

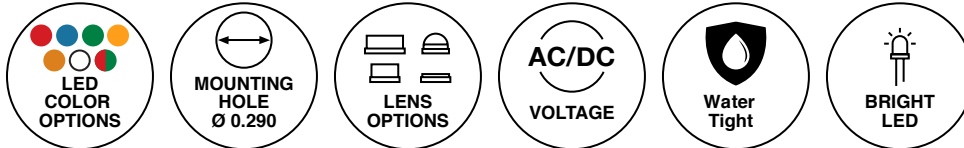
90 Series

Ø .290" (7.37mm)

LED Panel Mount Indicator



90 Series with built-in long life LED offer superior construction and longer life bi-pin, straight leads, and wire leads termination styles



Key Features

- Mounting hole size: .290" (7.37mm)
- Panel Thickness: 0.80" (20.32) Max
- Lens type options: hi-hat, flush, hi-dome, and wide hi-hat all featured with fresnel pattern lens which provides excellent light focus and assures maximum light output
- Lens color options: red, amber, yellow, green, blue, water clear, and smoke
- Voltage options: 2-48 VDC or 120VAC
- Terminals: bi-pin, straight leads, and wire leads (6" wire leads, 24 AWG)
- Wire leads: 6.0" total length (nominal) / .50" stripped (nominal), red anode/black cathode, 24 AWG TPB UL1061 insulation
- LED single color options: red, amber, green, orange, blue, and white
- Bi-color option: red/green
- Spring retainer clip and washer (included) secures uniform placement of the indicator to the panel and is ideal for high vibration environments
- The C option specifies a pin length of .20"
- Offered with white or black bezel, where the black bezel enhances LED contrast
- Available with a variety of LEDs including AllnGaP and InGaN technology for high brightness applications, single color, bi-color and with integrated resistors
- Resistant to shock and vibration
- Watertight socket options for splashdown environments
- For use with spring retainer clip (included), socket holder (PS90 or PS90T - sold separately) or wiring plug (CSH90 - sold separately)
- For custom cable length, connectors or colors contact VCC
- Compliant with RoHS and REACH

Ordering Data

905 (No Lens)



Example:

905-NWG120-O

905 Series No Lens, Green LED,
120V with Straight Leads

Part Number	Color	λ_{pk} (nm)	Iv (mcd)	Viewing Angle	Lens Color	Lens Diffusion	Terminals	Voltage/Current	
								Design Vf/If	Max Vf/If
905-BA2-O	Amber	583	16	60	-	-	Straight Leads	2V	-
905-NWG24H-O	Green	520	2400	45	-	-	Straight Leads	24V/15mA	26V/18mA
905-NWG120-O	Green	520	2400	45	-	-	Straight Leads	120VAC/3.5mA	130VAC/4mA

C905 (905 Series with pin length of .20'')



Example:

C905-NWR12H-O

905 Series No Lens, Red LED,
12V with Bi-Pin

C905-GLP2-O	Green	565	2.3	50	-	-	Bi-Pin	2V	-
C905-NWA12H-O	Amber	592	2800	30	-	-	Bi-Pin	12V/20mA	14V/25mA
C905-NWG12H-O	Green	520	2400	45	-	-	Bi-Pin	12V/15mA	14V/20mA
C905-NWR12H-O	Red	634	2800	30	-	-	Bi-Pin	12V/20mA	14V/25mA
C905-BA24H-O	Amber	583	16	60	-	-	Bi-Pin	24V/17mA	26V/20mA
C905-BCG24H-O	Green	565	80	24	-	-	Bi-Pin	24V/17mA	26V/20mA
C905-BCR24H-O	Red	635	120	35	-	-	Bi-Pin	24V/17mA	26V/20mA
C905-NWA24H-O	Amber	592	2800	30	-	-	Bi-Pin	24V/17mA	26V/20mA
C905-NWG24H-O	Green	520	2400	45	-	-	Bi-Pin	24V/15mA	26V/18mA
C905-NWR24H-O	Red	634	2800	30	-	-	Bi-Pin	24V/17mA	26V/20mA
C905-BCG28H-O	Green	565	80	24	-	-	Bi-Pin	28V/16.5mA	30V/18mA
C905-GLP28H-O	Green	565	2.3	50	-	-	Bi-Pin	-	-
C905-BCG48H-O	Green	565	80	24	-	-	Bi-Pin	48V/15mA	50V/16mA
C905-NKG120-O	Green	520	10000	15	-	-	Bi-Pin	120VAC/3.5mA	130VAC/4mA
C905-NKR120-O	Red	634	3600	15	-	-	Bi-Pin	120VAC/3.5mA	130VAC/4mA
C905-NWG120-O	Green	520	2400	45	-	-	Bi-Pin	120VAC/3.5mA	130VAC/4mA
C905-NWG120-O-R-	Green	520	2400	45	-	-	Bi-Pin	120VAC/3.5mA	130VAC/4mA

