**Features**

- Bushing mount
- Optional AR pin feature
- Plastic or metal shaft and bushings
- Wirewound
- Solder lugs or PC pins
- Sealable (Full body seal)
- Designed for use in HMI applications

**Electrical Characteristics**

- Standard Resistance Range: 200 to 100 K ohms
- Total Resistance Tolerance: ±0.25 %
- Effective Electrical Angle: 360 ° +10 °, -0 °
- Absolute Minimum Resistance: 1 ohm or 0.1 % maximum (whichever is greater)
- Noise: 100 ohms ENR maximum
- Dielectric Withstanding Voltage (MIL-STD-202, Method 301): 1,500 VAC minimum
- Power Rating (Voltage Limited By Power Dissipation or 450 VAC, Whichever is Less):
  - +40 °C: 2 watts
  - +125 °C: 9 watt
- Insulation Resistance (500 VDC): 1,000 megohms minimum
- RPM (Operating): 200 maximum
- Resolution: See recommended part numbers

**Environmental Characteristics**

- Operating Temperature Range: -40 °C to +125 °C
- Storage Temperature Range: -55 °C to +125 °C
- Temperature Coefficient Over Storage Temperature Range: ±50 ppm/°C maximum/unit
- Vibration: 15 G
- Shock: 50 G
- Load Life: 1,000 hours, 2 watts
- Total Resistance Shift: ±2 % maximum
- Rotational Life (No Load): 1,000,000 shaft revolutions
- Moisture Resistance (MIL-STD-202, Method 103, Condition B): ±2 % maximum
- Noise: 100 ohms ENR maximum
- Insulation Resistance (500 VDC): 1,000 megohms minimum
- Power Rating (Voltage Limited By Power Dissipation or 450 VAC, Whichever is Less):
  - +125 °C: 0 watt
- Load Life: 2 watts
- Rotational Life (No Load): 1,000,000 shaft revolutions
- Moisture Sensitivity Level: 1
- ESD Classification (HBM): N/A

**Mechanical Characteristics**

- Stop Strength: 0.85 N-cm (1.2 oz.-in.) maximum
- Mechanical Angle: 360 ° +10 °, -0 °
- Torque:
  - Starting & Running: 0.25 mm (0.010 in.) T.I.R.
  - Shaft Play: 0.13 mm (0.005 in.) T.I.R.
- Shaft Runout: 0.13 mm (0.005 in.) T.I.R.
- Lateral Runout: 0.20 mm (0.008 in.) T.I.R.
- Shaft Radial Play: 0.08 mm (0.003 in.) T.I.R.
- Pilot Diameter Runout: 1.0 ° maximum
- Weight: Approximately 19 G
- Terminals: Solder lugs or PC pins
- Soldering Condition:
  - Manual Soldering: 96.5Sn/3.0Ag/0.5Cu solid wire or no-clean rosin cored wire; 370 °C (700 °F) max. for 3 seconds
  - Wave Soldering: 96.5Sn/3.0Ag/0.5Cu solder with no-clean flux; 260 °C (500 °F) max. for 5 seconds
- Wash processes: Not recommended
- Marking:
  - Manufacturer’s name and part number, resistance value and tolerance, linearity tolerance, wiring diagram, and date code.
  - Ganging (Multiple Section Potentiometers): 1 cup maximum
- Hardware: One lockwasher and one mounting nut is shipped with each potentiometer.

**Notes:**

- For Anti-rotation pin add 91 after configuration dash number. Example: -2 becomes -291 to add AR pin.
- Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.
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3590 - Precision Potentiometer

**Product Dimensions**

-1, -3, -5, -7 Configurations

-2, -4, -6, -8 Configurations

**Recommended PCB Layout**

**Schematic**

**Terminal Styles**

"P" Terminal Style

"S" Terminal Style

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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**3590 - Precision Potentiometer**

**Panel Thickness Dimensions**
(For Bushing Mount Only)

**Shaft & Bushing Configurations**

(Bushing - DxL, Shaft - D):

-1) Plastic Bushing (3/8” x 5/16”) and Shaft (.2480 + .001, - .002)

-2) Metal Bushing (3/8” x 5/16”) and Shaft (.2497 + .0000, - .0009)

-3) Sealed, Plastic Bushing (3/8” x 5/16”) and Shaft (.2480 + .001, - .002)

-4) Sealed, Metal Bushing (3/8” x 5/16”) and Shaft (.2497 + .0000, - .0009)

-5) Metric, Plastic Bushing (9 mm x 7.94 mm) and Shaft (6 mm + 0, - .076 mm)

-6) Metric, Metal Bushing (9 mm x 7.94 mm) and Shaft (6 mm + 0, - .023 mm)

-7) Metric, Sealed, Plastic Bushing (9 mm x 7.94 mm) and Shaft (6 mm + 0, - .076 mm)

-8) Metric, Sealed, Metal Bushing (9 mm x 7.94 mm) and Shaft (6 mm + 0, - .023 mm)

**Recommended Part Numbers**

<table>
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<tr>
<th>(Printed Circuit)</th>
<th>(Solder Lug)</th>
<th>(Solder Lug)</th>
<th>Resistance (Ω)</th>
<th>Resolution (%)</th>
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<td>.029</td>
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<td>.009</td>
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</tbody>
</table>

**Anti-rotation pin hole is shown at six o’clock position for reference only. The actual location is determined by the customer’s application. Refer to the front view of the potentiometer to see the location of the optional A/R pin.**

Panel thickness and hole diameters are recommended for best fit. However, customers may adjust the dimensions to suit their specific application.

**Specifications**

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