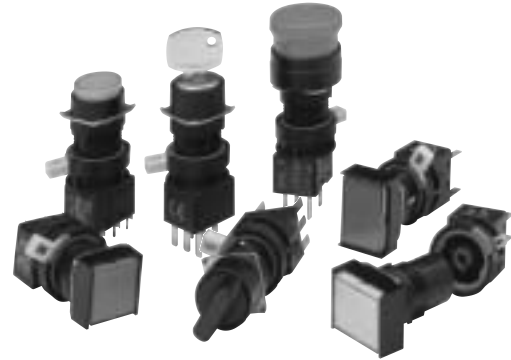


## L6 Series — Miniature Switches and Pilot Devices

Key features of the 5/8" L6 Series include:

- 5/8" (16mm) mounting holes
- Locking lever removable contact blocks
- Solder terminal or PCB terminal options
- Available assembled or as sub-components
- Worldwide approvals
- Incandescent or LED illumination
- Snap action contacts



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Switches & Pilot Devices



UL Recognized  
File No. E55996



CSA Certified  
File No. LR21451



Registration No. R9551089 (E-stops)  
Registration No. J9551458 (all other switches)  
Registration No. J9650511 (Pilot Lights)

Contact Ratings	<b>Conforming to Standards</b>	EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 N0.14					
	<b>Operating Temperature</b>	Operation: -25 to +55°C (without freezing), 45 to 85% rh Storage: -30 to +80°C (without freezing)					
	<b>Vibration Resistance</b>	5 to 55Hz, 1.0 peak-peak amplitude max					
	<b>Shock Resistance</b>	Operating limit: 100 m/sec <sup>2</sup> (approximately 10G) Damage limit: 1000 m/sec <sup>2</sup> (approximately 100G)					
	<b>Mechanical Life</b>	Momentary pushbuttons 2,000,000 operations minimum All others: 250,000 operations minimum					
	<b>Degree of Protection</b>	IP65 (conforming to IEC 60529)					
	<b>Dielectric Strength</b>	Switch unit: between live and ground: 2500 volt AC, 1 minute between terminals of different poles: 2500 volt AC, 1 minute between terminals of same pole: 1000 volt AC, 1 minute Illumination unit: between live part and ground: 2500 volt AC, 1 minute					
	<b>Insulation Resistance</b>	100 MΩ minimum (using 500V DC megger)					
	<b>Rated Insulation Voltage</b>	250 V AC/DC					
	<b>Rated Thermal Current</b>	Gold Contacts (pcb): 3A Silver Contacts (solder): 5A					
	<b>Contact Resistance</b>	50 Ω maximum initial value					
	<b>Rated Operating Current</b>		<b>Silver Contacts</b> (Solder Terminals)			<b>Gold Clad Contacts</b> (PCB terminals)	
			30V	125V	250V	30V	125V
	AC resistive	-	3A	2A	-	0.1A	
	AC inductive	-	2A	1.5A	0.1A	-	
	DC resistive	2A	0.4A	-	-	-	
	DC inductive	1A	0.2A	-	-	-	
<b>Minimum Recommended Load</b> (reference value for silver contacts)	5 VAC/DC, 1mA						
<b>Terminal Style</b>	0.110" Solder Tab /PCB						
<b>Contact Form</b>	Snap Action, Double Throw						
<b>Contact Material</b>	Solder Tab: Pure Silver /PCB thermal Gold Plated Silver						
<b>Electrical Life</b> (at full load)	Momentary pushbuttons: 100,000 operations minimum (1800 operations / hour) All others: 100,000 operations minimum (1200 operations / hour)						
Lamp Ratings	<b>Lamp Current Draw</b>	5V DC LED: 8mA		6V incandescent: 100 mA			
		6V LED: 7mA		12V incandescent: 50 mA			
		12V LED: 8mA		24V incandescent: 25 mA			
	<b>Lamp Life</b>	Incandescent: 2000 hours./LED: 50,000 hours. (on pure DC, half-life intensity)					
Buzzer Ratings	<b>Frequency</b>	2 khz ± 500 HZ					
	<b>Amplitude</b>	80db @ 0.1m (at rated voltage)					
	<b>Operating Voltage</b>	6V AC/DC or 12 - 24V AC/DC ± 10%					
	<b>Adjustable Cycle</b>	55 to 600 cycles per minute					
	<b>Current Draw</b>	DC: 7mA AC: 20mA					
	<b>Life</b>	1000 hrs. minimum					
	<b>Insulation Voltage</b>	60V AC/DC					
<b>Operating Temperature</b>	-20 to 55 C (no freezing), 45 to 85% rh						

