



Illuminated Pushbutton

Specifications

Electrical Ratings	125mA @ 50VDC 125mA @ 125VAC	Actuation Force	300 ± 100gF
Electrical Life	500,000 cycles	Actuation Travel	1.5 ± .25mm
Mechanical Life	1,000,000 cycles	Insulation Resistance	≥ 1000MΩ min
Contact Resistance	≤ 50mΩ initial	Sealing	IP67
Dielectric Strength	1,000Vrms min	Operating Temperature	-30°C (-40°C without LED) to 85°C
		Storage Temperature	-30°C (-40°C without LED) to 85°C

Materials

Actuator	6/6 Nylon
Housing	6/6 Nylon
Base	Diallyl Phthalate (DAP)
Contacts	Copper Alloy, Gold over Silver plated
Terminals	Copper Alloy, Gold over Silver plated

Custom Capabilities

Contact Factory

Cable Assemblies

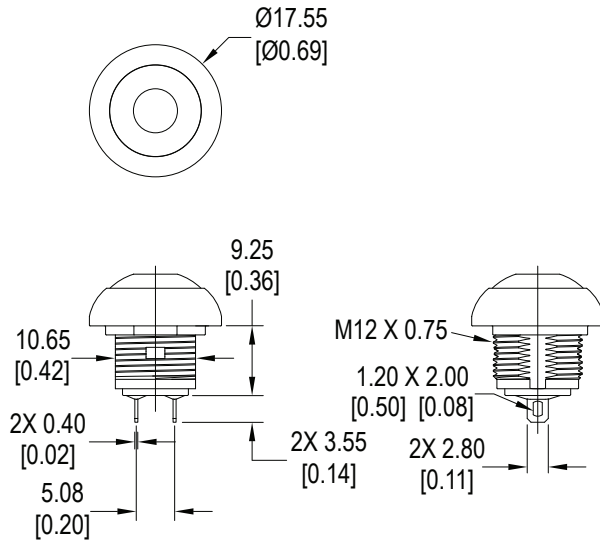


Ordering Information

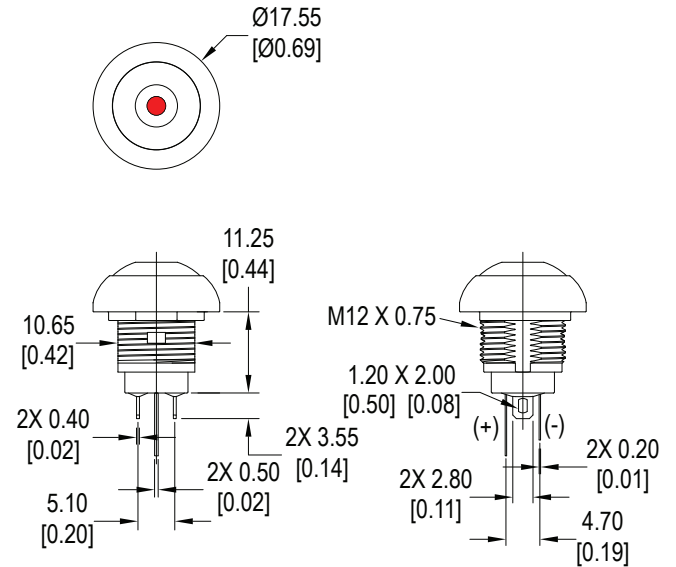
1. Series	ES	A	N	M	L	2	G	B	GB
ES									
2. Contact Configuration	<p>A = SPST N.O. B = SPST N.C. **Not available with Led</p>								
3. Switch Function	<p>L = Latching N = Momentary</p>								
4. Housing / Actuator Finish	<p>M = Matte</p>								
5. Actuator Style	<p>D = Round, no LED F = Round with flat, no LED H = Raised, no LED L = Round with flat, LED S = Square, no LED *Square actuator style not available with latching function or wire assembly</p>								
6. Actuator Color	<p>1 = White 2 = Black 3 = Red 4 = Yellow 5 = Green 6 = Orange 7 = Blue 8 = Dark Gray</p>								
7. Bushing	<p>F = Snap-In (0.8 ~ 1.8mm thick panel) *Not available with latching function or wire assembly G = 12 x 0.75 SI Threaded</p>								
8. Terminals	<p>B = Solder Lug WA = Wire Assembly *Not available with snap-in bushing or "S" square actuator</p>								
9. LED Color	<p>X = no LED R = Red Y = Yellow G = Green PG = Pure Green B = Blue W = White RG = Red/Green dual LED RB = Red/Blue dual LED YG = Yellow/Green dual LED</p>								

