

Replacement Book

PS-5811W (Slim Type, Core i3)
→ PS6000 series 19-inch Wide Display +
Standard Box (Core i3)

Preface

This guidebook introduces the procedures to replace PS-5811W with PS6000 series 19-inch Wide Display Module + Standard Box Module. The recommended replacement models are as shown below.

* The PS6000 series 19-inch Wide Display Module is hereinafter called PS6000 19"W and the PS6000 series Standard Box Module is called Standard Box.

Currently used device		Recommended replacement model
PS-5811W (Core i3) Model: PFXPS2KN3D8xxxxN00	⇒	PS6000 19"W + Standard Box (Core i3) Model: PFXP63Gxxxxxxxxx00

Safety Information

To properly use the products described in this book, please follow the directions below.

- Be sure to read the manual and the other provided documents before use.
- Only persons with the expertise of electrical equipment construction method and related law and also the adequate skills should be allowed to install, connect, and maintain the products.

We are not responsible for death, serious injury or unintended equipment damage incurred as the result of failure to follow these instructions.

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Other product names used in this manual may be the registered trademarks owned by the respective proprietors.

Models of PS6000 series

PS6000 series are products of CTO (Configure To Order).

Please confirm CTO models on the Web site before placing orders at the time of purchase.

Generate CTO models.

<https://www.proface.com/en/product/ipc/ps6000/configurator>

Product configuration of PS5000 series,

If you know the product model number of PS5000 series, you can access the following Web site and know the product configuration by entering the product model number.

PS5000 Reverse Configurator.



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

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Chapter 1 Specifications Comparison

1.1 Comparison of display specifications between PS-5811W and PS6000 19" W

Display Specifications		
	PS-5811W	PS6000 19" W
		
Display Type	TFT Color LCD (19" Wide)	
Display Resolution	FWXGA (1,366 x 768 pixels)	UP! FHD (1,920 x 1080 pixels)
Display Colors	Approx. 16 million colors	
Backlight	White LED (not user replaceable. When replacement is required, contact customer support.)	
Brightness control	No level adjustment	UP! 101 levels (adjusted with touch panel or software)
Backlight service life	50,000 hours or more (continuous operation at 25 °C [77 °F]-ambient temperature- before backlight brightness decreases to 25%)	
Touch panel	Type	Projected capacitive touch panel (multitouch, simultaneous touch number-5)
	Mode	None
		Projected capacitive touch panel (multitouch, simultaneous touch number-2) with optimized noise filter UP! 3 modes (Changeable - Standard Mode, Water Detection Mode, and Glove Mode)

1.2 Comparison of performance specifications between PS-5811W and Standard Box

Performance Specifications			
	PS-5811W	Standard Box	
CPU	Core i3-4010U, 1.7 GHz	UP! Core™ i3-8145UE	
	Base frequency	1.70 GHz	UP! 2.20 GHz
	Max turbo boost frequency	1.70 GHz	UP! 3.90 GHz
	L2 cache	3 MB	UP! 4 MB
	Core number	2	2
	Thread number	4	4
Main memory	8GB DDR3 1600 MHz, SO-DIMM SDRAM	UP! 260-pin SO-DIMM socket x 2, DDR4-2400 (Up to 32GB for 2 sockets) → See 3.2	
Graphics accelerator	Intel HD Graphics 4400	UP! Intel® UHD Graphics 620 (built-in CPU)	
Security chip	Not supported	UP! TPM 2.0	
BIOS	Legacy BIOS	UP! UEFI BIOS	
Operating system	<ul style="list-style-type: none"> Windows® 10 IoT Enterprise 64 bit MUI Windows® Embedded 8.1 Industry 64 bit MUI Windows® 7 Ultimate SP1 64 bit MUI Windows® Embedded Standard 7 (WES7P) SP1 64 bit MUI 	UP! Windows® 10 IoT Enterprise 64bits MUI	
Watchdog timer	Timeout setting from either 1 to 255 seconds, or 1 to 255 minutes, is possible (set up using API)	New! Timeout setting from either 1 to 255 seconds, or 1 to 255 minutes, is possible (set up using API) → See 2.6	
Buzzer	Yes		