Ordering Data

Part Number	Color	λ_{pk} (nm)	Iv (mcd)	Viewing Angle	Lens Color	Lens Diffusion	Terminals	Voltage/Current	
								Design Vf/If	Max Vf/If
C905-NWR120-O	Red	634	2800	30	-	-	Bi-Pin	120VAC/3.5mA	130VAC/4mA
C905-NWW120-O	White	-	2500	50	-	-	Bi-Pin	120VAC/3.5mA	130VAC/4mA

91 (Hi-Hat Lens)



Example:

91-BCG5H-CGO

91 Series Hi-Hat Lens, Green LED, Clear Green Lens, 5V with Straight Leads

91W (Hi-Hat Lens)



Example:

91W-NWA12H-CAO

91 Series Hi-Hat Lens, Amber LED, Clear Amber Lens, 12V with Wire Leads

Part Number	Color	λ_{pk} (nm)	Iv (mcd)	Viewing Angle	Lens Color	Lens Diffusion	Terminals	Voltage/Current	
								Design Vf/If	Max Vf/If
91-BCA5H-CYO	Amber	583	100	35	Yellow	Clear	Straight Leads	5V/22mA	5.5V/28mA
91-BCG5H-CGO	Green	565	80	24	Green	Clear	Straight Leads	5V/22mA	5.5V/28mA

91-BA12H-NAO-R-	Amber	583	16	60	Amber	Diffused	Straight Leads	12V/20mA	14V/25mA
91-BG12H-NGO	Green	565	10	60	Green	Diffused	Straight Leads	12V/20mA	14V/25mA
91-BR12H-NRO	Red	635	14	60	Red	Diffused	Straight Leads	12V/20mA	14V/25mA
91-NWA12H-CAO	Amber	592	2800	30	Amber	Clear	Straight Leads	12V/20mA	14V/25mA
91-NWR12H-CRO	Red	634	2800	30	Red	Clear	Straight Leads	12V/20mA	14V/25mA

91-BCG28H-CGO	Green	565	80	24	Green	Clear	Straight Leads	28V/16.5mA	30V/18mA
91-NKW28H-CWO	White	-	9200	20	Clear	Clear	Straight Leads	28V/15mA	30V/17mA
91-NWA28H-CAO	Amber	592	2800	30	Amber	Clear	Straight Leads	28V/16.5mA	30V/18mA
91-NWG28H-CGO	Green	520	2400	45	Green	Clear	Straight Leads	28V/15mA	30V/17mA
91-NWR28H-CRO	Red	634	2800	30	Red	Clear	Straight Leads	28V/16.5mA	30V/18mA

91-BCR120-CRO	Red	635	120	35	Red	Clear	Straight Leads	120VAC/3.5mA	130VAC/4mA
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Part Number	Color	λ_{pk} (nm)	Iv (mcd)	Viewing Angle	Lens Color	Lens Diffusion	Terminals	Voltage/Current	
								Design Vf/If	Max Vf/If
91W-NWA12H-CAO	Amber	592	2800	30	Amber	Clear	Wire Leads	12V/20mA	14V/25mA
91W-NWG12H-CGO	Green	520	2400	45	Green	Clear	Wire Leads	12V/15mA	14V/20mA
91W-NWR12H-CRO	Red	634	2800	30	Red	Clear	Wire Leads	12V/20mA	14V/25mA

