

MOMENTARY ACTION, SEALED TO IP68S, COMPACT BEZEL

While sharing similar size and characteristics to the P9 and LP7-D series pushbutton switches, the LP7 series illuminated momentary action pushbutton switches have a compact bezel for a lower above-panel profile.

The LP7 is manufactured to the highest standards and built to withstand harsh environments, offering excellent mechanical and electrical performance while operating under severe conditions found in demanding applications. Built with an anodized aluminum alloy case, the LP7 is tested to one million mechanical operations and has an electrical life of 25,000 cycles.

The LP7 series offers LED lighting in a variety of colors and can accommodate 2 & 12VDC power. Button versions include flush dome and raised dome.

With a watertight to IP68S seal, the LP7 is a quality precision switch designed for use in panels, control grips, computers, instruments, heavy equipment and other demanding applications where attractive, highly ruggedized pushbutton switches are required.

Features:

- **Compact bezel**
- **Watertight to IP68S**
- **LED illuminated with the ability to accommodate 2 & 12VDC power**
- **Standard and logic level options**
- **Flush and raised buttons in glossy or matte finish available in a variety of colors**
- **RoHS compliant**



Raised Dome

Also available with
Flush Dome

Standard Characteristics/Ratings:

ELECTRICAL RATINGS: Sea Level @ 28VDC or 115VAC

Load	N.O./N.C.	Cycles	Operating Force
Resistive	5A	25,000	Standard Force
Inductive	3A	25,000	Standard Force
Resistive	500mA	500,000	Standard Force
Resistive	200mA	500,000	Low Force
DWV	1050Vrms through switch contacts only		
Logic Level	10mA @ 5VDC		
Electrical Life:	25,000 cycles		

LIGHTING:

Light Source Voltage (DC)	Actual Voltage Nominal (DC)	Voltage Max (DC)
2	2	2.6
12	13.5	14.5

Mechanical Life:	1,000,000 cycles
Seal:	IP68S
Operating Temp Range:	-55°C to +85°C
Operating Force:	1.7 lbs. ± 0.5 lbs. Standard Force, 12 oz. ± 4 oz. Low Force
Total Travel:	.080 inches max
Overtravel:	.010 inches min

MATERIALS:

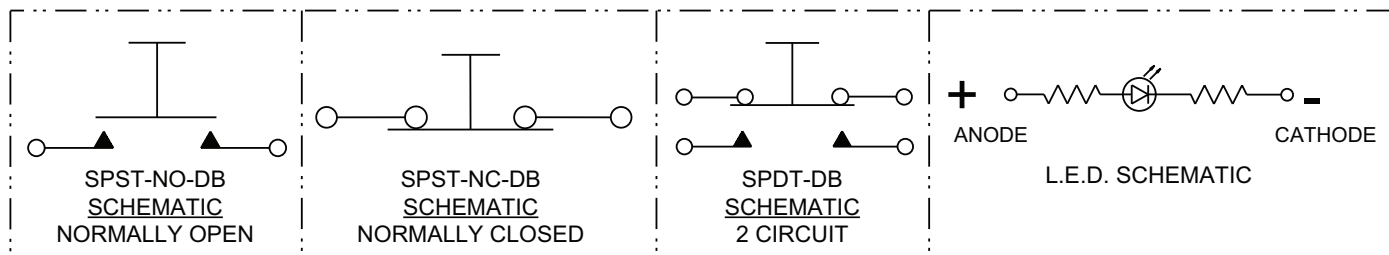
Case:	Anodized aluminum alloy
Button:	Thermoplastic
Terminals:	Gold plate
Contacts:	Gold plated silver alloy
Mounting Hardware:	Hex nut, lockwasher and panel seal gasket

LP7 PART NUMBER CODE

Button Style	Case Style	Terminal Style	Circuit Form	Switch Action	Light Source*	Case Color	Button Color
1. Flush	1. Short Bezel Press Fit	1. Solder	1. N.O.	1. Standard Force Snap-Action	A. 2V Red LED	1. Red	1. Red
2. Raised			2. N.C.	2. Low Force Snap-Action	B. 2V Green LED	2. Black	2. Black
3. Flush Matte			3. 2 Circuit		C. 2V Amber LED	3. Orange	3. Orange
4. Raised Matte					D. 2V Blue LED	4. Yellow	4. Yellow
					E. 2V White LED	5. Green	5. Green
					F. 12V Red LED	6. Blue	6. Blue
					G. 12V Green LED	7. Violet	7. Violet
					H. 12V Amber LED	8. Gray	8. Gray
					J. 12V Blue LED	9. Clear	9. White
					K. 12V White LED		

*2V LED's are intended for use with an external resistor.
See appendix for complete voltage/ratings table.
For additional LED lighting options, contact factory.

