**Features**

- Essentially infinite resolution
- Excellent rotational life
- High quality, rugged construction
- General purpose applications
- Non-standard features available
- Cost and space saving

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**6539/6639 - Precision Potentiometer**

<table>
<thead>
<tr>
<th>Electrical Characteristics¹</th>
<th>6539 Servo Mount</th>
<th>6639 Bushing Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Resistance Range...</td>
<td>1 K to 100 K ohms</td>
<td>1 K to 100 K ohms</td>
</tr>
<tr>
<td>Independent Linearity......</td>
<td>±0.5 % maximum</td>
<td>±0.5 % maximum</td>
</tr>
<tr>
<td>Effective Electrical Angle</td>
<td>340 ° ± 3 °</td>
<td>340 ° ± 3 °</td>
</tr>
<tr>
<td>Temperature Coefficient...</td>
<td>-50 °C to +150 °C</td>
<td>-50 °C to +150 °C</td>
</tr>
<tr>
<td>Vibration....................</td>
<td>15 G</td>
<td>15 G</td>
</tr>
<tr>
<td>Wiper Bounce..............</td>
<td>0.1 millisecond maximum</td>
<td>0.1 millisecond maximum</td>
</tr>
<tr>
<td>Voltage Ratio Shift....</td>
<td>±0.5 %</td>
<td>±0.5 %</td>
</tr>
<tr>
<td>Total Resistance Shift...</td>
<td>±10 %</td>
<td>±10 %</td>
</tr>
<tr>
<td>Load Life...................</td>
<td>1,000 hours, 1 watt</td>
<td>1,000 hours, 1 watt</td>
</tr>
<tr>
<td>Moisture Resistance (500 VDC)</td>
<td>500 megs ohms minimum</td>
<td>500 megs ohms minimum</td>
</tr>
<tr>
<td>Resolution..................</td>
<td>0.1 %</td>
<td>0.1 %</td>
</tr>
</tbody>
</table>

**Environmental Characteristics¹**

- Operating Temperature Range: +1 °C to +125 °C
- Storage Temperature Range: -40 °C to +125 °C
- Over Storage Temperature Range: ±500 ppm/°C maximum
- Vibration: 15 G
- Wiper Bounce: 0.1 millisecond maximum
- Voltage Ratio Shift: ±0.5 %
- Total Resistance Shift: ±10 %
- Load Life: 1,000 hours, 1 watt
- Rotational Life (No Load): 10,000,000 shaft revolutions
- Total Resistance Shift: ±10 %
- IP Rating: IP 40

**Mechanical Characteristics¹**

- Mechanical Angle: Continuous, Stops (340 ° ± 3 °)
- Stop Strength: 22.6 N-cm (2 lb.-in.)
- Torque (Starting & Running): 0.40 N-cm (0.5 oz.-in.)
- Shaft Runout: 0.13 mm (0.005 in.)
- Shaft Radial Play: 0.13 mm (0.005 in.)
- Backlash: 0.1 ° maximum
- Terminal Diameter: 1.57 in.
- Soldering Condition: 96.5Sn/3.0Ag/0.5Cu solid wire or no-clean rosin cored wire
- Wave Soldering: 96.5Sn/3.0Ag/0.5Cu solder with no-clean flux
- Wash processes: Not recommended
- Marking: Manufacturer's name and part number, resistance value and tolerance, linearity tolerance, wiring diagram, and date code.

**Product Dimensions**

- **6539**
  - Dimensions: (IN.)
  - Tolerances: EXCEPT WHERE NOTED
- **6639**
  - Dimensions: (IN.)
  - Tolerances: EXCEPT WHERE NOTED
- **65/6639**
  - Dimensions: (IN.)
  - Tolerances: EXCEPT WHERE NOTED

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¹At room ambient: +25 °C nominal and 50 % relative humidity nominal, except as noted.

²2.82 N-cm (4.0 oz.-in.) max. at -40 °C.

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**WARNING** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.
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6539/6639 - Precision Potentiometer

Recommended Part Numbers

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Resistance (Ω)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6539S-1-102</td>
<td>1,000</td>
</tr>
<tr>
<td>6539S-1-502</td>
<td>5,000</td>
</tr>
<tr>
<td>6539S-1-103</td>
<td>10,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Mechanical Stop</th>
<th>A/R Lug</th>
<th>Shaft</th>
</tr>
</thead>
<tbody>
<tr>
<td>6639S-1-RC</td>
<td>No</td>
<td>No</td>
<td>Slotted</td>
</tr>
<tr>
<td>6639S-2-RC</td>
<td>No</td>
<td>No</td>
<td>Flatted</td>
</tr>
<tr>
<td>6639S-3-RC</td>
<td>No</td>
<td>Yes</td>
<td>Slotted</td>
</tr>
<tr>
<td>6639S-4-RC</td>
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</tr>
<tr>
<td>6639S-5-RC</td>
<td>Yes</td>
<td>Yes</td>
<td>Slotted</td>
</tr>
<tr>
<td>6639S-6-RC</td>
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</tr>
<tr>
<td>6639S-7-RC</td>
<td>Yes</td>
<td>No</td>
<td>Slotted</td>
</tr>
<tr>
<td>6639S-8-RC</td>
<td>Yes</td>
<td>No</td>
<td>Flatted</td>
</tr>
</tbody>
</table>

BOLDFACE listings are in stock and readily available through distribution. For other options consult factory.

Panel Thickness Dimensions

(For Bushing Mount Only)

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

TOLERANCES: ± 0.127 (0.005)
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