1.3 Comparison of general specifications between PS-5811W and PS6000 19"W + Standard Box

General Specifications		
	PS-5811W	PS6000 19"W + Standard Box
Panel cut dimensions	W479.3 mm x H300.3 mm	W449.5 mm x H279.5 mm * The panel cut dimensions are different. The optional attachment (PFXZPAT8W1) is required for attaching it.
Panel thickness	2 mm to 6 mm	1.6 mm to 5 mm
External dimensions (including bezel)	W488.0 x H309.0 x D56.7 mm	W463.6 x H293.6 x D85.0 mm * The depth is deeper by 29.7mm. Make sure that the panel space has some margins.
Front bezel material	Aluminum	
Weight	7 kg	7.4 kg or less
Cooling method	Natural air circulation (fanless)	
Power supply	DC power supply : 24V AC power supply : 100 to 240V (AC power supply needs option.)	DC power supply : 24V AC power supply : 100 to 240V
Power consumption	DC	28 W (standard), 60 W (max) When backlight is off: 41 W No power supplied to outside: 64 W Max: 82 W
	AC	- When backlight is off: 50 VA No power supplied to outside: 74 VA Max: 92 VA
UPS for battery backup	None	Under development

1.4 Comparison of interface specifications between PS-5811W and PS6000 19"W + Standard Box

Interface Specifications			
		PS-5811W	PS6000 19"W + Standard Box
Serial (D-Sub 9-pin plug)	Main unit	RS-232C x1 RS-232C/422/485 x1	RS-232C (non-isolated type) x1 → See 2.1
	Option	Select any of the following RS-232C x4 RS-232C isolated type x2 RS-422/485 x4 RS-422/485 isolated type x2	Select any of the following RS-232C x4 RS-232C isolated type x2 RS-422/485 isolated type x2 → See 2.2 → See 2.3 <i>* No compatibility in case of RS-422 using RTS+/- or CTS+/- . But even in other case, if application or connected device is controlling send/receiving by monitoring RTS or CTS, it could not be communicated. If able to change to software flow control, it is avoidable.</i>
Disk		2.5" SATA (HDD/SSD) x1 CFast x1	UP! M.2 SSD SATA x 1 (Disk 0) 2.5" SATA (HDD/SSD) x1 (Disk 1)
USB		USB Type-A x2 (3.0 x2) <i>* There's no front USB.</i>	UP! USB Type-A x4 (ボックス 2.0 x 2、3.0 x 2) <i>* There's no front USB.</i>
Ethernet		10BASE-T/100BASE-TX/1000BASE-T automatic change x2	IEEE1588, 10 BASE-T/ 100 BASE-TX/1000BASE-T, Wake on LAN (WOL) supported <i>* When status is S4 (hybrid shutdown), Wake on LAN cannot be used.</i>
Sound		Line output	Line input/Line output/Microphone input (Option)
Video output → See 2.4		HDMI x1	UP! Display Port x1 UP! USB 3.0 (Type C) x 1 → See 2.5
PCI/PCIe Card Slot			None
Option Interface Slot			1 slot

Chapter 2 Hardware Compatibility

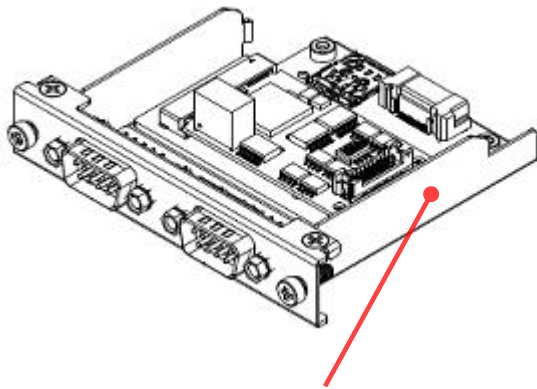
2.1 Serial Interface

For PS6000 series, it's possible to add a serial interface compatible with the communication type, RS-232/422/485 as an option. To add it, please specify at the time of CTO order.

If you want to add it after purchase, purchase the option item and attach it.

2.2 Option Interface of RS-422/485 isolated type x2

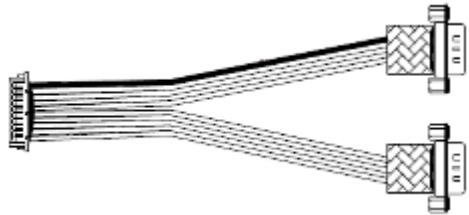
An RS-485 interface is connected to the interface cartridge at the time of shipping from the factory. If you want to use an RS-422 interface, remove the RS-485 interface cable from the interface cartridge and replace it with the RS-422 interface cable attached to this product.



