

LED Indicators, 6mm~25mm

## Specifications

Rated Current	3mA ~ 20mA	Operating Temperature	-40°C to 85°C*
Dielectric Strength	1500Vrms min @ sea level, case to LED	Storage Temperature	-40°C to 85°C*
Insulation Resistance	≥100MΩ min	Sealing Degree	IP67
Shock Resistance	50Hz, amplitude 1.2mm	*contact factory for higher values	
Vibration Resistance	10G		

## Materials

Face Plate	Stainless Steel (SUS 304), Stainless Steel (SUS 316L), Nickel Plated Brass, or Black Plated Brass
LED Lens	Polycarbonate (PC)
Threaded Housing	Stainless Steel (SUS 304), Stainless Steel (SUS 316L), Nickel Plated Brass, or Black Plated Brass
Terminal Support	Polybutylene Terephthalate (PBT)
Terminals	Brass, Tin Plated
Hardware	One Hex Nut & One "O" Ring Supplied

## 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)	$I_F$	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	μA
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

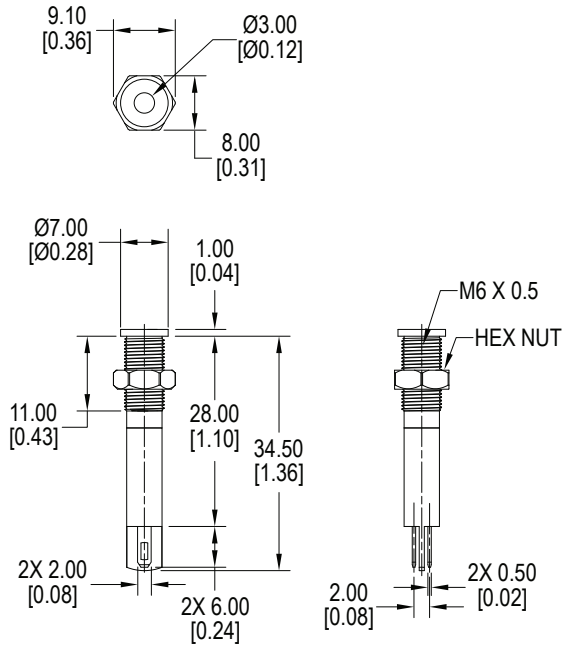
## Ordering Information

1. Series	IN	8	A	S	RGBA	12	W
IN							
2. Size							
6 = 6mm							
8 = 8mm							
10 = 10mm							
12 = 12mm							
14 = 14mm							
16 = 16mm							
19 = 19mm, <i>not available with Nickel Plated Brass</i>							
22 = 22mm, <i>not available with Nickel Plated Brass</i>							
25 = 25mm, <i>not available with Nickel Plated Brass</i>							
3. Lens							
A = Flush Bezel							
B = Rounded Bezel							
4. Indicator Finish*							
S = Brushed Stainless Steel (SUS 304)							
SM = Brushed Stainless Steel (SUS 316L)							
B = Black Plated Brass							
N = Nickel Plated Brass, <i>Not available with IN19, IN22 &amp; IN25</i>							
5. LED Color*							
R = Red		RO = Red / Orange dual			RGBA = RGB LED, <i>common anode</i>		
Y = Yellow		RY = Red / Yellow dual			RGBC = RGB LED, <i>common cathode</i>		
G = Green		RG = Red / Green dual			<i>RGBA &amp; RGBC available with 8~14mm options</i>		
B = Blue		RB = Red / Blue dual					
W = White		OY = Orange / Yellow dual					
O = Orange		OG = Orange / Green dual					
		OB = Orange / Blue dual					
		YG = Yellow / Green dual					
		YB = Yellow / Blue dual					
		GB = Green / Blue dual					
7. LED Voltage*							
6 = 6V							
12 = 12V							
24 = 24V							
110 = 110V							
220 = 220V							
N = No internal resistor in series with the LED							
8. Terminal Option							
C = .100" Quick Connect, <i>not available with RGB LED options</i>							
W = 150mm Wire, <i>available with 6mm ~ 14mm sizes</i>							
Z = Screw Terminals, <i>available with 16mm ~ 25mm sizes</i>							

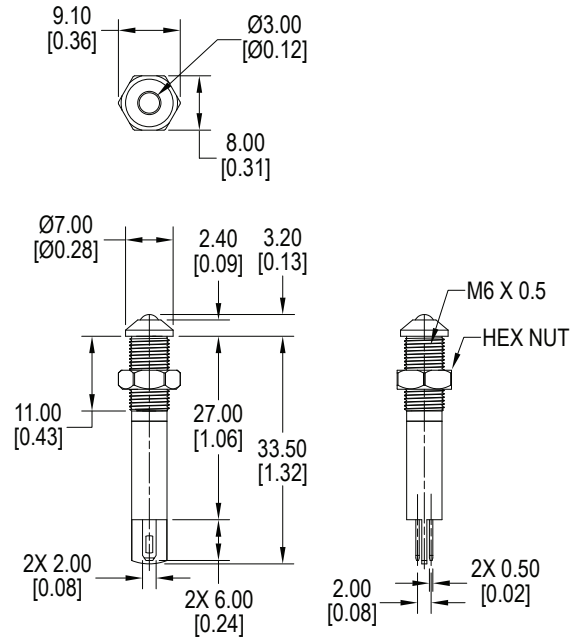
\*contact factory for other finish or LED options

