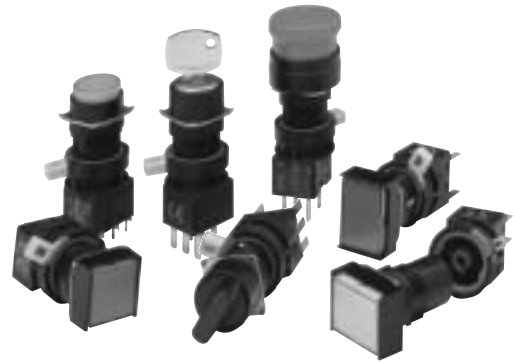


## L6 Series — Miniature Switches and Pilot Devices

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



CSA Certified  
File No. LR21451































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

Switches & Pilot Devices











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 in/sec <sup>2</sup> (approximately 10G) Damage limit: 1000 in/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	3A	2A	AC inductive	-	0.1A
		AC inductive	2A	2A	1.5A	DC resistive	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 Selector Switches

### Part Numbers: Illuminated Selectors Switches

Style			Contact	Voltage	Terminal Style		
					Solder Tab	PCB	
Round 	90° 2-Position	Maintained		DPDT	24V LED 24V Incand.	LA1F-2C64-② LA1F-2C67-②	LA1F-2C24V-② LA1F-2C27V-②
		Spring return from right		DPDT	24V LED 24V Incand.	LA1F-21C64-② LA1F-21C67-②	LA1F-21C24V-② LA1F-21C27V-②
	45° 3-Position	Maintained		DPDT	24V LED 24V Incand.	LA1F-3C64-② LA1F-3C67-②	LA1F-3C24V-② LA1F-3C27V-②
		Spring return from right		DPDT	24V LED 24V Incand.	LA1F-31C64-② LA1F-31C67-②	LA1F-31C24V-② LA1F-31C27V-②
		Spring return from left		DPDT	24V LED 24V Incand.	LA1F-32C64-② LA1F-32C67-②	LA1F-32C24V-② LA1F-32C27V-②
		2-Way spring return		DPDT	24V LED 24V Incand.	LA1F-33C64-② LA1F-33C67-②	LA1F-33C24V-② LA1F-33C27V-②
Square 	90° 2-Position	Maintained		DPDT	24V LED 24V Incand.	LA2F-2C64-② LA2F-2C67-②	LA2F-2C24V-② LA2F-2C27V-②
		Spring return from right		DPDT	24V LED 24V Incand.	LA2F-21C64-② LA2F-21C67-②	LA2F-21C24V-② LA2F-21C27V-②
	45° 3-Position	Maintained		DPDT	24V LED 24V Incand.	LA2F-3C64-② LA2F-3C67-②	LA2F-3C24V-② LA2F-3C27V-②
		Spring return from right		DPDT	24V LED 24V Incand.	LA2F-31C64-② LA2F-31C67-②	LA2F-31C24V-② LA2F-31C27V-②
		Spring return from left		DPDT	24V LED 24V Incand.	LA2F-32C64-② LA2F-32C67-②	LA2F-32C24V-② LA2F-32C27V-②
		2-Way spring return		DPDT	24V LED 24V Incand.	LA2F-33C64-② LA2F-33C67-②	LA2F-33C24V-② LA2F-33C27V-②
Rectangular 	90° 2-Position	Maintained		DPDT	24V LED 24V Incand.	LA3F-2C64-② LA3F-2C67-②	LA3F-2C24V-② LA3F-2C27V-②
		Spring return from right		DPDT	24V LED 24V Incand.	LA3F-21C64-② LA3F-21C67-②	LA3F-21C24V-② LA3F-21C27V-②
	45° 3-Position	Maintained		DPDT	24V LED 24V Incand.	LA3F-3C64-② LA3F-3C67-②	LA3F-3C24V-② LA3F-3C27V-②
		Spring return from right		DPDT	24V LED 24V Incand.	LA3F-31C64-② LA3F-31C67-②	LA3F-31C24V-② LA3F-31C27V-②
		Spring return from left		DPDT	24V LED 24V Incand.	LA3F-32C64-② LA3F-32C67-②	LA3F-32C24V-② LA3F-32C27V-②
		2-Way spring return		DPDT	24V LED 24V Incand.	LA3F-33C64-② LA3F-33C67-②	LA3F-33C24V-② LA3F-33C27V-②
Oversize Round 	90° 2-Position	Maintained		DPDT	24V LED 24V Incand.	HA1F-2C64-② HA1F-2C67-②	HA1F-2C24V-② HA1F-2C27V-②
		Spring return from right		DPDT	24V LED 24V Incand.	HA1F-21C64-② HA1F-21C67-②	HA1F-21C24V-② HA1F-21C27V-②
	45° 3-Position	Maintained		DPDT	24V LED 24V Incand.	HA1F-3C64-② HA1F-3C67-②	HA1F-3C24V-② HA1F-3C27V-②
		Spring return from right		DPDT	24V LED 24V Incand.	HA1F-31C64-② HA1F-31C67-②	HA1F-31C24V-② HA1F-31C27V-②
		Spring return from left		DPDT	24V LED 24V Incand.	HA1F-32C64-② HA1F-32C67-②	HA1F-32C24V-② HA1F-32C27V-②
		2-Way spring return		DPDT	24V LED 24V Incand.	HA1F-33C64-② HA1F-33C67-②	HA1F-33C24V-② HA1F-33C27V-②

### Contact Operations (for all selectors)

Contacts	Operator Position and Contact Operation	
	Left	Right
2-pos. (DPDT)		
		
3-pos. (DPDT)		
		
		



As viewed from front of switch.

