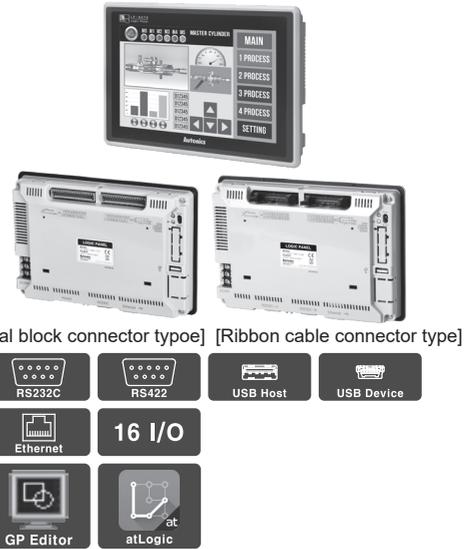


LP-S070 Series

Basic Type 7 inch Color LCD Logic Panel

■ Features

- Supports cost reducing, space saving, easy control by PLC+HMI+I/O module integration
- Adopts 7 inch wide TFT LCD for realizing True Color with 16,777,216 colors
- Analog touch method
 - : Free tag arrangement than matrix touch method
- Supports basic I/O of input 16-point, output 16-point
- Supports several device (auxiliary device 10K Word, data device 10K Word, etc)
- Built-in large capacity memory (program memory: 8,000 step, drawing memory: 16MB)
- Built-in position control function
 - : Provides simultaneous output for max. 100kHz pulse 2-point
- Easy software upgrade available on website
 - (1) LP firmware file (2) GP Editor (drawing program)
 - (3) atLogic (logic program) (4) Additional protocol
 - (5) Language and font, etc
- Data logger function
 - : Supports data gathering and backup of controller
- Supports variable image library
- Enables to monitor multi stations and multi channels at the same time
- **Supports several interface**
 - : Easy to connect various external devices with RS232C 2 ports and RS232C/RS422 multi communication ports
 - : Enables to extend additional external I/O (when connecting Autonics ARM Series, one communication cable enables to extend 64-point per address, up to 31 address)



- Supports several fonts: Supports window true type and several bitmap font (selectable)
- Device monitoring function: Enables to monitor/control variable of connected control through communication port
- Printer/Barcode reader connection: Enables to print out alarm history, to read barcode

⚠ Please read "Safety Considerations" in the instruction manual before using.



■ 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.

● GP Editor user manual

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

● atLogic user manual, atLogic programming manual, LP Series command manual

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

● GP/LP user manual for communication:

It describes connection for external devices such as PLC.

● LP-S070 user manual:

It describes general information of the installation and usage of LP-S070 and system Contents.

■ Ordering Information

Model	Item	Series	Monitor size	Display unit	Color	Power supply	Interface	Module	I/O composition	I/O connector
LP-S070-T9D6-C5T	Logic panel	S series	7 inch	TFT Color LCD	16,777,216 color	24VDC==	RS232C, RS422, USB HOST, USB DEVICE, Ethernet	All-in-one type	IN: 16-point, OUT: 16-point	Terminal block connector
LP-S070-T9D6-C5R										Ribbon cable connector
LP-S070-T9D7-C5T										Terminal block connector
LP-S070-T9D7-C5R										Ribbon cable connector

Basic Type 7 inch Color Logic Panel

Specifications

Model	LP-S070-T9D6-C5T	LP-S070-T9D6-C5R	LP-S070-T9D7-C5T	LP-S070-T9D7-C5R
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. 7.2W			
Graphic drawing performance	LCD type	7 inch TFT Color LCD		
	Resolution	800×480 dots		
	Display area	152.4×91.44mm		
	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*1	English, Korean		
	Text	<ul style="list-style-type: none"> • Vector font • 6×8, 8×8 ASCII character, high definition numbers • 8×16 ASCII characters, 16×16 character by each country (1 to 8 times bigger for width, 0.5 to 5 times bigger for height) 		
	Graphic drawing memory	16MB		
	Number of user screen	500 pages		
Control performance	Touch switch	Analog touch		
	Command	Basic command: 28, application command: 233		
	Program capacity	8K step		
	Processing time	Average: approx. 2μs/basic command, application command		
	I/O control type	Batch processing		
	Computer control mode	Repeated-doubling method, interrupt processing		
	Device range	Refer to 'LP-S070 user manual'		
Special function*2	Positioning function			
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	Approx. 3 years at 25°C			
Insulation 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 min			
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 1 hour		
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 min		
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				
Weight*3	Approx. 699g (approx. 510g)			

*1: Supported language can be added.

