

7/8" (22.2 mm) Precision Industrial Potentiometer, Bushing And Servo Mount Versions, Conductive Plastic


FEATURES

- High quality
- Rugged one piece metal housing
- Long rotational life
- Wide operating temperature range
- Linearities down to ± 0.25 % special
- Optional sealed construction (bushing mount only)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

QUICK REFERENCE DATA

| | |
|------------------|--------------------------------|
| Sensor type | ROTATIONAL, conductive plastic |
| Output type | Output by turrets |
| Market appliance | Industrial |
| Dimensions | 7/8" (22.2 mm) |

ELECTRICAL SPECIFICATIONS

| PARAMETER | MIL-PRF-39023 TEST PROCEDURES APPLY |
|---------------------------------------|---|
| Resistance | 1 k Ω to 100 k Ω |
| Resistance Tolerance | ± 20 % |
| Special to | ± 10 % |
| Linearity | ± 2.0 % |
| Special to | ± 0.25 % |
| Temperature Coefficient of Resistance | ± 600 ppm/ $^{\circ}$ C |
| Power Rating | 1.0 W at 40 $^{\circ}$ C ambient |
| Derated to | 0 W at 125 $^{\circ}$ C |
| Electrical Angle | 340 $^{\circ}$ \pm 4 $^{\circ}$ |
| End Voltage | 0.5 % maximum |
| Dielectric Withstanding | 1000 V _{RMS} , 60 Hz |
| Insulation Resistance | 100 M Ω minimum, 500 V _{DC} |
| Output Smoothness | 0.1 % |

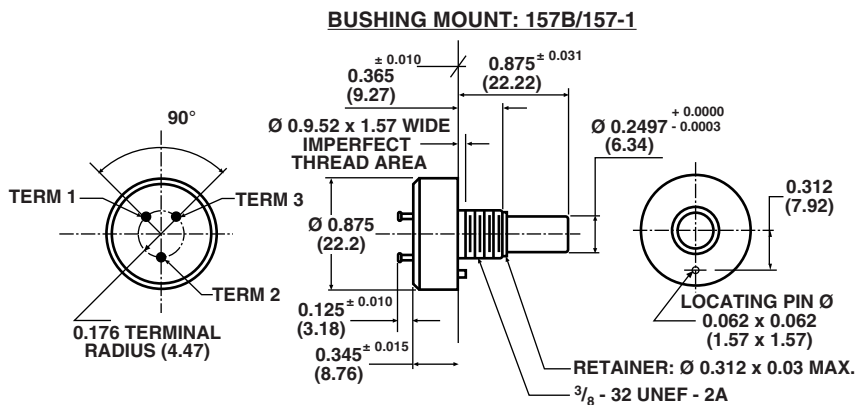
MECHANICAL SPECIFICATIONS

| PARAMETER | | |
|--|-----------------------------|-----------------------------|
| Weight | 0.5 oz. maximum (14 g) | |
| Rotation | 360 $^{\circ}$ (continuous) | |
| Mount | BUSHING | SERVO |
| Bearing Type | Sleeve bearing | Ball bearing |
| Operating Torque | | |
| Starting | 0.30 oz. - in (21.6 g - cm) | 0.25 oz. - in (18 g - cm) |
| Running | 0.25 oz. - in (18 g - cm) | 0.15 oz. - in (10.8 g - cm) |
| Mechanical Tolerance (in/mm) (maximum) | | |
| Shaft Runout (TIR) | 0.002" (0.05 mm) | 0.002" (0.05 mm) |
| Pilot Dia Runout (TIR) | - | 0.002" (0.05 mm) |
| Lateral Runout (TIR) | 0.005" (0.13 mm) | 0.002" (0.05 mm) |
| Shaft End Play | 0.006" (0.15 mm) | 0.005" (0.13 mm) |
| Shaft Radial Play | 0.003" (0.08 mm) | 0.002" (0.05 mm) |

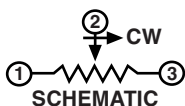
| ORDERING INFORMATION | | | | | | | | | | |
|----------------------|------------------------|---|--|---|---|--------------------------|---|---|--|-----------------|
| 1 | 5 | 7 | B | 5 | 0 | 3 | M | C | | |
| MODEL | STYLE | | OHMIC VALUE | | | TOLERANCE ON OHMIC VALUE | | LINEARITY | | SPECIAL REQUEST |
| 157 | B: Bushing S: servo | | 470 = 47 Ω 222 = 2.200 Ω 103 = 10 kΩ For ohmic value range see electrical specification | | | M = ± 20 % K = ± 10 % | | X = ± 2 % B = ± 0.50 % C = ± 0.25 % | | xxxx |

| PART NUMBER DESCRIPTION (for information only) | | | |
|--|--------------|-------------|---------|
| 157- | 2 | 503 | xxxx |
| MODEL | STYLE | OHMIC VALUE | SPECIAL |
| | B: 1 S: 2 | | |

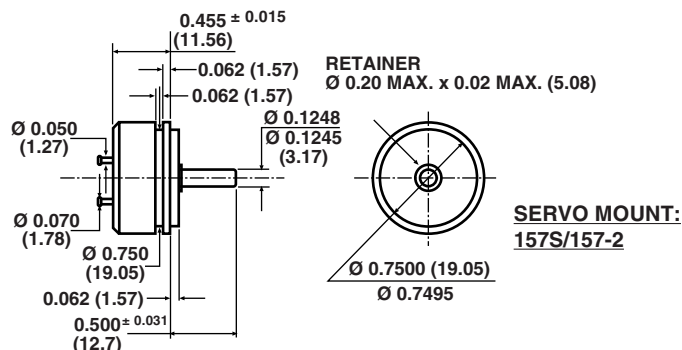
DIMENSIONS in inches (millimeters)



Example of a marking for a standard part:
157-11103



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





| MATERIAL SPECIFICATIONS | |
|-------------------------|---|
| Housing/Bushing | Aluminum, anodized |
| Rear Lid | Ceramic |
| Shaft | Stainless steel |
| Terminals | Solderable |
| Bushing Mount Hardware | Lockwasher, internal tooth steel, nickel plated |
| Panel Nut | Brass, nickel plated |

| ENVIRONMENTAL SPECIFICATIONS | | | | | |
|------------------------------|--|---------|-------|-----------------------------|------------------------------|
| Temperature | -55 °C to +125 °C | | | | |
| Rotational Life | <table border="1"> <thead> <tr> <th>BUSHING</th> <th>SERVO</th> </tr> </thead> <tbody> <tr> <td>5 million shaft revolutions</td> <td>10 million shaft revolutions</td> </tr> </tbody> </table> | BUSHING | SERVO | 5 million shaft revolutions | 10 million shaft revolutions |
| BUSHING | SERVO | | | | |
| 5 million shaft revolutions | 10 million shaft revolutions | | | | |
| Moisture Resistant | Yes | | | | |
| Vibration | 15 g 10 to 2000 Hz | | | | |
| Shock | 50 g | | | | |
| Salt Spray | 96 h | | | | |
| Load Life | 900 h | | | | |

Note

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



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