

Model 128

Spectrol

1 - 1/16" (26.9mm) Single Turn Conductive Plastic Precision Potentiometer



FEATURES

- 1 - 1/16" Round
- Bushing Mount, Single Section
- Servo Mount, Two Section
- 500Ω to 50KΩ
- Rotational Life Exceeds 20 Million Shaft Revolutions
- Virtually Infinite Resolution
- Designed-In Reliability
- Co-Molded Element and Multi-Finger Wiper Provide Low Noise Operation

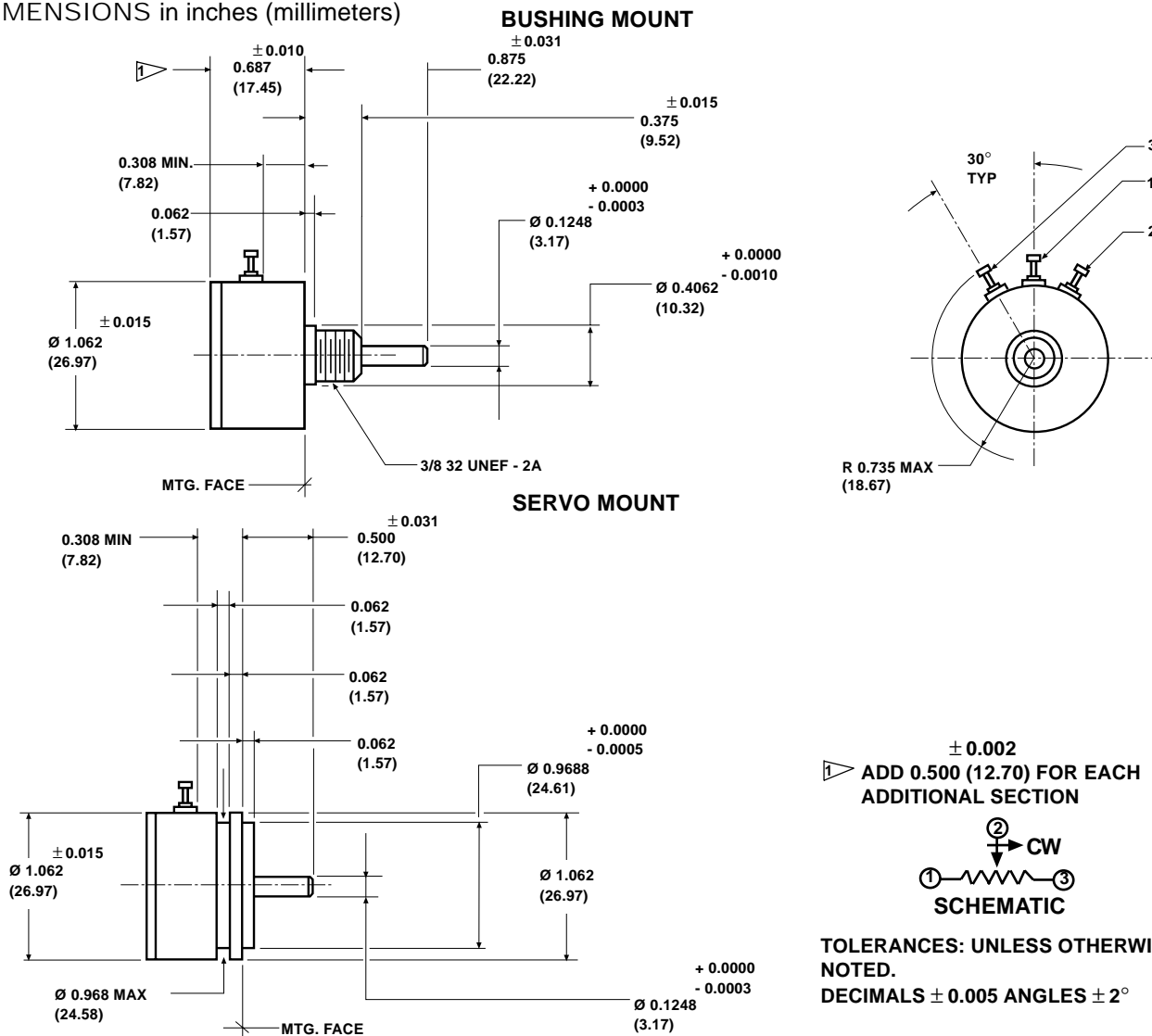
ELECTRICAL SPECIFICATIONS		
PARAMETER	STANDARD	SPECIAL
Total Resistance: Tolerance	500Ω to 50K ± 10%	20K ± 5%
Linearity (Independent)	± 0.5%	± 0.15%
Rotation	345° ± 4°	
Power Rating Section 1: Additional Section:	1.25 watts @ 70°C ambient, derated to zero @ 125°C ambient 75% of the rating of section 1	
Minimum Voltage	0.5% maximum	
Output Smoothness	0.1% maximum	
Insulation Resistance	1000MΩ min, 500VDC	
Dielectric Strength	1000V _{RMS} , 60Hz	
Phasing (CCW End Points)	Points at which output ratio is 0.5 aligned ± 1° (Ref. section 1)	
Temperature Coefficient of Resistance	± 400ppm/°C maximum	
Taps (Extra)	Extra taps available as special	

