

Model 308

Spectrol

2" (50.8mm) Single Turn Conductive Plastic Precision Potentiometer



FEATURES

- Rotational Life Exceeds 20 Million Shaft Revolutions
- Virtually Infinite Resolution
- Designed in Reliability
- Co-Molded Element & Multifinger Wiper Provide Low Noise Operation

ELECTRICAL SPECIFICATIONS		
PARAMETER		
Total Resistance Standard Range	500Ω to 100KΩ	
Tolerance	STANDARD ± 10%	SPECIAL ± 5%
Linearity (Independent)	STANDARD ± 0.25%	SPECIAL ± 0.05%
Rotation	350° ± 2°	
Power Rating Section 1 Additional Sections	2.0 watts at 70°C ambient derated to zero at 125°C (400 VDC maximum) 75% of the rating of section 1	
Minimum Voltage	0.5% maximum	
Output Smoothness	0.1% maximum	
Insulation Resistance	1000MΩ minimum 500 V _{DC}	
Dielectric Strength	1000V _{RMS} 60 Hz	
Taps (Extra)	Extra taps available as special	
Phasing	Points at which output ratio is 0.5 aligned ± 1° (ref to section 1)	
Temperature Coefficient of Resistance	± 400 ppm/°C maximum	

MATERIAL SPECIFICATIONS	
Housing and Lids	Aluminum, anodized
Shaft and Clamp Rings	Stainless steel, non-magnetic non-passivated
Terminals	Brass, gold plated for solderability
Bushing Mount Hardware Lockwasher Internal Tooth: Panel nut:	Steel, nickel plated Brass, nickel plated

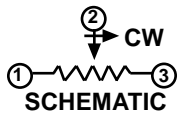
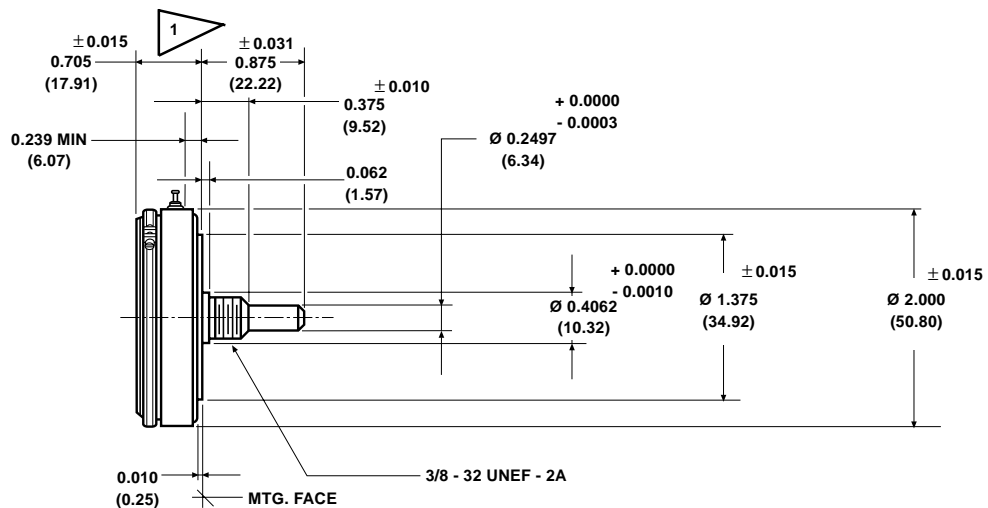
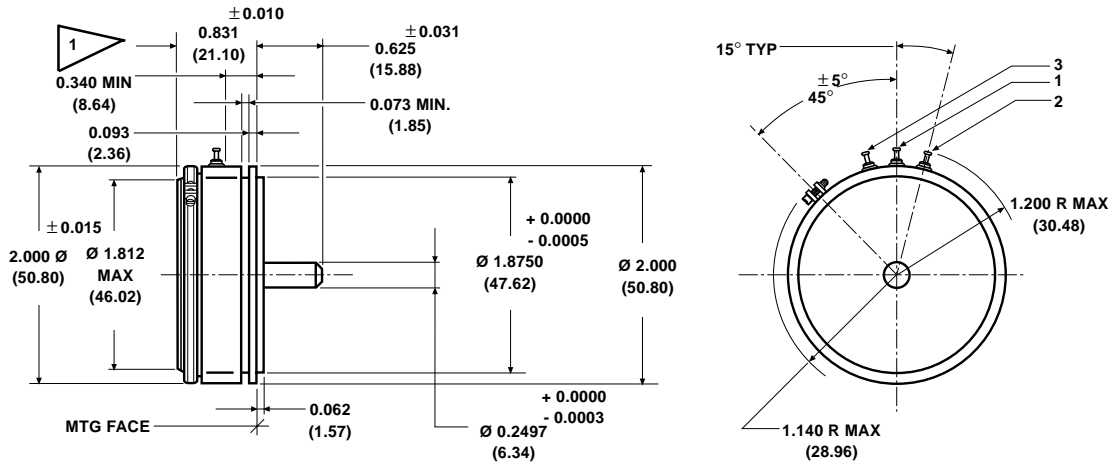
ENVIRONMENTAL SPECIFICATIONS	
Vibration	15g thru 2000 Hz
Shock	50g
Salt Spray	96 Hours
Rotational Life	Servo: 20 million shaft revolutions Bushing; 5 million shaft revolutions
Load Life	900 Hours
Temperature Range	- 55°C to + 125°C
Moisture Resistant	-

