

Replacement Book

PS-5600T (Modular Type, Core i7/Celeron)

→ PS6000 series 12-inch Display +

Advanced Box (Core i7/Core i5/Celeron)

PS-5600W (Modular Type, Core i7/Celeron)

→ PS6000 series 12-inch Wide Display +

Advanced Box (Core i7/Core i5/Celeron)

Preface

This guidebook introduces the procedures to replace PS-5600T with PS6000 series 12-inch Display Module + Advanced Box Module. The recommended replacement models are as shown below.

*The PS6000 series 12-inch Display Module is hereinafter called PS6000 12" and the PS6000 series 12-inch Wide Display Module is called PS6000 12"W and the PS6000 series Advanced Box Module is called Advanced Box.

Currently used device		Recommended replacement model
PS-5600T (Core i7) Model : PFXPP26xxxxxxxxN00	⇒	PS6000 12" + Advanced Box (Core i7) Model : PFXP676xxxxxxxx00
		PS6000 12" + Advanced Box (Core i5) Model : PFXP656xxxxxxxx00
PS-5600W (Core i7) Model : PFXPP2DxxxxxxxxN00	⇒	PS6000 12"W + Advanced Box (Core i7) Model : PFXP67Exxxxxxxx00
		PS6000 12"W + Advanced Box (Core i5) Model : PFXP65Exxxxxxxx00
PS-5600T (Celeron) Model : PFXPU26xxxxxxxxN00	⇒	PS6000 12" + Advanced Box (Celeron) Model : PFXP6C6xxxxxxxx00
PS-5600W (Celeron) Model : PFXPU2DxxxxxxxxN00	⇒	PS6000 12"W + Advanced Box (Celeron) Model : PFXP6CExxxxxxxx00

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.proface.com/en/product/ipc/ps6000/configurator>

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Chapter 1 Specification Comparison

1.1.1 Comparison of display specifications between PS-5600T and PS6000 12"

Display specifications		
	PS-5600T	PS6000 12"
		
Display Type	TFT Color LCD (12")	
Display Resolution	XGA (1,024x768 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 50%)	
Touch panel type	Resistive film (analog, single touch)	UP! Resistive film (analog, multitouch, simultaneous touch number-2)

1.1.2 Comparison of display specifications between PS-5600W and PS6000 12" W

Display specifications		
	PS-5600W	PS6000 12" W
		
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)
	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)

1.2.1 Comparison of performance specifications between PS-5600T/5600W (Core i7) and Advanced Box (Core i7, i5)

Performance Specifications				
		PS-5600T/5600W (Core i7)	Advanced Box	
CPU		Core™ i7 4650U	UP! Core™ i7-8665UE	UP! Core™ i5-8365UE
	Base frequency	1.70 GHz	1.70 GHz	1.60 GHz
	Max turbo boost frequency	3.30 GHz	UP! 4.40 GHz	UP! 4.10 GHz
	L2 cache	4 MB	UP! 8 MB	UP! 6 MB
	Core number	2	UP! 4	UP! 4
	Thread number	4	UP! 8	UP! 8
Main memory	8 GB, 16 GB, DDR3L 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 5000		UP! Intel® UHD Graphics 620 (built-in CPU)	
Security chip	TPM 1.2 (Option)		UP! TPM 2.0	
BIOS	Legacy BIOS		UP! UEFI BIOS	
Operating system	<ul style="list-style-type: none"> Windows® Embedded 10 IoT Enterprise 64 bits MUI Windows® Embedded 8.1 Industry 64 bits MUI Windows® 7 Ultimate SP1 64 bits MUI Windows® Embedded Standard 7 (WES7P) SP1 32 bits MUI Windows® Embedded Standard 7 (WES7P) SP1 64 bits MUI 		UP! Windows® 10 IoT Enterprise 2019 LTSC (64bit) 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) → See 2.11	
Buzzer	Yes			