*2: Please refer to 'LP-S070 user manual' for more special function.

*3: The weight includes packaging. The weight in parenthesis is for unit only.

*Environment resistance is rated at no freezing or condensation.

Input/Output Performance

Input performance		Output performance	
Input point	16-point	Output point	16-point
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=
Input resistance	Contact X0 to X5: approx. 10mA Contact X6 to XF: approx. 4mA	Max. load current	0.1A/1point, 1.6A/1COM
Input resistance	Contact X0 to X5: 2.2kΩ, Contact X6 to XF: 5.6kΩ	Max. voltage falling when ON	Max. 0.2VDC=
Response time	1ms	Response time	1ms
Common method	16-point/1COM	Common method	16-point/1COM
Acceptable wire	0.3 to 0.7mm ²	Acceptable wire	0.3 to 0.7mm ²

SENSORS

CONTROLLERS

MOTION DEVICES

SOFTWARE

(J) Temperature Controllers

(K) SSRs

(L) Power Controllers

(M) Counters

(N) Timers

(O) Digital Panel Meters

(P) Indicators

(Q) Converters

(R) Digital Display Units

(S) Sensor Controllers

(T) Switching Mode Power Supplies

(U) Recorders

(V) HMIs

(W) Panel PC

(X) Field Network Devices

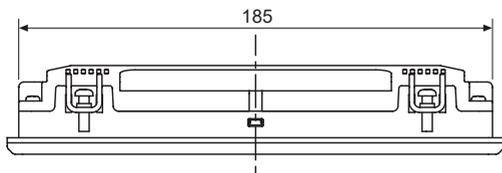
LP-S070 Series

Function

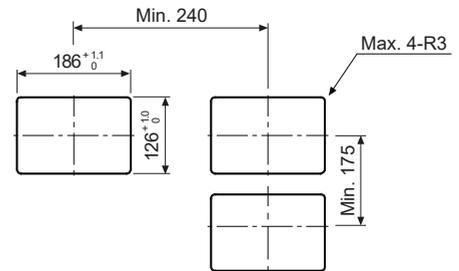
Figure display	Line, rectangle, circle, text, bitmap	
Tags	Numeral display	Displays the designated device as numerical value. (decimal, hexadecimal, octal, binary, real number)
	ASCII display	Displays the designated device value as ASCII character.
	Time display	Displays current time or date.
	Alarm 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.	
Time operation	Specific bit device is ON/OFF for designated day and time.	
Overlap window	Available to form dynamically overlapping another base screen on the base one.	

Dimensions

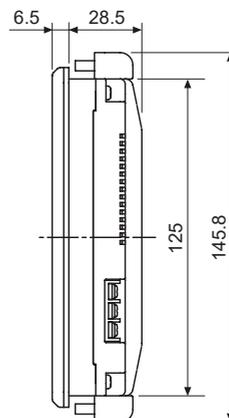
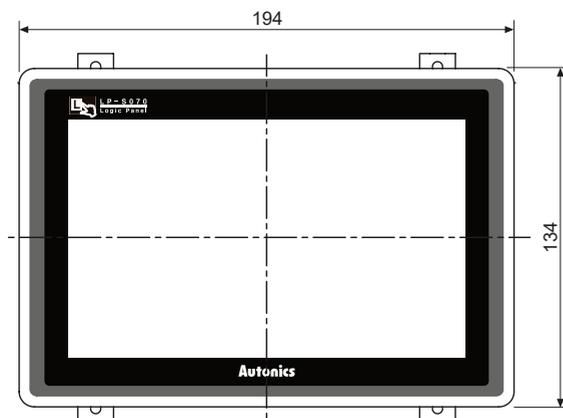
(unit: mm)