Dimensions

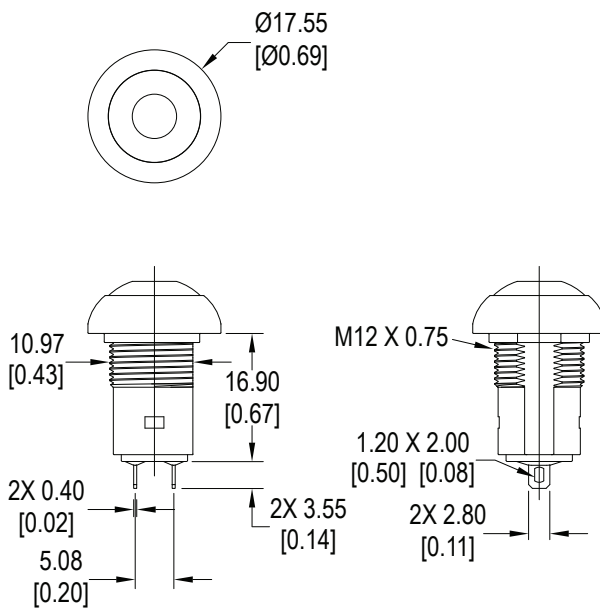
Momentary, Flat Round Actuator with no LED and Threaded Bushing *shown with F actuator*



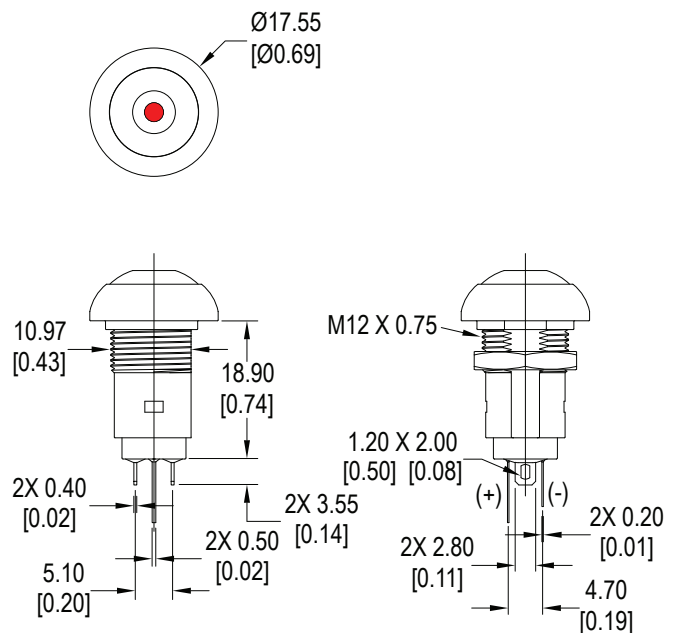
Momentary, Flat Round Actuator with LED and Threaded Bushing *shown with L actuator*



Latching, Flat Round Actuator with no LED and Threaded Bushing *shown with F actuator*



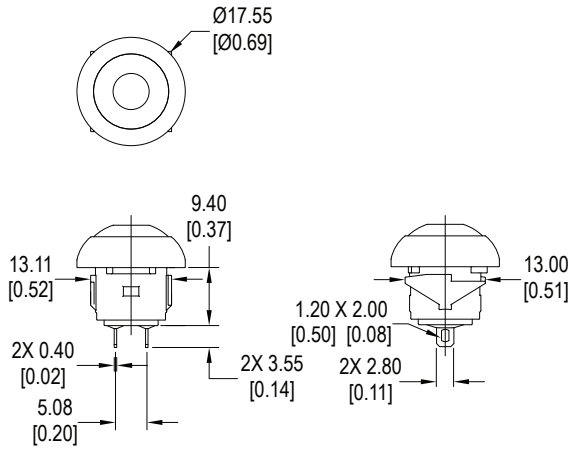
Latching, Flat Round Actuator with LED and Threaded Bushing *shown with L actuator*



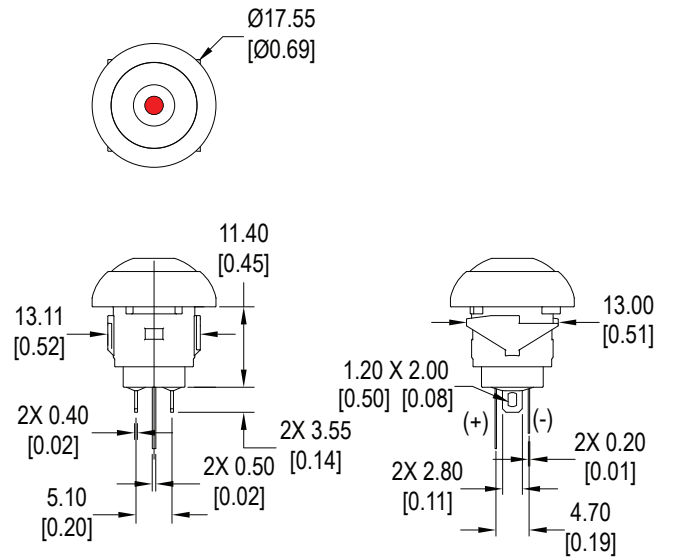
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Dimensions

