Autonics

Logic Panel

LP-S044

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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.

XThe following is an explanation of the symbols used in the operation manual. ▲Caution:Injury or danger may occur under special conditions.

Marning

- 1. In case of using this unit with machinery(Ex: nuclear power control, medical equpment, 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,
- 2. Do not use the Logic Panel where serious physical damage or production halt can be caused. It may cause a fire, human injury or damage to property.
- 3. In case using the Logic Panel touch switch for controlling, do not use the switch as an emergenc 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.
- 1. In the event of a body defect or malfunction in the Logic Panel, an alternative circuit must be constructed on the exterior It may cause a fire, human injury or damage to property.
- 5. Construct an emergency power-off circuit, safety circuit, or interlock circuit on the exterior of the Logic It may cause a fire, human injury or damage to property.
- 6. If an error occurs on the watchdog timer of the Logic Panel, the logic program will shut down automatically, so an alternative circuit must be constructed on the exterior. It may cause a fire, human injury or damage to property
- 7. The overall system operation may malfunction due to an input error resulting from a failure in input signal detection; so an alternative circuit must be constructed on the exterior
- It may cause a fire, human injury or damage to property.

 8. For output signals that may cause a serious accident if the output section is damaged, a detection circuit and alternative circuit must be constructed on the exterior
- It may cause a fire, human injury or damage to property. 9. In case controlling other devices through Logic 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. 10. When switching the mode to RUN mode please make sure that supply power to LP, I/O unit and load first. If not, output error or misoperation may cause.
- It may cause a fire, human injury or damage to property. 11. 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
- 12. Do not connect, inspect or repair when power is on.
- It may cause a fire or give an electric shock.
- 13. Do not disassemble the case. Please contact us if it is required. It may cause a fire or give an electric shock.
- 14. Please use the rectified power with insulation transfo
- It may cause a fire or give an electric shock.
- 15. Do not use the power exceeded the rated voltage It may cause a fire or give an electric shock.
- 16. Lithium battery is used in this product, do not disassemble or burn up.
- It may cause an explosion or a fire.
- 17. Wire properly after checking power terminal polarity.
- It may cause a fire or a malfunction

⚠ Caution

- I. Please read all notes related to installation and wiring in the manual.
- If this is not observed, electrical shock or malfunction may occur.

 2. Make sure the ground wire of Logic 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 1.25mm² should be used.
- If this is not observed, electrical shock or malfunction may occur
- 3. When connecting Logic Panel ports and constructing input/output, check the pin number and termina
- 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.
- 5. Do not press the surface of the touch panel with sharp or hard objects.
- The touch panel may be damaged.
- 6. Keep Logic Panel at the specified temperature.
- If stored at a temperature beyond the specification, damage may occur.

- 7. Do not inflow dust or wire dregs into the unit.
- It may cause a fire or a malfunction.
- 8. Do not use in an area with excessive humidity or temperature. The Logic Panel may malfunction, or its useful life may be shortened
- 9. Do not close ventilating opening of this product.
 Malfunction may occur due to temperature increase.

 10. Keep the product out of direct sunlight or excessive dust.
- The Logic Panel may malfunction, or its useful life may be shortened
- 11. Do not use or store in a place with shock or vibration. The Logic Panel may malfunction, or its useful life may be shortened. 12. 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
- It may cause an electric shock or a fire.

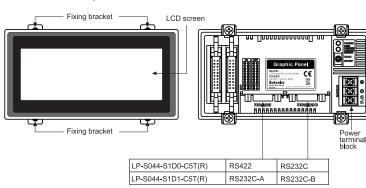
 14. Please separate as an industrial waste when disuse this unit.

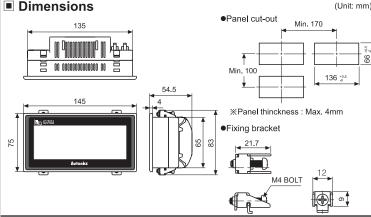
- 15. To change the battery, contact the store or an authorized technician. 16. The manufacturer is not liable for damages that occur due to causes for which the manufacturer is not responsible, damages that occur due to an extraordinary situation, secondary damages, compensation for accidents, damages 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.
- 17. Note that this device is KC certified for commercial use. Make proper applications for
- **The above specifications are subject to change and some models may be discontinued without notice.