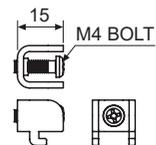
Panel cut-out



※Panel thickness
: max. 4mm

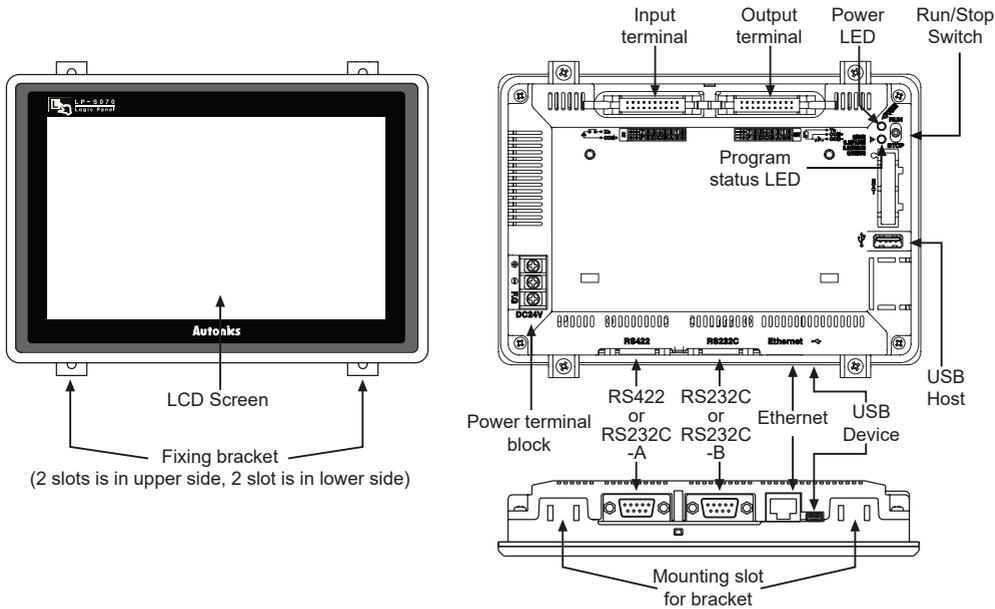


Fixing bracket



Basic Type 7 inch Color Logic Panel

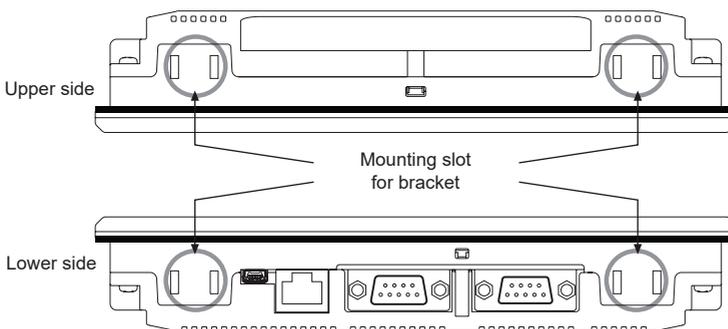
■ Unit Description



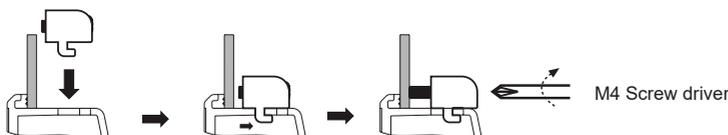
- Ethernet port: For connecting LAN cable and hub, use direct cable, and for connecting PC directly, use cross cable.
- USB Device: When setting USB Device mode to HID mode in serial setting, it is for uploading/downloading GP Editor, atLogic project. When setting to Storage mode, it is for transferring/coping data between PC and LP-S070 with recognition as a storage device by PC.
For details, please refer to 'LP-S070 user manual'.
- USB Host: It is for transferring/coping data between USB storage device and LP-S070 and upgrading firmware.
- RS232C, RS422 port: For more information, refer to '■ Serial Interface' of GP/LP Common Features.

