



COLE INSTRUMENT CORPORATION IS PROUD TO OFFER A ROTARY SWITCH WITH ILLUMINATION THROUGH THE END OF THE SHAFT FRONT. THIS CAN BE USED TO LIGHT UP ANY PART OF THE ROTARY SWITCH'S KNOB.

The Innovative Switch Company

The Series IP3900 and IS3900 switch offers maximum and optimum visibility at sunlight with minimum power levels. And at night, there is zero light leakage through the length of the switch.

An LED (Light Emitting Diode) or an incandescent lamp is on the back end of the switch body, and a light pipe or fiber optics brings the concentrated light through the switch to the shaft front.

Light can meet most chromaticity or intensity requirements. The light can be an LED or a T1 incandescent lamp.

The switch features good heat sinking capabilities, and delivers up to twice the light intensity of units at equivalent power levels. On light failure, reclamping can be done by the customer. Cole can provide the replacement assembly.

This switch can be used in airborne, shipboard, and submarine panel control displays and meets the brightness requirements of high altitude aircraft, as well as the MIL-DTL-901C shock requirement for submarines and ships.

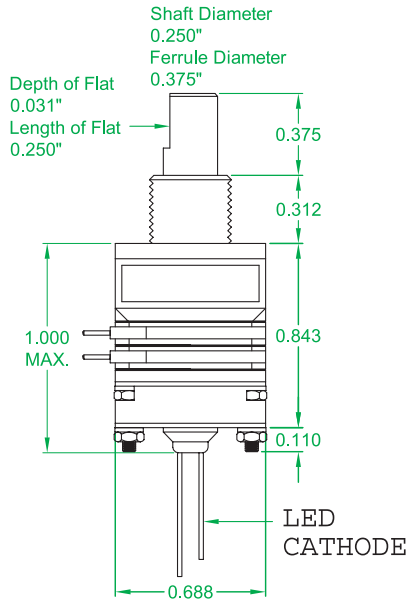


IP3900 & IS3900 SERIES

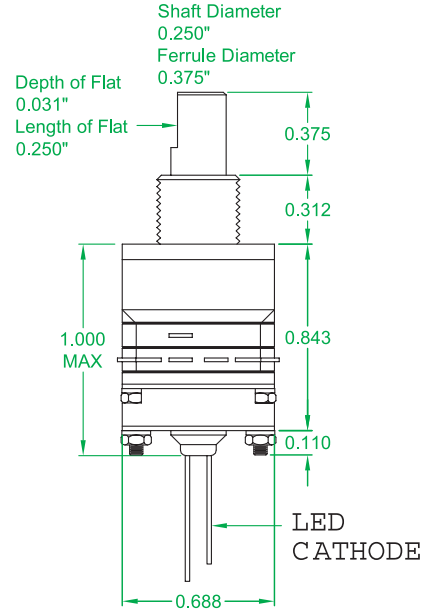
Illuminated Shaft, One Inch Diameter Body

IP3900 & IS3900 SERIES

Illuminated Shaft, One Inch Diameter Body



IP3900 Illuminated Switch
(See Page 3)



IS3900 Illuminated Switch
(See Page 4)

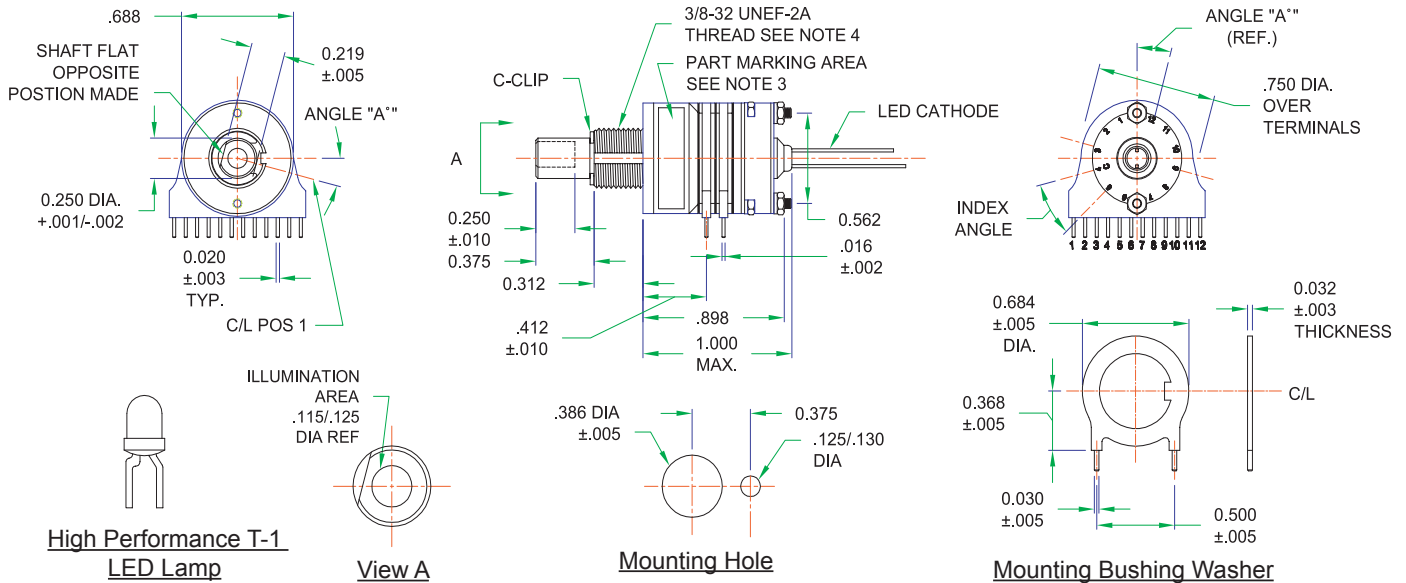
NOTE:

