

# 534

(Including 533 & 535)

## Precision Wire Wound Potentiometers



The Model 534 10 turn precision wirewound potentiometer remains the primary choice in the wirewound market. With its many available special features which include two gang, rear shaft extensions, special shafts and dual concentric. The Model 534 continues to be designed into a wide variety of applications.

### ELECTRICAL

**Resistance Range:**

**Model 533:** Std. Values, 50 Ohms to 20K Ohms

**Capability Range:** 5 Ohms to 60K Ohms

**Model 534:** Std. Values, 100 Ohms to 100K Ohms

**Capability Range:** 10 Ohms to 200K Ohms

**Model 535:** Std. Values, 50 Ohms to 50K Ohms

**Capability Range:** 5 Ohms to 100K Ohms  
**Standard Tol.**  $\pm 5\%$

**Linearity (Independent):**

$\pm 0.25\%$

**Noise:**

100 ohms ENR

**Rotation (electrical & Mechanical):**

**Model 533:** 1080°C +10°C -0°C

**Model 534:** 3600°C + 10°C -0°C

**Model 535:** 1800°C + 10°C -0°C

**Power Rating (@ 70°C):**

**Model 533:** 1.0 watt

**Model 534:** 2.0 watts

**Model 535:** 1.5 watts

All units derated to zero at 125°C

**Additional Sections:** 75% of section 1

**Insulation Resistance:**

1000 megohms min. 500 vdc

**Dielectric strength:**

1000 volts rms. min. 60Hz

**Absolute min. Resistance:**

Not to exceed linearity x total resistance or 1 Ohm, whichever is greater

**Temperature Coefficient of Resistance:**

20 PPM/°C (standard values, wire only)

**End Voltage:**

0.25% of total applied voltage, max.

**Phasing:**

CCW end points - section 2 phased to section 1 within  $\pm 2^\circ$

### MECHANICAL

**Bearing Type Bushing:**

Sleeve bearing

**Torque (maximums): starting**

534, 533,535

**Oz-in. (gm-cms):**

**1 Section** 0.5 (36) 0.7 (50)

**2 Sections** 0.9 (65) 1.1 (79)

**Weight (maximums):**

**1 Section** 0.75oz (21.26gm)

**2 Section** 1.25oz (35.44gm)

**Stop strength:**

75 oz-in. (static) (5.4 Kgm cm)

**Ganging:**

2 sections maximum

### RESISTANCE VALUES

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

### MARKING

**Unit Identification:**

Manufacturer's name and model number, resistance value and tolerance, linearity specification date code and terminal identification.

### ENVIRONMENTAL

<b>Vibration:</b>	15g thru 2000 Hz		
<b>Shock:</b>	50g		
<b>Rotational Life:</b>	<b>533</b>	<b>534</b>	<b>535</b>
<b>(shaft revolutions)</b>	300,000	1,000,000	500,000
<b>Load Life:</b>	900 hours		
<b>Temperature Range:</b>	-55°C to +125°C		
<b>Moisture Resistant Salt Spray:</b>	96 hours		

# 534

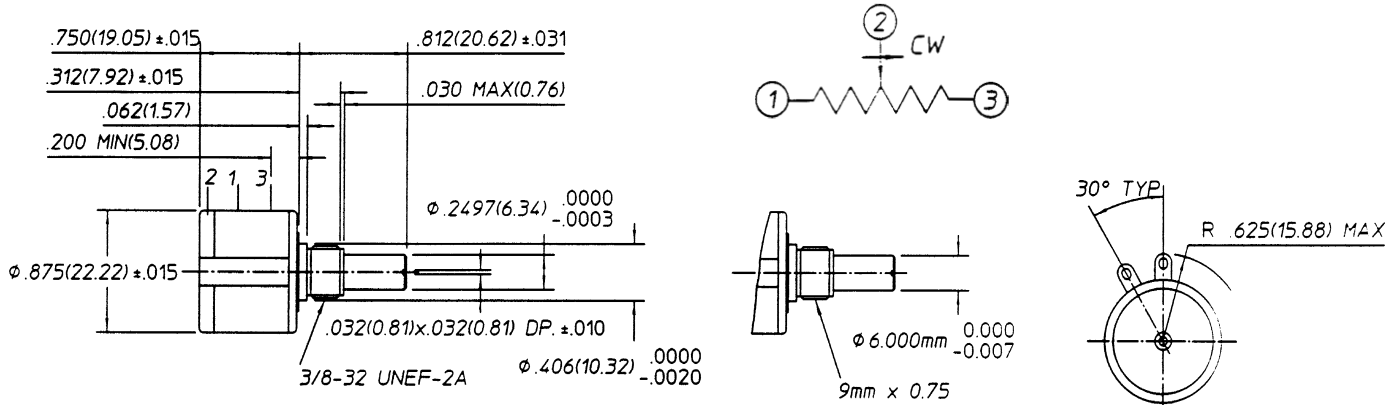
(including 533 & 535)