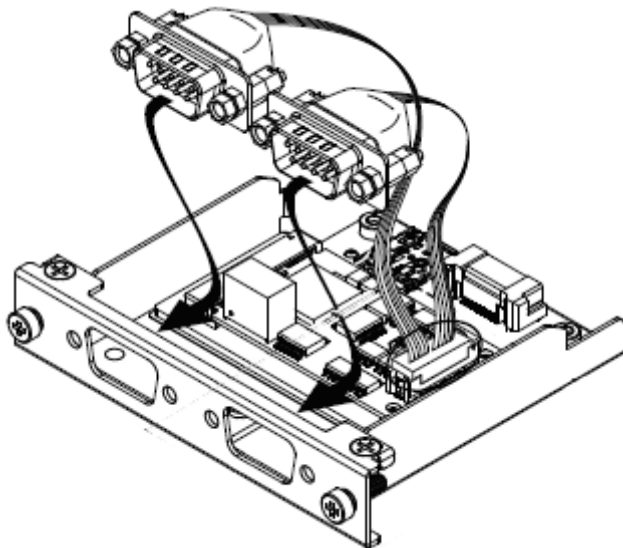
Interface Cartridge



RS-485 Interface Cable

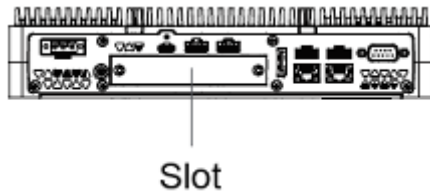


RS-422 Interface Cable



2.3 Assigned numbers of COM ports

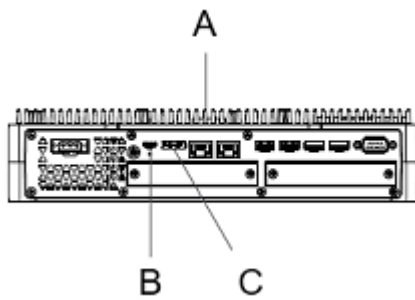
The COM port numbers of the option interface card are defined with a type of inserted card and which slot is used.



Option interface card	Slot			
	3	4	5	6
RS-232C isolated type x2 and RS-422 x2	✓	✓	-	-
RS-485 x2	-	-	✓	✓
RS-232C x4	✓	✓	✓	✓

2.4 Video output interface

PS6000 series supports 3 video output interfaces. Simultaneous output of all the interfaces is possible, but only one can be selected as to [Expansion] among the display modes for output.



A: Display Module Interface

B: USB Type C

C: Display Port

設定ツール	複製	拡張	スケーリング
Windows 標準のディスプレイ設定	最大 2 画面	最大 3 画面	縮小のみ
Intel Graphics Command Center	最大 3 画面	最大 3 画面	拡大/縮小

A	B	C	詳細
1	2	3	3 拡張表示
1	2+3	2+3	1 拡張表示 (ディスプレイモジュール) 、2 複製表示
1+3	2	1+3	1 拡張表示 (USB Type C) 、2 複製表示
1+2	1+2	3	1 拡張表示 (DisplayPort) 、2 複製表示
1+2+3	1+2+3	1+2+3	3 複製表示 (Intel Graphics Command Center が必要)

2.5 USB Type C

The USB Type C of PS6000 series supports Alt Mode and USB-PD (Power Delivery). *1

Video output and power feeding are possible with a single USB Type C cable. The amount of power feeding is as follows;

	PD 12V device	PD 5V device	Without PD device
Standard Box	36W	15W	4.5W
Standard Box + Display	PD devices cannot be used.	PD devices cannot be used.	4.5W

*1: To use the USB-PD feature, a Type-C cable supporting USB PD (Power Delivery) is required.

2.6 Watchdog timer

The watchdog timer is supported by products with the following system version.

- BIOS: WAR02 or later
- OS Base: 2.0 or later

You can check the system version from the Launcher. Refer to System, page 165 in the user manual.

To use the watchdog timer on a product with a WAR01 BIOS, and OS Base 1.0, the BIOS and System Monitor must be updated. Follow the steps below to update.

1. BIOS: Contact the customer care center for instructions on how to update.
2. System Monitor: Download the driver (PFXPHMIP6_Driver_Installer_Ver.x.x.zip) and utility (PFXPHMIP6_Utility_Installer_Ver.x.x.zip) from our website and install them.
<https://www.pro-face.com/trans/en/manual/1085.html>

Chapter 3 Compatibility of optional items

3.1 Option Interface

The option interface card of PS5000 series (modular type) is not compatible with PS6000 series. But, some cards with equivalent feature are available for PS6000 series.

