# VISHAY.

**Vishay Spectrol** 

## Industrial Rotary Position Sensor Bushing Mount Type, Conductive Plastic



### FEATURES

- Fully sealed for high immunity to environmental damage
- Excellent temperature stability
- Rotational life exceeds 2 million revolutions
- Low cost and wide range of options
- Stainless steel shaft
- Shock to 30 G's vibration to 15 G's at 10 to 2000 Hz

ELECTRICAL SPECIFICATIONS		
PARAMETER		
Standard Resistance	1 kΩ to 100 kΩ	
Capability Range	200 kΩ	
Resistance Tolerance	± 20 %	
Linearity	± 2 %	
Power Rating	1.0 W at 85 °C	
Electrical Travel	240° ± 4°	
Dielectric Withstanding	500 V <sub>RMS</sub> at 60 Hz minimum	
Output Smoothness	0.2 % maximum	

MECHANICAL SPECIFICATIONS		
PARAMETER		
Bearing Type	Sleeve	
Mechanical Rotation	250° ± 2°	
Stop Strength	10 in - Ib minimum 11.5 kg/cm	
Starting Torque	3.0 o.z - in maximum 216 g/cm	
Running Torque	3.0 oz in maximum 216 g/cm	

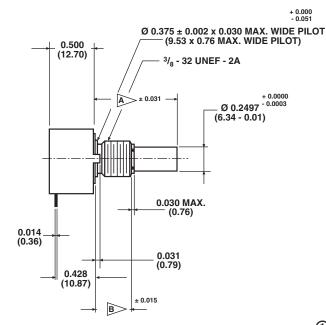
ORDEF	ORDERING INFORMATION/DESCRIPTION						
657	В	F	0			<b>50 k</b> Ω	BO10
MODEL	STYLE	SHAFT OPTIONS	SHAFT BUSHING OPTIONS			TOTAL RESISTANCE	PACKAGING
			$\overline{A}$	B	$\sim$		
	B: Bushing	R - Round	Shaft Length	Bushing Length	Flat		Box of 10
		F - Flatted	<b>0</b> - 0.875" FMS	0.375" FMS	0.440"		pieces
			1 - 0.625" FMS	0.250" FMS	0.315"		
			2 - 1.000" FMS	0.500" FMS	0.440"		
			<b>3</b> - 1.250" FMS	0.750" FMS	0.440"		

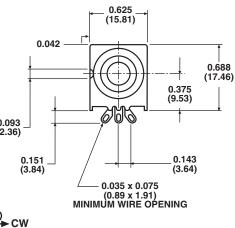
SAP PART NUMB	ERING GUIDELIN	ES		
657B	R	1	103	BO10
MODEL	END SHAFT	SHAFT AND BUSHING OPTIONS OHMIC VALUE		PACKAGING
	R: Round	(see above)		

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#### **DIMENSIONS** in inches (millimeters)



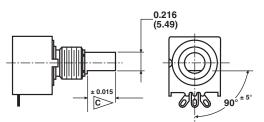


SHA

ന SCHEMATIC

SHAFT FLAT AND PHASING DIAGRAM

DECIMALS: XX  $\pm$  0.01 INCHES ( $\pm$  0.25 mm) XX  $\pm$  0.005 INCHES ( $\pm$  0.13 mm) ANGLES:  $\pm$  2°



WITH SHAFT FLAT POSITIONED AS SHOWN, OUTPUT RATIO TO BE  $e/E = 0.50 \pm 0.02$ 

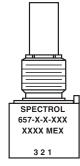
STANDARD RESISTANCE VALUES		
CODE	RESISTANCE (Ω)	
102	1K	
202	2K	
502	5K	
103	10K	
203	20K	
503	50K	
104	100K	

MATERIAL SPECIFICATIONS		
Shaft	Stainless steel	
Bushing	Nickel plated brass	
Housing	Thermoplastic	
Element	Conductive plastic on alumina substrate	

ENVIRONMENTAL SPECIFICATIONS				
Rotational Life		2 million revolutions		
Vibration		15 G's at 10 to 2000 Hz		
Operating Temperature		- 40 °C to + 125 °C		
Storage Temperature		- 55 °C to + 150 °C		
Temperature Coefficient		± 600 ppm/°C		
Shock		30 G's		
Resistant to Solder Heat		350 °C for 5 s		
Moisture Resistance IP Rating		Sealed construction IP67* application to provide protection for wiring terminals		
MARKING				
Unit Identification	Vishay Spectrol, part number, data code, country of origin and terminal designation			

0.093 (2.36)







Vishay

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