## Dimensions

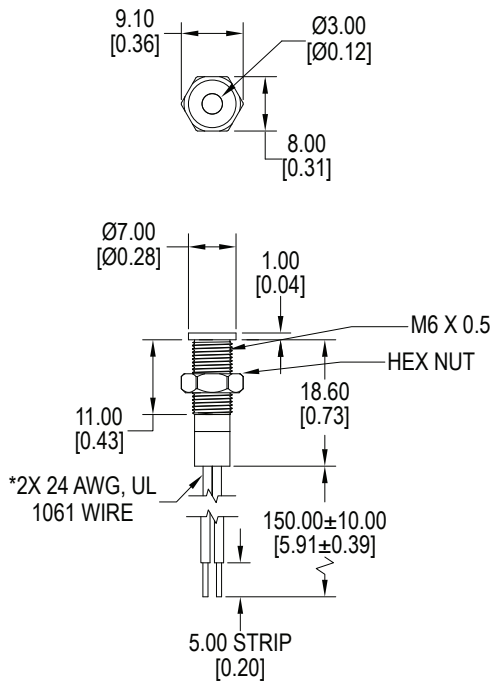
6mm, Flat Lens, Quick Connect



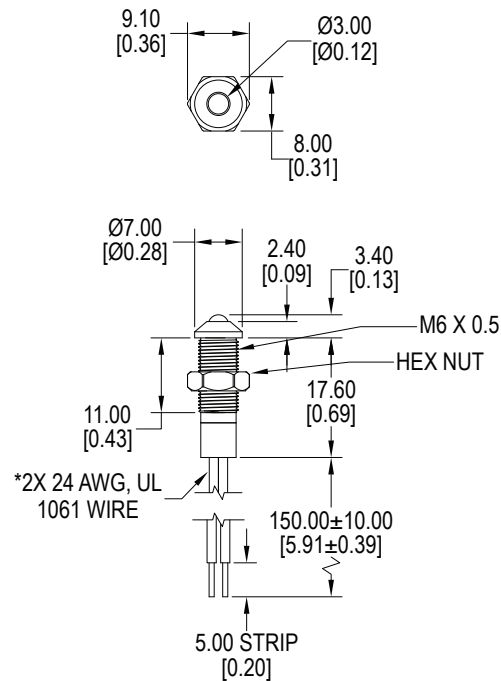
6mm, Round Lens, Quick Connect



6mm, Flat Lens, Wire

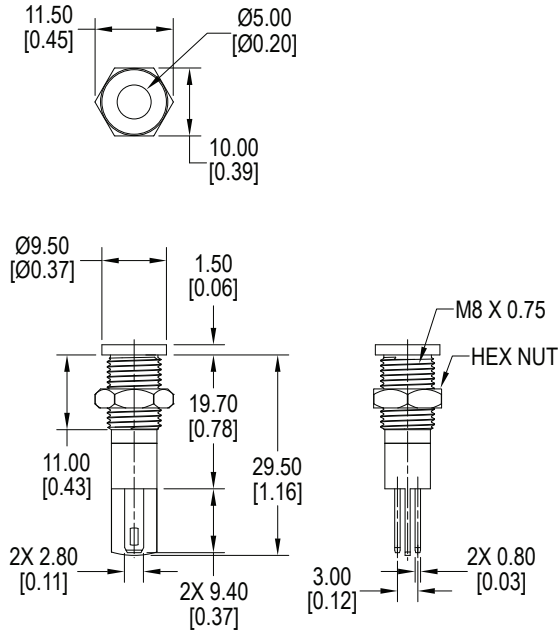


6mm, Round Lens, Wire

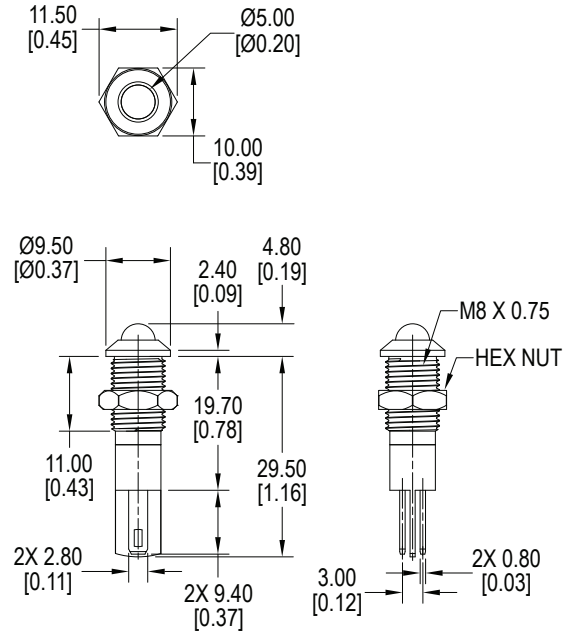


## Dimensions

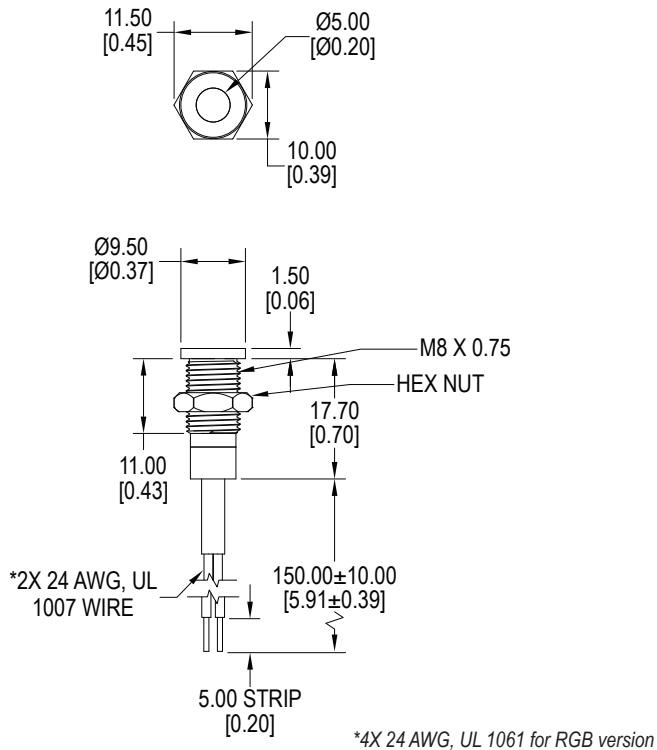
8mm, Flat Lens, Quick Connect



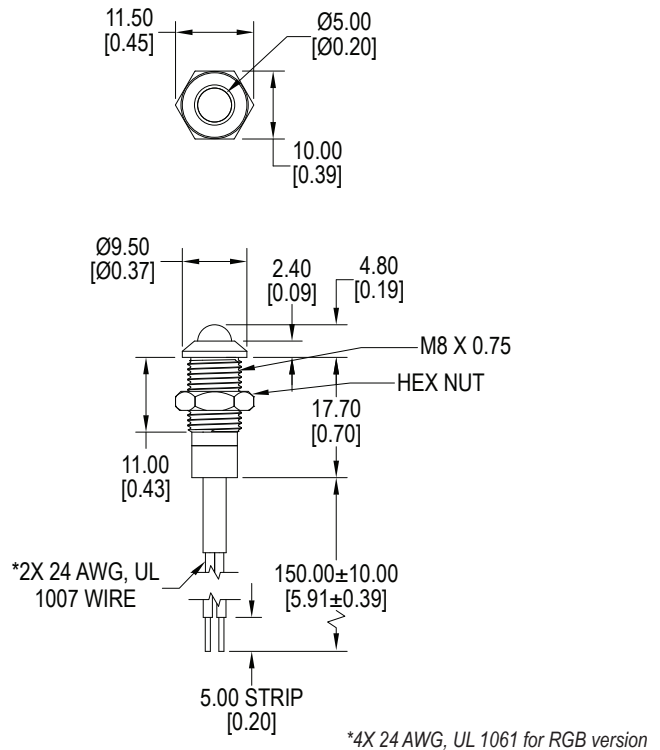
8mm, Round Lens, Quick Connect



8mm, Flat Lens, Wire

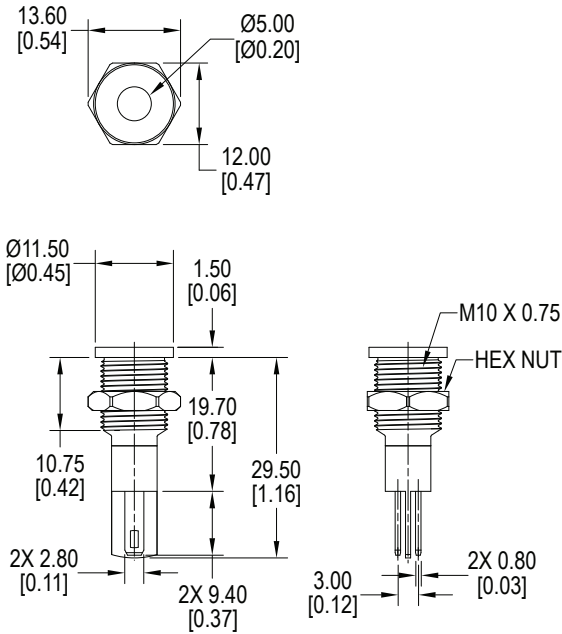