PS5000 series (modular type)		PS6000 series	
Product Name	Model	Product Name	Model
RS-422/485 isolated type x 2	PFXZPBMPR42P2	RS422/485 isolated type x 2	PFXYP6MPR42P2 *5
RS-422/485 x 4	PFXZPBMPR44P2	-	
RS-232 x 4	PFXZPBMPR24P2	RS-232C x 4	PFXYP6MPR23P4
RS-232 isolated type x 2	PFXZPBMPR22P2	RS-232C isolated type x 2	PFXYP6MPR23P2
16DI/8DO and 2-m cable and terminal	PFXZPBMPX16Y82	16DI/8DO *1 *2	PFXYP6MPX16Y8
Analog input x 8	PFXZPBMPAVI8	-	
Ethernet gigabit IEEE1588 x 1	PFXZPBMPRE2	Ethernet (GbE IEEE1588)	PFXYP6MPETH
Ethernet gigabit PoE x 2	PFXZPBMPPE2	-	
EtherCAT (master)	PFXZPBMPPECATM2	EtherCAT (Master) *3	PFXYP6MPECAT
USB 3.0 x 2	PFXZPBMPUS2P2	-	
CANopen x 2	PFXZPBMPCANM2	-	
Profibus DP master (With NVRAM) x 1	PFXZPBMPPB2	-	
Cellular 3G: GPRS/GSM and antenna	PFXZPBPHMC2	-	
Audio interface for Celeron/Core i7	PFXZPBPHAU2	Audio (Mic-IN, Line-IN, Line-OUT)	PFXYP6MPAU
Transmitter	PFXZPBMPTX2	-	
DVI-I x 1	PFXZPBMPDV2	-	
VGA and DVI-D x 2	PFXZPBMPVGDV2	-	
Cellular for North America 4G and antenna	PFXZPBMP4GU2	4G Cellular for US *4	PFXYP6MP4GU
Cellular for Europe/Asia 4G and antenna	PFXZPBMP4GE2	4G Cellular for EU, Asia, Japan *4	PFXYP6MP4GE
Cellular for Japan 4G and antenna	PFXZPBMP4GJ2		
TPM module	PFXZPBTPM22	Built in as standard	

*1: Cannot be mounted for shipping as CTO. You can purchase it separately.

*2: PS6000 16DI/8DO interface option's digital output (DO0 to 7) will keep the output status also on the shutdown (system power status S5) or sleep (system power status S3) When replacing from PS5000 16DI/8DO interface option with system loads the default setting while reset, behavior will be different. Need to add process as turn off the digital output by application before shutdown or sleep.

*3: The ambient temperature for use of Advanced Box is limited to the maximum, 40 degree when the option interface of EtherCAT is connected.

*4: Not compatible with SMS (Short Message Service) different from PS5000 series.

*5 When Controlling Auto data flow, RS-485 check box on the Port setting by device manager need to be checked (image 1 and 2). The default setting is un-checked.

