CIMON | Beyond Factory Automation
Towards Digital Manufacturing

CIMON IPC

In English

· iNP/iNT 600W Series

USER MANUAL

IPC Series

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- For your safety and the safe operation of this product, please read this manual before using the product. The manual is subject to change without notice.
- Please review the product specifications in this manual to determine the suitability of this product for its intended use.
- For your safety only qualified persons should perform electrical and wiring attachments to this product.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

Essential Safety Precautions

⚠ WARNING

Precautions for design

- Do not draw a graphic object that can be hazardous to the operator or device. If the product is damaged while output signal remain ON or OFF, fatal accident may be caused. Design an emergency stop switch outside of the product so it can be manually stopped.
- Do not use this product for the purpose of generating an alarm for injury to operators. breakdown of devices, or production halt. Design the system so that is can be hand-operated in case the product malfunctions.
- Do not use this product as a control unit on applications requiring extreme stability such as airplane control device, aerospace device, centralized data processing device, nuclear control system, medical life support system, etc.
- In case the product is used in transportation such as trains, vehicle, vessels, or warning devices for disasters and crimes, various safety devices and medical devices excluding life support system, you are required to design backup or failure provision system to secure reliability and stability.
- Even if the screen is black, the unit could still be turned on with a dead LCD backlight. When the operator touches a panel in this situation, the action could cause device's malfunction. Do not use product's graphic object for controlling safety devices such as emergency stop switches.

Essential Safety Precautions

⚠ WARNING

Prohibition of disassembly and modification

• Do not disassemble or modify the PC. It will void the warranty and may cause an electric shock or fire.

Avoiding of flammable substances

• This version of the PC is not rated for flammable environments. Do not use this panel around flammable gases. It may cause an explosion.

Precautions for installation

• Be sure to securely connect all cable connectors to the PC. A loose connection may cause incorrect input or output.

• Make sure to tighten the screw with standard torque (0.5–0.6 Nm). Loose connections may cause short, fire or malfunction.

• Be careful that metal debris do not enter the PC, they may cause a fire, panel damage malfunction.

• Indoor use.

• Outdoor use and on a flat surface of a Type 4X, 12 Enclosure. (Self-declaration)

Precautions for wiring

• Make sure to check if the device's power supply is turned off before wiring. Failure to do so may cause electric shock or damage to the device.

• Do not use power beyond the specified voltage range of the PC. Doing so may cause fire, electric shock or damage to the device.

Essential Safety Precautions

⚠ WARNING

- Make sure to separate the PC GND from other devices.
- If GND wires are close to each other, it may cause electric shock or damage to the device.
- Use wire which has grounding resistance lower than 100 Ω and thicker than 2 mm^2 and follow your country's applicable standard.
- Correctly wire the panel, be sure that the rated voltage and terminal layout are within the designated range. If the voltage supplied differs from the rated voltage, or incorrect wiring or grounding is performed, it may cause a fire or unit malfunction and it will void the warranty.
- Use AWG 26 to AWG 14 cable.

How to manage LCD breakage

- LCD panel contains strong irritants. If you touch liquid of LCD due to its breakage for any reason, flush your skin for 15 minutes with running water.
- If you get liquid of LCD in your eyes, flush your eyes out for 15 minutes with the running water and contact a physician.

Maintenance – Battery Exchange

- The PC uses a lithium battery to back up the internal clock. Do not replace this battery yourself because it may cause an explosion. If the battery needs to be replaced, please contact your local service center.