## Illuminated Pushbuttons (Assembled)

### Part Numbers: Illuminated Pushbuttons

Style	Operation	Lamp Voltage	Contact	Terminal Style		
				Solder Tab	PCB	
 Round	Momentary	24V AC/DC LED	SPDT	LA1L-M1C54-②	LA1L-M1C14V-②	
		Incandescent	DPDT	LA1L-M1C64-②	LA1L-M1C24V-②	
	Maintained	24V AC/DC LED	SPDT	LA1L-A1C54-②	LA1L-A1C14V-②	
		Incandescent	DPDT	LA1L-A1C64-②	LA1L-A1C24V-②	
	 Square	Momentary	24V AC/DC LED	SPDT	LA2L-M1C54-②	LA2L-M1C14V-②
			Incandescent	DPDT	LA2L-M1C64-②	LA2L-M1C24V-②
Maintained		24V AC/DC LED	SPDT	LA2L-A1C54-②	LA2L-A1C14V-②	
		Incandescent	DPDT	LA2L-A1C64-②	LA2L-A1C24V-②	
 Rectangular		Momentary	24V AC/DC LED	SPDT	LA3L-M1C54-②	LA3L-M1C14V-②
			Incandescent	DPDT	LA3L-M1C64-②	LA3L-M1C24V-②
	Maintained	24V AC/DC LED	SPDT	LA3L-A1C54-②	LA3L-A1C14V-②	
		Incandescent	DPDT	LA3L-A1C64-②	LA3L-A1C24V-②	
	 Oversize Round	Momentary	24V AC/DC LED	SPDT	HA1L-M1C54-②	HA1L-M1C14V-②
			Incandescent	DPDT	HA1L-M1C64-②	HA1L-M1C24V-②
Maintained		24V AC/DC LED	SPDT	HA1L-A1C54-②	HA1L-A1C14V-②	
		Incandescent	DPDT	HA1L-A1C64-②	HA1L-A1C24V-②	
 Oversize Square		Momentary	24V AC/DC LED	SPDT	HA2L-M1C54-②	HA2L-M1C14V-②
			Incandescent	DPDT	HA2L-M1C64-②	HA2L-M1C24V-②
	Maintained	24V AC/DC LED	SPDT	HA2L-A1C54-②	HA2L-A1C14V-②	
		Incandescent	DPDT	HA2L-A1C64-②	HA2L-A1C24V-②	
	 Mushroom	Momentary	24V AC/DC LED	SPDT	HA1L-M3C54-②	HA1L-M3C14V-②
			Incandescent	DPDT	HA1L-M3C64-②	HA1L-M3C24V-②
Maintained		24V AC/DC LED	SPDT	HA1L-A3C54-②	HA1L-A3C14V-②	
		Incandescent	DPDT	HA1L-A3C64-②	HA1L-A3C24V-②	

### ② Lens Color Codes

Color	Code
Amber	A
Green	G
Red	R
Blue	S
Yellow	Y
White	W

### Voltage/Lamp Code

Voltage	Code
5V DC LED	1
6V AC/DC LED	2
12V AC/DC LED	3
24V AC/DC LED	4
120V AC LED	8
6V AC/DC Incandescent	5
12V AC/DC Incandescent	6
24V AC/DC Incandescent	7

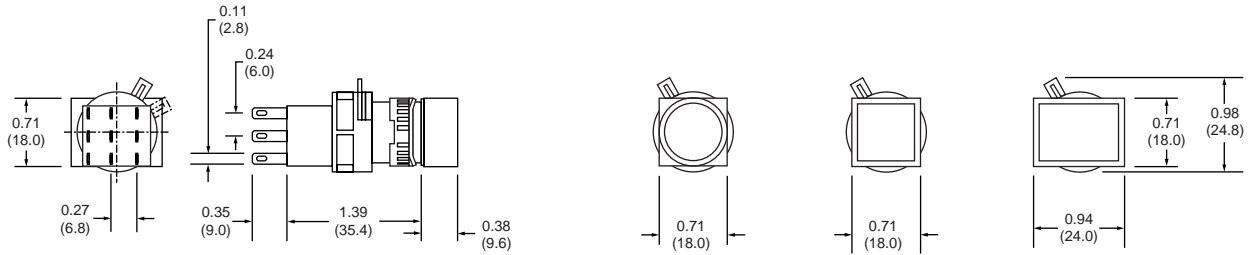
- In place of ② specify lens color code from table at right.
- Lamps also available in 5V DC, 6V AC/DC, 12 V AC/DC or 120V AC, change “4” or “7” using voltage/lamp codes (ie LA1P-1C03-② uses 12V AC/DC LED).
- PCB terminal models also available with silver contacts (change “1” or “2” to “5” or “6” respectively, ie LA1L-M1C14V-① becomes LA1L-M1C54V-①).