ORDERING INFORMATION			
The Model 128 can be ordered from this data sheet with a variety of alternate characteristics, as shown above. For most rapid service on your order, please state:			
128	1	4	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 128, Servo, 10K/10K/30K/500Ω, 4 section			
Example: Model 128, Bushing, 5K, single section			
Example: 128 - 1 - 4 - 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)



MECHANICAL SPECIFICATIONS		
PARAMETER		
Rotation	360° continuous	
Bearing Type	SERVO MOUNT Ball Bearing	BUSHING MOUNT Sleeve Bearing
Torque (Maximum)	STARTING	RUNNING
Servo, 1 section	0.25 oz - in (18.0gm - cm)	0.15 oz - in (10.8gm - cm)
Bushing, 1 Section	0.30 oz - in (21.6gm - cm)	0.25 oz - in (18.0gm - cm)
Each Additional Section	0.20 oz - in (14.4gm - cm)	0.15 oz - in (10.8gm - cm)
Mechanical Runouts (Maximum)	SERVO	BUSHING
Shaft Runout (TIR/in)	0.002 in (0.05mm)	0.002 in (0.05mm)
Pilot Dia. Runout (TIR/in)	0.002 in (0.05mm)	0.002 in (0.05mm)
Lateral Runout (TIR)	0.002 in (0.05mm)	0.005 in (0.13mm)
Shaft End Play	0.005 in (0.13mm)	0.005 in (0.13mm)
Shaft Radial Play	0.002 in (0.05mm)	0.003 in (0.08mm)
Weight (Maximums):		
Single Section	0.8 oz (22.7gm)	
Each Additional Section	0.4 oz (11.3gm)	
Ganging	6 sections maximum, terminal alignment, added sections, within ± 10° of section 1 terminals	
Moment of Inertia	0.12gm - cm ² per section maximum	

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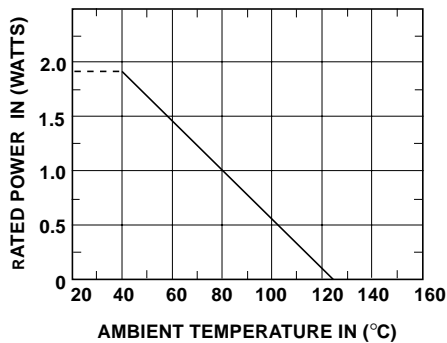
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MATERIAL SPECIFICATIONS	
Housing and Lids	Aluminum, anodized
Shaft	Stainless steel, non-magnetic non-passivated
Terminals	Brass plated for solderability
Bushing Mount Hardware Lockwasher Internal Tooth, Panel nut:	Steel, nickel plated Brass, nickel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

ENVIRONMENTAL SPECIFICATIONS	
Vibration	15g thru 2000Hz
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	-

MARKING	
Unit Identification	Units shall be marked with Spectrol name, model number and data code and on each section, resistance, resistance tolerance, linearity and terminal identification

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	25
1K	35
2K	50
5K	79
10K	112
20K	158
50K	250