General Safety Precautions

- Do not strike the touch panel with a hard or pointed object, or press on the touch panel with too much pressure, since it may damage the touch panel or the display.
- Do not install the PC where the operating temperature exceeds the allowed range. Doing so may cause the PC to malfunction or shorten product lifespan.
- Do not restrict or limit naturally occurring rear-face ventilation of the PC, or storing or using the PC in an environment that is too hot.
- Do not use the PC in areas where large, sudden temperature changes can occur. These changes can cause condensation to form inside the unit, possibly causing the unit to malfunction.
- Do not allow water, liquids, metal or charged particles to enter the PC, since they can cause either a PC malfunction or an electric shock.
- Do not store or use the PC in direct sunlight, or in excessively dusty or dirty environments. Do not store or use the PC where strong jolting or excessive vibration can occur.
- Do not store or use the PC where chemicals (such as organic solvents, etc.) and acids can evaporate, or where chemicals and acids are present in the air.
- Do not use paint thinner or organic solvents to clean the PC.
- Do not store LCD panel where the operating temperature is lower than the its range. Doing so may cause congelation of liquid contained in LCD which result in damage to the product.
- Do not store LCD panel where the operating temperature is higher than the its range. Doing so may cause the liquid contained in LCD to become isotropic and unreduced.
- After turning the PC OFF, be sure to wait 20 seconds before turning it ON again. If the PC started too soon, it may not start up properly.
- Backup your PC project regularly to prepare for the unexpected accident.
- It is not recommended to update Windows by yourself. Please contact manufacturer for Windows Update.

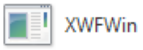
Precautions for unit disposal

- When this unit is disposed of, it should be done so according to your country's regulation for similar types of industrial waste.

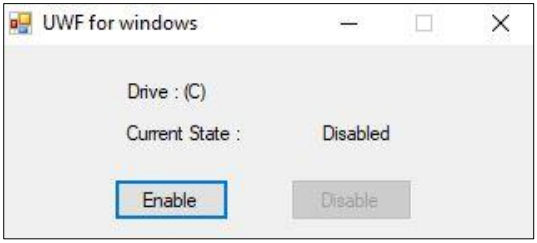
UWF: Unified Write Filter

Supported OS	Windows 11 IoT Enterprise

C: drive of TOUCH/PPC is protected by UWF. UWF is a function of Windows Embedded which protects the physical storage media from all write attempts.

- UWF intercepts all write attempts to a protected volume and redirects those write attempts to a RAM.
- When TOUCH/PPC reboots, all data stored in the RAM are cleared. C: drive is restored to the previous status.
- To enable/disable UWF, click [Start] and execute 

which is fixed on the Start menu. Right-click on the program and run as administrator.



- When you click [Enable], the system reboots and UWF is enabled.
- When you click [Disable], the system reboots and UWF is disabled.



- To restore in Windows 11, run “UWF_SETUP_WIN8_WIN10” as administrator and reset UWF, which is located in C:\XWF (or C:\CIMON\XWFWin).
- If icon is deleted, run “XWFWin” in C:\XWF (or C:\CIMON\XWFWin).
- Professional OS(DSP) which is not ‘Embedded’, does not support UWF.

English

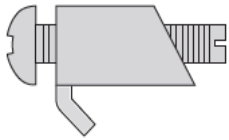
Package Contents

The following items are contained in the package of the PC series. Before using the PC series, please confirm that all items listed below are present.

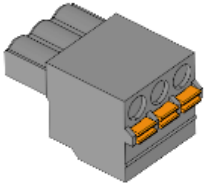
▪ PC x 1



▪ Fastener x 10



▪ 3P Connector x 1



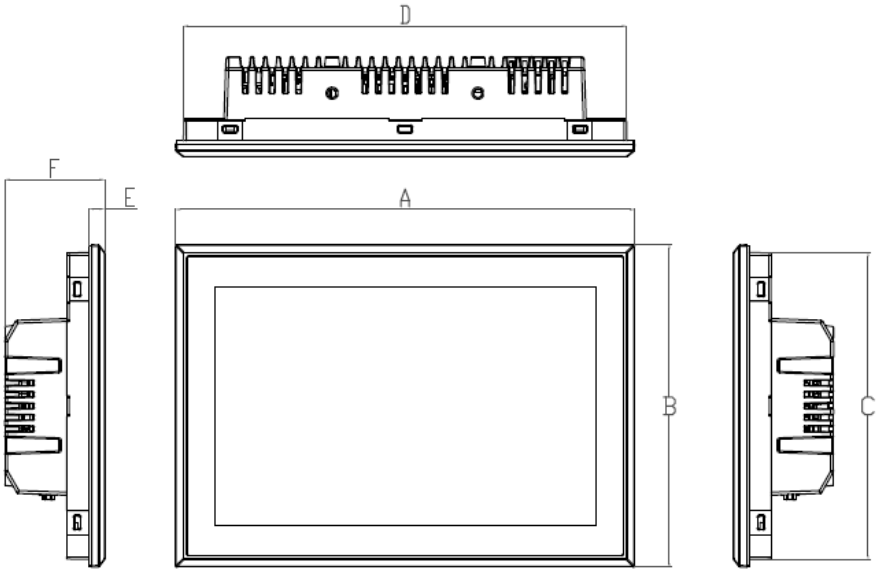
▪ Installation Guide x 1



This unit has been carefully packed, with special attention to quality.
However, should you find anything damaged or missing, please contact your local CIMON distributor immediately.

