

## 1 5/16" (33.3 mm) Single Turn Wirewound Precision Potentiometer



### FEATURES

- Gangable up to 6 sections
- Extra taps on request
- Bushing and servo mount types available
- Ohmic value range: 5 Ω up to 35 kΩ



**RoHS**  
COMPLIANT

ELECTRICAL SPECIFICATIONS		
PARAMETER		
Total Resistance: Tolerance: 50 Ω and Above Below 50 Ω	<b>STANDARD</b> 5 Ω to 20 kΩ ± 3 % ± 5 %	<b>SPECIAL</b> to 35 kΩ ± 1 % ± 3 %
End Voltage	Linearity x total applied voltage for total resistance above 20 Ω 2.0 % of total applied voltage for 20 Ω and below	
Linearity (Independent): 5 Ω to 100 Ω 100 Ω to 500 Ω 500 Ω to 3 kΩ 3 kΩ to 15 kΩ 15 kΩ and above	<b>STANDARD</b> ± 1.0 % ± 0.5 % ± 0.5 % ± 0.5 % ± 0.5 %	<b>BEST PRACTICAL</b> ± 0.50 % ± 0.35 % ± 0.25 % ± 0.20 % ± 0.15 %
Noise	100 Ω ENR (MIL-R-12934)	
Electrical Angle	352° ± 2°	
Power Rating	2.75 W at 40 °C ambient	
Insulation Resistance	100 MΩ min, 500 V <sub>DC</sub>	
Dielectric Strength	1000 V <sub>RMS</sub> , 60 Hz	
Taps (Extra)	Up to 13 (position tolerance: ± 1°)	
Phasing	CCW taps of multiple sections aligned with CCW tap of section 1 to ± 1°	
Absolute Minimum Resistance	Linearity x total resistance or 0.5 Ω, whichever is greater	

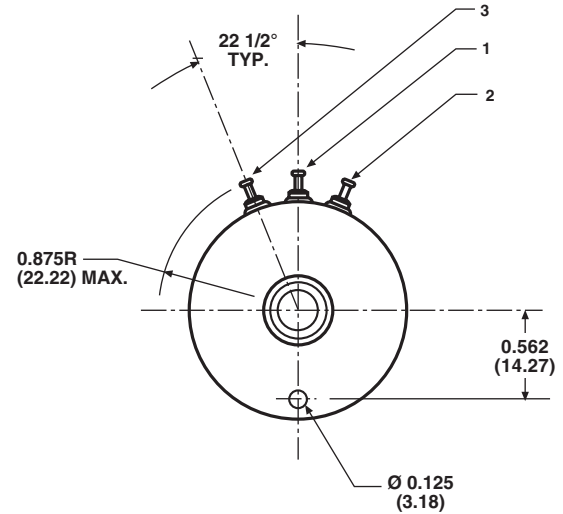
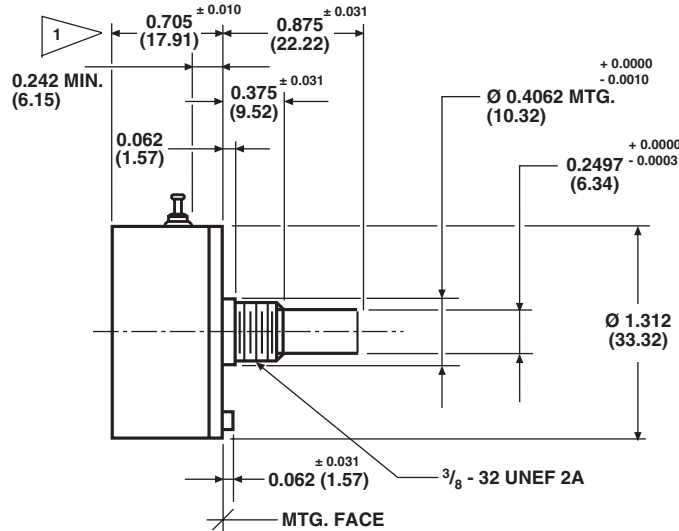
ORDERING INFORMATION/DESCRIPTION				
The Model 100 can be ordered from this data sheet with a variety of alternate characteristics, as shown. For most rapid service on your order, please state:				
<b>100</b>	<b>S</b>	<b>1</b>	<b>10K</b>	<b>BO1</b>
MODEL	MOUNTING TYPE	NUMBER OF SECTIONS	OHMIC VALUE	PACKAGING
	<b>B:</b> Bushing <b>S:</b> Servo	Up to 6 sections		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					
<b>100</b>	<b>B</b>	<b>2</b>	<b>203</b>	<b>502</b>	<b>B01</b>
MODEL	STYLE	NUMBER OF SECTIONS	OHMIC VALUE	OHMIC VALUE	PACKAGING
	Bushing		Section N° 1: 20K	Section N° 2: 5K	Box of 1 piece

