

# 1 5/16" (33.3 mm) Low Cost Industrial Single Turn Wirewound, Bushing Mount Type



## FEATURES

- Suitable model for all industrial applications
- Center tap available
- Continuous rotation and mechanical stops both standard
- Large electrical angle:  $352^\circ \pm 2^\circ$



**RoHS**  
COMPLIANT

ELECTRICAL SPECIFICATIONS		
PARAMETER	MIL-PRF-12934 TEST PROCEDURES APPLY	
Total Resistance Tolerance: 50 $\Omega$ and Above Below 50 $\Omega$	<b>STANDARD</b> 5 $\Omega$ to 20 k $\Omega$ $\pm 3\%$ $\pm 5\%$	<b>SPECIAL</b> to 35 k $\Omega$ $\pm 1\%$ $\pm 3\%$
Linearity (Independent) Total Resistance 5 $\Omega$ to 20 $\Omega$ 20 $\Omega$ to 200 $\Omega$ 200 $\Omega$ and Above	<b>STANDARD</b>  $\pm 1.0\%$ $\pm 1.0\%$ $\pm 0.5\%$	<b>BEST PRACTICAL</b>  $\pm 0.75\%$ $\pm 0.50\%$ $\pm 0.25\%$
Noise	100 $\Omega$ ENR	
Power Rating	40 $^\circ\text{C}$ ambient 2.75 W derated to zero at 125 $^\circ\text{C}$	
Electrical Angle Continuous Rotation Stops	$352^\circ \pm 2^\circ$ $340^\circ \pm 5^\circ$	
Insulation Resistance	1000 M $\Omega$ minimum at 500 V <sub>DC</sub>	
Dielectric Strength	1000 V <sub>RMS</sub> , 60 Hz	
Absolute Minimum Resistance	1.0 % of total resistance or 0.5 $\Omega$ whichever is greater	
Minimum Voltage	0.5 % maximum	
Temperature Coefficient of Resistance	Refer to standard resistance element data	

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

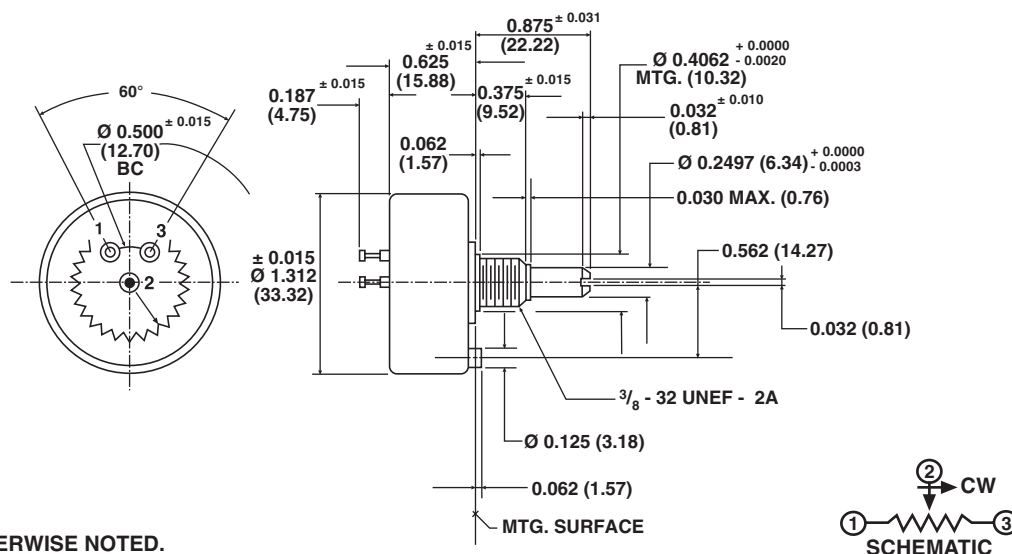
ENVIRONMENTAL SPECIFICATIONS	
Vibration	15 Gs thru 2000 Hz
Shock	50 g
Salt Spray	48 h
Rotational Life Shaft Revolutions	500 000
Operating Temperature Range	- 55 $^\circ\text{C}$ to + 125 $^\circ\text{C}$

ORDERING INFORMATION/DESCRIPTION				
<b>132</b>	<b>0</b>	<b>0</b>	<b>20K</b>	<b>BO10</b>
MODEL	MECHANICAL OPTIONS	OTHER OPTIONAL FEATURES	OHMIC VALUE	PACKAGING
	0. Continuous 2. Stops	0. Standard (end taps) 1. Center tap (within 5 $^\circ$ 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				
<b>132</b>	<b>2</b>	<b>1</b>	<b>103</b>	<b>B10</b>
MODEL	MECHANICAL OPTIONS	ELECTRICAL OPTIONS	OHMIC VALUE	PACKAGING
	2: With stops	1: With center tap	103: 10K	Box of 10 pieces



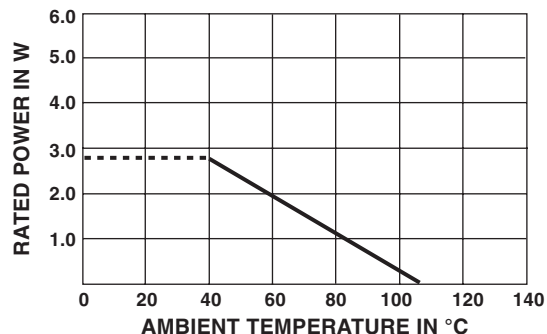
# 1 5/16" (33.3 mm) Low Cost Industrial Single Turn Vishay Spectrol Wirewound, Bushing Mount Type

**DIMENSIONS** in inches (millimeters)

TOLERANCES: UNLESS OTHERWISE NOTED.  
DECIMALS  $\pm 0.005$  ANGLES  $\pm 2^\circ$

**MECHANICAL SPECIFICATIONS**

PARAMETER		
Rotation	360° (continuous) or 340° $\pm 5^\circ$ (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****RESISTANCE ELEMENT DATA**

RESISTANCE VALUES ( $\Omega$ )	RESOLUTION (%)	OHMS PER TURN	MAXIMUM CURRENT AT 40 °C AMBIENT (mA)	MAXIMUM VOLTAGE ACROSS COIL (V)	WIRE TEMP. COEF. (ppm/°C)
5	0.419	0.021	742	3.71	800
10	0.327	0.032	524	5.24	800
20	0.280	0.056	371	7.42	800
50	0.290	0.145	234	11.7	20
100	0.251	0.251	166	16.6	20
200	0.212	0.424	122	24.4	20
500	0.161	0.806	74.2	37.1	20
1K	0.150	1.50	52.4	52.4	20
2K	0.132	2.64	37.1	74.2	20
5K	0.107	5.34	23.4	117	20
10K	0.080	7.98	16.6	166	20
20K	0.067	13.4	12.2	244	20
35K	0.057	20.0	8.88	311	20

**MARKING**

Unit Identification	Units shall be marked with Vishay Spectrol name, model number, resistance and tolerance, linearity, terminal identification, and data code Applicable test procedures: MIL-R-12934
---------------------	--



### Disclaimer

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

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.