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VISHAY
www.vishay.com

Model 533, 534, 535

Vishay Spectrol

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



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 www.vishay.com/doc?99912

RoHS COMPLIANT

DESIGN SUPPORT TOOLS

click logo to get started

3D Models Available

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

ELECTRICAL SPECIFICATIONS

PARAMETER	MODEL 533	MODEL 534	MODEL 535
Resistance range - standard values	50 Ω to 20 kΩ	100 Ω to 100 kΩ	50 Ω to 50 kΩ
Capability range	5 Ω to 60 kΩ	10 Ω to 200 kΩ	5 Ω to 100 kΩ
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 MΩ 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 ± 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. 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

For technical questions, contact: sferprecisionpot@vishay.com

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ORDERING INFORMATION

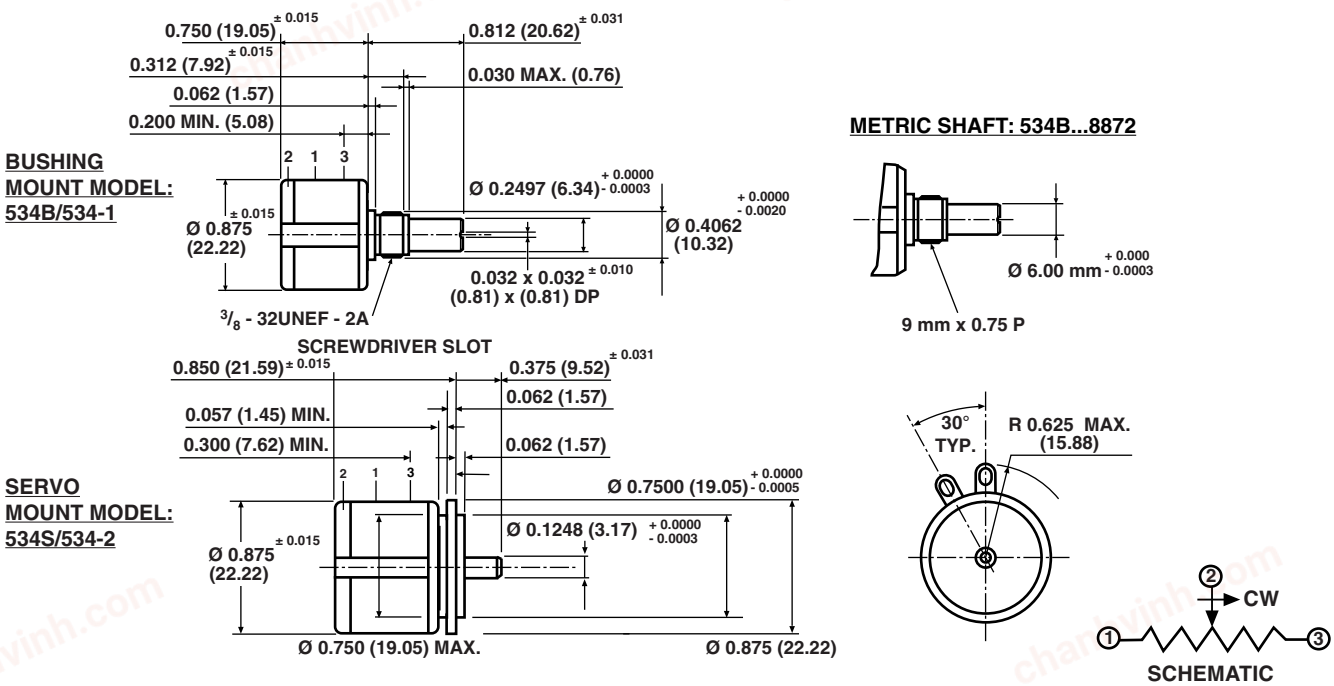
5	3	4	B	2	1	0	3	2	0	3	J	C	4	7	0

MODEL	STYLE	GANGS	OHMIC VALUE GANGS Nº 1	OHMIC VALUE GANGS Nº 2	TOLERANCE ON OHMIC VALUE	LINEARITY	SPECIAL REQUEST
533 **534** **535**	**B**: bushing **S**: servo	**1** **2**	**470** = 47 Ω **222** = 2.200 Ω **103** = 10 kΩ For ohmic value range see electrical specification	**470** = 47 Ω **222** = 2.200 Ω **103** = 10 kΩ For ohmic value range see electrical specification	**J** = ± 5 % **F** = ± 1 %	**C** = ± 0.25 % **L** = ± 0.2 %	Special code **xxxx**

PART NUMBER DESCRIPTION (for information only)

534-	1	2	103	203	xxxx
MODEL	STYLE **B**: 1 **S**: 2	GANGS	OHMIC VALUE GANGS Nº 1	OHMIC VALUE GANGS Nº 2	SPECIAL

SINGLE SECTION DIMENSIONS in inches (millimeters)



Mounting hardware, washer and panel nut, nickel plated

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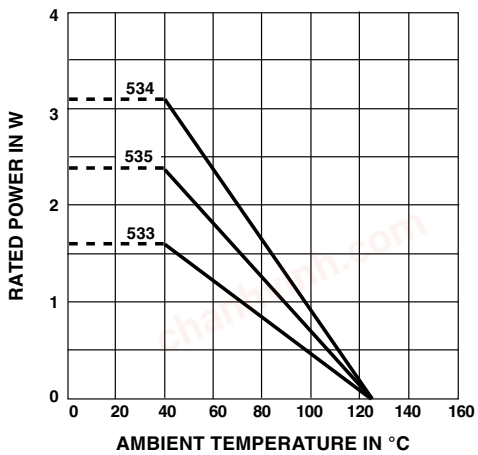
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MECHANICAL SPECIFICATIONS

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

POWER RATING CHART



ENVIRONMENTAL SPECIFICATIONS

Vibration	15 *g* thru 2000 Hz
Shock	50 *g*
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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