1.2.2 Comparison of performance specifications between PS-5600T/5600W (Celeron) and Advanced Box (Celeron)

Performance Specifications		
	PS-5600T/5600W (Celeron)	Advanced Box
CPU		Celeron 2980U 1.6GHz
	Base frequency	1.60 GHz
	Max turbo boost frequency	1.60 GHz
	L2 cache	2 MB
	Core number	2
	Thread number	2
Main memory	4 GB, 8 GB, DDR3L 1600 MHz, SO-DIMM SDRAM	UP! 260-pin SO-DIMM socket x 2, DDR4-2133 (Up to 32GB for 2 sockets) → See 3.2
Graphics accelerator	Intel HD Graphics 5000	UP! Intel® UHD Graphics 610 (built-in CPU)
Security chip	TPM 1.2 (option)	UP! TPM 2.0
BIOS	Legacy BIOS	UP! UEFI BIOS
Operating system	<ul style="list-style-type: none"> ● Windows® Embedded 10 IoT Enterprise 64 bits MUI ● Windows® Embedded 8.1 Industry 64 bits MUI ● Windows® 7 Ultimate SP1 64 bits MUI ● Windows® Embedded Standard 7 (WES7P) SP1 32 bits MUI ● Windows® Embedded Standard 7 (WES7P) SP1 64 bits MUI 	UP! Windows® 10 IoT Enterprise 2019 LTSC (64bit) 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) → See 2.11
Buzzer	Yes	

1.3.1 Comparison of general specifications between PS-5600T and PS6000 12" + Advanced Box

General Specifications		
	PS-5600T	PS6000 12" + Advanced Box
Panel cut dimensions	W301.5 mm x H227.5 mm → See 2.1	
Panel thickness	2 mm to 4 mm	1.6 mm to 5 mm
External dimensions (including bezel)	0 slot (DC type) W319.10 x H245.10 x D93.2 mm 0 slot (AC type) W319.10 x H245.10 x D128 mm	Without PCI/PCIe slot W315 x H241 x D95.0 mm With Fan Kit W315 x H241 x D127.3 mm
	2 slots W319.10 x H245.10 x D131.2 mm	With PCI/PCIe slot → See 2.2 W315 x H241 x D172.4 mm
Front bezel material	Aluminum	
Weight	0 slot DC type 5.4 kg AC type 6.2 kg 2 slots DC type 6.2 kg AC type 7.0 kg * For the AC type, the weight of PFXZPBUAC2 (100 W), 0.8kg is included.	5.9 kg or less * When a PCI/PCIe slot and a fan kit are connected, add the following weight to each. PCI/PCIe Slot: 1.5 kg Fan Kit: 0.5 kg
Cooling method	Natural air circulation (fanless) → See 2.3	
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	Core i7 43.6 W (standard), 57.87 W (max) Celeron 38.6 W (standard), 52.87 W (max)
	AC	Non-disclosure
UPS for battery backup	Option	- *Operation tested UPS available → See 2.4

1.3.2 Comparison of general specifications between PS-5600W and PS6000 12"W + Advanced Box

General Specifications		
	PS-5600W	PS6000 12"W + Advanced 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	2mm to 6mm	1.6mm to 5mm * 1.6mm to 3mm when the optional attachment is used.
External dimensions (including bezel)	0 slot (DC type) W329.2 x H231.3 x D93.2 mm 0 slot (AC type) W329.2 x H231.3 x D128 mm 2 slots W329.2 x H231.3 x D131.2 mm	Without PCI/PCIe slot W308.5 x H230.5 x D95.0 mm With Fan Kit W308.5 x H230.5 x D127.3 mm With PCI/PCIe slot → See 2.2 W308.5 x H230.5 x D172.4 mm
Front bezel material	Aluminum	
Weight	0 slot DC type 5.35 kg AC type 6.15 kg 2 slots DC type 6.15 kg AC type 6.95 kg * For the AC type, the weight of PFXZPBUAC2 (100 W), 0.8kg is included.	6.1 kg or less * When a PCI/PCIe slot and a fan kit are connected, add the following weight to each. PCI/PCIe Slot: 1.5 kg Fan Kit: 0.5 kg
Cooling method	Natural air circulation (fanless)	Natural air circulation → See 2.3
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	Core i7 42.6 W (standard), 58.65 W (max) Celeron 37.4 W (standard), 53.65 W (max)
	AC	Non-disclosure When backlight is off: 69 VA No power supplied to outside: 85 VA Max: 158 VA
UPS for battery backup	Option	- *Operation tested UPS available → See 2.4