8mm, Round Lens, Wire

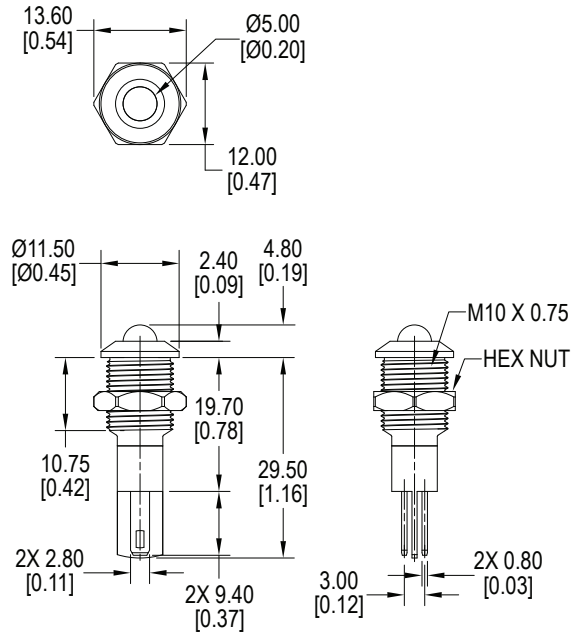


## Dimensions

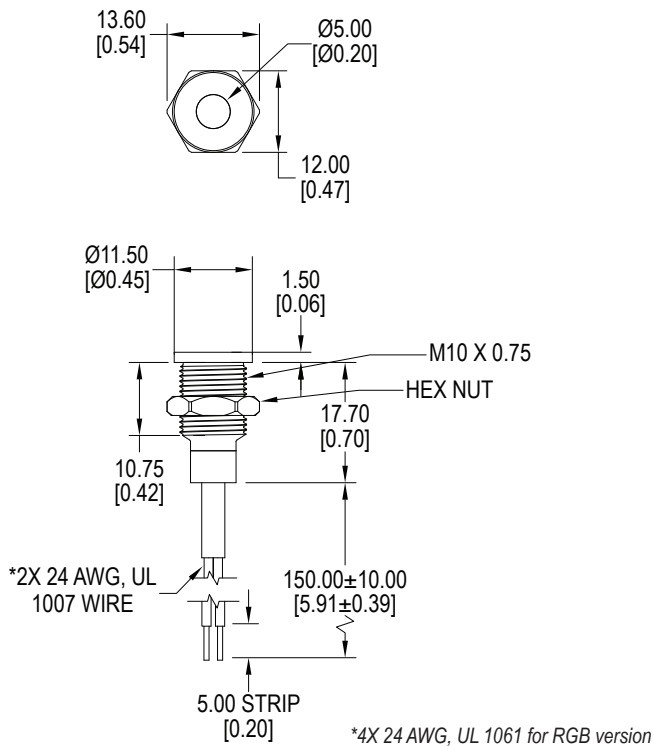
10mm, Flat Lens, Quick Connect



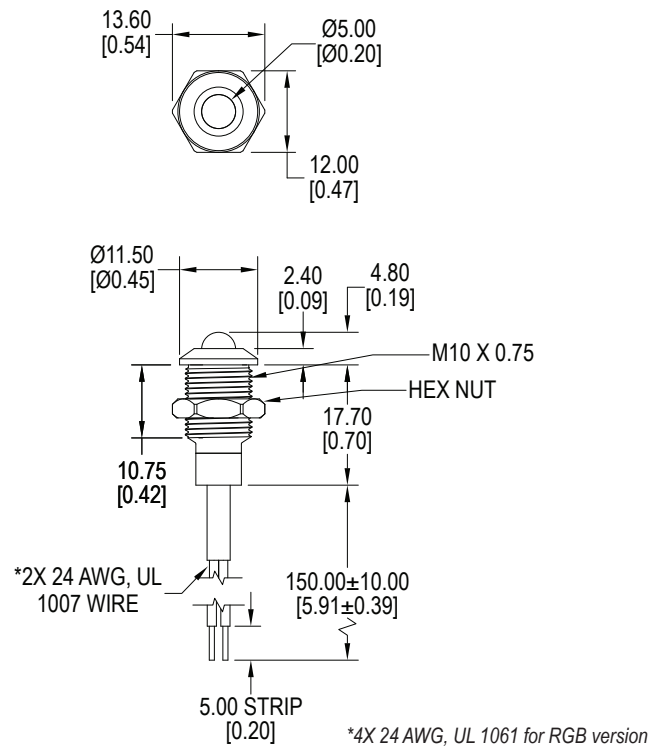
10mm, Round Lens, Quick Connect



10mm, Flat Lens, Wire

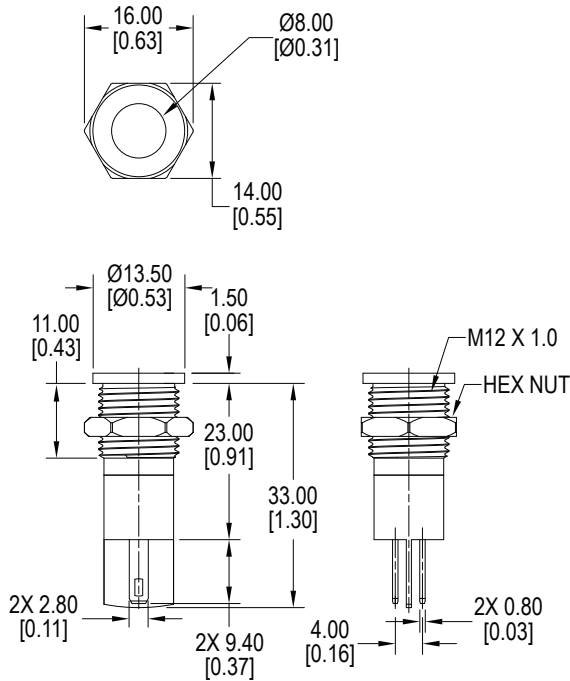


10mm, Round Lens, Wire

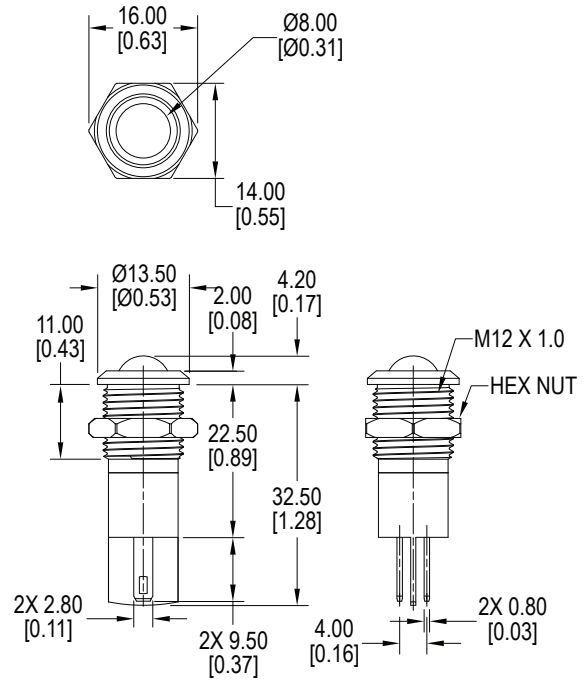


**Dimensions**

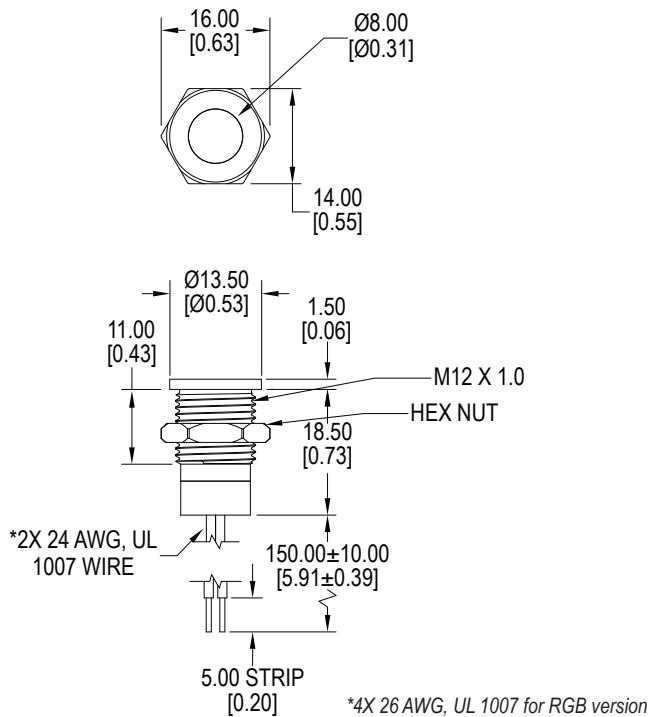
12mm, Flat Lens, Quick Connect



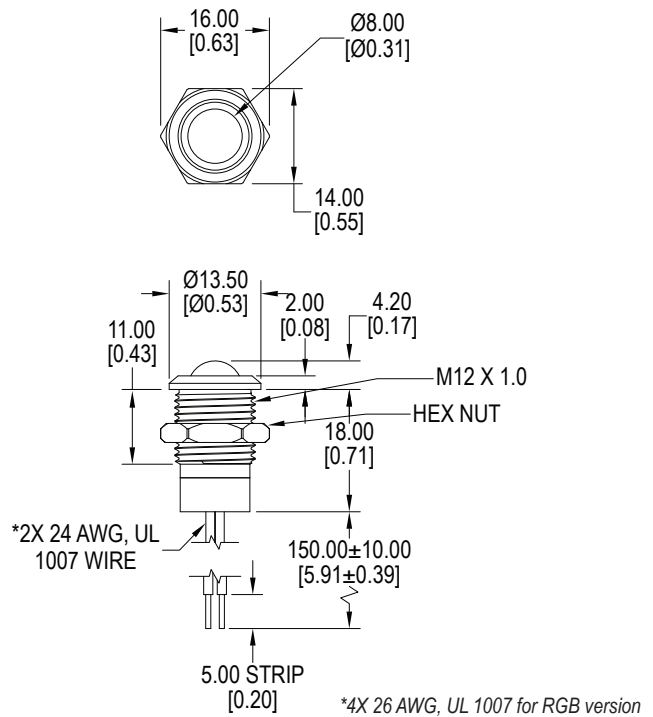
