Vishay Spectrol

RoHS COMPLIANT

⁷/₈" (22.2 mm) Multi Turn Wirewound Potentiometer 533: 3 Turns / 534: 10 Turns / 535: 5 Turns



www.vishay.com

DESIGN SUPPORT TOOLS





QUICK REFERENCE DATA						
Sensor type	ROTATIONAL, multi turn wirewound					
Output type	Output by turrets					
Market appliance	Industrial					
Dimensions	⁷ / ₈ " (22.2 mm)					

FEATURES

- Bushing and servo mount designs available
- Linearity ± 0.25 %, down to 0.05 % on request
- Special resistance tolerances to 1 %
- Rear shaft extensions and support bearing
- Metric shaft available
- Dual gang configuration and concentric shafts
- High torque, center tap, slipping clutch on request
- · Special markings and front shaft extensions
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

ELECTRICAL SPECIFICATIONS									
PARAMETER	MODEL 533	MODEL 534	MODEL 535						
Resistance range - standard values	50 Ω to 20 k Ω	100 Ω to 100 kΩ	50 Ω to 50 k Ω						
Capability range	5 Ω to 60 k Ω	10 Ω to 200 kΩ	5Ω to 100 k Ω						
Standard tolerance	±5%	± 5 %	±5%						
Linearity (independent)	± 0.25 %	± 0.25 %	± 0.25 %						
Noise	100 Ω ENR	100 Ω ENR	100 Ω ENR						
Rotation (electrical and mechanical)	1080° +10° -0°	3600° +10° -0°	1800° +10° -0°						
Power rating (at 70 °C)	1.0 W	2.0 W	1.5 W						
Insulation resistance		1000 M Ω minimum 500 V _{DC}							
Dielectric strength	1000 V _{RMS} minimum 60 Hz								
Absolute minimum resistance	Not to exceed linearity x total resistance or 1 Ω , whichever is greater								
Temperature coefficient	20 ppm/°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 $\pm 2^{\circ}$								
Taps	Center tap only								

MARKING								
Unit identification	Manufacturer's name and model number, resistance value and tolerance, linearity specification date code and terminal identification. Example of a marking for a standard part: 534-11103							

RESISTANCE VALUES								
533 (Ω)	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K							
534 (Ω)	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K							
535 (Ω)	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K							

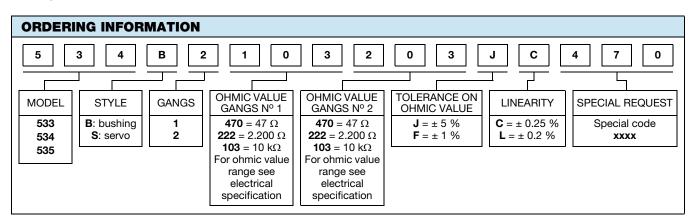
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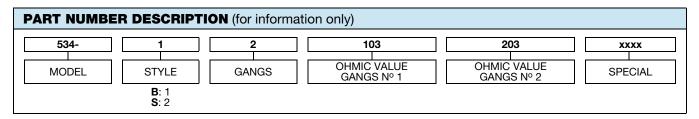
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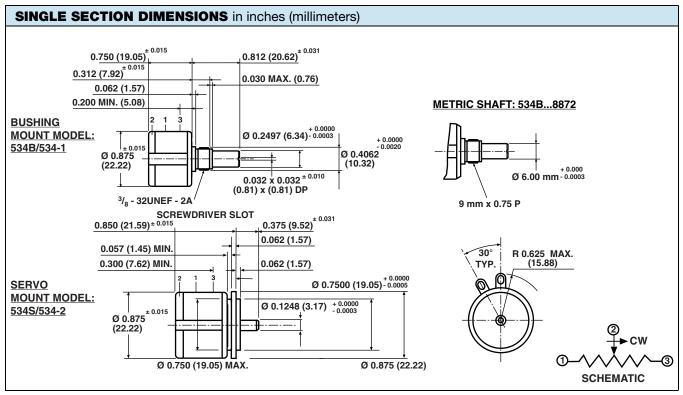
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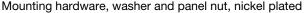


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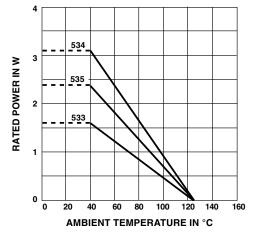
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MECHANICAL SPECIFICATIONS							
PARAMETER							
Bearing type	Bushing: sleeve bearing Servo: ball bearing						
Torque (maximums): starting Section 1 Section 2	534 0.5 ozin (36 g-cm) 0.9 ozin (65 g-cm)	533/535 0.7 ozin (50 g-cm) 1.1 ozin (79 g-cm)					
Torque (maximums): running Section 1 Section 2	534 0.4 ozin (28.80 g-cm) 0.7 ozin (50.40 g-cm)	533/535 0.6 ozin (43.20 g-cm) 0.9 ozin (64.8 g-cm)					
Weight (maximums) Section1 Section 2	0.75 oz. (21.26 g) 1.25 oz. (35.44 g)						
Stop strength	75 ozin (static) (5.4 kg-cm)						
Ganging	2 sections maximum						

POWER RATING CHART



ENVIRONMENTAL SPECIFICATIONS								
Vibration	15 g thru 2000 Hz							
Shock	50 <i>g</i>							
Rotational life (shaft revolution) 533 534 534 (servo) 535	300 000 1 000 000 > 1 000 000 500 000							
Load life	900 h							
Temperature range	-55 °C to +125 °C							

Note

· Nothing stated herein shall be construed as a guarantee of quality or durability

RESISTANCE ELEMENT DATA														
RESISTANCE VALUE (Ω)		RESOLUTION (%)		OHMS PER TURN		MAXIMUM CURRENT AT 70 °C AMBIENT (mA)			MAXIMUM 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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