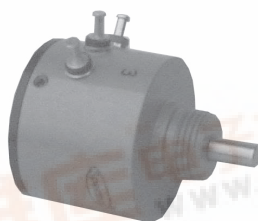


VISHAY

Model 708

Vishay Spectrol

## $\frac{7}{8}$ " (22.2 mm) Single Turn Conductive Plastic Precision Potentiometer



### FEATURES

- Virtually infinite resolution
- Bushing mount and servo mount types available
- Rotational life exceeds 20 million shaft revolutions
- Co-molded track and multi-finger wiper provide low noise signal
- Ohmic value range: 500  $\Omega$  to 50 k $\Omega$

RoHS  
COMPLIANT

### ELECTRICAL SPECIFICATIONS

PARAMETER		
Total Resistance Standard Range:	500 $\Omega$ to 50 k $\Omega$	
Tolerance:	<b>STANDARD</b> $\pm 10\%$	<b>SPECIAL</b> $\pm 5\%$
Linearity (Independent)	<b>STANDARD</b> $\pm 0.5\%$	<b>SPECIAL</b> $\pm 0.2\%$
Electrical Angle	$340^\circ \pm 5^\circ$	
Power Rating Section 1: Additional Sections:	1.0 W at 70 $^\circ$ ambient derated to zero at 125 $^\circ$ C 75 % of the rating of section 1	
Output Smoothness	0.1 % maximum	
Insulation Resistance	1000 M $\Omega$ minimum, 500 V <sub>DC</sub>	
Dielectric Strength	1000 V <sub>RMS</sub> , 60 Hz from Terminals to shaft	
Taps (Extra)	Extra taps available as special	
Phasing	Points at which output is 0.5 aligned $\pm 1^\circ$ (ref. to section 1)	
Temperature Coefficient of Resistance	$\pm 400$ ppm/ $^\circ$ C maximum	

### ORDERING INFORMATION/DESCRIPTION

The Model 708 can be ordered from this data sheet with a variety of alternate characteristics, as shown. For most rapid service on your order, please state:

708	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 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

708	S	2	102	103	BO1
MODEL	STYLE	GANGS	OHMIC VALUE GANG N° 1	OHMIC VALUE GANG N° 2	PACKAGING
	B: Bushing S: Servo	From 1 up to 6	1K	10K	



# Model 708

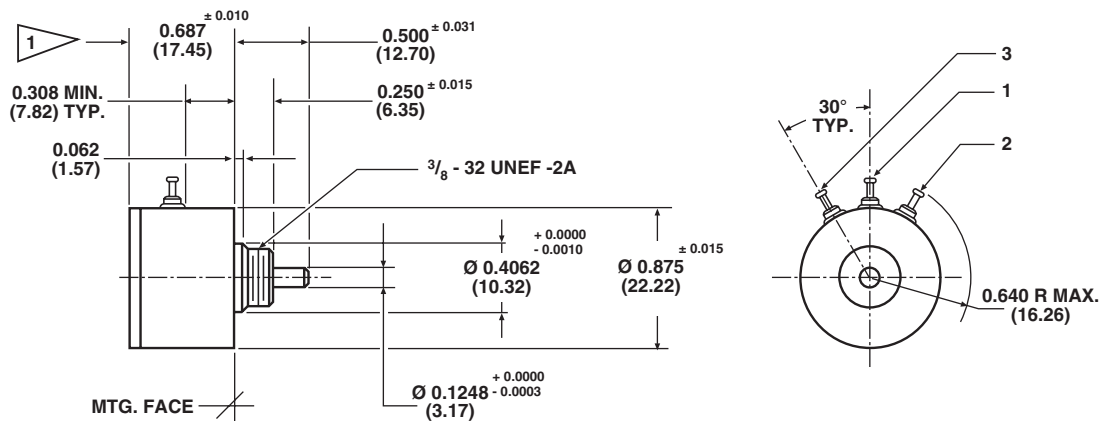
Vishay Spectrol

$\frac{7}{8}$ " (22.2 mm) Single Turn Conductive Plastic  
Precision Potentiometer

