

Pro-face

by **Schneider** Electric

PE-4000B → PS-5001B
Replacement Guidebook

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Introduction

This document introduces the procedures and notes for replacing the PE-4000B with the PS-5001B.

The recommended substitute model is listed below.

Equipment in use		Recommended substitute model
PE-4000B (1 slot, Atom™ model) Model code : PFXPE*****NN1	⇒	PS-5001B (0 slot, Atom™ model) Model code:PFXPL2B*****N00

Safety Information

HAZARD OF OPERATOR INJURY, OR UNINTENDED EQUIPMENT DAMAGE

Before operating any of these products, be sure to read all related manuals thoroughly.

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

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Chapter 1. Specification Comparison

1.1 PE4000B and PS-5001B specification comparison

Display specifications		
	PE-4000B	PS-5001B
		
CPU	<p>N2600 Model Atom Dual Core N2600 (1.6GHz)</p> <p>N270 Model Atom N270 (1.6GHz)</p>	Atom E3930 1.3GHz
Main memory	<p>N2600 Model 2GB or 4GB (DDR3 800MHZ)</p> <p>N270 Model 2GB (DDR2 533MHZ)</p>	<p style="color: red;">UP!</p> <p>4GB or 8GB (DDR3L 1600 MHz, SO-DIMM SDRAM) → See 2.3</p> <p style="color: red;">*Atom Entry type has 4GB specification only</p>

General specifications			
	PE-4000B	PS-5001B	
External dimensions	<p>N2600 Model W264.5 × H133 × D69.2 mm</p> <p>N270 Model W254.8 × H149.2 × D58.7mm</p>	<p>NEW!</p> <p>Atom (Optional Interface Non-mounted type) W187× H150 × D38 mm</p> <p>Atom (Optional Interface mounted type) W187× H150 × D54 mm</p> <p>Atom Entry model W187 × H150 × D46 mm</p> <p>→ See 2.1</p>	
Weight	Approx. 2.5 kg	<p>UP!</p> <p>Atom (Optional Interface Non-mounted type) 1.25 kg</p> <p>Atom (Optional Interface mounted type) 1.3 kg</p> <p>Atom Entry model 1.2 kg</p>	
Cooling method	Natural air circulation (Fanless)		
Power supply → See 2.8	AC power supply	-	NEW! AC 60W/100W
	DC power supply	<p>N2600 Model 12-24VDC</p> <p>N270 Model 9-36VDC</p>	12-24VDC
DC Power Supply Power consumption	Typically 16W	<p>Atom (Optional Interface Non-mounted type)/ Atom (Optional Interface mounted type) 25W</p> <p>Atom Entry model 20W</p> <p>→ See 2.10</p>	
Battery backup UPS	Optional → See 4.1		

Interface specifications		
	PE-4000B	PS-5001B
Serial (9-pin D-sub plug)	<p>N2600 Model RS-232C x 2 RS-232C/422/485 x 4</p> <p>N270 Model RS-232C x 2</p>	<p>Atom (Optional Interface Non-mounted type)/ Atom (Optional Interface mounted type) COM1: RS-232C ×1 COM2: RS-422/485 ×1</p> <p>Atom Entry model COM1 : RS-232C/422/485 x 1</p> <p>→ See 2.2</p> <p>Option RS-232C x4 RS-232C Isolation x 2 RS-422/485 x4 RS-422/485 Isolation x2</p> <p>* For Atom (Optional Interface mounted type), Atom Entry type only</p>
Disk	<p>N2600 Model SSD x 1 CFast x 1</p> <p>N270 Model SSD x 1 CF x 1</p>	<p>NEW!</p> <p>Atom (Optional Interface Non-mounted type) 1st M.2</p> <p>Atom (Optional Interface mounted type) 1st M.2 2nd HDD/SSD</p> <p>Atom Entry model 1st eMMC -</p>
USB	<p>USB x5 (USB2.0, Type-A)</p>	<p>Atom (Optional Interface Non-mounted type)/ Atom (Optional Interface mounted type) USB Type-A x4 (Box 2.0 x 2 and 3.0 x 2)</p> <p>Atom Entry model USB Type-A x2 (Box 2.0 x 1 and 3.0 x 1)</p>
Ethernet	<p>N2600 Model 10BASE-T/100BASE-TX/1000BASE-T x 3</p> <p>N270 Model 10BASE-T/100BASE-TX/1000BASE-T x 1</p>	<p>10BASE-T/100BASE-TX/1000BASE-T x 2</p>
Sound	<p>Line input/line output/mic input</p>	<p>Line input/Line output/mic input (optional)</p> <p>* For Atom (Optional Interface mounted type), Atom Entry type only</p>

