: 10Hz to 57Hz: single-amplitude 0.075mm 57Hz to 150Hz: 9.8m/s^2

Concussion Resistance	When shipping: 3,920m/s^2 (1ms, Half-sine shock pluse)

IMPORTANT

- Using the HDD unit 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

■ SSD Unit

Features

Capacity	16GB
Power consumption	2.5W (MAX.)
Interface	Serial ATA Rev.1.0a
Weight	Approx. 500g

Environment

Surrounding Air Temperature	0°C to 50°C
Storage Temperature	-20°C to +60°C
Ambient Humidity	10% to 90% RH (no condensation)
Storage Humidity	10% to 90% RH (no condensation)
Noise Resistance	Noise voltage: 1,500Vp-p Pulse width: 50ns, 500ns, 1µs (via Noise Simulator)
Electrostatic Discharge Immunity	6kV
Vibration Resistance	Conforms to JIS B 3502, IEC/EN61131-2 5Hz to 9Hz single-amplitude 3.5mm 9Hz to 150Hz Constant acceleration 9.8m/s^2 X,Y,Z directions: 10 cycles (for 100 minutes)

IMPORTANT

- The SSD unit has a limited number of writes. Exceeding the guaranteed number of writes could make it impossible to read and write data, or systems may become unstable resulting in malfunctions.
- You can calculate the expected lifetime of the SSD unit based on the number of writes.

$$\text{Expected lifetime (years) based on the number of writes} = \frac{\text{SSD memory capacity [MB]} \times \text{Guaranteed number of writes}}{\text{Amount of data written each minute [MB]} \times \text{Number of writes per minute} \times 525{,}600 \text{ [minutes]}}$$

SSD memory capacity: 15,631 MB
Guaranteed number of writes: 1 hundred thousand

The expected lifetime when writing 512 MB of data once per minute is approximately 6 years.

Depending on the system and software, data writes may actually be run several times even when only one write command is made. This can lead to actual lifetimes significantly different from expected lifetimes.

In order to make more accurate lifetime predictions, please use Pro-face's System Monitor, which is included with the PL unit.

Installation

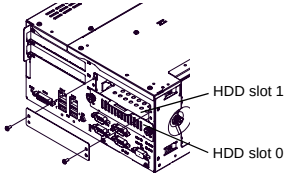
IMPORTANT

- Since the HDD/SSD unit is a precision instrument that has a low resistance to shocks, be sure it is neither hit by nor pressed strongly against another object when installing it.
- The electric power may be supplied to the PL unit even when the screen blacks out (such as the standby mode). Be sure to confirm that the power supply switch on the rear side of the PL unit is OFF.

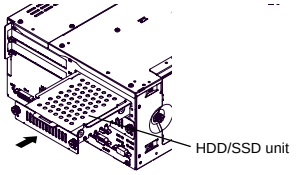
NOTE

- To prevent from a unit malfunction, be sure to check that the PL unit's power is disconnected before installing the unit.

(1) Unscrew the screws (2) of the HDD slot and remove the cover.



(2) Insert the HDD/SSD unit slowly along the guide rail while holding the cover of the HDD unit.
Insert the HDD/SSD unit all the way in the HDD slot.



(3) Fix the HDD/SSD unit with the two screws. The torgue should be 0.2 to 0.3 N·m.

Inquiry

Do you have any questions or commnets about this product? Please access our site anytime 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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