



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



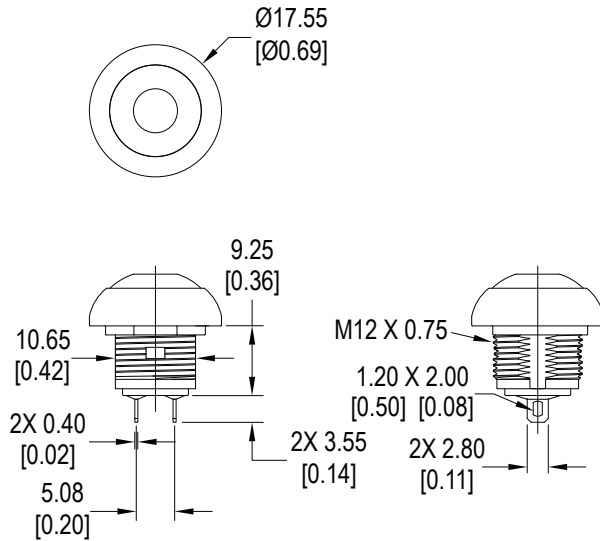
Illuminated Pushbutton

Ordering Information

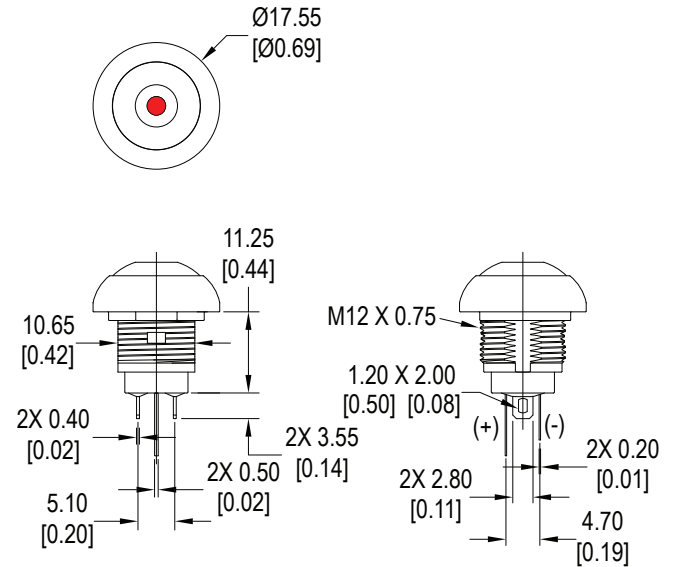
1. Series	ES	A	N	M	L	2	G	B	GB
ES									
2. Contact Configuration A = SPST N.O. B = SPST N.C. **Not available with Led									
3. Switch Function L = Latching N = Momentary									
4. Housing / Actuator Finish M = Matte									
5. Actuator Style D = Round, no LED F = Round with flat, no LED H = Raised,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

Dimensions

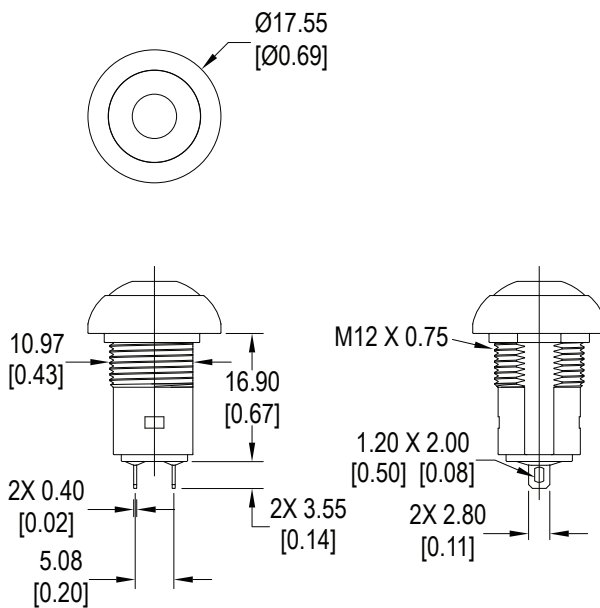
Momentary, Flat Round Actuator with no LED
and Threaded Bushing *shown with F actuator*