1. Dimensions

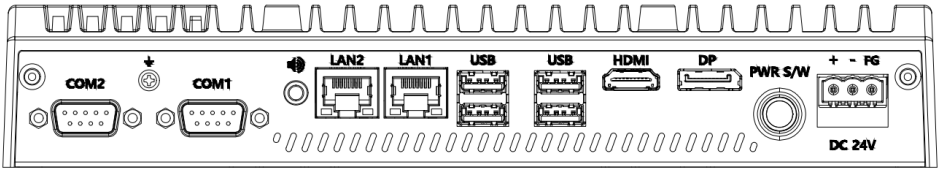
Unit: mm



	10.1”	15.6”	21.5”
A	262.3	394.2	545.2
B	187.9	248.5	334.8
C	177.9	237.8	324.4
D	252.2	383.5	534.8
E	10.9	10.9	10.9
F	66.7	68.6	72.9

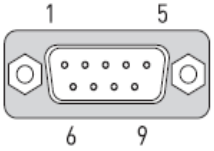
2. Interfaces

▪ Outline



▪ COM1 : RS-232 / 422 / 485

▪ COM2 : RS-232

Connector	Pin No.	RS-232	RS-422	RS-485
	1	DCD	TXD-	D-
	2	RXD	TXD+	D+
	3	TXD	RXD+	
	4	DTR	RXD-	
	5	GND		
	6	DSR		
	7	RTS		
	8	CTS		
	9	RI		

▪

- Serial port of the PC is not insulated.
- SG (Signal Ground) and FG (Frame Ground) are connected in the PC.
- Please be cautious not to short the circuit when connecting external device to SG of the PC.

2. Interfaces

▪ Communication via COM1 must be configured in BIOS setup window.
As PC starts, press ‘Delete’ key in the LOGO screen to enter the BIOS setup window. (A keyboard has to be used.)

▪ Advanced – Super IO Configuration – Serial Port 1 – Mode Select

Mode Select
RS-232 (Default)
RS-422
RS-485
RS-422 with TR
RS-485 with TR

▪ When the configuration is done, make sure to save settings.
: Save & Exit - Save changes and Exit



● In case of RS-485 connection, connect both TXD+ and TXD-.

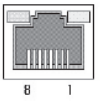
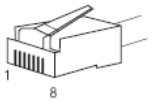
English

2. Interfaces

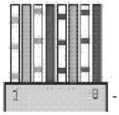
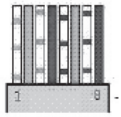
▪ Ethernet

This interface complies with the IEEE802.3 for Ethernet.

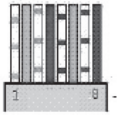
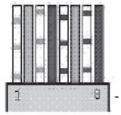
Refer to the following figures for pin numbers and constructing cables.

RJ45 Connector	RJ45 Jack
	

Direct Cable: Host ↔ HUB

Cable	No	Color	Color	No	Cable
	1	Orange/W	Orange/W	1	
	2	Orange	Orange	2	
	3	Green/W	Green/W	3	
	4	Blue	Blue	4	
	5	Blue/W	Blue/W	5	
	6	Green	Green	6	
	7	Brown/W	Brown/W	7	
	8	Brown	Brown	8	

