

1/2" (12.7 mm) Ten Turn Wirewound Bushing Mount Precision Potentiometer


FEATURES

- Large range of ohmic values: 100 Ω to 100 kΩ
- Smallest size available on the market
- Very easy and accurate adjustment
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


**RoHS
COMPLIANT**

| QUICK REFERENCE DATA | |
|----------------------|----------------------------------|
| Sensor type | ROTATIONAL, multi turn wirewound |
| Output type | Output by turrets |
| Market appliance | Professional |
| Dimensions | 1/2" (12.7 mm) |

| ELECTRICAL SPECIFICATIONS | | |
|---|--|----------------------------|
| PARAMETER | STANDARD | SPECIAL |
| Total Resistance Standard Range Tolerance | 100 Ω to 100 kΩ ± 5 % | 115 kΩ ± 1 % |
| Linearity (independent) | STANDARD ± 0.30 % | BEST PRACTICAL ± 0.15 % |
| Noise | 100 Ω ENR | |
| Electrical Angle | 3600° +15° -0° | |
| Power Rating | 2.0 W at 40 °C ambient, derated to zero at 125 °C | |
| Insulation Resistance | 100 MΩ minimum, 500 V _{DC} | |
| Dielectric Strength | 500 V _{RMS} , 60 Hz | |
| Absolute Minimum Resistance | Linearity x total resistance or 0.5 Ω, whichever is greater | |
| End Voltage | Linearity x total applied voltage for total resistance above 20 Ω, 2.0 % of total applied voltage for 20 Ω and below | |

| MATERIAL SPECIFICATIONS | |
|--|--|
| Housing and Lids | Molded, glass filled, thermoset plastic |
| Bushing | Brass, nickel plated |
| Shaft | Stainless steel, non-passivated |
| Terminals | Brass, plated for solderability |
| Bushing Mount Hardware Lockwasher Internal Tooth: Panel Nut: | Steel, nickel plated Brass, nickel plated |

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

Note

- Nothing stated herein shall be construed as a guarantee of quality or durability.

| MARKING | |
|---------------------|---|
| Unit Identification | Units shall be marked with Vishay Spectrol name and model no, resistance and resistance tolerance, linearity, terminal identification and date code |

| ORDERING INFORMATION/DESCRIPTION | | | |
|---|--------------------------------|--------------------------------|-------------------------|
| The Model 162 can be ordered from this datasheet with a variety of alternate characteristics, as shown. For most rapid service on your order, please state: | | | |
| 162 MODEL | B STYLE (BUSHING) | 10K TOTAL RESISTANCE | B05 PACKAGING |
| Other characteristics will be standard as described on this datasheet. If special characteristics are required, such as: special linearity tolerance, special resistance tolerance, extra taps, non-linear functions, etc., please state these on your order and allow additional lead time for delivery. | | | |

| SAP PART NUMBERING GUIDELINES | | | |
|-------------------------------|-------------------|---------------------------|-------------------------|
| 162 MODEL | B STYLE | 103 OHMIC VALUE | B05 PACKAGING |

DIMENSIONS in inches (millimeters)

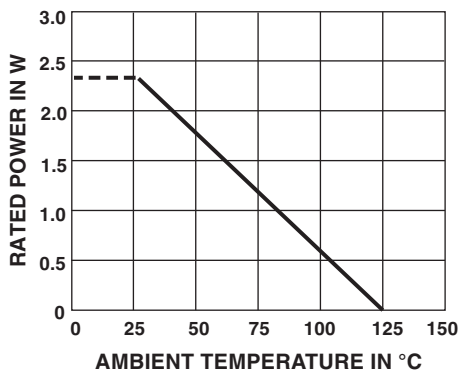
MODEL 162B/162-1...



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

| MECHANICAL SPECIFICATIONS | |
|--------------------------------|---|
| PARAMETER | |
| Mechanical Rotation | 3600°, +15° -0° |
| Bearing Type: | Sleeve |
| Torque (Maximum) | STARTING 0.8 oz. - in (57.60 g - cm) RUNNING 0.6 oz. - in (43.20 g - cm) |
| Mechanical Runouts (maximums): | |
| Shaft (TIR) | 0.003" (0.08 cm) |
| Pilot Dia. (TIR) | 0.003" (0.08 cm) |
| Lateral (TIR) | 0.005" (0.13 cm) |
| Shaft End Play | 0.010" (0.25 cm) |
| Shaft Radial Play | 0.003" (0.08 cm) |
| Weight | 0.3 oz. (8.50 g) maximum |
| Stop Strength | 20 oz. - in (static) (1.44 kg - cm) |

POWER RATING CHART



RESISTANCE ELEMENT DATA

| STANDARD RESISTANCE VALUES (Ω) | RESOLUTION (%) | OHMS PER TURN | MAXIMUM CURRENT AT 40 °C AMBIENT (mA) | MAXIMUM VOLTAGE ACROSS COIL (V) | WIRE TEMP. COEF. (ppm/°C) |
|--------------------------------|----------------|---------------|---------------------------------------|---------------------------------|---------------------------|
| 100 | 0.092 | 0.092 | 141 | 14 | 20 |
| 200 | 0.069 | 0.138 | 100 | 20 | 20 |
| 500 | 0.049 | 0.245 | 63 | 32 | 20 |
| 1K | 0.047 | 0.470 | 45 | 45 | 20 |
| 2K | 0.038 | 0.763 | 32 | 64 | 20 |
| 5K | 0.031 | 1.56 | 20 | 100 | 20 |
| 10K | 0.025 | 2.55 | 14 | 140 | 20 |
| 20K | 0.020 | 3.94 | 10 | 200 | 20 |
| 30K | 0.018 | 5.34 | 8.2 | 246 | 20 |
| 50K | 0.015 | 7.64 | 6.3 | 315 | 20 |
| 100K | 0.013 | 13.2 | 4.5 | 450 | 20 |

| MARKING |
|---|
| Example of a marking for a standard part: 162-11103 |



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