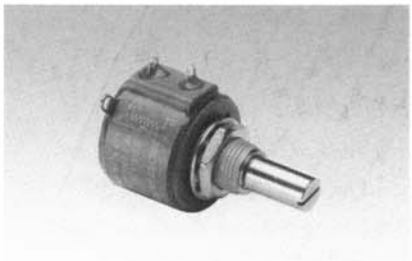


BOURNS

# 7/8'' DIAMETER / 5-TURN / WIREWOUND AND HYBRITRON® ELEMENT

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

FOR ORDERING INFORMATION SEE PAGE 41 .

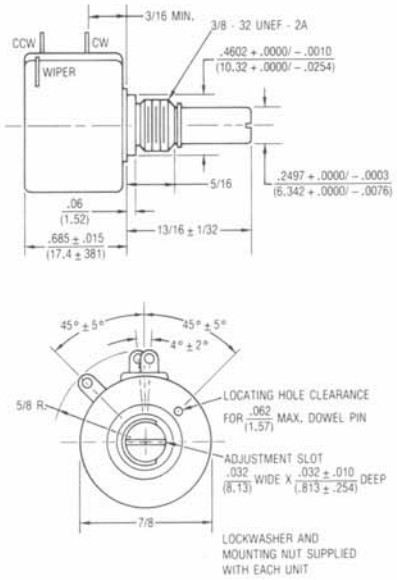
# Models 3520/3521

Bourns® Precision Potentiometers

| | 3520 Wirewound Element | 3521 Hybritron® Element |
|---|---|---|
| **Electrical Characteristics[1]** | | |
| Standard Resistance Range | 20 to 75KΩ | 500 to 50KΩ |
| Resistance Tolerance | ±3% | ±10% |
| Independent Linearity | ±0.3% | ±0.3% |
| Resolution | See table page 105 | Essentially infinite |
| Effective Electrical Angle | 1800° +10°, −0° | 1800° +10°, −0° |
| Absolute Minimum Resistance/ Minimum Voltage | 1Ω or 0.1% maximum (whichever is greater) | Minimum voltage 0.2% maximum |
| Noise | 100Ω ENR maximum | Output smoothness 0.1% |
| Power Rating (Voltage Limited By Power Dissipation or 325 VAC, Whichever is Less) | | |
| +70°C | 1.5 watt | 1.5 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 |
| 70,000 Feet | 400 VAC minimum | 300 VAC minimum |
| Insulation Resistance (500 VDC) | 1,000 megohms minimum | 1,000 megohms minimum |
| **Environmental Characteristics[1]** | | |
| 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, 1.5 watt | 1,000 hours, 1.5 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 106, | MIL-STD-202, Method 106, |
| Total Resistance Shift | ±2% maximum | ±5% maximum |
| **Mechanical Characteristics[1]** | | |
| Mechanical Angle | 1800° +10°, −0° | 1800° +10°, −2° |
| Shaft Runout | 0.002 in. T.I.R. | 0.002 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 | 48 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 |

[1]At room ambient: +25°C nominal and 50% relative humidity nominal, except as noted.
[2]Consult factory for complete specification details.
Specifications are subject to change without notice.

**3520/3521**




TOLERANCES: EXCEPT WHERE NOTED
DECIMALS: .XX ± .010 (.25), .XXX ± .005 (.13)
FRACTIONS: ± 1/64 DIMENSIONS IN. (MM)