Image 1

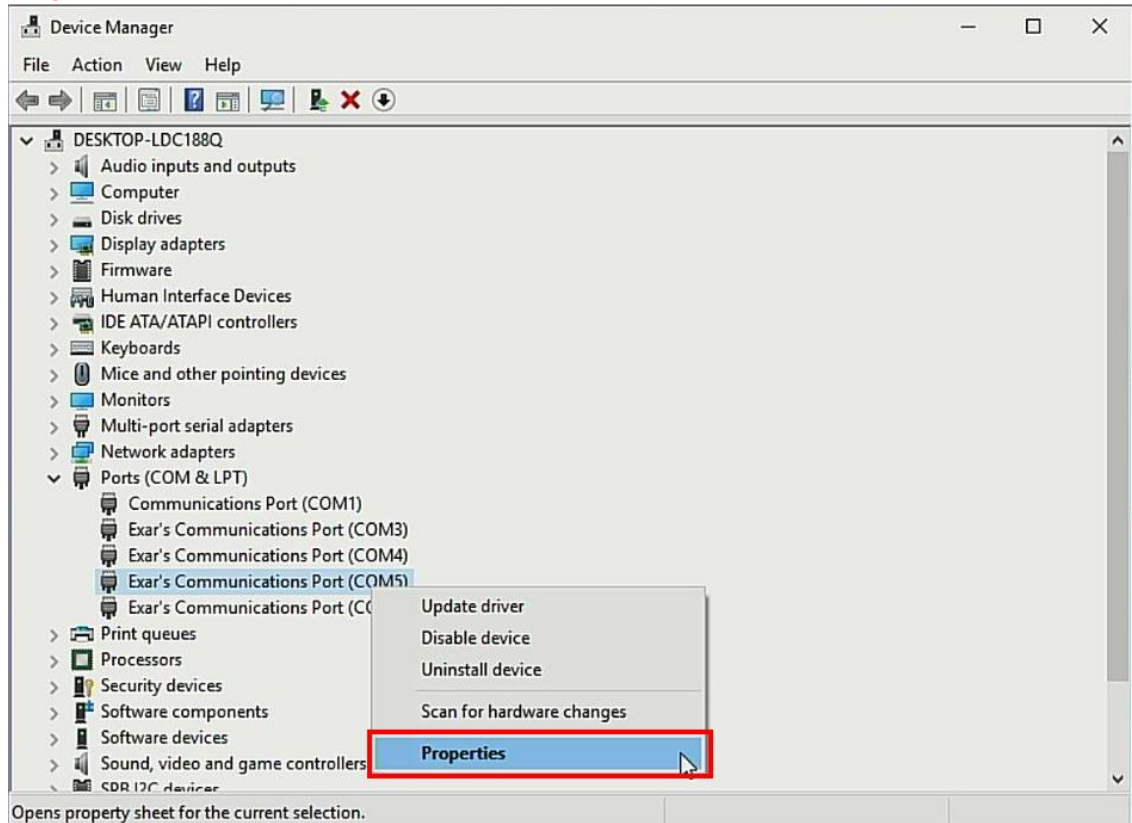
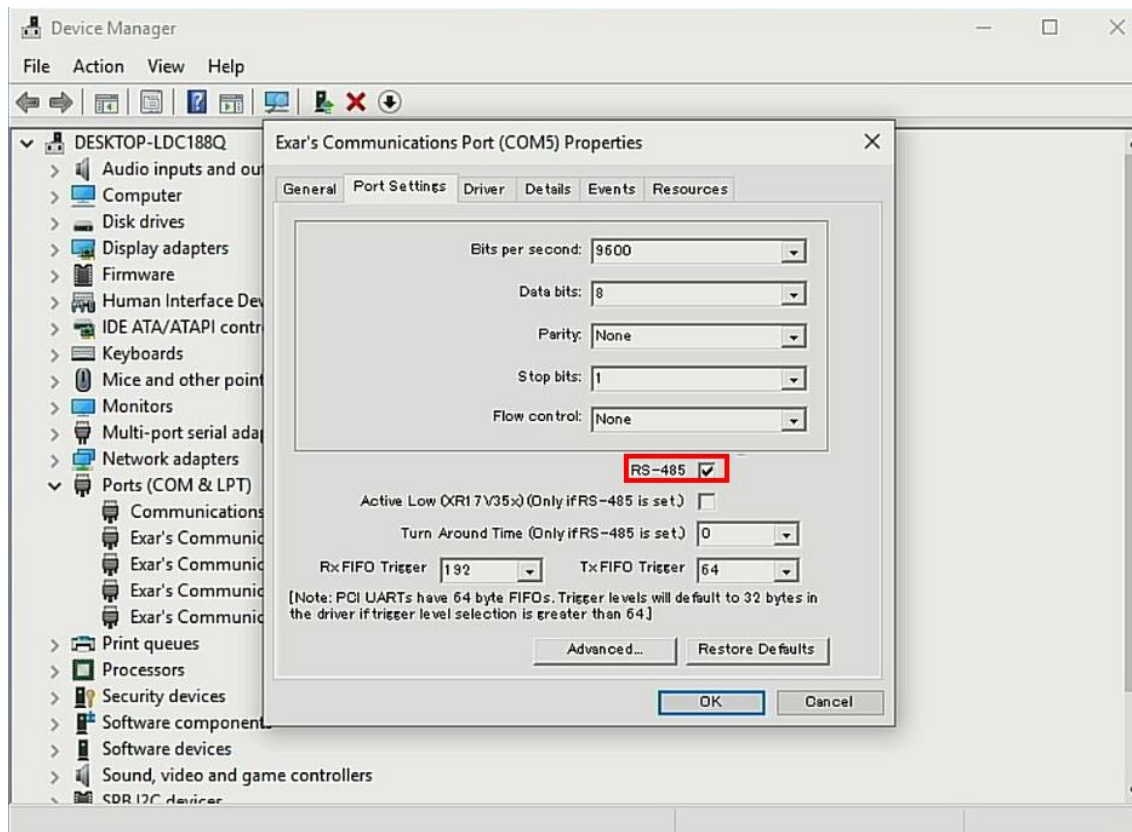