IP3900 Illuminated Switch - .250 Shaft Dia., .375 Ferrule Dia., .688 Body Dia., (See Page 3).

IS3900 Illuminated Switch - .250 Shaft Dia., .375 Ferrule Dia., .688 Body Dia., (See Page 4).

IP3900 & IS3900 SERIES

Illuminated Shaft, One Inch Diameter Body



INDEX	A° ± 1°	NUMBER OF POSITIONS	NUMBER OF POLES	NUMBER OF DECKS
30°	15°	12	1-2-3-4-6	1 deck = .725 ± .050 add .220 to the length for each additional deck. 6 decks maximum (see note no. 5)
36°	18°	10	1-2	

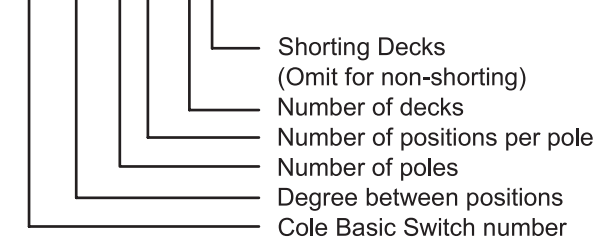
NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerances are ±.02 and ±2° on angles.
3. Switch shall be marked with Cole P/N, Cage Code, Date Code and terminal identification.
4. Mounting hardware shall consist of one (1) hex nut, IAW MS25082, one (1) internal tooth lock washer, IAW MS35333, and one (1) non-turn key washer.
5. Switch can have up to six (6) decks. Add 0.220 to the length for each additional deck.
6. Optional 0.432 non-turn key washer available.
7. Switch shown is with an LED for illumination. For incandescent lamp application, contact factory.

ORDERING INFORMATION

Sample Code

IP39 30 - 1 12 - 1 S



Switch shown in the sample code is 30° indexing, 1 pole per deck, 12 positions per pole, 1 deck with shorting type contact.

OPTIONS

The following options can be added to the standard switch. When ordering, simply add the letters after the basic part number.
 A = Adjustable stops (Special, extra charge).
 F = Fixed stops between the first and last position on a full-turn switch.
 G = RFI-EMI shielding.
 P = Panel and shaft seals.
 S = Shorting (available in all configurations).
 Y = Optional .432 Non-turn washer.
 Screw terminals available. (Contact factory for special part number)



COLE
INSTRUMENT CORP.

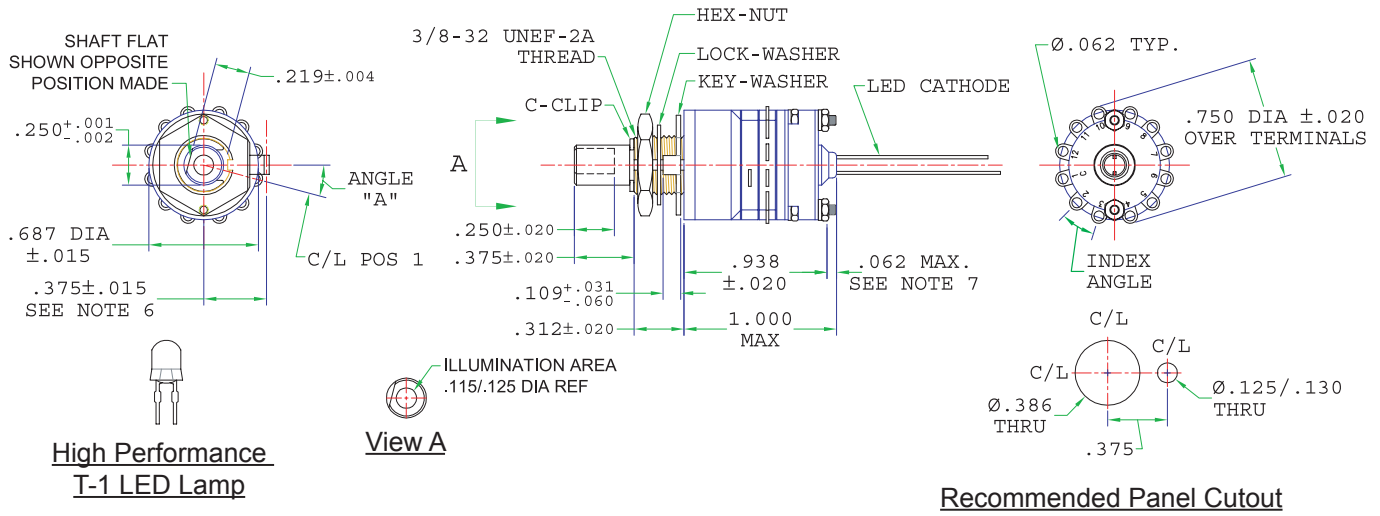
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www.cole-switches.com
 ISO9001 CERTIFIED

