

Replacement Book

PS-5601T (Modular Type, Atom)

→ PS6000 series 12-inch Display +
Basic Box (Atom)

PS-5601W (Modular Type, Atom)

→ PS6000 series 12-inch Wide Display +
Basic Box (Atom)

Preface

This guidebook introduces the procedures to replace PS-5601W with PS6000 series 12-inch Wide Display Module + Basic Box Module. The recommended replacement models are as shown below.

* The PS6000 series 12-inch Wide Display Module is hereinafter called PS6000 12”W and the PS6000 series Basic Box Module is called BasicBox.

Currently used device	Recommended replacement model
PS-5601T (Atom) Not Expandable Model <ul style="list-style-type: none"> ● PFXPL261xxxxxxxx00 ● PFXPL263xxxxxxxx00 Expandable Model <ul style="list-style-type: none"> ● PFXPL262xxxxxxxx00 ● PFXPL264xxxxxxxx00 	PS6000 12” + Basic Box (Atom) Model : PFXP6A6xxxxxxxx00 (Intel X6211E Atom 2 Cores DIMM-4GB) Model : PFXP6B6xxxxxxxx00 (Intel X6211E Atom 2 Cores DIMM-8GB) Model : PFXP6D6xxxxxxxx00 (Intel X6425E Atom 4 Cores DIMM-8GB)
PS-5601T (Atom) Entry <ul style="list-style-type: none"> ● PFXPL265xxxxxxxx00 ● PFXPL266xxxxxxxx00 	PS6000 12” + Basic Box (Atom) Model : PFXP6A6xxxxxxxx00 (Intel X6211E Atom 2 Cores DIMM-4GB) Model : PFXP6B6xxxxxxxx00 (Intel X6211E Atom 2 Cores DIMM-8GB) Model : PFXP6D6xxxxxxxx00 (Intel X6425E Atom 4 Cores DIMM-8GB)
PS-5601W (Atom) Not Expandable Model <ul style="list-style-type: none"> ● PFXPL2D1xxxxxxxx00 ● PFXPL2D3xxxxxxxx00 Expandable Model <ul style="list-style-type: none"> ● PFXPL2D2xxxxxxxx00 ● PFXPL2D4xxxxxxxx00 	⇒
PS-5601W (Atom) Entry <ul style="list-style-type: none"> ● PFXPL2D5xxxxxxxx00 ● PFXPL2D6xxxxxxxx00 	⇒
	PS6000 12”W + Basic Box (Atom) Model : PFXP6A6xxxxxxxx00 (Intel X6211E Atom 2 Cores DIMM-4GB) Model : PFXP6B6xxxxxxxx00 (Intel X6211E Atom 2 Cores DIMM-8GB) Model : PFXP6D6xxxxxxxx00 (Intel X6425E Atom 4 Cores DIMM-8GB)

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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Intel®, Celeron®, Atom®, Core™ 2 Duo and Core™ i3/5/7 are trademarks of Intel Corporation.

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.pro-face.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

1.1.1 Comparison of display specifications between PS-5601T and PS6000 12"

Display Specifications			
		PS-5601T (Atom)	PS6000 12" + Basic Box
			
Display Type		TFT Color LCD (12")	
Display Resolution		XGA (1,024 x 768 pixels)	
Display Colors		Approx.16 million colors	
Backlight		White LED (not user replaceable. When replacement is required, contact customer support.)	
Brightness control		20 levels (for system monitor users) 9 levels (for Node-RED users)	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)	Projected capacitive touch panel (multitouch, simultaneous touch number-2) with optimized noise filter
	Mode	None	UP! 3 modes (Changeable - Standard Mode, Water Detection Mode, and Glove Mode)

1.1.2 Comparison of display specifications between PS-5601W and PS6000 12" W

Display Specifications			
		PS-5601W (Atom)	PS6000 12"W + Basic Box
			
Display Type		TFT Color LCD (12" Wide)	
Display Resolution		WXGA (1,280 x 800 pixels)	
Display Colors		Approx.16 million colors	
Backlight		White LED (not user replaceable. When replacement is required, contact customer support.)	
Brightness control		20 levels (for system monitor users) 9 levels (for Node-RED users)	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)	Projected capacitive touch panel (multitouch, simultaneous touch number-2) with optimized noise filter
	Mode	None	UP! 3 modes (Changeable - Standard Mode, Water Detection Mode, and Glove Mode)

