

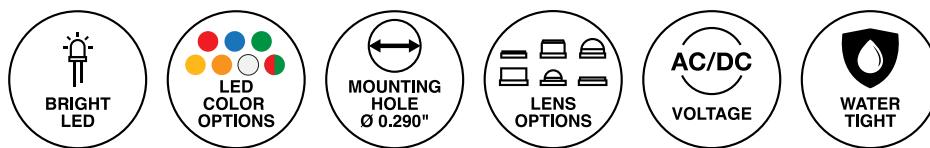
90 Series

0.290" (7.37mm)

LED Panel Mount Indicator



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



Key features

- Built-in LED can be used with DC circuits (5 to 60 VDC) or 120VAC circuits
- Terminal Styles: cartridge, bi-pin and wire leads (6" 24 AWG wire leads)
- Available with a variety of LEDs including AlInGaP and InGaN technology for high brightness applications, bi-color and with integrated resistors
- Available in six LED solid colors: red, green, white, blue, amber, orange and in one bi-color: red/green with or without lens
- Seven lens colors available: red, amber, yellow, green, blue, water clear and smoke
- Offered with a variety of lens options: cylindrical, flush, dome, wide cylindrical or wide flush, all featured with fresnel pattern lens which provide excellent light focus and assure maximum light output
- Spring retainer clip and washer (included) secures uniform placement of the indicator to the panel and is ideal for high vibration environments
- Offered with white or black bezel, where the black bezel enhances LED contrast
- Resistant to shock and vibration
- Mounting hardware provided (spring retainer clip and washer)
- Watertight socket options for splashdown environments
- For use with spring retainer clip (included), socket holder (PS90 or PS90T - sold separately) or wiring plug (SH90 or CSH90 - sold separately)
- Compliant with RoHS and REACH

Ordering Data

TO ORDER, FOLLOW THE EXAMPLE

Part Number: 94-LRG12H-CW0

Mounting hardware included

Select one **BOLD** component from each numbered category in the tables below.

1	Model	2	LED	3	Voltage	4	Lens Diffusion	5	Lens Color	6	Bezel Color
1	94	2	-LRG	3	12H	4	-C	5	W	6	0

1	Cartridge	Bi-Pin	Wire Leads
Housing Black	C ^[1]	905 ^[2] -No lens	W
		91 -Cylindrical	
Housing White		94 -Flush	
		96 -Dome	
		961 -Wide cylindrical	
		964 -Wide flush	

Standard Intensity - Diffused Encapsulation

2	LED	Color	λpk (nm)	lv ^[1] (mcd)	Viewing Angle	V/C Table ^[2]
-BR ^[4]	RED	626	6.1	60	-	
-BA ^[4]	AMB	585	6.5	60	-	
-BG ^[4]	GRN	569	4.7	60	-	

3	Voltage ^[6]
2	5H
5H	12H
12H	15H
15H	24H
24H	28H
28H	48H
48H	60H
60H	120 ^[9]

3	Voltage ^[6]
2	5V/22mA
5H	12V/20mA
12H	15V/24mA
15H	24V/17mA
24H	28V/16.5mA
28H	48V/15mA
48H	60V/9mA
60H	120VAC/3.5mA
120 ^[9]	5.5V/28mA
	14V/25mA
	16.5V/28mA
	26V/20mA
	30V/18mA
	50V/16mA
	65V/10mA
	130VAC/4mA

Medium Intensity - Tinted Encapsulation

LED	Color	λpk (nm)	lv ^[1] (mcd)	Viewing Angle	V/C Table ^[2]
-BCR	RED	626	60	35	-
-BCA	AMB	585	60	35	-
-BCG	GRN	569	70	24	-

3	Voltage ^[6]
2	5V/22mA
5H	12V/20mA
12H	15V/24mA
15H	24V/17mA
24H	28V/16.5mA
28H	48V/15mA
48H	60V/9mA
60H	120VAC/3.5mA
120 ^[9]	5.5V/28mA
	14V/25mA
	16.5V/28mA
	26V/20mA
	30V/18mA
	50V/16mA
	65V/10mA
	130VAC/4mA

