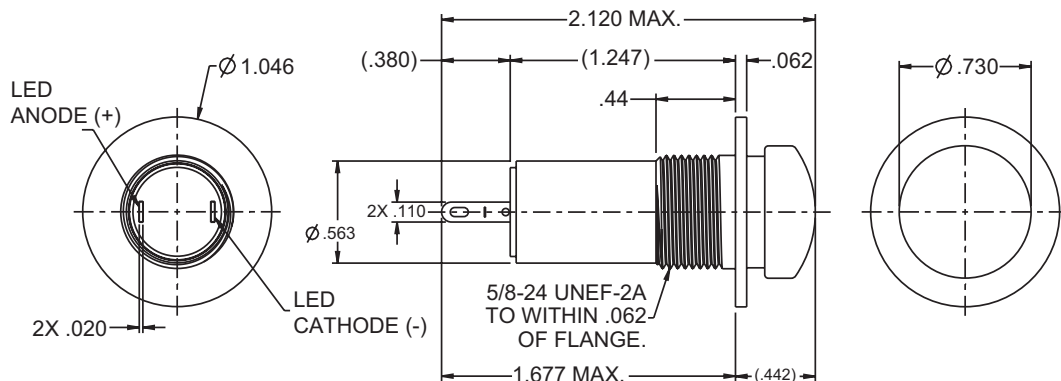
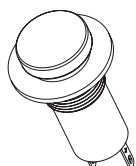

- **Seal options include:**
 1. **Watertight per MIL-PRF-8805, Design 3 and watertight 1 meter to IP68S**
 2. **Dusttight per MIL-PRF-8805, Design 2 and Dusttight/protected against splashing water per IP64**
 3. **Unsealed**
- **LED lighted with the ability to accommodate 2, 6, 12 & 24VDC power and includes reverse voltage protection**
- **Tall and dome style buttons in translucent white, red & amber permitting sublimated & pad printed legends**
- **15/32" & 5/8" thread, press fit & dome case styles available**
- **Built-in current limiting resistor & reverse polarity protection**
- **Looks identical to the LP3 & LP5 series to provide a cohesive panel look**
- **RoHS compliant**

Mounting Hardware: Hex nut, lockwasher and panel gasket when applicable

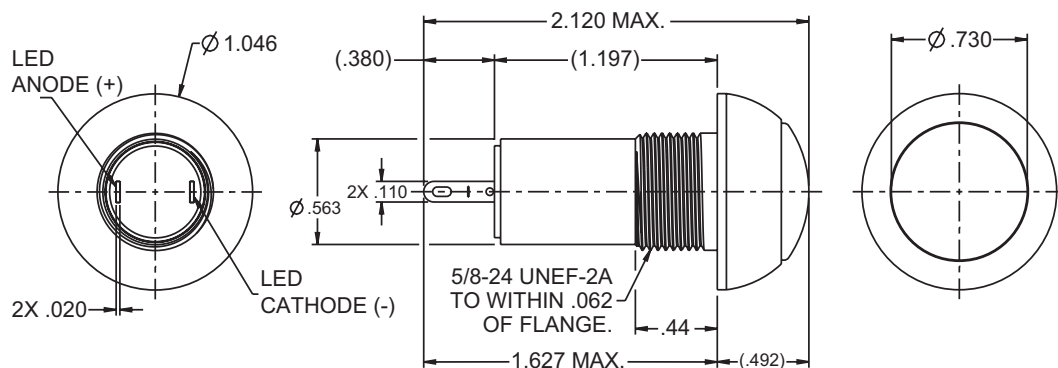
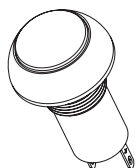
* 2V LED's are intended for use with an external resistor. See LED voltage chart in appendix for details on the approximate value of the resistor.
All green and blue LEDs are recommended for use with translucent button color white only.
For super bright LEDs, contact factory.