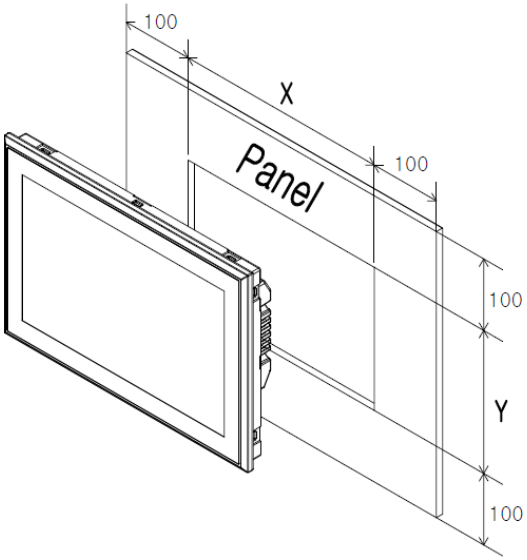
Crossover Cable: Host ↔ Host

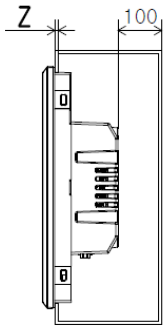
Cable	No	Color	Color	No	Cable
	1	Orange/W	Green/W	1	
	2	Orange	Green	2	
	3	Green/W	Orange/W	3	
	4	Blue	Blue	4	
	5	Blue/W	Blue/W	5	
	6	Green	Orange	6	
	7	Brown/W	Brown/W	7	
	8	Brown	Brown	8	

3. Installation

▪ Insert PC into the panel cut from the front side, as shown below.

Unit: mm





Panel Cut	X	Y
10.1”	**254 (+1, -0)**	**179 (+1, -0)**
15.6”	**385 (+1, -0)**	**239 (+1, -0)**
21.5”	**536 (+1, -0)**	**326 (+1, -0)**

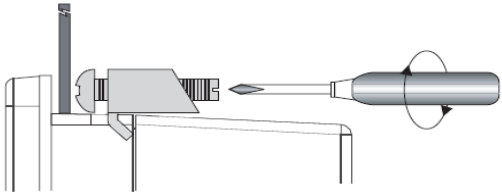
▪ Panel thickness (Z): 1.6 – 3 mm

Note: If the panel is too thick, it may be difficult to install the fastener properly.

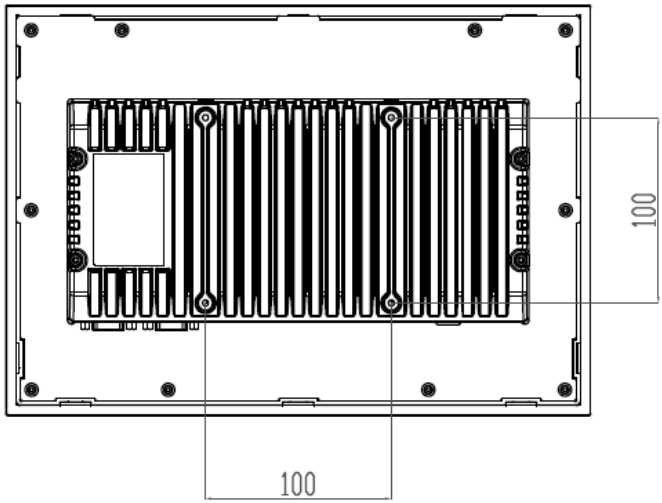
English

3. Installation

▪ Attach the installation fasteners from inside the panel.
▪ Insert each hook of fastener into the slot and tighten it with a screwdriver.



- Tightening the screws with too much force can damage the case of the PC.
- The necessary torque is 0.5 N.m.
- Depending on the thickness of installation panel, the number of installation fasteners used may need to be increased to provide the desired level of moisture resistance.



▪ VESA mount supported (100 x 100 mm)

▪ Recommended bolt specification: M4, maximum length 9 mm

Note: Using bolts longer than 9 mm may cause damage to the internal board.

4. Wiring and Power Supply Caution

⚠WARNING

- To avoid and electric shock, when connecting the PC power cord terminals to the power terminal block, confirm that the PC power supply is completely turned off, via a breaker, or similar unit.
- Since there is no power switch on the PC unit, be sure to attach a breaker-type switch to its power cord.
- Please check if the product is AC or DC type.
- Check the rated voltage of the product.
- If it is terminal block type, loosen the screw and put ring terminal, then tighten the screw.
- If it is terminal block connector type, be cautious that the power wire not to fall out of terminal block.
- If the power supply voltage exceeds the GP's specified range, connect a voltage transformer.
- Between the line and the ground, be sure to use a low noise power supply. If there is still an excessive amount of noise, connect a noise reducing transformer.
- The power supply cord should not be bundled with or kept close to main circuit lines (high voltage, high current), or input/output signal lines.
- Connect a surge absorber to handle power surges.
- To reduce noise, make the power cord as short as possible.

