



Illuminated Pushbutton - 12mm

## Specifications\*

Electrical Ratings	2A @ 48VDC	Actuation Force	250 ± 100gF
Sealing Degree	Momentary, IP67 Latching, IP60	Dielectric Strength	1500Vrms min contact to contact 1500Vrms min contact to LED
Electrical Life	50,000 cycles average	Insulation Resistance	> 100MΩ min @ 500VDC
Mechanical Life	100,000 cycles average	Operating Temperature	-25°C to 55°C
Contact Resistance	≤ 50mΩ initial	Storage Temperature	-25°C to 55°C

## Materials

Actuator	Stainless Steel or Aluminum
LED Lens	Polycarbonate (PC)
Threaded Body	Stainless Steel or Aluminum
Terminal Support	Polybutylene Terephthalate (PBT)
Contacts	Silver Alloy
Terminals	Brass, Silver Plated
Hardware	One Hex Nut & One "O" Ring Supplied

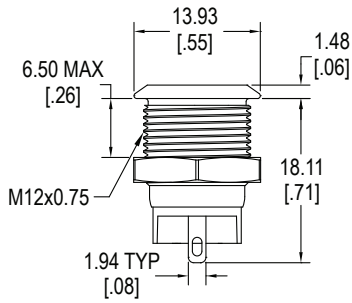
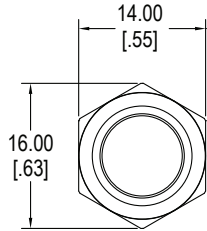
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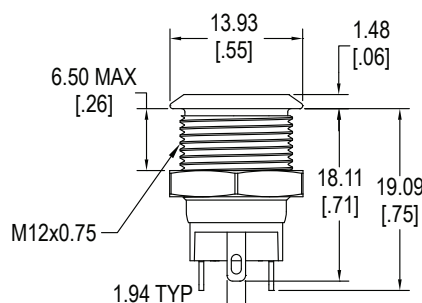
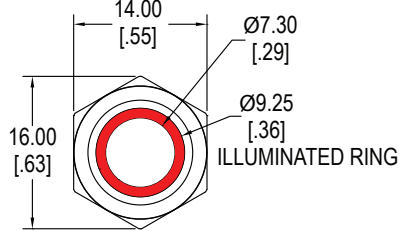
## Ordering Information

1. Series	FH	N	B	B	B	B	G
FH							
2. Bezel Style	Blank = Standard Bezel						
3. Switch Function	N = Momentary L = Latching						
4. Actuator Style**:	A = Flush actuator, non-illuminated* B = Flush actuator, ring illuminated* C = Flush actuator, dot illuminated* D = Raised actuator, non-illuminated E = Raised actuator, ring illuminated F = Raised actuator, dot illuminated* *Contact factory for availability with latching function **Contact factory for other actuator options						
5. Switch Finish**	B = Black Anodized Aluminum G = Green Anodized Aluminum R = Red Anodized Aluminum S = Brushed Stainless Steel U = Blue Anodized Aluminum Y = Yellow Anodized Aluminum						
6. Terminal Options	B = Solder Lugs						
7. LED Color	X = No LED R = Red Y = Yellow G = Green B = Blue W = White O = Orange RO = Red / Orange dual LED RY = Red / Yellow dual LED RG = Red / Green dual LED RB = Red / Blue dual LED OY = Orange / Yellow dual LED OG = Orange / Green dual LED OB = Orange / Blue dual LED YG = Yellow / Green dual LED YB = Yellow / Blue dual LED GB = Green / Blue dual LED						
8. LED Voltage	Blank = No LED N = No internal resistor in series with the LED						

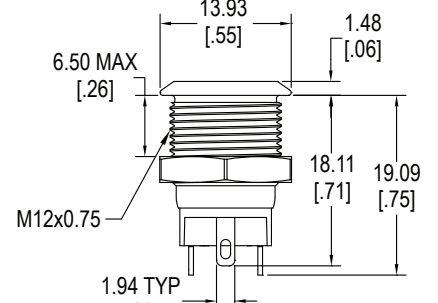
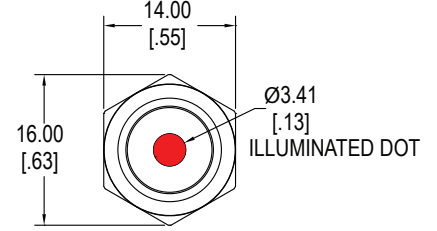
**Dimensions - Momentary**