Ordering Data

C91 (905 Series with pin length of .20")



Example:

C91-BA5H-CAO

91 Series Hi-Hat Lens, Amber LED,
Clear Amber Lens, 5V with Bi-Pin

Part Number	Color	λ_{pk} (nm)	Iv (mcd)	Viewing Angle	Lens Color	Lens Diffusion	Terminals	Voltage/Current	
								Design Vf/If	Max Vf/If
C91-BA5H-CAO	Amber	583	16	60	Amber	Clear	Bi-Pin	5V/22mA	5.5V/28mA
C91-BCG5H-CGO	Green	565	80	24	Green	Clear	Bi-Pin	5V/22mA	5.5V/28mA
C91-BCG5H-CGO-R-	Green	565	80	24	Green	Clear	Bi-Pin	5V/22mA	5.5V/28mA
C91-BR5H-CRO	Red	635	14	60	Red	Clear	Bi-Pin	5V/22mA	5.5V/28mA
C91-BG15H-CGO	Green	565	10	60	Green	Clear	Bi-Pin	15V/24mA	16.5V/28mA
C91-BA24H-CAO	Amber	583	16	60	Amber	Clear	Bi-Pin	24V/17mA	26V/20mA
C91-BG24H-CGO	Green	565	10	60	Green	Clear	Bi-Pin	24V/17mA	26V/20mA
C91-NWA24H-NAO	Amber	592	2800	30	Amber	Diffused	Bi-Pin	24V/17mA	26V/20mA
C91-NWB24H-NB0	Blue	465	700	45	Blue	Diffused	Bi-Pin	24V/15mA	26V/18mA
C91-NWG24H-NGO	Green	520	2400	45	Green	Diffused	Bi-Pin	24V/15mA	26V/18mA
C91-NWO24H-CWO	Orange	605	2000	30	Clear	Clear	Bi-Pin	24V/17mA	26V/20mA
C91-NWW24H-CWO	White	-	2500	50	Clear	Clear	Bi-Pin	24V/15mA	26V/18mA
C91-BA28H-CAO	Amber	583	16	60	Amber	Clear	Bi-Pin	28V/16.5mA	30V/18mA
C91-BCA28H-CWO	Amber	583	100	35	Clear	Clear	Bi-Pin	28V/16.5mA	30V/18mA
C91-BR28H-CRO	Red	635	14	60	Red	Clear	Bi-Pin	28V/16.5mA	30V/18mA
C91-NWA120-NAO	Amber	592	2800	30	Amber	Diffused	Bi-Pin	120VAC/3.5mA	130VAC/4mA
C91-NWG120-CGO	Green	520	2400	45	Green	Clear	Bi-Pin	120VAC/3.5mA	130VAC/4mA

94 (Flush Lens)



Example:

94-LRG2-CWO

94 Series Flush Lens, Red/Green LED,
Clear Lens, 2V with Straight Leads

Part Number	Color	λ_{pk} (nm)	Iv (mcd)	Viewing Angle	Lens Color	Lens Diffusion	Terminals	Voltage/Current	
								Design Vf/If	Max Vf/If
94-LRG2-CWO	Red/Green	660/565	90/40	60	Clear	Clear	Straight Leads	2V	-

Ordering Data

C94 (94 Series with pin length of .20")



Example:

C94-NKB24H-NBO

94 Series Flush Lens, Blue LED,
Diffused Blue Lens, 24V with Bi-Pin

Part Number	Color	λ_{pk} (nm)	Iv (mcd)	Viewing Angle	Lens Color	Lens Diffusion	Terminals	Voltage/Current	
								Design Vf/If	Max Vf/If
C94-LRG2-CWO	Red/Green	660/565	90/40	60	Clear	Clear	Bi-Pin	2V	-
C94-NWG12H-NGO	Green	520	2400	45	Green	Diffused	Bi-Pin	12V/15mA	14V/20mA
C94-NKB24H-NBO	Blue	465	3000	15	Blue	Diffused	Bi-Pin	24V/15mA	26V/18mA
C94-NWG24H-NGO	Green	520	2400	45	Green	Diffused	Bi-Pin	24V/15mA	26V/18mA

