Spectrol

Military 3” (76.2mm) Single Turn Wirewound Precision Potentiometer

FEATURES

- Style RR3000 per MIL-R-12934
- 200Ω to 100KΩ
- Servo Mount Only

ELECTRICAL SPECIFICATIONS

PARAMETER	
Total Resistance Standard Range: Tolerance:	 200Ω to 100KΩ ± 3% and ± 1%
Absolute Minimum Resistance	Linearity x Total resistance or 0.5Ω whichever is greater
End Voltage	0.5% of total applied voltage
Linearity (Independent) Total Resistance Linearity	 200Ω to 2KΩ ± 1.0%, ± 0.5% and ± 0.25% 2KΩ and above ± 1.0%, ± 0.5%, ± 0.25% and ± 0.1%
Noise	100Ω ENR
Electrical Rotation	350° ± 2°
Power Rating Section 1: 125 unit Section 1: 150 unit Additional Sections:	 6.0 watts at 70°C derated to zero at 125°C 6.0 watts at 85°C derated to zero at 150°C 75% of the rating of section 1, (4.5 watts)
Insulation Resistance	1000MΩ minimum, 500 VDC
Dielectric Strength	$1000V_{RMS}$, 60Hz
Taps (extra)	37 available as special, standard tolerance ± 1°
Phasing (CCW End Points)	Additional sections phased to section 1 within ± 1°

ENVIRONMENTAL SPECIFICATIONS

PARAMETER	
Vibration	15G thru 2000CPS
Shock	50G
Salt Spray	96 Hours
Rotational Life	1 million shaft revolutions
Load Life	900 Hours
Operating Temperature Range	125°C unit - 65° to + 125°C 150°C unit -65° to + 150°C

MATERIAL SPECIFICATIONS

Housing and Lids	Aluminum, anodized
Shaft and Clamp Rings	Stainless steel, non-magnetic, non-passivated
Terminals	Brass, plated for solderability

ORDERING INFORMATION

Please order Model 401, Style RR3000, in accordance with the type designations outlined in MIL-R-12934

Model 401

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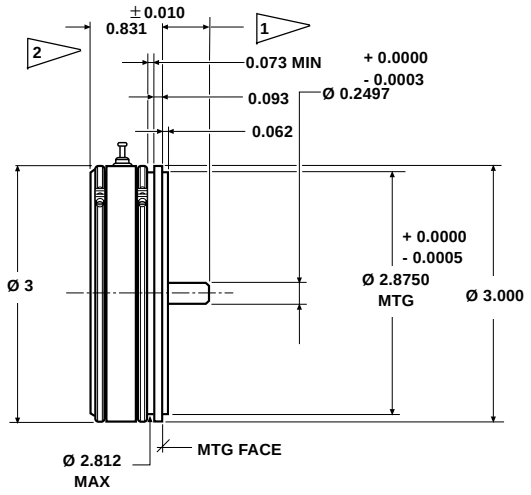
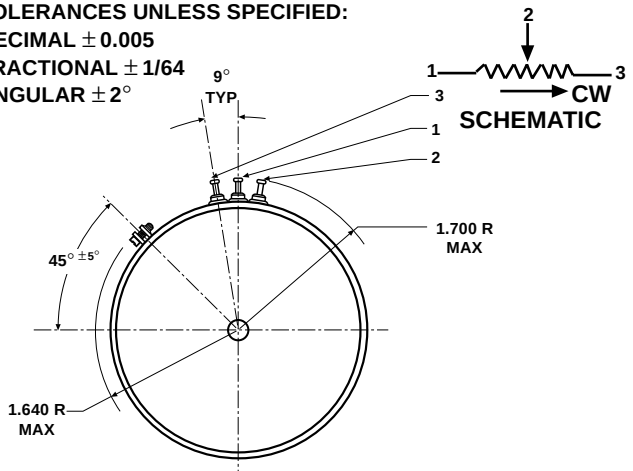
Precision Potentiometer

DIMENSIONS in inches



TOLERANCES UNLESS SPECIFIED:
DECIMAL ±0.005
FRACTIONAL ±1/64
ANGULAR ±2°

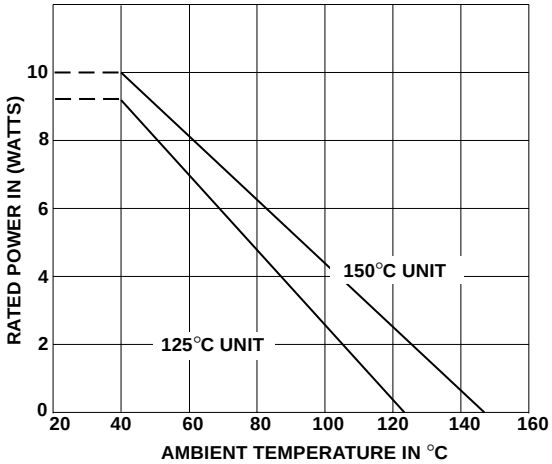


1 **STANDARD EXTENSIONS OF 3/8, 1/2, 5/8, 3/4, 7/8, AND 1 INCH. TOLERANCE ±1/32**

2 **ADD 0.500 ±0.002 FOR EACH ADDITIONAL SECTION**

MECHANICAL SPECIFICATIONS		
PARAMETER		
Mechanical Rotation	360° (continuous)	
Bearing Type	Ball bearing	
Ganging	3 sections maximum, terminal alignment, added sections, within ± 10° of section 1 terminals	
Torque	**MAXIMUM STARTING**	**MAXIMUM RUNNING**
1 Section:	1.1 oz - in	0.6 oz - in
Each Additional Section	0.8 oz - in	0.5 oz - in
Mechanical Runouts (maximums)		
Shaft Runout (Housing fixed) (TIR)	0.002 in	
Pilot dia Runout (Shaft fixed) (TIR)	0.001 in	
Lateral Runout (Shaft fixed) (TIR)	0.003 in	
Shaft End Play	0.005 in	
Shaft Radial Play	0.002 in	
Moment of Inertia	4.0gm - cm^2 per section maximum	
Weight		
Single Section:	7.0 oz maximum	
Each Additional Section	2.0 oz maximum	

POWER RATING CHART
(Ratings for cup No. 1.
Additional cups 75% of values shown)



RESISTANCE ELEMENT DATA					
RESISTANCE VALUES (Ω)	**RESO-LUTION (%)**	**OHMS PER TURN**	**MAXIMUM CURRENT AT 70°C AMBIENT (mA)**	**MAXIMUM VOLTAGE ACROSS COIL (V)**	**WIRE TEMP. COEF. (ppm/°C)**
200	0.091	0.181	173	34.7	20
500	0.072	0.361	110	54.5	20
1K	0.057	0.575	77.5	77.4	20
2K	0.056	1.12	54.8	109	20
5K	0.042	2.09	34.6	173	20
10K	0.034	3.42	24.5	245	20
20K	0.025	5.07	17.3	347	20
50K	0.019	9.41	11.0	545	20
100K	0.018	18.0	7.74	775	20

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

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