1.2 Comparison of performance specifications between PS-5601T/W (Atom) and Basic Box (Atom)

Performance Specifications				
		PS-5601T/W (Atom)	PS6000 12" / 12"W + Basic Box	
CPU		Atom E3930	UP! Atom X6211E	UP! Atom X6425E
	Base frequency	1.30 GHz	1.30 GHz	UP! 2.00 GHz
	Max turbo boost frequency	1.80 GHz	UP! 3.00 GHz	
	L2 cache	2 MB	1.5 MB	
	Core number	2	2	UP! 4
	Thread number	2	2	UP! 4
Main memory	4GB, 8 GB, DDR3L 1600 MHz, SO-DIMM SDRAM *Entry model = 4GB.		UP! 260-pin SO-DIMM socket x 2, DDR4-2400 (Up to 32GB for 2 sockets)	
Graphics accelerator	Intel HD Graphics 500		UP! Intel® UHD Graphics for 10th Gen Intel® Processors	
Security chip	TPM 2.0 (Option)		UP! TPM 2.0	
BIOS	Legacy BIOS		UP! UEFI BIOS	
Operating system	<ul style="list-style-type: none"> Windows 10 IoT Enterprise 2016 LTSC (Software Version: 3.0 or less) Windows 10 IoT Enterprise 2019 LTSC (Software Version: 4.0 or later) 		UP! Windows® 10 IoT Enterprise 2021 LTSC (64bit)	
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)	
Buzzer	Yes		Yes	

1.3.1 Comparison of general specifications between PS-5601T and PS6000 12" + Basic Box

General Specifications		
	PS-5601T (Atom)	PS6000 12" + Basic Box
Panel cut dimensions	W301.5 mm x H227.5 mm * Panel Cut Tolerance is different → See 2.1	
Panel thickness	2 mm to 6 mm	1.6 mm to 5 mm
External dimensions (including bezel)	Not expandable W319.1 x H245.1 x D66.0 mm Expandable W319.1 x H245.1 x D82.0 mm Entry Model W319.1 x H245.1 x D74.0 mm	W315 x H241 x D67.0 mm
Front bezel material	Aluminum	
Weight	Not expandable 3.55 kg Expandable 3.60 kg Entry Model 3.50 kg	4.1 kg or less
Cooling method	Passive heat sink	Natural air circulation (fanless)
Power supply	DC power supply : 24V	DC power supply: 24V
Power consumption	DC	17.1 W (standard), 42.87 W (max) When backlight is off: 29 W No power supplied to outside: 39 W Max: 57 W
	AC	-
UPS for battery backup	Option	No exclusive option *please us third device recommend : APC SMT500J Smart-UPS500

1.3.2 Comparison of general specifications between PS-5601W and PS6000 12"W + Basic Box

General Specifications		
	PS-5601W (Atom)	PS6000 12"W + Basic Box
Panel cut dimensions	W310 mm x H221 mm	W295 mm x H217 mm * The panel cut dimensions are different. The optional attachment (PFXZPAT6W1) is required for attaching it.
Panel thickness	2 mm to 6 mm	1.6 mm to 5 mm
External dimensions (including bezel)	Not expandable W329.2 x H231.3 x D66.0 mm Expandable W329.2 x H231.3 x D82.0 mm Entry Model W329.2 x H231.3 x D74.0 mm	W308.5 x H230.5 x D67.0 mm
Front bezel material	Aluminum	
Weight	Not expandable 5.35 kg Expandable 5.30 kg Entry Model 5.25 kg	4.3 kg or less
Cooling method	Passive heat sink	Natural air circulation (fanless)
Power supply	DC power supply : 24V	DC power supply: 24V
Power consumption	DC	16.5 W (standard), 43.65 W (max) When backlight is off: 29 W No power supplied to outside: 38 W Max: 56 W
	AC	-
UPS for battery backup	Option	No exclusive option *please us third device recommend : APC SMT500J Smart-UPS500

1.4 Comparison of interface specifications between PS-5601T/W and PS6000 12" / 12"W + Basic Box

Interface Specifications				
		PS-5601T/W Not expandable	PS-5601T/W Expandable	PS6000 12" / 12"W + Basic Box
Serial (D-Sub 9-pin plug)	Main unit	COM1: RS-232C COM2: RS-422/485		RS-232C/422/485 (non-isolated) x 2 (default: RS-485)
	Option	-	Select any of the following RS-232C x4 RS-232C isolated type x 2 RS-422/485 x4 RS-422/485 isolated type x2	Select any of the following PFXY6M2R23P2 : RS-232C isolated type x 2 PFXY6M2R42P2 : RS-422/485 isolated type x2 → See 2.3 * 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.
Disk		M.2 SSD SATA x 1	M.2 SSD SATA x 1 2.5" SATA (HDD/SSD) x 1	UP! M.2 SSD x2* UP! SDXC card x1 *with option interface other than Wifi/Bluetooth module, only 1 SSD M.2 can be use
USB		USB Type-A x2 (3.0) USB Type-C x1 (3.2) * PS-5601W and PS6000 15"W do not have Front USB.		
Ethernet		10BASE-T/100BASE-TX/1000BASE-T automatic change x 2		IEEE1588, 10 BASE-T/ 100 BASE-TX/1000BASE-T, Wake on LAN (WOL) supported * When status is S4 (hybrid shutdown), Wake on LAN cannot be used.
Sound		Line input/Line output/Microphone input (Option)		- (Option will be release later)
Video output → See 2.5		Display Port x2 * 2 Display Ports are available, but when Display Module is attached to Box, the Display Port 2 does not work.		UP! Display port x1 (Dual mode supported) UP! USB 3.0 (Type C Displayport Alternate mode) x 1 → See 2.6
PCI/PCIe Card Slot		-	mini PCIe full size x 1	-
Option Interface Slot		-	1 slot	1 slot