High Intensity - Waterclear Encapsulation

LED	Color	λpk (nm)	lv ^[1] (mcd)	Viewing Angle	V/C Table ^[2]
-NWR	RED	634	2800	30	-
-NWO	ORG	605	2000	30	-
-NWA	AMB	592	7500	30	-
-NWG	GRN	520	6500	30	
-NWB	BLU	465	700	45	
-NWW ^[8]	CWHT	6150	30		
-NWL ^[8]	WWHT	4700	30		
-NKR	RED	634	3600	15	-
-NKO	ORG	605	8000	15	-
-NKA	AMB	592	3600	15	-
-NKG	GRN	520	10000	15	
-NKB	BLU	465	9300	20	
-NKW ^[8]	CWHT	27000	20		
-NKL ^[8]	WWHT	9200	15		

3	Voltage ^[6]
2	5V/15mA
5H	12V/15mA
12H	15V/15mA
15H	24V/15mA
24H	28V/15mA
28H	48V/9.5mA
48H	60V/7mA
60H	120VAC/3.5mA
120 ^[9]	5.5V/23mA
	14V/20mA
	16.5V/18mA
	26V/18mA
	30V/17mA
	50V/10mA
	65V/8mA
	130VAC/4mA

Specialty LEDs - Diffused Encapsulation

LED	Color	λpk (nm)	lv ^[3] (mcd)	Viewing Angle	V/C Table ^[5]
-RLP ^[7]	RED	634	2.3	50	[5]
-ALP ^[7]	AMB	583	2.1	50	[5]
-GLP ^[7]	GRN	565	2.3	50	[5]
-LRG ^[8]	RED/GRN	568/640	60/200	35	

6	Bezel Color
0	Black
9	White

[1] For panel lights mounted in the PS90 or PS90T socket (pg. 5). Mounting hardware is included with the socket. Do not select the W option. C and standard pins are not solderable.

[2] Model 905 has no lens. Omit Lens Diffusion and Color (e.g. 905-BG5H-O).

[3] Iv = typical luminous intensity @ If = 20mA [Ta = 25°C]. Iv is measured without lenses. For Low Power LEDs, If = 2mA.

[4] Use with Model 905 only.

[5] See Voltage/Current table for design specifications. Design current for low power LEDs = 2mA.

[6] Ta = 25°C. Voltage "2" indicates external resistor required. Voltages 5H through 60H are VDC. For AC operation, insert D after Voltage (e.g. 24HD). D indicates built-in rectifier; not required for 5H or 120VAC. DC operation not available for 120V. Bi-Color not available in AC voltages.

[7] Omit H when selecting a voltage (e.g. 91-RLP12-CWO).

[8] Select -CW or -NW Lens only.

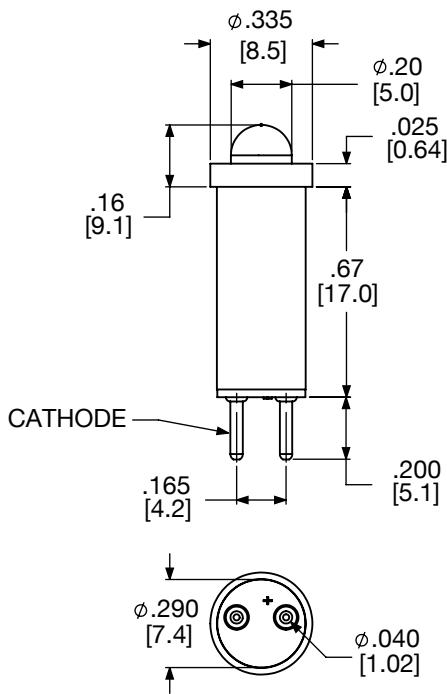
[9] Select high intensity LEDs only.

[10] Omit Lens Diffusion when selecting smoked lens (e.g. 91-NWG24H-S0).