LED ILLUMINATED & SEALED

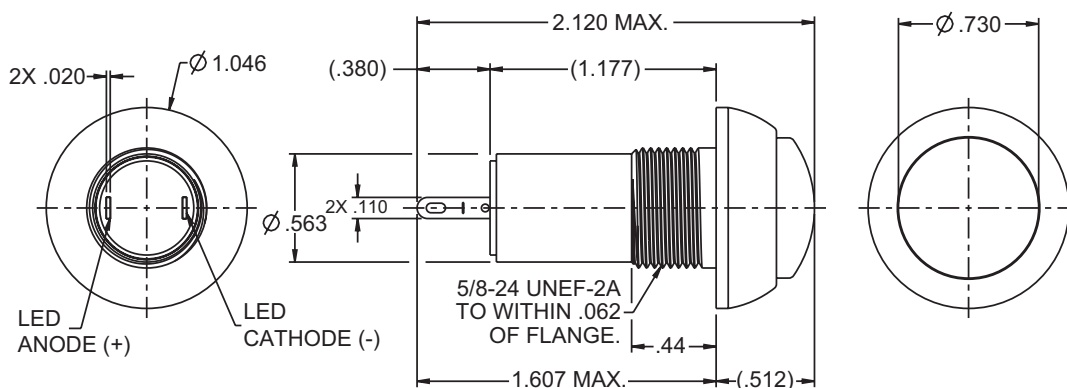
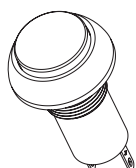
LPL-E0
Exposed Dome Button



LPL-F0
Flush Dome Button



LPL-R0
Raised Dome Button



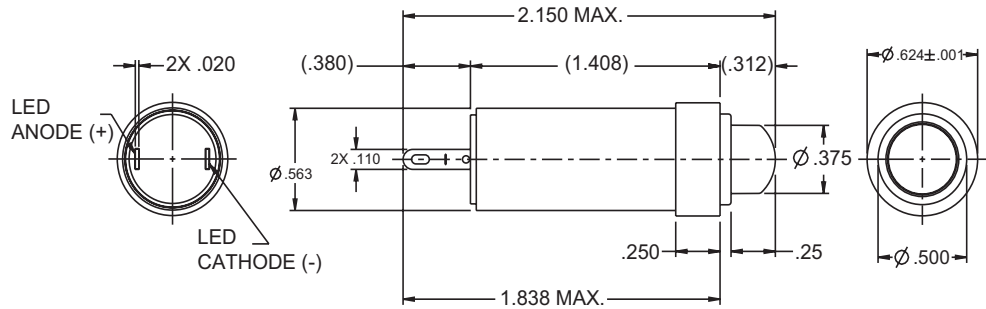
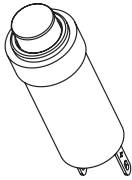
LPL INDICATOR LIGHTS

LPL
INDICATOR
LIGHTS

LED ILLUMINATED & SEALED

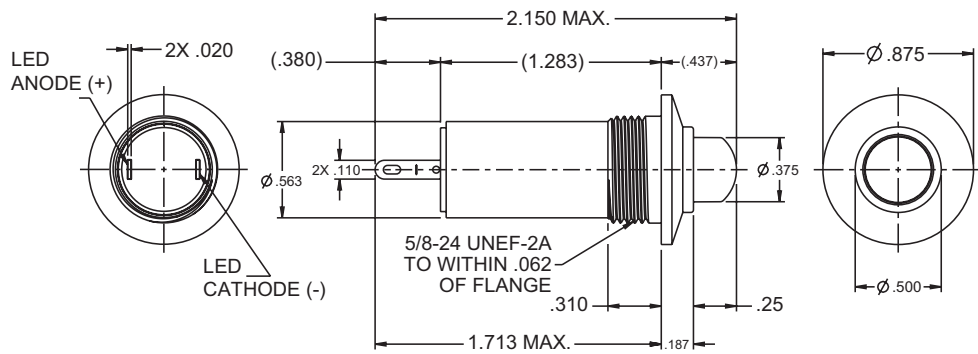
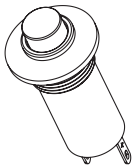
LPL-10

Press Fit Mount



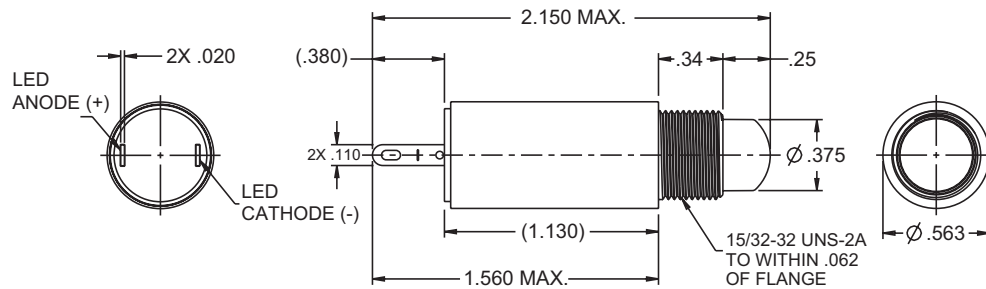
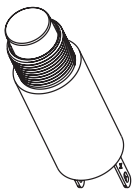
LPL-30

