

# Autonics

7" TFT Color LCD type Graphic Panel

## GP-S070

### INSTRUCTION MANUAL



Thank you very much for selecting Autonics products.  
For your safety, please read the following before using.

#### Caution for your safety

- ※Please keep these instructions and review them before using this unit.
- ※Please observe the cautions that follow;
- Warning** Serious injury may result if instructions are not followed.
- Caution** Product may be damaged, or injury may result if instructions are not followed.
- ※The following is an explanation of the symbols used in the operation manual.
- △ caution: Injury or danger may occur under special conditions.

#### Warning

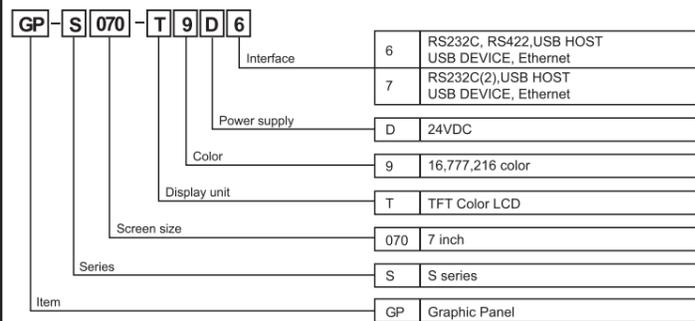
- In case of using this unit with machinery(Ex: nuclear power control, medical equipment, ship, vehicle, train, airplane, combustion apparatus, safety device, crime/disaster prevention equipment, etc) which may cause damages to human life or property, it is required to install fail-safe device.**  
It may cause a fire, human injury or damage to property.
- In case using the Graphic Panel touch switch for controlling, do not use the switch as an emergency switches or those related to safety that may cause physical injury or property damage in the event of a malfunction.**  
It may cause a fire, human injury or damage to property.
- In case controlling other devices through Graphic Panel communication, and there is a possibility of malfunction due to communication error, an alternative circuit must be constructed.**  
It may cause a fire, human injury or damage to property.
- Do not use the product in an area or an environment not specified in the manual.**  
It may cause a fire, human injury or damage to property.
- Do not connect, inspect or repair when power is on.**  
It may cause a fire or give an electric shock.
- Do not disassemble the case. Please contact us if it is required.**  
It may cause a fire or give an electric shock.
- Please use the rectified power with insulation transformer.**  
It may cause a fire or give an electric shock.
- Do not use the power exceeded the rated voltage.**  
It may cause a fire or give an electric shock.
- Lithium battery is used in this product, do not disassemble or burn up.**  
It may cause an explosion or a fire.
- Wire properly after checking power terminal polarity.**  
It may cause a fire or a malfunction.

#### Caution

- Please read all notes related to installation and wiring in the manual.**  
If this is not observed, electrical shock or malfunction may occur.
- Make sure the ground wire of Graphic Panel is wired separately from the ground wires of other devices. Ground resistance must be less than 100Ω, and a lead wire of which sectional area is over 1.25mm<sup>2</sup> should be used.**  
If this is not observed, electrical shock or malfunction may occur.
- When connecting Graphic Panel ports and constructing input/output, check the pin number and terminal block before connecting.**  
It may cause a fire or a malfunction.
- Please tighten bolt on terminal block with specified tightening torque.**  
It may cause a short circuit, fire or a malfunction.
- Do not press the surface of the touch panel with sharp or hard objects.**  
The touch panel may be damaged.
- Keep Graphic Panel at the specified temperature.**  
If stored at a temperature beyond the specification, damage may occur.
- Do not inflow dust or wire dregs into the unit.**  
It may cause a fire or a malfunction.
- Do not use in an area with excessive humidity or temperature.**  
The Graphic Panel may malfunction, or its useful life may be shortened.
- Do not close ventilating opening of this product.**  
Malfunction may occur due to temperature increase.
- Keep the product out of direct sunlight or excessive dust.**  
The Graphic Panel may malfunction, or its useful life may be shortened.
- Do not use or store in a place with shock or vibration.**  
The Graphic Panel may malfunction, or its useful life may be shortened.
- When liquid crystal from the broken LCD is smeared with skin, wash it for 15 minutes.**  
If it is gotten in the eye, wash it for 15 minutes and contact with the medical specialist for more information.
- In cleaning unit, do not use water or an oil-based detergent and use dry towels.**  
It may cause an electric shock or a fire.
- Please separate as an industrial waste when disuse this unit.**
- To change the battery, contact the store or an authorized technician.**
- The manufacturer is not liable for damages that occur due to causes for which the manufacturer is not responsible, damages that occur due to an extraordinary situation, secondary damages, compensation for accidents, damages occurring on other products, compensation for other processes, and damage and loss of opportunity to the user due a malfunction of the product, regardless of the predictability of the accident.**
- Note that this device is KC certified for commercial use. Make proper applications for the product.**

