



7/8" (22mm) Precision Wirewound Potentiometer



ADDITIONAL FEATURES

- Special Resistance Tolerances to 1%
- Rear Shaft Extensions and Support Bearing
- Non Turn Lug
- Dual Gang Configuration and Concentric Shafts
- High Torque and Center Tap
- Special Markings and Front Shaft Extensions
- Servo Unit available and Slipping Clutch

Note: The color of this product is changing to blue, during the internal period you may receive either black or blue.

| ELECTRICAL SPECIFICATIONS | | | |
|-------------------------------------|--|---------------|-------------|
| PARAMETER | MODEL 533 | MODEL 534 | MODEL 535 |
| Resistance Range Standard Values | 50Ω to 20KΩ | 100Ω to 100KΩ | 50Ω to 50KΩ |
| Capability Range | 5Ω to 60KΩ | 10Ω to 200KΩ | 5Ω to 100KΩ |
| Standard Tol | ± 5% | ± 5% | ± 5% |
| Linearity (Independent) | ± 0.25% | 0.20% | ± 0.25% |
| Noise | 100Ω ENR | 100Ω ENR | 100Ω ENR |
| Rotation (Electrical & Mechanical) | 1080° + 10% | 3600° + 10% | 1800° ± 10° |
| Power Rating (@ 70°C) | 1.0 watts | 2.0 watts | 1.5 watts |
| Insulation Resistance | 1000MΩ minimum 500VDC | | |
| Dielectric Strength | 1000V _{RMS} minimum 60Hz | | |
| Absolute Minimum Resistance | Not to exceed linearity x total resistance or 1Ω, whichever is greater | | |
| Tempco | 20ppm/°C (standard values, wire only) | | |
| End Voltage | 0.25% of total applied voltage, maximum | | |
| Phasing | CCW end points - section 2 phased to section 1 within ± 2° | | |
| Taps | Center tap only | | |

| MARKING | |
|---------------------|---|
| Unit Identification | Manufacturer's name and model number, resistance value and tolerance, linearity specification date code and terminal identification |

| RESISTANCE VALUES | |
|-------------------|---|
| Ohms | |
| 533: | 50R, 100R, 200R, 500R, 1K, 2K, 5K, 10K, 20K |
| 534: | 100R, 200R, 500R, 1K, 2K, 5K, 10K, 20K, 50K, 100K |
| 535: | 50R, 100R, 200R, 500R, 1K, 2K, 5K, 10K, 20K, 50K |

| ORDERING INFORMATION | | | |
|---|------------------------|--------------------------------------|---------------------|
| The Models 533 (3 turn), 534 (10 turn) and 535 (5 turn) can be ordered by stating | | | |
| 534 | 1 | 2 | XXX |
| MODEL | MOUNTING | NUMBER OF SECTIONS | RESISTANCE EIA CODE |
| | 1. Bushing 2. Servo | 1. Single section 2. Dual section | |

Model 533, 534, 535

Vishay Spectrol

7/8" (22mm) Precision
Wirewound Potentiometer



SINGLE SECTION DIMENSIONS in millimeters



METRIC



Mounting hardware, washer and panel nut, nickel plated

MECHANICAL SPECIFICATIONS

| PARAMETER | | |
|-----------------------------|-------------------------------------|-----------------------------|
| Bearing Type | Bushing: Sleeve bearing Servo: Ball | |
| Torque (maximums): starting | 534 | 533/535 |
| Section 1 | 0.5 oz - in (36gm - cms) | 0.7 oz - in (50gm - cms) |
| Section 2 | 0.9 oz - in (65gm - cms) | 1.1 oz - in (79gm - cms) |
| Torque (maximums): running | 534 | 533/535 |
| Section 1 | 0.4 oz - in (28.80gm - cms) | 0.6 oz - in (43.20gm - cms) |
| Section 2 | 0.7 oz - in (50.40gm - cms) | 0.9 oz - in (64.8gm - cms) |
| Weight (maximums) | 0.75 oz (21.26gm) | |
| Section 1 | 1.25 oz (35.44gm) | |
| Section 2 | | |
| Stop Strength | 75 oz - in (static) (5.4Kg - cm) | |
| Ganging | 2 sections maximum | |

POWER RATING CHART



ENVIRONMENTAL SPECIFICATIONS

| | |
|------------------------------------|-------------------|
| Vibration | 15g thru 2000Hz |
| Shock | 50g |
| Rotational Life (Shaft Revolution) | |
| 533 | 300,000 |
| 534 | 1,000,000 |
| 534 (Servo) | > 1,000,000 |
| 535 | 500,000 |
| Load Life | 900 Hours |
| Temperature Range | - 55°C to + 125°C |



| RESISTANCE ELEMENT DATA | | | | | | | | | | | | | | |
|--------------------------------|------|-----|--------------|-------|-------|---------------|--------|--------|----------------------------------|-------|-------|-----------------------------|-------|-------|
| RESISTANCE VALUE (Ω) | | | RESOLUTION % | | | OHMS PER TURN | | | MAX CURRENT AT 70°C AMBIENT (mA) | | | MAX VOLTAGE ACROSS COIL (V) | | |
| 533 | 534 | 535 | 533 | 534 | 535 | 533 | 534 | 535 | 533 | 534 | 535 | 533 | 534 | 535 |
| 50 | – | 50 | 0.149 | – | 0.120 | 0.0746 | – | 0.0603 | 141.0 | – | 173.0 | 7.07 | – | 8.66 |
| 100 | 100 | 100 | 0.111 | 0.060 | 0.075 | 0.1114 | 0.0603 | 0.0746 | 100.0 | 141.0 | 122.0 | 10.0 | 14.1 | 12.2 |
| 200 | 200 | 200 | 0.097 | 0.037 | 0.061 | 0.1954 | 0.0746 | 0.1220 | 70.7 | 100.0 | 86.6 | 14.1 | 20.0 | 17.3 |
| 500 | 500 | 500 | 0.069 | 0.031 | 0.049 | 0.3424 | 0.1520 | 0.2459 | 44.7 | 63.2 | 54.7 | 22.4 | 31.6 | 27.4 |
| 1K | 1K | 1K | 0.063 | 0.025 | 0.041 | 0.6331 | 0.2459 | 0.4113 | 31.6 | 44.7 | 38.7 | 31.6 | 44.7 | 38.7 |
| 2K | 2K | 2K | 0.041 | 0.021 | 0.031 | 0.8206 | 0.4113 | 0.6331 | 22.4 | 31.6 | 27.4 | 44.7 | 63.2 | 54.8 |
| 5K | 5K | 5K | 0.044 | 0.016 | 0.034 | 2.2330 | 0.8206 | 1.7230 | 14.1 | 20.0 | 17.3 | 70.7 | 100.0 | 86.6 |
| 10K | 10K | 10K | 0.034 | 0.017 | 0.030 | 3.4510 | 1.7230 | 3.0160 | 10.0 | 14.1 | 12.2 | 100.0 | 141.0 | 122.0 |
| 20K | 20K | 20K | 0.031 | 0.015 | 0.020 | 6.1790 | 3.0160 | 3.9910 | 7.07 | 10.0 | 8.66 | 141.0 | 200.0 | 173.0 |
| – | 50K | 50K | – | 0.009 | 0.015 | – | 4.6690 | 7.4560 | – | 6.32 | 5.47 | – | 316.0 | 274.0 |
| – | 100K | – | – | 0.007 | – | – | 7.4560 | – | – | 4.47 | – | – | 447.0 | – |
| – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |



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