1.4 Comparison of interface specifications between PS-5600T/5600W and PS6000 12"/12"W + Advanced Box

Interface Specifications			
		PS-5600T/5600W	PS6000 12"/12"W + Advanced Box
Serial (D-Sub 9-pin plug)	Main unit	RS-232C/422/485 x1	RS-232C (non-isolated type) x 1 → See 2.5
	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 RS-232C x4 RS-232C isolated type x 2 RS-422/485 isolated type x2 → See 2.6 → See 2.7 * 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		2.5" SATA (HDD/SSD) x 2 CFast x1 mSATA x1	UP! M.2 SSD SATA x 1 (Disk 0) 2.5" SATA (HDD/SSD) x 2 (Lower: Disk 1, Upper: Disk 2)
USB		USB Type-A x5 (Front 2.0 x1, Box 2.0 x 2, 3.0 x 2)	12"/12"W USB Type-C x1 (Box 3.0) 12"/USB Type-A x5 (Front 2.0 x1, Box 2.0 x 2, 3.0 x 2) 12"W USB Type-A x4 (Front 2.0 x1, Box 2.0 x 2, 3.0 x 2)
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)	Line input/Line output/Microphone input (Option)
Video output → See 2.8		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 * Same port with above USB line → See 2.9
PCI/PCI Card Slot		0 slot None 2 slots Select any of the following. PCI x 2 PCIe x 2 PCI x 1 + PCIe x 1	2 slots (option) Select any of the following. PCI x 2 PCIe x 2 PCI x 1 + PCIe x 1 → See 2.10
Option Interface Slot			2 slots

Chapter 2 Hardware Compatibility

2.1 Panel Cut Tolerance

PS-5600T 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 PS5600, 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-5600T. Please make sure that the curvature radius (R) of your panel cut dimensions has more margin than PS-5600T.

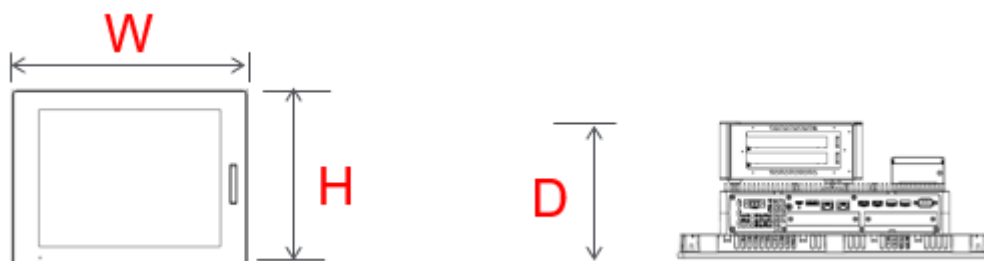
Size	PS6000 12"	PS-5600T	Tolerance for panel cut	
			0 or more	Less than 0
H [mm]	301.5 (0 to +1)	301.5 (-0.5 to +0.5)	OK	Not OK
V [mm]	227.5 (0 to +1)	227.5 (-0.5 to +0.5)		
R [mm]	≤3	≤5		



2.2 External Dimensions when PCI/PCle Slot is attached

When PCI/PCle Slot option is attached to PS6000 12"/12"W + Advanced Box, the depth gets deeper by approx. 40mm (max) than PS-5600T/5600W. Please make sure that the panel space has some margins.

Series	W	H	D	
			0 slot	2 slots
PS-5600T	319.1	245.1	93.2	131.2
PS-5600W	329.2	231.3		
PS6000 12" + Advanced Box	315.0	241.0	95.0	172.4
PS6000 12"W + Advanced Box	308.5	230.5		