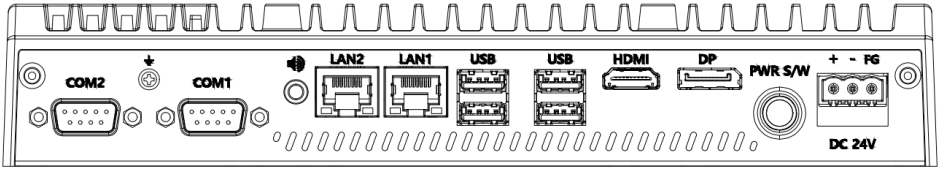


- To avoid shortage by loosen ring terminal, put insulating sleeve and check if the wires of ring terminal connected properly.
- Torque size of 0.5–0.6 N.m are suitable to tighten screw.
- When connect FG terminal, ground wire before.

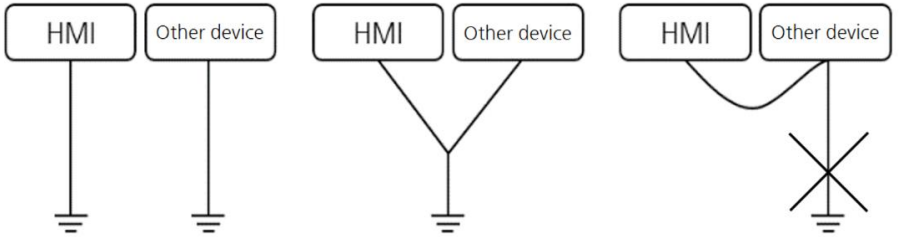
English

5. Grounding Caution

- Inside the PC unit, the SG (Signal Ground) and FG terminals are connected to each other.
- When connecting an external device to the PC with the SG terminal, ensure that no short-circuit loop is created when you setup the system.
- FG terminal is on the communication port side. Unfasten screw signed ⏚ and connect ring terminal.
- Outline



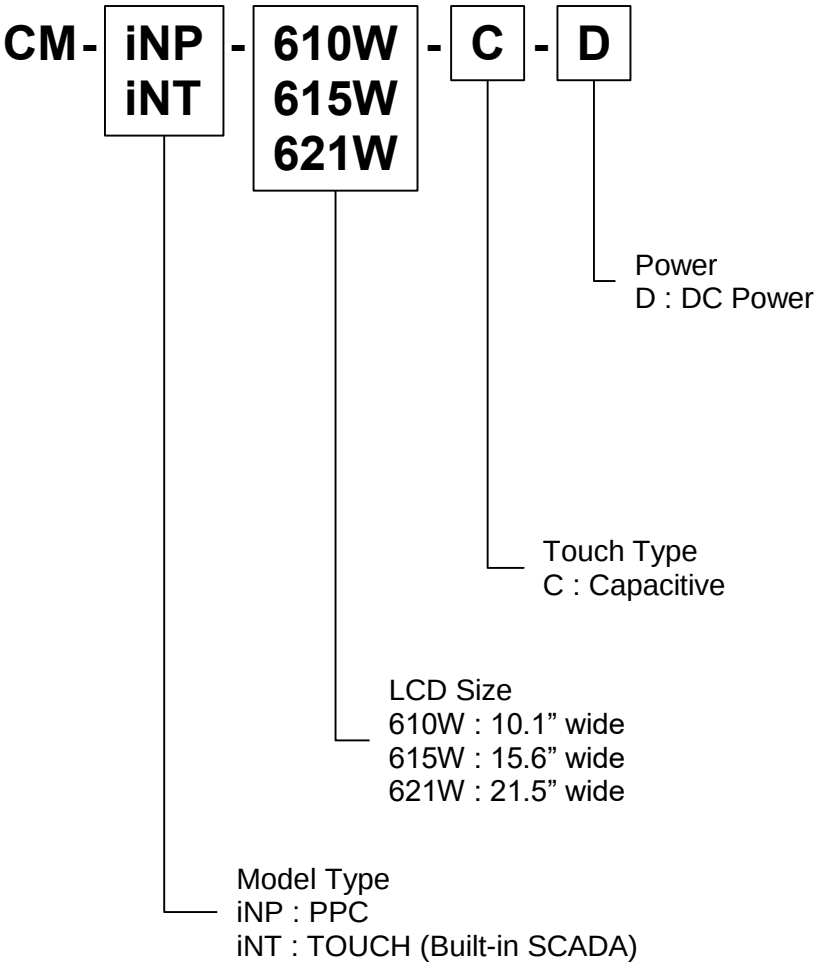
- When grounding FG terminal, separate with other devices. Refer to the picture below.