Image 2

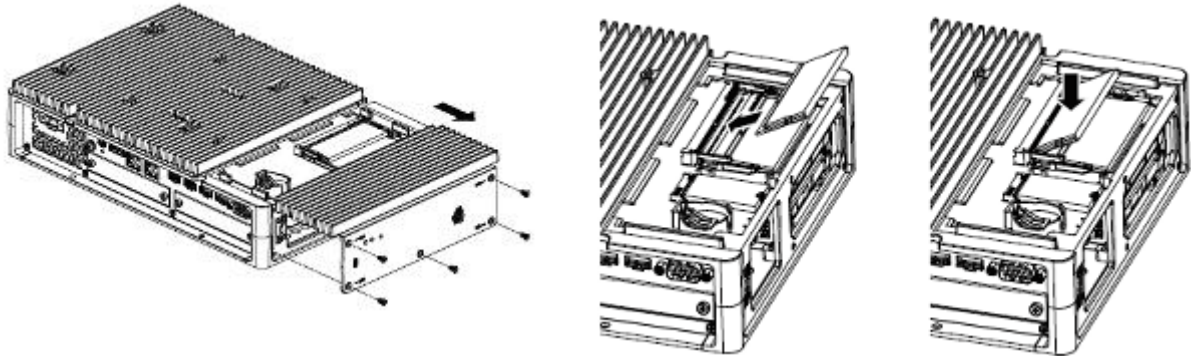


3.2 Drive and Main Memory

The drive of PS5000 series (slim type, Core i3) is not compatible with PS6000 series. But, some drives with the equivalent feature are available for PS6000 series. And users can attach and replace main memory by themselves for PS6000 series. Because of it, main memory is added to the option lineup.

PS5000 series (slim type, Core i3)		PS6000 series	
Product Name	Model	Product Name	Model
-	-	M.2 SSD 128 GB (standard)	PFXYP6M2128L
-	-	M.2 SSD 128 GB (high endurance)	PFXYP6M2128
-	-	M.2 SSD 256 GB (high endurance)	PFXYP6M2256
-	-	M.2 SSD 512 GB (high endurance)	PFXYP6M2512
HDD 500 GB	PFXZPBHDD502	-	-
HDD 1 TB	PFXZPBHDD1002	HDD 1 TB	PFXYP6HDD1T
SSD 128 GB	PFXZPBSSD122	SSD 128 GB (high endurance)	PFXYP6SSD128
SSD 256 GB	PFXZPBSSD252	SSD 256 GB (high endurance)	PFXYP6SSD256
-	-	SSD 512 GB (high endurance)	PFXYP6SSD512
CFast 16 GB	PFXZPECFA162	-	-
CFast 32 GB	PFXZPSCFA322	-	-
-	-	DIMM 4 GB (main memory)	PFXYP6DM4
-	-	DIMM 8 GB (main memory)	PFXYP6DM8
-	-	DIMM 16 GB (main memory)	PFXYP6DM16

Replacing main memory



3.3 The other options

The options except the option interface, the drive, and the main memory of PS5000 series (slim type, Core i3) are not compatible with PS6000 series, but there are some exceptions.

PS5000 series (slim type, Core i3)		PS6000 series	
Product Name	Model	Compatibility	
AC power supply module	PFXZPSPUAC3	-	
DC Power Supply Connector (5 pcs)	PFXZPBCNDC2		
Installation Fastener (12 pcs)	PFXZPPAF12P2		
Protection sheet for 15" wide (5 sheets)	PFXZPPDSP152		
Protection sheet for 19" wide (5 sheets)	PFXZPPDSP192		
Drip-proof gasket for 15" wide (1pc)	PFXZPPWG152		
Drip-proof gasket for 19" wide (1pc)	PFXZPPWG192		
M12 connector (power supply, COM, LAN x 2, USB) (environmentally resistant panel only)	PFXZPSCNM122		
DP-DVI converter (DVI-D type)	PFXZPBADCVPDV2		
USB cable 5 m	FP-US00		✓
M12 cable for environmentally resistant panel: LAN cable 2 m (6.56 ft) x 2 COM cable 2 m (6.56 ft) x 1 USB cable 1.5 m (4.92 ft) x 1 Power Supply cable 2 m (6.56 ft) x 1	PFXZPSCBM122		-

Chapter 4 Compatibility of software

4.1 Supported OS and language

The supported OS and language differ between PS5000 series and PS6000 series.

