
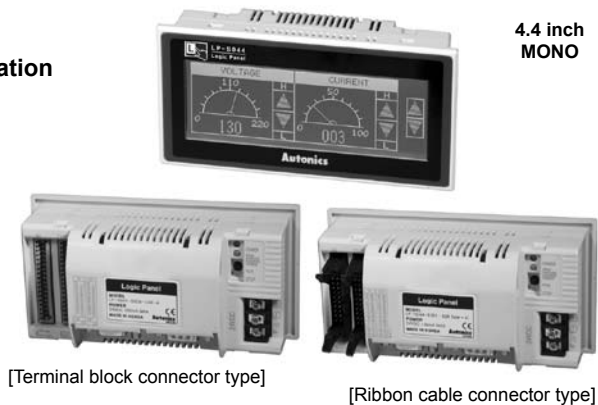


Graphic panel + PLC function Logic panel LP-S044

■ Features

- Compact structure
 - : **Reducing cost, space saving and easy operation through PLC+HMI+Input/ output integration**
- Improved compatibility with logic
 - : 8000-step program capacity
(the average processing speed 6 to 7μs/step)
 - basic command 28,
application command 220
- Wide device range
 - : Peripheral device 10K word, data device 10K word, and other various devices
- Sufficient external I/O
 - : Input 16 points, output 16 points(basic)
- Various expansion function
 - : External interrupt, 16-key input, 7 Seg. time-sharing display and synchronous communication output.
- Easy software upgrade at website
 - (1) LP firmware file
 - (2) GP Editor(drawing program)
 - (3) Smart Studio(logic program)
 - (4) Additional protocol
- Displays max. 400 characters
- Enables to save max. 500 pages of user screen
- Different devices monitoring function
 - : PLC port allows to monitor and control the variables of additionally connected controllers
- Supports multilingual
 - : Supports for Korean, Japanese, English, Chinese, Russian, Vietnamese and Portuguese. Additional languages will be available by firmware.
- Supports multi-font
 - : It provides various bitmap and user-selected fonts.
- Various multi-communication ports
 - : Both RS232 2 port and RS232/RS422 compound port are provided.
- Device monitoring function
 - : It enables to monitor LP device and connected controller devices by LP without graphic design data.
- Printer and barcode reader connection
 - : It enables to print alarm history connecting a printer and read barcode connecting a barcode reader.

 Please read "Caution for your safety" in operation manual before using.



■ Manual

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

- **GP Editor user manual**
It describes how to write screen data, and is about related usage of LP-S044 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 LP-S044 and system contents.

(A)	Photo electric sensor
(B)	Fiber optic sensor
(C)	Door/Area sensor
(D)	Proximity sensor
(E)	Pressure sensor
(F)	Rotary encoder
(G)	Connector/Socket
(H)	Temp. controller
(I)	SSR/ Power controller
(J)	Counter
(K)	Timer
(L)	Panel meter
(M)	Tacho/ Speed/ Pulse meter
(N)	Display unit
(O)	Sensor controller
(P)	Switching mode power supply
(Q)	Stepper motor& Driver&Controller
(R)	Graphic/ Logic panel
(S)	Field network device
(T)	Software
(U)	Other

■ Ordering information

Model	Item	Series	Monitor size	Display unit	Color	Power supply	Interface	Module	I/O composition	I/O connector	Expansion function type
LP-S044-S1D0-C5T-A	Logic panel	S series	4.4 inch	STN LCD	MONO (blue, white)	24VDC	RS232C, RS422 (1EA for each)	All-in-one type	IN: 16points	Terminal block connector	Supports type A
LP-S044-S1D0-C5R-A									Ribbon cable connector		
LP-S044-S1D1-C5T-A									Terminal block connector		
LP-S044-S1D1-C5R-A									Ribbon cable connector		

