



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



FEATURES

- Suitable model for all industrial applications
- Center tap available
- Continuous rotation and mechanical stops both standard
- Large electrical angle: 352° ± 2°
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



| QUICK REFERENCE DATA | |
|----------------------|-----------------------------------|
| Sensor type | ROTATIONAL, single turn wirewound |
| Output type | Output by turrets |
| Market appliance | Industrial |
| Dimensions | 1 5/16" (33.3 mm) |

| ELECTRICAL SPECIFICATIONS | | |
|---------------------------------------|---|----------------|
| PARAMETER | MIL-PRF-12934 TEST PROCEDURES APPLY | |
| | STANDARD | SPECIAL |
| Total Resistance | 5 Ω to 20 kΩ | to 35 kΩ |
| Tolerance: 50 Ω and Above | ± 3 % | ± 1 % |
| Below 50 Ω | ± 5 % | ± 3 % |
| Linearity (independent) | STANDARD | BEST PRACTICAL |
| Total Resistance | | |
| 5 Ω to 20 Ω | ± 1.0 % | ± 0.75 % |
| 20 Ω to 200 Ω | ± 1.0 % | ± 0.50 % |
| 200 Ω and above | ± 0.5 % | ± 0.25 % |
| Noise | 100 Ω ENR | |
| Power Rating | 40 °C ambient 2.75 W derated to zero at 125 °C | |
| Electrical Angle | | |
| Continuous Rotation | 352° ± 2° | |
| Stops | 340° ± 5° | |
| Insulation Resistance | 1000 MΩ minimum at 500 V _{DC} | |
| Dielectric Strength | 1000 V _{RMS} , 60 Hz | |
| Absolute Minimum Resistance | 1.0 % of total resistance or 0.5 W 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: | Steel, nickel plated |
| Panel Nut: | Brass, nickel plated |

| ENVIRONMENTAL SPECIFICATIONS | |
|------------------------------|---------------------|
| Vibration | 15 g thru 2000 Hz |
| Shock | 50 g |
| Salt Spray | 48 h |
| Rotational Life | |
| Shaft Revolutions | 500 000 |
| Operating Temperature Range | - 55 °C to + 125 °C |

| ORDERING INFORMATION/DESCRIPTION | | | | | |
|---|---------------|---------------------------|--|-------------|------------------|
| 132 | B | 0 | 0 | 20K | BO10 |
| MODEL | BUSHING MOUNT | MECHANICAL OPTIONS | OTHER OPTIONAL FEATURES | OHMIC VALUE | 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 | | | | | |
|-------------------------------|----------|--------------------|--------------------|-------------|------------------|
| 132 | B | 2 | 1 | 103 | B10 |
| MODEL | STYLE | MECHANICAL OPTIONS | ELECTRICAL OPTIONS | OHMIC VALUE | PACKAGING |
| | | 2: With stops | 1: With center tap | 103: 10K | Box of 10 pieces |



| MECHANICAL SPECIFICATIONS | | |
|---------------------------|--|---|
| PARAMETER | | |
| Rotation | 360° (continuous) or 340° ± 5° (stops) | |
| Bearing Type | Sleeve | |
| Torque (maximums) | STARTING 1.0 oz. - in (72 g - cm) | RUNNING 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 | |
|---------------------|---|
| 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. Example of a marking for a standard part: 132-0-0-103 |

RESISTANCE ELEMENT DATA

| RESISTANCE VALUES (Ω) | 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 |



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