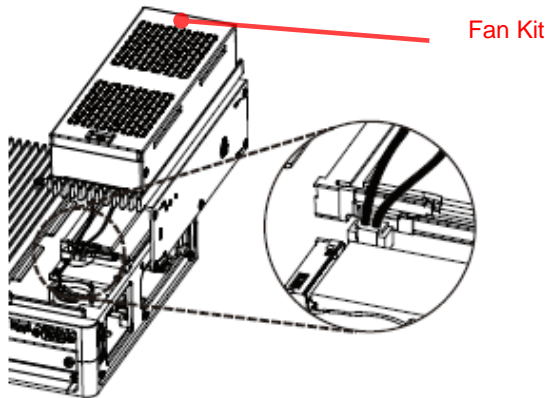


2.3 Cooling storage media

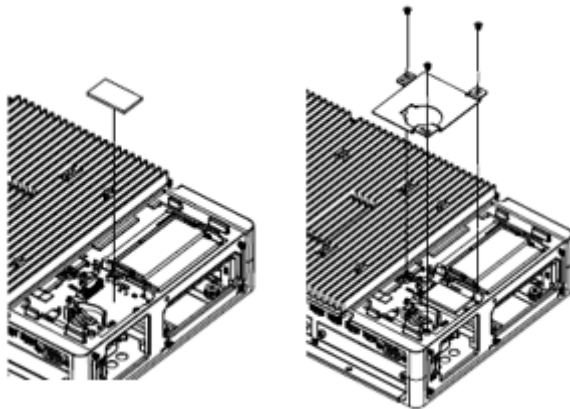
When attaching an HDD to Advanced Box, you must attach a fan kit that is an optional item (PFXY6FAN).

	Storage media	Fan Kit	M.2 cooling kit
Advanced Box	HDD	✓	-
	M.2 SSD	(✓) *1	✓
	HDD + M.2 SSD	✓	-

*1: If the fan kit is attached, the M.2 cooling kit is not required. They cannot be used together due to structural matter.



When a M.2 SSD is used for Advanced Box, a M.2 cooling kit is automatically attached at the time of CTO. If a M.2 SSD is attached later as option and a fan kit is not attached, M.2 cooling kit (PFXY6HSM2A) is required.



2.4 UPS for battery backup

We have operation tested UPS for PS6000 Series.

Schneider Electric: SMT500J - APC Smart - UPS500

Schneider Electric: BVS240XDPDR - Easy UPS

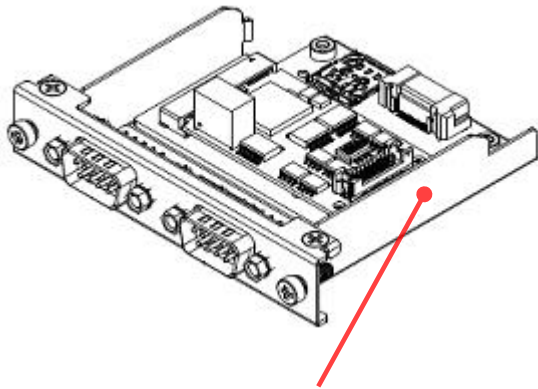
2.5 Serial Interface

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.

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

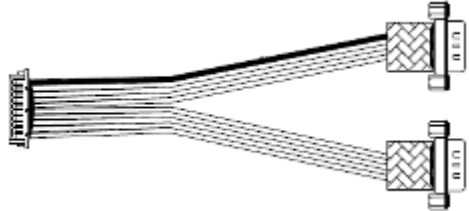
An RS-485 interface is connected to the interface cartridge at the time of shipping from the factory. If you want to use an RS-422 interface, remove the RS-485 interface cable from the interface cartridge and replace it with the RS-422 interface cable attached to this product.