Video Output	HDMI x 1	<p style="text-align: center;">UP!</p> <p>Atom (Optional Interface Non-mounted type)/ Atom (Optional Interface mounted type) Display Port x2 Atom Entry model Display Port x1</p> <p>DVI-I x1 (Optional) * For Atom (Optional Interface mounted type), Atom Entry type only</p>
Expansion Slot	<p>N2600 Model MiniPCIe (full size) x 1</p> <p>N270 Model MiniPCIe (half size) x 1</p>	<p>mini PCIe full size x 1 * Option * For Atom (Optional Interface mounted type), Atom Entry type only</p>
Digital I/O	<p>N2600 Model 8 Bit x 1</p> <p>N270 Model None</p>	<p>16DI/8DO x 1 * Option * For Atom (Optional Interface mounted type), Atom Entry type only</p>

Chapter 2. Hardware Compatibility

2.1 Differences in external dimension

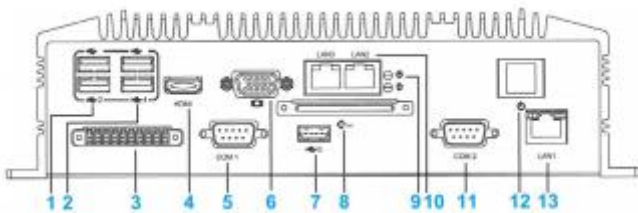
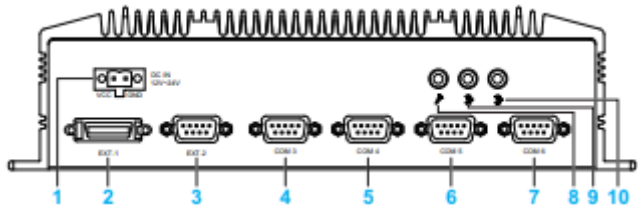
The external dimensions between PE4000B and PS-5001B is different for the model to use, so please take note external dimension information before replacement.

