900 Series Cartridge Type LED Lamps

Overview

The 900 Series LED cartridge lamp mates with 910 Series lampholders. Constructed with an aluminum case, 900 Series LED lamps are noted for high resistance to shock and vibration, long life, and low power requirements. These may be ordered with multiple lens styles and lens colors.

Approvals

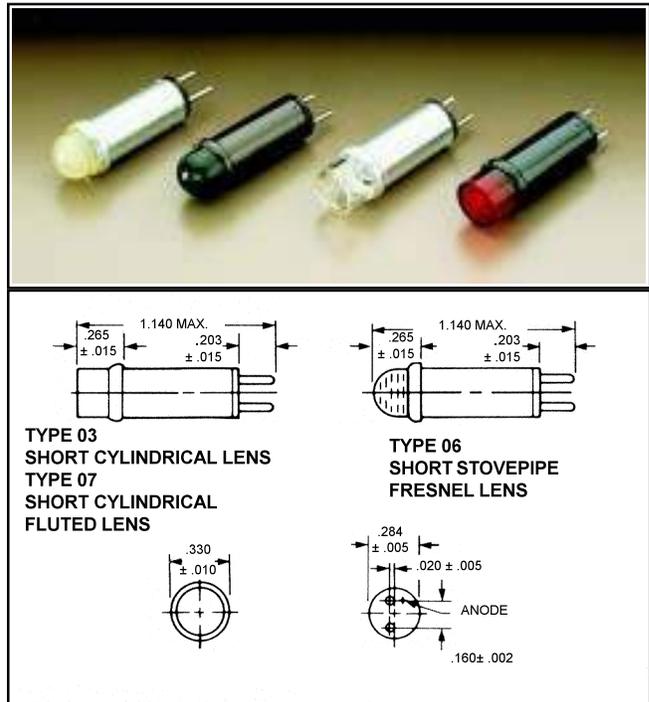UL Recognized (Check note 9 for exceptions)

Specifications

Sleeve: Aluminum. Black anodized finish standard; clear anodized finish optional.
Termination: .040" diameter stainless steel pins mounted in a nylon header. The anode is identified on the header as the + pin connection.
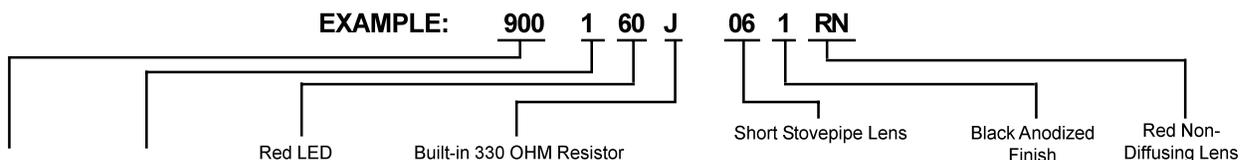**LED DC Voltage options:** 1.8 to 28 volts.
Lens: Heat resistant, high strength polycarbonate.
Lens Marking: Cylindrical lenses may be stamped. Contact factory.

TYPE 03
SHORT CYLINDRICAL LENS
TYPE 07
SHORT CYLINDRICAL FLUTED LENS

TYPE 06
SHORT STOVEPIPE FRESNEL LENS

1.140 MAX. .265 ± .015 .203 ± .015
.330 ± .010
.284 ± .005
.020 ± .005
ANODE
.160 ± .002

ORDERING INFORMATION:

EXAMPLE: 900 1 60 J 06 1 RN

- Red LED
- Built-in 330 OHM Resistor
- Short Stovepipe Lens
- Black Anodized Finish
- Red Non-Diffusing Lens

