



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

Contact Factory for wire assembly options

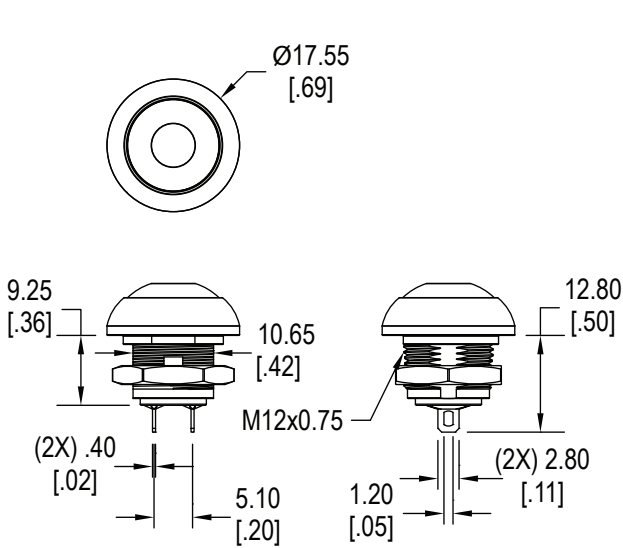


Illuminated Pushbutton

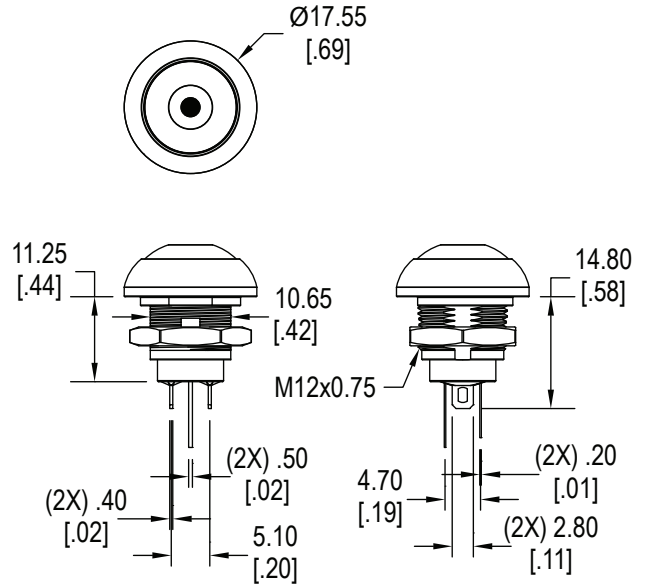
Ordering Information

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</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 G = 12 x 0.75 SI Threaded</p>								
8. Terminals	<p>B = Solder Lug</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>								

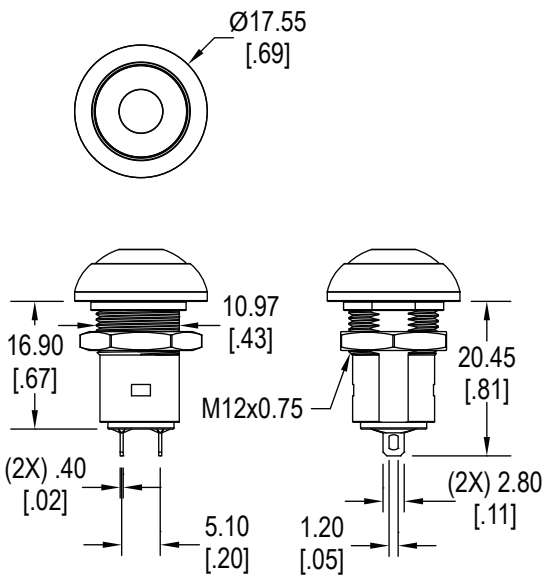
Dimensions



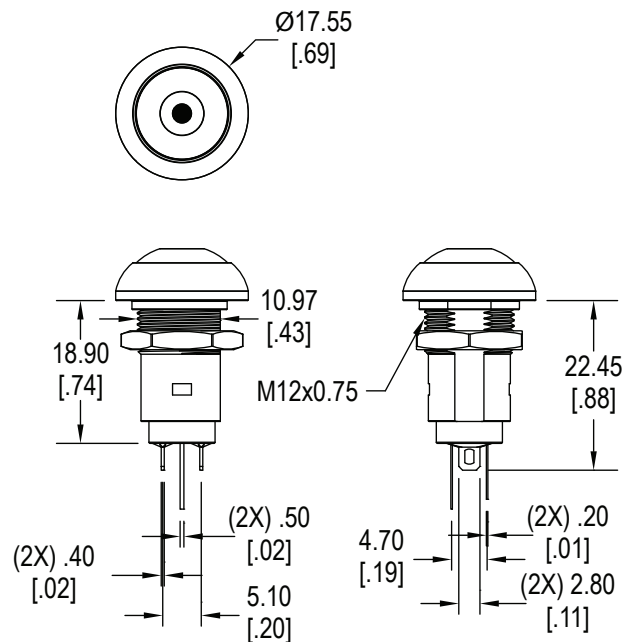
F = Flat, Round Actuator with no LED
G = Threaded Bushing



