

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 on fully illuminated buttons enables nearly infinite colors**
- **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
Lightpipe Style
(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
DWV	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

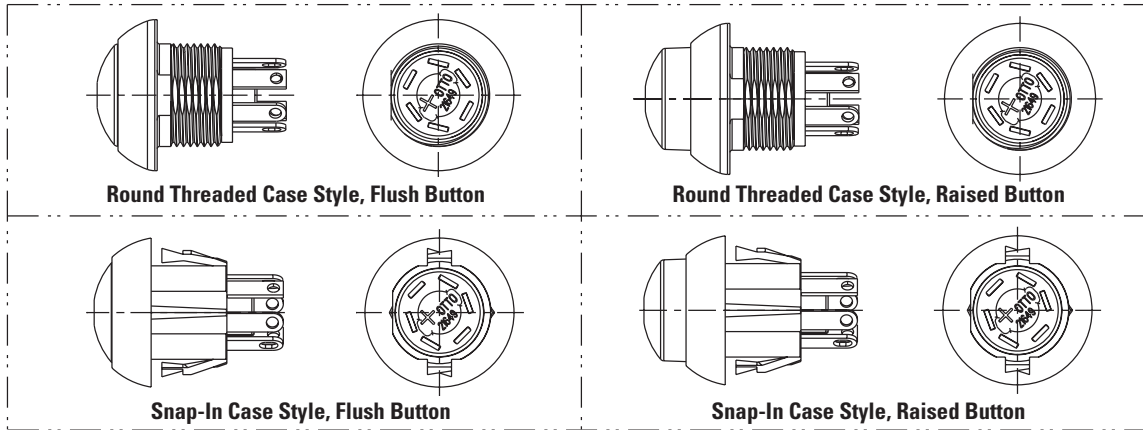
LP9	-	X		X		X		X		X		X		X		X		X
Button Style*			Case Style*		Terminal Style		Circuit Form		Operating Force		Light Source		Case Color		Button Color			
1. Flush Dome Standard Finish - Lightpipe			1. Standard Round Bezel Threaded		1. Solder		1. N.O.		1. Standard Force Snap-Action		A. 2V Red LED**		1. Red		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 ④		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.
 Fully illuminated option only; button styles 5 and 6.
 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.
 ④ For use with RGB LED Light Source.

