

Autonics

7 inch TFT Color LCD type Graphic Panel

GP-A070

INSTRUCTION MANUAL



Thank you for choosing our Autonics product.
Please read the following safety considerations before use.

Safety Considerations

- ⚠ Please observe all safety considerations for safe and proper product operation to avoid hazards.
- ⚠ symbol represents caution due to special circumstances in which hazards may occur.
- Warning** Failure to follow these instructions may result in serious injury or death.
- Caution** Failure to follow these instructions may result in personal injury or product damage.

Warning

- 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.
- 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.
- Use the unit within the rated specifications.**
Failure to follow this instruction may result in fire or shortening the life cycle of the product.
- Do not connect, repair, or inspect the unit while connected to a power source.**
Failure to follow this instruction may result in fire.
- Check 'Power Wiring' and 'Serial Interface' before wiring.**
Failure to follow this instruction may result in fire.
- In preparation for product damage, communication error, or malfunction, install external limit switch, emergency stop switch, or other protection circuit.**
Failure to follow this instruction may result in personal injury, economic loss or fire.
- Since Lithium battery is embedded in the product, do not disassemble or burn the unit.**
Failure to follow this instruction may result in fire.
- Do not disassemble or modify the unit.**
Failure to follow this instruction may result in fire.
- Please contact to us for battery replacement.**

Caution

- Use dry cloth to clean the unit, and do not use water or organic solvent.**
Failure to follow this instruction may result in fire or malfunction.
- When connecting the power input, use AWG 23 cable or over and tighten the terminal screw with a tightening torque of 0.5 to 0.8N·m.**
Failure to follow this instruction may result in fire or malfunction due to contact failure.
- 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.
- Do not push over 2 point at the same time.**
Failure to follow this instruction may result in malfunction.
- Do not put any heavy object on the front screen.**
Failure to follow this instruction may result in malfunction due to deformation of LCD and touch panel.

Ordering Information

GP-A070-T9D6	Interface	6	RS232C, RS422, USB HOST, USB DEVICE, Ethernet
	Power supply	D	24VDC
	Color	9	16,777,216 color
	Display unit	T	TFT Color LCD
	Screen size	070	7 inch
	Series	A	A series
	Item	GP	Graphic Panel

⚠ The above specifications are subject to change and some models may be discontinued without notice.
⚠ Be sure to follow cautions written in the instruction manual, user manual and the technical descriptions (catalog, website).

Specifications

General specifications

Model	GP-A070-T9D6	GP-A070-T9D7	
Power supply	24VDC		
Allowable voltage range	90 to 110% of power supply		
Power consumption	Max. 7.2W		
Serial interface	Each of RS232C, RS422	Two ports of RS232C	
USB interface	Each of USB HOST, USB Device (USB2.0)		
Ethernet interface	IEEE802.3(U), 10/100Base-T		
Real-time controller	RTC embedded		
Battery life cycle	3 years at 25°C		
Insulated resistance	Over 100MΩ (at 500VDC megger)		
Ground	3rd grounding (max. 100Ω)		
Noise immunity	±0.5kV the square wave noise (pulse width: 1μs) by the noise simulator		
Withstanding voltage	500VAC 50/60Hz for 1 minute		
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 minute) in each X, Y, Z direction for 1 hour	
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for 1 minute) in each X, Y, Z direction for 10 minutes	
Shock	Mechanical	300m/s ² (approx. 30G) in each X, Y, Z direction for 3 times	
	Malfunction	100m/s ² (approx. 10G) in each X, Y, Z direction for 3 times	
Environment	Ambient temperature	0 to 50°C, storage: -20 to 60°C	
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH	
Protection structure	IP65 (front panel, IEC standard)		
Accessory	Fixing bracket: 4, battery (included)		
Approval	CE, ENEC		
Weight ^{※1}	Approx. 706g (approx. 520g)		

※1: The weight includes packaging. The weight in parenthesis is for unit only.
※ Environment resistance is rated at no freezing or condensation.