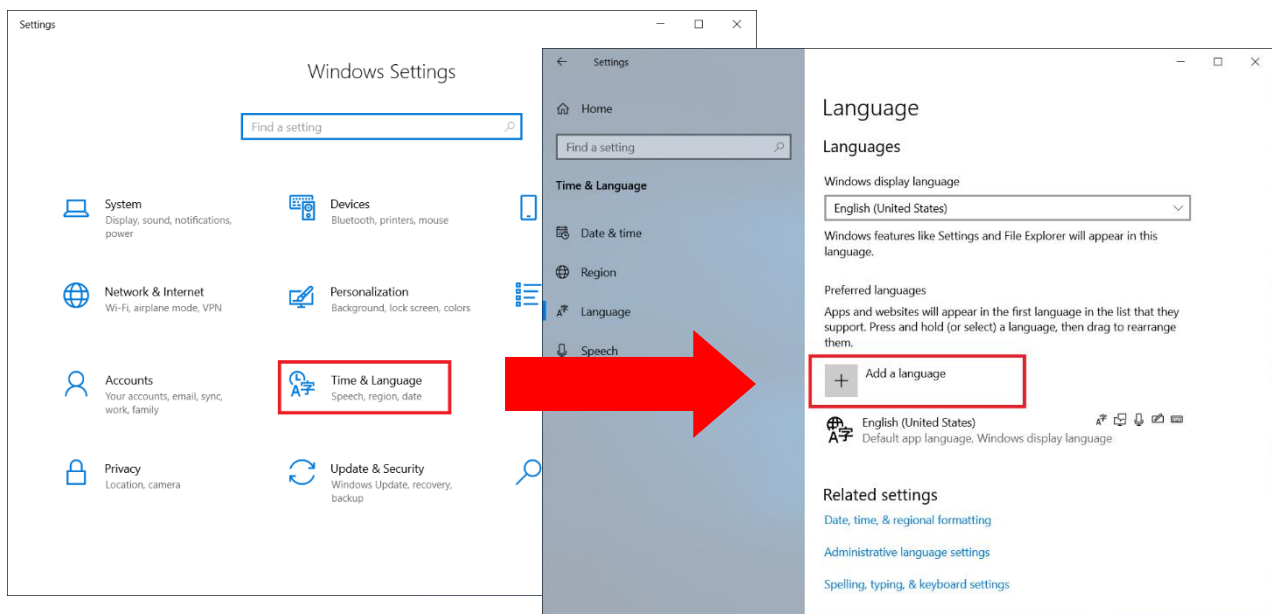
OS	PS5000 series	PS6000 series
Windows® Embedded Standard 7(32bit) MUI	Yes	No
Windows® Embedded Standard 7(64bit) MUI	Yes	No
Windows® 7 Ultimate (64bit) MUI	Yes	No
Windows® Embedded 8.1 Industry (64bit) MUI	Yes	No
Windows® 10 IoT Enterprise 64 bit MUI	Yes *1	Yes

*1: The HORM feature is not supported.

Language	PS5000 series	PS6000 series
	WES7/Win7/WES8.1/Win 10 IoT Enterprise 2016 LTSC	Win 10 IoT Enterprise 2019 LTSC *2
Chinese(Simplified)	Yes/No *1	Yes
Chinese(Traditional)	Yes/No *1	Yes
English	Yes	Yes
French	Yes	Yes
German	Yes	Yes
Italian	Yes	Yes
Japanese	Yes	Yes
Portuguese	Yes/No *1	Yes
Russian	Yes/No *1	Yes
Spanish	Yes	Yes
Swedish	Yes/No *1	Yes

*1: It's necessary to add and install a language from the language pack.

*2: Language that is not shown in the table can be downloaded from the Microsoft web site using the standard language feature of Windows.



4.2 OS login password

For PS6000 series, it's necessary to set a login password at the first boot of the product to reduce the risk of intrusion and infection of malicious software and unauthorized access. Unlike PS5000 series, you cannot configure settings without a password. The conditions of login password are as follows;

The number of characters: 8 or more characters with 3 or more types included from the usable characters as shown below. The character strings used for the account name cannot be used.

Types of usable characters:

- Upper-case characters of European languages (A to Z, diacritical mark, Greek alphabet, Cyrillic alphabet)
- Lower-case characters of European languages (a to z, hash sign, Greek alphabet, Cyrillic alphabet)
- Numbers (0 to 9)
- Characters (special characters) except alphanumeric characters: (~!@#\$\$%^&* _-+=`|¥(){}[];:"'<>,.?/) In this policy setting, the currency sign like Euro or British Pound is not counted as special characters
- Unicode characters that are neither upper-case nor lower-case characters though they are categorized in the order of alphabet. Unicode characters of Asian languages are included in this.