Series Number	Termination	Lamp Code	Resistor			Lens Type	Sleeve Finish	Lens Color
			Code	Current	Volts			**Nondiffusing (Clear)**
900	1	60 (Red LED)	**Nominal 10 mA**			03 Short Cylindrical	1	**CN** Colorless (60,66,68)[3]
	Stainless steel pins standard		X	NONE	1.8		Black Anodized-standard	**WN** White (60,66,68)[3]
			U	200 OHM	3.6	06[2] Short Stovepipe Fresnel		**AN** Amber (68)[3]
		6 6 (Green LED)	J[9]	330 OHM	5			**GN** Green (66)[3]
	A		W	430 OHM	6	07[2] Short Cylindrical Fluted	2	**RN** Red (60)[3]
			Y	820 OHM	10			**YN** Yellow (68)[3]
	Tin-plated stainless steel pins for printed circuit board mounting		K[9]	1000 OHM	12		Clear (Silver) Anodized	
			G[9]	1200 OHM	14			
		6 8 (Yellow LED)	L[9]	2700 OHM	28			
			Nominal 20 mA					
			V	100 OHM	3.6			
			M[9]	180 OHM	5			
			P	220 OHM	6			
			Z	390 OHM	10			
			N[9]	620 OHM	14			
			H[9]	1300 OHM	28			

[2] Recommended for best light distribution.
[3] Lamp Code Number. When specifying lens color, use only with lamp codes shown.
[9] Not UL Recognized

900 Series Cartridge Type Incandescent Lamps

Overview

The 900 Series incandescent cartridge lamp mates with 910 Series lampholders. Constructed with an aluminum case, 900 Series incandescent lamps are noted for high brightness. These may be ordered with multiple lens styles and lens colors.
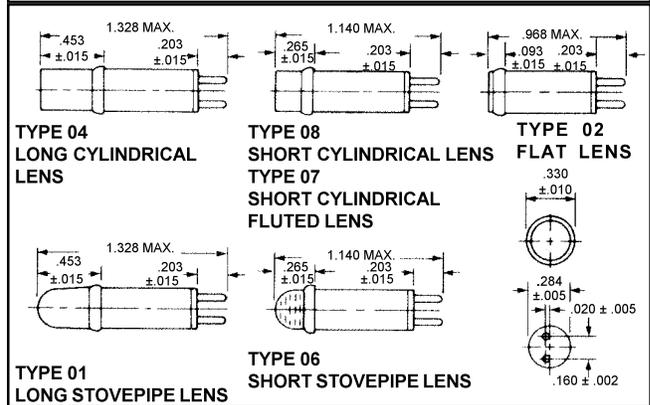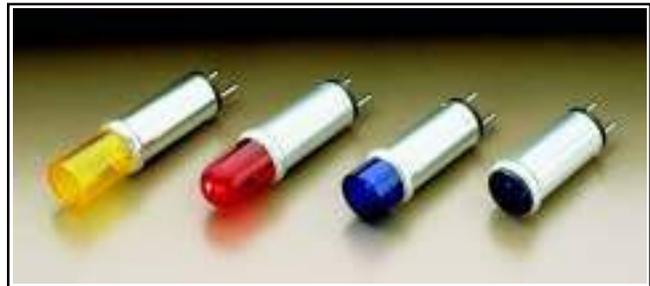
Approvals

UL Recognized .

Specifications

Sleeve: Aluminum. Clear anodized finish standard; black anodized finish optional.

Termination: .040" diameter stainless steel pins mounted in a nylon header.

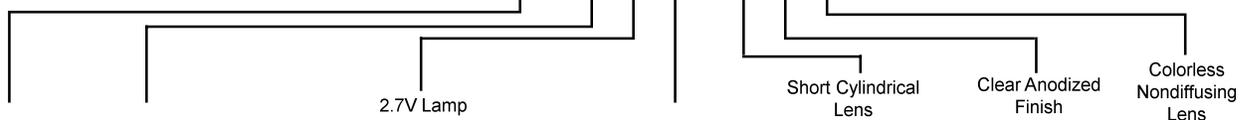**Incandescent AC or DC Voltage options:** 1.35 to 28 volts.

Lens: Heat resistant, high strength polycarbonate. Translucent lens colors are normally used for incandescent cartridge lamps as they give an evenly diffused light over the lens surface. When Type 08 (short cylindrical) lens is used in the 910 Series holder with a screw-on lens cap, specify "colorless nondiffusing" for 08 lens color.

