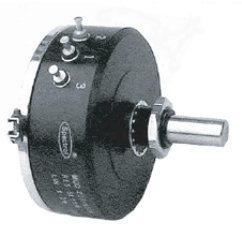
1 3/4" (44.5 mm) Single Turn Conductive Plastic Precision Potentiometer



FEATURES

- Rotational life exceeds 20 million shaft revolutions
- Virtually infinite resolution
- Designed for high reliability applications
- Co-molded track and multi-finger wiper provide low noise signal
- Bushing or servo types available up to 6 sections
- Ohmic value range: 1 kΩ to 50 kΩ
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

QUICK REFERENCE DATA	
Sensor type	ROTATIONAL, conductive plastic
Output type	Output by turrets
Market appliance	Professional
Dimensions	1 ¾" (44.5 mm)

ELECTRICAL SPECIFICATIONS

PARAMETER		
Total resistance tolerance	**STANDARD** 1 kΩ to 50 kΩ ± 10 %	**SPECIAL** - ± 5 %
Linearity (independent)	**STANDARD** ± 0.3 %	**SPECIAL** ± 0.1 %
Electrical angle	350° ± 3°	
Power rating: Section 1: Additional sections	1.75 W at 70 °C ambient derated to zero at 125 °C 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	± 600 ppm/°C maximum	

ORDERING INFORMATION/DESCRIPTION

The Model 208 can be ordered from this datasheet with a variety of alternate characteristics, as shown above. For most rapid service on your order, please state:

208	**B**	**1**	**10K**	**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

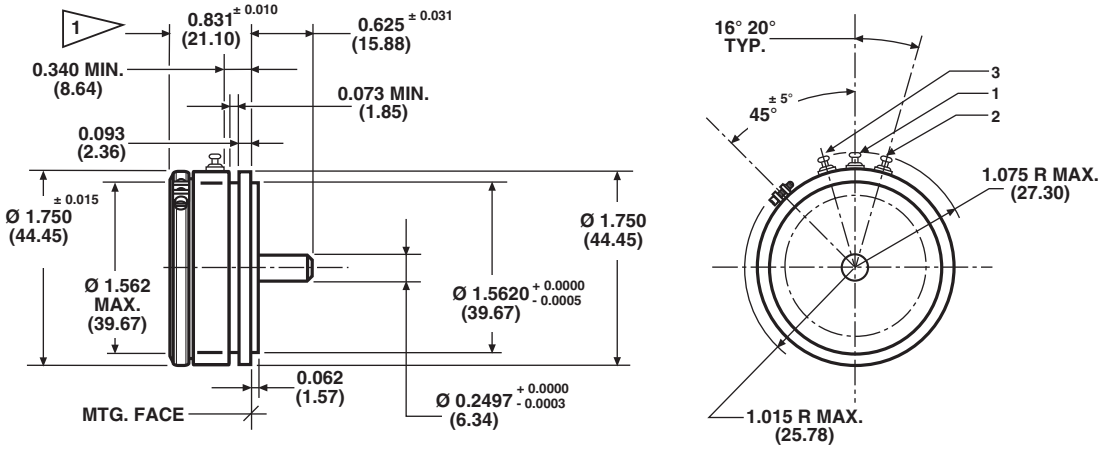
Other characteristics will be standard as described on this datasheet. If special characteristics are required, such as: special linearity tolerance, special resistance tolerance, extra taps, non-linear functions, etc., please state these on your order and allow additional lead time for delivery.

