BOURNS INC

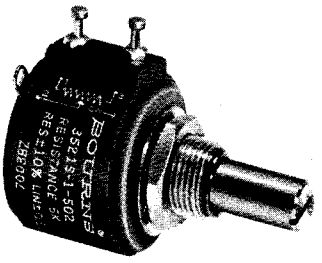
Model 3521
7/8" Diameter 5-Turn Bushing Mount
Conductive Plastic Element

OBSOLETE 1995

FEATURES

- Unique INFINITRON® conductive plastic element provides essentially infinite resolution.
- Rotational life: 4,000,000 shaft revolutions.
- Standard linearity 0.5% — special linearities available.
- Output smoothness: 0.1% standard.
- Outstanding resistance to humidity — exceeds moisture resistance requirements of MIL-R-39023.
- Exclusive termination technique insures low end resistance and definite effective electrical angle.
- Custom design capability is available to satisfy your most demanding and difficult special requirements.
- Temperature coefficient: ±200 ppm/°C.

Actual Size



STANDARD RESISTANCES

Resistance (Ohms)	Part Number*
500	3521S-1-501
1,000	3521S-1-102
2,000	3521S-1-202
5,000	3521S-1-502
10,000	3521S-1-103

Resistance (Ohms)	Part Number*
20,000	3521S-1-203
50,000	3521S-1-503
100,000	3521S-1-104
200,000	3521S-1-204
500,000	3521S-1-504

*The last three digits of the part number represent the resistance in standard code.

Model 3521 Conductive Plastic Element Potentiometer

STANDARD SPECIFICATIONS

SPECIFICATIONS LISTED BELOW ARE FOR STANDARD MODEL, MODIFICATIONS OF ALL TYPES (MECHANICAL, ELECTRICAL, ENVIRONMENTAL) CAN BE CUSTOMIZED TO YOUR SPECIAL REQUIREMENTS.

ELECTRICAL CHARACTERISTICS

Resistance Range	500 to 500,000 ohms
Resistance Tolerance*	±10%
Linearity (Independent) Standard①	±0.5% maximum
Best Practical	Consult factory
Resolution	Essentially infinite
Effective Electrical Angle*	1800° (+10°, —2°)
Minimum Voltage	0.1% maximum
Output Smoothness	0.1% maximum
Noise	100 ohms or 1% ENR maximum available as 3521S-14-(RC).
Power Rating (325 Volts Maximum)	
70°C	1.5 watts
105°C	0 watt
Dielectric Strength	MIL-R-39023
Sea Level	1,000 volts AC minimum
70,000 feet	300 volts AC minimum
Insulation Resistance, 500 volts DC*	1000 megohms minimum

ENVIRONMENTAL CHARACTERISTICS

Operating Temperature Range	—55° to +105°C

Temperature Coefficient:

Specific temperature coefficient limits vary depending on the resistance value of the potentiometer and the temperature range in which it will be used. In general, the temperature coefficient value of Bourns INFINITRON® conductive plastic potentiometers is within ±200 ppm/°C.

When requesting exact values, please specify the resistance value of the potentiometer to be used and the temperature range required for your application.

(When potentiometers are used as voltage dividers, the resistance change due to temperature coefficient does not affect the wiper output as a ratio of the total applied voltage. Therefore, temperature coefficient should not be considered a major or significant specification in this type application.)

Humidity	MIL-R-39023 Moisture Resistance
Vibration	MIL-R-39023, 20Gs
Wiper Bounce	0.1 millisecond maximum
Wiper Shift	0.1% maximum
Shock	MIL-R-39023, 100Gs
Wiper Bounce and Wiper Shift	Same as vibration
Load Life	MIL-R-39023, 1,000 hours
Sand and Dust	MIL-E-5272
Fungus	MIL-E-5272
Salt Spray	MIL-R-39023

MECHANICAL AND PHYSICAL CHARACTERISTICS

Mechanical Angle*	1,800° (+10°, —0°)
Shaft Runout*	0.002 in. T.I.R.
Shaft End Play*	0.005 in. T.I.R.
Shaft Radial Play*	0.003 in. T.I.R.
Rotational Life	4,000,000 shaft revolutions
Stop Strength	96 oz.-in.
Torque*	
Starting and Running	0.6 oz.-in. maximum
Weight	Approximately 0.7 oz.
Terminals	Gold-plated
Markings*	Manufacturer's name and part number, resistance value and tolerance, linearity tolerance, wiring diagram, and date code.

NOTES

*100% or statistical sample inspection performed to insure highest quality.

①From 1% to 99% VR Output.

Specifications are subject to change without notice.

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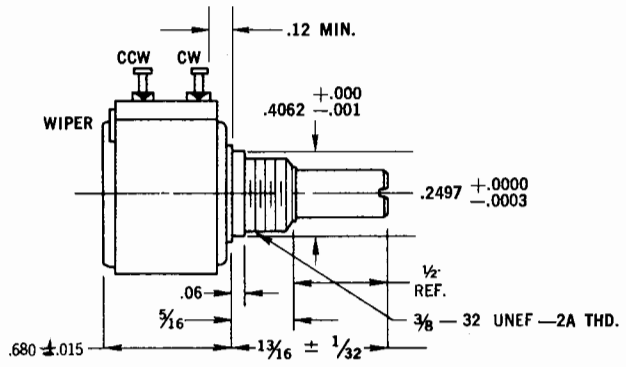
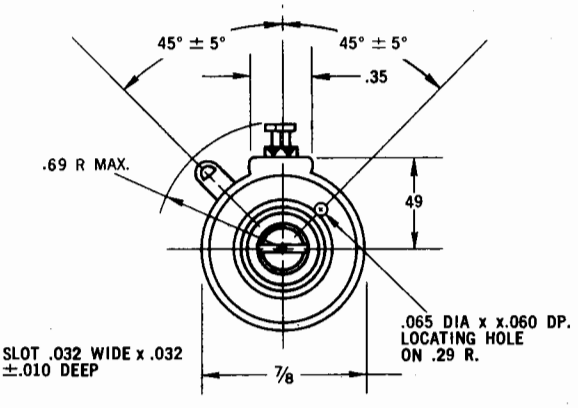
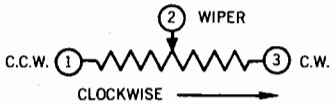




LOCKWASHER AND MOUNTING NUT SUPPLIED WITH EACH UNIT



TOLERANCES: EXCEPT WHERE NOTED
DECIMALS: .XX ± .010, XXX ± .005
FRACTIONS: 1/64

BOURNS

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