L = Flat, Round Actuator with LED
G = Threaded Bushing

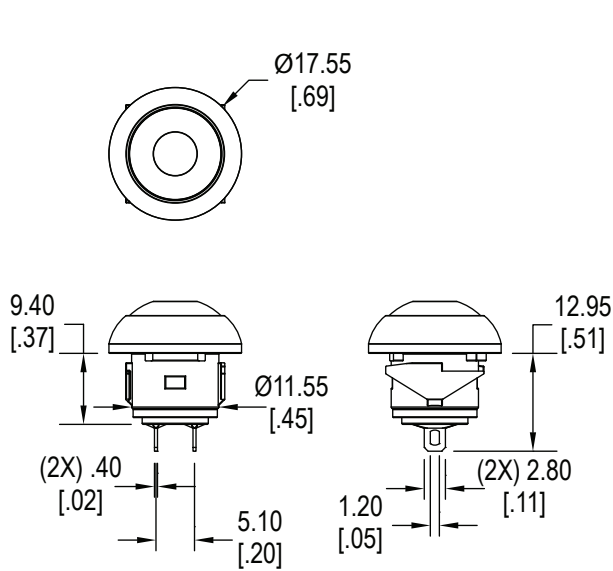


F = Flat, Round Actuator with no LED, Latching
G = Threaded Bushing

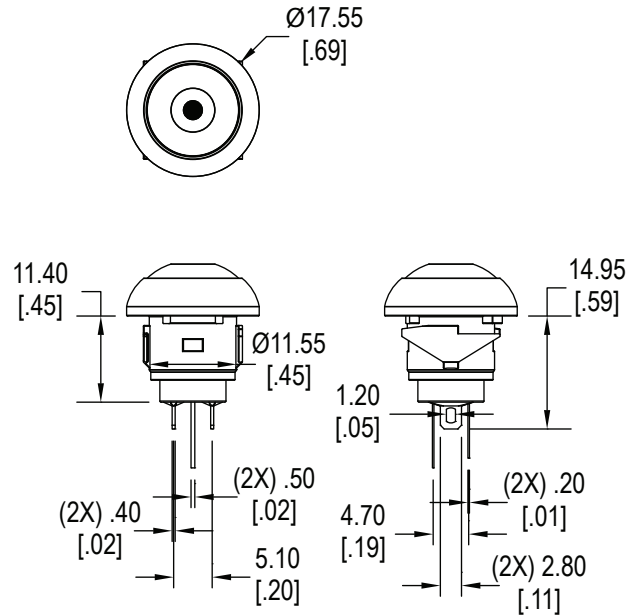


L = Flat, Round Actuator with LED, Latching
G = Threaded Bushing

Dimensions

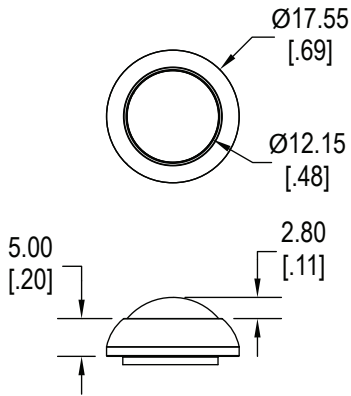


F = Flat, Round Actuator with no LED
F = Snap-In Bushing

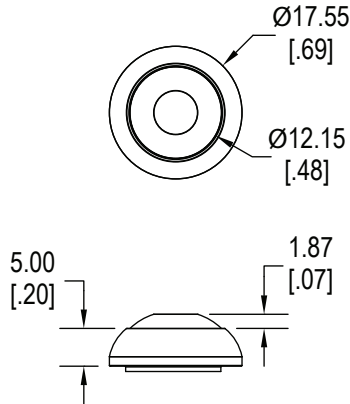


L = Flat, Round Actuator with LED
F = Snap-In Bushing

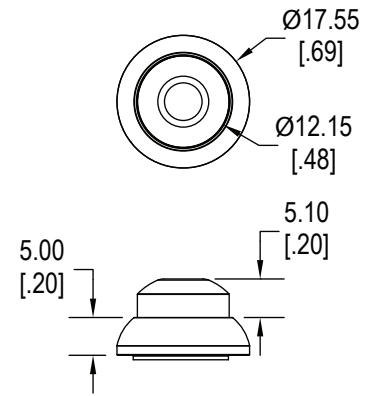
Actuators



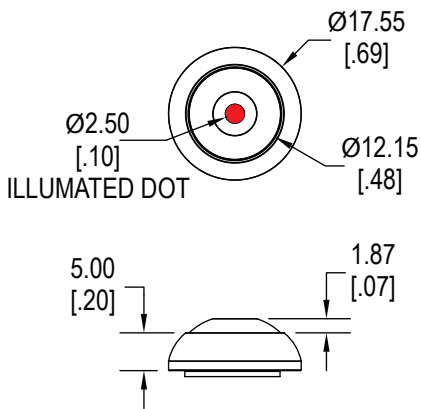
D = Round, no LED



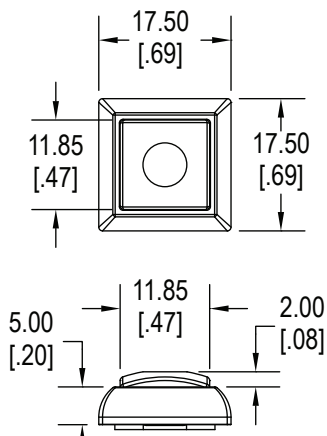