ORDERING INFORMATION			
The Model 308 can be ordered from this data sheet with a variety of alternate characteristics, as shown. For most rapid service on your order, please state:			
308	2	3	XXX
MODEL	MOUNTING	TOTAL RESISTANCE OF EACH SECTION	NUMBER OF SECTIONS
	1. Servo 2. Bushing	Beginning with the section nearest the mounting end	
Example: Model 308, Servo, 15K/1500Ω/5K 3 section Example: Model 308, Bushing, 10K, single section Example: 308 - 2 - 3 - XXX			
Other characteristics will be standard as described on this data sheet. If special characteristics are required, such as: special linearity tolerance, special resistance tolerance, extra taps, non-linear functions, etc., please state these on your order and allow additional lead time for delivery.			

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DIMENSIONS in inches (millimeters)

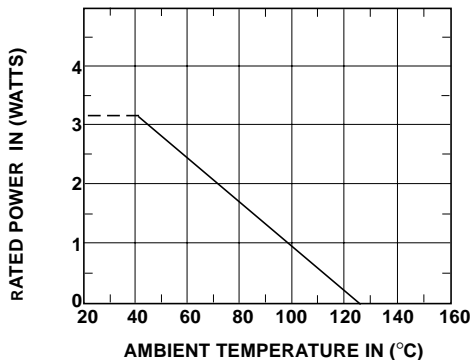


±0.002

ADD 0.500 (12.70) FOR EACH ADDITIONAL SECTION

TOLERANCES: UNLESS OTHERWISE NOTED
DECIMALS ±0.005 ANGLES ±2°

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



RESISTANCE ELEMENT DATA	
RESISTANCE VALUES (Ω)	MAXIMUM VOLTAGE ACROSS COIL (V)
500	32
1K	45
2K	71
5K	100
10K	141
20K	224
50K	316
100K	350*

*Maximum Voltage Allowable

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Precision Potentiometer

MECHANICAL SPECIFICATIONS		
PARAMETER		
Rotation	360° (continuous)	
Bearing Type Servo Mount: Bushing Mount:	Ball bearing Sleeve bearing	
Ganging	6 Sections maximum Terminal alignment, added sections, within ± 10° of section 1 terminals	
Torque (Maximums) Mounting Servo, 1 section Bushing, 1 section Each additional section	STARTING 1.0 oz - in (72.00gm - cm) 1.7 oz - in (122.40gm - cm) 0.6 oz - in (43.20gm - cm)	RUNNING 0.5 oz - in (36.00gm - cm) 1.0 oz - in (72.00gm - cm) 0.4 oz - in (28.80gm - cm)
Runouts (Maximums) Shaft (TIR/in) Pilot dia. (TIR) Lateral (TIR) Shaft End Play Shaft Radial Play	SERVO 0.002 in (0.05cm) 0.002 in (0.05cm) 0.003 in (0.08cm) 0.005 in (0.13cm) 0.002 in (0.05cm)	BUSHING 0.002 in (0.05cm) 0.002 in (0.05cm) 0.005 in (0.13cm) 0.005 in (0.13cm) 0.003 in (0.08cm)
Moment of Inertia	2.0gm - cm ² per section maximum	
Weight Single Section Each Additional Section	4.5 oz (127.57gm) 1.2 oz (34.02gm)	

MARKING	
Unit Identification	Units shall be marked with Spectrol name, model no, and data code, and on each section, resistance, resistance tolerance, linearity and terminal identification