

7/8" (22MM) DIAMETER / 10-TURN / WIREWOUND AND HYBRITRON® ELEMENT

- Bushing mount
- Sealable
- Non-standard features and specifications available
- Optional high torque feature
- Optional center tap feature
- Gangable

BOURNS®

FOR ORDERING INFORMATION SEE PAGE 296.

Model 3500/3501

Bourns® Precision Potentiometers

	3500 Wirewound Element	3501 Hybritron® Element
Electrical Characteristics¹		
Standard Resistance Range	50 to 100K ohms.....	1K to 100K ohms
Resistance Tolerance.....	±3%	±10%
Independent Linearity	±0.20%	±0.25%
Resolution	See ordering information..... Essentially infinite	
Effective Electrical Angle.....	3600° +10°, -0°	3600° +10°, -2°
Absolute Minimum Resistance/.....	1 ohm or 0.1% maximum	Minimum voltage 0.2%
Minimum Voltage	(whichever is greater)	
Noise	100 ohms ENR maximum	Output smoothness 0.1% maximum
Power Rating (Voltage Limited)		
By Power Dissipation or		
325 VAC, Whichever Is Less)		
+70°C	2 watts	2 watts
+125°C	0 watt	0 watt
Dielectric Withstanding Voltage.....	MIL-STD-202, Method 301	MIL-STD-202, Method 301
Sea Level	1,500 VAC minimum	1,500 VAC minimum
70,000 Feet	400 VAC minimum	400 VAC minimum
Insulation Resistance		
(500 VDC)	1,000 megohms minimum	1,000 megohms minimum
Environmental Characteristics¹		
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
Temperature Coefficient ²	±50ppm/°C maximum/unit	±100ppm/°C maximum/unit
Vibration.....		
	20G	20G
Wiper Bounce	0.1 millisecond maximum	0.1 millisecond maximum
Total Resistance Shift	±2% maximum	±2% maximum
Voltage Ratio Shift	±0.1% maximum.....	±0.1% maximum
Shock.....		
	100G	100G
Wiper Bounce	0.1 millisecond maximum	0.1 millisecond maximum
Total Resistance Shift	±2% maximum	±2% maximum
Voltage Ratio Shift	±0.1% maximum.....	±0.1% maximum
Load Life		
	1,000 hours, 2 watts	1,000 hours, 2 watts
Total Resistance Shift	±2% maximum	±5% maximum
Rotational Life (No Load).....		
	2,000,000 shaft revolutions ²	4,000,000 shaft revolutions
Total Resistance Shift	±5% maximum	±5% maximum
Moisture Resistance		
	MIL-STD-202, Method 103,	MIL-STD-202, Method 103,
	Condition B	Condition B
Total Resistance Shift	±2% maximum	±5% maximum

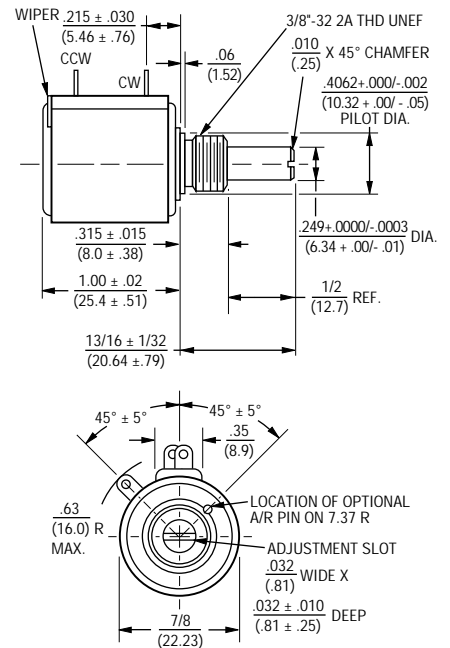
Mechanical Characteristics¹

Mechanical Angle	3600° +10°, -0°	3600° +10°, -0°
Shaft Runout	0.002 in. (0.05mm) T.I.R.	0.002 in. (0.05mm) T.I.R.
Lateral Runout	0.005 in. (0.13mm) T.I.R.	0.005 in. (0.13mm) T.I.R.
Pilot Diameter Runout	0.002 in. (0.05mm) T.I.R.	0.002 in. (0.05mm) 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	0.003 in. (0.08mm) T.I.R.	0.003 in. (0.08mm) T.I.R.
Stop Strength	96 oz.-in. (67.8 Ncm) min.	96 oz.-in. (67.8 Ncm) min.
Torque (Starting & Running).....	0.6 oz.-in. (0.42 Ncm) max.	0.6 oz.-in. (0.42 Ncm) max.
Backlash	1.0° maximum.....	1.0° maximum
Weight	Approximately 28G	Approximately 28G
Terminals	Gold-plated solder lugs	Gold-plated turret lugs
Ganging	2 cups maximum.....	2 cups maximum

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

²Consult manufacturer for complete specification details for resistances below 500 ohms.

3500S-2/3501H-1



NOTE: LOCKWASHER AND HEX NUT TO BE SUPPLIED WITH EACH UNIT.

NOTE: SHAFT LENGTH VARIATIONS

3500S-1-RC	11/16 (17.46)
3500S-2-RC	13/16 (20.64)
3501H-1-RC	13/16 (20.64)

TOLERANCES: EXCEPT WHERE NOTED

DECIMALS: .XX ± .010 (25), .XXX ± .005 (13)

FRACTIONS: ±1/64

DIMENSIONS: $\frac{IN}{(MM)}$

