

Replacement Guidebook

PS-4600 (Core i3/Celeron)
→ PS-5600 (Core i7/Celeron)
PS-5601 (Atom)

Introduction

This document introduces the procedures and notes for replacing the PS-4600 with PS-5600TA or PS5601T.

The recommended replacement models are listed below.

Device in use		Replacement models
PS-4600 (Core i3) Model code : PFXPP16xExxxxxxxx00	⇒	PS-5600T(Core i7) Model code : PFXPP26xxxxxxxxN00
PS-4600 (Celeron) Model code : PFXPP16xDxxxxxxxx00	⇒	PS-5600T(Celeron) Model code : PFXPU26xxxxxxxxN00 Or NEW ! PS-5601T(Atom) Model code : PFXPL26xxxxxxxxN00
PS-4600 (Celeron, 0 slot) Model code : PFXPP160Dxxxxxxxx00	⇒	NEW ! PS-5601T(Atom) Model code : PFXPL26xxxxxxxxN00

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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Intel, Celeron, Atom, Core2 Duo and Core i3/7 are registered trademarks of Intel corporation. Product names used in this manual may be the registered trademarks owned by the respective proprietors.

Interpreting the PS5000 series Model Code

The PS5000 series are BTO (Built To Order) products.

When purchasing the PS5000 series, carefully check the BTO code on the Web site to order before making your purchase.

To generate a BTO model code

https://www.pro-face.com/otasuke/ps5000_configurator/

For reverse resolution of specs with a BTO model code

https://www.pro-face.com/otasuke/ps5000_configurator/reverse.html



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Chapter 1. Specification Comparison

1.1 PS-4600T and PS-5600T specification comparison

Display specifications			
		PS-4600	PS-5600T/PS-5601T
			
Display device		TFT color LCD (15-inch)	
Graphics		XGA (1,024 × 768 pixels)	
Display colors/gradation		16 million colors	16.7 million colors
Backlight		LED backlight (not user replaceable, send-back type)	
Brightness adjustment		Step-less adjustment	
Display device lifespan		50,000 hours	
Backlight lifespan		50,000 hours or more	
Touch panel	Type	Analog resistive	
	Resolution	4,096 × 4,096	2,048 × 2,048

Performance specifications			
	PS-4600	PS-5600T	PS-5601T
CPU	Intel Core i3-3217UE 1.60GHz or Celeron M 827E 1.40GHz (L2 cache 1.5MB)	Core i7 4650U 1.7GHz or Celeron 2980U 1.6GHz	Atom E3930 1.3GHz
Main memory	DDR3: 1GB to 16GB (max)	4GB, 8 GB, 16 GB, DDR3L 1600 MHz, SO-DIMM SDRAM <i>*For 4GB, Celeron only</i> <i>For 16GB, Core i7 only</i>	4GB, 8 GB, DDR3L 1600 MHz, SO-DIMM SDRAM <i>*Atom Entry type has 4GB specification only</i>

General specifications		
	PS-4600	PS-5600T (Corei7/Celeron)
Panel cut dimensions	W301.5mm x H227.5mm	
Panel thickness	1.6mm to 9mm	NEW ! 2mm to 4mm
External dimensions (bezel included)	0 slot W313 x H239 x D68.5mm 1 slot W313 x H239 x D123.2mm 2 slots W313 x H239 x D143.5mm	NEW ! 0 slot (DC power supply type) W319.10 x H245.10 x D93.2 mm 0 slot (AC power supply type) W319.10 x H245.10 x D128 mm 2 slots W319.10 x H245.10 x D131.2 mm <i>*There's no 1-slot type.</i> → See 2.1
Front Bezel material	Aluminum →See 2.12	
Weight	0 slot 4.0kg 1 slot 4.1kg 2 slots 4.2kg	NEW ! 0 slot DC power supply type 5.4 kg AC power supply type 6.2kg 2 slots DC power supply type 6.2 kg AC power supply type 7.0kg <i>* There's no 1-slot type.</i> <i>* For the AC power supply type, The weight of PFXZPBPUC2 (100 W), 0.8kg included</i>
Cooling method	For no HDD storage device in Slide-in Disk, natural sir circulation For Slide-in Disk + HDD storage device, a fan kit is required.	Natural air circulation (Fanless) →See 2.4
Power supply → See 2.9	DC power supply: 24V AC power supply: 100 to 240V	DC power supply: 24V AC power supply: 100 to 240V <i>(An option is required.)</i>
DC power supply Power consumption	130W or less	43.6 W (standard) 57.87 W (max)
Battery backup UPS	Optional →See 2.5	

