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



FEATURES

- Bushing mount and servo mount types available
- Virtually infinite resolution
- Up to 6 sections available
- Rotational life exceeds 20 million shaft revolutions
- Co-Molded track and Multi-Finger wiper provide low noise signal
- Large ohmic value range: 500 Ω to 100 kΩ

RoHS COMPLIANT

ELECTRICAL SPECIFICATIONS

PARAMETER		
Total Resistance Standard Range	500 Ω to 100 kΩ	
Tolerance	**STANDARD** ± 10 %	**SPECIAL** ± 5 %
Linearity (Independent)	**STANDARD** ± 0.25 %	**SPECIAL** ± 0.05 %
Electrical Angle	350° ± 2°	
Power Rating Section 1 Additional Sections	2.0 W at 70 °C ambient derated to zero at 125 °C (400 V_{DC} maximum) 75 % of the rating of section 1	
Output Smoothness	0.1 % maximum	
Insulation Resistance	1000 MΩ minimum 500 V_{DC}	
Dielectric Strength	1000 V_{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	15 g thru 2000 Hz
Shock	50 g
Salt Spray	96 h
Rotational Life	Servo: 20 million shaft revolutions Bushing: 5 million shaft revolutions
Load Life	900 h
Temperature Range	- 55 °C to + 125 °C

ORDERING INFORMATION/DESCRIPTION

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	**B**	**1**	**20K**	**BO1**
MODEL	MOUNTING	NUMBER OF SECTIONS	TOTAL RESISTANCE OF EACH SECTION	PACKAGING
	B: Bushing **S:** Servo	Up to 6	Beginning with the section nearest the mounting end	Box of 1 piece

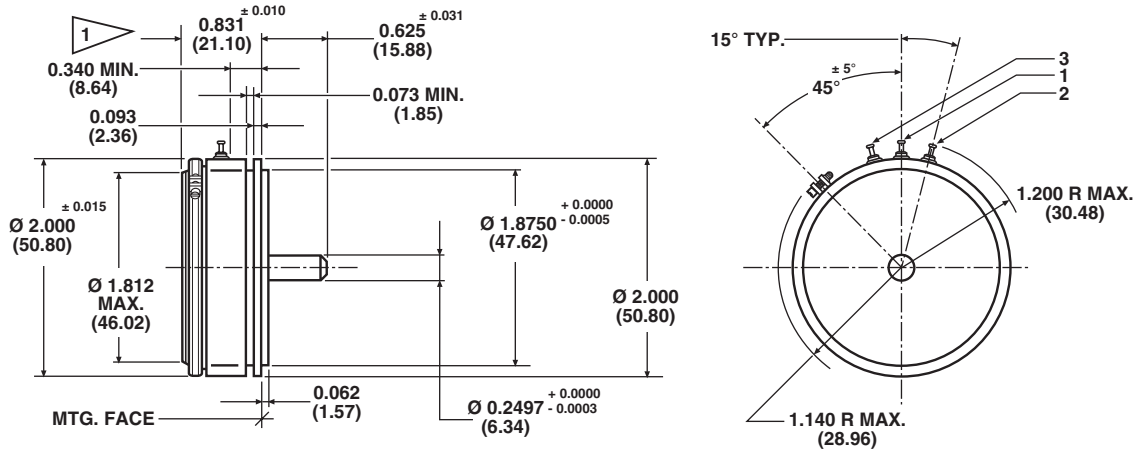
Other characteristics will be standard as described on this data sheet. If special characteristics are required, such as: special linearity tolerance, special resistance tolerance, extra taps, non-linear functions, etc., please state these on your order and allow additional lead time for delivery.