Product Dimensions

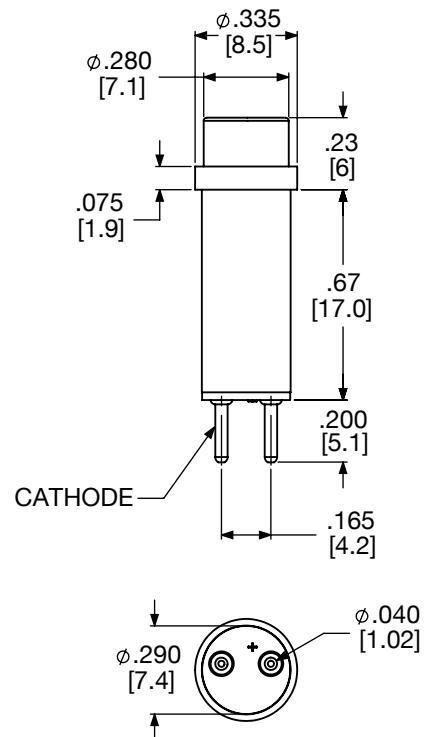
905^[1]

No Lens - Black Housing



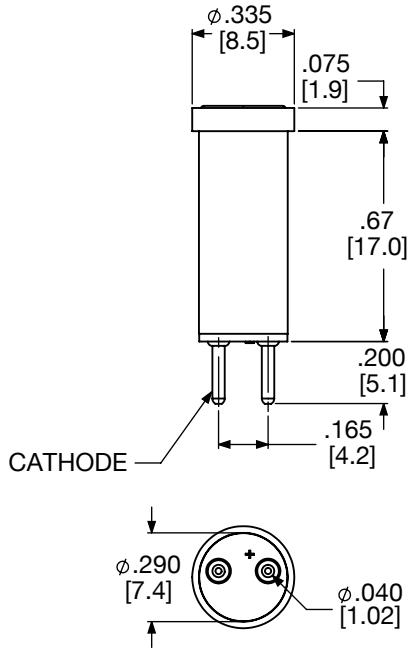
91^[1]

Cylindrical Fresnel Lens - Black Housing



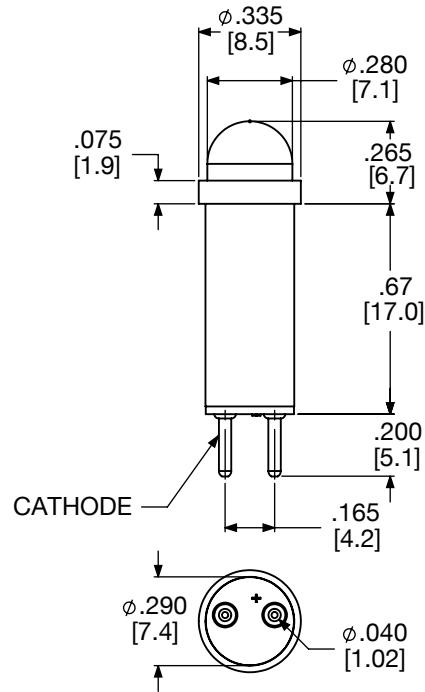
94^[1]

Flush Fresnel Lens - Black Housing



96^[1]

Dome Lens - Black Housing



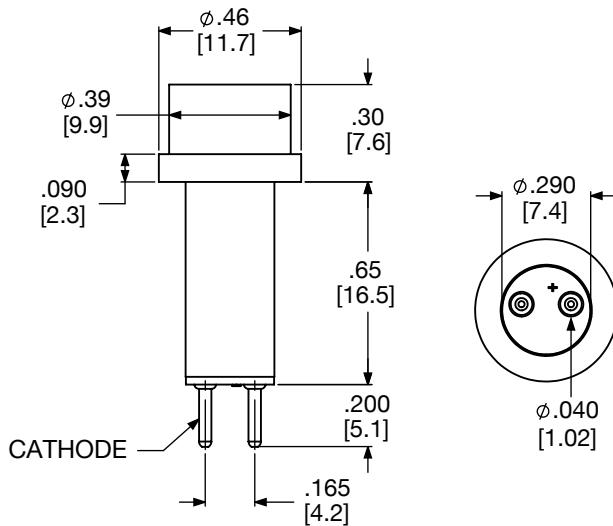
[1] Dimensions for cartridge and bi-pin

Dimensions in inches [mm]