12mm, Round Lens, Quick Connect



12mm, Flat Lens, Wire

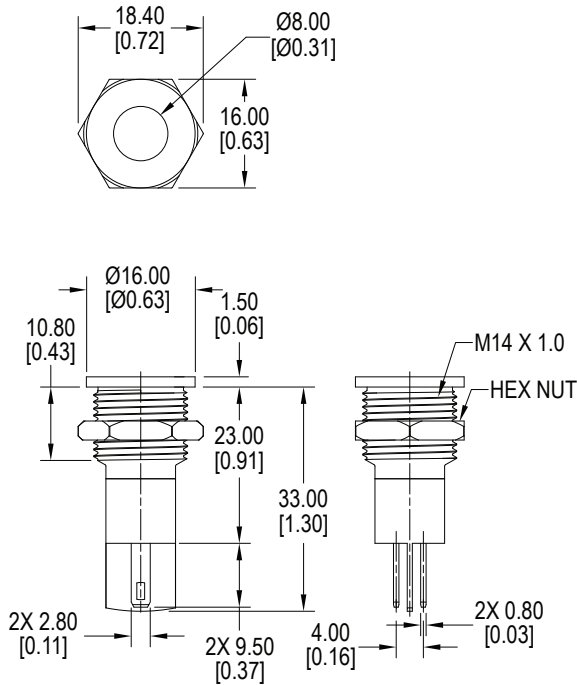


12mm, Round Lens, Wire

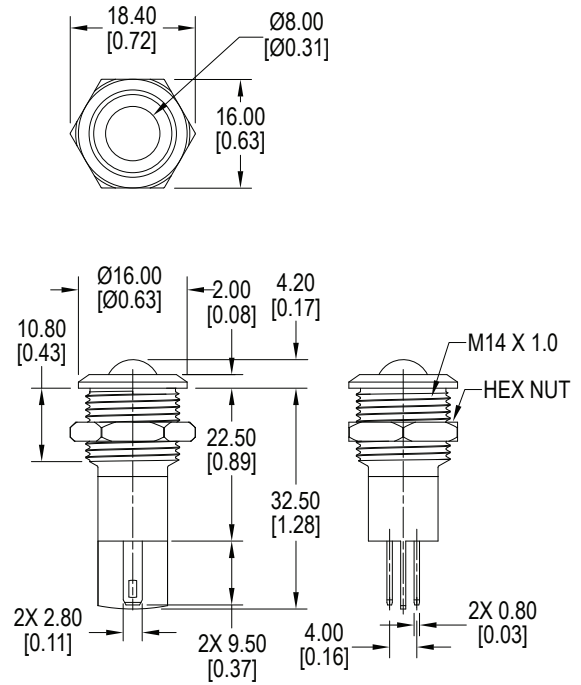


## Dimensions

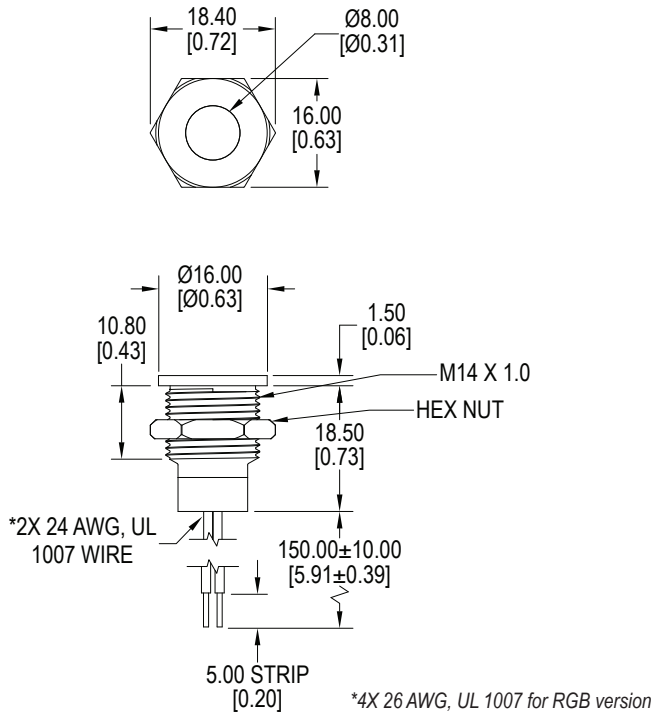
14mm, Flat Lens, Quick Connect



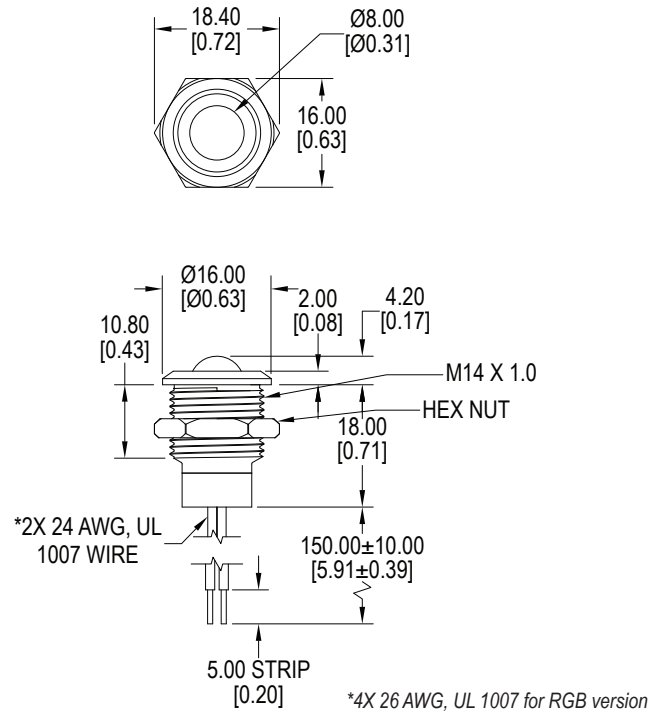
14mm, Round Lens, Quick Connect



14mm, Flat Lens, Wire

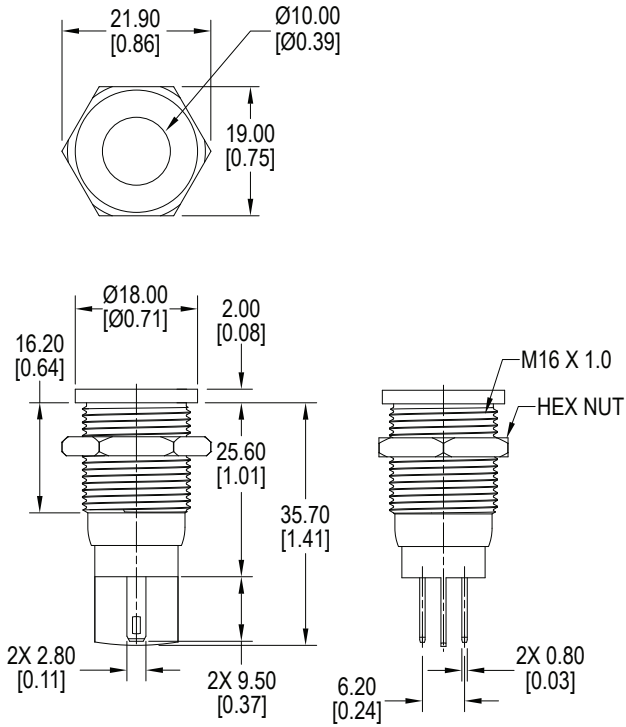


14mm, Round Lens, Wire

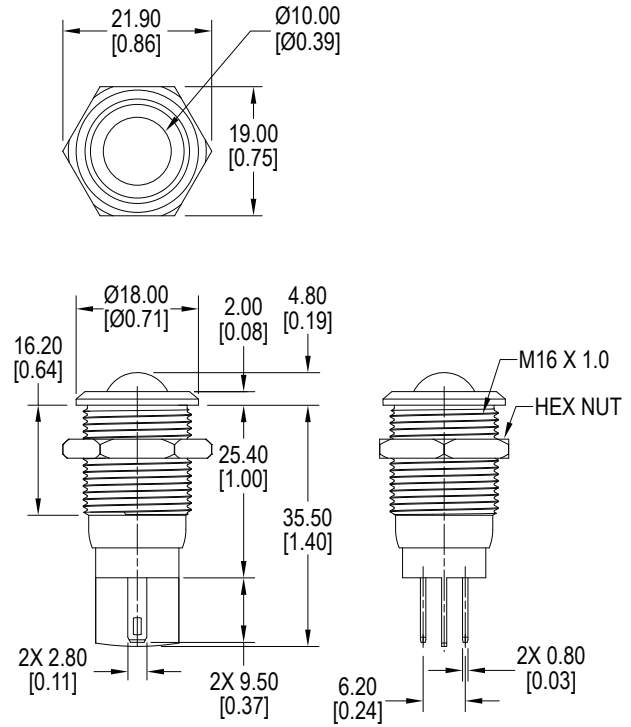


### Dimensions

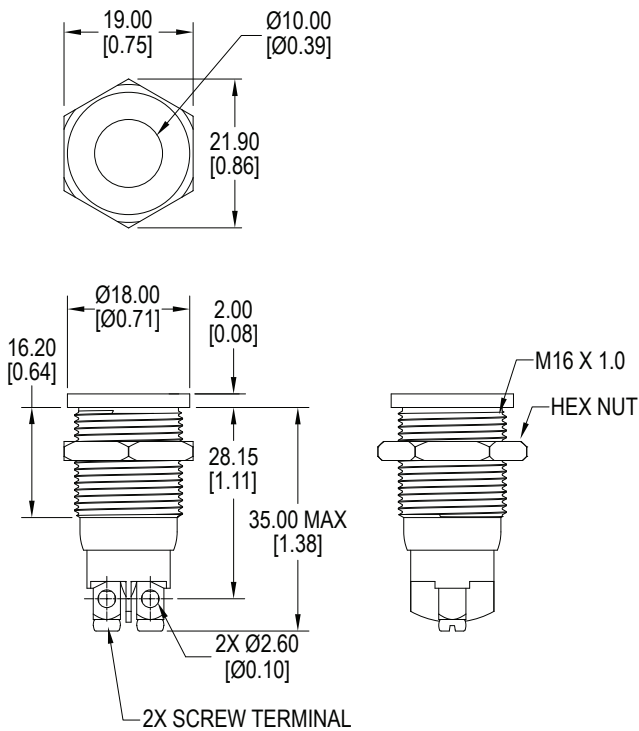