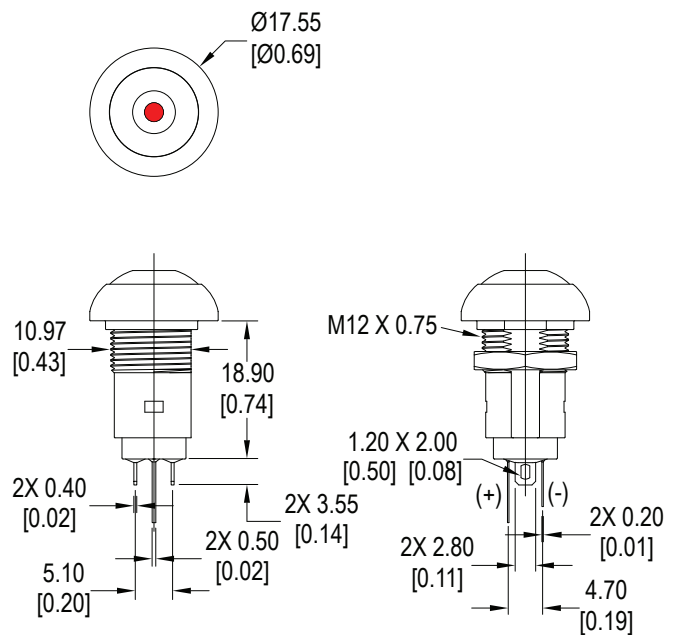
Momentary, Flat Round Actuator with LED
and Threaded Bushing *shown with L actuator*



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

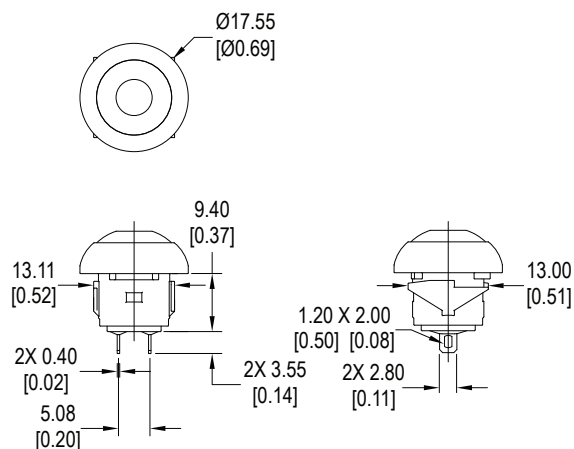


Latching, Flat Round Actuator with LED
and Threaded Bushing *shown with L actuator*

