

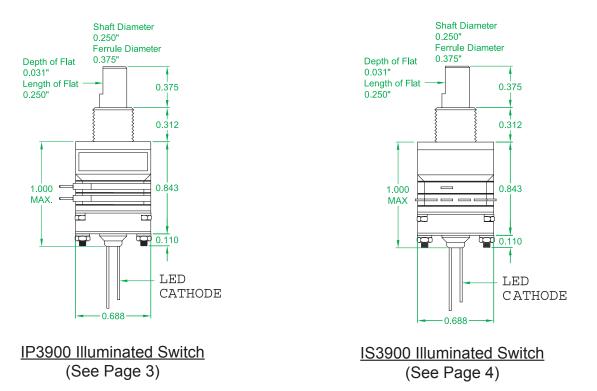
ISO9001 CERTIFIED

IP3900 & IS3900 SERIES

Illuminated Shaft, One Inch Diameter Body

Oole 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. 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. 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. 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-S-901C shock requirement for submarines and ships.



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).



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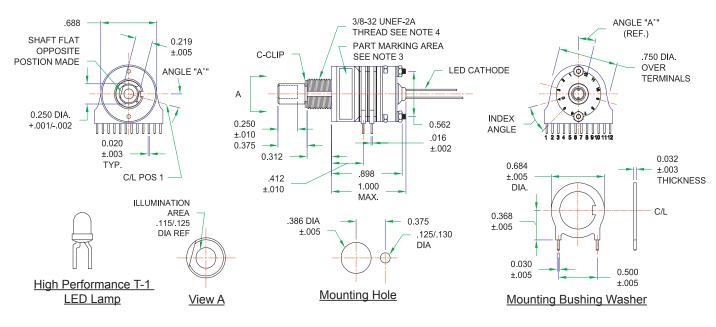


TABLE 2 (FOR 1/4 IN. SHAFT ONLY)					
INDEX	A° ± 1°	NUMBER OF POSITIONS	NUMBER OF POLES	NUMBER OF DECKS	
30°	15°	12		1 deck = .725 ± .050 add .220	
36°	18°	10		to the length for each additional deck. 6 decks	
45°	22°30'	08	1-2-4	maximimum (see note no. 5)	

NOTES:

1. Dimensions are in inches.

2. Unless otherwise specified, tolerances are $\pm .02$ and $\pm 2^{\circ}$ 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.

Image: Second systemShorting Decks (Omit for non-shorting) Number of decks Number of positions per pole Number of poles Degree between positions Cole Basic Switch numberpart number. $A = Adjustable stops (Special, extra charge).F = Fixed stops between the first and last position on afull-turn switch.G = RFI-EMI shielding.L = Low level.P = Panel and shaft seals.S = Shorting (available in all configurations).Y = Optional .432 Non-turn washer.$	(Omit for non-shorting) Number of decks Number of positions per pole Number of poles Degree between positions Cole Basic Switch number Switch shown in the sample code is 30° indexing, 1 pole per	 A = Adjustable stops (Special, extra charge). F = Fixed stops between the first and last position on a full-turn switch. G = RFI-EMI shielding. L = Low level. P = Panel and shaft seals. S = Shorting (available in all configurations). 	
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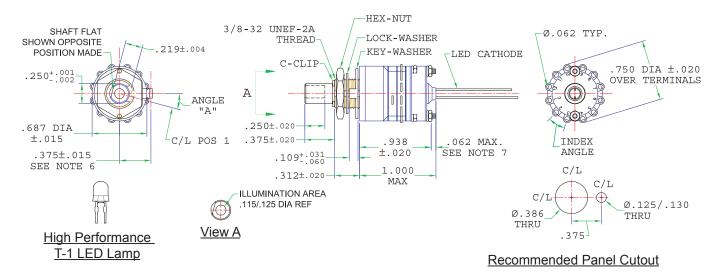
deck, 12 positions per pole, 1 deck with shorting type contact.

minals available. (Contact factory for special part number)



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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			
36° 36°		10	1-2	1 deck to 6 decks		
45° 22°30'		8	1-2-4	maximum (see note		
60°	15°	6	1-2-3	no. 5)		
90°	22°30'	4	1-2			

NOTES:

- 1. Dimensions are in inches.
- 2. Unless otherwise specified, tolerances are $\pm .02$ and $\pm 2^{\circ}$ 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 <u>IS39 30 - 1 12 - 1 S</u> (Omit for non-shorting) Number of Decks Number of Positions per Pole Number of Poles Degree between Positions Cole Basic Switch number	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. L = Low level. P = Panel and shaft seals. S = Shorting (available in all configurations). Y = Optional .432 Non-turn washer.
Switch shown in the sample code is 30° indexing, 1 pole per	Screw terminals available. (Contact factory for special

deck, 12 positions per pole, 1 deck with shorting type contact.

part number)



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Series IP3900 & IS3900 Technical Data

Specification	Unit	Value	Note:	
Military Specifications		MIL-S-3786 style SR39		
Continuous (Non-Switching) Current Carrying Capacity	Amps	5		
Switching Current Capacity at 28 VDC resistive	Amps	1.000		
Switching Current Capacity at 115 VAC resistive	Amps	1.000		
Switching Current Capacity at 28 VDC inductive (2.8 H.)	Amps	0.500	at Atmospheric pressure with 85°C and at reduced Barometr pressure with 25°C	
Switching Current Capacity at 28 VDC resistive	Amps			
Switching Current Capacity at 115 VAC resistive	Amps			
Low Level max. capacity	mA		at 30 millivolts DC max.	
Dielectric Strength, min.	VRMS	750		
Contact resistance, max. (initial)	milliohms (m Ω)	2		
Contact resistance, max. (after life)	milliohms (m Ω)			
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-S-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		



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