16mm, Flat Lens, Quick Connect



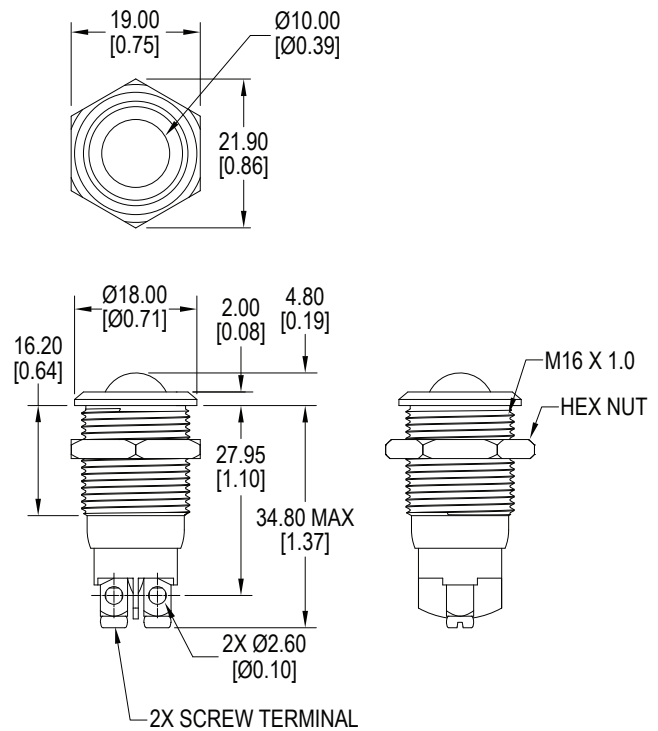
16mm, Round Lens, Quick Connect



16mm, Flat Lens, Screw Terminal

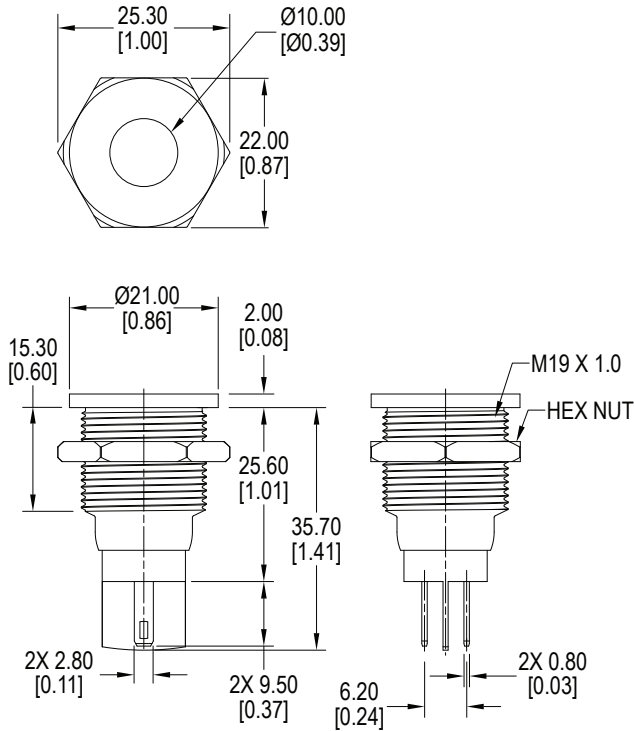


16mm, Round Lens, Screw Terminal

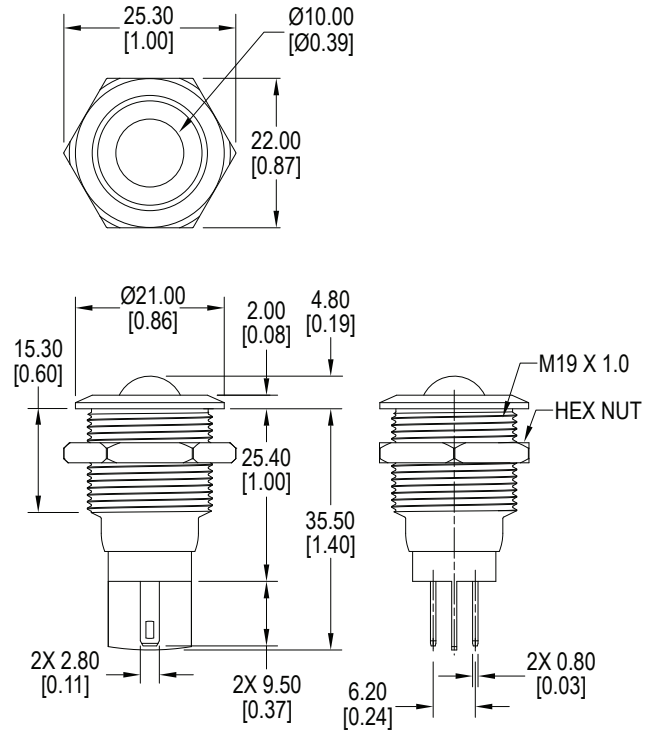


## Dimensions

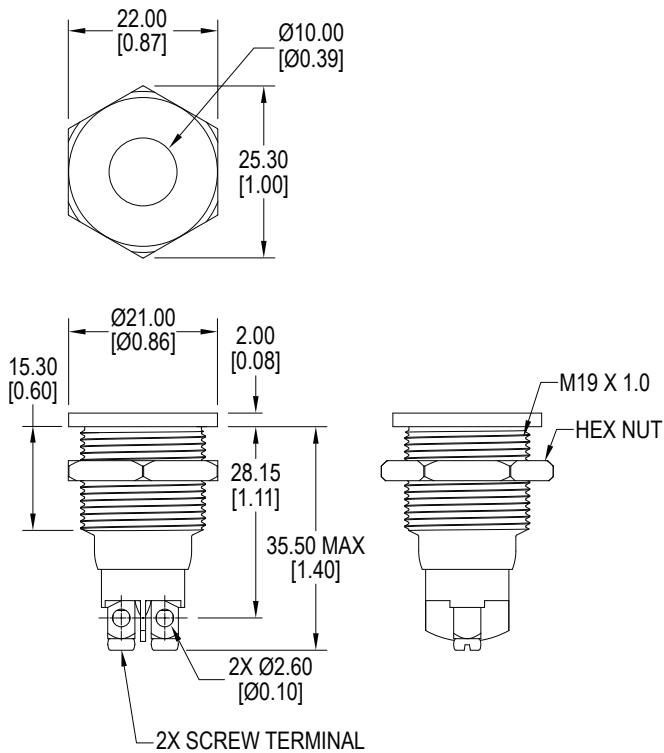
19mm, Flat Lens, Quick Connect



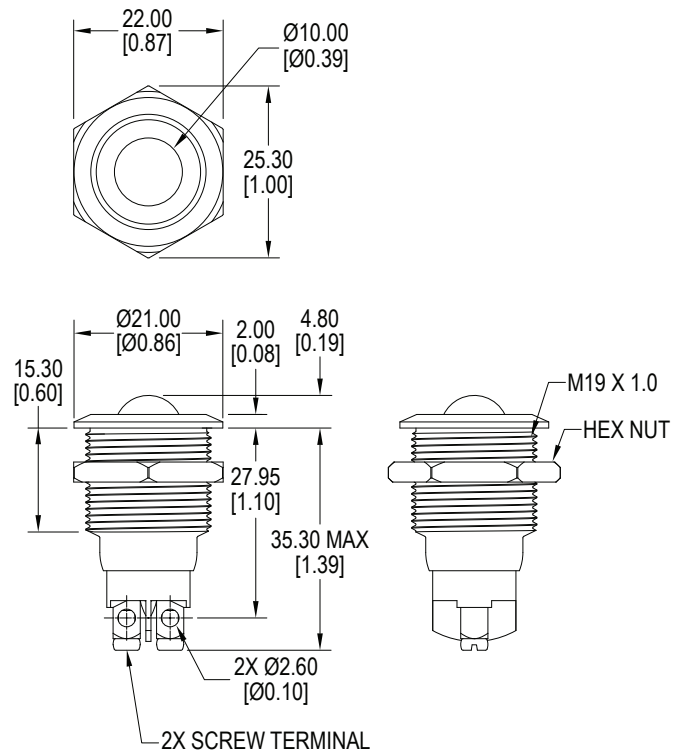
19mm, Round Lens, Quick Connect



19mm, Flat Lens, Screw Terminal

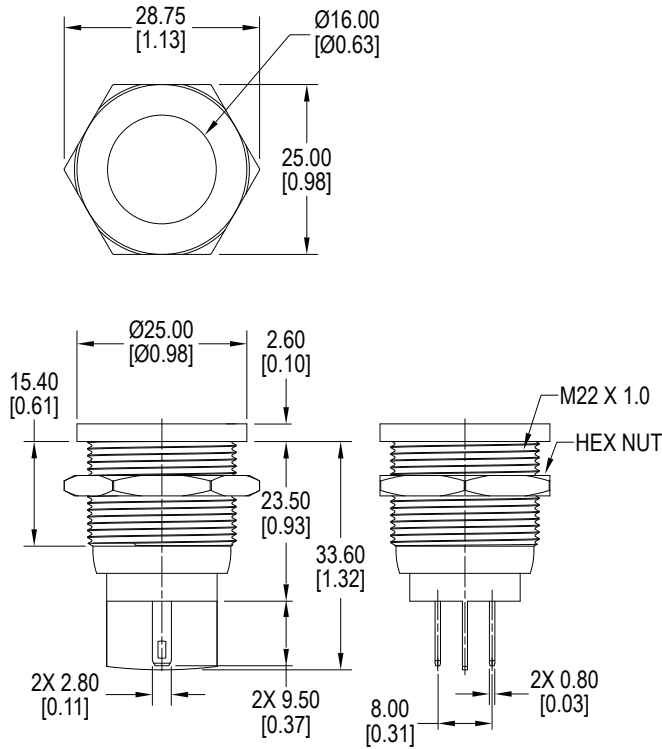


