Panel PC

APC Series

INSTRUCTION MANUAL

TCD242001AA

Autonics

Thank you for choosing our Autonics product.
Read and understand the instruction manual and manual thoroughly before using the product.
For your safety, read and follow the below safety considerations before using.
For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.
Keep this instruction manual in a place where you can find easily.
The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.
Follow Autonics website for the latest information.

Safety Considerations

- Observe all 'Safety Considerations' for safe and proper operation to avoid hazards.
- ⚠ symbol indicates caution due to special circumstances in which hazards may occur.

⚠ Warning Failure to follow instructions may result in serious injury or death.

01. **Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)**
    Failure to follow this instruction may result in personal injury, economic loss or fire.
02. **Do not use the unit in the place where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present.**
    Failure to follow this instruction may result in explosion or fire.
03. **Use the unit within the rated specifications.**
    Failure to follow this instruction may result in fire or shortening the life cycle of the product.
04. **Do not connect, repair, or inspect the unit while connected to a power source.**
    Failure to follow this instruction may result in fire.
05. **Check 'Power Wiring' and 'Serial Interface' before wiring.**
    Failure to follow this instruction may result in fire.
06. **In preparation for product damage, communication error, or malfunction, install external emergency stop circuit, forward/reverse interlock circuit, limit switch, emergency stop switch, or other protection circuit.**
    Failure to follow this instruction may result in personal injury, economic loss or fire.
07. **Since Lithium battery is embedded in the product, do not disassemble or burn the unit.**
    Failure to follow this instruction may result in fire.
08. **Do not disassemble or modify the unit.**
    Failure to follow this instruction may result in fire.
09. **Please contact to us for battery replacement.**

⚠ Caution Failure to follow instructions may result in injury or product damage.

01. **Use a dry cloth to clean the unit, and do not use water or organic solvent.**
    Failure to follow this instruction may result in fire.
02. **When connecting the power input, use AWG 23 cable or over, and tighten the terminal screw with a tightening torque of 0.5 to 0.8 N·m.**
    Failure to follow this instruction may result in fire or malfunction due to contact failure.
03. **Keep the product away from metal chip, dust, and wire residue which flow into the unit.**
    Failure to follow this instruction may result in fire or product damage.
04. **Do not push over 2 point at the same time.**
    Failure to follow this instruction may result in malfunction.

Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
- The power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
- Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
- Operate the product after supplying power to the product, input/output equipment, and load. If operate product before supplying power, it may result in output error or malfunction.
- Keep away from high voltage lines or power lines to prevent inductive noise. Do not use near the equipment which generates strong magnetic force or high frequency noise.
- Make a required space around the unit for radiation of heat, and do not block ventilation openings.
- Do not push the touch panel with a hard and sharp object or push the panel with excessive force. It may result in fire or malfunction.
- When skin is smeared with liquid crystal from the broken LCD, rinse with running water for over 15 minutes. If it gets into the eyes, rinse eyes with running water for over 15 minutes and contact a doctor.
- When system is down, push the power switch for 7 seconds and turn on again for rebooting the product.
- This unit may be used in the following environments.
  - Indoors (in the environment condition rated in 'Specifications')
  - Altitude max. 2,000 m
  - Pollution degree 2
  - Installation category II

Cautions during Power Wiring

- Do not apply power before power line connection.
- Check power polarity.
- Use a wire with 0.75 mm^2 or more of cross section for the power and 1.25 mm^2 or more of cross section for the ground.
- Use round cramp terminal with 3 mm or more of internal diameter and 6 mm or less of external diameter.
- Tighten the terminal screw with 0.5 to 0.8 N·m torque.
- Ground the product separately from other devices and resistance should be less than 100 Ω.

Product Components

- Product × 1
- Mold bracket × 1
- M3 bolt for mold bracket × 2
- Instruction manual × 1
- Bracket × 8
- Multi-communication cable (length: 300 mm) × 1

Manual

For proper use of the product, refer to the manuals and be sure to follow the safety considerations in the manuals. Download the manuals from the Autonics website.