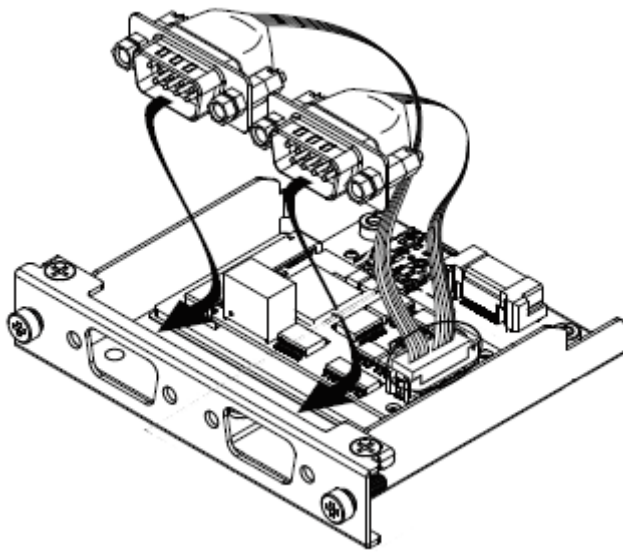
Interface Cartridge



RS-485 Interface Cable

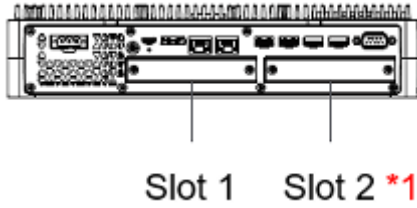


RS-422 Interface Cable



2.7 Assigned numbers of COM ports

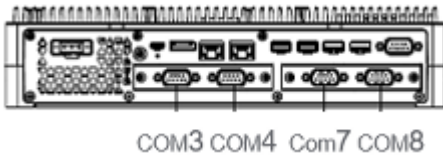
The COM port numbers of the option interface card are defined with a type of inserted card and which slot is used.



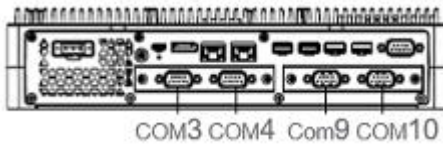
Option interface card	Slot 1				Slot 2			
	3	4	5	6	7	8	9	10
RS-232C isolated type x2 and RS-422 x2	✓	✓			✓	✓		
RS-485 x2			✓	✓			✓	✓
RS-232C x4	✓	✓	✓	✓	✓	✓	✓	✓

*1: Defined as Slot 1 when the serial addition type of optional interface card is inserted into the Slot 2 only.

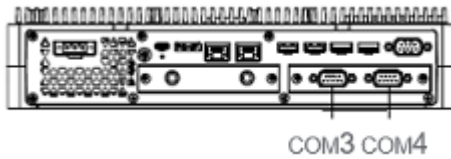
Ex.1) Slot 1 = RS-232C x2, Slot 2 = RS-422 x2



Ex.2) Slot 1 = RS-232C x2, Slot 2 = RS-485 x2

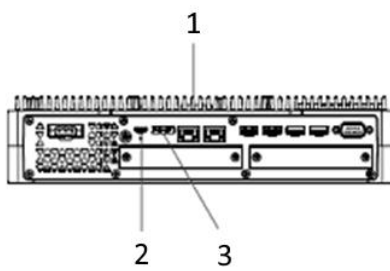


Ex.3) Slot 1 = WiFi/Bluetooth, Slot 2 = RS-232C x2



2.8 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)

2.9 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
Advanced Box	36W	15W	4.5W
Advanced Box + Display	30W	15W	4.5W

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

2.10 PCI slot

- For the size of PCI and PCIe cards that can be connected to PS6000 series, the maximum is a half size (short size) (Width 107mm x Length 173mm).
- The connector shape of PCIe is a 4-lane type (x4), but that of the compatible PCIe card is a 1-lane type (x1). Even if the 4-lane type is connected, it functions as 1 lane.
- The PCI slots (PCI 3.0) of PS6000 series are compatible with the 3.3V signal. When using a PCI card that is compatible with the both 3.3V and 5V signal on PS5000 series, you can use it for PS6000 series. But when using a PCI card that is compatible with only the 5V signal, you cannot use it for PS6000 series. Be aware of that. This is because of specifications of general PCI slots.

2.11 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	PFXZPBMPBPM2	-	
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: PS6000 Option not supporting SMS (Short Message Service). PS5000 Option has been supported.
- *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