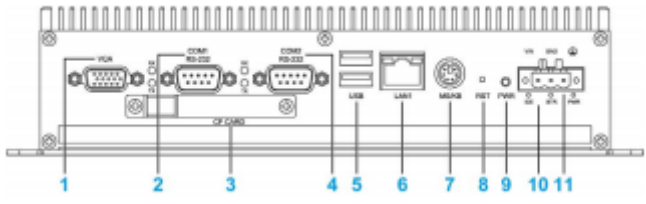

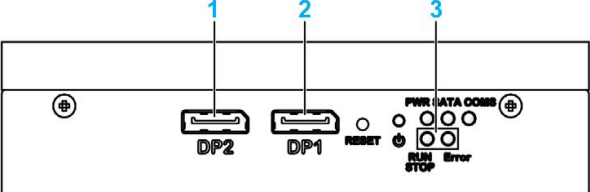
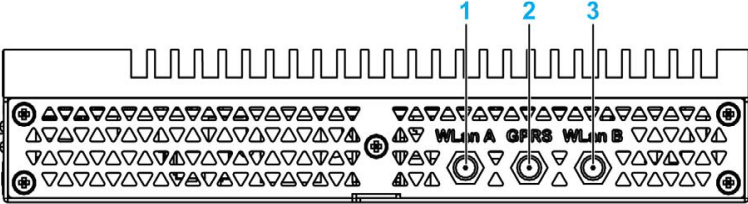
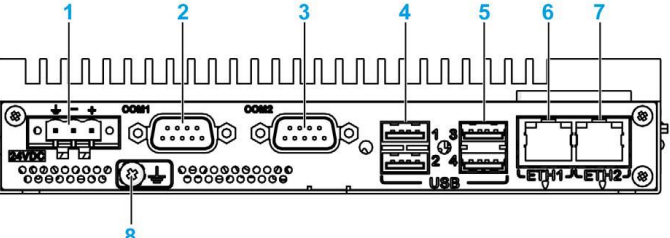
PE4000B External dimensions	PS-5001B External dimensions
<p>Atom N2600 Model W264.5 × H133 × D69.2 mm</p> <p>Atom N270 Model W254.8 × H149.2 × D58.7mm</p>	<p>Atom (Optional Interface Non-mounted type) W187× H150 × D38 mm</p> <p>Atom (Optional Interface mounted type) W187× H150 × D54 mm</p> <p>Atom Entry model W187 × H150 × D46 mm</p>

2.2 Differences in function locations

The locations of the various functions differ on the PE4000B and the PS-5001B as shown below.

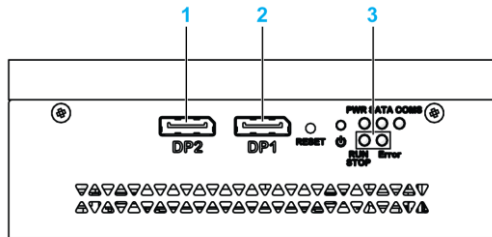
◆ PE4000B and PS-5001B function locations

Model	Description
PE4000B Atom N2600 Model	<p>Front View</p>  <p>1. USB1 and USB2, 2. USB3 and USB4, 3. Digital I/O, 4. HDMI, 5. COM1, 6. VGA, 7. USB5, 8. CFast memory card, 9. LEDs, 10. LAN3 and LAN2, 11. COM2, 12. Power switch, 13. LAN1</p> <p>Rear View</p>  <p>1. DC Input, 2. EXT.1 (not used), 3. EXT.2 (not used), 4. COM3, 5. COM4, 6. COM5, 7. COM6, 8. MIC, 9. LINE-IN, 10. LINE-OUT</p>

<p>PE4000B Atom N270 Model</p>	<p>Front View</p>  <p>1. VGA, 2. COM1 and LEDs (Rx/Tx), 3. Compact Flash memory card 4. COM2 and LEDs (Rx/Tx), 5. USB1 USB2, 6. LAN1, 7. Keyboard and mouse connector, 8. Reset button, 9. Power button, 10. LEDs, 11. DC input power supply</p> <p>Rear View</p> 
<p>PS-5001B Atom (Optional Interface Non-mounted type)</p>	<p>Front View</p>  <p>1. DisplayPort2, 2. DisplayPort1, 3. LEDs and power/reset button</p> <p>Top View</p>  <p>1. SMA connector for the WLAN A external antenna, 2. SMA connector for the GPRS/4G external antenna, 3. SMA connector for the WLAN B external antenna</p> <p>Bottom View</p> 

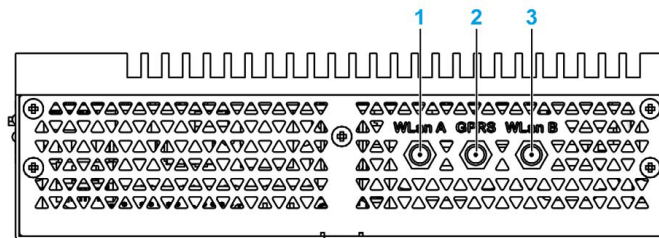
1. DC power connector, 2. COM1 port RS-232C, 3. COM2 port RS-232C, RS-422/485, 4. USB1 and USB2, 5. USB3 and USB4, 6. ETH1, 7. ETH2, 8. Ground connection pin

