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
- 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 1/16" (27 mm)

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 minimum, 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	± 600 ppm/°C maximum	
Taps (extra)	Extra taps available as special	

ORDERING INFORMATION

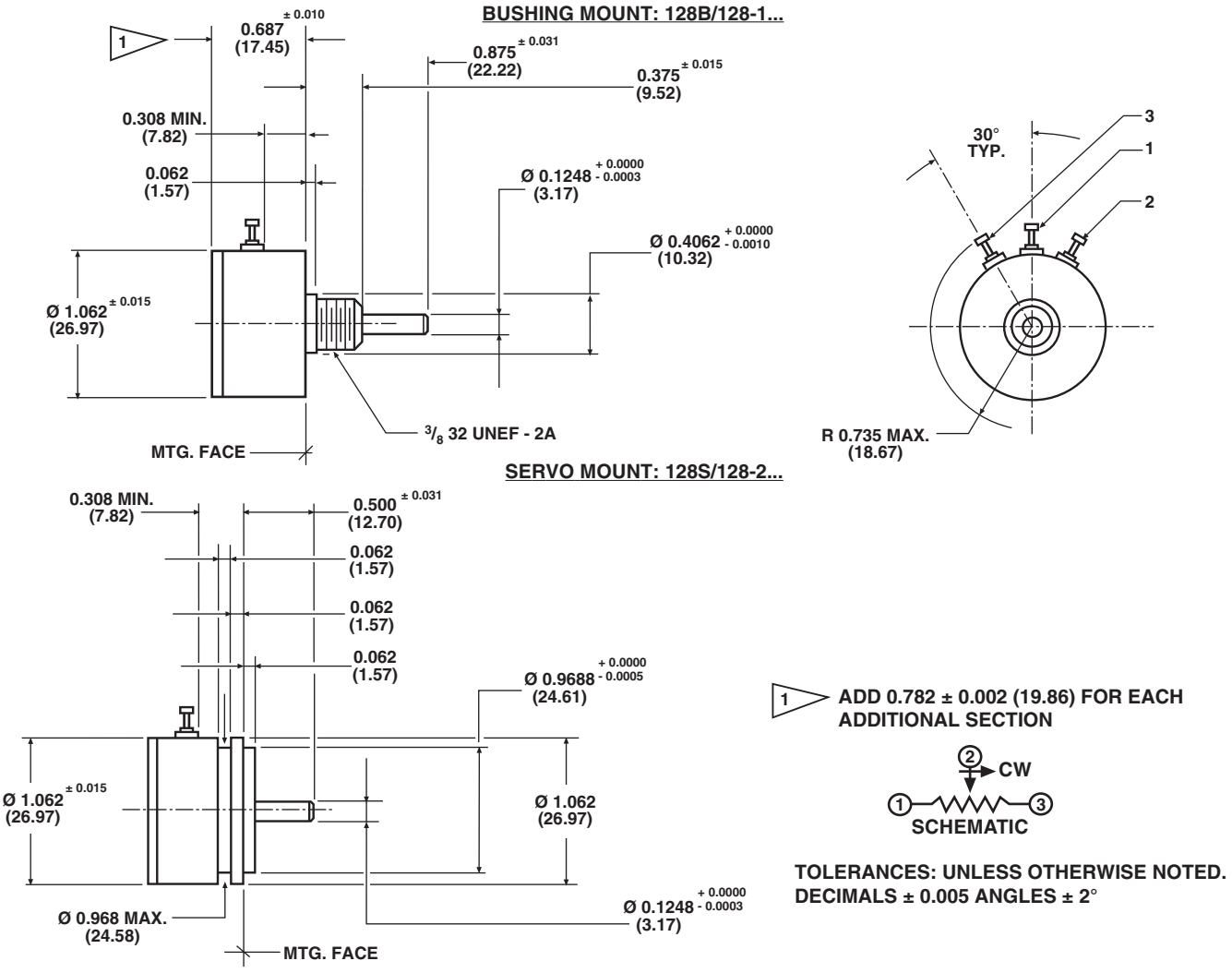
1	2	8	S	1	2	0	3	2	0	3	X	X	X	X

MODEL	STYLE	GANGS	OHMIC VALUE GANGS Nº 1	OHMIC VALUE GANGS Nº 2	SPECIAL REQUEST
128	**B**: bushing **S**: servo	**1** **2** **3** **4** **5** **6**	**470** = 47 Ω **222** = 2.200 Ω **103** = 10 kΩ For ohmic value range see electrical specification	**470** = 47 Ω **222** = 2.200 Ω **103** = 10 kΩ For ohmic value range see electrical specification	**xxxx**

PART NUMBER DESCRIPTION (for information only)

128-	1	1	102	103	xxxx
MODEL	STYLE	GANGS	OHMIC VALUE GANGS Nº 1	OHMIC VALUE GANGS Nº 2	SPECIAL
	B: 1 **S**: 2				

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	

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

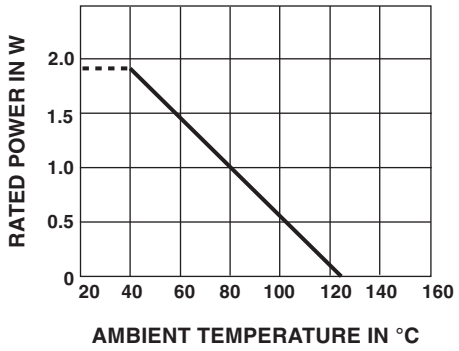
Note

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

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. Example of a marking for a standard part: 128-11103

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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