PUSHBUTTON SWITCHES

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LED VOLTAGE/CURRENT RATINGS TABLE

ROCKER AND ROTARY SWITCH VOLTAGE/CURRENT RATINGS TABLES

K1, K2, K3P and K4 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LIGHT SOURCE COLOR	FORWARD CURRENT	TYPICAL FORWARD/ NOMINAL VOLTAGE	MAX. FORWARD VOLTAGE
6 VDC INCANDESCENT	WHITE	.2 AMPS	6 VDC	8 VDC
12 VDC INCANDESCENT	WHITE	.08 AMPS	12 VDC	14 VDC
24 VDC INCANDESCENT	WHITE	.04 AMPS	24 VDC	28 VDC
125 VAC NEON	AMBER	1.9 mA	125 VAC	125 VAC
250 VAC NEON	AMBER	1.9 mA	250 VAC	250 VAC
2 V LED PRODUCTS*	RED	20 mA	1.9 VDC	2.5 VDC
	GREEN	20 mA	2.15 VDC	2.5 VDC
	AMBER	20 mA	1.95 VDC	2.5 VDC
	BLUE	20 mA	3.5 VDC	4.0 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

K3/K5 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LIGHT SOURCE COLOR	FORWARD CURRENT	TYPICAL FORWARD/ NOMINAL VOLTAGE	MAX. FORWARD VOLTAGE
6 VDC INCANDESCENT	WHITE	.2 AMPS	6 VDC	8 VDC
12 VDC INCANDESCENT	WHITE	.08 AMPS	12 VDC	14 VDC
24 VDC INCANDESCENT	WHITE	.04 AMPS	24 VDC	28 VDC
125 VAC NEON	AMBER	1.9 mA	125 VAC	125 VAC
250 VAC NEON	AMBER	1.9 mA	250 VAC	250 VAC
2 V LED PRODUCTS*	RED	20 mA	2.0 VDC	2.5 VDC
	GREEN	20 mA	2.2 VDC	2.6 VDC
	AMBER	20 mA	2.1 VDC	2.5 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

R2 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LIGHT SOURCE COLOR	FORWARD CURRENT	TYPICAL FORWARD/ NOMINAL VOLTAGE	MAX. FORWARD VOLTAGE
2 V LED PRODUCTS*	RED	20 mA	2.0 VDC	2.5 VDC
	GREEN	20 mA	2.2 VDC	2.6 VDC
	AMBER	20 mA	2.1 VDC	2.5 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

*Intended for use with external resistor. The "2 volt" switches are intended to have a resistor added in series into the lighting circuit by the customer. To determine the approximate value of the resistor, use the equation below:

$$\text{RESISTOR SIZE} = \frac{\text{POWER SUPPLY VOLTAGE} - \text{LED FORWARD VOLTAGE}}{\text{LED FORWARD CURRENT}}$$

LED VOLTAGE/CURRENT RATINGS TABLE

ILLUMINATED PUSHBUTTON SWITCH & INDICATOR LIGHTS VOLTAGE/CURRENT RATINGS TABLES

LP3, LP5 AND LPL SERIES

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR	FORWARD CURRENT	TYP. FORWARD VOLTAGE (DC)	MAX. FORWARD VOLTAGE DC
2V* PRODUCTS	RED	20 mA	1.9V	2.5V
	GREEN	20 mA	2.2V	2.6V
	AMBER			
	BLUE	20 mA	3.3V	4V
	DEEP GREEN			
6V PRODUCTS	ALL COLORS	20 mA	6V	8V
12V PRODUCTS	ALL COLORS	20 mA	12V	14.5V
24V PRODUCTS	ALL COLORS	20 mA	24 V	28.6 V

LP3S

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
2V* PRODUCTS	RED	20 mA	2 V	2.5 V
	GREEN			
	AMBER			
	BLUE	20 mA	3.2 V	4 V
	DEEP GREEN			
	WHITE			
12V PRODUCTS	ALL COLORS	20 mA	12V	14V
24V PRODUCTS	ALL COLORS	20 mA	24 V	28.6 V

LP7-D and LP9 SERIES

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR, WAVELENGTH (nm)	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
2V LIGHTPIPE STYLE	RED (631)	20 mA	2V	2.4V
	GREEN (525)	20 mA	3.2V	3.6V
	AMBER (591)	20 mA	2.1V	2.4V
	BLUE (470)	20 mA	3.3V	3.8V
	WHITE	5 mA	2.9V	3.15V
2V, TRANSLUCENT FULLY ILLUMINATED STYLE	RED (630)	20 mA	1.95V	2.5V
	GREEN (525)	20 mA	3.3V	4.1V
	AMBER (601)	20 mA	2.1V	2.5V
	BLUE (465)	20 mA	3.3V	4V
	WHITE	5 mA	2.85V	3.1V
12V ALL PRODUCTS	ALL COLORS, SAME AS 2V	(20 mA)	12.0V	14.0V

LP9L SERIES

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR, WAVELENGTH (nm)	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
2V PRODUCTS	RED (631)	20 mA	2V	2.4V
	GREEN (525)	20 mA	3.2V	3.6V
	AMBER (591)	20 mA	2.1V	2.4V
	BLUE (470)	20 mA	3.3V	3.8V
	WHITE	5 mA	2.9V	3.15V
12V PRODUCTS	ALL COLORS, SAME AS 2V	(20 mA)	12.0V	14.0V

*Intended for use with external resistor. The "2 volt" switches are intended to have a resistor added in series into the lighting circuit by the customer. To determine the approximate value of the resistor, use the equation below:

$$\text{RESISTOR SIZE} = \frac{\text{POWER SUPPLY VOLTAGE} - \text{LED FORWARD VOLTAGE}}{\text{LED FORWARD CURRENT}}$$

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OTTO:

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