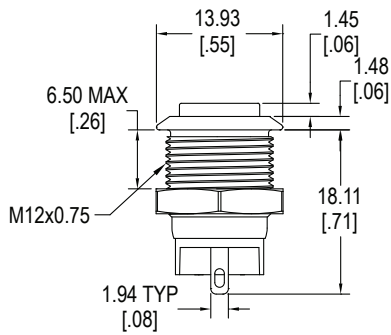
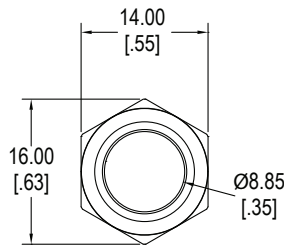
**A**



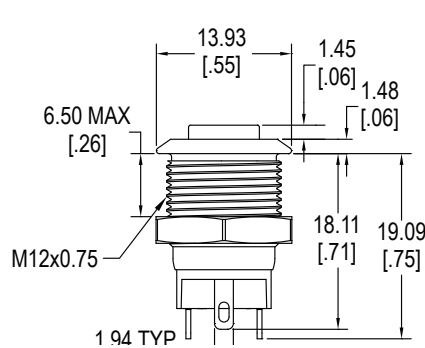
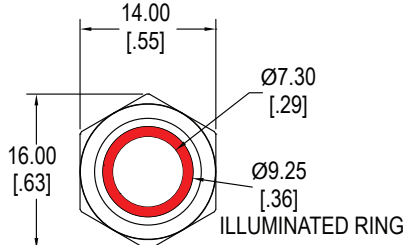
**B**



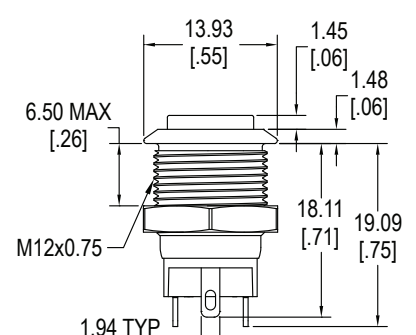
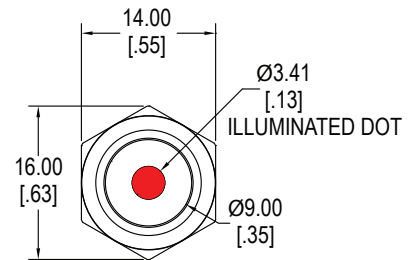
**C**



**D**



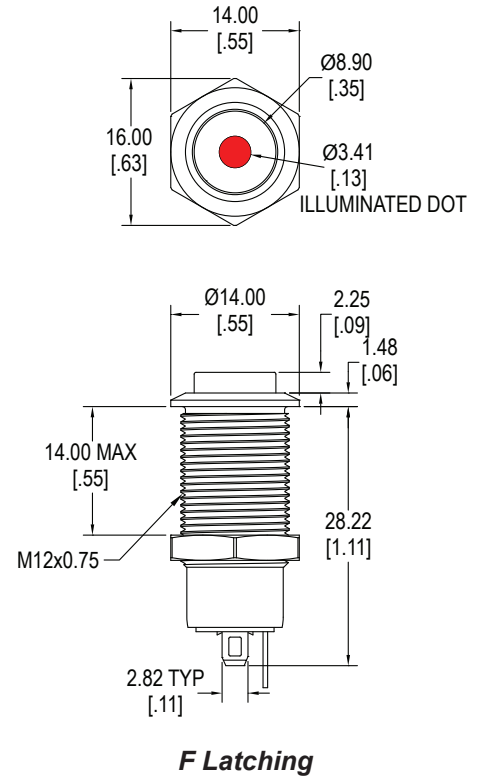
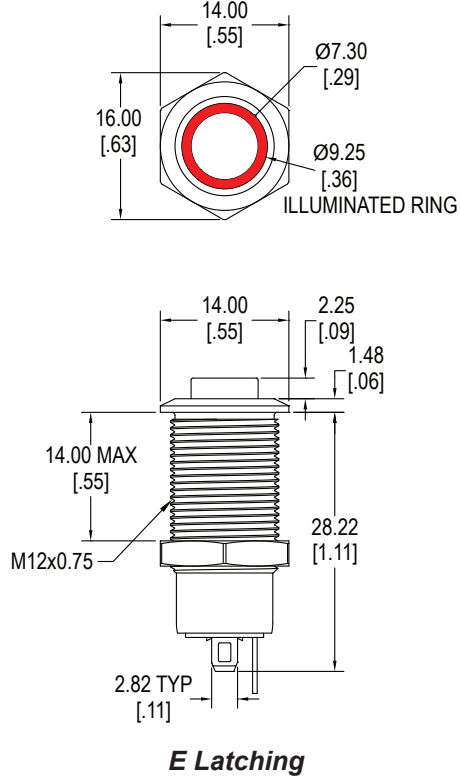
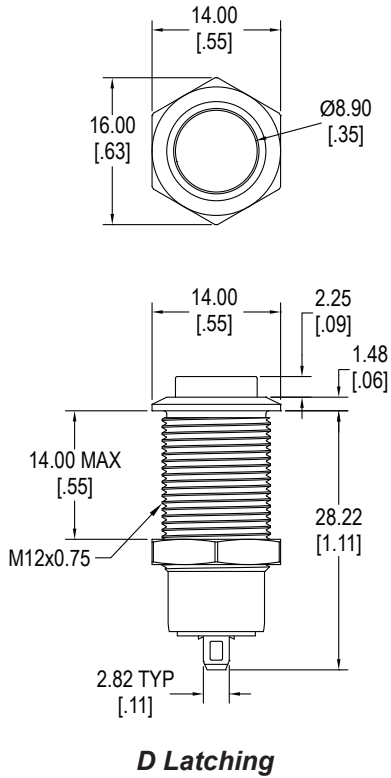
**E**