Interface specifications			
		PS-4600	PS-5600T (Corei7/Celeron)
Serial (9-pin D-Sub plug)	Main unit	RS-232C × 2	COM1: RS-232C/422/485 ×1 → See 2.6
	Option	RS-232C/422/485 (optional) ×1	UP! Select any shown below. RS-232C ×4 RS-232C Isolation ×2 RS-422/485 ×4 RS-422/485 Isolation×2
Disk		Slide-in Disk: Select any shown below. HDD SSD CFast + Slide-in Disk adapter unit Slide-in Slot: Select any shown below. DVD-RW HDD + Slide-in slot adapter unit SSD + Slide-in slot adapter unit CFast + Slide-in Disk adapter unit	UP! HDD or SSD ×2 CFast ×1 mSATA ×1
USB → See 2.7		USB Type-A×5 (Front 2.0 x1, Bottom 2.0 x4)	UP! USB Type-A ×5 (Front 2.0 x1, Box 2.0 x 2 and 3.0 x 2)
Ethernet		10BASE-T/100BASE-TX/1000BASE-T Automatic change ×2	
Sound		Line input/Ling output/mic input	Line input/Line output/mic input (optional)
Video Output		DVI-I ×1	NEW! Display Port x1 → See 2.11
Expansion Slot		0 slot None 1 slot PCI x1 or PCIe x1 2 slots PCI x1 + PCIe x1 or PCI x2	0 slot None NEW! 2 slots Select any shown below. PCI ×2 PCIe ×2 PCI ×1 + PCIe ×1 → See 2.8 * Able to add internal expansion × 2.

1.2 PS-4600T and PS-5601T specification comparison

General specifications		
	PS-4600	PS-5601T
Panel cut dimensions	W301.5mm x H227.5mm	
Panel thickness	1.6mm to 9mm	NEW ! 2mm to 4mm
External dimensions (bezel included)	0 slot W313 x H239 x D68.5mm 1 slot W313 x H239 x D123.2mm 2 slots W313 x H239 x D143.5mm	NEW ! Atom (Optional Interface Non-mounted type, DC power) W319.10× H245.10 × D66 mm Atom (Optional Interface mounted type, DC power) W319.10× H245.10 × D82 mm Atom Entry model (DC power) W319.10 × H245.10 × D74 mm AC 60W power supply type W319.10 × H245.10 × D92.61mm AC 100W power supply type W319.10 × H245.10 × D128 mm → See 2.1
Front Bezel material	Aluminum → See 2.12	
Weight	0 slot 4.0kg 1 slot 4.1kg 2 slots 4.2kg	NEW ! Atom (Optional Interface Non-mounted type) DC power supply type 3.55 kg AC power supply type 4.35 kg Atom (Optional Interface mounted type) DC power supply type 3.6 kg AC power supply type 4.4 kg Atom Entry model DC power supply type 3.5 kg AC power supply type 4.3 kg <i>* For the AC power supply type, The weight of PFXZPBUAC2 (100 W), 0.8kg included</i>
Cooling method	For no HDD storage device in Slide-in Disk, natural sir circulation For Slide-in Disk + HDD storage device, a fan kit is required.	Natural air circulation (Fanless)
Power supply → See 2.9	DC power supply: 24V AC power supply: 100 to 240V	DC power supply: 24V AC power supply: 100 to 240V <i>(An option is required.)</i>
DC power supply Power consumption	130W or less	Atom (Optional Interface Non-mounted type)/ Atom (Optional Interface mounted type) 17.1 W (standard) 42.87 W (max)

