

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
- Compliant to RoHS directive 2002/95/EC



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	1.25 W at 70 °C ambient, derated to zero at 125 °C ambient	
Section 1:	1.25 W at 70 °C ambient, derated to zero at 125 °C ambient	
Additional Section:	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/DESCRIPTION

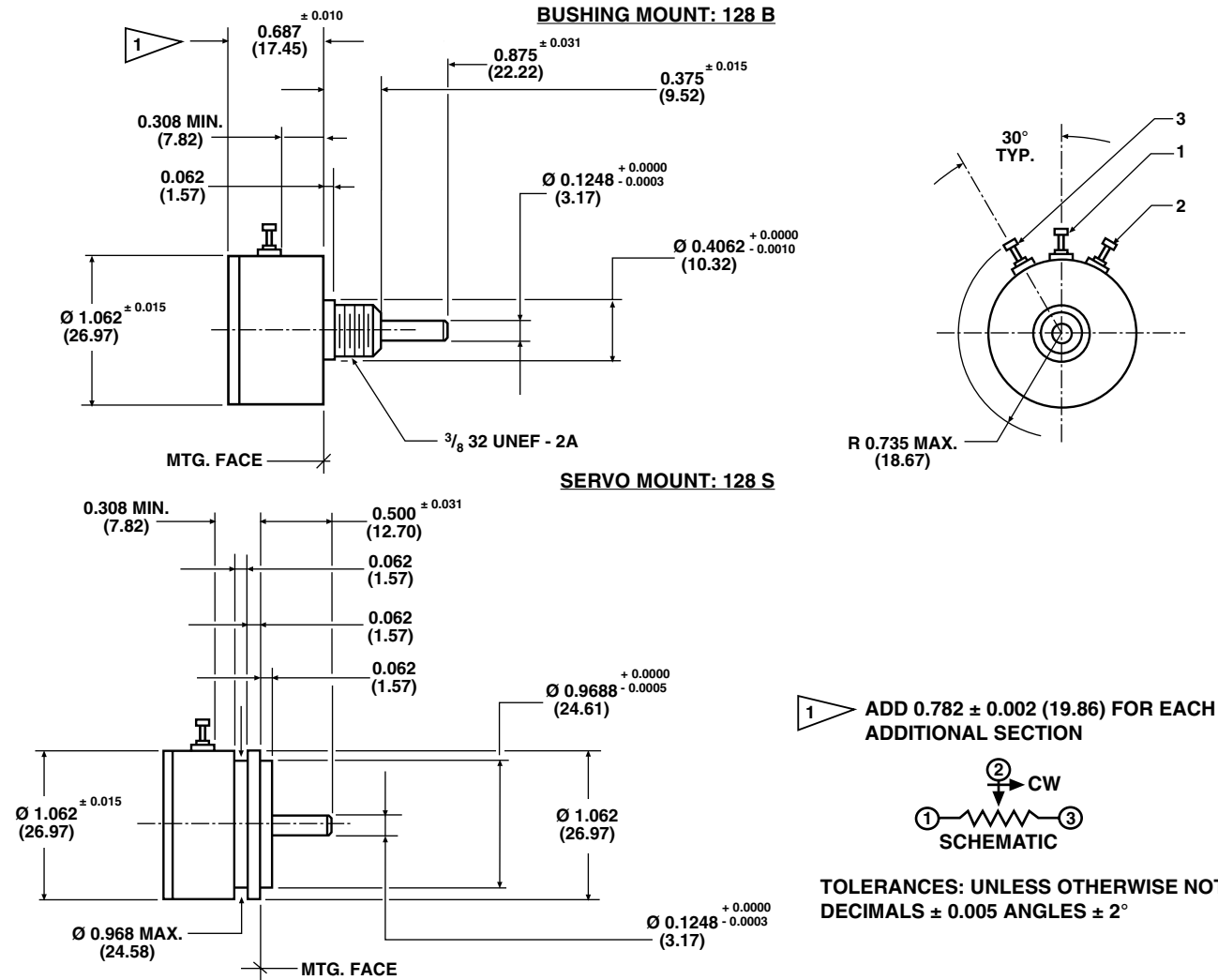
The Model 128 can be ordered from this data sheet with a variety of alternate characteristics, as shown above. For most rapid service on your order, please state:

128	S	1	1K	B01
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 N° 1	OHMIC VALUE GANG N° 2	OHMIC VALUE GANG N° 3	PACKAGING
	B: Bushing S: Servo	From 1 up to 6	10K	1K	20K	Box of 1 piece

1 1/16" (27 mm) Single Turn Conductive Plastic Precision Potentiometer
Vishay Spectrol
DIMENSIONS in inches (millimeters)


MECHANICAL SPECIFICATIONS		
PARAMETER		
Rotation	360° continuous	
Bearing Type	SERVO MOUNT Ball bearing	BUSHING MOUNT Sleeve bearing
Torque (Maximum)	STARTING	RUNNING
Servo, 1 Section	0.25 oz. - in (18.0 g - cm)	0.15 oz. - in (10.8 g - cm)
Bushing, 1 Section	0.30 oz. - in (21.6 g - cm)	0.25 oz. - in (18.0 g - cm)
Each Additional Section	0.20 oz. - in (14.4 g - cm)	0.15 oz. - in (10.8 g - cm)
Mechanical Runouts (Maximum)	SERVO	BUSHING
Shaft Runout (TIR/in)	0.002" (0.05 mm)	0.002" (0.05 mm)
Pilot Dia. Runout (TIR/in)	0.002" (0.05 mm)	0.002" (0.05 mm)
Lateral Runout (TIR)	0.002" (0.05 mm)	0.005" (0.13 mm)
Shaft End Play	0.005" (0.13 mm)	0.005" (0.13 mm)
Shaft Radial Play	0.002" (0.05 mm)	0.003" (0.08 mm)
Weight (Maximum):		
Single Section	0.8 oz. (22.7 g)	
Each Additional Section	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	

Model 128



Vishay Spectrol

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

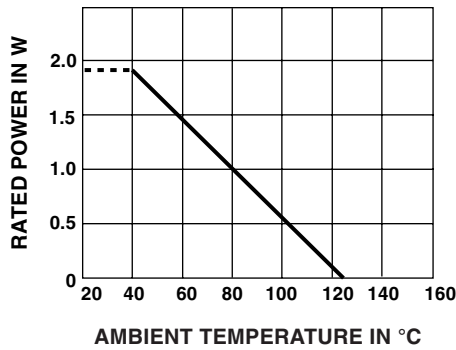
MATERIAL SPECIFICATIONS	
Housing and Lids	Aluminum, anodized
Shaft	Stainless steel, non-magnetic non-passivated
Terminals	Brass plated for solderability
Bushing Mount Hardware Lockwasher Internal Tooth: Panel Nut:	Steel, nickel plated Brass, nickel plated

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



Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.