Chapter 2 Hardware Compatibility

2.1 Panel Cut Tolerance

PS-5601T and PS6000 12" have the same panel cut dimensions, but tolerance is different shown in brackets in the table. When your panel cut dimensions were created within the tolerance scope of the minus side for PS-5601T, PS6000 12" cannot be installed. Please take note of it. And the curvature radius (R) on 4 corners of PS6000 12" is 2-mm smaller than that of PS-5601T. Please make sure that the curvature radius (R) of your panel cut dimensions has more margin than PS-5601T.

Size	PS6000 12"	PS-5601T	Tolerance for panel cut	
			0 or more	Less than 0
H [mm]	383.5 (0 to +1)	383.5 (-0.7 to +0.7)	OK	Not OK
V [mm]	282.5 (0 to +1)	282.5 (-0.4 to +0.4)		
R [mm]	≤3	≤5		

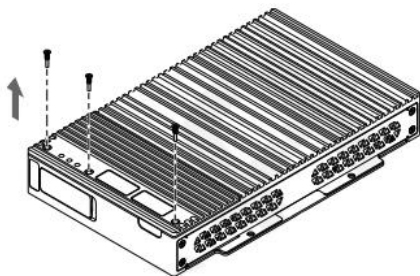


2.2 Cooling storage media

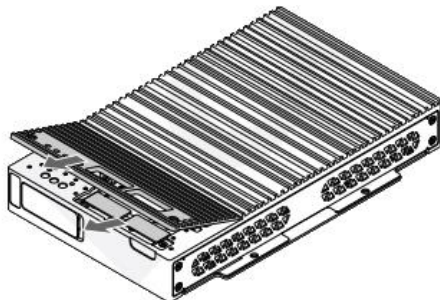
When installing the M.2 SSD, the optional M.2 cooling kit is required. (PFXY6HSM2B)

	Storage media	M.2 cooling kit
Basic Box	M.2 SSD	-
	M.2 SSD (Second Storage)	✓
	CF Card	-

1. Remove 3 screws on the front side of the Box Module.

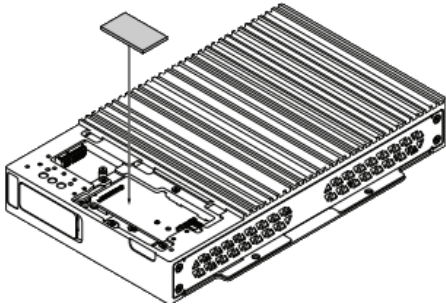


2. Remove the optional interface cover.

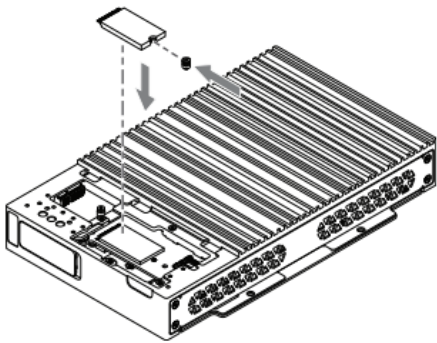


3. Peel off the protective film from the top surface and bottom surface of the heat sink pad.

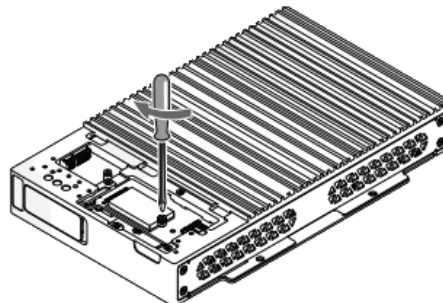
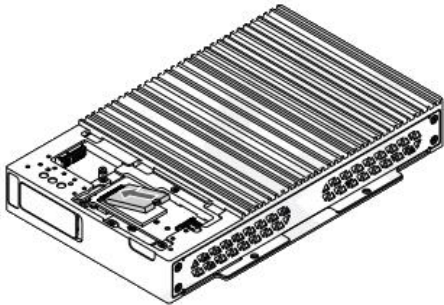
Place the heat sink pad on the board



4. Insert the M.2 screw in the M.2 SSD card.



5. Insert the M.2 SSD card in the slot. Secure the M.2 SSD card with the M.2 screw



2.3 Settings of Serial Interfaces on Box Module

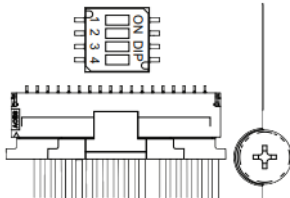
The following describes how to configure the serial interfaces on Box Module.