## Precision Wire Wound Potentiometers

### SPECIAL FEATURES

- Special resistancetolerances to 1%
- Rear shaft extensions
- Rear shaft support bearing
- Non turn lug
- Insulating plastic shaft
- Special independent linearity to  $\pm 0.75\%$
- Dual gang configuration
- High torque
- Centre tap
- Special markings
- Front shaft extensions
- Servo unit available
- Slipping clutch
- Dual concentric shafts

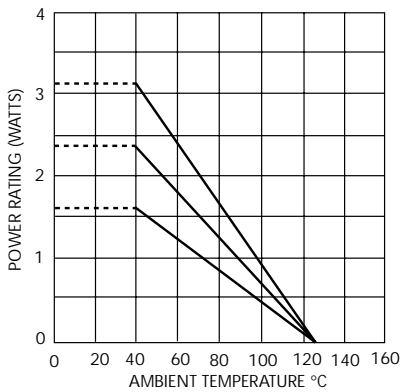
### DIMENSIONS



Mounting hardware, washer and panel nut, nickel plated

Dimensions; in/(mm).

### Power Rating Chart



Resistance Element Data														
Resistance Values (Ohms)			Resolution %			Ohms per turn			Max current at 70° C Ambient (milliamps)			Max voltage across coil (Volts)		
533	534	535	533	534	535	533	534	535	533	534	535	533	534	535
50	-	50	.149	-	.120	.0746	-	.0603	141.0	-	173.0	7.07	-	8.66
100	100	100	.111	0.60	.075	.1114	0.603	.0746	100.0	141.0	122.0	10.0	14.1	12.2
200	200	200	.097	0.37	.061	.1954	0.746	.1220	70.7	100.0	86.6	14.1	20.0	17.3
500	500	500	.069	0.31	.049	.3424	.1520	.2459	44.7	63.2	54.7	22.4	31.6	27.4
1K	1	1K	.063	0.25	.041	.6331	.2459	.4113	31.6	44.7	38.7	31.6	44.7	38.7
2K	2K	2K	.041	0.21	.031	.8206	.4113	.6331	22.4	31.6	27.4	22.4	31.6	27.4
5K	5K	5K	.044	0.16	.034	2.2330	.8206	1.7230	14.1	20.0	17.3	14.1	20.0	17.3
10K	10K	10K	.034	0.17	.030	3.4510	1.7230	3.0160	10.0	14.1	12.2	10.0	14.1	12.2
20K	20K	20K	.031	0.15	.020	6.1790	3.0160	3.9910	7.07	10.0	8.66	7.07	10.0	8.66
-	50K	50K	-	0.09	.015	-	4.6690	7.4560	-	6.32	5.47	-	31.6	27.4
-	100K	-	-	0.007	-	-	7.4560	-	-	4.47	-	-	44.7	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

### ORDERING INFORMATION

The models 533 (3 turn), 534 (10 turn) and 535 (5 turn) can be ordered by stating:

534

Model

1

Mounting  
1 - Bushing  
2 - Servo (consult factory)

1

Number of sections

XXX / XXX

Resistance EIA Code  
section #N  
(consult factory)



Spectrol Electronics Limited

Garrard Way, Swindon, Wiltshire, SN3 3HY, England

Tel: +44 (0) 1793 521351 Fax: +44 (0) 1793 539255 Sales Fax: +44 (0) 1793 525163

E-mail: sales@spectrol.co.uk Web: www.spectrol.co.uk