		Atom Entry model 15.1 W (standard) 37.87 W (max)
Battery backup UPS		Optional → See 2.5

Interface specifications			
		PS-4600	PS-5601T
Serial (9-pin D-Sub plug)	Main unit	RS-232C × 2	Atom (Optional Interface Non-mounted type)/ Atom (Optional Interface mounted type) COM1: RS-232C ×1 COM2: RS-422/485 ×1 Atom Entry model COM1 : RS-232C/422/485 ×1
	Option	RS-232C/422/485 (optional) ×1	UP! Select any shown below. RS-232C ×4 RS-232C Isolation ×2 RS-422/485 ×4 RS-422/485 Isolation×2 <i>* For Atom (Optional Interface mounted type), Atom Entry type only</i>
Disk		Slide-in Disk: Select any shown below. HDD SSD CFast + Slide-in Disk adapter unit Slide-in Slot: Select any shown below. DVD-RW HDD + Slide-in slot adapter unit SSD + Slide-in slot adapter unit CFast + Slide-in Disk adapter unit	NEW! Atom (Optional Interface Non-mounted type) 1 st M.2 Atom (Optional Interface mounted type) 1 st M.2 2 nd HDD/SSD Atom Entry model 1 st eMMC
USB →See 2.7		USB Type-A×5 (Front 2.0 x1, Bottom 2.0 x4)	NEW! Atom (Optional Interface Non-mounted type)/ Atom (Optional Interface mounted type) USB Type-A ×5 (Front 2.0 x1, Box 2.0 x 2 and 3.0 x 2) Atom Entry model USB Type-A ×3 (Front 2.0 x1, Box 2.0 x 1 and 3.0 x 1)
Ethernet		10BASE-T/100BASE-TX/1000BASE-T Automatic change × 2	

<p>Sound</p>	<p>Line input/Ling output/mic input</p>	<p>Line input/Line output/mic input (optional) *Option For Atom (Optional Interface mounted type), Atom Entry type only</p>
<p>Video Output</p>	<p>DVI-I x1</p>	<p>NEW! Atom (Optional Interface Non-mounted type)/ Atom (Optional Interface mounted type) Display Port x2 Atom Entry model Display Port x1 →See 2.11 DVI-I x1 (Optional) * For Atom (Optional Interface mounted type), Atom Entry type only</p>
<p>Expansion Slot</p>	<p>0 slot None 1 slot PCI x1 or PCIe x1 2 slots PCI x1 + PCIe x1 or PCI x2</p>	<p>mini PCIe full size x 1 * Option For Atom (Optional Interface mounted type), Atom Entry type only</p>

Chapter 2. Hardware Compatibility

2.1 The number of PCI slots and external dimensions

The number of supported PCI slots differs between PS4600 and PS5600. If you have used PS4600, 1-slot type, please use PS5600, Atom (Optional Interface mounted type)/Atom Entry model or Core i7/Celeron 2-slot type. But in that case, note that the external dimensions are different.

PS-4600 External dimensions	PS-5600 External dimensions	
	DC power supply type	AC power supply type *1
0 slot W313 x H239 x D68.5mm	Core i7/Celeron 0 slot W319.10 x H245.10 x D93.2mm Atom (Optional Interface Non-mounted type) W319.10 x H245.10 x D66.0 mm Atom (Optional Interface mounted type) W319.10 x H245.10 x D82.0 mm Atom Entry model W319.10 x H245.10 x D74.0 mm	Core i7/Celeron 0 slot W319.10 x H245.10 x D128mm Atom (Optional Interface Non-mounted type) W319.10 x H245.10 x D128 mm Atom (Optional Interface mounted type) W319.10 x H245.10 x D128 mm Atom Entry model W319.10 x H245.10 x D128 mm
1 slot W313x H230x D123.2mm	-	-
2 slots W313x H239 x D143.5mm	Core i7/Celeron 2 slots W319.10 x H245.10 x D131.2 mm	

*1 The AC power supply module, PFXZPBPUAC2 (100W) is included.