※The above specifications are subject to change and some models may be discontinued without notice.

#### Ordering information



#### 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	Two ports of RS232C
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	Min. 100MΩ (at 500VDC megger)	
Ground	3rd grounding (Max. 100Ω)	
Noise immunity	The square wave noise (Pulse width 1μs) by the noise simulator with ± 500V R/S phase and repetition frequency 60Hz	
Withstanding voltage	500VAC 50/60Hz for a minute	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for a minute) in each of X, Y, Z directions for an hour
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for a minute) in each of X, Y, Z directions for an 10minute
Shock	Mechanical	300m/s <sup>2</sup> (30G) X,Y,Z directions for 3 times
	Malfunction	100m/s <sup>2</sup> (10G) X,Y,Z directions 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	IP65F for front panel	
Accessory	Fixing bracket: 4pcs, Battery (included)	
Approval	CE, RoHS	
Unit weight	Approx. 520g	

※Environment resistance is rated at no freezing or condensation.

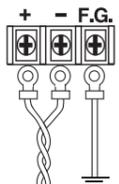
#### Performance specifications

◎ Display performance	
LCD type	TFT Color LCD
Resolution	800 X 480 dot
Display area	152.4mm X 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
◎ Graphic drawing performance	
Language	Korean, English*1
Text	●Vector font ●6X8, 8X8 ASCII character, High quality view of numbers ●8X16 ASCII character, 16X16 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
◎ Interface type	
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

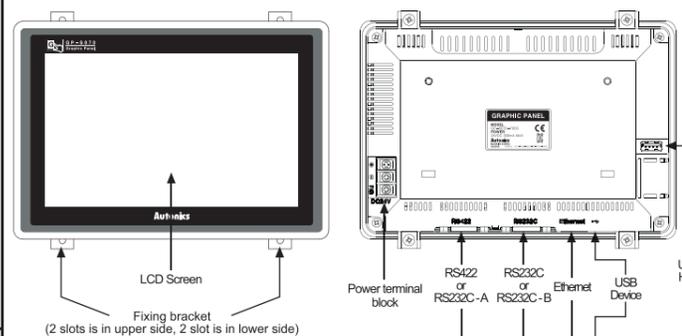
※1: Language can be customized.

#### 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 crimp-on type ring 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.



#### Parts description



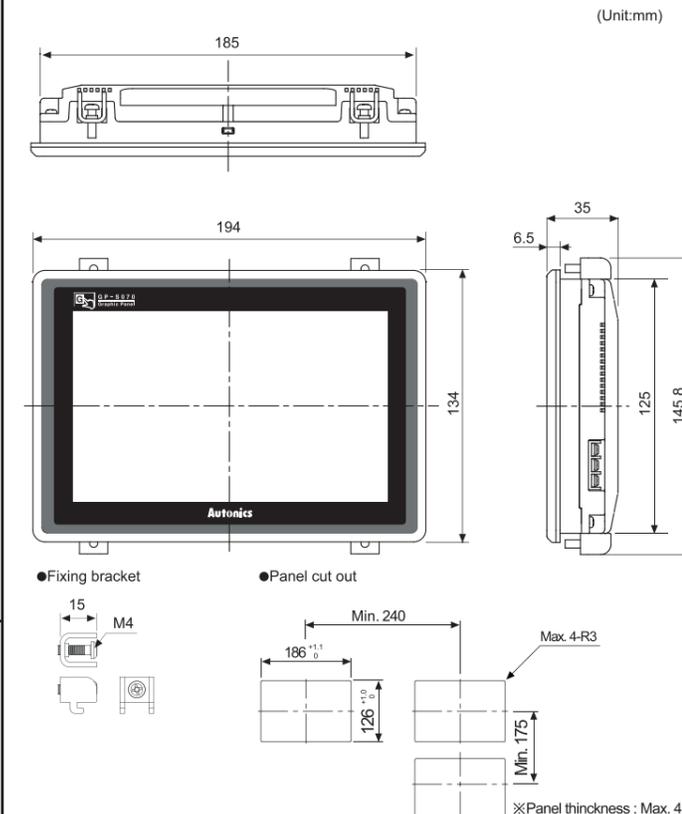
- Ethernet Port: For connecting LAN cable and hub, use direct cable, and for connecting PC directly, use cross cable.
- USB Device: It is used to upload and download project (it is required to install USB driver on PC), and when connect to PC, it can be used as a USB memory (PC recognizes it as a removable disk).
- USB Host: It is used to manage data and upgrade firmware.