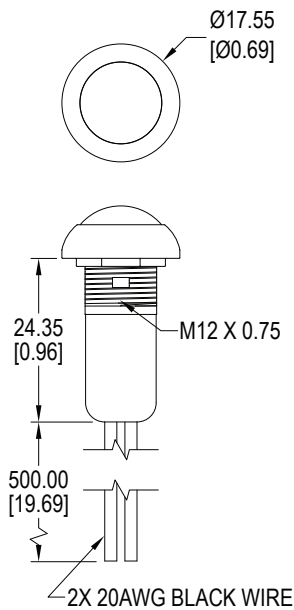
Momentary, Flat Round Actuator with no LED and Snap-In Bushing *shown with F actuator*



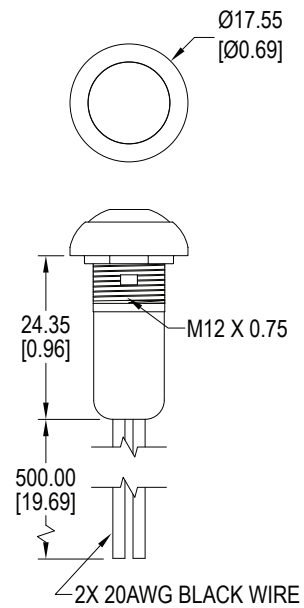
Momentary, Flat Round Actuator with LED and Snap-In Bushing *shown with L actuator*



Round Actuator, Wire Termination with no LED and Threaded Bushing *shown with D actuator*

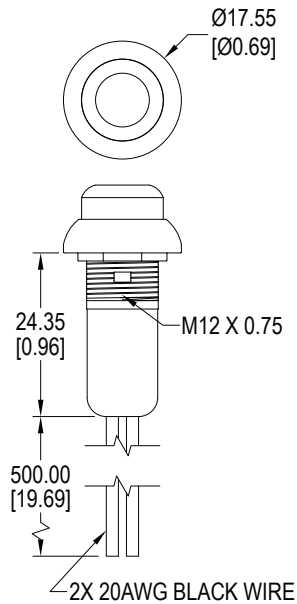


Flat Round Actuator, Wire Termination with no LED and Threaded Bushing *shown with F actuator*

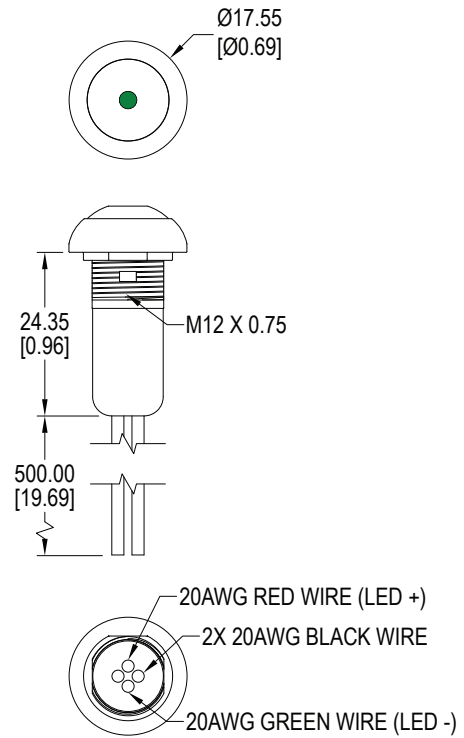


Dimensions

Raised Actuator, Wire Termination with no LED and Threaded Bushing *shown with H actuator*

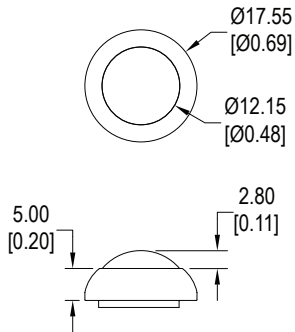


Flat Round Actuator, Wire Termination with LED and Threaded Bushing *shown with L actuator*