4.3 Recovery media

A recovery USB for OS recovery is attached to PS5000 series, but it's an optional item for PS6000 series. Please purchase a recovery USB for PS6000 series (PFXYP6RUSW10) for OS recovery.

Using the recovery tool *1 on our web site *2 makes recovery possible with the backup file created in advance.

*1: The optional recovery USB supports OS recovery only. When system backup after setup is required, use the recovery tool.

*2: <http://www.pro-face.com/trans/en/manual/1085.html>

4.4 Supported software and utilities

The software and utilities supported by PS6000 series are as follows;

Software	Version
GP-Pro EX (WinGP)	Ver. 4.09.250 or later
Pro-Server EX	Ver. 1.37 or later
Pro-face Remote HMI (iOS/Android)	Ver. 1.50 or later *1
Pro-face Remote HMI Server	Ver. 1.11.006 or later
Pro-face Remote HMI Client for Win	Ver. 1.42 or later
BLUE (BLUE Runtime)	3.1 Service Pack 1A *2
BLUE Open Studio	V2020 or later

*1: For earlier than Ver.1.50, PS6000 series (WinGP) is not recognized as a connection destination server.

*2: "IPC or PC/AT" for model setting

Utility	Descriptions
Buzzer	Enable or disable the buzzer sound at the time of touch panel operation.
Brightness *3	Sets the backlight brightness.
Calibration	Correct touch positions.
Front USB	Permit or do not permit use of Front USB on Display Module.
Write Filter	Enable or disable the Write Filter feature.
HORM	Enable or disable the HORM feature.
Shell	Hide the Windows® desktop. Using this custom shell feature allows you to restrain the Windows® features such as Control Panel.
Power	Used to operate power supply of this product in a state of custom shell.
System	Show the product's firmware, BIOS version, and OS version.
Touch Mode	Select from 3 modes (Normal, Water-detected, and Gloves) according to a use environment.
System Monitor	Monitor a state of the main unit, for example temperature or voltage, using a dashboard created with Node-RED.
Window Locker	Fix a window display position at the time of application boot when an external display is used.
Cellular *3	You can use the optional interface unit and a SIM card to data communication using 3G, 4G, and LTE radio waves. Double-click this icon to make settings for data communication.

*3: When you use the following system version of the product, or when the icon is unavailable in the Launcher, download the utility (PFXPHMIP6_Utility_Installer_Ver.x.x.zip) from our website and install by following the instructions.

<https://www.pro-face.com/trans/en/manual/1085.html>

System Version:
OS Base: 2.0 or lower
OS Patch: None

You can check the system version from the Launcher. Refer to System, page 165 in the user manual.

4.5 Supported features in System Monitor

The difference of supported System Monitor features is as shown below.

Monitored items	Error Action	PS5000 series	PS6000 series
Device Management			
Voltage	LED	-	✓
	Buzzer	-	-
	Popup Message	-	✓
	Shutdown	-	-
	Event Log	✓	✓
	E-mail	✓	-
Fan	LED	-	-
	Buzzer	-	-
	Popup Message	-	-
	Shutdown	-	-
	Event Log	✓	-
	E-mail	✓	-
Temperature	LED	-	✓
	Buzzer	-	-
	Popup Message	-	✓
	Shutdown	-	-
	Event Log	✓	✓
	E-mail	✓	-
SMART	LED	-	-
	Buzzer	-	-
	Popup Message	-	-
	Shutdown	-	-
	Event Log	-	-
	E-mail	-	-
Power	LED	-	-
	Buzzer	-	-
	Popup Message	-	-
	Shutdown	-	-
	Event Log	-	-
	E-mail	-	-
Software	Event Log	✓	-
	E-mail	✓	-
Remote Control			
Remote Reset		✓	-
Remote Viewer		✓	✓
Remote Screen Shot		✓	-

4.6 Details of touch operation for every series

Series	Touch Type	Driver	Touch Detection	Behavior when touch and hold	Supports two-point touch
PS5000	Resistive Film	PenMount Driver	Pen Up	Right Click (Default)	-
	Capacitive			✓	
PS5000 + DA *1	Resistive Film			Depend on the Host PC setting.	-
	Capacitive			✓	
FP5000 SP5000 + MDA *2	Resistive Film	Windows Standard	Pen Down	Depend on the Host PC setting.	✓
PS6000	Resistive Film			Right Click (Default)	✓
	Capacitive			Depend on the Host PC setting.	
FP6000	Resistive Film				
	Capacitive				

*1: Display Adapter

*2: Multi Display Adapter