19mm, Round Lens, Screw Terminal

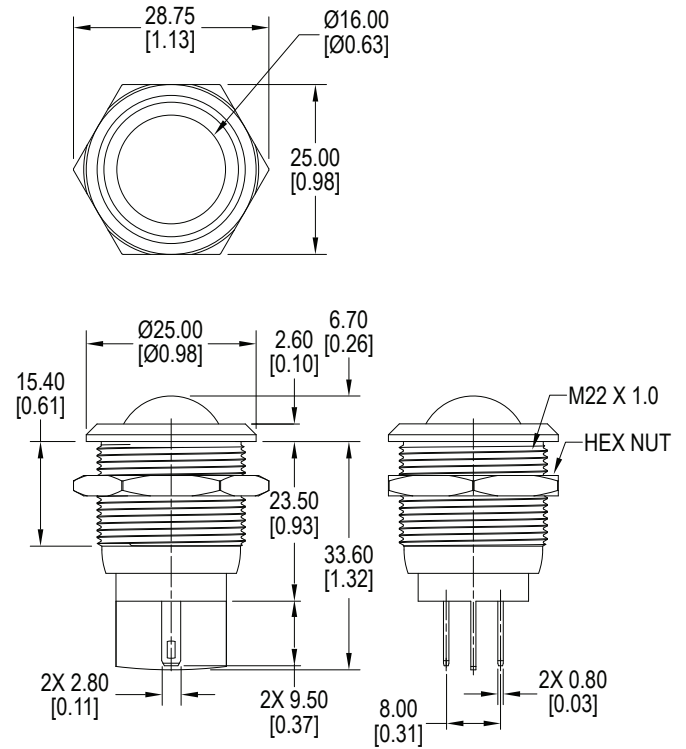


**Dimensions**

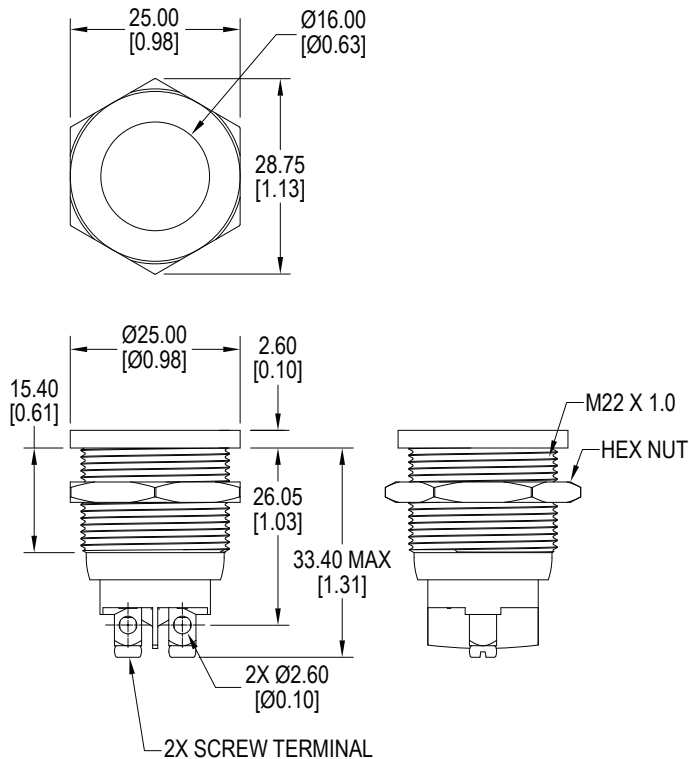
22mm, Flat Lens, Quick Connect



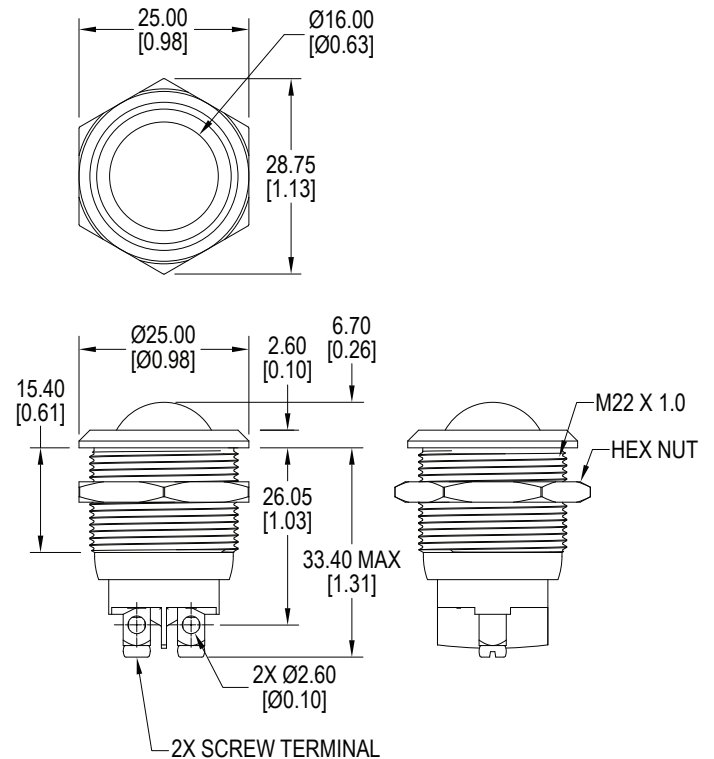
22mm, Round Lens, Quick Connect



22mm, Flat Lens, Screw Terminal

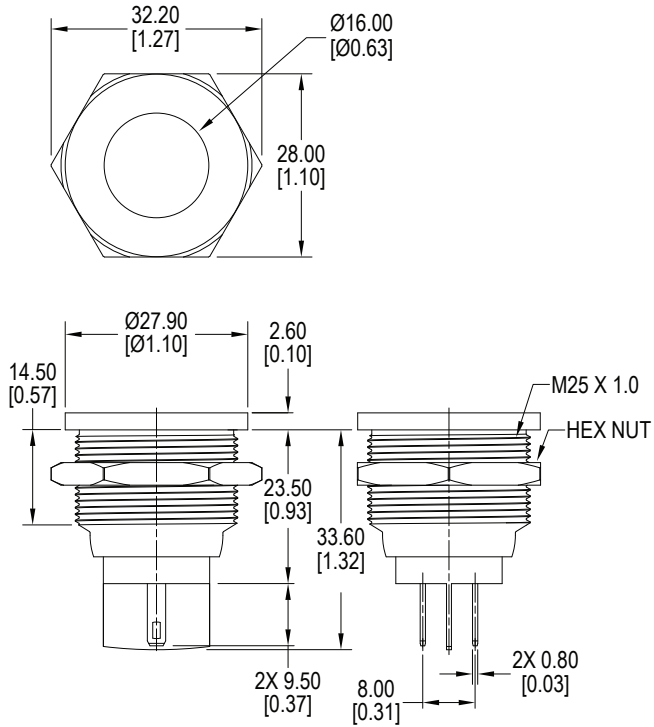


22mm, Round Lens, Screw Terminal

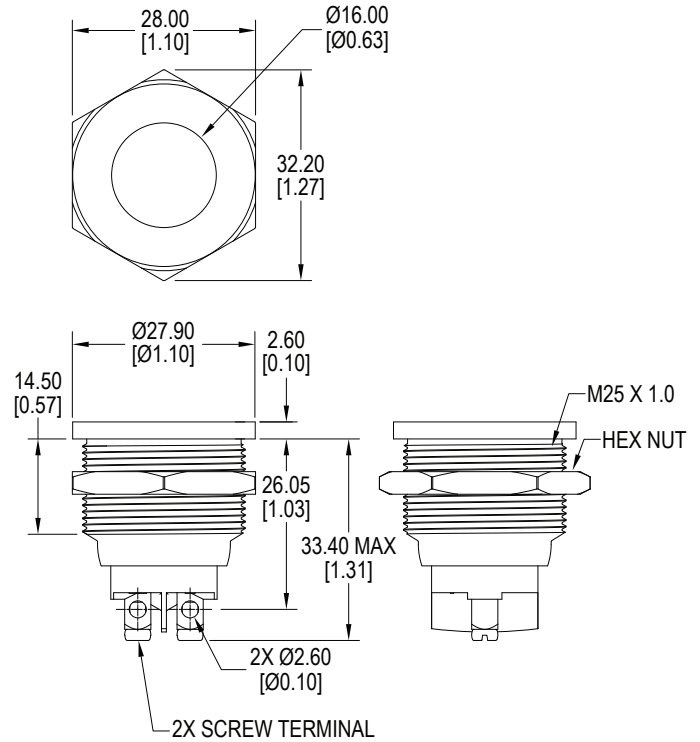


## Dimensions

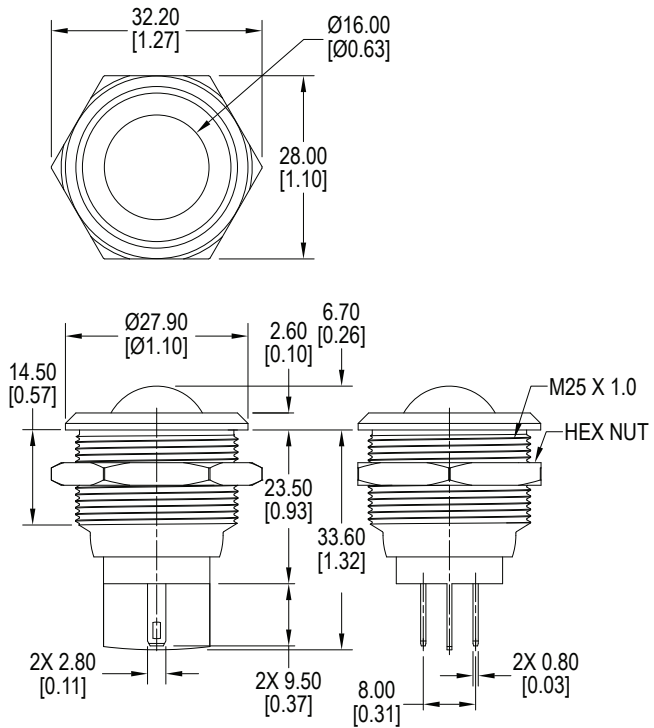
25mm, Flat Lens, Quick Connect



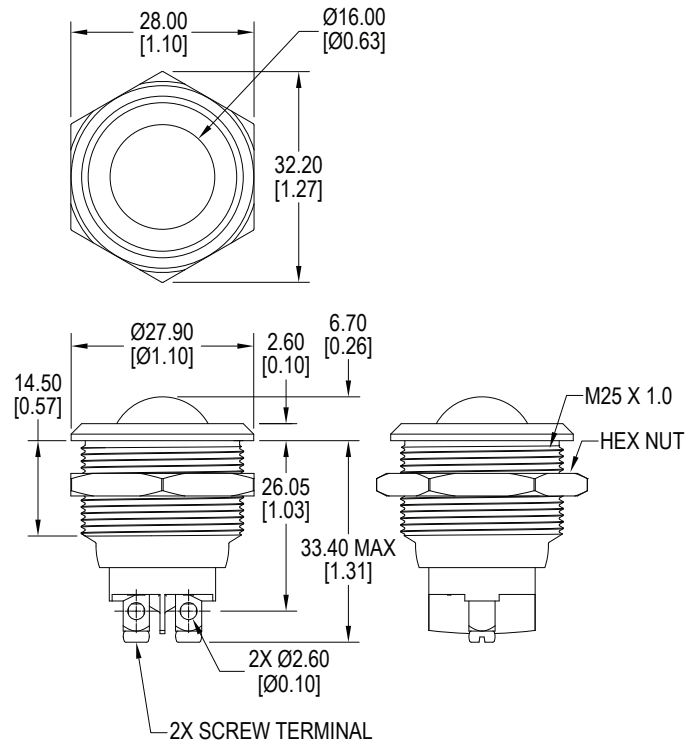