2.2 Difference of every port location

Every port location differs between PS4600 and PS5600. For details, refer to each hardware manual.

Reference→ [PS4600 users manual](#)
[PS5600 hardware manual](#)

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.

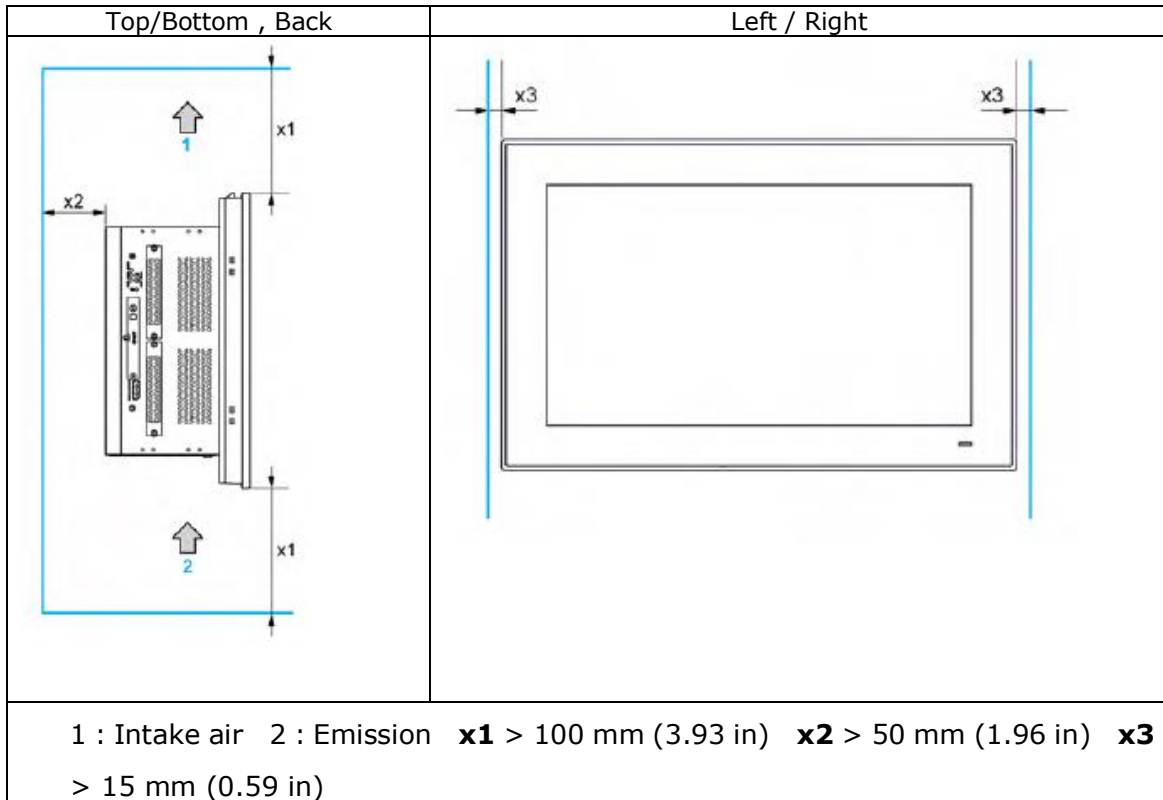
Please check this limitation before selecting the specification for product.

2.4 Installation

Larger space than the values shown below is required for safe installation with adequate air circulation.