F = Round with Flat, no LED



H = Raised, no LED

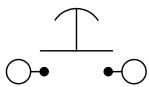


L = Round with Flat, LED

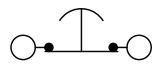


S = Square, no LED

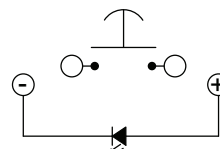
Schematics



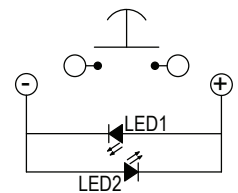
SPST N.O.



SPST N.C.

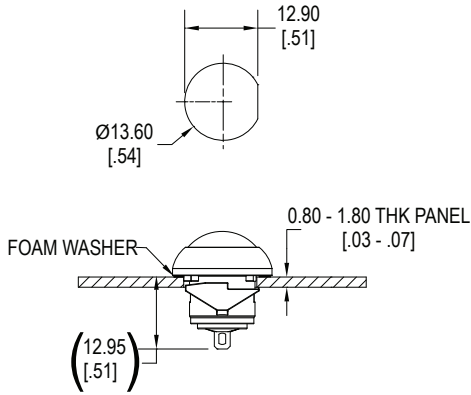


SPST N.O. with LED

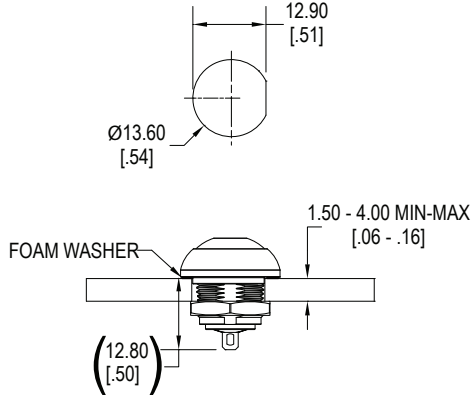


SPST N.O. with Dual LED

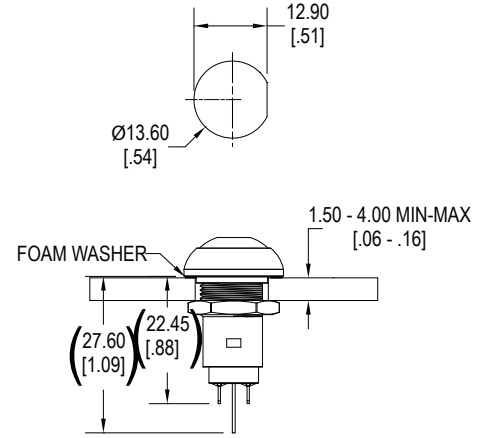
Panel Cut Out



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 Emission $I_F = 20mA$	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