Model

Model	LP-S044-S1D0-C5T-A	LP-S044-S1D0-C5R-A	LP-S044-S1D1-C5T-A	LP-S044-S1D1-C5R-A
Monitor size	4.4inch			
Display unit	STN LCD			
Color	MONO(Blue, White)			
Power supply	24VDC			
Interface	Each port of RS232C, RS422		Two ports of RS232C	
Module	All-in-one type			
I/O composition	IN: 16point, OUT: 16point			
I/O connector	Terminal block connector	Ribon cable connector	Terminal block connector	Ribon cable connector
Expansion function	Type A			

Parts description

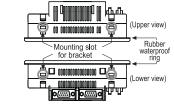


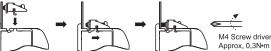


Installation

- I. Set a rubber waterproof ring after placing the ring's
- joining part under the LP-S044

 2. Adhere closely between each edge of the LP-S044
- and the rings.
 Set LP-S044 in panel.
- . Set the fix bracket to 4 bracket slots and fix them with bracket's screws





Specifications

General Specifications

	LP-S044-S1D0-C5T(R)	LP-S044-S1D1-C5T(R)			
pply	24VDC				
voltage range	90 to 110% of power supply				
nsumption	Max. 3.6W				
erface	Each port of RS232C, RS422 Two ports of RS232C (Asynchronous method) (Asynchronous method)				
controller	RTC embedded				
e cycle	3 years at 25℃				
resistance	Min.100M Ω (at 500VDC)				
Ground 3rd grounding(Max.100 Ω)					
nunity	The square wave noise (Pulse width 1µs) by the noise simulator with ± 0.5k				
ling voltage	500VAC(50/60Hz) for a minute				
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 10 minutes				
Mechanical	300m/s² (30G) in X, Y, Z directions for 3 times				
Malfunction	100m/s ² (10G) in X, Y, Z directions for 3 times				
Ambient temperature	0 to 50°C, Storage temperature: -20 to 60°C				
Ambient humidity	35 to 85%RH, Storage humidity: 35 to 85%RH				
n ratings	IP65F for front panel				
у	Fixing bracket : 4pcs, Rubber waterproof ring, Battery included				
	CE I				
ht ^{※1}	Approx. 454g (Approx. 312g)				
weight in par	entheses is only unit weight.				
	roltage range ensumption or face controller e cycle resistance ensumption or face controller e cycle resistance ensumity ing voltage Mechanical Malfunction Mechanical Malfunction Ambient temperature Ambient humidity in ratings of the cycle	poply 24VDC voltage range 90 to 110% of power supply nsumption Max. 3.6W rface Each port of RS232C, RS422 (Asynchronous method) controller RTC embedded e cycle 3 years at 25°C resistance Min.100MΩ (at 500VDC) 3rd grounding(Max.100Ω) nunity The square wave noise (Pulse width 1μs) b ing voltage Mechanical 0.75mm amplitude at frequency of 10 to in each of X, Y, Z directions for an hour in each of X, Y, Z directions for 10 minute 300m/s² (30G) in X, Y, Z directions for 3 Malfunction 100m/s² (10G) in X, Y, Z directions for 3 Ambient temperature 0 to 50°C, Storage temperature: -20 to 60°C, Storage temperature: -20 to 60°C, Trainings 1P65F for front panel (Fixing bracket: 4pcs, Rubber waterproof ring trainings)			

Environment resistance is rated at no freezing or condensation.

Ferrormance Specifications		
Display performance		
LCD type	STN Blue Negative	
Resolution	240 × 80 dot	
Display area	112.8mm × 37.6mm	
Color	MONO(Blue, White)	
LCD view angle	Within each 30° of top/bottom/right/left	
Backlight	White LED	
Brightness	Adjustable by software	
Graphinc Drawing Per	rformance	
Language	Support for Korean, English, Japanese, Chinese, Russian, Vietnamese, Portuguese	
Text	●High resolution display up to 400 letters ●6 x 8, 8 x 8 ASCII character, High quality view of numbers ●8 x 16 ASCII characters, 16 x 16 regional characters (1- 8 times bigger for width, 0.5-5 times bigger for height)	
Graphic drawing memory	384 KB	
Number of user screen	500pages	

LP-S044-S1D0-C5T(R): Each port of RS232C, RS422 Communnication nterface LP-S044-S1D1-C5T(R): Two port of RS232C Input Output Input point 16 points Output point 16 points Photo coupler insulation Photo coupler insulation nsulation method Insulation method Voltage range 19.2-28.8VDC Load voltage range 19.2-28.8VDC Rated input voltage 24VDC Rated input voltage 24VDC Rated input current Max. load current 0.1A/1point, 1A/1COM Approx. 4mA Max. voltage falling when ON Under 0.2VDC Input resistance 5.6kΩ Response time 1ms Response time 1ms 16points/1COM Common method 16points/1COM Common method

Control performance Basic command: 28, application command: 220 Command Program capacity 8K step Average : 6 to 7µs/step Processing time I/O control type Batch processing Computer control mode Repeated-doubling method, interrupt processing See manual

Width 15 × Height 4=60

Device range ※1: Language can be customized.