Lens Marking: Cylindrical lenses may be stamped. Contact factory.

TYPE 04
LONG CYLINDRICAL LENS

TYPE 08
SHORT CYLINDRICAL LENS
TYPE 07
SHORT CYLINDRICAL FLUTED LENS

TYPE 02
FLAT LENS

TYPE 01
LONG STOVEPIPE LENS

TYPE 06
SHORT STOVEPIPE LENS

ORDERING INFORMATION:

EXAMPLE: 900 1 06 X 08 2 CN

2.7V Lamp

Short Cylindrical Lens

Clear Anodized Finish

Colorless Nondiffusing Lens

Series Number	Termination	Lamp					Resistor	Lens Type		Sleeve Finish	Lens Color	
		Code	Volts	MA	MSCP	Life (Hrs)						
900	**1** Stainless steel pins standard **A** Tin-plated stainless steel pins for printed circuit board mounting	05[2] 06[2] 07[2] 17 10 16 11 01 12 02 08[2] 09[2] 18 13 03 20[2] 21[2] 14 15 19 04	1.35 2.7 3.0 5.0 6.0 6.0 6.0 6.3 6.3 6.3 10.0 10.0 12.0 14.0 14.0 14.0 18.0 18.0 28.0 28.0 28.0	60 60 15 60 40 60 200 40 200 200 14 40 40 80 80 17 20 40 40 40 40	.01 .04 .003 .03 .04 .13 .60 .03 .55 .40 .006 .08 .10 .50 .30 .03 .08 .15 .34 .15 .30	3,000 6,000 10,000 30,000 10,000 3,000 1,000 20,000 5,000 20,000 50,000 5,000 10,000 1,500 15,000 25,000 15,000 10,000 4,000 10,000 7,000	**X** (NONE)	01[3] Long Stovepipe 02[4] Flat 04 Long Cylindrical 06[5] Short Stovepipe Fresnel 07[5] Short Cylindrical Fluted 08[4] Short Cylindrical	**1** Black Anodized **2** Clear (Silver) Anodized standard	**Nondiffusing (Clear)** **AN** Amber **BN** Blue **CN** Colorless **GN** Green **RN** Red **WN** White (Cloudy) **YN** Yellow **Translucent** **AT** Amber **BT** Blue **GT** Green **RT** Red **WT** White **YT** Yellow	

[1] **MSCP - Mean Spherical Candle Power.**

[2] **Because of relatively low light output, these lamps should be used with non-diffusing (clear) lens colors only. Lamp ratings are compiled from a leading lamp manufacturer's catalog.**

[3] **Best suited for wide angle viewing.**

[4] **For High Temperature application, contact factory.**

[5] **Nondiffusing lens colors only. Types 06 and 07 are recommended for best light distribution.**

900/901 Series Cartridge Type Neon Lamps

Overview

The 900 Series neon cartridge lamp mates with 910 Series lampholders. Constructed with an aluminum case, the 900/901 series neon lamps are ideally suited for 125 volt applications. The 901 series cartridge lamps are 0.125" longer than the 900 series to accept blue or green neon lamps and mate with the 911 series lampholders. Please consult the table below.

Approvals

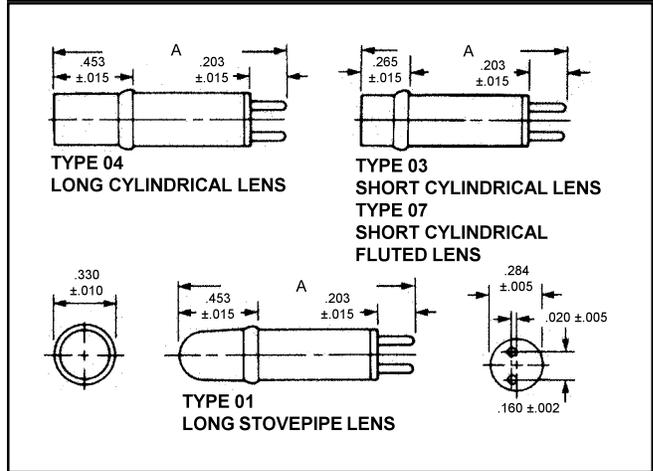UL Recognized (Check note 9 for exceptions)

Specifications

Sleeve: Aluminum. Clear anodized finish standard. Black anodized finish optional.

