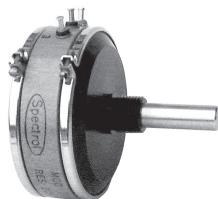


1 3/4" (44.5 mm) Single Turn Wirewound Precision Potentiometer



FEATURES

- Large range of ohmic values: 5 Ω to 65 k Ω
- Screw, servo or bushing mount types available
- Up to 6 sections on the same shaft
- Extra taps upon request



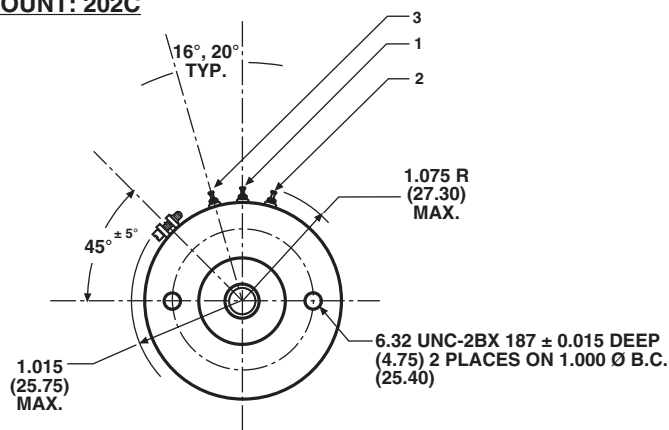
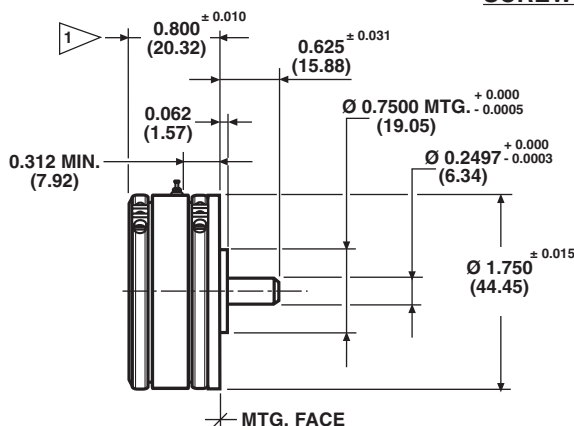
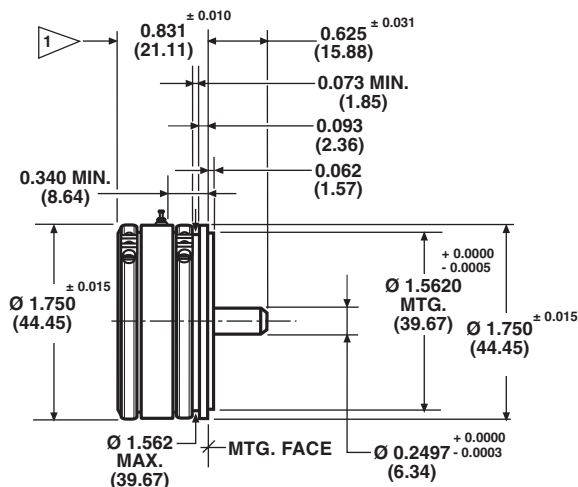
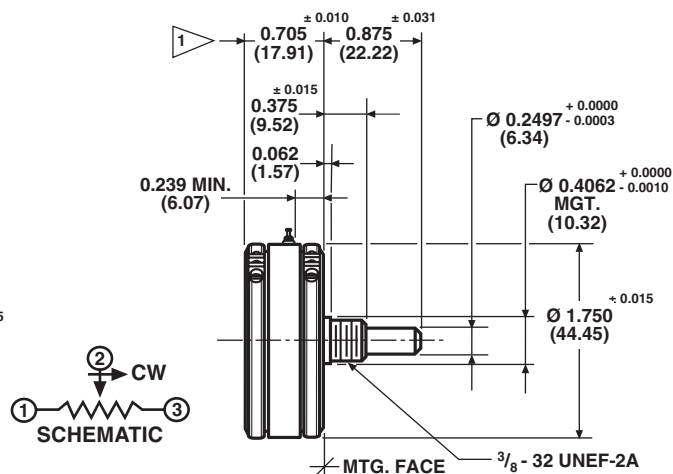
ELECTRICAL SPECIFICATIONS		
PARAMETER		
Total Resistance Tolerance: 50 Ω and above Below 50 Ω	STANDARD 5 Ω to 50 k Ω $\pm 3\%$ $\pm 5\%$	SPECIAL 65 k Ω $\pm 1\%$ $\pm 3\%$
Absolute Minimum Resistance	Linearity x total resistance or 0.5 Ω , whichever is greater	
End Voltage	Linearity x total applied voltage for total resistance above 20 Ω , 2.0 % of total applied voltage for 20 Ω and below	
Linearity (Independent) 5 Ω to 50 Ω 50 Ω to 500 Ω 500 Ω to 2 k Ω 2 k Ω and above	STANDARD $\pm 1.00\%$ $\pm 0.50\%$ $\pm 0.25\%$ $\pm 0.25\%$	BEST PRACTICAL $\pm 0.50\%$ $\pm 0.35\%$ $\pm 0.20\%$ $\pm 0.15\%$
Noise	100 Ω ENR	
Electrical Angle	350° $\pm 2^\circ$	
Power Rating: Section 1 : 3.5 W Additional Sections	70 °C ambient derated to zero at 125 °C 75 % of the rating of section 1 (2.6 W at 70 °C)	
Insulation Resistance	1000 M Ω minimum, 500 V _{DC}	
Dielectric Strength	1000 V _{RMS} , 60 Hz	
Taps (Extra)	From 1 up to 19 (max.)	
Phasing (CCW End Points)	Additional sections phased to section 1 within $\pm 1^\circ$	