■ Installation

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



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



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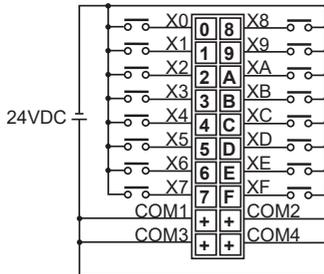
(X) Field Network Devices

LP-S070 Series

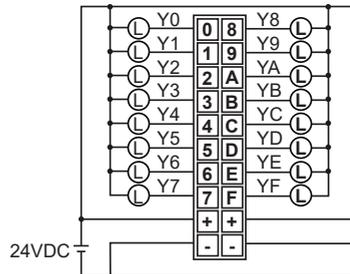
Input/Output Wiring

LP-S070-T9D6 (7)-C5R

• Input wiring (source type input module)

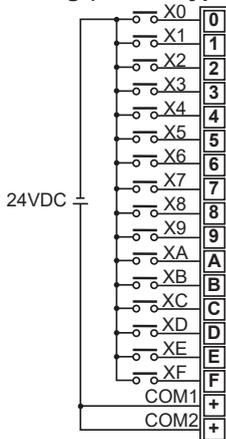


• Output wiring (sink type output module)

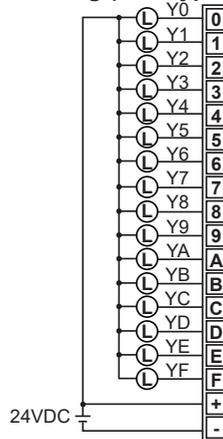


LP-S070-T9D6 (7)-C5T

• Input wiring (source type input module)



• Output wiring (sink type output module)



※Check the pin number of the case before wiring.

Sold Separately

Connector socket

Please contact to the manufacturer of the socket and cable.

	Standard product	Manufacturer
Socket	HIF3BA-20D-2.54R	Hirose Electric

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	CH20-HP□-4R
	OUTPUT	
ABS-H16PA (TN)-NN (Relay terminal block)	OUTPUT	CH20-HP□-C1T1R
AFE4-H20-16LF (Sensor connector terminal block)	INPUT	CH20-HP□-C1T5R
	OUTPUT	CH20-HP□-C1T1R
—	—	CO20-HP□-R (open type cable)
		CO20-HP□-L (open type cable)

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

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

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

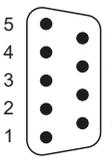
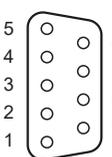
Communication cable (RS232C, RS422 port)

Serial connection cables which connect GP/LP with PLC or other external devices are sold separately. Refer to "GP/LP Communication Cables".

Basic Type 7 inch Color Logic Panel

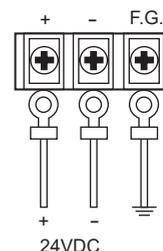
Serial Interface

- All devices are connectable with LP-S070 including PC, PLC, serial printer, barcode reader and dedicated connectors can be connected with both RS232C and RS422 ports.
- Use the dedicated communication cable for the each connected device.
(Refer to the "GP/LP Communication Cables")
- For the method of wiring external devices like PLC, refer to "GP/LP communication manual".

Port	NO.	Pin
 D-Sub 9-pin Male	1	Not used
	2	RXD
	3	TXD
	4	DTR
	5	SG
	6	DSR
	7	Not used
	8	Not used
	9	Not used
 D-Sub 9-pin Female	1	TXD+
	2	RXD+
	3	Not used
	4	Not used
	5	SG
	6	TXD-
	7	RXD-
	8	Not used
	9	Not 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 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.



Battery Replacement

Please contact out distributor to replace battery.
It may cause an explosion or a fire when improper battery is used.

Cautions during Use

1. Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
2. 24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
3. Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
4. 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.
5. 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.
6. Make a required space around the unit for radiation of heat, and do not block ventilation openings.
7. 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.
8. 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.
9. 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

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Devices