Termination: .040" dia. stainless steel pins mounted in nylon header.

Voltage options: Std. Brightness, 105 to 125 AC or DC volts. **High Brightness**, 110 to 125 AC volts. **Green Neon**, 115 to 125 AC or DC volts. **Blue Neon**, 105 to 125 AC volts or 105 to 150 DC volts.
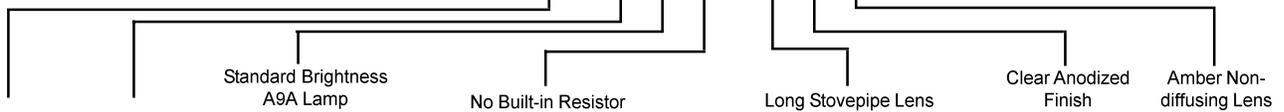
Lens: Heat resistant, high strength polycarbonate. When type 03 (short cylindrical) lens is used in a 910 or 911 Series holder with a screw-on lens cap, specify "colorless nondiffusing" for 03 lens color. **Lens Marking:** Cylindrical lenses may be stamped. Contact factory.

TYPE 04 LONG CYLINDRICAL LENS

TYPE 03 SHORT CYLINDRICAL LENS
TYPE 07 SHORT CYLINDRICAL FLUTED LENS

TYPE 01 LONG STOVEPIPE LENS

Lens Type	Dimension A in Inches (Max.)	
	900 Series	901 Series
01	1.328	1.453
03	1.140	1.265
04	1.328	1.453
07	1.140	1.265

ORDERING INFORMATION:

EXAMPLE: 900 1 50 X 01 2 AN

- Standard Brightness A9A Lamp
- No Built-in Resistor
- Long Stovepipe Lens
- Clear Anodized Finish
- Amber Non-diffusing Lens

Series Number	Termination	Lamp Code	Resistor		Lens Type		Sleeve Finish	Lens Color
			Code	Internal Resistor Value				
900	**1** Stainless steel pins standard	Note: Reference Lamp Selection Guide.	X[5]	No Built-In Resistor	**01**[6]	Long Stovepipe	**1** Black Anodized	**Nondiffusing (Clear)**
		52[1] Standard Brightness A1B	C	56K OHM, 3K Life Hrs.				**AN** Amber
			E[9]	100K OHM, 15K Life Hrs.	**03**	Short Cylindrical		**CN** Colorless
			T	150K OHM, 25K Life Hrs.				**RN** Red
901		**53**[1] High Brightness A1C	X[5]	No Built-In Resistor	**04**	Long Cylindrical	**2** Clear (Silver) Anodized Standard	**WN** White
			A	22K OHM, 5K Life Hrs.				**YN** Yellow
			S	33K OHM, 25K Life Hrs.	**07**[7]	Short Cylindrical Fluted		**BN**[8] Blue
	A Tin-plated stainless steel pins for printed circuit board mounting		C	56K OHM, 25K Life Hrs.				**GN**[8] Green
		50[2] Standard Brightness A9A (NE2E)	X[5]	No Built-In Resistor				
		51[2] High Brightness C2A (NE2H)	X[5]	No Built-In Resistor				
		56[3] Green Neon	B	30K OHM, 10K Life Hrs.				
		57[4] Blue Neon	B	30K OHM, 10K Life Hrs.				

[1] Use with lens colors AN, CN, RN, WN, or YN.
[2] For use on 900 series only with type 01 and 04 lenses.
[3] For use on 901 series only with lens colors GN, CN, or WN.
[4] For use on 901 series with lens colors BN, CN, or WN.
[5] External resistor required.
[6] Best suited for wide angle viewing.
[7] Recommended for best light distribution.
[8] For 901 series only when used with blue or green lamp respectively.
[9] Not UL Recognized