① Exclusive grounding : Good ② Common grounding : Adequate ③ Common grounding : Prohibited

- If the operation error occurs because of grounding, separate with FG terminal.

6. Specification



Ex) 21.5"

- CM-iNP-621W-C-D, CM-iNT-621W-C-D

English

6. Specification

Models	610W	615W	621W
CPU	Intel® Quad-Core x7425E SoC (FANLESS)		
MEMORY	DDR5 SDRAM 8GB (Max. 16GB)		
GRAPHIC	Integrated Intel UHD Graphics		
DISPLAY	10.1"	15.6"	21.5"
RESOLUTION	1280 x 800 WXGA (16:10)	1920x1080 FHD (16:9)	
LCD BRIGHTNESS	500 cd/m^2	500 cd/m^2	400 cd/m^2
Backlight Life	50,000 hours		
Backlight Unit	LED		
TOUCH	Capacitive		
STORAGE	SSD 250GB (2.5" / SATA)		
EX. STORAGE	SSD 250GB (M.2 / SATA3)		
Serial	1 x RS232 / 422 / 485 (COM1) (default: RS232) 1 x RS232 (COM2)		
Ethernet	2 x 2.5GbE		
USB	4 x USB 3.2		
Audio	1 x Line-Out		
EX. VIDEO	1 x DP, 1 x HDMI		
OS(Selectable)	Windows 11 IoT Enterprise (Standard) / Windows 11 Pro		
UTILITY PROGRAM	UWF, Winclon (Recovery System)		
POWER CONSUMPTION	57W (MAX : 61W)	61W (MAX : 67W)	73W (MAX : 78W)
POWER INPUT	DC24V		
Weight	2.3kg	3.6kg	6.6kg
Enclosure	Aluminum		
Operating Temperature	-10℃~60℃		
Storage Temperature	-20℃~80℃		-20℃~60℃
CE	Electromagnetic Compatibility Directive 2014/30/EU (EMC)		
FCC	The 47 CFR Part15 Of FCC Requirement		
KC	Registration of Broadcasting and Communication Equipments		
Protection Class	IP66, IP68, IP69K (Front)		IP66, IP69K (Front)
	NEMA Type : 4X (Front)		

* The iNT model is equipped with a built-in SCADA system.

