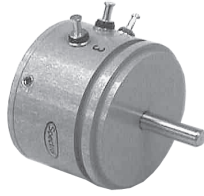


1 1/16" (27 mm) Single Turn Wirewound Precision Potentiometer



FEATURES

- Gangable up to 6 sections
- Extra taps on request
- Bushing or servo mount types available
- Ohmic value range: 5 Ω up to 100 kΩ



RoHS
COMPLIANT

| ELECTRICAL SPECIFICATIONS | | |
|---|---|---|
| PARAMETER | STANDARD | SPECIAL |
| Total Resistance Tolerance: 20 Ω and Above Below 20 Ω | 5 Ω to 20 kΩ ± 3 % ± 5 % | to 100 kΩ ± 1 % ± 3 % |
| Linearity (Independent): 5 Ω to 200 Ω 200 Ω to 2 kΩ 2 kΩ to 10 kΩ 10 kΩ and Above | STANDARD ± 1.0 % ± 0.5 % ± 0.5 % ± 0.5 % | BEST PRACTICAL ± 0.50 % ± 0.35 % ± 0.25 % ± 0.20 % |
| Noise | 100 Ω ENR | |
| Electrical Angle | 350° ± 2° | |
| Power Rating Section 1: Additional Sections: | 1.50 W at 70 °C ambient, derated to zero at 125 °C 75 % of the rating of section 1 (1.125 W at 70 °C) | |
| Insulation Resistance | 1000 MΩ minimum 500 V _{DC} | |
| Dielectric Strength | 1000 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 | |
| Phasing (CCW End Points) | Additional sections phased to section 1 within ± 1° | |
| Taps (Extra) | 9 available as special standard tolerance ± 1° | |

| ORDERING INFORMATION/DESCRIPTION | | | | |
|--|------------------------|--------------------|---|----------------|
| The Model 122 can be ordered from this data sheet with a variety of alternate characteristics, as shown. For most rapid service on your order, please state: | | | | |
| 122 | B | 1 | 5K | BO1 |
| MODEL | MOUNTING TYPE | NUMBER OF SECTIONS | TOTAL RESISTANCE OF EACH SECTION | PACKAGING |
| | B: Bushing S: Servo | Up to 6 sections | Beginning with the section nearest the mounting end | Box of 1 piece |
| Other characteristics will be standard as described on this data sheet. 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 | | | | | |
|-------------------------------|---------------|--------------------|---------------------------|---------------------------|----------------|
| 122 | S | 2 | 103 | 203 | B01 |
| MODEL | MOUNTING TYPE | NUMBER OF SECTIONS | OHMIC VALUE | OHMIC VALUE | PACKAGING |
| | Servo | 2 | Section N° 1 103 = 10K | Section N° 2 203 = 20K | Box of 1 piece |

Model 122

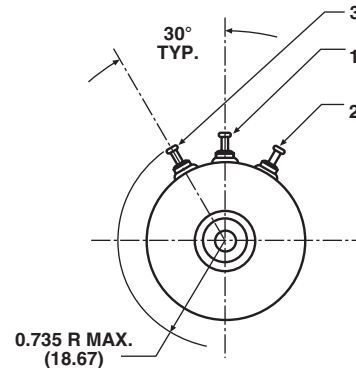
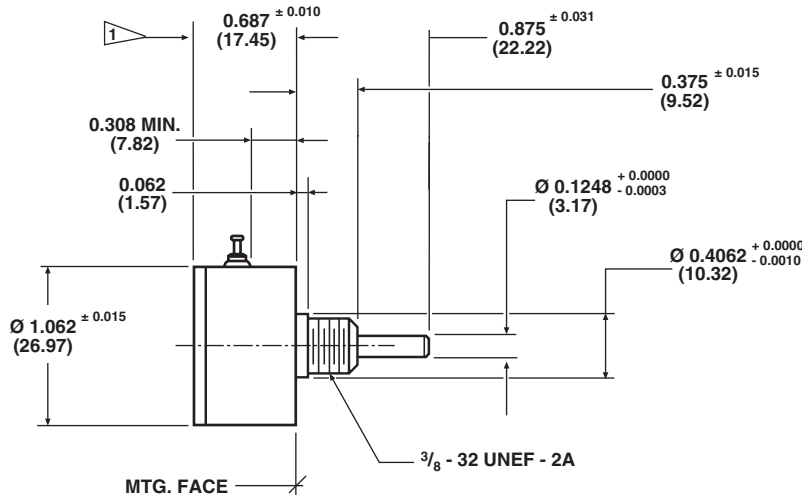


Vishay Spectrol

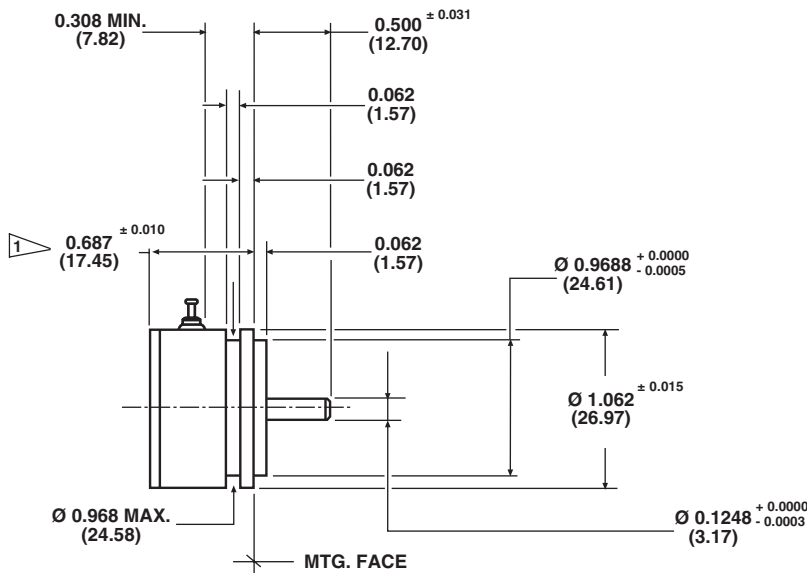
1 1/16" (27 mm) Single Turn Wirewound Precision Potentiometer

DIMENSIONS in inches (millimeters)

BUSHING MOUNT: 122B...