Front View



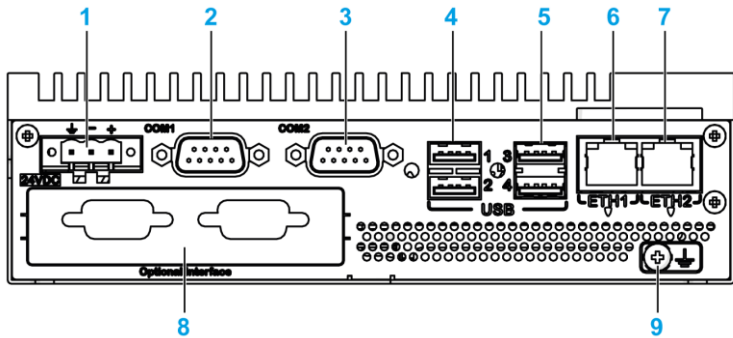
1. DisplayPort1, 2. DisplayPort2, 3. LEDs and power/reset button

Top View



1. SMA connector for the WLAN A external antenna, 2. SMA connector for the GPRS/4G external antenna, 3. SMA connector for the WLAN B external antenna

Bottom View



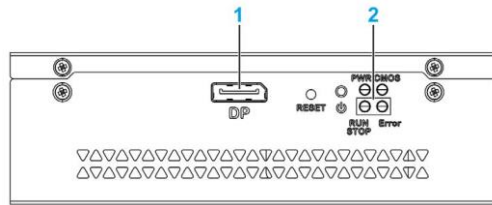
1. DC power connector, 2. COM1 port RS-232C, 3. COM2 port RS-232C, RS422/485, 4. USB1 and USB2, 5. USB3 and USB4, 6. ETH1, 7. ETH2, 8. Optional interface, 9. Ground connection pin

PS-5001B
Atom (Optional Interface Mounted type)

PS-5001B

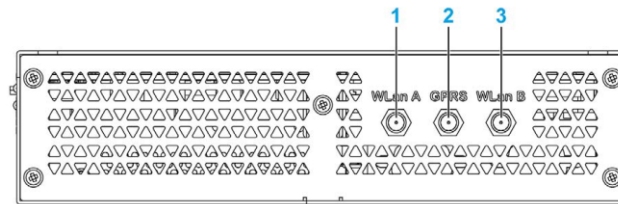
Atom Entry type

Front View



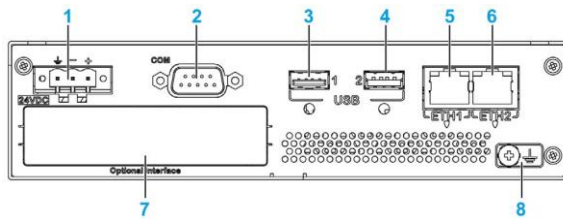
1. DisplayPort, 2. LEDs and power/reset button

Top View



1. SMA connector for the WLAN A external antenna, 2. SMA connector for the GPRS/4G external antenna, 3. SMA connector for the WLAN B external antenna

Bottom View



1. DC power connector, 2. COM port RS-232 (non-isolated), RS-422/485 (non-isolated), 3. USB1, 4. USB2, 5. ETH1, 6. ETH2, 7. Optional interface, 8. Ground connection pin

2.3 Main memory

For PS-5000 series, memory cannot be added by the customer after it is purchased. The amount of memory selected in the built-in shipping options is the maximum amount of memory.

For example, models with a maximum amount of memory of 16 GB in their specification cannot be upgraded with additional memory if they have been purchased with 8 GB specified in the built-in shipping options.

Please check this limitation before selecting the specification for product.