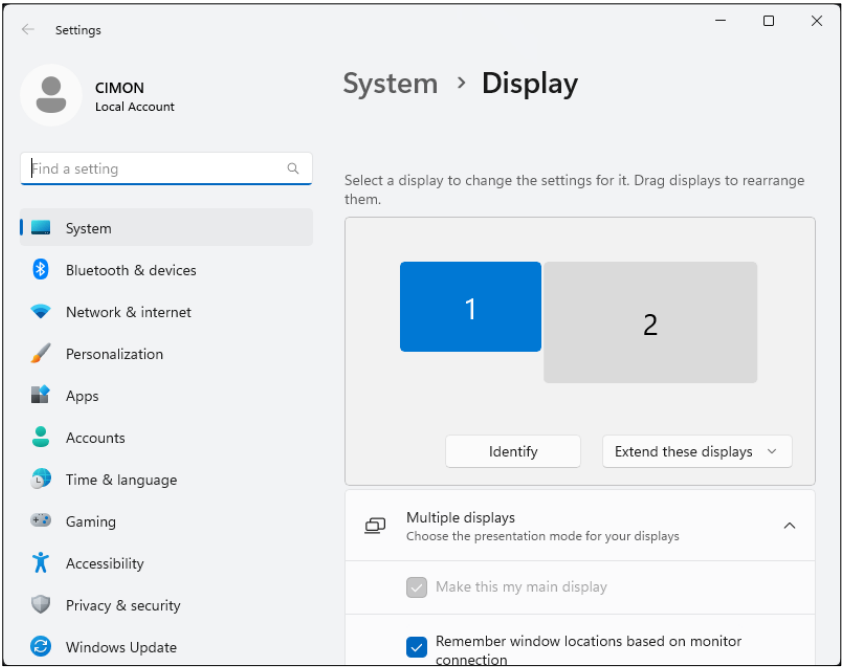
7. Environmental Specifications

Item	Specification
Operating Temperature	-10℃~ 60℃
Storage Temperature	610W / 615W : -20℃~ 80℃ 621W : -20℃~60℃
Operating Humidity	10%–90% RH (Below 29℃, No dew condensation)
Storage Humidity	10%–90% RH (Below 39℃, No dew condensation)
Environment Condition	800 hPa–1114 hPa (2000 m or less)
Dust	≤ 0.1 mg/m^3
Pollution Degree	≤ Pollution degree 2
Operating Ambience	Free from corrosive gas and excessive dust
Overvoltage Category	Category II
Vibration Resistance	9.8 m/s^2, 10 Hz–25 Hz in X,Y,Z (80 min)
Noise Resistance	Impulse, EFT/Burst, Surge, ±0.5 kV, 1 us
Static Discharge Resistance	±4 kV (contact discharge), ±8 kV (air discharge) (IEC 61000-4-2)

8. Multi-Monitor Setting

To use multiple monitor with the PC, user must set up “Extended Desktop” as following steps.

1. Right-click on the desktop screen.
Click [Display settings]
Click [Extend these displays]

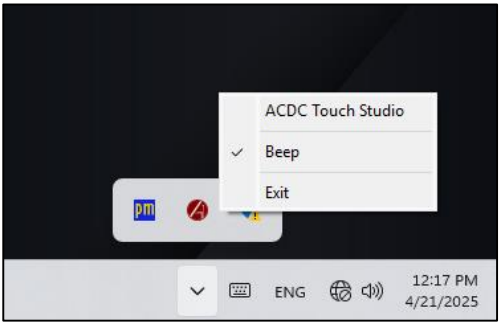


- When connecting to monitor, resolution might change.
  Check the resolution of product and monitor and configure at “Settings > System > Display”.

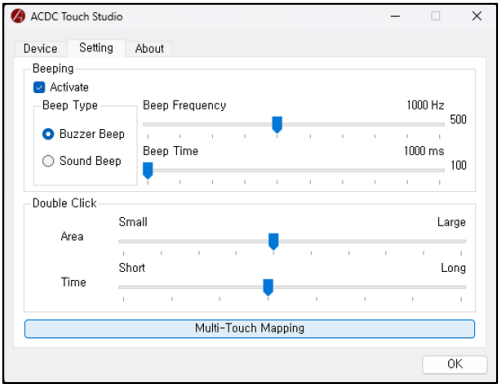
8. Multi-Monitor Setting

2. Multi-Monitor Setting

1) Open “ACDC Touch Studio”.



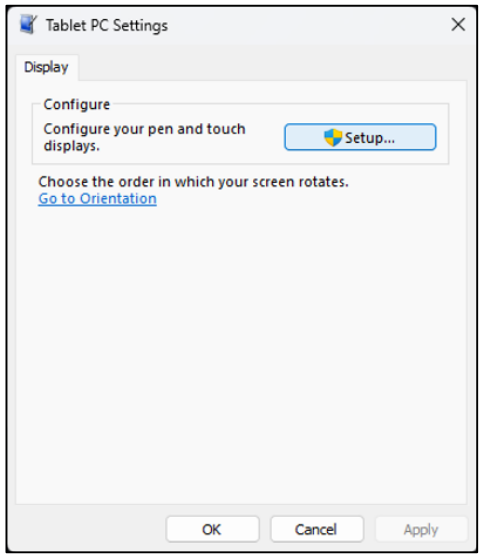
2) Click [Setting].
Click ‘Multi-Touch Mapping’



