



## Features

- Lower profile than Model 6639
- Essentially infinite resolution
- Excellent rotational life
- High quality, rugged construction
- Recommended for HMI applications
- Cost and space saving

- Optional anti-rotation lug
- Optional mechanical stop

## 6630 - Precision Potentiometer

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

|                                                                                   |                      |
|-----------------------------------------------------------------------------------|----------------------|
| Standard Resistance Range.....                                                    | 1K to 20K ohms       |
| Total Resistance Tolerance.....                                                   | ±15 %                |
| Independent Linearity.....                                                        | ±2.0 %               |
| Effective Electrical Angle.....                                                   | 340 ° +3 °           |
| End Voltage.....                                                                  | 0.5 % maximum        |
| Output Smoothness.....                                                            | 0.1 %                |
| Dielectric Withstanding Voltage (MIL-STD-202, Method 301)                         |                      |
| Sea Level.....                                                                    | 750 VAC minimum      |
| Power Rating (Voltage Limited By Power Dissipation or 300 VAC, Whichever is Less) |                      |
| +70 °C.....                                                                       | 1.0 watt             |
| +125 °C.....                                                                      | 0 watt               |
| Insulation Resistance (500 VDC).....                                              | 10 megohms minimum   |
| Resolution.....                                                                   | Essentially infinite |

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

|                                               |                             |
|-----------------------------------------------|-----------------------------|
| Operating Temperature Range.....              | -40 °C to +125 °C           |
| Storage Temperature Range.....                | -65 °C to +125 °C           |
| Temperature Coefficient.....                  | ±500 ppm/°C maximum         |
| Vibration.....                                | 15 G                        |
| Wiper Bounce.....                             | 0.1 millisecond maximum     |
| Total Resistance Shift.....                   | ±5 %                        |
| Voltage Ratio Shift.....                      | ±0.5 %                      |
| Shock.....                                    | 50 G                        |
| Wiper Bounce.....                             | 0.1 millisecond maximum     |
| Total Resistance Shift.....                   | ±5 %                        |
| Voltage Ratio Shift.....                      | ±0.5 %                      |
| Load Life.....                                | 1,000 hours, 1 watt         |
| Total Resistance Shift.....                   | ±10 %                       |
| Rotational Life (No Load).....                | 5,000,000 shaft revolutions |
| Total Resistance Shift.....                   | ±10 % maximum               |
| Moisture Resistance (MIL-STD-202, Method 106) |                             |
| Total Resistance Shift.....                   | ±15 %                       |
| IP Rating.....                                | IP 40                       |

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

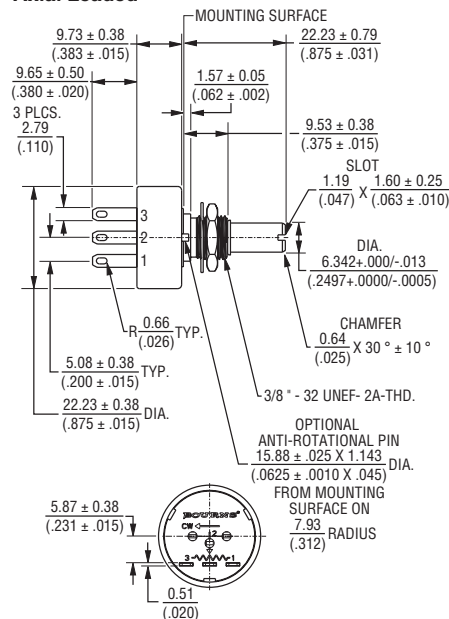
|                                                |                                                                                                                                                                                    |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mechanical Angle.....                          | Continuous, Stops (340 ° +8 °, -0 °) available                                                                                                                                     |
| Torque (Starting & Running) <sup>2</sup> ..... | 0.40 N-cm (0.5 oz.-in.) max.                                                                                                                                                       |
| Mounting.....                                  | 170-200 N-cm (15-18 lb.-in.) maximum                                                                                                                                               |
| Shaft Runout.....                              | 0.13 mm (0.005 in.) T.I.R.                                                                                                                                                         |
| Shaft End Play.....                            | 0.13 mm (0.005 in.) T.I.R.                                                                                                                                                         |
| Shaft Radial Play.....                         | 0.13 mm (0.005 in.) T.I.R.                                                                                                                                                         |
| Backlash.....                                  | 0.1 ° maximum                                                                                                                                                                      |
| Weight.....                                    | 18 gm (6539 Servo Mount), 24 gm (6639 Bushing Mount)                                                                                                                               |
| Terminals.....                                 | Axial and radial solder lugs                                                                                                                                                       |
| Soldering Condition.....                       | Recommended hand soldering using Sn95/Ag5 no clean solder, 0.025 " wire diameter. Maximum temperature 399°C (750 °F) for 3 seconds. No wash process to be used with no clean flux. |
| Marking.....                                   | Manufacturer's name and part number, resistance value and tolerance, linearity tolerance, wiring diagram, and date code.                                                           |
| Ganging (Multiple Section Pots).....           | 1 cup maximum                                                                                                                                                                      |
| Hardware.....                                  | One lockwasher (H-37-2) and one mounting nut (H-38-2) is shipped with potentiometer.                                                                                               |