961 (Wide Hi-Hat Lens)



Example:

961W-BCA28H-CA9

C91 Series Wide Hi-Hat Lens, Amber LED,
Clear Amber Lens, 28V with Wire Leads

Part Number	Color	λ_{pk} (nm)	Iv (mcd)	Viewing Angle	Lens Color	Lens Diffusion	Terminals	Voltage/Current	
								Design Vf/If	Max Vf/If
961W-NWG5H-CWO	Green	520	2400	45	Clear	Clear	Wire Leads	5V/15mA	5.5V/23mA
961W-BCA28H-CA9	Amber	583	100	35	Amber	Clear	Wire Leads	28V/16.5mA	30V/18mA

C961 (961 Series with pin length of .20")



Example:

C961-NWR24H-CWO

91 Series Wide Hi-Hat Lens, Red LED,
Clear Lens, 24V with Bi-Pin

C961-NWR24H-CWO	Red	634	2800	30	Clear	Clear	Bi-Pin	24V/17mA	26V/20mA
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Ordering Data

96 (Hi-Dome Lens)



Example:

96-BG12H-CGO

96 Series Hi-Dome Lens, Green LED,
Clear Green Lens, 12V with Straight Leads

Part Number	Color	λ_{pk} (nm)	Iv (mcd)	Viewing Angle	Lens Color	Lens Diffusion	Terminals	Voltage/Current	
								Design Vf/If	Max Vf/If
96-BG12H-CGO	Green	565	10	60	Green	Clear	Straight Leads	12V/20mA	14V/25mA
96-NWB28H-NW9	Blue	465	700	45	Clear	Diffused	Straight Leads	28V/15mA	30V/17mA

C96 (96 Series with pin length of .20")



Example:

C96-BG12H-NGO

96 Series Hi-Dome Lens, Green LED,
Diffused Green Lens, 12V with Bi-Pin

Part Number	Color	λ_{pk} (nm)	Iv (mcd)	Viewing Angle	Lens Color	Lens Diffusion	Terminals	Voltage/Current	
								Design Vf/If	Max Vf/If
C96-BG12H-NGO	Green	565	10	60	Green	Diffused	Bi-Pin	12V/20mA	14V/25mA
C96-BR12H-CRO	Red	635	14	60	Red	Clear	Bi-Pin	12V/20mA	14V/25mA
C96-NKR12H-CRO	Red	634	3600	15	Red	Clear	Bi-Pin	12V/20mA	14V/25mA
C96-BCA14H-CAO	Amber	583	100	35	Amber	Clear	Bi-Pin	14V	-
C96-BCG14H-CGO	Green	565	80	24	Green	Clear	Bi-Pin	14V	-
C96-BCG24H-CGO	Green	565	80	24	Green	Clear	Bi-Pin	24V/17mA	26V/20mA
C96-NWA24H-NAO	Amber	592	2800	30	Amber	Diffused	Bi-Pin	24V/17mA	26V/20mA
C96-NWG24H-SO	Green	520	2400	45	Smoke	-	Bi-Pin	24V/15mA	26V/18mA
C96-NWR24H-CRO	Red	634	2800	30	Red	Clear	Bi-Pin	24V/17mA	26V/20mA
C96-NWR24H-NRO	Red	634	2800	30	Red	Diffused	Bi-Pin	24V/17mA	26V/20mA
C96-NWR24H-SO	Red	634	2800	30	Smoke	-	Bi-Pin	24V/17mA	26V/20mA
C96-BCG28H-CGO	Green	565	80	24	Green	Clear	Bi-Pin	28V/16.5mA	30V/18mA
C96-NWG120-CGO	Green	520	2400	45	Green	Clear	Bi-Pin	120VAC/3.5mA	130VAC/4mA
C96-R120-CRO	Red	-	-	-	Red	Clear	Bi-Pin	120VAC/3.5mA	130VAC/4mA

Accessory Options

CSH90 (Wiring Plug with Collar)



