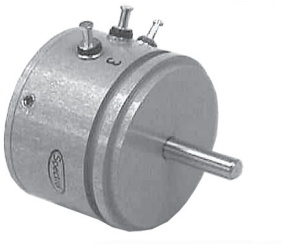
Model 128

Vishay Spectrol

1 1/16" (27 mm) Single Turn Conductive Plastic Precision Potentiometer



FEATURES

- 1 1/16" round
- Bushing mount and servo mount types
- Designed for high reliability applications
- Ohmic value range: 500 Ω to 50 kΩ
- Rotational life exceeds 20 million shaft revolutions
- Virtually infinite resolution
- Up to 6 sections available
- Co-molded track and multi-finger wiper provide low noise signal

RoHS COMPLIANT

ELECTRICAL SPECIFICATIONS

PARAMETER		
	STANDARD	**SPECIAL**
Total Resistance:	500 Ω to 50 kΩ	
Tolerance	± 10 %	± 5 %
Linearity (Independent)	± 0.5 %	± 0.15 %
Electrical Angle	345° ± 4°	
Power Rating Section 1: Additional Section:	1.25 W at 70 °C ambient, derated to zero at 125 °C ambient 75 % of the rating of section 1	
Output Smoothness	0.1 % maximum	
Insulation Resistance	1000 MΩ min, 500 V_{DC}	
Dielectric Strength	1000 V_{RMS}, 60 Hz	
Phasing (CCW End Points)	Points at which output ratio is 0.5 aligned ± 1° (ref. section 1)	
Temperature Coefficient of Resistance	± 400 ppm/°C maximum	
Taps (Extra)	Extra taps available as special	

ORDERING INFORMATION/DESCRIPTION

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	**S**	**1**	**1K**	**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

128	**S**	**3**	**103**	**102**	**203**	**B01**
MODEL	STYLE	GANGS	OHMIC VALUE GANG Nº 1	OHMIC VALUE GANG Nº 2	OHMIC VALUE GANG Nº 3	PACKAGING
	B: Bushing **S**: Servo	From 1 up to 6	10K	1K	20K	Box of 1 piece

For technical questions, contact: sfer@vishay.com

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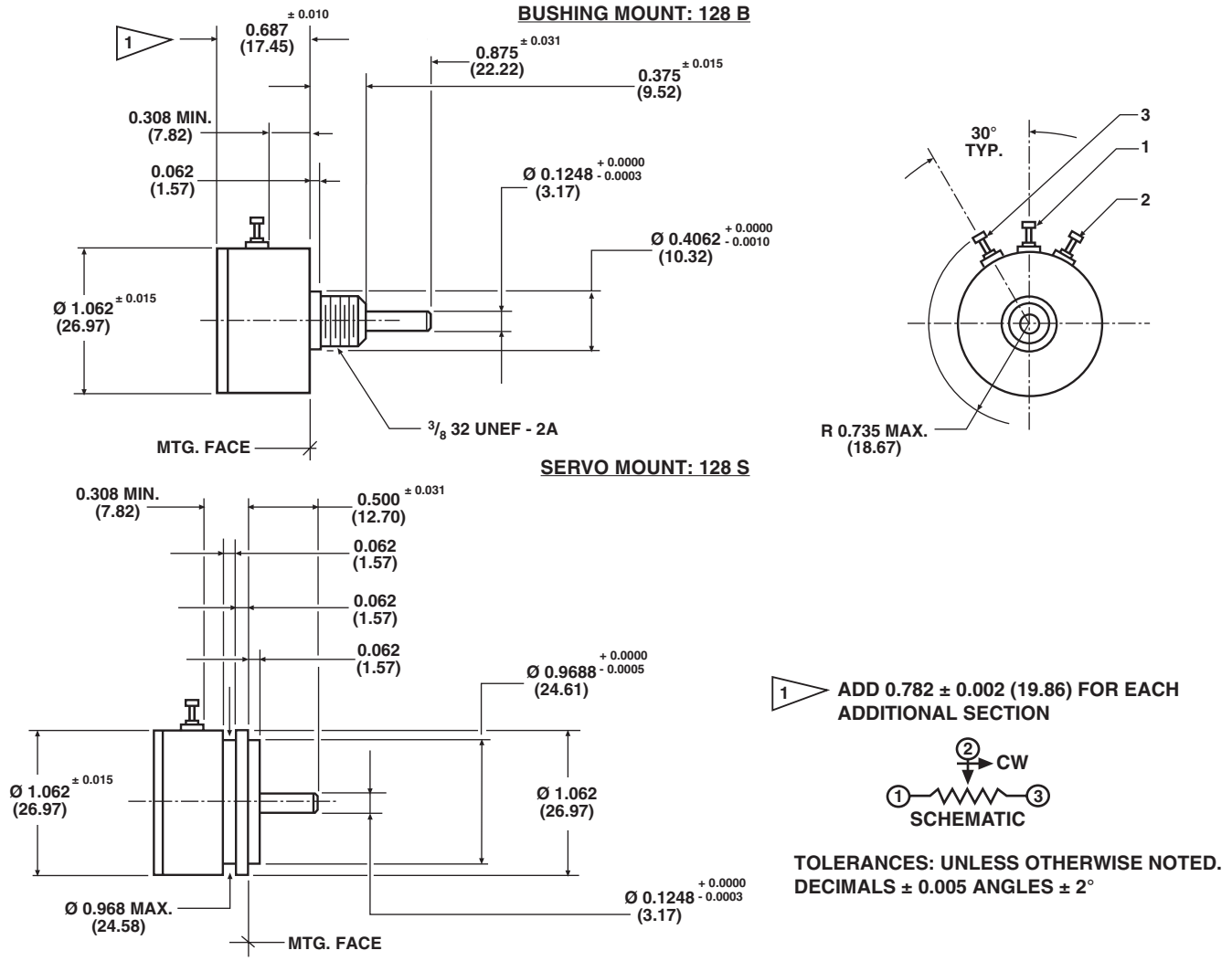
DIMENSIONS in inches (millimeters)



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

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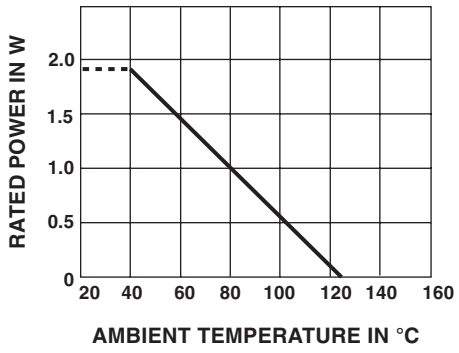
MATERIAL SPECIFICATIONS	
Housing and Lids	Aluminum, anodized
Shaft	Stainless steel, non-magnetic non-passivated
Terminals	Brass plated for solderability
Bushing Mount Hardware Lockwasher Internal Tooth, Panel Nut:	Steel, nickel plated Brass, nickel plated

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

MECHANICAL SPECIFICATIONS	
Unit Identification	Units shall be marked with Vishay 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)



RESISTANCE ELEMENT DATA	
RESISTANCE VALUES (Ω)	**MAXIMUM VOLTAGE APPLICABLE (V)**
500	25
1K	35
2K	50
5K	79
10K	112
20K	158
50K	250

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