Serial interface

Touch switch

Interface type

- All devices connectable into LP-S044 including PC, PLC, serial printer, barcode reader and dedicated contain be connected into both RS232C and RS422 ports.
- can be connected into both RS232C and RS422 ports.

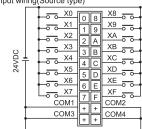
 Device must be set for the port in system setting for LP-S044. For details, refer to 'GP Editor user manual'.

 For the method of wiring external devices of PLC, refer to 'GP, LP user manual for communication'.

Port	Pin		Port	Pin	
RS232C	1	Non-used	RS422	1	TXD+
RS232C-A RS232C-B	2	RXD		2	RXD+
	3	TXD		3	Non-used
5 9	4	DTR	$\begin{bmatrix} 1 & 0 \\ 0 & 0 \end{bmatrix}_6$	4	Non-used
4 9 9	5	SG	2 0 0 7	5	SG
3 • 7	6	DSR	$\begin{bmatrix} 3 & 0 & 0 \\ 3 & 0 & 0 \end{bmatrix}_8'$	6	TXD-
2 6	7	Non-used	4 0 0 0	7	RXD-
1 • 10	8	Non-used	5 0 0	8	Non-used
D Sub ODin Molo	a	Non-used	D Sub OPin Fomalo	a	Non used

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 crimp-on type 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.

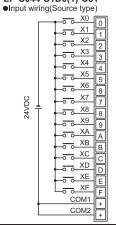


■ Input/Output wiring

LP-S044-S1D0(1)-C5R

Output wiring(Sync type) Y0 0 8 Y2 2 A Y6 6 E

LP-S044-S1D0(1)-C5T



Output wiring(Sync type) Y2 Y4 YΕ Check the pin number of the case before wiring

Software

Please visit our website (www.autonics.com) to download GP Editor, LP Series, or firmware.

GP Editor is for editing shape, arrangement, default of tag data which is displayed on LP-S044 screen. SmartStudio

SmartStudio is for writing program and debugging to LP-S044. ※For GP Editor, SmartStudio software, computer specification is as below

	Operating system: Wi	ndows 98/NT/XP/Vista		
Item		Minimum specification	Recommended specification	
	CPU	Pentium4 or above	Pentium Dual Core	
	Memory	512MB	1GB	
	Hard disk	1GB(Available space)	5GB(Available space)	
	Resolution	1024 × 768	1280 × 1024	

Firmware

Please refer to 'SmartStudio user manual'

Manual

autonics.com) to download 'GP Editor user manual, SmartStudio user manual, SmartStudio programing manual, LP Series command manual, LP-S044 user manual, or GP,LP user manual for communication'.

●GP Editor user manual

It describes how to write screen data, and is about related usage of LP HMI function. SmartStudio user manual, SmartStudio programming manual, LP Series command manual

It contains install method and usage, commands, etc of SmartStudio.

●GP, LP user manual for communication

It describes connection for external devices such as PLC. ●LP-S044 user manual

It describes general information on the installation and usage of Logic panel and system contents.

Battery replacement Please contact our service center to replace LP-S044 battery.

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

Caution for using . Use communication cable after checking whether there is break, short.

2. Please install power switch or circuit-breaker in order to cut power supply off. 3. Separate this unit from high voltage line, power line to avoid inductive noise.

4. Do not use this product at below places. Place where there is severe vibration or impact

Place where dust exists, or corrosion causing environments.

3 Place where strong magnetic field or electric noise are generated

Place where is temperature/humidity is beyond the specification

⑤ Place where strong alkalis or vibration or impact

Place where there are direct ray of the sun

Installation environment It shall be used indoor.

② Altitude Max. 2.000m

Installation Category II

3 Pollution Degree 2 **※It may cause malfunction if above instructions are not followed**

Major products

24VDC

OVERSEAS SALES: OVERSEAS SALES: #402-404, Bucheon Techno Park, 655, Pyeongcheo Wonmi-gu, Bucheon, Gyeonggi-do, Korea TEL: 82-32-610-2730 / FAX: 82-32-329-0728

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