## Dimensions con't

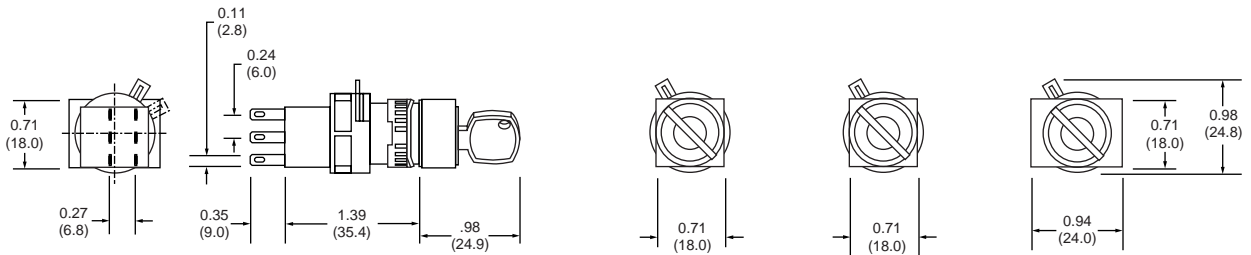
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Switches & Pilot Devices

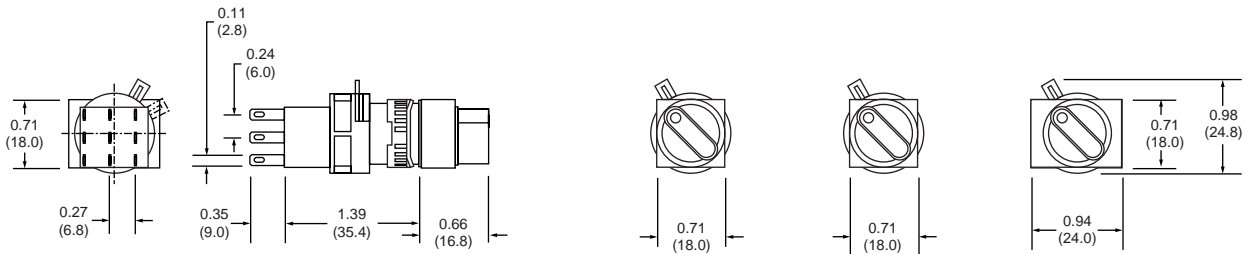
### Illuminated Pushbuttons (LA\*L)



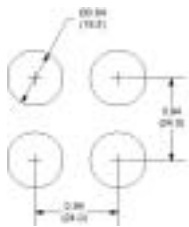
### Key Switches (LA\*K)



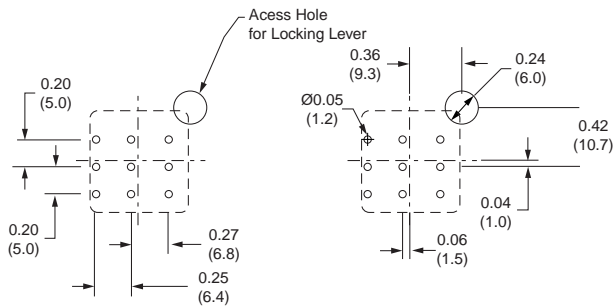
### Selector Switches (LA\*S)



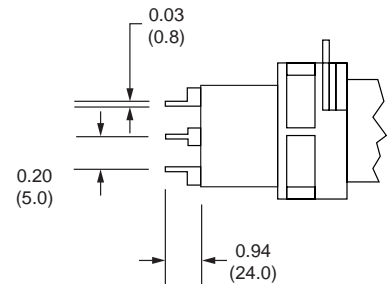
### Panel Cut-Out



### PCB Layout (except for Buzzer and E-Stop)



### PCB Pins



### HA1B E-Stop

#### PCB Mounting Pattern