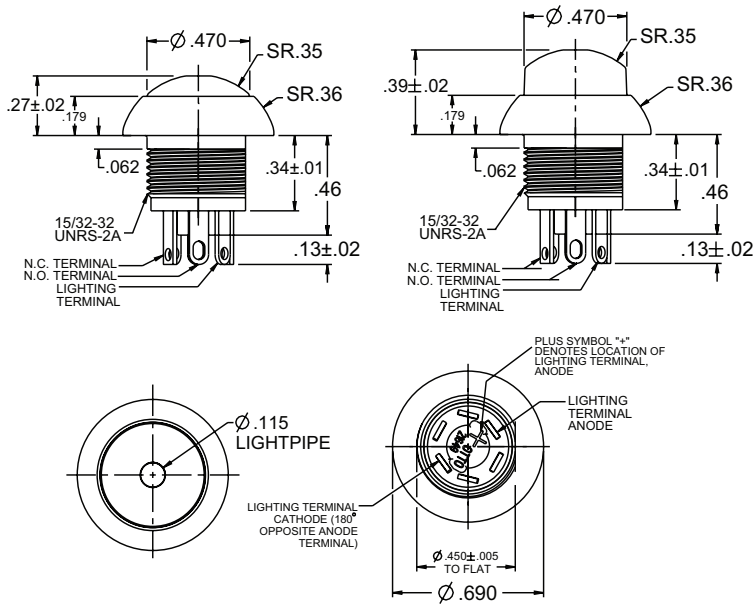
SEALED ILLUMINATED DOME PUSHBUTTONS

LP9
ILLUMINATED
PUSHBUTTONS

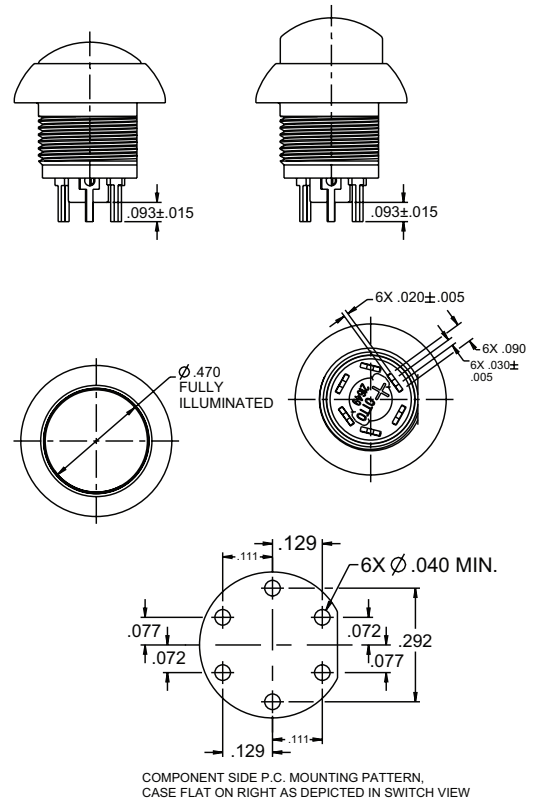
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Standard Terminals



PC Pin Terminals (Full Illumination Option Shown)



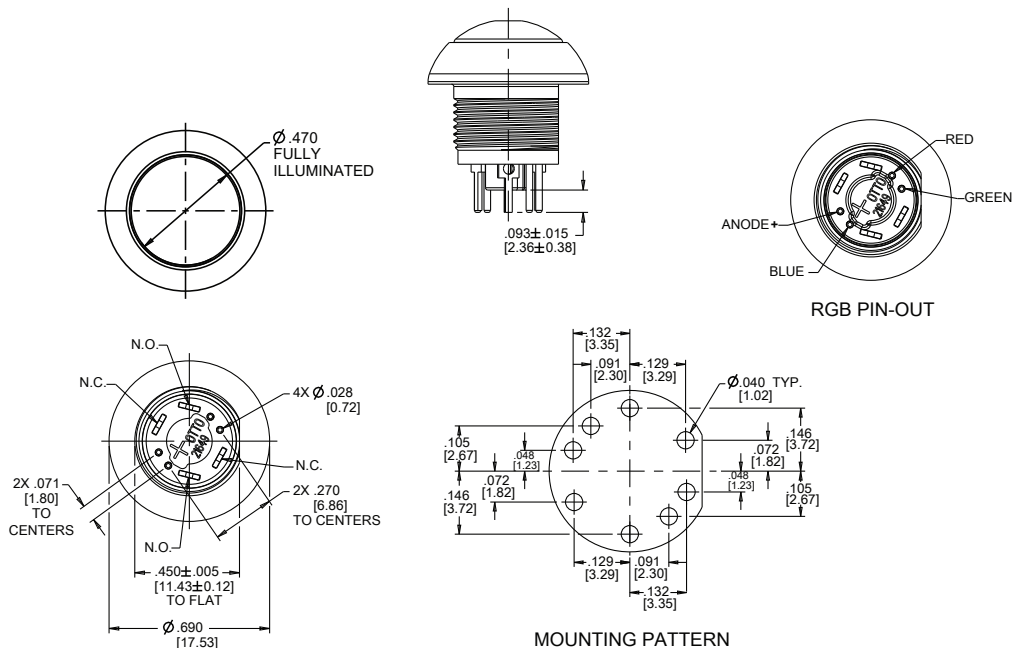
RECOMMENDED PANEL OPENINGS FOR SNAP-IN STYLE CASE

PANEL THICKNESS	RECOMMENDED Ø	DIM. ACROSS D-FLAT
.024	Ø .505	.460
.118	Ø .505	.460

COMPONENT SIDE P.C. MOUNTING PATTERN,
CASE FLAT ON RIGHT AS DEPICTED IN SWITCH VIEW

MOMENTARY ACTION COMMERCIAL GRADE LED ILLUMINATED & WATERTIGHT SEALED

RGB LED with PC Pin Terminals (Flush Button, Round Threaded)



RGB LED ELECTRICAL CHARACTERISTICS (T _J = 25°C)					
RGB LED VOLTAGE/ CURRENT COMPONENT RATINGS					REVERSE VOLTAGE, V _R (V) AT I _R = 10 μA ^b
LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR	FORWARD VOLTAGE V _F (V) ^a			
		MIN.	TYP.	MAX.	MAX.
2V ₁ 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 ±0.1V. TEST CURRENT: RED= 15 mA, GREEN= 10 mA, BLUE= 10 mA.

SCHEMATICS