1. Turn on the product. While the boot screen is displayed, press either the [DEL] or [ESC] key. Enter the password (default password: Pw#12345). The BIOS screen will display.
2. Select Advanced > Super IO Configuration > Serial Port 1 or Serial Port
3. Select Enabled or Disabled in Serial Port (default: Enabled).
4. Select a communication method in Mode Selection (default: RS485).

2.4 Option Interface of RS-422/485 isolated x2

This Option Interface has dip switch. Termination resistor setting is necessary. Set up by referring to the following table. Switching RS-485 and RS-422 is also configured with the dip switch.

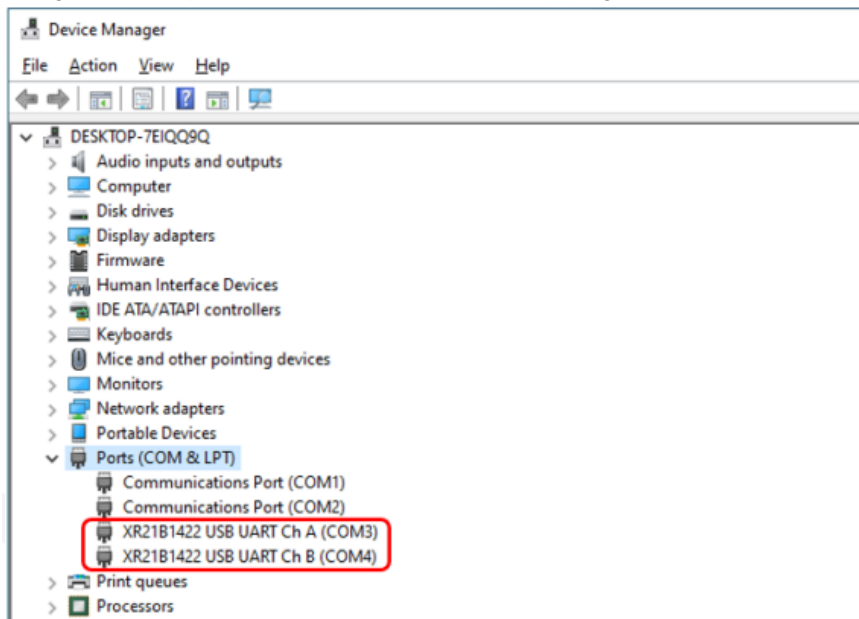
DIP SW	OFF	ON	Description
1	Normal	Termination (120 ohm)	for COM3. Default: OFF
2	Normal	Termination (120 ohm)	for COM4. Default: OFF
3	RS-485	RS-422	Default: OFF
4	Unused (disabled)		Default: OFF



Along with DIP switch settings, both ports must be set in the Windows® Device Manager too.

NOTE: Auto direction control is automatically enabled with this setting.

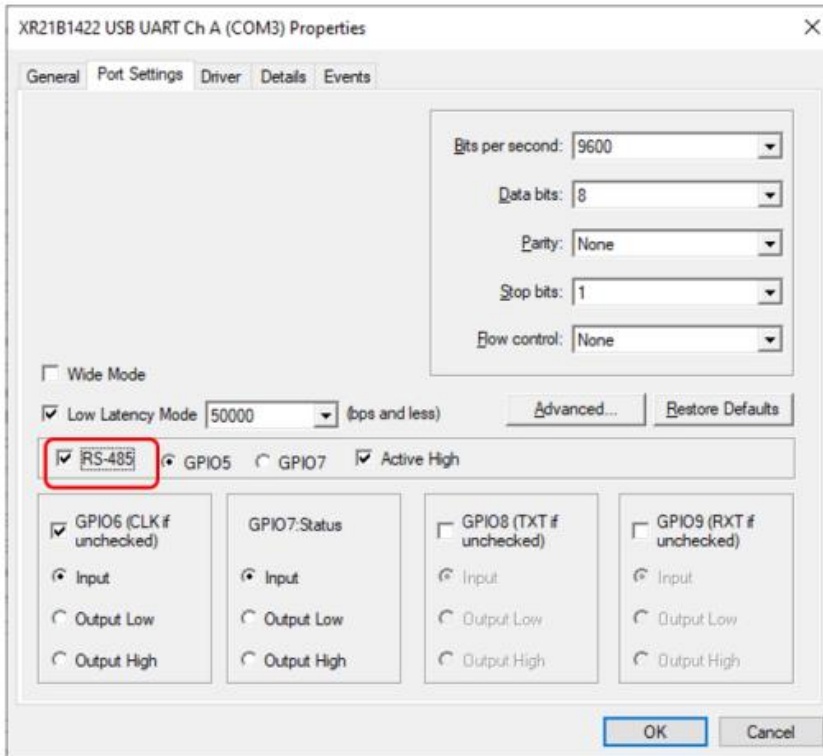
1. Open the Windows® Device Manager.
2. Open Ports
3. Right-click the port to which RS-485 or RS-422 is assigned