### ② Lens/LED Color Code

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

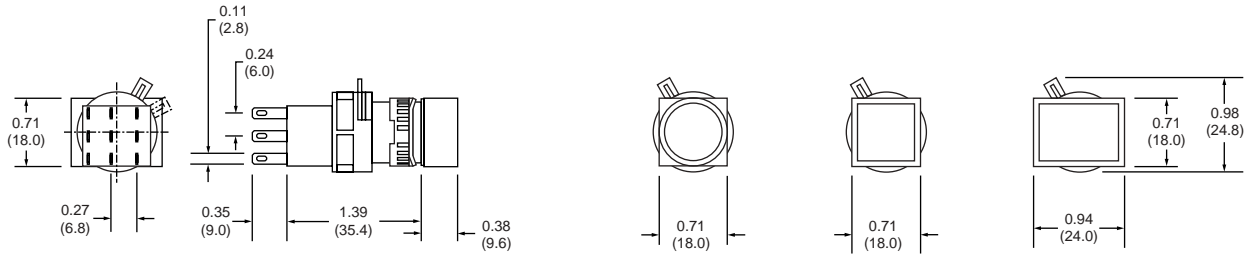


- In place of ② specify Lens/LED Color Code from table above.
- Lamps also available in 5V DC, 6V AC/DC or 12V AC/DC, change "4" or "7" using voltage/lamp codes (ie LA1F-2C63-② uses 12V AC/DC LED).
- All switches listed have DPDT contacts. For SPDT see sub-assembled on next page.
- PCB terminal models also available with silver contacts (change "1" or "2" to "5" or "6" respectively, ie LA1F-2C24V-② becomes LA1F-2C64V-②).

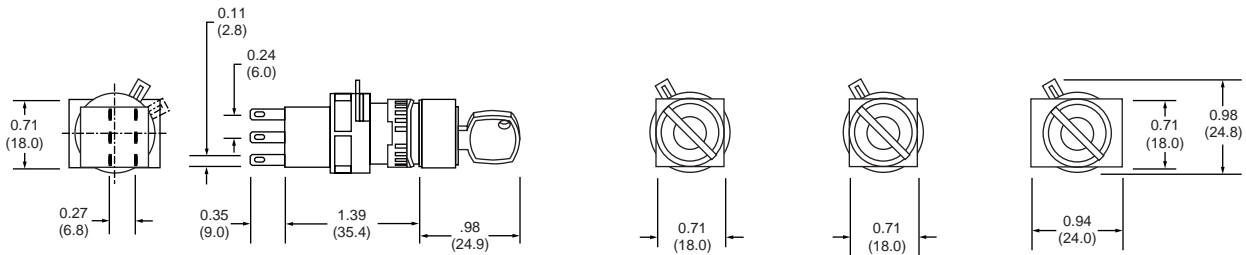
## Dimensions con't

Switches & Pilot Devices

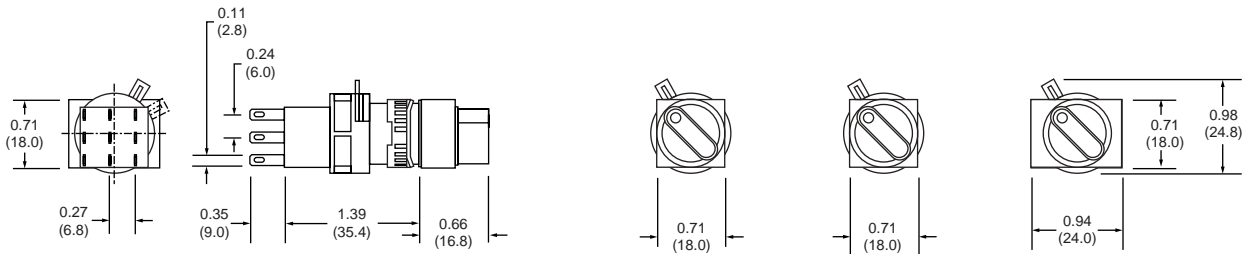
### Illuminated Pushbuttons (LA\*L)



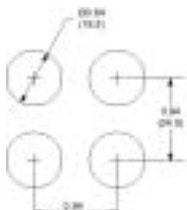
### Key Switches (LA\*K)



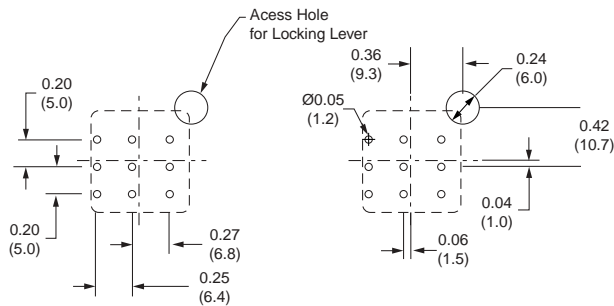
### Selector Switches (LA\*S)



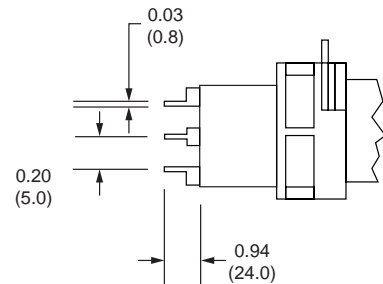
### Panel Cut-Out



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



### PCB Pins



### HA1B E-Stop

#### PCB Mounting Pattern

