



## 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 Range2..... | ±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           |

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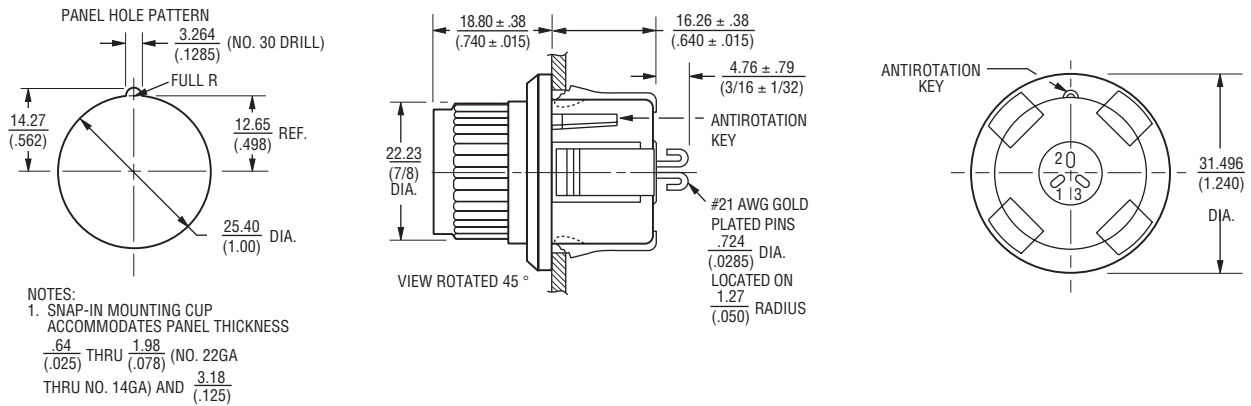
FOR OTHER OPTIONS AND RESISTANCE VALUES, PLEASE CONSULT THE FACTORY.

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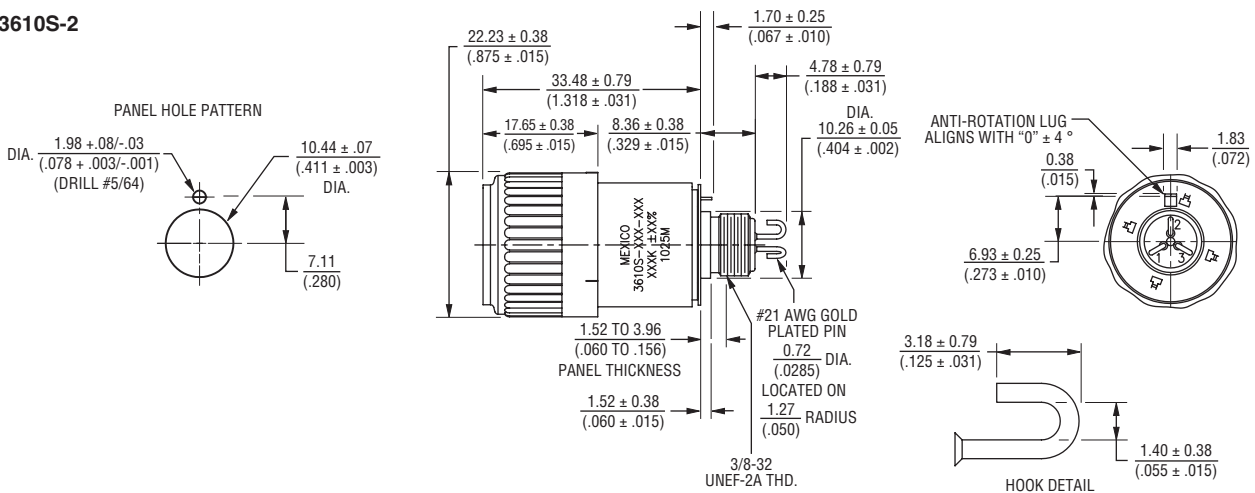
**BOURNS®**

## Product Dimensions

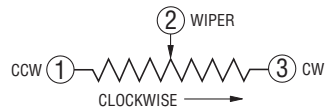
### 3610S-1



### 3610S-2



TOLERANCES: EXCEPT WHERE NOTED  
 DECIMALS: .XX  $\pm \frac{.25}{(.010)}$ , .XXX  $\pm \frac{.13}{(.005)}$   
 FRACTIONS:  $\pm 1/64$   
 DIMENSIONS:  $\frac{\text{MM}}{(\text{IN.})}$



REV. 10/11

Specifications are subject to change without notice.  
 Customers should verify actual device performance in their specific applications.

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