■ Specifications

Model		LP-S044-S1D0-C5T-A	LP-S044-S1D0-C5R-A	LP-S044-S1D1-C5T-A	LP-S044-S1D1-C5R-A
I/O connector type		Terminal block connector	Ribbon cable connector	Terminal block connector	Ribbon cable connector
Power supply		24VDC			
Allowable voltage range		90 to 110% of power supply			
Power consumption		Max. 3.6W			
Display performance	LCD type	4.4inch STN Blue Negative			
	Resolution	240×80 dots			
	Display area	112.8mm×37.6mm			
	Color	MONO(blue, white)			
	LCD view angle	Top/Bottom/Left/Right 30° in each direction			
	Backlight	White LED			
	Brightness	Adjustable by software			
Graphic drawing performance	Language ^{※1}	English, Korean, Japanese, Chinese, Russian, Vietnamese, Portuguese			
	Text	• High resolution display up to 400 letters • 6×8, 8×8 ASCII character, high definition numbers • 8×16 ASCII characters, 16×16 regional characters(1 to 8 times bigger for width, 0.5 to 5 times bigger for height)			
	Graphic drawing memory	384 KB			
	Number of user screen	500 pages			
	Touch switch	Width 15×Height 4 = 60			
Control performance	Command	Basic command : 28, application command : 220			
	Program capacity	8K step			
	Processing time	Average : 6 to 7μs/step			
	I/O control type	Batch processing			
	Computer control mode	Repeated-doubling method, interrupt processing			
	Device range	*Refer to LP-S044 user manual			
Serial interface		Each port of RS232C, RS422(asynchronous method)		Two ports of RS232C(asynchronous method)	
Real-time controller		RTC embedded			
Battery life cycle		Approx. 3 years at 25°C			
Insulated resistance		Min. 100MΩ(at 500VDC megger)			
Ground		3rd grounding(max. 100Ω)			
Noise trength		± 0.5kV the square wave noise(pulse width : 1μs) by the noise simulator			
Dielectric strength		500VAC(50/60Hz) for a minute			
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 1 hour			
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 10 min.			
Shock	Mechanical	300m/s²(approx. 30G) in each of X, Y, Z directions for 3 times			
	Malfunction	100m/s²(approx. 10G) in each of X, Y, Z directions for 3 times			
Environ-ment	Ambient temperature	0 to 50°C, storage : -20 to 60°C			
	Ambient humidity	35 to 85% RH, storage : 35 to 85% RH			
Protection ratings		IP65F(for front panel)			
Accessory		Fixing bracket : 4EA, Rubber waterproof ring, Battery included			
Approval		CE			
Weight ^{※2}		Approx. 454g(approx. 312g)			

※1: Language can be customized.

※2: This weight is with packaging and the weight in parentheses is only unit weight.

※Environment resistance is rated at no freezing or condensation.

Input/Output performance

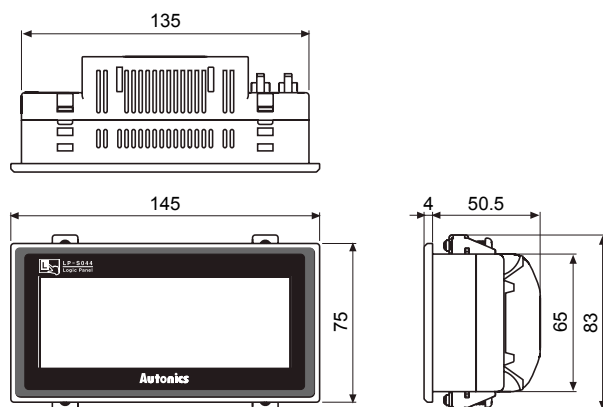
Input performance		Output performance	
Input point	16 points	Output point	16 points
Insulation method	Photo coupler insulation	Insulation method	Photo coupler insulation
Voltage range	19.2 to 28.8VDC	Voltage range	19.2 to 28.8VDC
Rated input voltage	24VDC	Rated input voltage	24VDC
Rated input current	Approx. 4mA	Max. load current	0.1A/1point, 1A/1COM
Input resistance	5.6kΩ	Max. voltage falling when ON	Max. 0.2VDC
Response time	1ms	Response time	1ms
Common method	16 points/1COM	Common method	16 points/1COM