4. Select Properties and open the Port Settings tab.
5. Select the RS-485 check box.

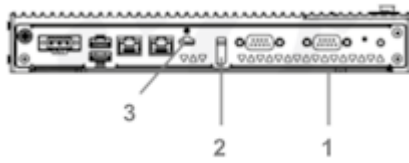
NOTE:

- Select the RS-485 check box even for RS-422.
- Do not change any settings other than RS-485.



2.5 Video output interface

PS6000 series supports 3 video output interfaces. Simultaneous output of all the interfaces is possible.



1: Display Module Interface

2: USB Type C

3: Display Port

Setting Tool	Duplicate	Extension	Scaling
Windows standard display setting	2 screens max	3 screens max	Scaling down only
Intel Graphics Command Center	3 screens max	3 screens max	Scaling up/down

Display Module Interface	USB Type C	Display Port	Details
Screen A	Screen B	Screen C	3 – extension display
A	B	B	1-extension display (Display Module), 2-duplication display
B	A	B	1-extension display (USB Type C), 2-duplication display
B	B	A	1-extension display (DisplayPort), 2-duplication display
A	A	A	3-duplication display (Intel Graphics Command Center is required)

2.6 USB Type C

The USB Type C of PS6000 series supports DP Alt Mode *1.

PS6000 Basic Box Type C does not support USB-PD *2

*1 DP Alt Mode (DisplayPort Alternative mode) is USB Type C port which could connect to display by convert adapter or cable of VGA, DVU, HDMI. DP.

*2 USB-PD (Power Delivery) is USB port which able to connect to display by 1 cable. By Sending video signal and power.

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 option interface 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	Interface option M.2 x2 RS422/485 Isolated *1	PFXYP6M2R42P2
RS-422/485 x 4	PFXZPBMPR44P2	-	
RS-232 x 4	PFXZPBMPR24P2	Interface option M.2 x2 RS-232C Isolated + Box module RS232 x 2 *2	PFXYP6M2R23P2
RS-232 isolated type x 2	PFXZPBMPR22P2	Interface option M.2 x2 RS-232C Isolated	PFXYP6M2R23P2
16DI/8DO and 2-m cable and terminal	PFXZPBMPX16Y82	-	
Ethernet gigabit IEEE1588 x 1	PFXZPBMPRE2	Interface option M.2 1x Ethernet	PFXYP6MPETH
Ethernet gigabit PoE x 2	PFXZPBMPPE2	-	
EtherCAT (master)	PFXZPBMPPECATM2	-	
USB 3.0 x 2	PFXZPBMPUS2P2	-	
CANopen x 2	PFXZPBMPCANM2	-	
Cellular 3G: GPRS/GSM and antenna	PFXZPBPHMC2	-	
Audio interface for Celeron/Atom	PFXZPBPHAU2	Will be released later	
Transmitter	PFXZPBMPTX2	-	
Cellular for North America 4G and antenna	PFXZPBMP4GU2	Interface option 4G Cellular for Global *3	PFXYP6M24GW
Cellular for Europe/Asia 4G and antenna	PFXZPBMP4GE2		
Cellular for Japan 4G and antenna	PFXZPBMP4GJ2		
TPM module	PFXZPBTPM22	Built in as standard	

*1: 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.

*2: Default is RS-485. Need to change to RS-232 from BIOS setting.

*3: PS6000 Option not supporting SMS (Short Message Service). PS5000 Option has been supported.

