

# Autonics 7 inch TFT Color LCD type Graphic Panel GP-S070

## 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 fire, personal injury, or economic loss.
- Use the unit within the rated specifications.**  
Failure to follow this instruction may result in shortening the life cycle of the product or fire.
- 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 fire, personal injury, or economic loss.
- 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

- Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.**  
Failure to follow this instruction may result in fire or explosion.
- Use dry cloth to clean the unit, and do not use water or organic solvent.**  
Failure to follow this instruction may result in electric shock or fire.
- 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 metal chip, dust, and wire residue from flowing 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.

### Ordering Information

GP	S	070	T	9	D	6
Interface						
6	RS232C, RS422, USB HOST, USB DEVICE, Ethernet					
7	RS232C(2), 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						
S	S 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, homepage).

### Specifications

#### General specifications

Model	GP-S070-T9D6	GP-S070-T9D7
Power supply	24VDC=	
Allowable voltage range	90 to 110% of power supply	
Power consumption	Max. 7.2W	
Serial interface	asynchronous method: each port of RS232C, RS422 Each port of RS232C, RS422	
USB interface	Each of USB HOST, USB Device (version 1.1)	
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 <sup>2</sup> (approx. 30G) in each X, Y, Z direction for 3 times
	Malfunction	100m/s <sup>2</sup> (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: 4pcs, battery (included)	
Approval	CE, RoHS	
Weight*1	Approx. 680g (approx. 500g)	

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

#### Performance specifications

<b>Display performance</b>	
LCD type	TFT Color LCD
Resolution	800×480 dot
Display area	152.4mm×91.44mm
Color	16,777,216 color
LCD view angle	Within each 60°/45°/60°/60° of top/bottom/left/right
Backlight	White LED
Brightness	Adjustable by software
<b>Graphic drawing performance</b>	
Language*1	Korean, English
Text	• Vector font • 6×8, 8×8 ASCII character, high quality view of numbers • 8×16 ASCII character, 16×16 regional characters (1 to 8 times bigger for width, 0.5 to 5 times for height)
Number of user memory	16MB
Number of user screen	500 pages
Touch switch	Analog touch
<b>Interface type</b>	
Communication interface	GP-S070-T9D6: each port of RS232C, RS422, USB Host, USB Device, Ethernet GP-S070-T9D7: two ports of RS232C, USB Host, USB Device, Ethernet

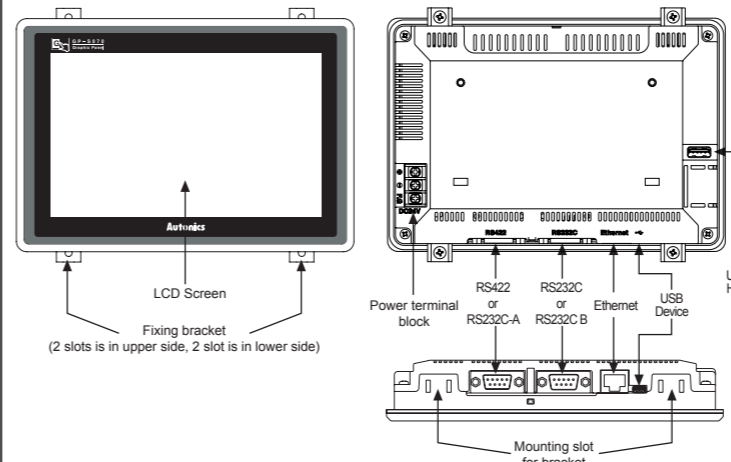
\*1: Supported language can be added.

### Serial Interface

- All devices connectable into GP-S070 including PC, PLC, serial printer, barcode reader, and dedicated connectors can be connected in to both RS232C and RS422 ports.
- Device must be set for the port in system setting for GP-S070.  
For details, please refer to 'GP-S070 user manual'.
- For connecting external device such as PLC, refer to 'GP, LP user manual for communication'.

