

Precision Potentiometer

Model A Series



Features:

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

ELECTRICAL

| | |
|--|---|
| Resistance Range, Ohms | 10 to 500K |
| Standard Resistance Tolerance | < 100 Ohms = $\pm 5\%$, ≥ 100 Ohms = $\pm 3\%$ |
| Minimum Practical Resistance Tolerance | $\pm 1\%$ |
| Independent Linearity | < 300 Ohms = $\pm 0.50\%$, ≥ 300 Ohms = $\pm 0.25\%$ |
| Minimum Practical Independent Linearity | $\pm 0.15\%$, ≤ 20 Ohms $\pm 0.10\%$, < 100 Ohms $\pm 0.075\%$, < 300 Ohms $\pm 0.05\%$, ≥ 300 Ohms |
| Power Rating, Watts | 5.0 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 ≤ 2613.7 Ohms 250 Ohms: RT > 2613.7 Ohms |
| Actual Electrical Travel | 3600° + 4° - 0° |
| Tap Tolerance | ≤ 20 Ohms = $\pm 3^\circ$, < 100 Ohms = $\pm 2^\circ$ < 300 Ohms = $\pm 1.5^\circ$, ≥ 300 Ohms = $\pm 1^\circ$ |
| End Voltage, Maximum (% of input voltage) | 10 Ohms = 3%, 25 Ohms = 1.2% 50 Ohms = 0.6%, ≥ 100 Ohms = 0.25% |

This model available in a hybrid version – contact factory for details.

ENVIRONMENTAL (MIL-R-12934)

| | |
|-----------------------------|--|
| Operating Temperature Range | Static: -65°C to +85°C Dynamic: -40°C to +85°C |
| Temperature Cycling | 5 cycles, -65°C to +85°C (5% ΔR) |
| Shock, 6ms Sawtooth | 100G's (0.1ms discontinuity max.) |
| Vibration | 6 hours, 10 to 55 Hz (5% ΔR , 0.1ms discontinuity max.) |
| Moisture Resistance | Ten 24 hour cycles (3% ΔR) |
| High Temperature Exposure | 1,000 hours at 85°C (5% ΔR) |
| Rotational Load Life | 2 mil. shaft rev. + 900 hrs. at rated wattage at 40°C (5% ΔR) |

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 | 3600° + 4° – 0° |
| Number of Gangs, Maximum | 3 |
| Weight, Nominal (Single Gang) | 4.4 oz. |
| Static Stop Strength | 550 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 | .003" |
| Start/Run Torque, Maximum (per gang) | 3.0 oz.-in. |

STANDARD RESISTANCE VALUES, OHMS

| Total Resistance | Theoretical Resolution (% Nominal) | Tempco of Wire |
|------------------|------------------------------------|----------------|
| 10 | 0.082 | +800 ppm/°C * |
| 25 | 0.040 | +800 ppm/°C * |
| 50 | 0.031 | +800 ppm/°C * |
| 100 | 0.040 | ±20 ppm/°C |
| 200 | 0.031 | ±20 ppm/°C |
| 500 | 0.024 | ±20 ppm/°C |
| 1K | 0.021 | ±20 ppm/°C |
| 2K | 0.016 | ±20 ppm/°C |
| 5K | 0.014 | +130 ppm/°C * |
| 10K | 0.011 | +130 ppm/°C * |
| 20K | 0.009 | +130 ppm/°C * |
| 50K | 0.007 | +130 ppm/°C * |
| 100K | 0.006 | ±20 ppm/°C |
| 200K | 0.005 | ±20 ppm/°C |
| 300K | 0.005 | ±20 ppm/°C |
| 500K | 0.005 | ±20 ppm/°C |

* Lower tempco available as a special model.

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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, 2607, 2626, 2627, 2646, 2647, 2126, 2606S, 2607S, 2646S, 2647S, 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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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9