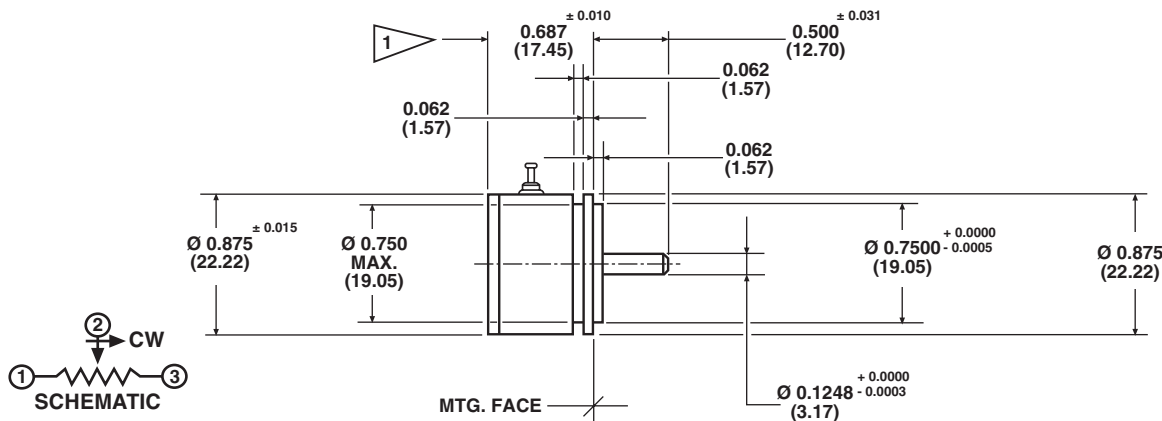


## DIMENSIONS in inches (millimeters)

### BUSHING MOUNT: 708 B



### SERVO MOUNT: 708 S



TOLERANCES: UNLESS OTHERWISE NOTED.  
DECIMALS  $\pm 0.005$  ANGLES  $\pm 2^\circ$

1 ADD  $0.500 \pm 0.002$  (12.70) FOR EACH  
ADDITIONAL SECTION

MECHANICAL SPECIFICATIONS		
PARAMETER		
Rotation	360° continuous	
Bearing Type Servo Mount: Bushing Mount:	Ball bearing Sleeve bearing	
Torque (Maximum) Servo, 1 Section Bushing, 1 Section Each Additional Section	<b>STARTING</b> 0.10 oz. - in (7.20 g - cm) 0.25 oz. - in (18.00 g - cm) 0.10 oz. - in (7.20 g - cm)	<b>RUNNING</b> 0.085 oz. - in (6.12 g - cm) 0.20 oz. - in (14.40 g - cm) 0.075 oz. - in (5.40 g - cm)
Runouts (Maximum) Shaft Runout (TIR/in) Pilot Dia. Runout (TIR) Lateral Runout (TIR) Shaft End Play Shaft Radial Play	<b>SERVO</b> 0.002" (0.05 cm) 0.002" (0.05 cm) 0.002" (0.05 cm) 0.005" (0.13 cm) 0.002" (0.05 cm)	<b>BUSHING</b> 0.002" (0.05 cm) 0.002" (0.05 cm) 0.005" (0.13 cm) 0.005" (0.13 cm) 0.004" (0.10 cm)
Weight (Maximum) Single Section: Each Additional Section:	0.6 oz. (17.0 g) 0.2 oz. (5.67 g)	
Ganging	6 sections max, terminal alignment, added sections within $\pm 10^\circ$ of section 1 terminals	
Moment of Inertia	0.12 g - cm <sup>2</sup> per section maximum	



## Model 708

### $\frac{7}{8}$ " (22.2 mm) Single Turn Conductive Plastic Precision Potentiometer

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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

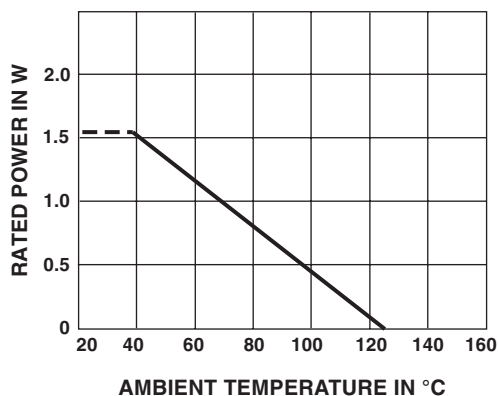
ENVIRONMENTAL SPECIFICATIONS	
Vibration	15 g thru 2000 Hz
Shock	50 g
Salt Spray	96 h
Rotational Life	Servo: 20 million shaft revolutions Bushing: 5 million shaft revolutions
Load Life	900 h
Temperature Range	- 55 °C to + 125 °C

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

### POWER RATING CHART

(Ratings for cup No. 1.

Additional cups 75 % of values shown)



RESISTANCE ELEMENT DATA	
RESISTANCE VALUES ( $\Omega$ )	MAXIMUM VOLTAGE APPLICABLE (V)
500	22
1K	32
2K	45
5K	71
10K	100
20K	141
50K	224



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