

BOURNS

7/8" DIAMETER/10-TURN/WIREWOUND AND HYBRITRON® ELEMENT

- Servo mount
- Excellent rotational life
- Excellent resolution
- Non-standard features and specifications available
- Gangable

FOR ORDERING INFORMATION SEE PAGE 42

Models 3550/3551

Bourns® Precision Potentiometers

3550	3551
Wirewound Element	Hybritron® Element

Electrical Characteristics¹

Standard Resistance Range	100 to 200KΩ	1K to 100KΩ
Resistance Tolerance	± 3%	± 10%
Independent Linearity	± 0.2%	± 0.25%
Resolution	See table page 106	Essentially infinite
Effective Electrical Angle	3600° + 10°, -0°	3600° + 10°, -2°
Absolute Minimum Resistance/	1Ω or 0.1% maximum	Minimum voltage 0.2%
Minimum Voltage	(whichever is greater)	maximum
Noise	100Ω ENR maximum	Output smoothness 0.1% maximum

Power Rating (Voltage Limited)

By Power Dissipation or		
500 VAC [3550] or 325 VAC		
[3551], Whichever is Less)		
+ 70°C	2.5 watts	2 watts
+ 125°C	0 watt	0 watt
Dielectric Withstanding Voltage	MIL-STD-202, Method 301	MIL-STD-202, Method 301
Sea Level	1,000 VAC minimum	1,000 VAC minimum
80,000 Feet	300 VAC minimum	
70,000 Feet		300 VAC minimum

Insulation Resistance

(500 VDC)	1,000 megohms minimum	1,000 megohms minimum
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Environmental Characteristics¹

Operating Temperature

Static Operation Temp Range	-65°C to +125°C	-55°C to +105°C
Dynamic Temp Range	+1°C to +125°C	+1°C to +105°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	± 0.2% maximum	0.2% maximum

Shock

	100G	100G
Wiper Bounce	0.1 millisecond maximum	0.1 millisecond maximum
Total Resistance Shift	± 2% maximum	± 2% maximum
Voltage Ratio Shift	± 0.2% maximum	± 0.2% maximum

Load Life

	1,000 hours, 2.5 watts	1,000 hours, 2 watts
Total Resistance Shift	± 2% maximum	± 5% maximum
Rotational Life (No Load)	1,000,000 shaft revolutions	10,000,000 shaft revolutions

Moisture Resistance

	MIL-STD-202, Method 103, Condition B	MIL-STD-202, Method 103, Condition B
Total Resistance Shift	± 2% maximum	± 5% maximum

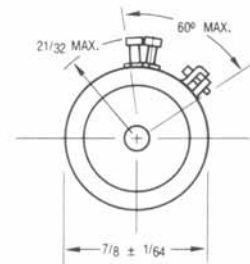
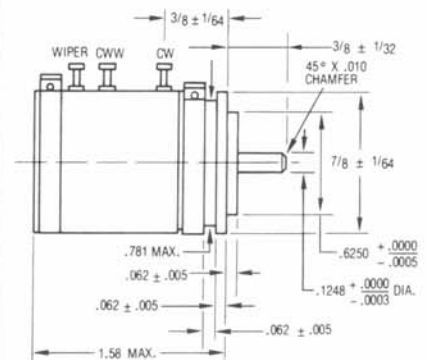
Mechanical Characteristics¹

Mechanical Angle	3600° + 10°, -0°	3600° + 10°, -0°
Shaft Runout	0.001 in. T.I.R.	0.001 in. T.I.R.
Lateral Runout	0.003 in. T.I.R.	0.003 in. T.I.R.
Pilot Diameter Runout	0.0015 in. T.I.R.	0.0015 in. T.I.R.
Shaft End Play	0.003 in. T.I.R.	0.003 in. T.I.R.
Shaft Radial Play	0.002 in. T.I.R.	0.002 in. T.I.R.
Stop Strength	.96 oz-in. minimum	.96 oz-in. maximum
Torque (Starting)	0.4 oz-in. maximum	0.5 oz-in. maximum
Torque (Running)	0.3 oz-in. maximum	0.5 oz-in. maximum
Backlash	1.0° maximum	1.0° maximum
Weight	Approximately 1.1 oz.	Approximately 1.1 oz.
Terminals	Gold-plated turrets	Gold-plated turrets
Ganging	3 cups maximum	3 cups maximum

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

²Consult factory for complete specification details.

3550/3551



TOLERANCES: EXCEPT WHERE NOTED

DECIMALS: .XX ± .010, .XXX ± .005

FRACTIONS: ± 1/64 DIMENSIONS: IN.