Image 1

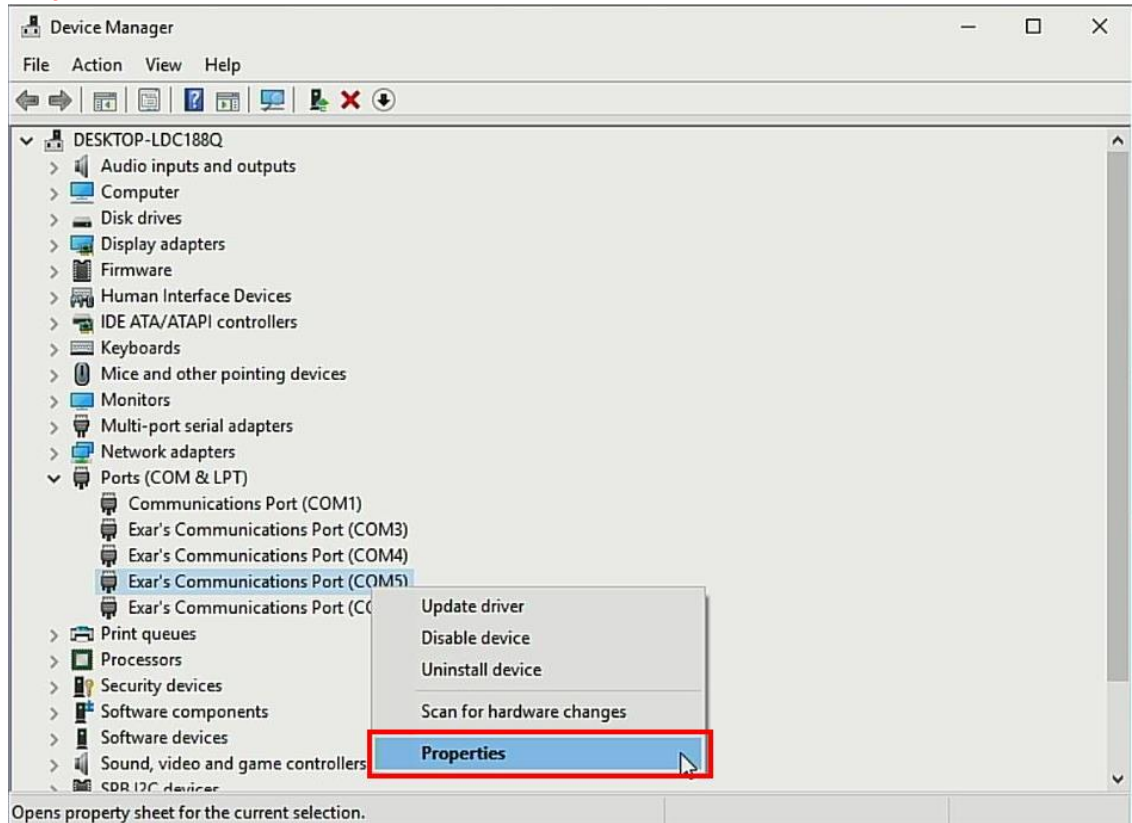
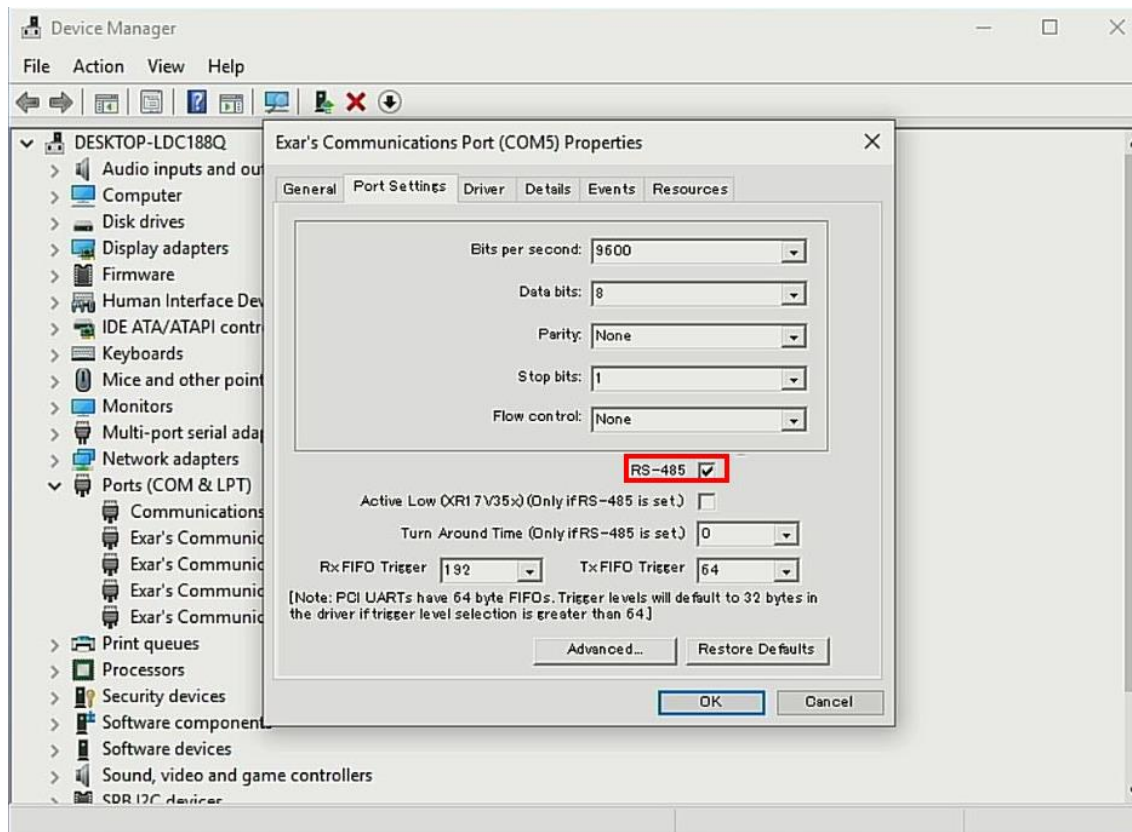