Product Dimensions

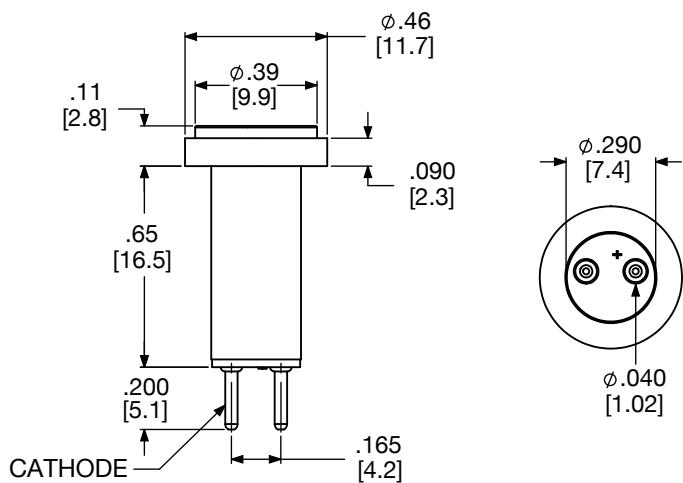
961^[1]

Wide Cylindrical Fresnel Lens - White Housing



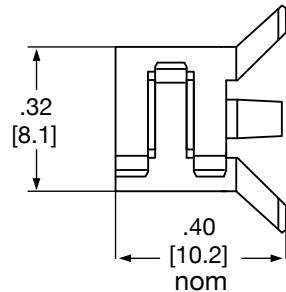
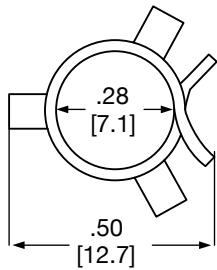
964^[1]

Wide Flush Fresnel Lens - White Housing

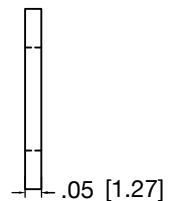
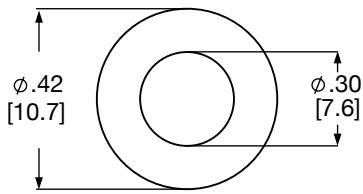


Mounting Hardware (included)

TC9-R-
Spring Retainer Clip



NW5
Mounting Washer



Hardness: 60 Shore A

[1] Dimensions for cartridge and bi-pin

Dimensions in inches [mm]

Accessory Options (order separately)

Lens, Retaining Collar, Wiring Plug for 90 Series

TO ORDER, FOLLOW THE EXAMPLE

Part Number: L92-CR

Select one **BOLD** component from each numbered category in the tables below.

1	Model	2	Lens Diffusion	3	Lens Color
	L92		-C		R

- Mounting Hole Diameter: Ø.375" - Ø.385"
- Panel Thickness: Max: 0.80"

90 Series Sockets & Hardware

1	Model	Description	Mating Components
	L92	90 Series Lens	C905
	PS90^[1]	90 Series Socket, Solder Terminals	C905, C91, C94, C96, C961, C964
	PS90T^[1]	90 Series Socket, Turret Terminals	C905, C91, C94, C96, C961, C964
	RC90-R-	Retaining Collar	PS90, PS90T
	RC90-B-R-	Retaining Collar (Black)	PS90, PS90T
	SH90	Wiring Plug	Wiring Plug
	CSH90	Wiring Plug with collar	905, 91, 94, 96, 961, 964, C905, C91, C94, C96, C961, C964
	TC9-R-	90 Series Spring Retainer Clip ^[3]	905, 91, 94, 96, 961, 964, C905, C91, C94, C96, C961, C964
	NW5	Mounting Washer (neoprene) ^[3]	905, 91, 94, 96, 961, 964, C905, C91, C94, C96, C961, C964

90 Series Lens

(For use with PS90 or PS90T Socket with Model C905 Panel Light)

1	Model	4	Lens Diffusion	5	Lens Color
	L92		-C Clear		R Red
			-N Diffused		A Amber
					Y Yellow
					G Green
					B Blue
					W Water Clear
					-S Smoke [2]



RC90-R-



SH90



L92

[1] Hardware Assembled, for watertight option see page 6

[2] Omit Lens Diffusion Code (e.g. L92-S).

[3] Mounting hardware included

Watertight Accessory Options (order separately)

Watertight Sockets for model C905 or 905

TO ORDER, FOLLOW THE EXAMPLE

Part Number: **PS90T-L92-CY-WT**

Select one **BOLD** component from each numbered category in the tables below.

