



Features

- 7/8" (22 mm) diameter single-turn conductive plastic
- Bushing mount
- Excellent resolution
- High rotational life – ball bearing shaft support

- Non-standard features and specifications available

6638 - Precision Potentiometer

Electrical Characteristics¹

Standard Resistance Range.....	1 K to 100 K ohms
Total Resistance Tolerance	±10 %
Independent Linearity	±1 %
Effective Electrical Angle	340° ±3°
End Voltage	0.5 % maximum
Output Smoothness	0.1 % maximum
Dielectric Withstanding Voltage (MIL-STD-202, Method 301)	
Sea Level	750 VAC minimum
Power Rating (Voltage Limited By Power Dissipation or 300 VAC, Whichever is Less)	
+70 °C.....	1 watt
+125 °C.....	0 watt
Insulation Resistance (500 VDC).....	1,000 megohms minimum
Resolution.....	Essentially infinite

Environmental Characteristics¹

Operating Temperature Range.....	+1 °C to +125 °C
Storage Temperature Range.....	-65 °C to +125 °C
Temperature Coefficient Over Storage Temperature Range.....	±500 ppm/°C maximum
Vibration	
15 G	
Wiper Bounce.....	0.1 millisecond maximum
Total Resistance Shift	±5 % maximum
Voltage Ratio Shift	±0.5 % maximum
Shock	
50 G	
Wiper Bounce.....	0.1 millisecond maximum
Total Resistance Shift	±5 % maximum
Voltage Ratio Shift	±0.5 % maximum
Load Life.....	
1,000 hours, 1 watt	
Total Resistance Shift	±10 % maximum
Rotational Life (No Load)	
20,000,000 shaft revolutions	
Total Resistance Shift	±10 % maximum
Moisture Resistance (MIL-STD-202, Method 106)	
Total Resistance Shift	±10 % maximum
IP Rating.....	
IP 40	

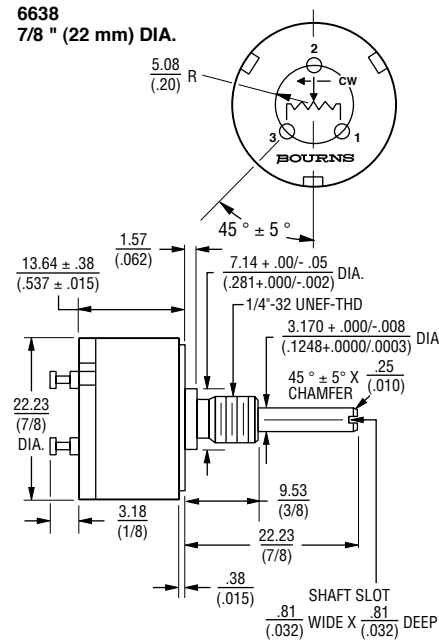
Mechanical Characteristics¹

Mechanical Angle	Continuous
Torque (Starting & Running)	0.18 N-cm (0.25 oz.-in.) maximum
Mounting.....	170-200 N-cm (15-18 lb.-in.) maximum
Shaft Runout.....	0.025 mm (0.001 in.) T.I.R.
Shaft End Play	0.13 mm (0.005 in.) T.I.R.
Shaft Radial Play	0.08 mm (0.003 in.) T.I.R.
Backlash	0.1° maximum
Weight.....	18 gm
Terminals.....	
Rear turret type	
Soldering Condition.....	
Recommended hand soldering using Sn95/Ag5 no clean solder,	
0.025" wire diameter. Maximum temperature 399 °C (750 °F) for 3 seconds.	
No wash process to be used with no clean flux.	
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 (H-37-1) and one mounting unit (H-38-1)	
is shipped with each potentiometer.	

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

Product Dimensions

6638 7/8" (22 mm) DIA.

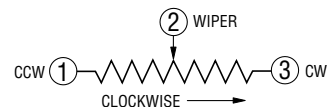


TOLERANCES: EXCEPT WHERE NOTED

DECIMALS: XX ± .51
(.02), XXX ± .127
(.005)

FRACTIONS: ±1/64

DIMENSIONS: MM
(IN.)



Recommended Part Numbers

Part Numbers	Resistance (Ω)
6638S-1-102	1,000
6638S-1-502	5,000
6638S-1-103	10,000

BOLDFACE LISTINGS ARE IN STOCK AND READILY AVAILABLE THROUGH DISTRIBUTION.

FOR OTHER OPTIONS CONSULT FACTORY.