2.4 Battery backup UPS

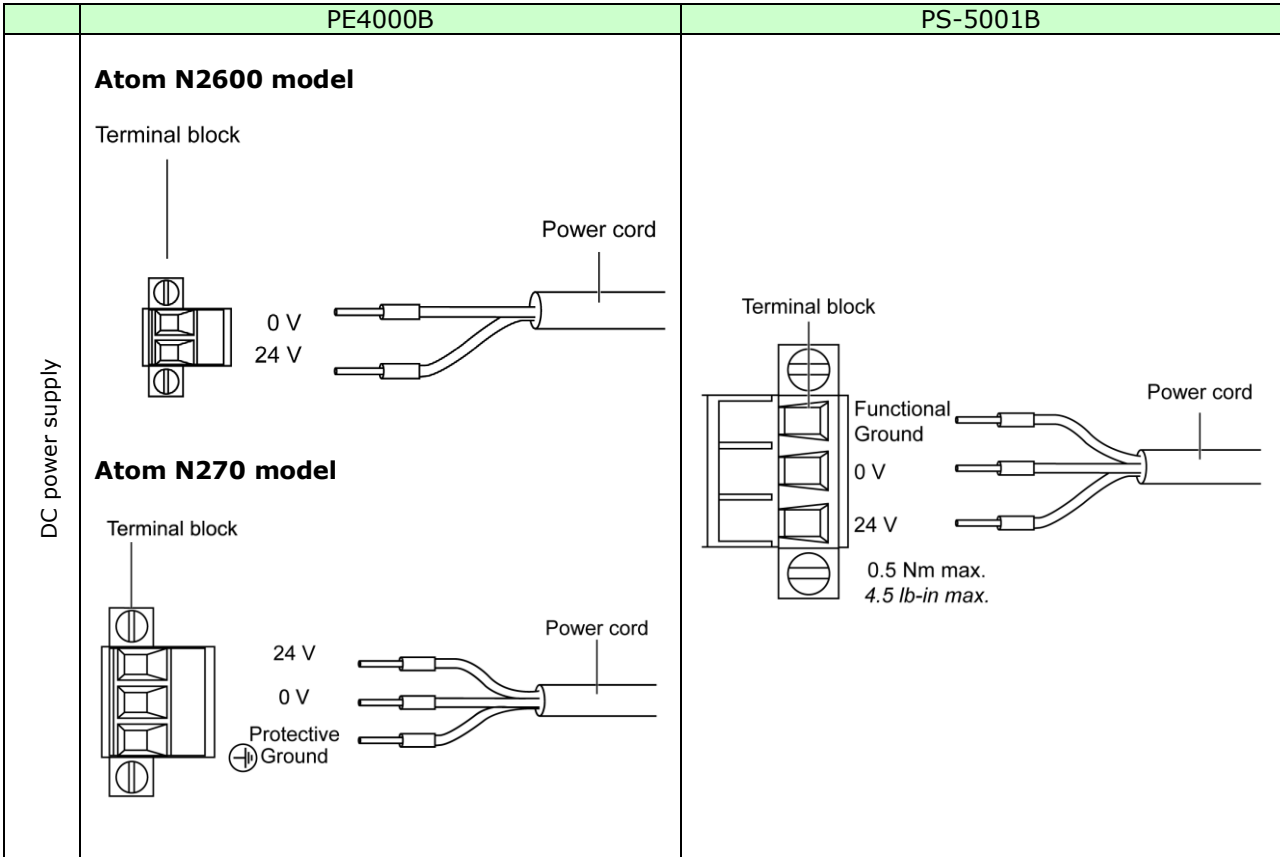
By equipping the PS-5000 with a UPS battery unit, power can continue to be supplied even when there is a loss of power due to a power failure and running programs can be correctly terminated by the UPS software.

2.5 Serial Interface

You can add one port for a serial interface compatible with communication types (RS-232/422/485) as an option item to PS-5000 series. To add it, specify your BTO order. To add it after purchasing PS-5000 Series, please purchase the option item and mount it. To make RS-422/485 communication via the added serial interface, arbitrary software that can switch the RTS line every time a driver is sent or received is required. It's not automatically switched.