And if PCI/PCIe cards are attached in PS-5000 series with Core i7 or Celeron CPU and the following conditions are satisfied, it is necessary to connect a fan unit. Take a note of it. (Only Fan less model is available for Atom Modular Boxes)

- When the total power consumption of 2 PCI/PCIe cards for expansion slots is over 6W,
- When using a gigabit Ethernet PoE interface card for internal expansion (PFXZPBMPE2),



2.5 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.

2.6 Serial Interface

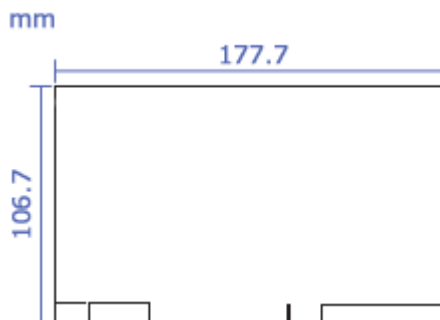
You can add one port for a serial interface compatible with communication types (RS-232/422/485) as an option item to PS-5000 series. To add it, specify your BTO order. To add it after purchasing PS-5000 Series, please purchase the option item and mount it. To make RS-422/485 communication via the added 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.

2.7 USB Interface

USB Interface of PS-5000 series except Atom Entry model has 5 ports in total; USB 2.0 x 3 and USB 3.0 x 2. Modular Atom Entry model is equipped 3 ports in total as USB 2.0 x 2 and USB 3.0 x 1. Use a channel corresponding to a connected device.

2.8 PCI Slot

The size of PCI cards that can connect to PS-5000 Series is up to the half size (106.7mm x 177.7mm). Please confirm that the previously used PCI card can be used in advance.



2.9 Power supply plug

Caution: The power line terminal locations for the power supply plug differ between the PS-4600 and the PS-5000.

	PS4600	PS-5000
DC power supply	<p>DC connector</p> <p>Power supply</p> <p>0V FG 24V</p>	<p>DC connector</p> <p>Power supply cable</p> <p>FG 0V 24V</p>

2.10 Power consumption

The power consumption 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 45 W.

2.11 Video Output Interface

The video output interface of PS5600 series is "Display Port". As the video output interface of PS4600 is DVI-I, you can use the following options that converts the Display Port into the DVI. Be sure to confirm operation in advance.

- DP-DVI Cable (3m) (Model number: PFXZPBCBDPDV32)
- DP-DVI Converter (Model number: PFXZPBADCVDPDV2)
Need to purchase DVI-D cable (commercial model).
When purchasing DVI-D cable, make sure that it is "Active Type" cable.

2.12 Rear mount product

We don't have rear mount product line for PS5000 series. Please note PS5000 with bezel should be installed even you are using PS4000 rear mount type.

Chapter 3. Software Compatibility

3.1 Supported operating systems and languages

The supported operating systems and languages differ between PS4600 and PS-5000 series. See the table below.

OS	PS4600	PS-5600T	PS-5601T
Windows® XP Professional Japanese	○	×	×
Windows® XP Professional Multi-Language	○	×	×
Windows® Embedded Standard 2009	○	×	×
Windows® Embedded Standard 7(32bit) MUI	○	○	×
Windows® Embedded Standard 7(64bit) MUI	×	○	×
Windows® 7 Ultimate (32bit) MUI	○	×	×
Windows® 7 Ultimate (64bit) MUI	○	○	×
Windows® Embedded 8.1 Industry (64bit) MUI	×	○	×
Windows® 10 IoT Enterprise 2016 LTSB 64 bit MUI	×	○*1	○*1

*1 UWF is not supported.

