

## Precision Industrial Potentiometer



### FEATURES

- High Quality
- Short Length Behind Panel (11/32")
- Rugged One Piece Metal Housing
- Stainless Steel Shaft
- Long Rotational Life
- Wide Operating Temperature Range
- Linearities to  $\pm 0.25\%$  Special
- Optional Sealed Construction (Bushing Mount Only)

### ELECTRICAL SPECIFICATIONS

| PARAMETER                             | MIL-PRF-39024 TEST PROCEDURES APPLY |
|---------------------------------------|-------------------------------------|
| Resistance                            | 1K $\Omega$ to 100                  |
| Resistance Tolerance                  | $\pm 20\%$                          |
| Special to                            | $\pm 10\%$                          |
| Linearity                             | $\pm 2.0\%$                         |
| Special to                            | $\pm 0.25\%$                        |
| Temperature Coefficient of Resistance | $\pm 600\text{ppm}/^\circ\text{C}$  |
| Power Rating                          | 1.0 watts at 40°C Ambient           |
| Derate to                             | 0 watts at 125°C                    |
| Rotation                              | 340° $\pm$ 4°                       |
| End Voltage                           | 0.5% maximum                        |
| Dielectric Withstanding               | 1,000V <sub>RMS</sub> , 60Hz        |
| Insulation Resistance                 | 100M $\Omega$ minimum, 500VDC       |
| Output Smoothness                     | 0.1%                                |

### MECHANICAL SPECIFICATIONS

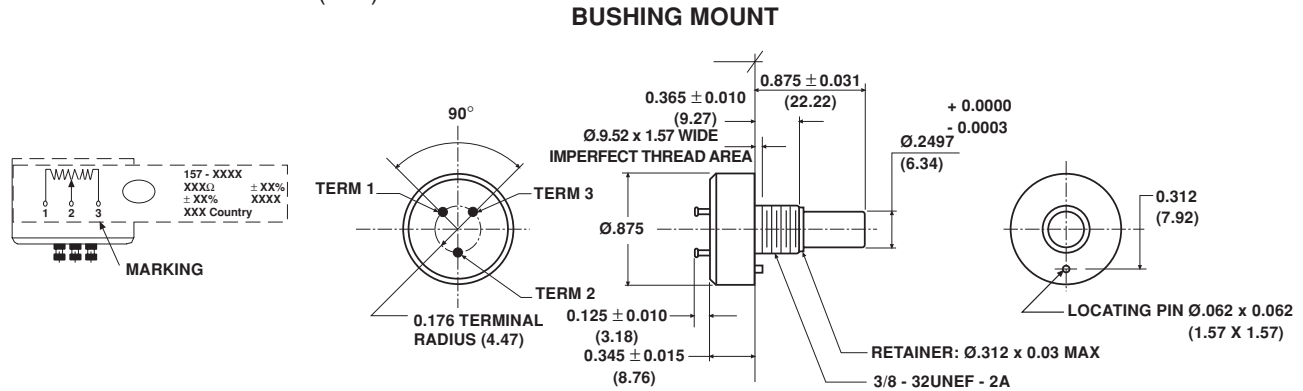
| PARAMETER                              |                   |              |
|--|-------------------|--------------|
| Weight                                 | 0.5 oz maximum    |              |
| Rotation                               | 360° (Continuous) |              |
| Mount                                  | <b>BUSHING</b>    | <b>SERVO</b> |
| Bearing Type                           | Sleeve Bearing    | Ball Bearing |
| Operating Torque                       |                   |              |
| Starting                               | 0.30 oz - in      | 0.25 oz - in |
| Running                                | 0.25 oz - in      | 0.15 oz - in |
| Mechanical Tolerance (in/mm) (maximum) |                   |              |
| Shaft Runout (TIR)                     | 0.002 in          | 0.002 in     |
| Pilot Dia Runout (TIR)                 | –                 | 0.002 in     |
| Lateral Runout (TIR)                   | 0.005 in          | 0.002 in     |
| Shaft End Play                         | 0.006 in          | 0.005 in     |
| Shaft Radial Play                      | 0.003 in          | 0.002 in     |

### ORDERING INFORMATION

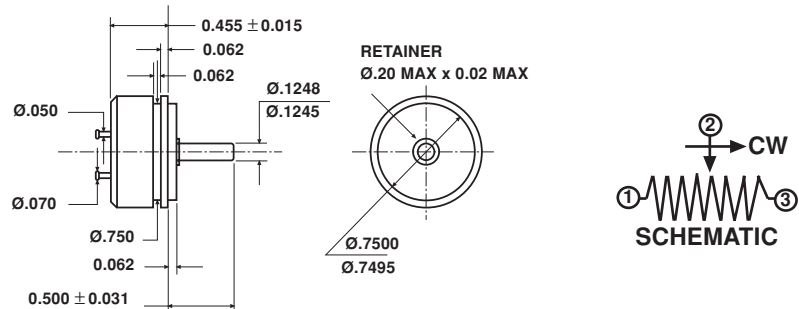
| 157                        | 1                      | 1   | XXX                 |
|----------------------------|------------------------|---|---------------------|
| MODEL                      | MOUNTING               | NUMBER OF SECTIONS<br>(SINGLE SECTION ONLY) | RESISTANCE EIA CODE |
| Example: 157 - 1 - 1 - XXX | 1. Bushing<br>2. Servo |   |                     |



**DIMENSIONS** in inches (mm)



**SERVO MOUNT**



ALL DIMENSIONS ARE IN INCHES  
TOLERANCES: UNLESS OTHERWISE NOTED  
DECIMALS  $\pm 0.005$   
ANGLES  $\pm 2^\circ$

| 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 + 125°C                                 |  |
| Rotational Life              | <b>BUSHING</b><br>10 million shaft Revolutions | <b>SERVO</b><br>10 million shaft Revolutions |
| Moisture Resistant           | Yes  |  |
| Vibration                    | 15g 10 to 2000Hz                               |  |
| Shock                        | 50g  |  |
| Salt Spray                   | 96 Hours                                       |  |
| Load Life                    | 900 Hours                                      |  |

| STANDARD RESISTANCE VALUES |                   |
|----------------------------|-------------------|
| <b>EIA CODE</b>            | <b>RESISTANCE</b> |
| 102                        | 1K $\Omega$       |
| 202                        | 2K $\Omega$       |
| 502                        | 5K $\Omega$       |
| 103                        | 10K $\Omega$      |
| 203                        | 20K $\Omega$      |
| 503                        | 50K $\Omega$      |
| 104                        | 100K $\Omega$     |