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IP3900 & IS3900 SERIES

Illuminated Shaft, One Inch Diameter Body



High Performance
T-1 LED Lamp

View A

Recommended Panel Cutout

1/4 in. SHAFT ONLY				
INDEX ANGLE	A°±1°	Number of Positions	Number of Poles	Number of Decks
30°	15°	12	1-2-3-4-6	1 deck to 6 decks maximum (see note no. 5)
36°	36°	10	1-2	
45°	22°30'	8	1-2-4	
60°	15°	6	1-2-3	
90°	22°30'	4	1-2	

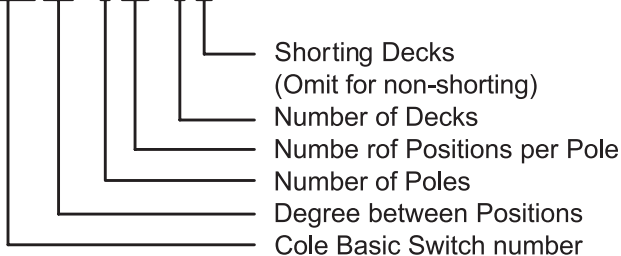
NOTES:

1. Dimensions are in inches.
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6. Optional 0.432 non-turn key washer.
7. Switch shown is with an LED for illumination. For incandescent lamp application, contact factory.

ORDERING INFORMATION

Sample Code

IS39 30 - 1 12 - 1 S



Switch shown in the sample code is 30° indexing, 1 pole per deck, 12 positions per pole, 1 deck with shorting type contact.

OPTIONS

The following options can be added to the standard switch. When ordering, simply add the letters after the basic part number.

- A = Adjustable stops (Special, extra charge).
 - F = Fixed stops between the first and last position on a full-turn switch.
 - G = RFI-EMI shielding.
 - P = Panel and shaft seals.
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IP3900 & IS3900 SERIES

Illuminated Shaft, One Inch Diameter Body

Series IP3900 & IS3900 Technical Data

Specification	Unit	Value	Note:
Military Specifications		MIL-DTL-3786 style SR39	
Continuous (Non-Switching) Current Carrying Capacity	Amps	5	
Switching Current Capacity at 28 VDC resistive	Amps	1.000	at Atmospheric pressure with 85°C and at reduced Barometric pressure with 25°C
Switching Current Capacity at 115 VAC resistive	Amps	1.000	
Switching Current Capacity at 28 VDC inductive (2.8 H.)	Amps	0.500	
Switching Current Capacity at 28 VDC resistive	Amps		
Switching Current Capacity at 115 VAC resistive	Amps		
Low Level max. capacity	mA		
Dielectric Strength, min.	VRMS	750	
Contact resistance, max. (initial)	milliohms (mΩ)	2	
Contact resistance, max. (after life)	milliohms (mΩ)		
Insulation resistance, min. (initial)	megaohms (MΩ)	100,000	
Insulation resistance, min. (after life)	megaohms (MΩ)		
Switching Life	cycles	25,000	switching 5 amps at 120 VAC.
Mechanical Life	cycles	100,000	
Rotational Torque, min.	inch ounces	8	
Rotational Torque, max.	inch ounces	32	
Mounting Ferrule Strength	inch pounds	10	
Weight	grams	15	15 gram one deck switch + 2 grams/deck
Molded Parts		thermoplastic	
Contact Surfaces		Gold plated	.00003 gold over pure silver
Altitude	feet	80000	typical pressure at 80,000 feet: 0.4 psi
Temperature, min.	degrees Celsius	-55	
Temperature, max.	degrees Celsius	125	
Vibration Tested		Per MIL-S-3786	MIL-STD 202, Method 204, test condition B, vibration grade 3
Impact Shock, Medium		Meets	MIL-STD 202; Method 213
Impact Shock, High		Meets	at 100g, MIL-STD 202, Method 207
Moisture Resistant		Meets	MIL-STD 202; Method 106
Salt Spray Resistant		Meets	MIL-STD 202, Method 101, Condition "B"
Explosion Proof		Meets	MIL-STD 202, Method 109
Immersion		Meets	3 feet water, MIL-STD-202, method 104, test condition "C"
EMI/RFI		Meets	MIL-DTL-3786, 2 ohms Shaft to ground max.
LED Specifications			
Hewlett Packard P/N			HLMA-KH00
Current	Amps	0.02	
Voltage	VDC	2.4	
Brightness	MCD	200	35 min
Wavelength	mm	615	