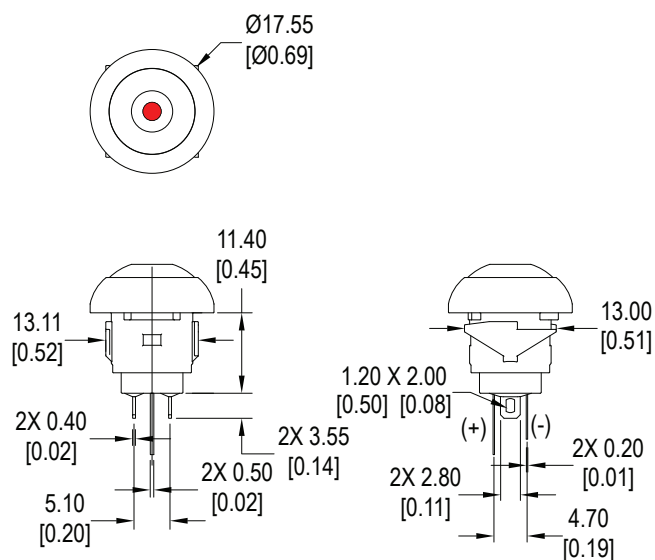


Dimensions

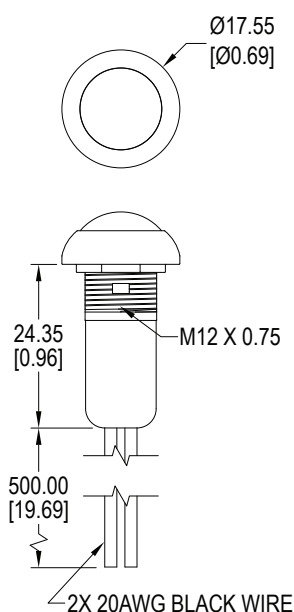
Momentary, Flat Round Actuator with no LED
and Snap-In Bushing *shown with F actuator*



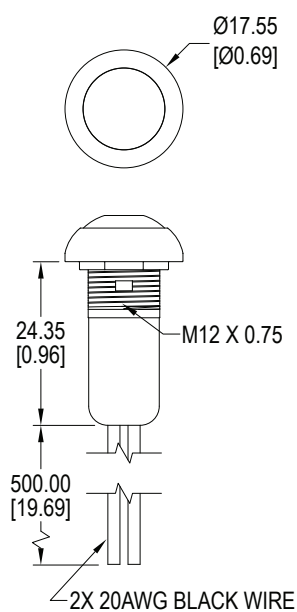
Momentary, Flat Round Actuator with LED
and Snap-In Bushing *shown with L actuator*



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

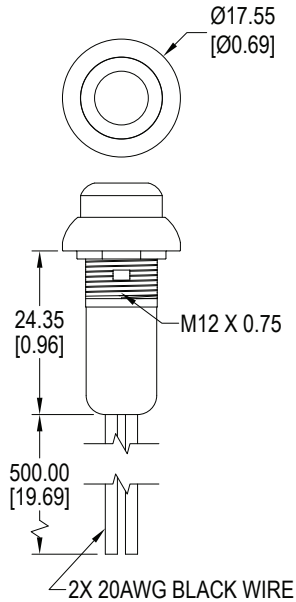


Flat Round Actuator, Wire Termination with no LED
and Threaded Bushing *shown with F actuator*

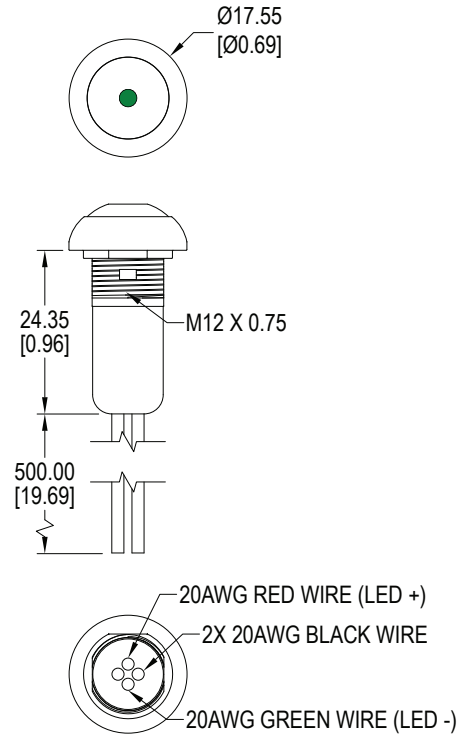


Dimensions

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

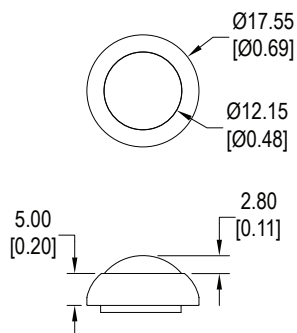


Flat Round Actuator, Wire Termination with LED and Threaded Bushing *shown with L actuator*