2.6 Power supply plug

Caution: The power line terminal locations for the power supply plug differ between the PE4000B and the PS-5001.



2.7 Power consumption

The power consumption of PS-5001B does not include the value of power supplied to devices in the provided expansion slots and to USB devices. The maximum power consumption of the entire product including the value of supplied power is 40 W.

Chapter 3. Software Compatibility

3.1 Supported operating systems and operating system languages

The supported operating systems for the PE4000B and the PS-5001B are listed below.

OS	PE4000B	PS-5000 Modular Atom
Windows® XP Professional Japanese	x	x
Windows® XP Professional Multi-Language	x	x
Windows® Embedded Standard 2009	o	x
Windows® Embedded Standard 7(32bit) MUI	o	x
Windows® Embedded Standard 7(64bit) MUI	x	x
Windows® 7 Ultimate (32bit) MUI	x	x
Windows® 7 Ultimate (64bit) MUI	x	x
Windows® Embedded 8.1 Industry (64bit) MUI	x	x
Windows® 10 IoT Enterprise 2016 LTSB 64 bit MUI	x	o*1

*1 UWF is not supported.

System language	PE4000B		PS-5000 Modular Atom
	WES 2009	WES7	Win 10 IoT Enterprise 2016 LTSB
Arabic	o	Δ	Δ
Bulgarian	x	Δ	Δ
Chinese(Simplified)	o	Δ	Δ
Chinese(Traditional)	o	Δ	Δ
Croatian	x	Δ	Δ
Czech	o	Δ	Δ
Danish	o	Δ	Δ
Dutch	o	Δ	Δ
English	o	o	o
Estonian	x	Δ	Δ
Finnish	o	Δ	Δ
French	o	o	o
German	o	o	o
Greek	o	Δ	Δ
Hebrew	o	Δ	Δ
Hungarian	o	Δ	Δ
Italian	o	o	o
Japanese	o	o	o
Korean	o	Δ	Δ
Latvian	x	Δ	Δ
Lithuanian	x	Δ	Δ
Norwegian	o	Δ	Δ
Polish	o	Δ	Δ
Portuguese	o	Δ	Δ
Portuguese(Brazil)	o	Δ	Δ
Romanian	x	Δ	Δ
Russian	o	Δ	Δ
Serbian Latin	x	Δ	Δ
Slovak	x	Δ	Δ
Slovenian	x	Δ	Δ
Spanish	o	o	o
Swedish	o	Δ	Δ
Thai	x	Δ	Δ
Turkish	o	Δ	Δ
Ukrainian	x	Δ	Δ

o : Supported, x : Not supported,

Δ : The language can be used by installing the language pack.

3.2 Supported software

The software that the PS-5001B supports is listed below.

Software	WinGP	OK
	Pro-face Remote HMI Server	OK
	BLUE	OK
	BLUE Open Studio	OK
Utilities	System Monitor/Standalone Agent	OK
	Backlight brightness adjustment *1	OK
	Touch panel driver *1	OK
	Keyboard emulator *1	OK
	Remote shutdown *2	OK
	EWF Setting Tool *1	OK
	Language selection Shell update *1	OK

*1 In Windows® Embedded 8.1, the function is a standard function.

*2 The Remote Control function is included in System Monitor.

3.3 Functions supported by System Monitor

The differences of the supported System Monitor functions are as follows;