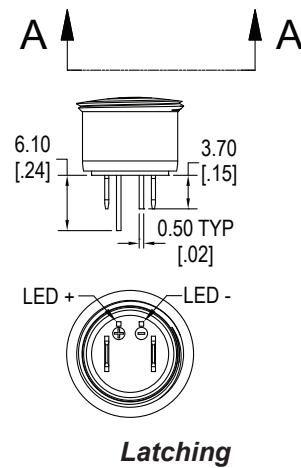
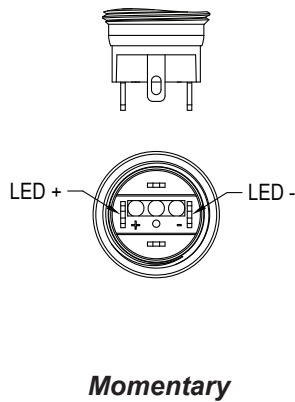
**F**

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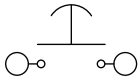
**Dimensions - Latching**



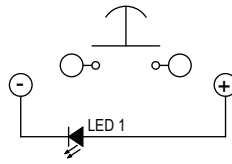
**Bottom View**



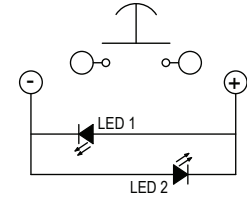
### Schematics



No LED

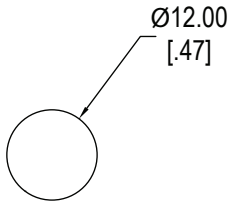


Single Color LED



Dual Color LED

### Panel Cut-Out



### 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)	$I_F$	25	25	30	30	25	30	mA
Forward Current (peak)	$I_{FS}$	120	120	160	160	120	160	mA
Reverse Current $V_R = 5V$	$I_R$	10	10	10	10	10	10	$\mu A$
Power Dissipation	$P_T$	80	80	120	120	80	120	mW
Operating & Storage Temperature	$T_A$	-40 ~ +85						C°
Forward Voltage (typ) $I_F = 20mA$	$V_F$	2.1	2.1	3.3	3.3	2.0	3.0	V
Forward Voltage (max) $I_F = 20mA$	$V_F$	2.4	2.5	3.6	3.6	2.3	3.6	V
Wavelength at Peak Emmission $I_F = 20mA$	$\lambda_P$	635	592	516	463	606	n/a	nm
Spectral Line Half-Width $I_F = 20mA$	$\Delta\lambda$	14	12	28	20	12	n/a	nm
Luminous Intensity, $I_F = 20mA$	LI	120	120	170	100	120	700	mcd
Viewing Angle	$\Theta$	145	145	145	145	145	145	deg