



**BOURNS®**

## Features

- Snap-in or bushing mount options
- Standard resistance values available
- Digital dial provides excellent readability

## 3610 - 10-Turn Precision Knobpot®

### Electrical Characteristics<sup>1</sup>

|   |   |
|---|---|
| Standard Resistance Range.....  | 100 to 100 K ohms                             |
| Total Resistance Tolerance.....   | ±5 %  |
| Effective Electrical Angle.....   | 3600 ° nominal                                |
| Absolute Minimum Resistance.....  | 1 ohm or 0.1 % maximum (whichever is greater) |
| Noise.....  | 100 ohms ENR maximum                          |
| Dielectric Withstanding Voltage (MIL-STD-202, Method 301)                         |   |
| Sea Level.....  | 1,000 VAC minimum                             |
| 70,000 Feet.....  | 400 VAC minimum                               |
| Power Rating (Voltage Limited By Power Dissipation or 385 VAC, Whichever is Less) |   |
| +25 °C.....   | 1.5 watts                                     |
| +85 °C.....   | 0 watt  |
| Insulation Resistance (500 VDC).....  | 1,000 megohms minimum                         |
| Resolution.....   | See recommended part numbers                  |
| Accuracy (Correlation of Dial Readout to Voltage Ratio Output).....               | ±0.5 % voltage ratio                          |
| Repeatability of Dial Readout.....  | ±0.1 % voltage ratio                          |

### Environmental Characteristics<sup>1</sup>

|   |                          |
|---|--------------------------|
| Operating Temperature Range.....  | +1 °C to +85 °C          |
| Storage Temperature Range.....  | -25 °C to +85 °C         |
| Temperature Coefficient Over Storage Temperature Range <sup>2</sup> ..... | ±50 ppm/°C maximum/wire  |
| Vibration.....  | 10 G                     |
| Wiper Bounce.....   | 0.1 millisecond maximum  |
| Total Resistance Shift.....   | ±2 % maximum             |
| Voltage Ratio Shift.....  | ±0.2 % maximum           |
| Shock.....  | 50 G                     |
| Wiper Bounce.....   | 0.1 millisecond maximum  |
| Total Resistance Shift.....   | ±2 % maximum             |
| Voltage Ratio Shift.....  | ±0.2 % maximum           |
| Load Life.....  | 1,000 hours, 1.5 watts   |
| Total Resistance Shift.....   | ±2 % maximum             |
| Rotational Life (No Load).....  | 50,000 shaft revolutions |
| Total Resistance Shift.....   | ±2 % maximum             |
| Moisture Resistance (MIL-STD-202, Method 103, Condition B)                |                          |
| Total Resistance Shift.....   | ±2 % maximum             |
| IP Rating.....  | IP 60                    |

### Mechanical Characteristics<sup>1</sup>

|                        |  |
|------------------------|--|
| Stop Strength.....     | 14 N-cm (20 oz.-in.) minimum   |
| Mechanical Angle.....  | 3600 ° +20 °, -0 °   |
| Torque (Starting)..... | 0.71 to 4.94 N-cm (1.0 to 7.0 oz.-in.) maximum   |
| Torque (Running).....  | 4.94 N-cm (7.0 oz.-in.) maximum  |
| Variation.....         | 0.71 N-cm (1.0 oz.-in.) maximum  |
| Backlash.....          | 1.0 ° maximum  |
| Weight.....            | Approximately 20 gm  |
| Terminals.....         | Gold-plated J-Hooks  |
| Soldering Condition    |  |
| Manual Soldering.....  | 96.5Sn/3.0Ag/0.5Cu solid wire or no-clean rosin cored wire; 370 °C (700 °F) max. for 3 seconds     |
| Wave Soldering.....    | 96.5Sn/3.0Ag/0.5Cu solder with no-clean flux; 260 °C (500 °F) max. for 5 seconds                   |
| Wash processes.....    | Not recommended  |
| Markings.....          | Manufacturer's name and part number, resistance value and tolerance, wiring diagram, and date code |

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

### Recommended Part Numbers

| Part Number | Resistance (Ω) | Resolution (%) |
|-------------|----------------|----------------|
| 3610S-1-102 | 1,000          | .035           |
| 3610S-1-502 | 5,000          | .027           |
| 3610S-1-103 | 10,000         | .022           |

| Part Number | Resistance (Ω) | Resolution (%) |
|-------------|----------------|----------------|
| 3610S-2-102 | 1,000          | .035           |
| 3610S-2-502 | 5,000          | .027           |
| 3610S-2-103 | 10,000         | .022           |

**BOLDFACE LISTINGS ARE IN STOCK AND READILY AVAILABLE THROUGH DISTRIBUTION.**

FOR OTHER OPTIONS AND RESISTANCE VALUES, PLEASE CONSULT THE FACTORY.

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## Product Dimensions

### 3610S-1



### 3610S-2



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