Language	PS4600					PS-5000
	WinXP	WinXP ML	WES 2009	WES7	Win7	WES7/Win7/WES8.1 /Win 10 IoT Enterprise 2016 LTSB
Arabic	×	○	○	△	○	△
Bulgarian	×	○	×	△	○	△
Chinese(Simplified)	×	○	○	△	○	△
Chinese(Traditional)	×	○	○	△	○	△
Croatian	×	○	×	△	○	△
Czech	×	○	○	△	○	△
Danish	×	○	○	△	○	△
Dutch	×	○	○	△	○	△
English	×	○	○	○	○	○
Estonian	×	○	×	△	○	△
Finnish	×	○	○	△	○	△
French	×	○	○	○	○	○
German	×	○	○	○	○	○
Greek	×	○	○	△	○	△
Hebrew	×	○	○	△	○	△
Hungarian	×	○	○	△	○	△
Italian	×	○	○	○	○	○
Japanese	○	○	○	○	○	○
Korean	×	○	○	△	○	△
Latvian	×	○	×	△	×	△
Lithuanian	×	○	×	△	○	△
Norwegian	×	○	○	△	○	△
Polish	×	○	○	△	○	△
Portuguese	×	○	○	△	○	△
Portuguese(Brazil)	×	○	○	△	○	△
Romanian	×	○	×	△	○	△
Russian	×	○	○	△	○	△
Serbian Latin	×	×	×	△	○	△
Slovak	×	○	×	△	○	△
Slovenian	×	○	×	△	○	△
Spanish	×	○	○	○	○	○
Swedish	×	○	○	△	○	△
Thai	×	○	×	△	○	△
Turkish	×	○	○	△	○	△

Ukrainian	x	x	x	Δ	○	Δ
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○ : Supported, x : Not supported,

Δ : Additional installation from the language pack or something is required.

3.2 Supported software

The software the PS-5000 series 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	PS-4600	PS-5000	Monitor item	Error Action	PS-4600	PS-5000
Device Management				Device Management			
Voltage	Event Log	×	○	SMART	LED	○	×
	e-Mail	×	○		Buzzer	○	×
Fan	LED	○	×		Popup Message	○	×
	Buzzer	○	×	Software	Event Log	×	○
	Popup Message	○	×		e-Mail	×	○
	Shutdown	○	×	Remote Control			
	Event Log	×	○	Remote Reset	×	○	
	e-Mail	×	○	Remote Veiwew	×	○	
Temperature	LED	○	×	Remote Screen Shot	×	○	
	Buzzer	○	×				
	Popup Message	○	×				
	Shutdown	○	×				
	Event Log	×	○				
	e-Mail	×	○				

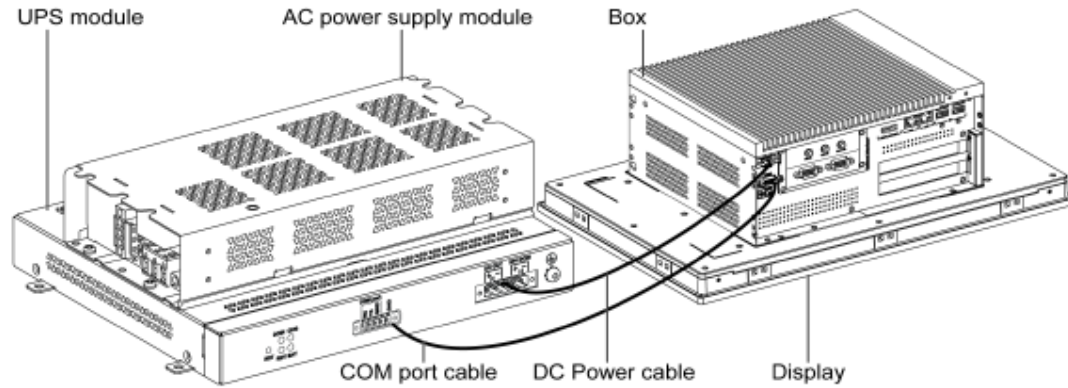
x: Not supported,
○: Supported

Chapter 4. Appendix

4.1 Uninterruptible power supply (UPS)

4.1.1 Overview

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 / DC power 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 discharge 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 of UPS module (PFXZPBEUUPB2)

*including AC power supply module(PFXZPBUAC2)

