

Vishay Spectrol

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
- Bushing or servo types available up to 6 sections
- Ohmic value range: 1 k Ω to 50 k Ω

ELECTRICAL SPECIFICATIONS		
PARAMETER		
Total Resistance Tolerance	STANDARD 1 $k\Omega$ to 50 $k\Omega$ \pm 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 M Ω 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 \pm 1° (Ref. to section 1)	
Temperature Coefficient of Resistance	± 400 ppm/°C maximum	

ORDERING INFORMATION/DESCRIPTION

The Model 208 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:

208 B01 10K

MODEL MOUNTING NUMBER OF SECTIONS TOTAL RESISTANCE OF EACH SECTION **PACKAGING**

> B: Bushing Up to 6 Beginning with the section nearest Box of 1 piece S: Servo

the mounting end

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					
208	s	2	103	502	B01
MODEL	STYLE	GANG NUMBERS	OHMIC VALUE GANG Nº 1	OHMIC VALUE GANG Nº 2	PACKAGING
	B : Bushing S : Servo	From 1 up to 6	10K	5K	

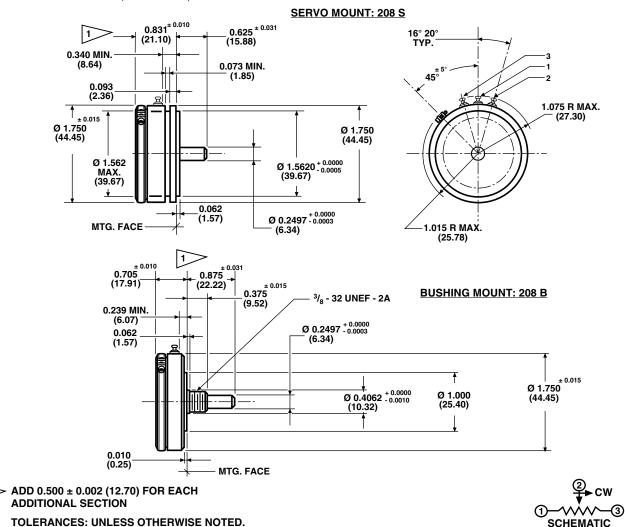
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DIMENSIONS in inches (millimeters)

DECIMALS ± 0.005 ANGLES ± 2°



MECHANICAL SPECIFICATION	ONS	
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)	



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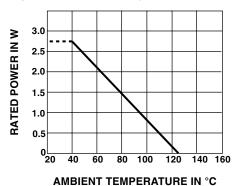
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MATERIAL SPECIFICATIONS		
Housing and Lids	Aluminium, anodized	
Shaft and Clamp Rings	Stainless steel, non-magnetic non-passivated	
Terminals	Brass, plated for solderability	
Bushing Mount Hardware Lockwasher Internal Tooth: Panel Nut:	Steel, nickel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

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

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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