25mm, Flat Lens, Screw Terminal



25mm, Round Lens, Quick Connect

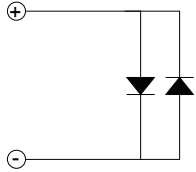


25mm, Round Lens, Screw Terminal

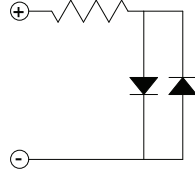


### Schematics

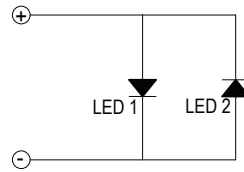
Single LED



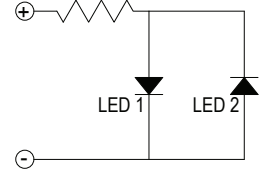
Single LED, with resistor



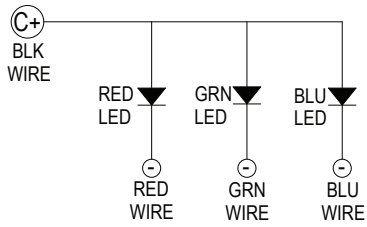
Dual LED



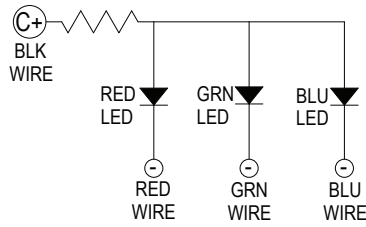
Dual LED, with resistor



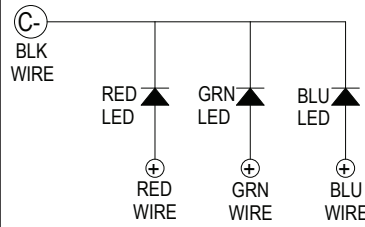
RGBA  
*common anode*