Part Number

CSH90

L92 (Lens)

90 Series Lens for PS90, PS90T socket and C905, 905



Part Number	Lens Diffusion	Lens Color
L92-CG	Clear	Green
L92-S	-	Smoke

NW9 (Neoprene Mounting Washer)



Part Number

NW9

Accessory Options

PS90 (Solder Terminal)



PS90 - Watertight



Part Number	Lens Diffusion	Lens Color	Watertight
PS90	-	-	-
PS90-L92-CG-WT	Clear	Green	Yes
PS90-L92-CW-WT	Clear	Clear	Yes
PS90-L92-NA-WT	Diffused	Amber	Yes
PS90-L92-NW-WT	Diffused	Clear	Yes
PS90-R-	-	-	-

PS90T (Turret Terminal)



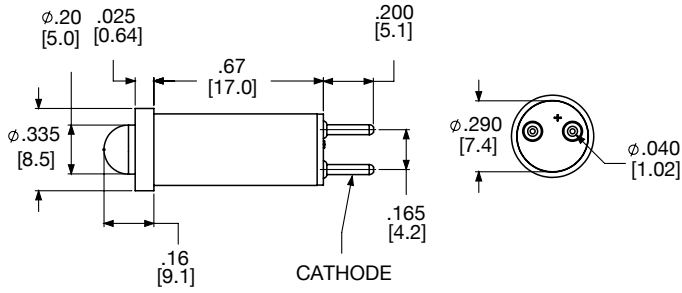
PS90T - Watertight



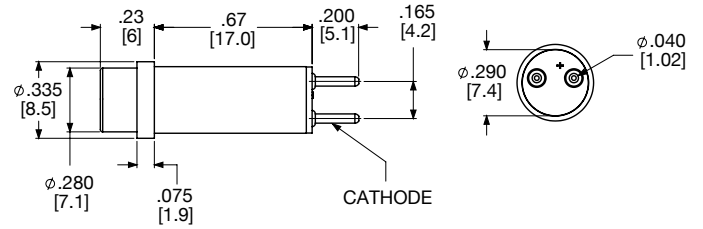
Part Number	Lens Diffusion	Lens Color	Watertight
PS90T	-	-	-
PS90T-L92-NG-WT	Diffused	Green	Yes
PS90T-L92-NR-WT	Diffused	Red	Yes
PS90T-L92-NW-WT	Diffused	Clear	Yes
PS90T-L92-NY-WT	Diffused	Yellow	Yes

Product Dimensions

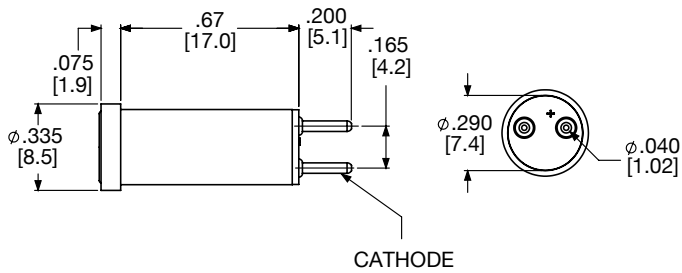
905 (No Lens)



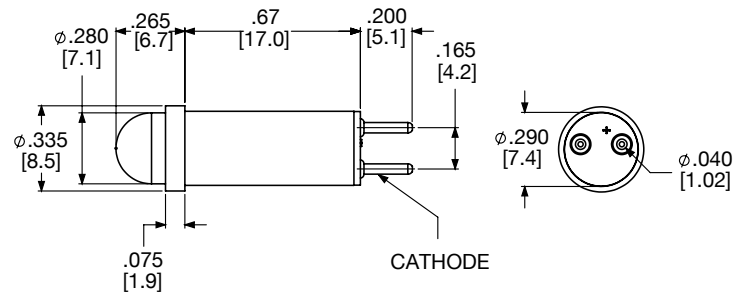
91 (Hi-Hat Lens)