5/8" Threaded Front Mount



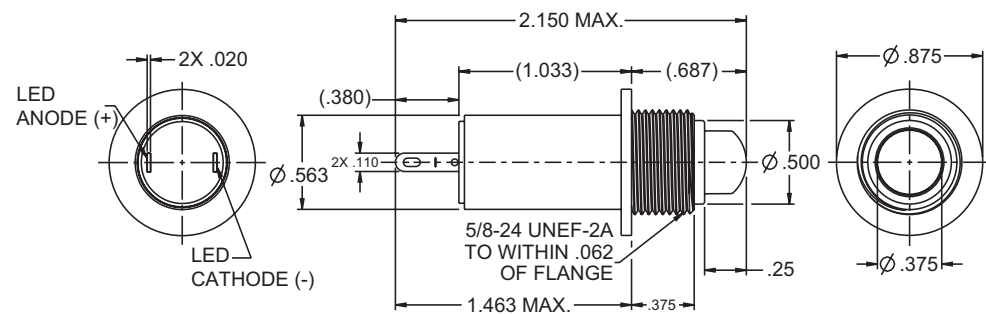
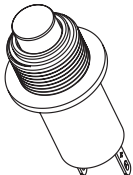
LPL-40

15/32" Threaded Rear Mount





LPL-60

5/8" Threaded Rear Mount



STANDARD LEGENDS PER SAE

STANDARD LEGENDS PER SAE SPECIFICATIONS

STANDARD LEGENDS PER SAE SPECIFICATIONS					
A1		ANCHOR	K2		UNLOCK
B1		BATTERY	L1		LIGHT
B2		ELECTRIC POWER	L2		MASTER LIGHTING SWITCH
C1		AC/COOLING SYSTEMS	L3		HEADLIGHTS
C2		DEHUMIDIFIER	L4		HEADLIGHTS-LOW / DIPPED BEAM
C3		HEATER/INTERIOR HEATING	L5		HEADLIGHTS-HIGH / UPPER BEAM
D1		WINDSHIELD DEFROSTER	L6		PARKING LIGHT
D2		REAR WINDOW DEFROSTER	L7		WORK LAMP
D3		MIRROR DEFROSTER	L8		WORK LAMP
E1		ENGINE/START	L9		INTERIOR DOME LIGHT
E2		ENGINE/STOP	M1		BEACON
E3		ON/START	M2		HAZARD/POSITION LIGHTS
E4		OFF/STOP	M3		CLEARANCE LIGHTS
E5	ON	ON	M4		SIDE MARKER LIGHT
E6	OFF	OFF	M5		RUNNING LIGHTS (UNDER POWER)
E7		ENGINE ELECTRIC PREHEAT	M6		ANCHOR LIGHT
E8		ENGINE-GAS INJECTION	M7		RUNNING/ANCHOR LIGHTS
F1		FRONT FOG LIGHTS	M8		SEARCH LIGHT
F2		REAR FOG LIGHTS	M9		LEFT TURN SIGNAL
G1		FUEL	MA		RIGHT TURN SIGNAL
H1		HORN	P1		BILGE PUMP #1
H2		HORN REAR	P2		BILGE PUMP #2
K1		LOCK	P3		BILGE PUMP #3
			P4		BILGE PUMP
P5		BILGE BLOWER	R1		LIFT
R2		LOWER	R3		UP
R4		DOWN	R5		RIGHT
R6		LEFT	R7	FWD	FORWARD
R8	REV	REVERSE	S1		RADIO
S2		MUTE	T1		FAST
T2		SLOW	T3		TRIM TAB / TRIMMING OPERATION
T4		TRANSMISSION	V1		VENTILATING / AC FAN
W1		WINDSHIELD WIPER	W2		WINDSHIELD-WASHER
W3		WINDSHIELD-WASHER/WIPER	W4		REAR WINDOW WIPER
W5		REAR WINDOW-WASHER	W6		REAR WINDOW-WASHER/WIPER
ZZ		NO LEGEND			

For legends not shown, please consult an OTTO representative.

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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