

Model 501

Spectrol

Military, 7/8" (22.2mm) Ten Turn Wirewound Precision Potentiometer



FEATURES

- Style RR1000 per MIL-R-12934, 100Ω to 50KΩ
- Style RR1000, Per MIL-R-12934, Servo Mount Only

ELECTRICAL SPECIFICATIONS

PARAMETER	
Total Resistance	STANDARD 100Ω to 50KΩ
Tolerance:	± 3% and ± 1%
Absolute Minimum Resistance	Linearity x total resistance or 0.5Ω, whichever is greater
End Voltage	0.5% of total voltage applied.
Linearity (Independant)	
100Ω to 5KΩ	± 1.0%, ± 0.5%, ± 0.25%, ± 0.1%
5KΩ and above	± 1.0%, ± 0.5%, ± 0.25%, ± 0.1%, ± 0.05%
Noise	100Ω ENR
Electrical Rotation	3600° + 4° - 0°
Power Rating:	
Section 1: 2.00 watts	70°C ambient derated to zero @ 125°C
Section 2	75% of the rating of section 1 (1.50 watts at 70°C)
Insulation Resistance	1000MΩ minimum, 500VDC
Dielectric Strength	1000V _{RMS} , 60Hz
Taps (Extra)	54 available as special, standard tolerance ± 1°
Phasing (CCW End Points)	Section 2 phased to section 1 within ±1°

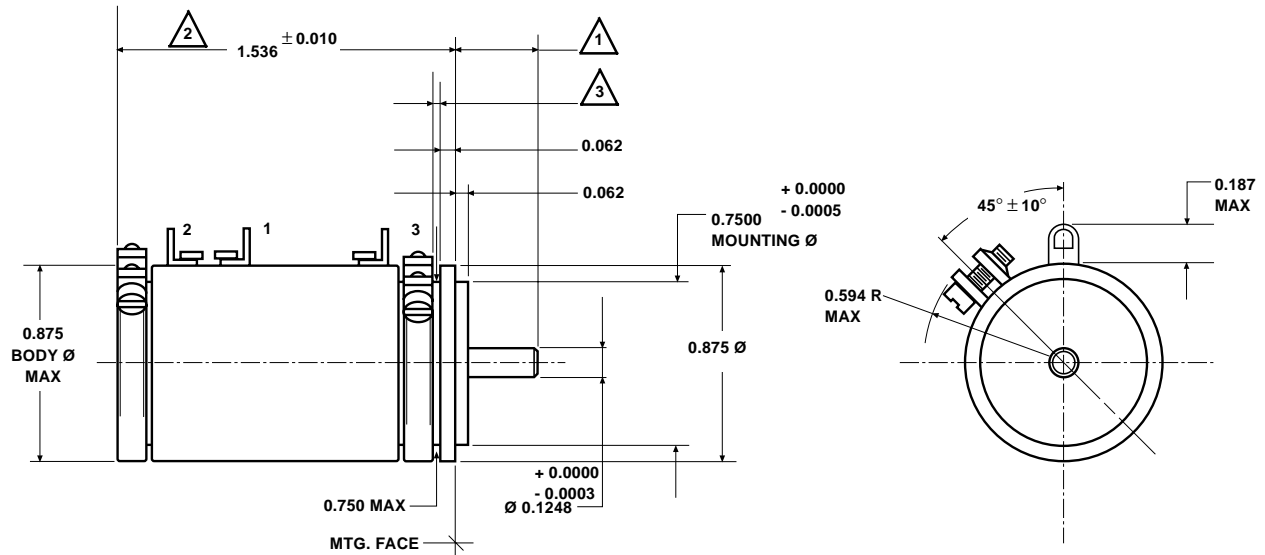
ORDERING INFORMATION

Please order Model 501, Style RR1000, in accordance with the type designations as outlined in MIL-R-12934