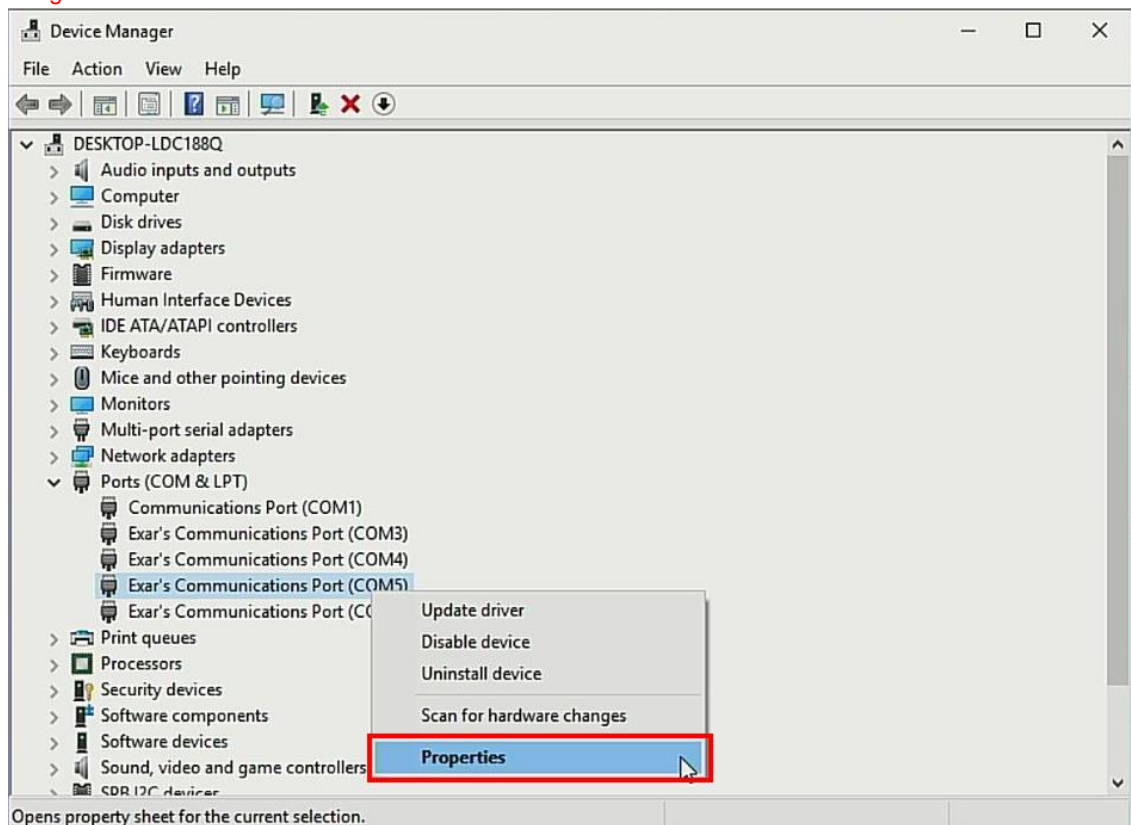
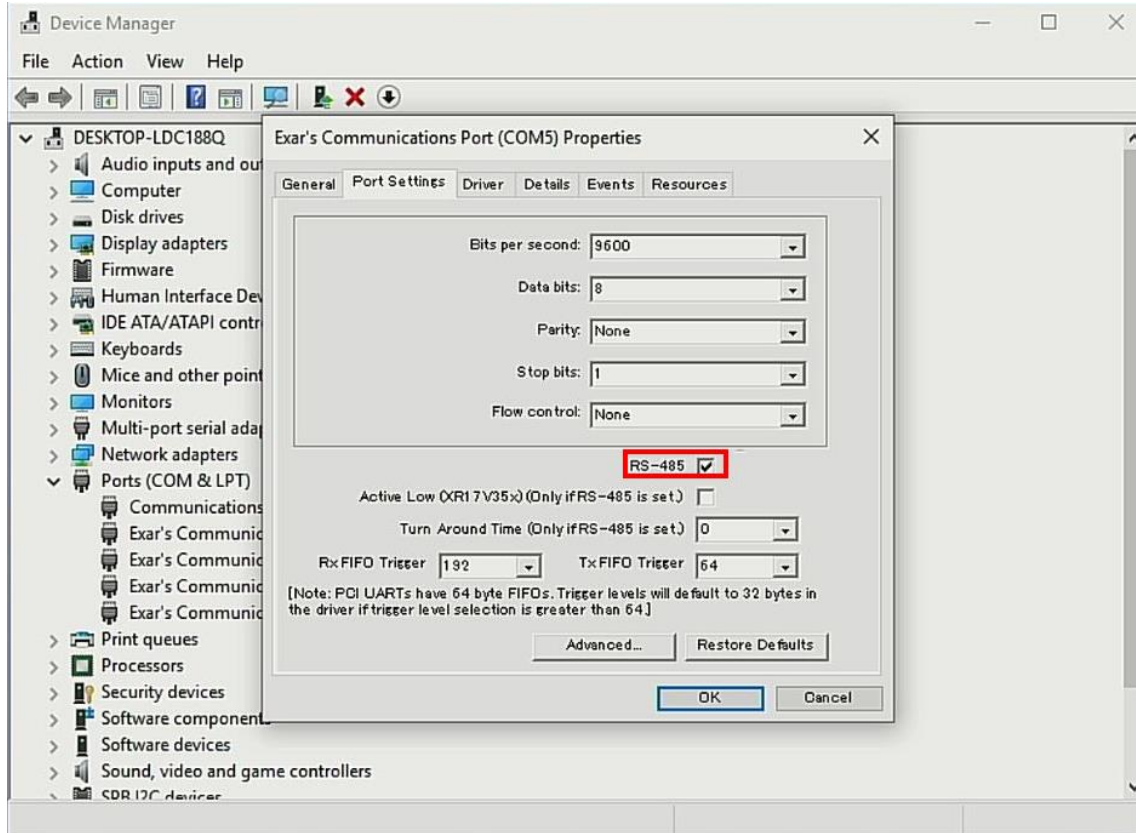