Performance specifications

Display performance

LCD type	TFT Color LCD
Resolution	800×480 dot
Display area	154.4×93.44mm
Color	16,777,216 color
LCD view angle	Within 50°/60°/65°/65° of each top/bottom/left/right
Backlight	White LED
Luminance	Max. 300cd/m ²
Luminance adjustment	Adjustable by software

Graphic drawing performance

Language ^{※1}	Korean, English
Text	Bitmap ASCII and vector font
Memory for user screen	64MB
Number of user screen	100 pages
Touch switch	Analog touch (resistive type)

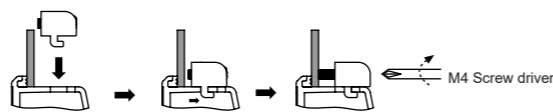
Interface type

GP-A070-T9D6	RS232C, RS422, USB Host, USB Device, Ethernet
GP-A070-T9D7	RS232C: 2, USB Host, USB Device, Ethernet

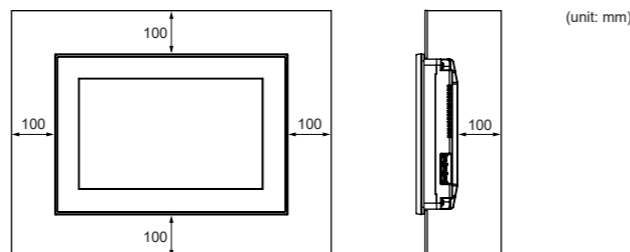
※1: Supported language can be added.

Installation

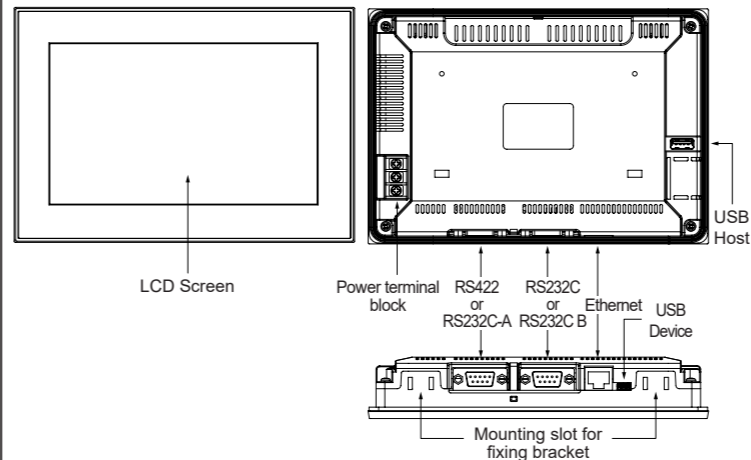
- Set GP-A070 in panel.
- Set fixing brackets in 4 slots (2 slots is in upper side, 2 slots is in lower side).
- Tighten fixing bracket with M4 Screw driver and tightening torque is 0.3 to 0.5N·m.



⚠ When installing GP-A070 on panel, make 100mm of space from upper, lower, right, left side of the product on the panel and back side of panel. It is for preventing effect of electromagnetic waves and heat from other controllers.



Unit Description



Serial port (RS232C/RS422)

All devices connectable to the product including PC, PLC, serial printer, barcode reader, and dedicated connectors can be connected in to both RS232C and RS422 ports.

Port	Pin	Port	Pin		
RS232C RS232C-A RS232C-B	1	Non-Used	RS422	1	TXD+
	2	RXD		2	RXD+
	3	TXD		3	Non-Used
	4	DTR		4	Non-Used
	5	SG		5	SG
	6	DSR		6	TXD-
	7	Non-Used		7	RXD-
	8	Non-Used		8	Non-Used
	9	Non-Used		9	Non-Used

Ethernet port

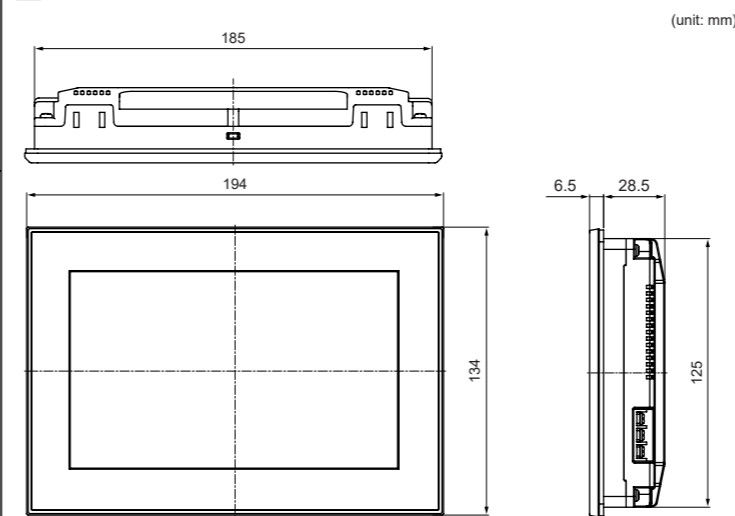
For connecting LAN cable and hub, use direct cable, and for connecting PC directly, use cross cable.