Functional description

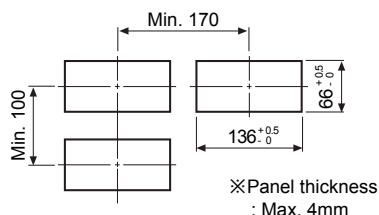
Figure display	Line, rectangle, circle, text, bitmap
Numeral display	Displays the designated device as numerical value.(decimal, hexadecimal, octal, binary, real number)
ASCII display	Displays the designated device value as ASCII character.
Time display	Displays current time or date.
Alarm history	Registers alarm history.
Alarm list	Displays generated (not backed up) alarm.
Comment display	Displays the designated comment as device status or value.
Lamp	Displays lamp as device status.
Part display	Displays the designated parts as device status and value.
Line graph	Displays several device values with a graph of broken line.
Trend graph	Displays change of device value for time with a graph of broken line.
Bar graph	Displays a device value with a bar graph.
Statistic graph	Displays a ratio of several device values with pie graph.
Panel meter	Displays a device value as panel meter.
Touch key	Screen is switched, word/bit device values are set when it touched.
Numeral input	Configures user input value in device.
ASCII input	Configures user input ASCII code value in device.
System information function	Monitors/Controls LP operation from PLC.
Recipe function	Reads/Writes several PLC device collectively.
Security function	Only acceptable user can observe/operate important data.
Barcode read function	Connects barcode reader, read barcode.
Floating alarm function	Warning message is floated when alarm is generated.
Overlap window	Specific bit device is ON/OFF for designated day and time.
Observe status function	Available to form dynamically overlapping another base screen on the base one.

Dimensions

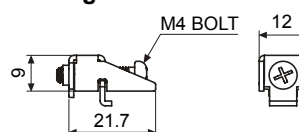
(unit: mm)



Panel cut-out

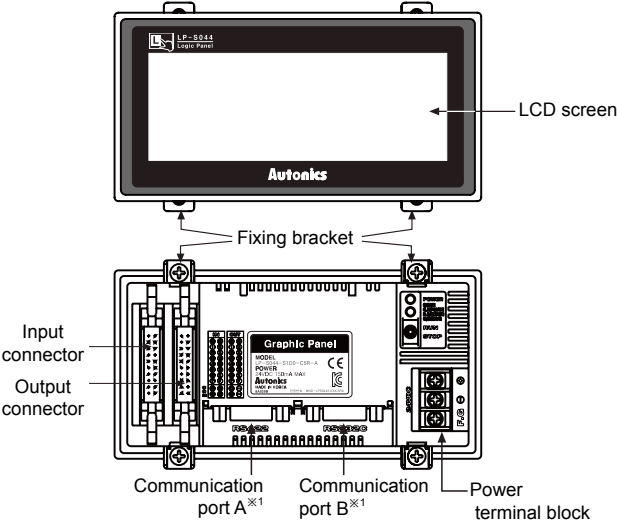


Fixing bracket



(A)	Photo electric sensor
(B)	Fiber optic sensor
(C)	Door/Area sensor
(D)	Proximity sensor
(E)	Pressure sensor
(F)	Rotary encoder
(G)	Connector/Socket
(H)	Temp. controller
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■ Part description



※1: Communication port

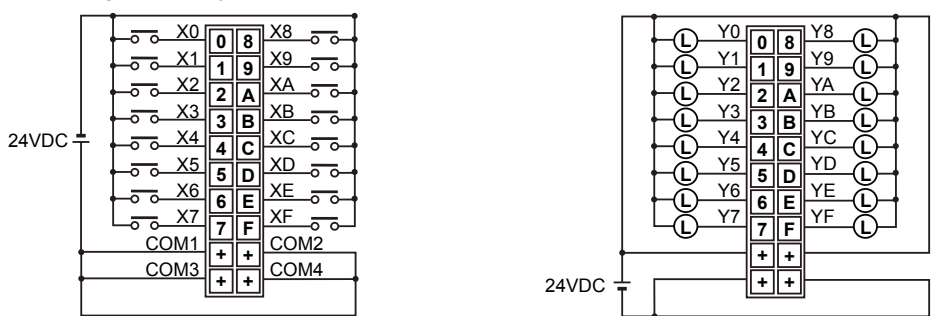
Model	Port A	Port B
LP-S044-S1D0-C5T(R)	RS422	RS232C
LP-S044-S1D1-C5T(R)	RS232C-A	RS232C-B

※For more information, refer to R-32 page and '■Serial interface' of GP/LP common features.