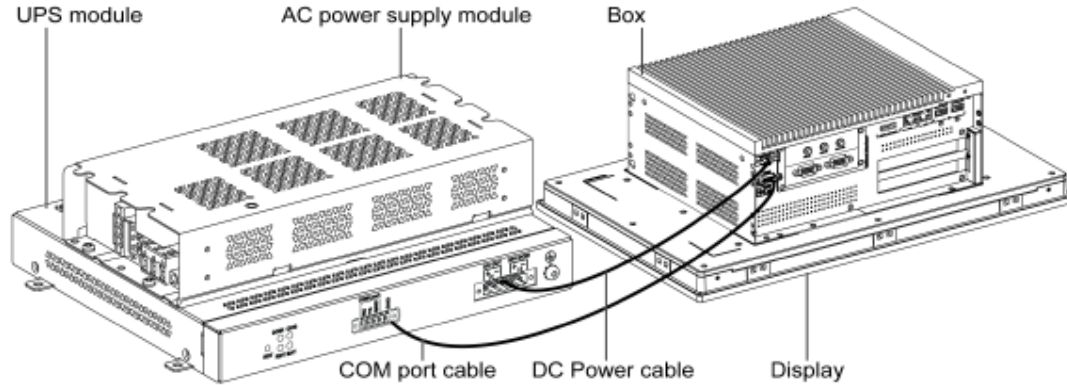
Monitor item	Error Action	PE-4000 B	PS-5001 B	Monitor item	Error Action	PE-4000 B	PS-5001 B	
Device Management								
Voltage	DOUT	NG	NG	Watchdog Timer	DOUT	NG	NG	
	LED	NG	NG		LED	NG	NG	
	Buzzer	NG	NG		Buzzer	NG	NG	
	Popup Message	NG	NG		Popup Message	NG	NG	
	Shutdown	NG	NG		Shutdown	NG	NG	
	Event Log	NG	OK		Hardware Reset	NG	NG	
	e-Mail	NG	OK		Event Log	NG	NG	
Fan	DOUT	NG	NG	SMART	e-Mail	NG	NG	
	LED	OK	NG		DOUT	NG	NG	
	Buzzer	OK	NG		LED	OK	NG	
	Popup Message	OK	NG		Buzzer	OK	NG	
	Shutdown	OK	NG		Popup Message	OK	NG	
	Event Log	NG	OK		Event Log	NG	NG	
	e-Mail	NG	OK		e-Mail	NG	NG	
Temperature	DOUT	NG	NG	DIN	DOUT	NG	NG	
	LED	OK	NG		LED	NG	NG	
	Buzzer	OK	NG		Buzzer	NG	NG	
	Popup Message	OK	NG		Popup Message	NG	NG	
	Shutdown	OK	NG		Shutdown	NG	NG	
	Event Log	NG	OK		Event Log	NG	NG	
	e-Mail	NG	OK		e-Mail	NG	NG	
Backlight	DOUT	NG	NG	Software	Event Log	NG	OK	
	LED	NG	NG		e-Mail	NG	OK	
	Buzzer	NG	NG					
	Popup Message	NG	NG					
	Shutdown	NG	NG					
	Event Log	NG	NG					
	e-Mail	NG	NG					
Remote Control								
Remote Reset		NG	OK	Remote Veiwier		NG	OK	
Remote RAS		NG	NG	Remote Screen Shot		NG	OK	

Chapter 4. Appendix

4.1 Uninterruptible power supply (UPS)

4.1.1 Overview

The uninterruptible power supply (UPS) option can only be used with Modular types. The diagram below shows the PS-5000 Series with an attached UPS.



1 : UPS module (model code : PFXZPBEUUPB2)

2 : UPS cable kit (model code : PFXZPBCBUP32)

COM port cable 3m / DCpower cable 3m

3 : AC Power Supply module (At the time of BTO shipment, possess a box.)

Primary features of the UPS option :

- Rechargeable battery that is maintenance free and lasts a long time
- Communication over the built-in interface

4.1.2 Specifications

Output voltage / Output current	24 Vdc / 4.2 A
Power failure backup time	15 minutes maximum
Battery capacity	55 Wh (2.75 Ah, 4S2P)
Maximum discharger current	1 A
Operating voltage / Charging current	12..16 Vdc / 10 A(120 W)
Typical recharge time at low battery	6 h
Status indicator	DCIN/CHG/RDY/BAT
Configuration(Communication port)	COM port(RS-232)

4.1.3 Dimensions