SAP PART NUMBERING GUIDELINES

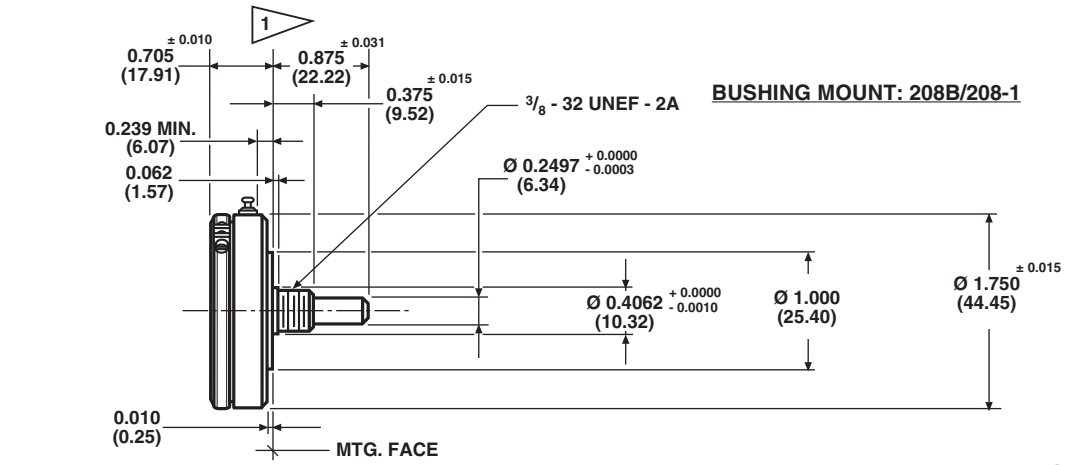
208	**S**	**2**	**103**	**502**	**B01**
MODEL	STYLE	GANG NUMBERS	OHMIC VALUE GANG N° 1	OHMIC VALUE GANG N° 2	PACKAGING
	B: Bushing **S:** Servo	From 1 up to 6	10K	5K	

DIMENSIONS in inches (millimeters)

SERVO MOUNT: 208S/208-2

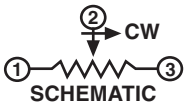


BUSHING MOUNT: 208B/208-1



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

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



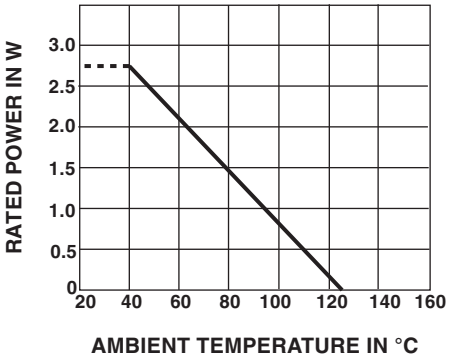
MECHANICAL SPECIFICATIONS		
PARAMETER		
Rotation	360° continuous	
Bearing type	**SERVO MOUNT** Ball bearing	**BUSHING MOUNT** Sleeve bearing
Ganging	6 sections maximum terminal alignment, added sections within ± 10° of section 1 terminals	
Torque (maximums) Servo section 1 Bushing section 1 Each additional section	**STARTING** 0.7 oz. - in (50.40 g - cm) 1.0 oz. - in (72.0 g - cm) 0.4 oz. - in (28.80 g - cm)	**RUNNING** 0.4 oz. - in (28.80 g - cm) 0.7 oz. - in (50.40 g - cm) 0.3 oz. - in (21.60 g - cm)
Mechanical 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	1.0 g - cm^2 per section maximum	
Weight: Single section Each additional section	3.0 oz. (85.05 g) 1.0 oz. (28.35 g)	

MATERIAL SPECIFICATIONS	
Housing and lids	Aluminium, anodized
Shaft and clamp rings	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

MARKING	
Unit identification	Units shall be marked with Spectrol name, model number and data code on each section, resistance, resistance tolerance, linearity and terminal identification. Example of a marking for a standard part: 208-12502 103

POWER RATING CHART

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



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
Operating temperature range	-55 °C to +125 °C

Note

- Nothing stated herein shall be construed as a guarantee of quality or durability.

RESISTANCE ELEMENT DATA	
RESISTANCE VALUES (Ω)	**MAXIMUM VOLTAGE APPLICABLE (V)**
1K	42
2K	59
5K	94
10K	132
20K	187
50K	299

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