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

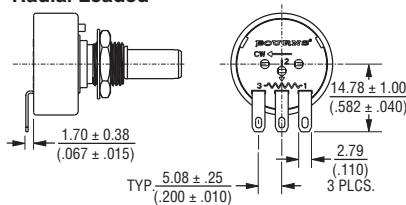
<sup>2</sup> 2.82 N-cm (4.0 oz.-in.) max. at -40 °C.

### Product Dimensions

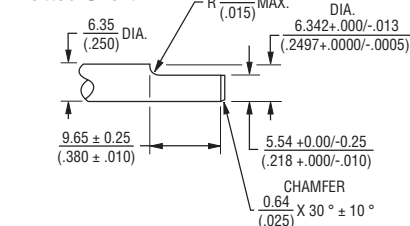
#### Axial Leaded



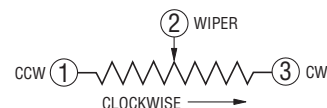
#### Radial Leaded



#### Flatted Shaft



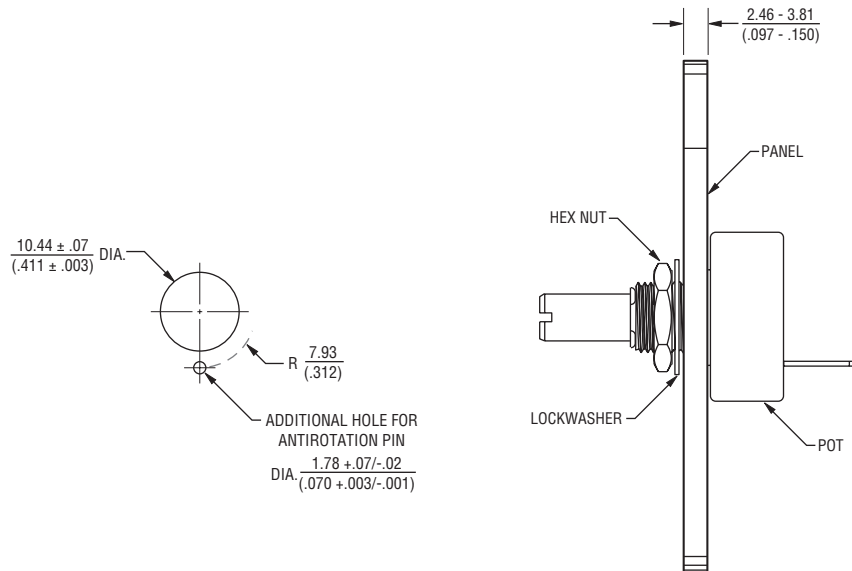
DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$



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## Panel Thickness Dimensions



Anti-rotation pin hole is shown at six o'clock position for reference only. The actual location is determined by the customer's application. Refer to the front view of the potentiometer to see the location of the optional A/R pin.

