



## Features

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

## 6539/6639 - Precision Potentiometer

**6539 Servo Mount**      **6639 Bushing Mount**

### Electrical Characteristics<sup>1</sup>

Standard Resistance Range.....	1K to 100K ohms	1K to 100K ohms
Resistance Tolerance		
Standard .....	±15%	±15%
Independent Linearity		
Standard .....	±2.0%	±2.0%
Resolution .....	Essentially infinite	Essentially infinite
Effective Electrical Angle .....	340° +3°	340° +3°
End Voltage .....	0.5% maximum	0.5% maximum
Output Smoothness .....	0.1%	0.1%
Power Rating (Voltage Limited)		
By Power Dissipation or		
300 VAC, Whichever is Less)		
+70°C.....	1.0 watt	1.0 watt
+125°C.....	0 watt	0 watt
Dielectric Withstanding Voltage .....	MIL-STD-202, Method 301	MIL-STD-202, Method 301
Sea Level .....	750 VAC minimum	750 VAC minimum
Insulation Resistance		
(500 VDC).....	500 megohms minimum	500 megohms minimum

### Environmental Characteristics<sup>1</sup>

Operating Temperature		
Static Operation Temp Range .....	-65°C to +125°C	-65°C to +125°C
Dynamic Temp Range .....	+1°C to +125°C	+1°C to +125°C
Vibration .....	15G	15G
Wiper Bounce .....	0.1 millisecond maximum	0.1 millisecond maximum
Shock .....	50G	50G
Wiper Bounce .....	0.1 millisecond maximum	0.1 millisecond maximum
Rotational Life (No Load) .....	10,000,000 shaft revolutions	10,000,000 shaft revolutions
Total Resistance Shift.....	±10% maximum	±10% maximum

### Mechanical Characteristics<sup>1</sup>

Mechanical Angle.....	Continuous, Stops (340° +8°, -0°) available	Continuous, Stops (340° +8° -0°) available
Backlash.....	0.1° maximum	0.1° maximum
Shaft Runout .....	0.005 in. (0.13mm) T.I.R.	0.005 in. (0.13mm) T.I.R.
Shaft End Play .....	0.005 in. (0.13mm) T.I.R.	0.005 in. (0.13mm) T.I.R.
Shaft Radial Play .....	0.005 in. (0.13mm) T.I.R.	0.005 in. (0.13mm) T.I.R.
Pilot Diameter		
Runout .....	0.0025 in. (0.06mm) T.I.R.	0.0025 in. (0.06mm) T.I.R.
Lateral Runout .....	0.003 in. (0.08mm) T.I.R.	0.003 in. (0.08mm) T.I.R.
Torque (Starting & Running) .....	0.5 oz.-in. (0.40 Ncm) max.	0.5 oz.-in. (0.40 Ncm) max.
Terminals .....	Rear Turret Type	Rear Turret Type
Bearing Type.....	Brass Sleeve	Nickel Plated Brass
Markings.....	Manufacturer's name, part number, resistance value and tolerance, linearity tolerance, wiring diagram and date code.	Manufacturer's name, part number, resistance value and tolerance, linearity tolerance, wiring diagram and date code.

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

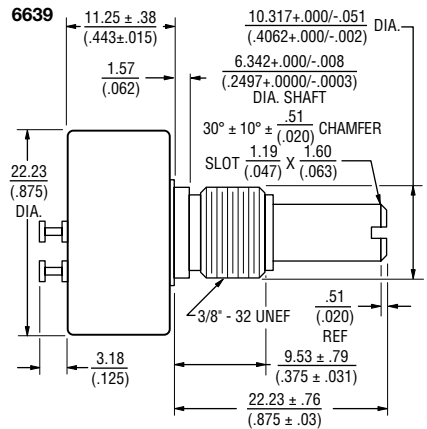
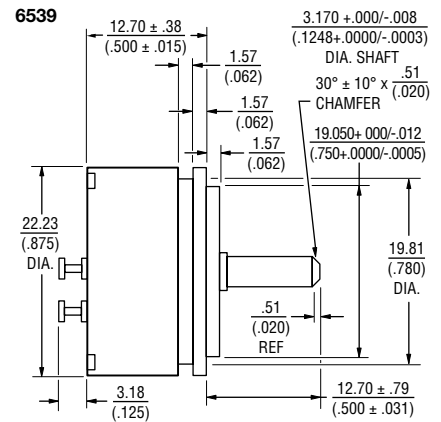
### Recommended Part Numbers

Part Number	Resistance (Ω)
<b>6539S-1-102</b>	<b>1,000</b>
<b>6539S-1-502</b>	<b>5,000</b>
<b>6539S-1-103</b>	<b>10,000</b>

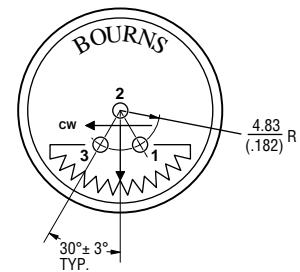
Part Numbers		Resistance (Ω)
Bushing Mount	Mechanical Stops	
<b>6639S-1-102</b>	<b>6639S-301-102</b>	<b>1,000</b>
<b>6639S-1-202</b>	<b>6639S-301-202</b>	<b>2,000</b>
<b>6639S-1-502</b>	<b>6639S-301-502</b>	<b>5,000</b>
<b>6639S-1-103</b>	<b>6639S-301-103</b>	<b>10,000</b>
<b>6639S-1-203</b>		<b>20,000</b>

BOLD-FACE LISTINGS ARE IN STOCK AND READILY AVAILABLE THROUGH DISTRIBUTION.

FOR OTHER OPTIONS CONSULT FACTORY.



**65/6639**

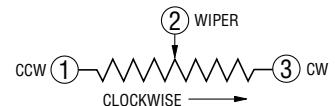


TOLERANCES: EXCEPT WHERE NOTED

DECIMALS: XX ± .38 (.015) XXX ± .13 (.005)

FRACTIONS: ±1/64

DIMENSIONS: MM (IN.)



Specifications are subject to change without notice.