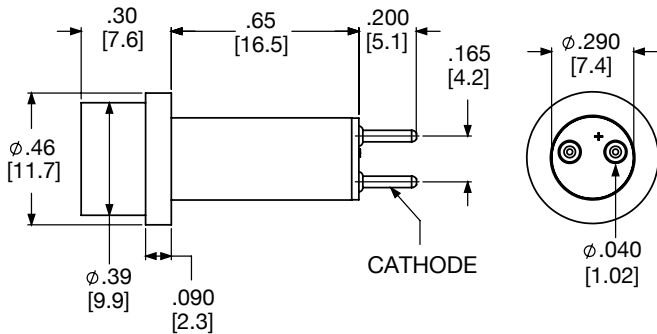
94 (Flush Lens)



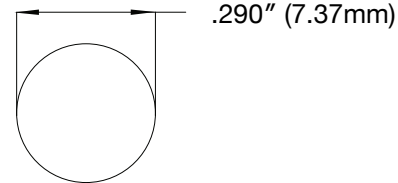
96 (Hi-Dome Lens)



961 (Wide Hi-Hat Lens)



Recommended Mounting Hole

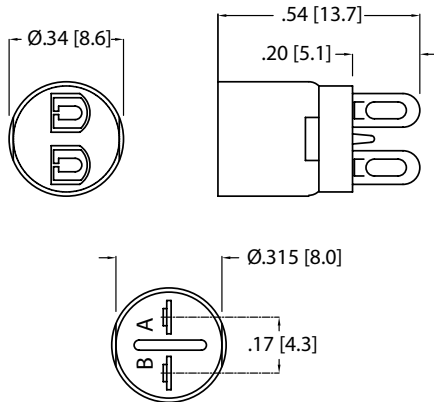


Notes:

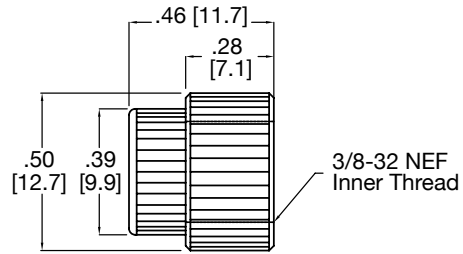
1. All dimensions are in inches [millimeters]
2. Tolerance is $\pm 0.25''$ unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

Product Dimensions

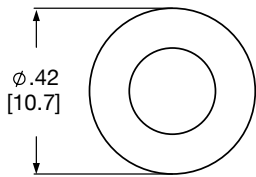
CSH90 (Wiring Plug Collar)



L92 (Lens)



NW9 (Neoprene Mounting Washer)