Image 2



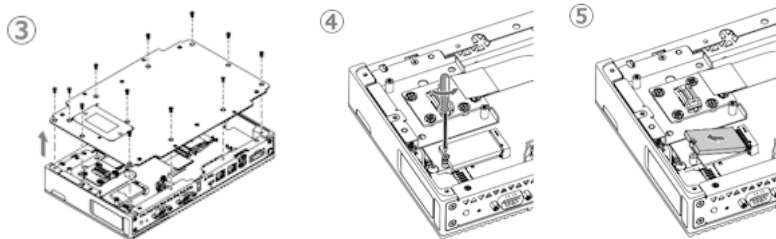
3.2 Drive and Main Memory

The drive of PS5000 series (modular type) 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 (modular type)		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	-	-
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	-	-
-	-	SD Memory Card 64GB	PFXYP6SD64GCX
Adapter for Celeron/Atom HDD/SSD	PFXZPBADHDD2	-	-
-	-	DIMM 4 GB (main memory)	PFXYP6DM4
-	-	DIMM 8 GB (main memory)	PFXYP6DM8
-	-	DIMM 16 GB (main memory)	PFXYP6DM16

Step to replace main memory

1. Disconnect the power supply from the Box Module.
2. Touch the housing or ground connection (not the power supply) to discharge any electrostatic charge from your body.
3. Remove 12 screws on the rear side of the Box Module and pull out the rear cover
4. Remove the screw from the M.2 SSD card installation area on the product. Using a Phillips screwdriver #1 is recommended.
5. Pull out the M.2 SSD card from the slot.
6. Insert new M.2 SSD card diagonally, then push from above.
7. Secure the M.2 SSD card with the screw removed in step 4
8. Place the rear cover of the Box Module and tighten with screws.



3.3 The other options

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

PS5000 series (modular type)		PS6000 series
Product Name	Model	Compatibility
AC Power Supply Unit 100 W	PFXZPBPUAC2	-
AC Power Supply Unit 60 W	PFXZPSPUAC2	-
UPS module	PFXZPBEUUPB2	-
DC Power Supply Connector (5 pcs)	PFXZPBCNDC2	-
AC Power Supply Connector (5 pcs)	PFXZPBCNAC2	-
Installation Fastener (12 pcs)	PFXZPPAF12P2	-
Protection sheet for 12" wide (5 sheets)	PFXZPPDSP122	-
Protection sheet for 12" (5 sheets)	CA7-DFS12-01	-
Protection sheet for 15" wide (5 sheets)	PFXZPPDSP152	-
Protection sheet for 15" (5 sheets)	CA3-DFS15-01	-
Protection sheet for 19" wide (5 sheets)	PFXZPPDSP192	-
Protection sheet for 22" wide (5 sheets)	PFXZPPDSP222	-
Drip-proof gasket for 12" wide (1 pc)	PFXZPPWG122	-
Drip-proof gasket for 12" for PS5000 (1 pc)	PFXZPPWG123	-
Drip-proof gasket for 15" wide for PS5000 (1 pc)	PFXZPPWG152	-
Drip-proof gasket for 15" for PS5000 (1 pc)	PFXZPPWG153	-
Drip-proof gasket for 19" wide for PS5000 (1 pc)	PFXZPPWG192	-
Drip-proof gasket for 22" wide for PS5000 (1 pc)	PFXZPPWG222	-
Fan Kit	PFXZPBIUFAN2	-
Fan Filter (5 pcs)	PFXZPBFTFAN2	-
UPS 3-m cable (for power supply and communication)	PFXZPBCBUP32	-
DP-DVI Cable 3 m (DVI-D type)	PFXZPBCBDP32	✓*1
DP-DP Cable 5 m	PFXZPBCBDP52	✓*1
USB Cable 5 m	FP-US00	✓
Cellular 4G Cable 5m	PFXZPBCB4G52	-
Installation Gasket for 10"W for SP5000 (1 pc)	PFXZCDWG102	✓
Installation Gasket for 12"W for SP5000 (1 pc)	PFXZCDWG122	✓
Drip-proof gasket for 12" for FP5000 (1 pc)	PFXZCDWG121	✓
Drip-proof gasket for 15" for FP5000 (1 pc)	PFXZCDWG151	✓
Drip-proof gasket for 15" wide for FP5000 (1 pc)	PFXZCHWG154	✓
Drip-proof gasket for 19" wide for FP5000 (1 pc)	PFXZCWG8W1	✓
Front USB Cover for a special environment (with screw)	PFXZCDCVUS1	✓

*1 Commercially available DP-DP cables or DP-DVI conversion cables can be used for PS6000 series. It's not necessary to newly purchase an appropriate cable for PS5000 series.