Image 2



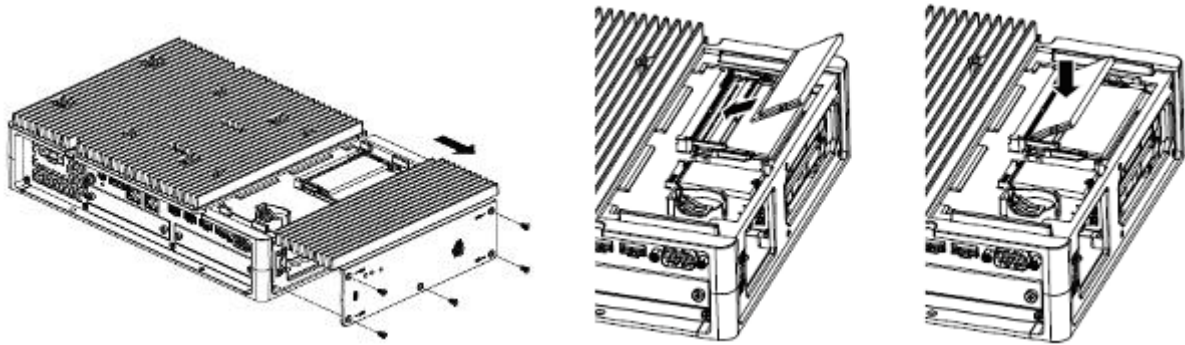
3.2 Drive and Main Memory

The drive of PS5000 series (modular type) is not compatible with PS6000 series. But, some drives with 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	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	-	-
Adapter for Celeron/Core i7 HDD/SSD	PFXZPBADHDD2	-	-
-	-	DIMM 4 GB (main memory)	PFXYP6DM4
-	-	DIMM 8 GB (main memory)	PFXYP6DM8
-	-	DIMM 16 GB (main memory)	PFXYP6DM16

Replacing 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 5 screws on the rear side of the Box Module and pull out the rear cover
4. Pull out the main memory from the slot.
5. Insert new main memory, then push from above.
6. Place the rear cover of the Box Module and tighten with screws.



3.3 The other options

The other 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	-
DP-DVI Converter	PFXZPBADCVDV2	-
VESA installation kit for 0 slot	PFXZPBADVS02	-
VESA installation kit for 2 slots	PFXZPBADVS22	-
VESA installation kit for 12" wide / 12"	PFXZPP12ADVS2	-
Fan Kit	PFXZPBIUFAN2	-
Fan Filter (5 pcs)	PFXZPBFTFAN2	-
DIN-rail adapter	PFXZPBADDR2	-
Display Adapter (DP)	PFXZPPDADDP2	-
UPS 3-m cable (for power supply and communication)	PFXZPBCBUP32	-
DP-DVI Cable 3 m (DVI-D type)	PFXZPBCBDPV32	✓*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)	PFXZCZWG8W1	✓
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.