1	Socket Model	2	Lens Model	3	Lens Diffusion	4	Lens Color	5	Water Tight
	PS90	-L92		-C		Y			-WT

- For Splash Down Environments (not submersible)
- Mounting Hole Diameter: Ø.375" - Ø.385"
- Panel Thickness: Max: 0.80"

1	Socket Model	2	Lens Model	3	Lens Diffusion	4	Lens Color	5	Water Tight
	PS90 PS90T		-L92		-C Clear -N Diffused		R Red A Amber Y Yellow G Green B Blue W Water Clear -S Smoke [1]		-WT



PS90-L92-S-WT



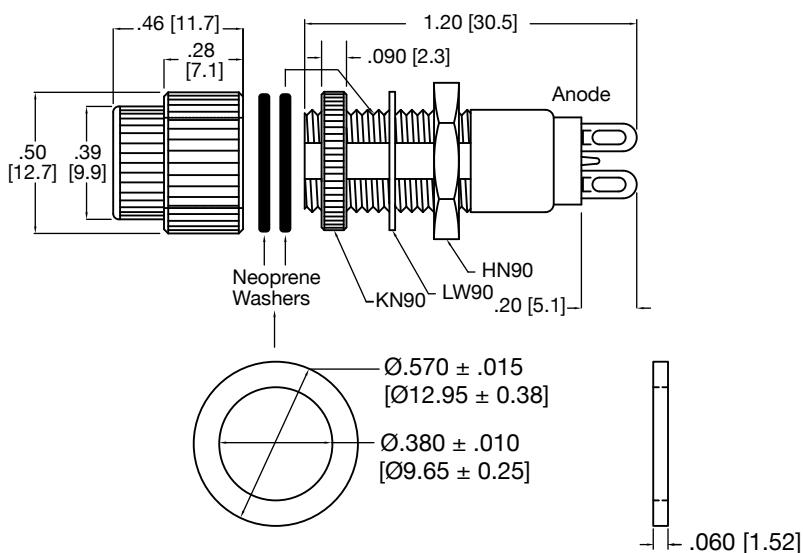
PS90T-L92-NG-WT

[1] Omit Lens Diffusion Code (e.g. PS90T-L92-S-WT).

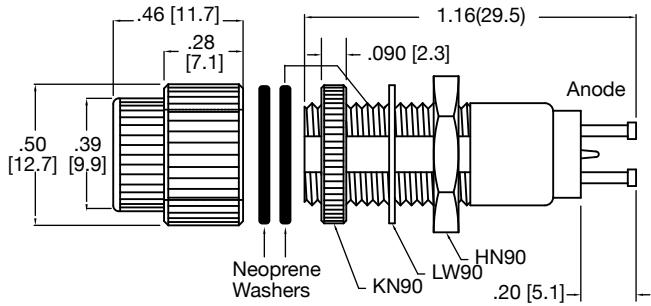
Dimensions in inches [mm]