Chapter 4 Compatibility of software

4.1 Supported OS and language

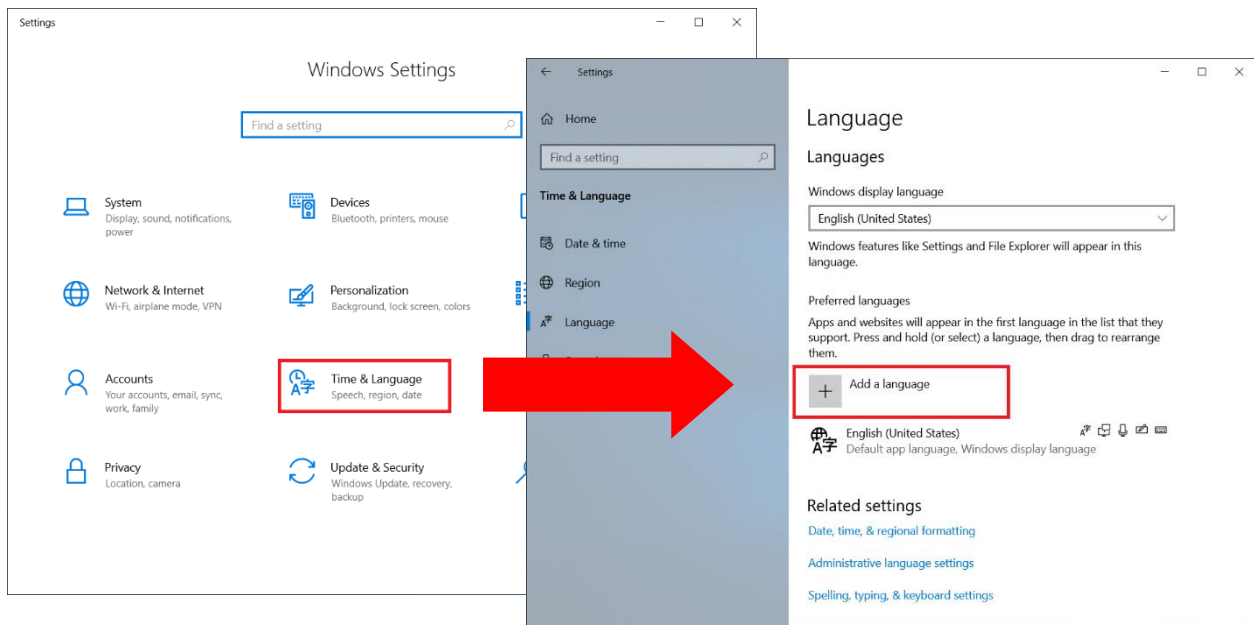
The supported OS and language differ between PS5000 series and PS6000 series.

OS	PS5000 series	PS6000 series
Windows 10 IoT Enterprise 2016 LTSB	Yes	No
Windows 10 IoT Enterprise 2019 LTSC	Yes	No
Windows® 10 IoT Enterprise 2021 LTSC (64 bit)	No	Yes

Language	PS5000 series	PS6000 series
	Win 10 IoT Enterprise 2016 LTSB Win 10 IoT Enterprise 2019 LTSC	Windows® 10 IoT Enterprise 2021 LTSC (64 bit) *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 Basic Box (PFXY6RUSW10B) for OS recovery.

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

*1: https://www.proface.com/en/download/ps6000/application/restore_and_backup

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	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	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 will show the windows cellular option.

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	PenMount Driver	Pen Up	Depend on the Host PC setting.	-
	Capacitive				✓
FP5000	Resistive Film	Windows Standard	Pen Down	Depend on the Host PC setting.	✓
SP5000 + MDA *2					
PS6000	Resistive Film	Windows Standard	Pen Down	Right Click (Default)	✓
	Capacitive				
FP6000	Resistive Film			Depend on the Host PC setting.	
	Capacitive				

*1: Display Adapter

*2: Multi Display Adapter

Mouse Emulation Software (DMT-DD) is also available > <https://www.proface.com/en/node/50375>

Note when using on PS6000 Series

- The multi-touch function does not operate.
- It is not possible to use Calibration on the launcher.
- DMT-DD does not support the extend mode in multi monitor. Please use on single monitor or set to the duplicate mode.
- if you want to play the Touch Sound, please make the following settings
Play Type : Hardware

Sound Timing : At touch down
Beep setting
Frequency [Hz] : 2400
Sound Duration [ms] : 50