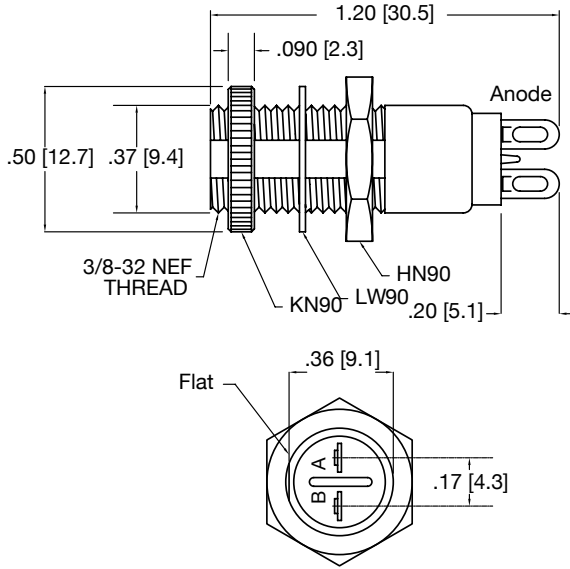


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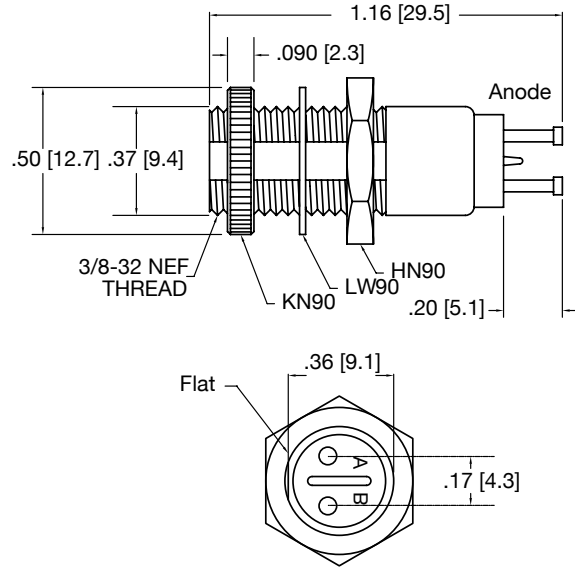
1. All dimensions are in inches [millimeters]
2. Tolerance is $\pm 0.25''$ unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

Product Dimensions

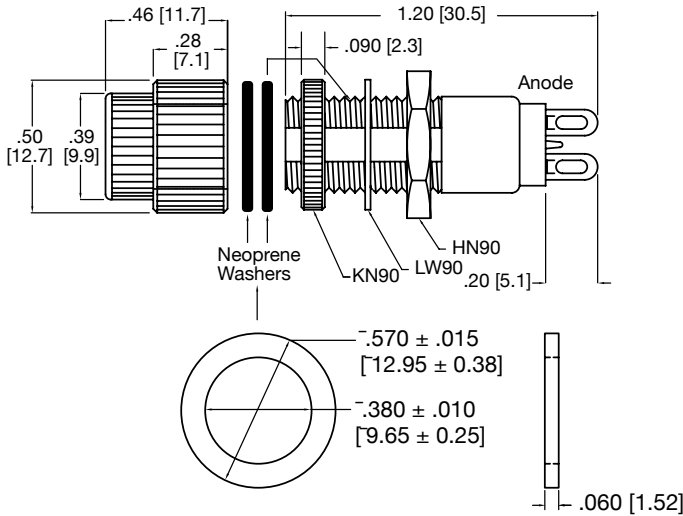
PS90 (Solder Terminal)



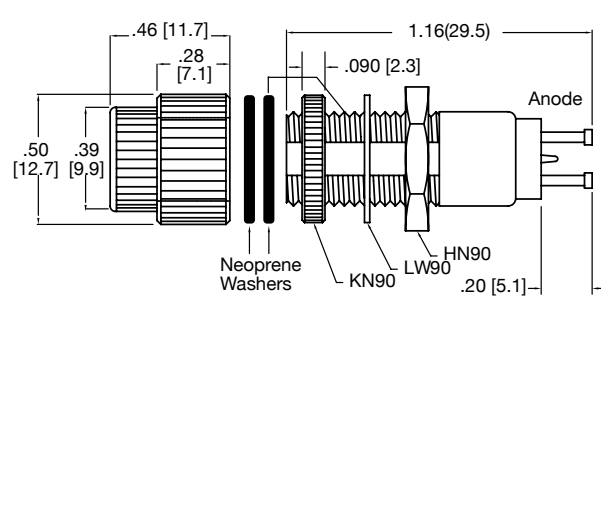
PS90T (Turret Terminal)



PS90 - Watertight



PS90T - Watertight



Mounting Hole Diameter

$\varnothing 0.375"/0.385"$ [$\varnothing 9.525/9.779$]

Maximum Panel Thickness

Max: 0.80" [20.32]

Notes:

1. All dimensions are in inches [millimeters]
2. Tolerance is $\pm 0.25"$ unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

Product Specifications

Materials	
Housing	Black nylon, except 961 & 964 which are white nylon
Lens	Lexan
Pin	Brass
Wire Leads	Tinned copper conductor TPB insulation
NW9	Black neoprene

Installation Specifications	
Mounting Hole	0.290" to 0.291" [7.37 to 7.39]
Panel Thickness	0.25" max
Wire Leads	24 AWG - 300V lead color: red and black 6.0" long min stripped 0.5" nom red anode/black cathode, 24 AWG TPB UL1061 insulation. Contact sales for other lengths, gauges and colors.

Temperature Specifications	
Operating Temperature	-30°C to 60°C
Storage Temperature	-40°C to 100°C

Compliances and Approvals

