

# Precision Potentiometer

## Model C



### Features:

- 1-13/16" diameter
- 3-turn
- Wirewound

### ELECTRICAL

|   |  |
|---|--|
| Resistance Range, Ohms                    | 5 to 194.7K  |
| Standard Resistance Tolerance             | < 100 Ohms = $\pm 5\%$ , $\geq 100$ Ohms = $\pm 3\%$   |
| Minimum Practical Resistance Tolerance    | $\pm 1\%$  |
| Independent Linearity                     | $\pm 0.50\%$   |
| Minimum Practical Independent Linearity   | $\pm 0.5\%$ , $\leq 25$ Ohms<br>$\pm 0.25\%$ , 26-99 Ohms<br>$\pm 0.15\%$ , 100-1K Ohms<br>$\pm 0.10\%$ , >1K Ohms |
| Power Rating, Watts                       | 3.0 at 40°C derating to 0 at 85°C  |
| Input Voltage, Maximum                    | 1,000Vdc not to exceed power rating  |
| Dielectric Strength                       | 1,000V rms   |
| Insulation Resistance, Minimum            | 1,000 Megohms  |
| Noise, Maximum                            | 500 Ohms: RT $\leq 800$ Ohms<br>250 Ohms: RT > 800 Ohms  |
| Actual Electrical Travel                  | 1080° + 4° - 0°  |
| Tap Tolerance                             | $\leq 25$ Ohms = $\pm 2^\circ$ , < 100 Ohms = $\pm 1.5^\circ$<br>$\geq 100$ Ohms = $\pm 1.0^\circ$                 |
| End Voltage, Maximum (% of Input Voltage) | <100 $\Omega$ = 1%, >100 $\Omega$ = .5%  |

### ENVIRONMENTAL (MIL-R-12934)

|                             |  |
|-----------------------------|--|
| Operating Temperature Range | Static: -65°C to +85°C<br>Dynamic: -40°C to +85°C                      |
| Temperature Cycling         | 5 cycles, -65°C to +85°C (5% $\Delta R$ )                              |
| Shock, 6ms Sawtooth         | 100G's (0.1ms discontinuity max.)                                      |
| Vibration                   | 10G's, 10 to 500 Hz (5% $\Delta RT$ , 0.1ms discontinuity max.)        |
| Moisture Resistance         | Ten 24 hour cycles (3% $\Delta R$ )                                    |
| High Temperature Exposure   | 1,000 hours at 85°C (5% $\Delta R$ )                                   |
| Rotational Load Life        | 2 mil. shaft rev. + 900 hrs. at rated wattage at 40°C (5% $\Delta R$ ) |

Specifications subject to change without notice.  
Available in a Hybrid version – contact factory for details.

### General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

TT Electronics | BI Technologies  
4200 Bonita Place, Fullerton, CA USA 92835 | Ph: +1 714 447 2345  
www.ttelectronics.com | sensors@ttelectronics.com

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### MECHANICAL

|  |                 |
|--|-----------------|
| Total Mechanical Travel                | 1080° + 4° - 0° |
| Number of Gangs, Maximum               | 3               |
| Weight, Nominal (Single Gang)          | 2.5 oz.         |
| Static Stop Strength                   | 350 oz.-in.     |
| Backlash, Maximum                      | 1°              |
| Panel Nut Tightening Torque, Maximum   | 25 lb.-in.      |
| Shaft End Play, Maximum                | .005"           |
| Shaft Runout, T.I.R., Maximum          | .0005"          |
| Pilot Diameter Runout, T.I.R., Maximum | .002"           |
| Lateral Runout, T.I.R., Maximum        | .003"           |
| Shaft Radial Play, Maximum             | .004"           |
| Start/Run Torque, Maximum (per gang)   | 3.0 oz.-in.     |

### STANDARD RESISTANCE VALUES, OHMS

| Total Resistance | Theoretical Resolution (% Nominal) | Tempco of Wire |
|------------------|------------------------------------|----------------|
| 100              | 0.084                              | ±20 ppm/°C     |
| 200              | 0.074                              | ± 20 ppm/°C    |
| 500              | 0.056                              | ± 20 ppm/°C    |
| 1K               | 0.051                              | + 130 ppm/°C * |
| 2K               | 0.044                              | + 130 ppm/°C * |
| 5K               | 0.032                              | + 130 ppm/°C * |
| 10K              | 0.027                              | + 130 ppm/°C * |
| 20K              | 0.021                              | ± 20 ppm/°C    |
| 50K              | 0.017                              | ± 20 ppm/°C    |
| 100K             | 0.015                              | ±20 ppm/°C     |

\* Lower tempco available - contact factory for details.

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### METRIC CONVERSIONS

|       |         |
|-------|---------|
| 1 in. | 25.4mm  |
| 1 oz. | 28.4 gm |

|           |           |
|-----------|-----------|
| 1 oz.-in. | 0,007 N-m |
| 1 lb.-in. | 0,113 N-m |

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### SPECIAL FEATURE CODES

|                      |          |
|----------------------|----------|
| Center Tap           | CT       |
| Linearity Tape       | LT       |
| Rear Shaft Extension | RS       |
| Flatted Shaft        | FS       |
| Slotted Shaft        | SS       |
| Shaft Lock           | SL       |
| Color Coded          | CC       |
| Additional Gangs     | 2G or 3G |

### ORDERING INFORMATION



### MATCHING TURNS COUNTING DIALS

2606, 2606S, 2607, 2607S, 2626, 2627, 2646, 2646S, 2647, 2647S, 2126, RB

### CIRCUIT DIAGRAM



### NOTES

Metric equivalents, based on 1 inch = 25.4mm are rounded to the same number of significant figures as in the original English units and are provided for general information only.

Tolerances unless otherwise specified:  
 Linear = ± .01 inches  
 (.25mm)  
 Angular = ± 2 degrees



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