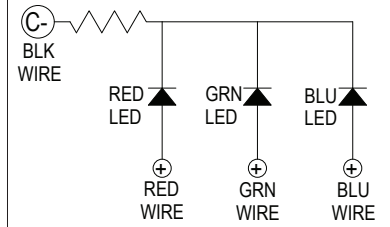
RGBA, with resistor  
*common anode*



RGBC  
*common cathode*

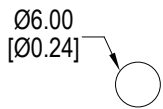


RGBC, with resistor  
*common cathode*

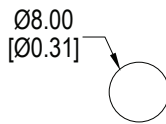


### Panel Cutout

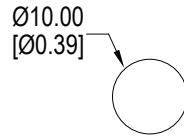
IN6



IN8



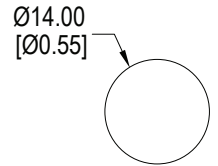
IN10



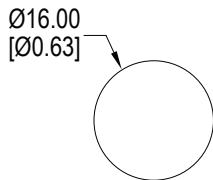
IN12



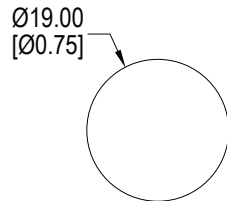
IN14



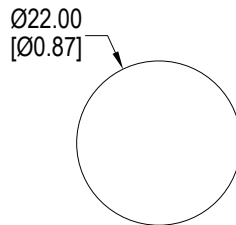
IN16



IN19



IN22



IN25

