

MOMENTARY ACTION COMMERCIAL GRADE LED ILLUMINATED & WATERTIGHT SEALED

The OTTO LP9 Lighted Dome series is a quality precision switch designed for use in panels, control grips, instruments, heavy equipment and other demanding applications where attractive, rugged, lighted pushbutton switches are required.

The LP9 series offers a positive tactile feedback, signaling the operator when the switch is operated with the added benefit of reliable LED illumination. The LP9 series offers four button versions; flush and raised profile with either a glossy or matte finish. It also comes with a threaded case for hex nut mounting while providing a short behind panel depth.

The LP9 series is constructed to meet IP68S watertight seal. Expect 25,000 operations at full rated load.

These momentary snap-action double break switches are available in standard and low operate forces. The LED is available in six colors, plus RGB, and has the ability to accommodate 2 or 12VDC.

Features:

- **Watertight to IP68S**
- **RGB LED option (2VDC only)**
- **LED lighting available in 6 colors with the ability to accommodate 2 or 12VDC**
- **Flush & raised button style**
- **Matte or glossy button finish**
- **Full button illumination style available with glossy button finish**
- **Positive tactile feedback contact transfer**
- **Withstands shock & vibration**
- **Short behind panel depth**
- **RoHS compliant**



Flush Dome
(Also available with
Raised Dome)

Raised Dome
Full Illumination Style
(Also available with
Flush Dome)

Standard Characteristics/Ratings:

ELECTRICAL RATINGS: Ratings at 28 VDC or 115 VAC

Load	N.O./N.C.	2 Circuit	Cycles	Operating Force
Resistive:	5A	4A	25,000	Standard
Inductive:	3A	2A	25,000	Standard
Resistive:	500mA	—	500,000	Standard
Resistive:	200mA	—	500,000	Low
DVV	1000Vrms through switch contacts only			
Logic Level	10mA @ 5VDC		1,000,000	
Electrical Life:	See Rating Chart			
MECHANICAL:				
Mechanical Life:	1,000,000 cycles			
Seal:	IP68S			
Operating Temp Range:	-40°C to +85°C			
Operating Force:	1.7 +/- 0.5 lb. (standard force) 0.75 +/- 0.25 lb. (low force)			
Total Travel:	0.080 inches max			
Overtravel:	0.010 inches min			
MATERIALS:				
Case:	Thermoplastic			
Button:	Thermoplastic			
Terminals:	Brass with gold			
Mounting Hardware:	Hex nut, lockwasher and panel gasket for round/threaded style case Panel gasket for snap-in style case only			

LP9 PART NUMBER CODE

LP9	-	X	X	X	X	X	X	X	X
Button Style*	Case Style*	Terminal Style	Circuit Form	Operating Force	Light Source	Case Color	Button Color		
1. Flush Dome Standard Finish - Lightpipe	1. Standard Round Bezel Threaded	1. Solder	1. N.O.	1. Standard Force Snap-Action	A. 2V Red LED**	1. Red	1. Red		
2. Raised Dome Standard Finish - Lightpipe	2. Standard Round Bezel Snap-In	2. PC Pin	2. N.C. ③	2. Low Force Snap-Action	B. 2V Green LED**	2. Black	2. Black		
3. Flush Dome Matte Finish Lightpipe		3. RGB PC Pin	3. 2 Circuit		C. 2V Amber LED**	3. Orange ①	3. Orange		
4. Raised Dome Matte Finish Lightpipe					D. 2V Blue LED**	4. Yellow ①	4. Yellow		
5. Flush Dome Standard Finish - Fully Illuminated					E. 2V White LED**	5. Green ①	5. Green		
6. Raised Dome Standard Finish - Fully Illuminated					F. 12V Red LED	6. Blue ①	6. Blue		
					G. 12V Green LED	7. Violet ①	7. Violet		
					H. 12V Amber LED	8. Gray ①	8. Gray		
					J. 12V Blue LED	9. White	9. White		
					K. 12V White LED				
					L. 2V RGB LED**		A. Translucent White ②		

* Button and case will be of the same texture.
For all mixed gloss/matte combination options, contact factory.

** 2V LED's are intended for use with an external resistor. See LED voltage chart in appendix for details on the approximate value of the resistor.

① For minimum requirement, contact factory.