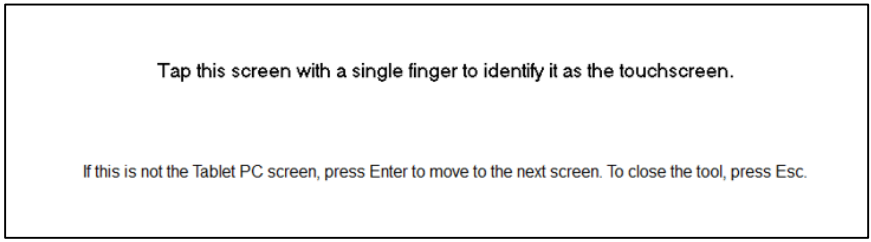
English

8. Multi-Monitor Setting

3) Click ‘Setup’.



4) Follow the on-screen instructions to tap the screen and complete the setup.



Product Warranty

All CIMON products, including hardware, software, and firmware (collectively called "Products"), carry a **three-year warranty** against defects in materials and workmanship beginning from the date of product shipment from CIMON to its appointed distributor. If a product proves defective in materials and workmanship within three years from purchase, we will replace or repair it. **Products returned under warranty after 30 days may be replaced with refurbished or manufactured goods at CIMON's discretion.** CIMON makes no representation or warranty, express or implied, that the operation of the Products will be uninterrupted or error-free or that the functions contained therein will meet or satisfy the buyer's intended use or requirements.

Repaired or replaced Products provided as a result of this warranty are warranted for 90 days from the shipment to the buyer or the remainder of the original warranty term for that particular product, whichever is longer. CIMON's standard policy is that all customers are responsible for freight charges to CIMON when returning products under the warranty return policy.

This warranty will be void if the Products date codes, serial numbers, or seals are removed or defaced. Warranties do not apply to products that have been subjected to abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized repair, misuse, neglect, accident, alteration, improper installation, or other acts that are not the fault of CIMON, including damage caused in shipping. Our warranty also does not apply to any product that has been damaged by external causes such as fire, flood, sand, dirt, lightning, acts of God, battery leakage, theft, blown fuses, improper use of any electrical source or connection to Products, not recommended in writing for interconnection by CIMON.

In no event will CIMON be liable, whether in contract, tort, or under any other legal theory, for lost profits or revenues, loss of use, or similar economic loss for any indirect, special, incidental, consequential, punitive, or similar damages arising out of or in connection with any Products, including non-conforming Products, or for any third-party claims against you relating to the Products, even if we have been advised of the possibility of such a claim. **In no event will our monetary liability concerning any Products exceed the purchase price you paid them.**

To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and usually change with time. It is your responsibility to determine which codes should be followed and to verify that the equipment, installation, and operation comply with the latest revision of these codes.

Products Warranty

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Product Warranty

SUBJECT TO APPLICABLE LAW, CIMON, ITS AFFILIATES, AND SUPPLIERS ARE NOT LIABLE FOR ANY OF THE FOLLOWING: (A) INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES; (B) DAMAGES RELATING TO FAILURES OF TELECOMMUNICATIONS, THE INTERNET, ELECTRONIC COMMUNICATIONS, CORRUPTION, SECURITY, LOSS OR THEFT OF DATA, VIRUSES, SPYWARE, LOSS OF BUSINESS, REVENUE, PROFITS OR INVESTMENT, OR USE OF SOFTWARE OR HARDWARE THAT DOES NOT MEET CIMON SYSTEM REQUIREMENTS. THE ABOVE LIMITATIONS APPLY EVEN IF CIMON AND ITS AFFILIATES AND SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND/OR THE POSSIBILITY OF DAMAGES GREATER THAN THE LIMITATION ABOVE. THIS AGREEMENT SETS FORTH THE ENTIRE LIABILITY OF CIMON, ITS AFFILIATES, AND YOUR EXCLUSIVE REMEDY CONCERNING THE SOFTWARE AND ITS USE. THE PARTIES FURTHER AGREE THAT THE APPLICABLE LAW AND VENUE FOR ANY DISPUTE ARE THE LAWS OF NEVADA. TO THE EXTENT ALLOWED BY APPLICABLE LAW, ANY CLAIMS SHALL BE BROUGHT IN HENDERSON, NEVADA, AND NEVADA LAW SHALL APPLY.

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