Accessory Product Dimensions

PS90, Watertight

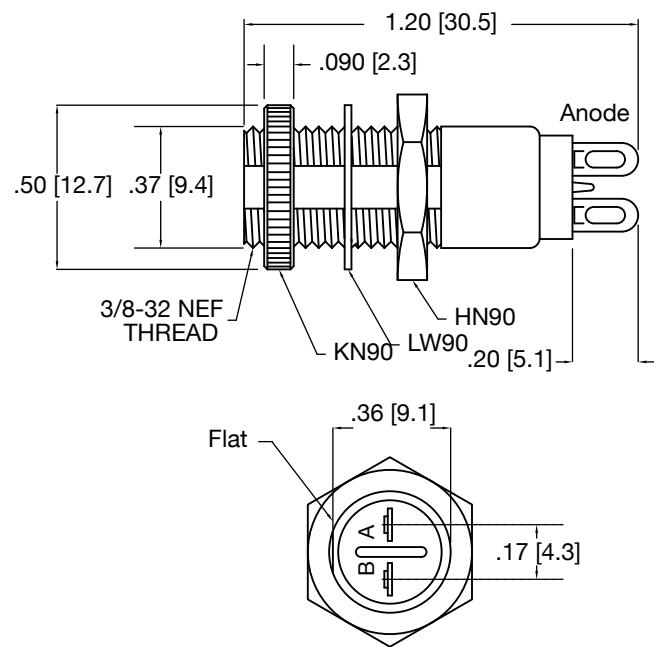


PS90T, Watertight



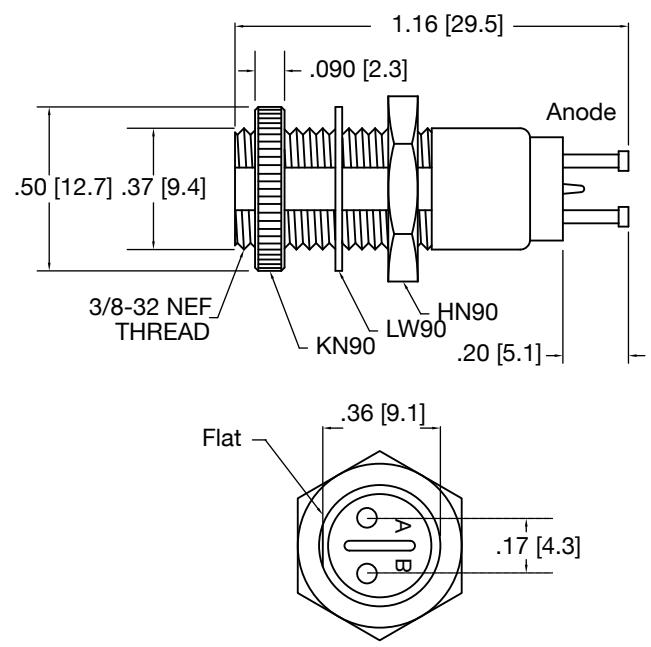
PS90

90 Series Socket, Solder Terminals



PS90T

90 Series Socket, Turret Terminals



Mounting Hole Diameter

Ø 0.375"/0.385" [Ø 9.525/9.779]

Maximum Panel Thickness

Max: 0.80" [20.32]

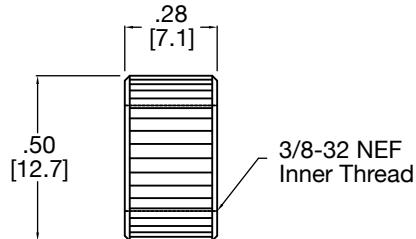
Dimensions in inches [mm]

Accessory Product Dimensions

RC90-R- (aluminum)

RC90-B-R- (black anodized aluminum)

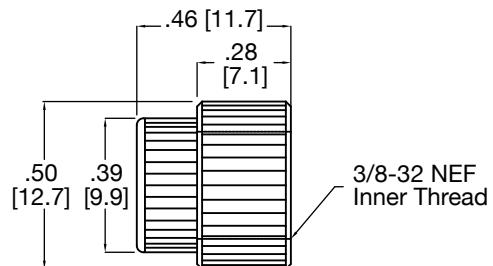
Retaining Collar for PS90 and PS90T



Only for use with PS90, PS90T

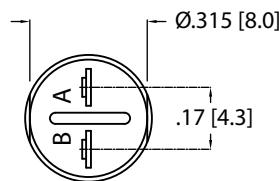
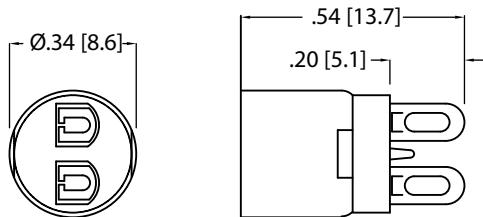
L92

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



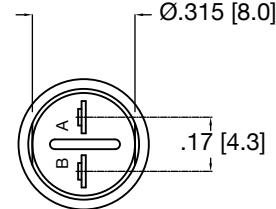
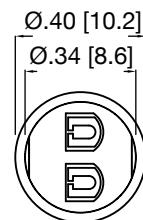
SH90

Wiring Plug



CSH90

Wiring Plug with Collar



Dimensions in inches [mm]

Product Specifications

Materials		Installation Specifications	
Housing	Black nylon, except 961 & 964 which are white nylon	Mounting Hole	0.290" to 0.291" [7.37 to 7.39]
Lens	Lexan	Panel Thickness	0.25" max
Pin	Brass		
Wire Leads	Tinned copper conductor TPB insulation	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.
TC9-R-	High carbon spring steel zinc plate finish		
NW5	Black neoprene		
RC90-R-	Aluminum		
RC90-B-R-	Black Anodized Aluminum		

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

Dimensions in inches [mm]

Compliances and Approvals