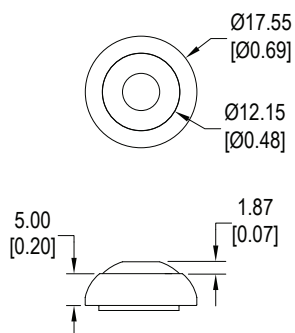


Actuators

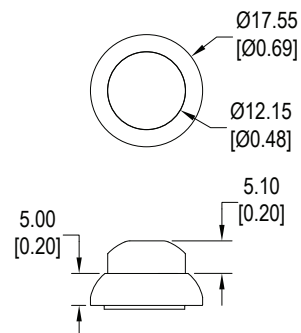
D Actuator



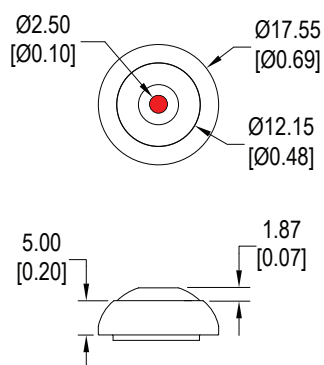
F Actuator



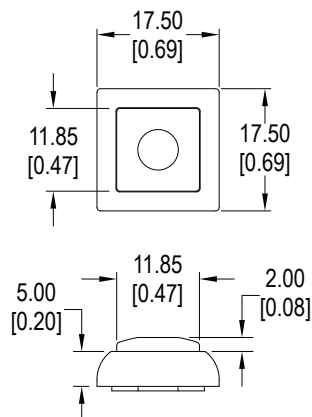
H Actuator



L Actuator

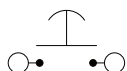


S Actuator

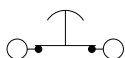


Schematics

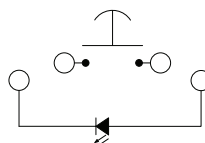
SPST, normally open



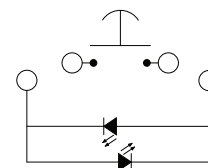
SPST, normally closed



SPST, n.o. with LED

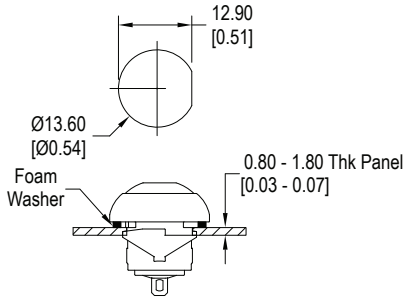


SPST, n.o. with dual LED

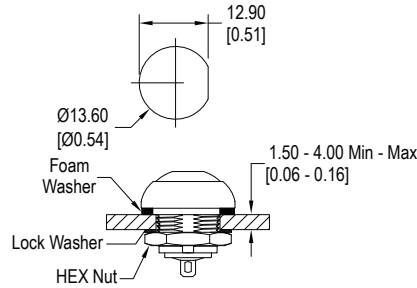


Panel Cut Out

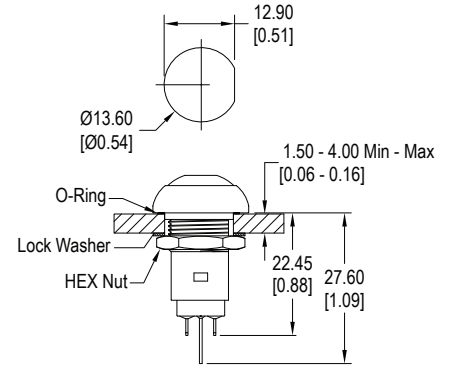
F, Snap-In Bushing



G, Threaded Bushing, Momentary



G, Threaded Bushing, Latching



LED Characteristics

LED Ratings		Color						
		R	Y	G	B	O	W	Units
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