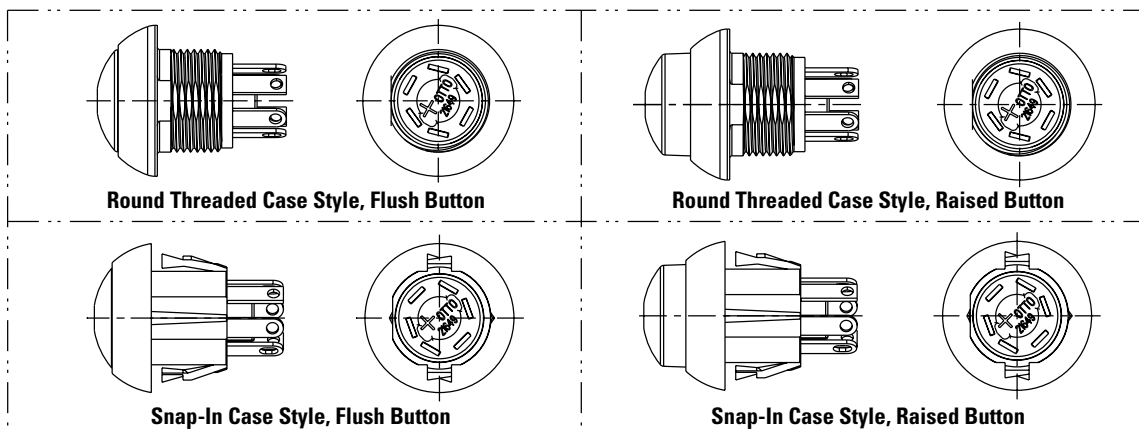
② Full illumination button styles available with translucent Button Color selection A only

③ Not available with RGB LED option.

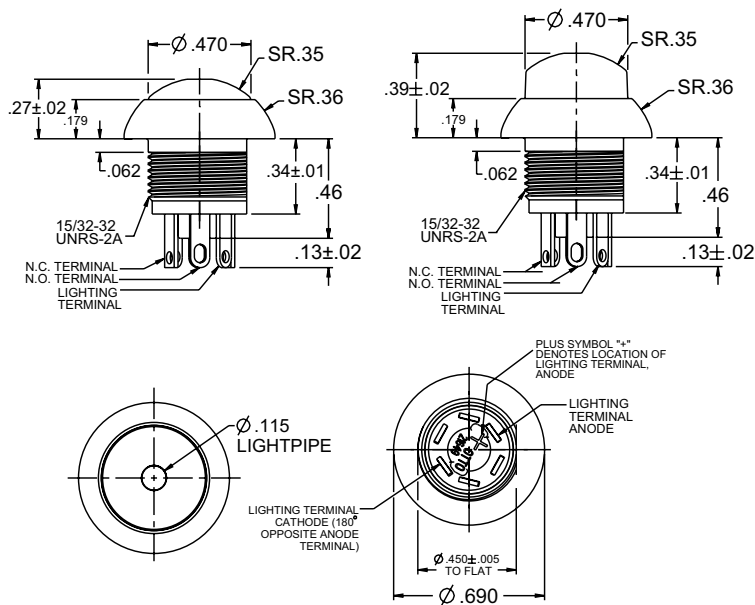
SEALED ILLUMINATED DOME PUSHBUTTONS

LP9
ILLUMINATED
PUSHBUTTONS

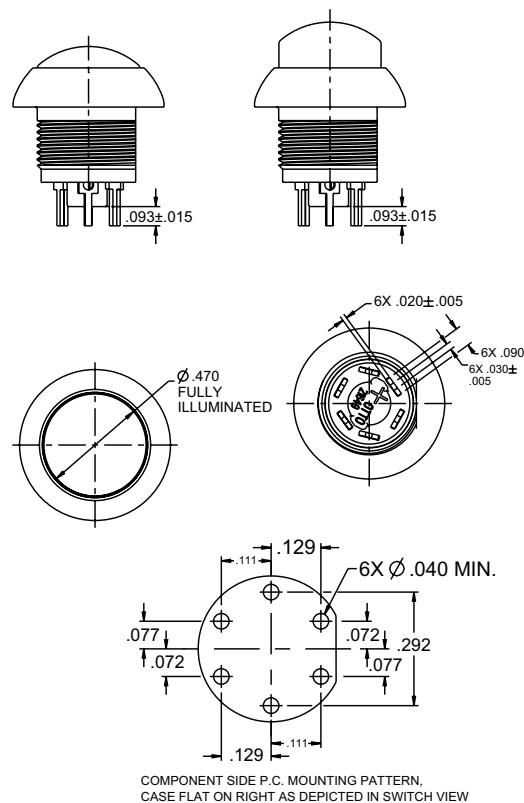
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Standard Terminals