#### Serial interface

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

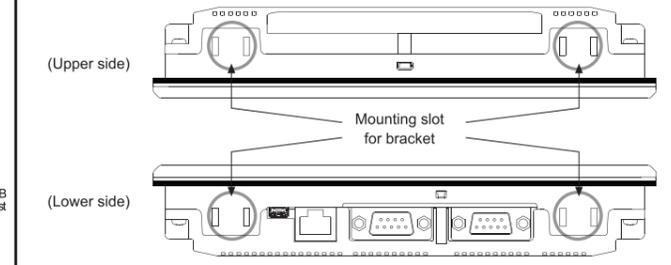
Port	Pin	Port	Pin
RS232C RS232C-A RS232C-B	1	RS422	1
	2		2
	3		3
	4		4
	5		5
	6		6
	7		7
	8		8
	9		9
D-Sub 9Pin Male		D-Sub 9Pin Female	

#### Dimension

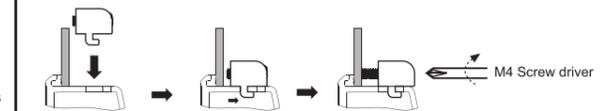


#### Installation

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



- Tighten fixing bracket with M4 Screw driver and tightening torque is 0.3 to 0.5N·m.



#### Software

Please visit our website ([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-S070 screen. For GP Editor software, computer specification is as below.

Operating system: Windows 98/NT/XP

Item	Minimum specifications	Recommended specifications
CPU	Pentium4 or above	Pentium Dual Core or above
Memory	512MB	1GB
Hard disk	1GB(Available space)	5GB(Available space)
Resolution	1024X768	1280X1024

#### Firmware

Firmware is able to upgrade by USB host. Please refer to 'GP Editor user manual'.

#### Manual

Visit our website ([www.autonics.com](http://www.autonics.com)) to download 'GP Editor user manual', or 'GP,LP user manual for communication', GP-S070 user manual.

#### 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 contents.

#### Cable

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-S070 battery. It may cause an explosion or a fire when using improper battery.

#### Caution for using

- Use communication cable after checking whether there is break, short.
- Please install power switch or circuit-breaker in order to cut power supply off.
- Separate this unit from high voltage line, power line to avoid inductive noise.
- Do not use this product at below places.
  - Place where there is severe vibration or impact
  - Place where dust exists, or corrosion causing environments.
  - Place where strong magnetic field or electric noise are generated
  - Place where is temperature/humidity is beyond the specification
  - Place where strong alkalis or vibration or impact
  - Place where there are direct ray of the sun
- Installation environment
  - It shall be used indoor.
  - Altitude Max. 2,000m
  - Pollution Degree 2
  - Installation Category II

※It may cause malfunction if above instructions are not followed.

#### 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<sub>2</sub>, Nd:yag)
- Laser Welding/Cutting System
- Temperature Controllers
- Temperature/Humidity Transducers
- SSRs/Power Controllers
- Counters
- Timers
- Panel Meters
- Tachometers/Pulse (Rate) Meters
- Display Units
- Sensor Controllers

**Autonics Corporation**  
<http://www.autonics.com>  
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