■ Input-Output wiring

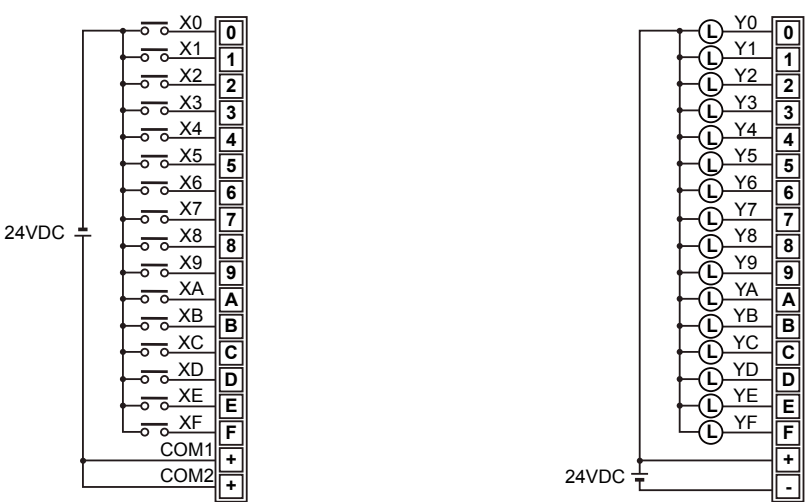
◎ LP-S044-S1D0(1)-C5R

- Input wiring(source type input module)
- Output wiring(sink type output module)



◎ LP-S044-S1D0(1)-C5R

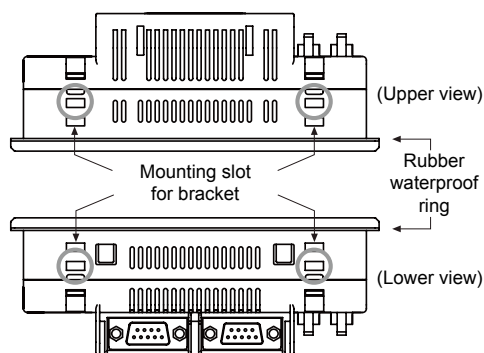
- Input wiring(source type input module)
- Output wiring(sink type output module)



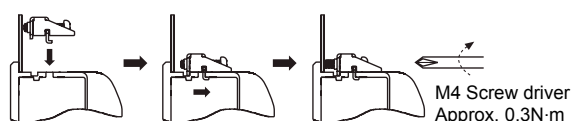
※Check the pin number of the case before wiring.

■ Installation

1. 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.
3. Set LP-S044 in panel.
4. Set the fix bracket to 4 bracket slots and fix them with bracket's screws.



● Mounting bracket



■ Sold separately

◎ I/O terminal block and I/O cable

Suitable I/O terminal block	INPUT/OUTPUT	Suitable I/O cable
AFS-H20 (Interface terminal block)	INPUT	CJ-HPHP20-V1N□-1ANR
	OUTPUT	
ABS-H16PA(TN)-NN (Relay terminal block)	OUTPUT	CJ-HPHP20-V1N□-1APR
AFE4-H20-16LF (Sensor connector terminal block)	INPUT	CJ-HPHP20-V1N□-1BNR
	OUTPUT	CJ-HPHP20-V1N□-1APR
—	—	CJ-HP20-VP□-R(OPEN type cable)
		CJ-HP20-VP□-L(OPEN type cable)

※It is only for ribbon cable connector (hirose connector) type.

※"□" is for cable length. (Basic specification 010 : 1m, 020 : 2m, the others are option)

※For more information, refer to "I/O terminal block & cable catalog".

◎ Communication cable (RS232C, RS422 port)

For serial connectable cable to connect PLC and external devices, refer to the R-32 page for "GP/LP communication cable".

(A)
Photo
electric
sensor

(B)
Fiber
optic
sensor

(C)
Door/Area
sensor

(D)
Proximity
sensor

(E)
Pressure
sensor

(F)
Rotary
encoder

(G)
Connector/
Socket

(H)
Temp.
controller

(I)
SSR/
Power
controller

(J)
Counter

(K)
Timer

(L)
Panel
meter

(M)
Tacho/
Speed/ Pulse
meter

(N)
Display
unit

(O)
Sensor
controller

(P)
Switching
mode power
supply

(Q)
Stepper
motor&
Driver&Controller

(R)
Graphic/
Logic
panel

(S)
Field
network
device

(T)
Software

(U)
Other