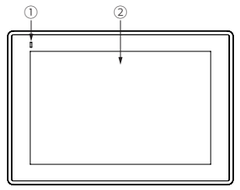
Software

You can download and use software programs for Autonics products in the APC.
There are two ways for downloading software.
- Moving the installation file from a PC, using a USB driver
- Downloading the installation file from the Autonics website after connecting the LAN cable to the Ethernet port of the APC.

Refer to the user manual for detailed information about software programs for the APC.

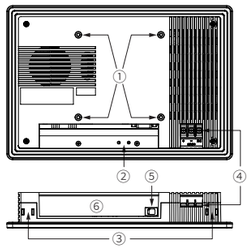
Unit Descriptions

■ Front panel



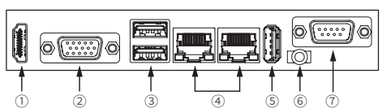
No.	Name
①	Power indicator (green)
②	LCD screen

■ Rear panel



No.	Name
①	VESA hole
②	Mold bracket mounting hole
③	Fixing bracket mounting slot
④	Power terminal
⑤	Power switch
⑥	Interface port

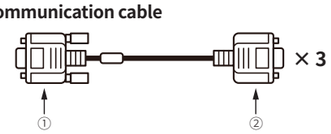
■ Interface port



No.	Name
①	HDMI
②	VGA
③	USB 3.0
④	Ethernet

No.	Name
⑤	USB 2.0
⑥	Audio
⑦	Serial interface (RS232C / RS485 / RS422)

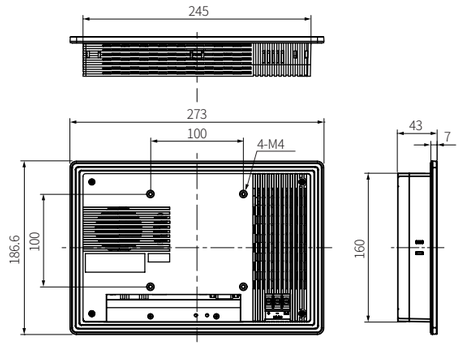
■ Multi-communication cable



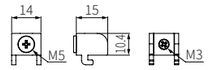
No.	Name
①	Input connector
②	Communication connector (supports RS232C, RS485, and RS422)

Dimensions

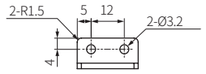
- Unit: mm, For the detailed drawings, follow the Autonics website.



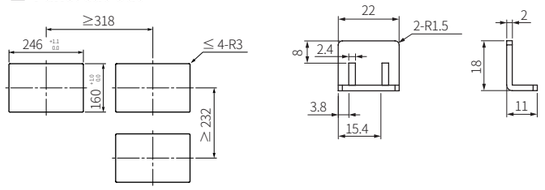
■ Fixing bracket



■ Mold bracket



■ Panel cut-out

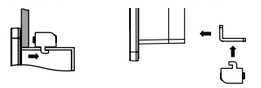


Installation

■ Installing on panel

1. Set the product in panel. (panel thickness: ≤ 4 mm)
2. Set fixing brackets in slots. [Image 1]
3. Tighten fixing brackets with the M3 screw driver with the tightening torque of 0.3 to 0.5 N·m.
4. When additional fixing bracket is in need on the bottom, connect the mold bracket on the rear of the product, before set fixing bracket. [Image 2]
   Tighten mold bracket with the M3 screw driver with the tightening torque of 0.3 to 0.5 N·m.

[Image 1] [Image 2]



- When using the mold bracket, install it with the included bolts (M3 × 8 mm). If you use a bolt out of the specification, it may result in product damage.

■ Installing with holder

You have to purchase 100 × 100 mm holder separately. Autonics does not have dedicated holder. Fix the purchased holder to the VESA hole on the rear of the product, using M4 Screw driver. Way to fix holder can be different by each holder.