ORDERING INFORMATION/DESCRIPTION				
202	C	1	50K	BO1
MODEL	MOUNTING TYPE	NUMBER OF SECTIONS	OHMIC VALUE	PACKAGING
	B: Bushing S: Servo C: Screw	From 1 up to 6 (Max.)		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				
202	S	1	503	BO1
MODEL	MOUNTING TYPE	NUMBER OF SECTIONS	OHMIC VALUE	PACKAGING
	Servo		503 = 50K	Box of 1 piece

1 3/4" (44.5 mm) Single Turn Wirewound
Precision Potentiometer

Vishay Spectrol

DIMENSIONS in inches (millimeters)**SCREW MOUNT: 202C****SERVO MOUNT: 202S****BUSHING MOUNT: 202B**TOLERANCES: UNLESS OTHERWISE NOTED.
DECIMALS ± 0.005 ANGLES ± 2°1 ADD 0.500 ± 0.002 FOR EACH ADDITIONAL SECTION
(12.70)**MECHANICAL SPECIFICATIONS**

PARAMETER		
Mechanical Rotation	360° (continuous)	
Bearing Type	Screw and servo mount: Ball bearing Bushing mount: Sleeve bearing	
Ganging	6 sections maximum, Terminal alignment, added sections, within ± 10° of section 1 Terminals	
Torque (Maximums) 1 Section Servo and Screw Types Bushing, 1 Section Each Additional Section	STARTING 0.7 oz. - in (50.40 g - cm) 1.0 oz. - in (72.00 g - cm) 0.4 oz. - in (28.80 g - cm)	RUNNING 0.4 oz. - in (28.80 g - cm) 0.7 oz. - in (50.40 g - cm) 0.3 oz. - in (21.60 g - cm)
Mechanical Runouts (Maximums): Shaft Runout (TIR/in) Pilot Dia. Runout (TIR) Lateral Runout (TIR) Shaft End Play Shaft Radial Play	SERVO AND SCREW 0.002" (0.05 cm) 0.002" (0.05 cm) 0.003" (0.08 cm) 0.005" (0.13 cm) 0.002" (0.05 cm)	BUSHING 0.002" (0.05 cm) 0.002" (0.05 cm) 0.005" (0.13 cm) 0.005" (0.13 cm) 0.003" (0.08 cm)
Moment of Inertia	1.0 g - cm ² per section maximum	
Weight (Maximums): Single Section Each Additional Section	3.0 oz. (85.05 g) 1.0 oz. (28.35 g)	

MATERIAL SPECIFICATIONS	
Housing and Lids	Aluminum, anodized
Shaft And Clamp Rings	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

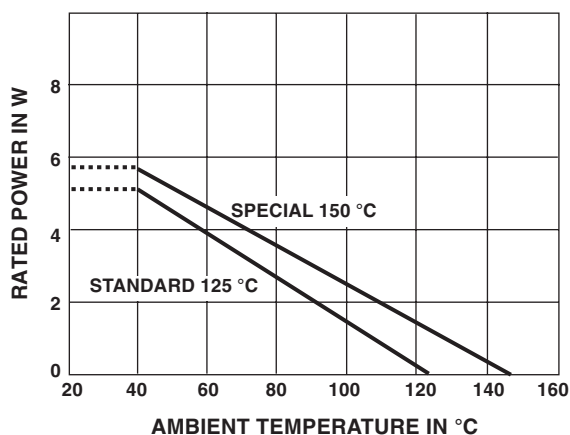
MARKING	
Unit Identification	Units shall be marked with Vishay Spectrol name, model number and data code on each section, resistance, resistance tolerance, linearity and terminal identification

ENVIRONMENTAL SPECIFICATIONS	
Vibration	15 g thru 2000 Hz
Shock	50 g
Salt Spray	96 h
Rotational Life	1 million shaft revolutions
Load Life	900 h
Operating Temperature Range	- 55 °C to + 125 °C

POWER RATING CHART

(Ratings for cup No.1.

Additional cups 75 % of values shown)



RESISTANCE ELEMENT DATA					
STANDARD RESISTANCE VALUES (Ω)	RESOLUTION (%)	OHMS PER TURN	MAXIMUM CURRENT AT 70 °C AMBIENT (mA)	MAXIMUM VOLTAGE ACROSS COIL (V)	TEMP. COEF. (ppm/°C)
5	0.320	0.016	835	4.19	800
10	0.240	0.024	591	5.92	800
20	0.190	0.038	418	8.37	800
50	0.212	0.106	264	13.3	20
100	0.181	0.181	187	18.7	20
200	0.150	0.300	133	26.3	20
500	0.115	0.575	83.4	42.0	20
1K	0.103	1.03	59.1	59.2	20
2K	0.094	1.89	41.8	83.7	20
5K	0.068	3.42	26.4	133	20
10K	0.059	5.91	18.7	187	20
20K	0.048	9.52	13.2	265	20
50K	0.044	22.0	8.37	422	20



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.