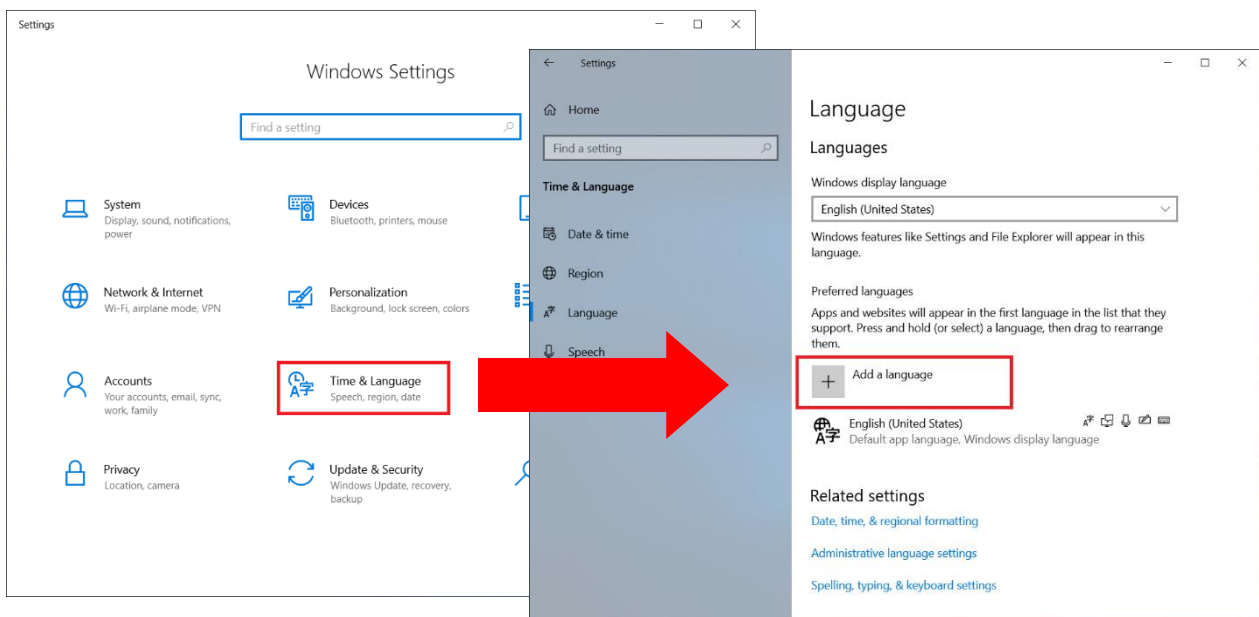
OS	PS5000 series	PS6000 series
Windows® Embedded Standard 7(32bit) MUI	Yes	No
Windows® Embedded Standard 7(64bit) MUI	Yes	No
Windows® 7 Ultimate (64bit) MUI	Yes	No
Windows® Embedded 8.1 Industry (64bit) MUI	Yes	No
Windows® 10 IoT Enterprise 64 bit MUI	Yes *1	Yes

*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 for OS recovery.

USB available for each OS. **2019:** PFXYP6RUSW10 **2021:** PFXYP6RUSW1021

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

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

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

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	Configure settings of 4G Cellular as Optional Interface.

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			Depend on the Host PC setting.	✓
PS5000 + DA *1	Resistive Film	Windows Standard	Pen Down	Right Click (Default)	-
	Capacitive			Depend on the Host PC setting.	✓
FP5000	Resistive Film	Windows Standard	Pen Down	Right Click (Default)	✓
SP5000 + MDA *2	Resistive Film			Depend on the Host PC setting.	✓
PS6000	Capacitive			Depend on the Host PC setting.	✓
FP6000	Resistive Film	Windows Standard	Pen Down	Right Click (Default)	✓
	Capacitive			Depend on the Host PC setting.	✓

*1: Display Adapter

*2: Multi Display Adapter