

# Model 139

Vishay Spectrol



## 1 5/16" (33.3 mm) Industrial Single Turn Cermet Bushing Mount Model



This Model 139 is only for maintenance purposes. It is not recommended for new designs and will be obsolete in a near future.

### FEATURES

- Very high ohmic values available: up to 2 MΩ
- Center tap available
- Continuous rotation and mechanical stops both standard
- High power rating



ELECTRICAL SPECIFICATIONS		
PARAMETER	STANDARD	SPECIAL
Ohmic Value	500 Ω to 2 MΩ	500 Ω to 2 MΩ
Tolerance	± 20 %	± 5 %
Linearity (Independent)	<b>STANDARD</b> ± 0.5 %	<b>BEST PRACTICAL</b> ± 0.25 %
Output Smoothness	0.1 % maximum	
Power Rating	40 °C ambient 5 W derated to zero at 125 °C	
Electrical Rotation		
Continuous	345° ± 4°	
Stops	340° ± 5°	
Insulation Resistance	1000 MΩ minimum at 500 V <sub>DC</sub>	
Dielectric Strength	1000 V <sub>RMS</sub> , 60 Hz	
Absolute Minimum Resistance	1.0 % of total resistance	
Minimum Voltage	0.5 % maximum	
Temperature Coefficient of Resistance	± 100 ppm/°C maximum	

MATERIAL SPECIFICATIONS	
Housing	Molded glass filled thermoplastic
Rear Lid	Glass filled thermoset plastic
Shaft	Stainless steel, non-magnetic
Terminals	Brass, plated for solderability, Non-passivated
Mount Hardware Lockwasher Internal Tooth: Panel Nut:	Steel, nickel plated Brass, nickel plated

ENVIRONMENTAL SPECIFICATIONS	
Vibration	15 Gs thru 2000 Hz
Shock	50 g
Salt Spray	48 h
Rotational Life	2 million
Shaft Revolutions	
Operating Temperature Range	- 55 °C to + 125 °C

ORDERING INFORMATION/DESCRIPTION					
139	B	0	0	20K	BO10
MODEL	BUSHING MOUNT	MECHANICAL OPTIONS	OTHER OPTIONAL FEATURES	RESISTANCE CODE	PACKAGING
		0. Continuous 2. Stops	0. Standard (end taps) 1. Center tap (within 5° of electrical center)		Box of 10 pieces
Other characteristics will be standard as described on this specification sheet. If special characteristics are required such as special linearity tolerance, special resistance tolerance, non-linear functions, etc., please state these on your order.					

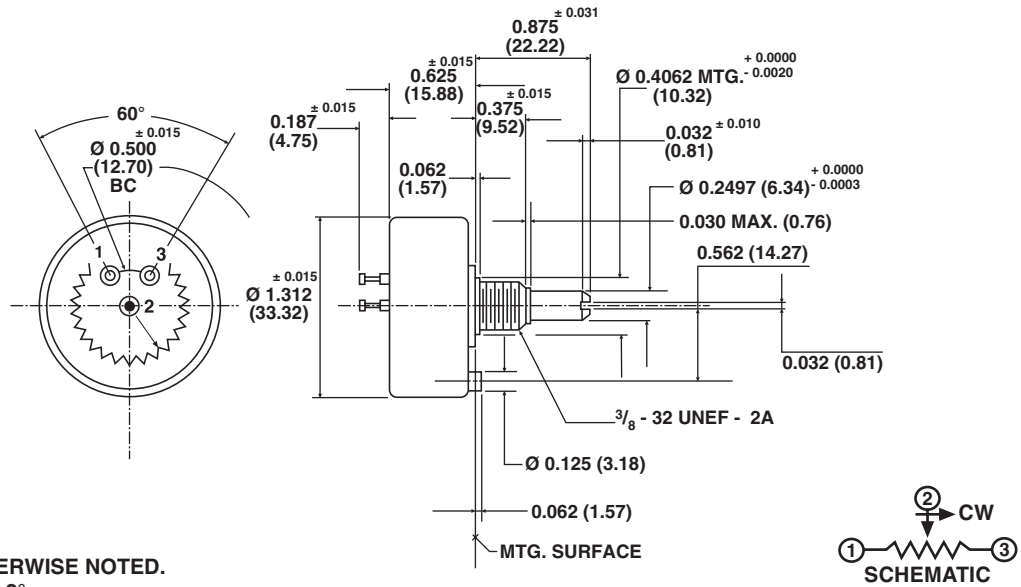
SAP PART NUMBERING GUIDELINES					
139	B	2	1	103	B10
MODEL	STYLE	MECHANICAL OPTIONS	FEATURES	OHMIC VALUE	PACKAGING
		With stops	With center tap		Box of 10 pieces



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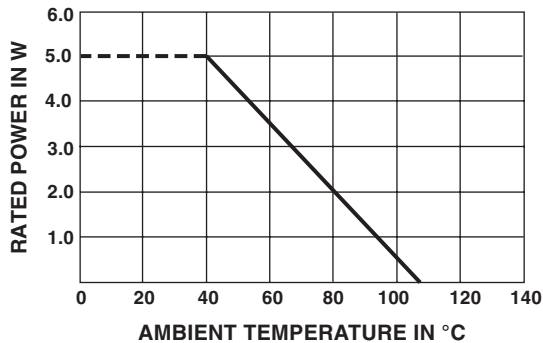
**DIMENSIONS** in inches (millimeters)



TOLERANCES: UNLESS OTHERWISE NOTED.  
DECIMALS ± 0.005 ANGLES ± 2°

MECHANICAL SPECIFICATIONS		
PARAMETER		
Rotation	360° (continuous) 340° ± 5° stops	
Bearing Type	Sleeve	
Torque (Maximums)	<b>STARTING</b> 1.0 oz. - in (72 g - cm)	<b>RUNNING</b> 0.7 oz. - in (50.40 g - cm)
Runouts (Maximums)		
Shaft Runout (TIR)	0.002" (0.05 mm)	
Pilot Dia. Runout (TIR)	0.003" (0.08 mm)	
Lateral Runout (TIR)	0.005" (0.13 mm)	
Shaft End Play	0.008" (0.20 mm)	
Shaft Radial Play	0.003" (0.08 mm)	
Weight	1.0 oz. maximum (28.35 g)	
Stop Strength	8.0 in - lbs (9.21 kg - cm) (stops version only)	

**POWER RATING CHART**



**MARKING**

<b>Unit Identification</b>	Units shall be marked with Vishay Spectrol name, model number, resistance and tolerance, linearity, terminal identification, and data code Applicable test procedures: MIL-R-39023
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## Disclaimer

All product specifications and data are subject to change without notice.

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