SAP PART NUMBERING GUIDELINES

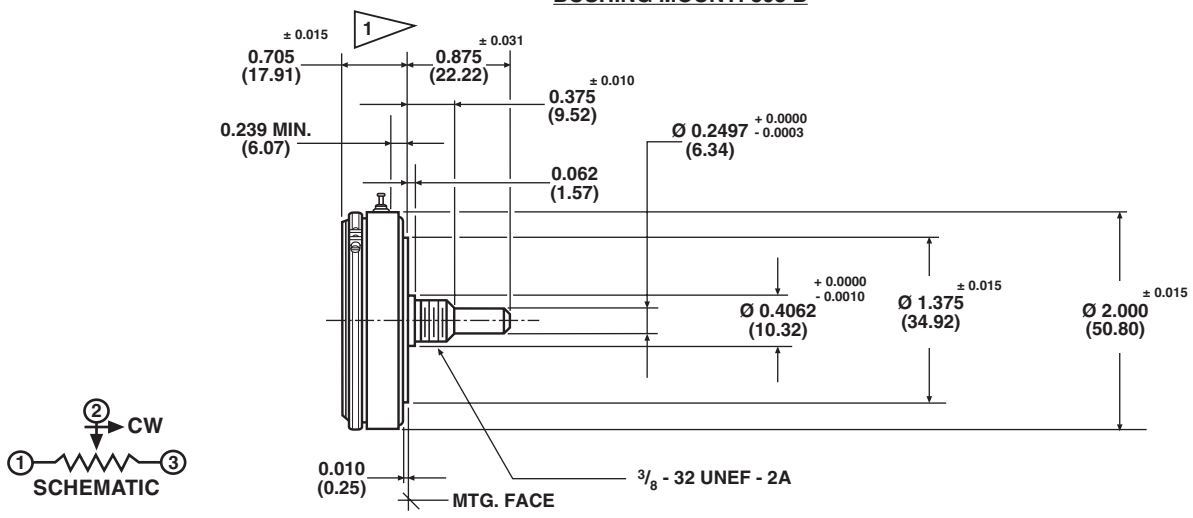
308	**S**	**1**	**203**	**B01**
MODEL	STYLE	GANG NUMBER	OHMIC VALUE GANG Nº 1	PACKAGING
	B: Bushing **S:** Servo	From 1 up to 6	20K	

DIMENSIONS in inches (millimeters)

SERVO MOUNT: 308 S



BUSHING MOUNT: 308 B

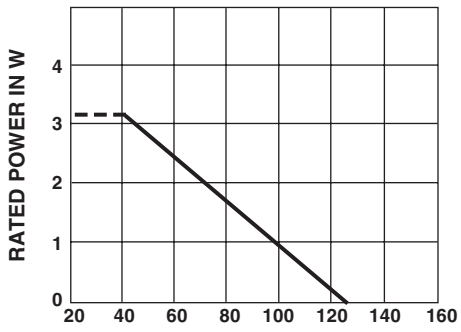


1 ADD 0.500 ± 0.002 (12.70) FOR EACH ADDITIONAL SECTION

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 APPLICABLE (V)
500	32
1K	45
2K	71
5K	100
10K	141
20K	224
50K	316
100K	350*

* Maximum voltage allowable

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 (72.00 g - cm) 1.7 oz. - in (122.40 g - cm) 0.6 oz. - in (43.20 g - cm)	**RUNNING** 0.5 oz. - in (36.00 g - cm) 1.0 oz. - in (72.00 g - cm) 0.4 oz. - in (28.80 g - cm)
Runouts (Maximums) Shaft (TIR/in) Pilot Dia. (TIR) Lateral (TIR) Shaft End Play Shaft Radial Play	**SERVO** 0.002" (0.05 cm) 0.002" (0.05 cm) 0.003" (0.08 cm) 0.005" (0.13 cm) 0.002" (0.05 cm)	**BUSHING** 0.002" (0.05 cm) 0.002" (0.05 cm) 0.005" (0.13 cm) 0.005" (0.13 cm) 0.003" (0.08 cm)
Moment of Inertia	2.0 g - cm^2 per section maximum	
Weight Single Section Each Additional Section	 4.0 oz. (127.57 g) 1.2 oz. (34.02 g)	

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

Disclaimer

All product specifications and data are subject to change without notice.

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