USB

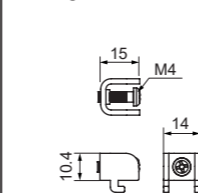
Type	USB Host	USB Device
Function	<ul style="list-style-type: none"> Transferring/Coping data between storage and GP-A070 Firmware upgrade Bar-code reader Printer 	<ul style="list-style-type: none"> Uploading/Downloading a atDesigner project file Used as external storage by connecting to PC

USB HOST can cover up to 32GB of external storage.
It supports only external storage of FAT16 and FAT32 file system.

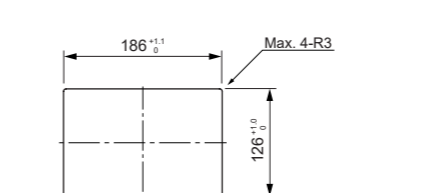
Dimension



Fixing bracket



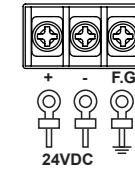
Panel cut out



※ Panel thickness : max. 4mm

Power Wiring

- For power supply, use the wire of which cross section is at least 0.75mm² and use the wire of which cross section is at least 1.25mm² for grounding.
- Use round terminal with at least 3mm of internal diameter and less than 6mm of external diameter.
- Do not apply power before power line connection.
- Check power polarity.
- Tighten the terminal screw with 0.5 to 0.8N·m torque.
- Ground resistance should be less than 100Ω and ground it separately.



Software

Visit our website (www.autonics.com) to download atDesigner or firmware.

atDesigner

atDesigner is for editing project and user screen.
Computer specification for atDesigner is as below.

Item	Minimum spec	Recommended spec
Operating system	Windows XP/Vista/7/8/10	
CPU	Pentium4 1.6GHz or above	Intel Core i5-2nd generation 2500 or above
Memory	Min. 4GB	Min. 8GB
Hard disk	Min. 4GB	Min. 8GB
Resolution	Min. 1280×1024	Min. 1920×1080

Firmware

Please refer to 'GP-A Series user manual' for firmware upgrade.

Manual

For the detail information and instructions, please refer to user manual and user manual for communication, and be sure to follow cautions written in the technical descriptions (catalog, website).
Visit our website (www.autonics.com) to download manuals.

atDesigner user manual

It describes how to design user screen and contains information about GP-A070 HMI function and how to use it.

GP/LP user manual for communication

It describes how to connect with external devices such as PLC.

GP-A Series user manual

It describes general information about installation and system of GP-A070.

Cable (sold separately)

Communication cables connectable into external devices such as PLC are sold separately.
Please refer to 'GP/LP user manual for communication' for communication cable.

Battery Replacement

Please contact our service center to replace battery.
It may cause an explosion or a fire when using improper battery.

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.
- This unit may be used in the following environments.
 - ① Indoors (in the environment condition rated in 'Specifications')
 - ② Altitude max. 2,000m
 - ③ Pollution degree 2
 - ④ Installation category II

Major Products

- Photoelectric Sensors
- Fiber Optic Sensors
- Door Sensors
- Door Side Sensors
- Area Sensors
- Proximity Sensors
- Pressure Sensors
- Rotary Encoders
- Connector/sockets
- Switching Mode Power Supplies
- Control Switches/Lamps/Buzzers
- I/O Terminal Blocks & Cables
- Stepper Motors/Drivers/Motion Controllers
- Graphic/Logic Panels
- Field Network Devices
- Laser Marking System (Fiber. Co., Nd:Yag)
- Laser Welding/Cutting System
- Temperature Controllers
- Temperature/Humidity Transducers
- SSRs/Power Controllers
- Counters
- Timers
- Panel Meters
- Tachometer/Pulse (Rate)Meters
- Display Units
- Sensor Controllers

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