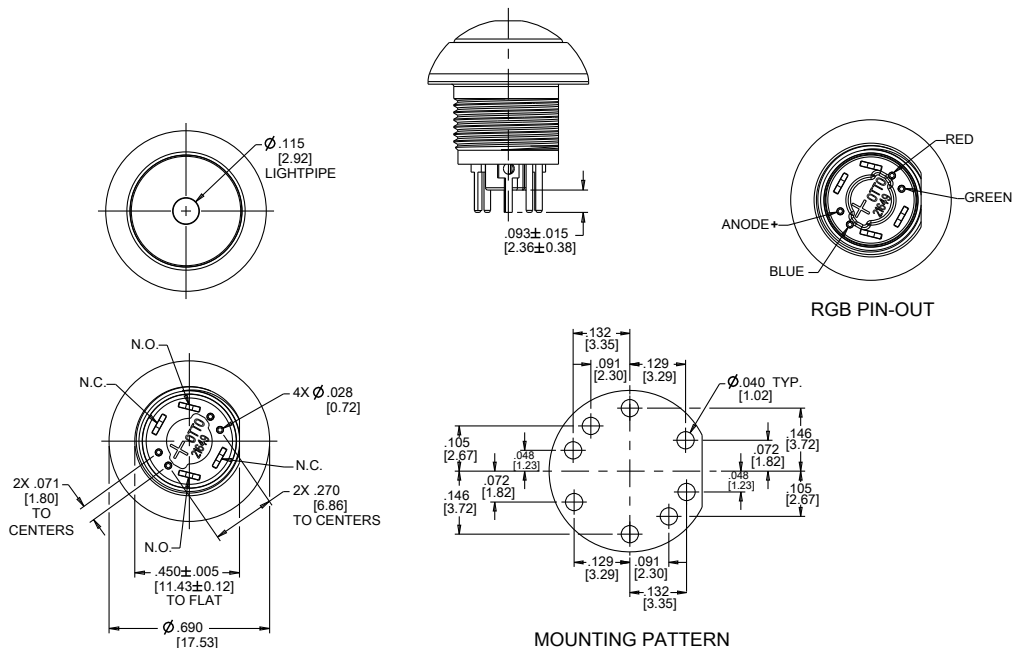
PC Pin Terminals (Full Illumination Option Shown)



RECOMMENDED PANEL OPENINGS FOR SNAP-IN STYLE CASE		
PANEL THICKNESS	RECOMMENDED Ø	DIM. ACROSS D-FLAT
.024	Ø.505	.460
.118	Ø.505	.460

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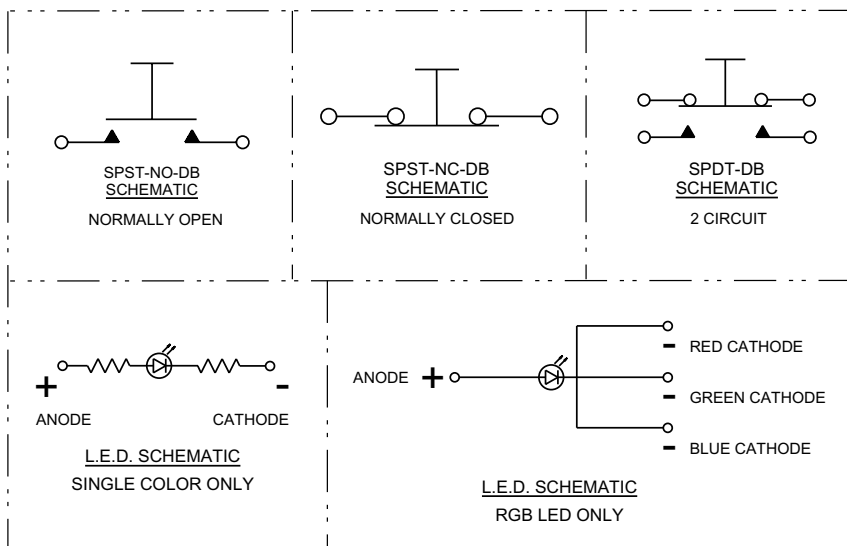
RGB LED with PC Pin Terminals (Lightpipe Option Shown; Flush Button, Round Threaded)



RGB LED ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$)					
RGB LED VOLTAGE/ CURRENT COMPONENT RATINGS					REVERSE VOLTAGE, V_R (V) AT $I_R = 10\ \mu\text{A}^b$
LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR	FORWARD VOLTAGE V_F (V) ^a			
		MIN.	TYP.	MAX.	MAX.
2V, RGB	---				
	RED	1.7	2.1	2.5	4.0
	GREEN	2.5	2.9	3.4	4.0
	BLUE	2.5	2.9	3.4	4.0

FORWARD VOLTAGE TOLERANCE IS $\pm 0.1\text{V}$. TEST CURRENT: RED= 15 mA, GREEN= 10 mA, BLUE= 10 mA.

SCHEMATICS



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