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DIMENSIONS in inches

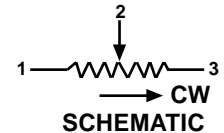


1 STANDARD EXTENSIONS 3/8, 5/8, 3/4, 7/8, AND 1 INCH TOLERANCE ± 1/32

2 ADD 1 282 ± 0.010 FOR SECTION 2

3 0.057 MIN CLAMP BAND EAR SETBACK

TOLERANCES UNLESS SPECIFIED
DECIMAL ± 0.005
FRACTIONS ± 1/64



MECHANICAL SPECIFICATIONS		
PARAMETER		
Rotation	3600° + 10° -0°	
Bearing Type	Ball Bearing	
Ganging	2 sections maximum, Terminal alignment, added sections, within ± 10° of section 1 Terminals	
Torque (Maximums)	MAXIMUM STARTING	MAXIMUM RUNNING
1 Section	0.40 oz - in	0.30 oz - in
2 Section	0.30 oz - in	0.20 oz - in
Stop Strength	48 (static)	
Mechanical Runouts (Maximums):	SERVO & SCREW	
Shaft Runout (housing fixed) (TIR)	0.002 in	
Pilot Dia. Runout (shaft fixed) (TIR)	0.001 in	
Lateral Runout (shaft fixed) (TIR)	0.001 in	
Shaft End Play	0.005 in	
Shaft Radial Play	0.002 in	
Moment of Inertia	45gm - cm ² per section maximum	
Weight (Maximums):		
Single Section	1.20 oz	
Each Additional Section	0.80 oz	

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MATERIAL SPECIFICATIONS	
Housing	Diallyl phthalate
Lids	Aluminum, anodized
Shaft	Stainless steel, non-magnetic non-passivated
Terminlas	Brass, plated for solderability
Clamp Rings	Stainless steel

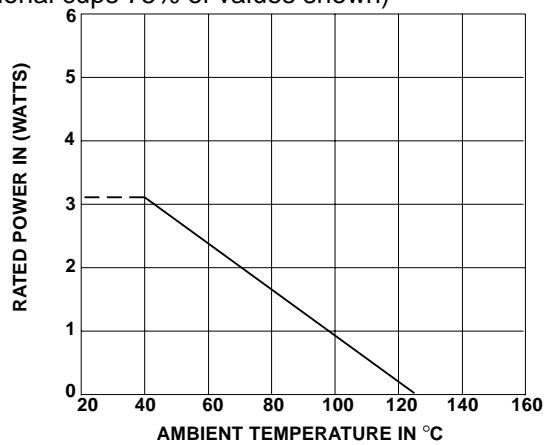
MARKING	
Unit Identification	Each section shall be marked with Spectrol, Spectrol model no, type designation and terminal identification

ENVIRONMENTAL SPECIFICATIONS	
Vibration	15g thru 2000CPS
Shock	50g
Salt Spray	96 Hours
Rotational Life	2 million shaft revolutions
Load Life	900 Hours
Operating Temperature Range	- 65°C to + 125°C
Moisture Resistant	-

POWER RATING CHART

(Ratings for cup No. 1.

Additional cups 75% of values shown)



RESISTANCE ELEMENT DATA					
STANDARD RESISTANCE VALUES (Ω)	RESOLUTION (%)	OHMS PER TURN	MAXIMUM CURRENT AT 70°C AMBIENT (mA)	MAXIMUM VOLTAGE ACROSS COIL (V)	WIRE TEMP. COEF. (ppm/°C)
100	0.050	0.050	141	14.1	180
200	0.049	0.098	100	20.0	20
500	0.037	0.185	63.2	31.6	20
1K	0.034	0.339	44.7	44.7	20
2K	0.029	0.571	31.6	63.2	20
5K	0.023	1.173	20.0	100	20
10K	0.017	1.731	14.1	141	20
20K	0.016	3.142	10.0	200	20
50K	0.011	5.639	6.32	316	20