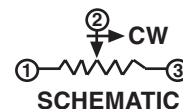


SERVO MOUNT: 122S...



ADD 0.500 ± 0.002 (12.70) FOR EACH ADDITIONAL SECTION

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



| MATERIAL SPECIFICATIONS | |
|--|--|
| Housing and Lids | Aluminum, anodized |
| Shaft | Stainless steel, non-magnetic non-passivated |
| Terminals | Brass, plated for solderability |
| Bushing Mount Hardware Lockwasher Internal Tooth: Panel Nut: | Steel, nickel plated Brass, nickel plated |

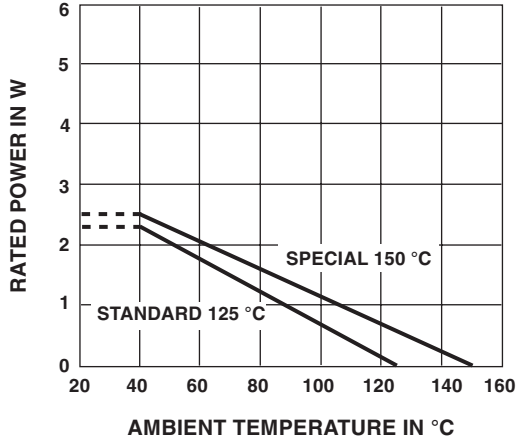
| ENVIRONMENTAL SPECIFICATIONS | |
|------------------------------|-----------------------------|
| Vibration | 15 g thru 2000 CPS |
| Shock | 50 g |
| Salt Spray | 96 h |
| Rotational Life | 1 million shaft revolutions |
| Load Life | 900 h |
| Temperature Range | - 55 °C to + 125 °C |

| MARKING | |
|---------------------|--|
| Unit Identification | Units shall be marked with Vishay Spectrol name and model number resistance and resistance tolerance, linearity, terminal identification and data code |



POWER RATING CHART

(Ratings for cup No.1.
Additional cups 75 % of values shown)



RESISTANCE ELEMENT DATA

| RESISTANCE VALUES (Ω) | RESOLUTION (%) | OHMS PER TURN | MAXIMUM CURRENT AT 70 °C AMBIENT (mA) | MAXIMUM VOLTAGE ACROSS COIL (V) | WIRE TEMP. COEF. (ppm/°C) |
|-----------------------|----------------|---------------|---------------------------------------|---------------------------------|---------------------------|
| 5 | 0.364 | 0.018 | 548 | 2.74 | 800 |
| 10 | 0.311 | 0.031 | 387 | 3.87 | 800 |
| 20 | 0.250 | 0.050 | 274 | 5.48 | 180 |
| 50 | 0.232 | 0.116 | 173 | 8.65 | 180 |
| 100 | 0.232 | 0.231 | 122 | 12.2 | 20 |
| 200 | 0.194 | 0.389 | 86.6 | 17.3 | 20 |
| 500 | 0.168 | 0.841 | 54.8 | 27.4 | 20 |
| 1K | 0.156 | 1.557 | 38.7 | 38.7 | 20 |
| 2K | 0.109 | 2.178 | 27.4 | 54.8 | 20 |
| 5K | 0.088 | 4.382 | 17.3 | 86.5 | 20 |
| 10K | 0.076 | 7.644 | 12.2 | 122 | 20 |
| 20K | 0.071 | 14.235 | 8.66 | 173 | 20 |
| 50K | 0.062 | 30.921 | 5.48 | 274 | 20 |
| 100K | 0.052 | 51.983 | 3.87 | 387 | 20 |

MECHANICAL SPECIFICATIONS

| PARAMETER | | |
|---|--|--|
| Rotation | 360° continuous | |
| Bearing Type | Servo mount: Ball bearing Bushing mount: Sleeve bearing | |
| Torque (Maximums) Servo, 1 Section Bushing, 1 Section Each Additional Section | STARTING 0.25 oz. - in (18.0 g - cm) 0.30 oz. - in (21.6 g - cm) 0.20 oz. - in (14.4 g - cm) | RUNNING 0.15 oz. - in (10.8 g - cm) 0.25 oz. - in (18.0 g - cm) 0.15 oz. - in (10.8 g - cm) |
| Mechanical Runouts (Maximums): Shaft Runout (TIR/in) Pilot Dia. Runout (TIR) Lateral Runout (TIR) Shaft End Play Shaft Radial Play | SERVO 0.002" (0.05 cm) 0.002" (0.05 cm) 0.002" (0.05 cm) 0.005" (0.13 cm) 0.002" (0.05 cm) | BUSHING 0.002" (0.05 cm) 0.002" (0.05 cm) 0.005" (0.13 cm) 0.005" (0.13 cm) 0.003" (0.08 cm) |
| Weight (Maximums): Single Section Each Additional Section | 0.8 oz. (22.7 g) 0.4 oz. (11.3 g) | |
| Ganging | 6 sections maximum, terminal alignment, added sections within ± 10° of section 1 terminals | |
| Moment of Inertia | 0.12 g - cm ² per section maximum | |



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