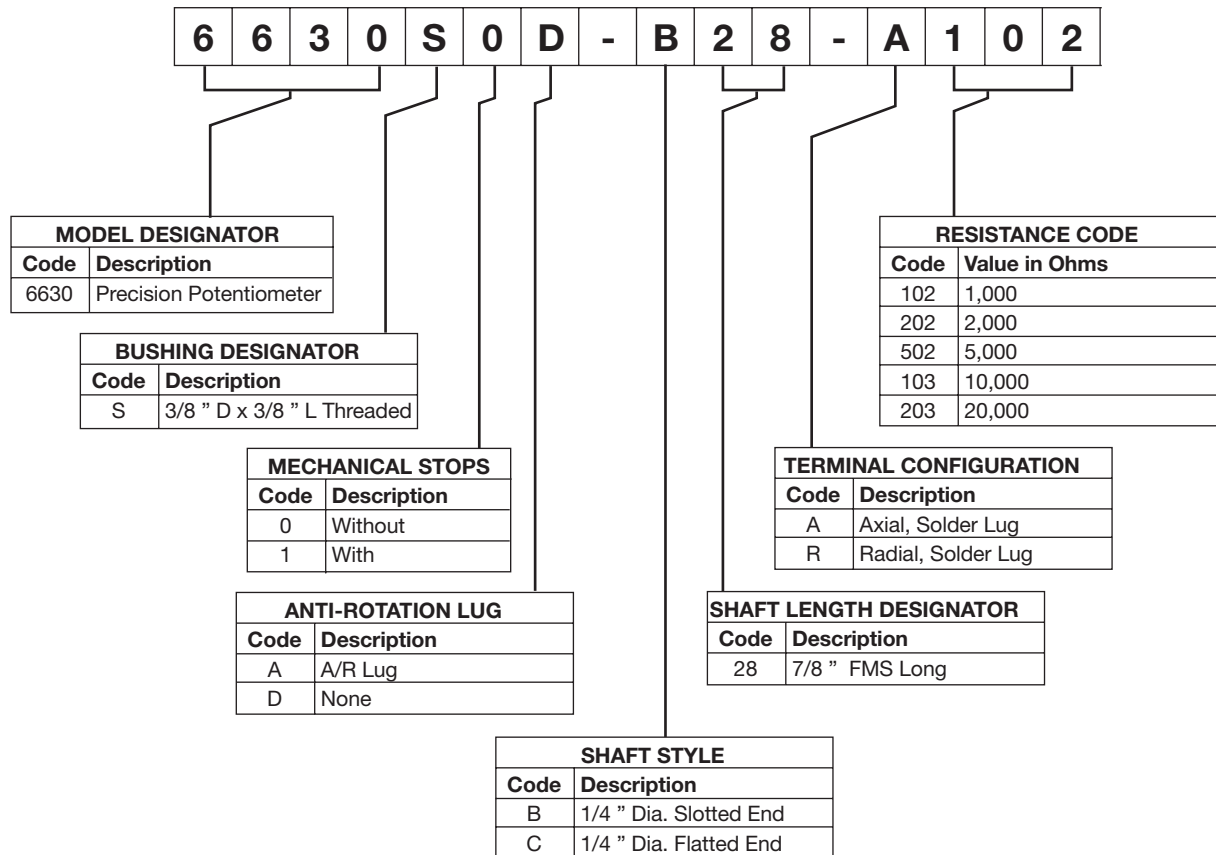
Panel thickness and hole diameters are recommended for best fit. However, customers may adjust the dimensions to suit their specific application.

DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$  TOLERANCES:  $\pm \frac{0.127}{(.005)}$

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## How To Order



REV. 10/11

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