



BOURNS

7/8" DIAMETER/3-TURN/WIREWOUND AND HYBRITRON® ELEMENT

- Sealable
- Bushing mount
- Extended resistance range
- Long rotational life elements
- Gangable
- High temperature, moisture resistant, thermosetting plastic housing
- Outstanding resistance to humidity
- Non-standard features and specifications available

FOR ORDERING INFORMATION SEE PAGE 41

Models 3510/3511

Bourns® Precision Potentiometers

3510 Wirewound Element	3511 Hybritron® Element
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Electrical Characteristics¹

Standard Resistance Range	50 to 50KΩ	500 to 20KΩ
Resistance Tolerance	± 3%	± 10%
Independent Linearity	± 0.3%	± 0.3%
Resolution	See table page 105	Essentially infinite
Effective Electrical Angle	1080° + 10°, -0°	1080° + 10°, -0°
Absolute Minimum Resistance/	1Ω or 0.1% maximum	1Ω or 0.1% maximum
Minimum Voltage	(whichever is greater)	(whichever is greater)
Noise	100Ω ENR maximum	Output smoothness 0.1%
Power Rating (Voltage Limited)		
By Power Dissipation or		
325 VAC, Whichever is Less)		
+ 70°C	1 watt	1 watt
+ 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	1,000 VAC minimum
80,000 Feet	400 VAC minimum	300 VAC minimum
Insulation Resistance		
(500 VDC)	1,000 megohms minimum	1,000 megohms minimum

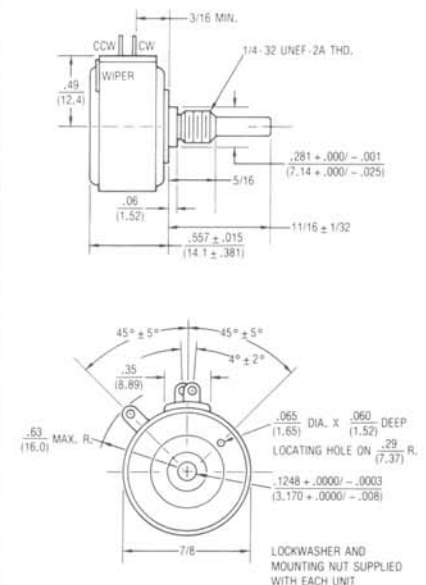
Environmental Characteristics¹

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, 1 watt	1,000 hours, 1 watt
Total Resistance Shift	± 2%	± 5%
Rotational Life (No Load)	200,000 shaft revolutions ²	4,000,000 shaft revolutions ²
Total Resistance Shift	± 5% maximum	± 5% maximum
Moisture Resistance	MIL-STD-202, Method 103, Condition B	MIL-STD-202, Method 103, Condition B
Total Resistance Shift	± 2% maximum	± 5% maximum

Mechanical Characteristics¹

Mechanical Angle	1080° + 10°, -0°	1080° + 10°, -2°
Shaft Runout	0.002 in. T.I.R.	0.002 in. T.I.R.
Lateral Runout	0.005 in. T.I.R.	0.005 in. T.I.R.
Pilot Diameter Runout	0.002 in. T.I.R.	0.002 in. T.I.R.
Shaft End Play	0.005 in. T.I.R.	0.005 in. T.I.R.
Shaft Radial Play	0.003 in. T.I.R.	0.003 in. T.I.R.
Stop Strength	48 oz-in. minimum	96 oz-in. minimum
Torque (Starting & Running)	0.6 oz-in. maximum	0.6 oz-in. maximum
Backlash	1.0° maximum	1.0° maximum
Weight	Approximately 0.7 oz.	Approximately 0.7 oz.
Terminals	Gold-plated solder lugs	Gold-plated solder lugs
Ganging	2 cups maximum	2 cups maximum

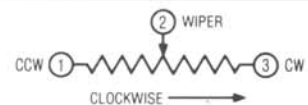
3510



TOLERANCES: EXCEPT WHERE NOTED

DECIMALS: .XX ± .010 (1.25), .XXX ± .005 (1.13)

FRACTIONS: ± 1/64 DIMENSIONS: IN. (MM)



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

²Consult factory for complete specification details.

Specifications are subject to change without notice.