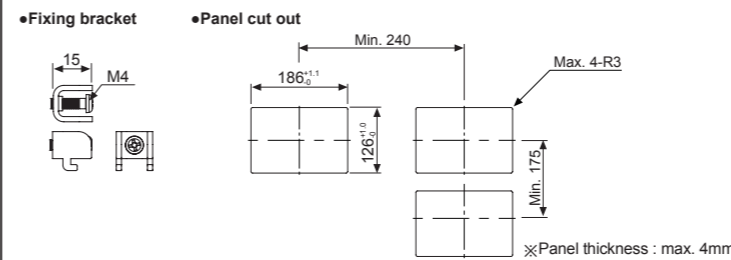
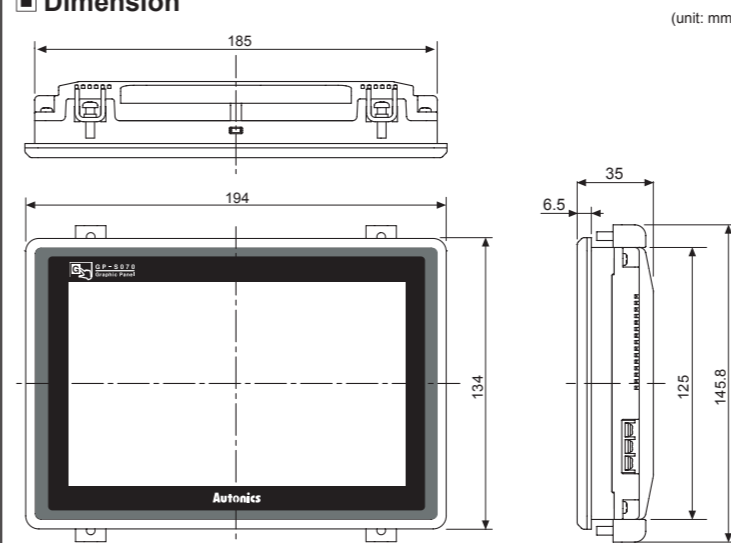
Port	Pin	Port	Pin
<b>RS232C</b> <b>RS232C-A</b> <b>RS232C-B</b>	1	Non-Used	<b>RS422</b>
	2	RXD	1
	3	TXD	2
	4	DTR	3
	5	SG	4
	6	DSR	5
	7	Non-Used	6
	8	Non-Used	7
	9	Non-Used	8
D-Sub 9-pin Male		D-Sub 9-pin Female	

### Unit Description



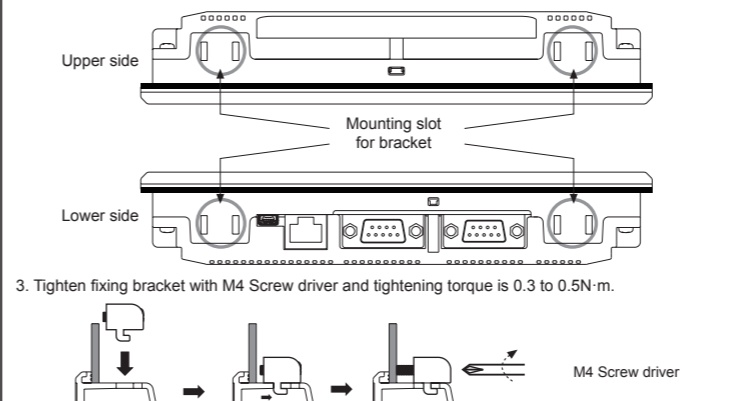
- Ethernet Port:** For connecting LAN cable and hub, use direct cable, and for connecting PC directly, use cross cable.
- USB Device:** When setting USB Device mode to HID mode in serial setting, it is for uploading/downloading GP Editor software. When setting to Storage mode, it is for transferring/copying data between PC and GP-S070 with recognition as a storage device by PC.  
For details, please refer to 'GP-S070 user manual'.
- USB Host:** It is for transferring/copying data between USB storage device and GP-S070 and upgrading firmware.

### Dimension



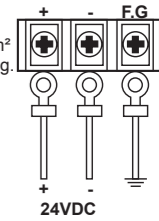
### Installation

- Set GP-S070 in panel.
- Set fixing brackets in 4 slots (2 slots is in upper side, 2 slots is in lower side).



### Power Wiring

- For power supply, use the wire of which cross section is at least 0.75mm<sup>2</sup> and use the wire of which cross section is at least 1.25mm<sup>2</sup> 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 homepage ([www.autonics.com](http://www.autonics.com)) to download GP Editor or firmware.

- GP Editor**  
GP Editor is for editing shape, arrangement, default of tag data which is displayed on GP-S057 screen. For GP Editor software, computer specification is as below.  
Operating system: Windows XP/7/8/10

Item	Minimum specification	Recommended specification
CPU	Pentium 4 or above	Pentium Dual Core
Memory	256MB	512MB
Hard disk	1GB (available space)	2GB (available space)
Resolution	1024×768	1024×768

#### Firmware

Please refer to 'GP-S070 user manual' and 'GP Editor user manual'.

### 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, homepage).  
Visit our homepage ([www.autonics.com](http://www.autonics.com)) to download manuals.

#### GP Editor user manual

It describes how to write screen data, and is about related usage of GP-S070 HMI function.

#### GP, LP user manual for communication

It describes connection for external devices such as PLC.

#### GP-S070 user manual

It describes general information on the installation and usage of GP-S070 and system control.

### 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 GP-S057 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. It may result in fire or malfunction.
- Do not push the touch panel with a hard and sharp object or push the panel with excessive force. 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.
  - ①Indoors (in the environment condition rated in 'Specifications')
  - ②Altitude max. 2,000m
  - ③Pollution degree 2
  - ④Installation 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

**Autonics Corporation**  
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