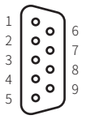
Serial Interface (RS232C / RS485 / RS422)

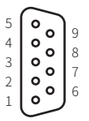
All devices that support serial interfaces, such as PCs, PLCs, serial printers, barcode readers, and various dedicated control devices, can be connected via RS232C, RS485, or RS422.

■ Connecting the multi-communication cable

1. Check the input connector of the multi-communication cable provided with the product.
2. Connect the input connector, ensuring it aligns with the pinout of the serial interface port.
3. Secure the connector by tightening the screws on both sides to prevent it from coming loose.
4. Connect the communication connector to the connector of the desired device.
5. Once all connections are completed, power on the product and verify that the communication connection is established correctly.

■ Multi-communication connector pinout 01)

Input connector	Pin no.	RS232C / RS485 / RS422
 D-SUB 9-pin, Socket (Female)	1	DATA+
	2	RXD
	3	TXD
	4	DATA-
	5	GND
	6	TXD+
	7	TXD-
	8	RXD+
	9	RXD-

Comm. connector	Pin no.	RS232C	RS485	RS422
 D-SUB 9-pin, Plug (Male)	1	-	DATA+	-
	2	RXD	-	-
	3	TXD	-	-
	4	-	DATA-	-
	5	GND	-	-
	6	-	-	TXD+
	7	-	-	TXD-
	8	-	-	RXD+
	9	-	-	RXD-

01) As an alternative to the multi-communication cable included with the product, a commercially available serial communication cable may be used.
Refer to the pinout in the table above when purchasing a cable.

Specifications

Model	APC-1021
Screen size	10.1 inch
LCD type	IPS TFT Color LCD
Resolution	WXGA 1280 × 800 pixel
Contrast	16:10
Display area	216.96 × 135.6 mm
Display color	16,777,216 color
LCD view angle (top/bottom/left/right)	Within 85° of each
Backlight	White LED
Backlight MTBF	50,000 hrs (LED Backlighting)
Luminance	550 cd/m^2
Touch	Resistive type
CPU	Integrated Intel ® J6412 / 2.0 GHz Quad core processor, TDP 10 W
Operating system	Windows 10 IoT Enterprise Entry (64 bit)
Hard disk	mSATA 64 GB SSD
System memory	DDR4 8 GB
Indicator	Power indicator (green)
Speaker	Stereo speaker 2 W + 2 W
Watch dog timer	Watch dog timer (1 to 255 seconds, software setting)
Battery life cycle	5 years at 25°C
Real-time controller	RTC embedded
Language	Korean, English
Certification	CE UK CA
Unit weight (packaged)	≈ 1.6 kg (≈ 2 kg)

Serial interface	× 1 (RS232C / RS485 / RS422)
USB 3.0 port	× 2
USB 2.0 port	× 1
Ethernet port	× 2 (10 / 100 / 1000 Base-T)
HDMI port	× 1
VGA port	× 1
Audio port	× 1

Power supply	24 VDC⎓
Permissible voltage range	90 to 110 % of power supply
Power consumption	≤ 30 W
Insulation resistance	≥ 100 MΩ (500 VDC⎓ megger)
Ground	3rd ground (≤ 100 Ω)
Noise immunity	±0.5 kV square wave noise (pulse width: 1 μs) by the noise simulator
Dielectric strength	Between the charging part and the case: 500 VAC~ 50/60 Hz for 1 minute
Vibration	0.75 mm double amplitude at frequency of 10 to 55Hz in each X, Y, Z direction for 1 hour
Vibration (malfunction)	0.5 mm double amplitude at frequency of 10 to 55Hz in each X, Y, Z direction for 10 minutes
Shock	300 m/s^2 (≈ 30 G) in each X, Y, Z direction
Shock (malfunction)	100 m/s^2 (≈ 10 G) in each X, Y, Z direction
Ambient temperature	0 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)
Protection rating	IP65 (front panel, IEC standard)

18, Bansong-ro 513Beon-gil, Haeundae-gu, Busan, Republic of Korea, 48002
www.autonics.com | +82-2-2048-1577 | sales@autonics.com

Autonics