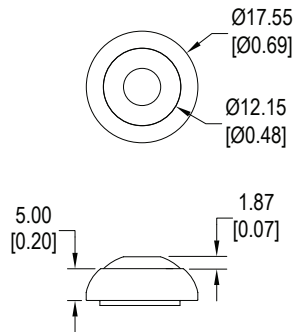


Actuators

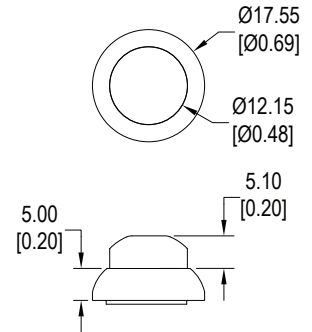
D Actuator



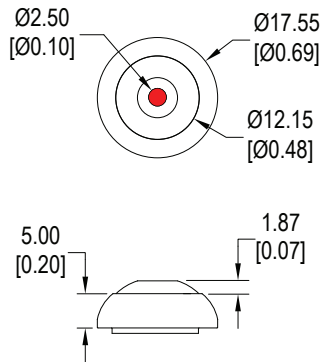
F Actuator



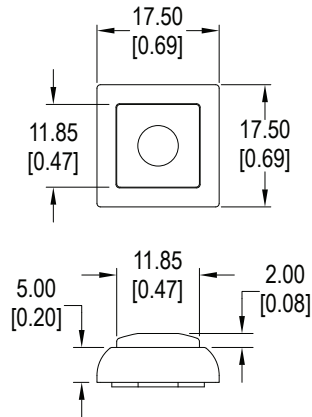
H Actuator



L Actuator

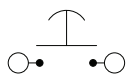


S Actuator

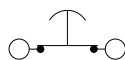


Schematics

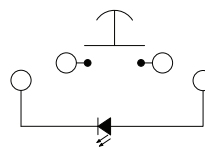
SPST, normally open



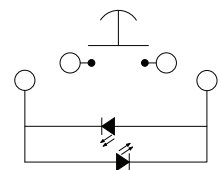
SPST, normally closed



SPST, n.o. with LED

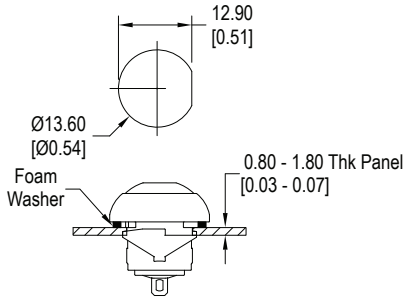


SPST, n.o. with dual LED

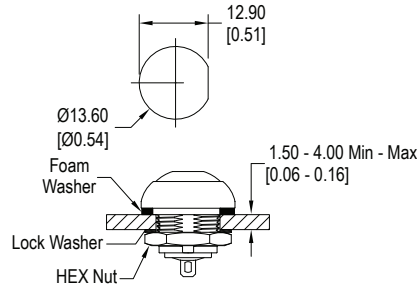


Panel Cut Out

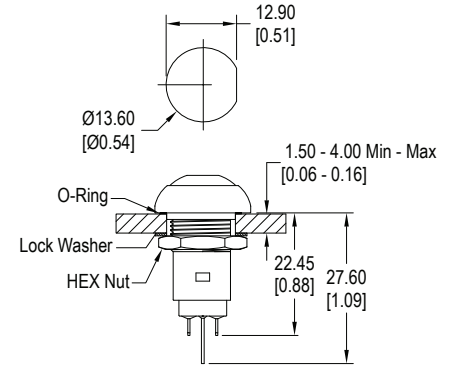
F, Snap-In Bushing



G, Threaded Bushing, Momentary



G, Threaded Bushing, Latching



LED Characteristics

LED Ratings		Color							Units
		R	Y	G	B	O	W		
Reverse Voltage	V_R	5	5	5	5	5	5	V	
Forward Current (avg)	I_F	30	30	30	30	30	30	mA	
Forward Current (peak)	I_{FS}	100	100	100	100	100	100	mA	
Reverse Current $V_R = 5V$	I_R	100	100	100	100	100	1	μA	
Power Dissipation	P_T	80	100	100	120	120	120	mW	
Operating & Storage Temperature	T_A	-30 ~ +85						C°	
Forward Voltage (typ) $I_F = 20mA$	V_F	2.1	2.1	2.0	3.2	3.2	3.2	V	
Forward Voltage (max) $I_F = 20mA$	V_F	2.6	2.6	2.6	3.6	3.6	3.6	V	
Wavelength at Peak Emmission $I_F = 20mA$	λ_P	645	590	570	470	525	n/a	nm	
Spectral Line Half-Width $I_F = 20mA$	$\Delta\lambda$	22	15	30	30	30	n/a	nm	
Luminous Intensity, $I_F = 20mA$	LI	100	200	100	150	300	250	mcd	
Viewing Angle	Θ	35	35	35	35	35	35	deg	