

Panel PC



APC-1011 PRODUCT MANUAL

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Features

- Familiar to user with the Microsoft Windows 10 OS
- Equipped with Quad core processor
- Fan less type with low noise, low heat and no need to replacing fan component
- Equipped with 10 inch wide IPS TFT LCD of 16,777,216 colors for realizing True color
- Possible to be touched with not only hand but also glove, pen tip or etc. with resistive type touch screen
- Lesser restrictions on place with display and system all-in-one panel PC
- Supporting various types of interface
: HDMI, USB, VGA, Ethernet, Audio, Serial (RS232C / RS485 / RS422)
- Various methods of installation
: installing on panel, installing with holder (VESA standard 100 × 100 mm)

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.
- 24VDC 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 mm² or more of cross section for the power and 1.25 mm² 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
- Mold bracket
- M3 bolt for mold bracket × 2
- Instruction manual
- Bracket × 8

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 APC-1011. There are two ways for downloading software.

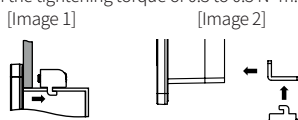
- Moving the installation file from a PC, using a USB driver
- Downloading the installation file from the Autonics website after connecting the LAN cable to the Ethernet port of APC-1011

Please refer to the catalogue or user manual for detailed information about software programs for APC-1011.

Installation

■ Installing on panel

- Set APC-1011 in panel. (panel thickness: ≤ 4 mm)
- Set fixing brackets in slots. [Image 1]
- Tighten fixing brackets with the M4 screw driver with the tightening torque of 0.3 to 0.5 N·m.
- When additional fixing bracket is in need on the bottom, connect the mold bracket on the rear of the product, before set fixing bracket. Tighten mold bracket with the M3 screw driver with the tightening torque of 0.3 to 0.5 N·m.



- 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.

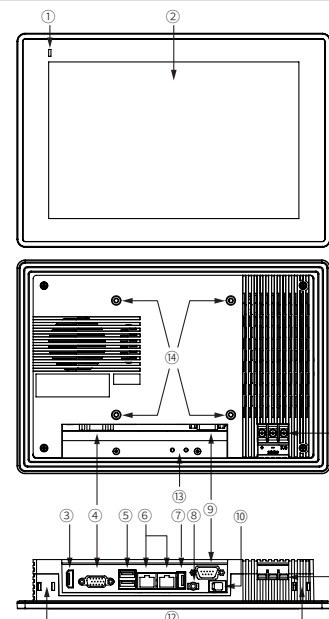
■ Installing with holder

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.

Specifications

Model	APC-1011
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	350 cd/m ²
Touch	Resistive type
CPU	Integrated Intel®J3160/1.6 GHz Quad core processor, TDP 6 W
OS	Windows 10 IoT Enterprise Entry (64 bit)
Hard disk	mSATA 64 GB SSD
System memory	DDR3L 4 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
Approval	CE ENEC
Unit weight (packaged)	≈ 1.6 kg (≈ 2 kg)
Serial interface	1 RS232C / RS422 / RS485 × 1 (jumper pin setting)
USB interface	USB 3.0 HOST × 1, USB 2.0 HOST × 2
Ethernet interface	Gigabit Ethernet × 2 (10/100/1000Base-T)
HDMI interface	1
VGA	1
Audio	1
Power supply	24 VDC
Alloable 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	500 VAC ~ 50/60 Hz for 1 minute
Vibration	0.75 mm double amplitude at frequency of 10 to 55Hz (for 1 minute) in each X, Y, Z direction for 1 hour
Vibration (malfunction)	0.5 mm double amplitude at frequency of 10 to 55Hz (for 1 minute) 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 structure	IP65 (front panel, IEC standard)

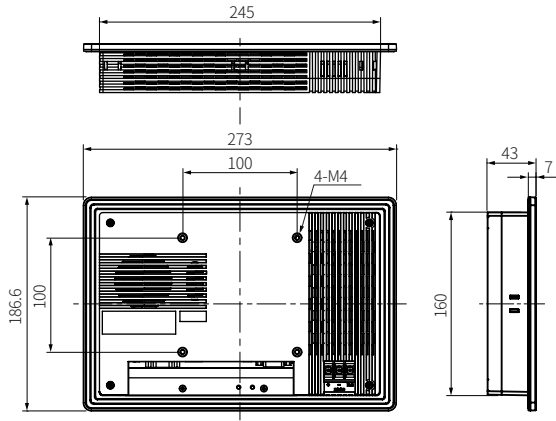
Unit Descriptions



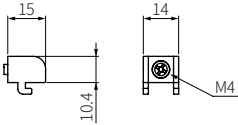
No.	Description
①	Power indicator (green)
②	LCD screen
③	HDMI
④	VGA
⑤	USB 2.0
⑥	Ethernet
⑦	USB 3.0
⑧	Audio
⑨	RS232C / RS485 / RS422 (jumper pin setting)
⑩	Power switch
⑪	Power terminal
⑫	Fixing bracket mounting slot
⑬	Mold bracket mounting slot
⑭	VESA hole

Dimensions

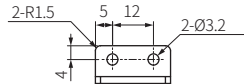
• Unit: mm, For the detailed drawings, follow the Autonics website.



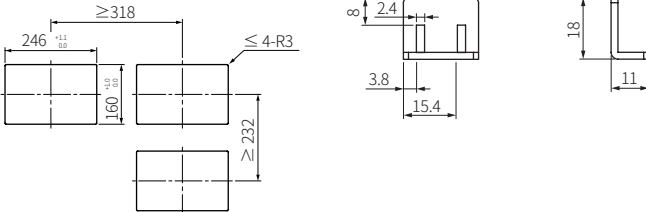
■ Fixing bracket



■ Mold bracket



■ Panel cut-out



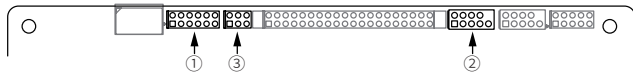
Serial Interface

All devices which are connectable with APC-1011 including PC, PLC, serial printer, barcode reader, and dedicated controllers can be connected to any of RS232C, RS485 and RS422 ports.

■ Changing serial interface

- 1) Open the rear case of APC-1011 with a screw driver.
- 2) Set the serial interface selecting jumper pin (①) with the jumper bar to serial interface to use.
- 3) When setting to RS232C, connect the D-sub connector to COM2 (②).
When setting to RS485 / RS422, connect the D-sub connector to JP12 (③).

• For more details, refer to the below image and table.



<Inside of APC-1011>

No.	Name	RS232C (default)	RS485	RS422
①	Serial interface setting jumper pin			
②	COM2		—	—
③	JP12	—		—

■ D-sub connector for each serial interface

RS232C		RS422		RS485	
Port	Pin function	Port	Pin function	Port	Pin function
1	D-Sub 9-pin Female	1	D-Sub 9-pin Female	1	D-Sub 9-pin Female
2	DCD	1	TXD-	1	DATA-
3	RXD	2	TXD+	2	DATA+
4	TXD	3	RXD-	3	-
5	DTR	4	RXD+	4	-
6	GND	5	GND	5	-
7	DSR	6	GND	6	-
8	RTS	7	-	7	-
9	CTS	8	-	8	-
	RI	9	-	9	-