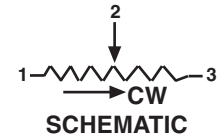
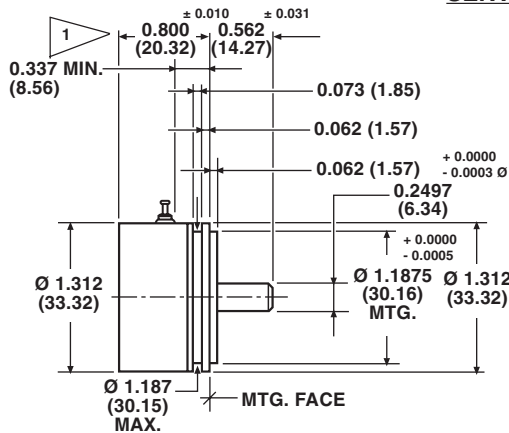


**DIMENSIONS** in inches (millimeters)

**BUSHING MOUNT: 100B...**



**SERVO MOUNT: 100S...**



1 ADD 0.566 ± 0.002 (14.38) FOR EACH ADDITIONAL SECTION

TOLERANCES: UNLESS OTHERWISE NOTED.  
DECIMALS ± 0.005 ANGLES ± 2°

MECHANICAL SPECIFICATIONS		
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)	<b>STARTING</b>	<b>RUNNING</b>
Servo, 1 Section	0.60 oz. - in (43.20 g - cm)	0.30 oz. - in (21.60 g - cm)
Bushing, 1 Section	1.00 oz. - in (72.00 g - cm)	0.75 oz. - in (54.00 g - cm)
Each Additional Section	0.30 oz. - in (21.60 g - cm)	0.30 oz. - in (21.60 g - cm)
Mechanical Tolerances (Maximums):	<b>BUSHING</b>	<b>SERVO</b>
Shaft Runout (TIR/In)	0.002" (0.05 cm)	0.002" (0.05 cm)
Pilot Dia. Runout (TIR)	0.002" (0.05 cm)	0.002" (0.05 cm)
Lateral Runout (TIR)	0.005" (0.13 cm)	0.002" (0.05 cm)
Shaft End Play	0.005" (0.13 cm)	0.005" (0.13 cm)
Shaft Radial Play	0.004" (0.10 cm)	0.002" (0.05 cm)
Moment of Inertia	1.0 g - cm <sup>2</sup> per section maximum	
Weight		
Single Section	2.0 oz. maximum (56.7 g)	
Each Additional Section	0.75 oz. maximum (21.3 g)	

# Model 100



Vishay Spectrol

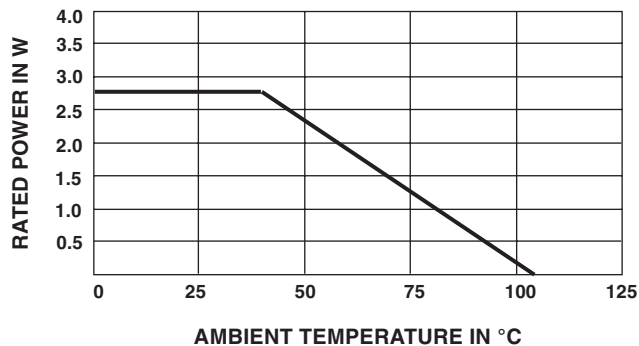
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Precision Potentiometer

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 CPS
Shock	50 g
Salt Spray	96 h
Rotational Life	1 million shaft revolutions
Load Life	900 h
Temperature Range	- 55 °C to + 105 °C

MARKING	
<b>Unit Identification</b>	Units shall be marked with Vishay Spectrol name, model number and data code and on each section, resistance, resistance tolerance, linearity and terminal identification

## POWER RATING CHART



RESISTANCE ELEMENT DATA					
RESISTANCE VALUES (Ω)	RESOLUTION (%)	OHMS PER TURN	MAXIMUM CURRENT AT 70 °C AMBIENT (mA)	MAXIMUM VOLTAGE ACROSS COIL (V)	WIRE TEMP. COEF. (ppm/°C)
5	0.346	0.017	742	3.7	800
10	0.298	0.030	524	5.2	800
20	0.236	0.047	371	7.4	800
50	0.244	0.122	235	12	20
100	0.222	0.222	166	17	20
200	0.181	0.361	117	23	20
500	0.178	0.885	74	37	20
1K	0.138	1.38	52	52	20
2K	0.105	2.09	37	74	20
5K	0.085	4.23	23	117	20
10K	0.069	6.84	17	166	20
20K	0.058	11.5	12	235	20
35K	0.058	20.0	8.8	310	20



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