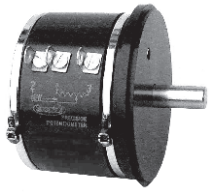
1 13/16" (46 mm) Three Turn Wirewound Upper Grade Precision Potentiometer



FEATURES

- Large range of ohmic values: 15 Ω to 50 kΩ
- Bushing mount, servo mount and screw mount version
- Gangable up to 3 sections
- Extra taps available upon request

QUICK REFERENCE DATA	
Sensor type	ROTATIONAL, multi turn wirewound
Output type	Output by turrets
Market appliance	Professional
Dimensions	1 13/16" (46 mm)

ELECTRICAL SPECIFICATIONS

PARAMETER		
Total resistance Tolerance: 100 Ω and above Below 100 Ω	**STANDARD** 15 Ω to 50 kΩ ± 3 % ± 5 %	**SPECIAL** 150 kΩ ± 1 % ± 3 %
Linearity (independent) 15 Ω to 1 kΩ 1 kΩ to 5 kΩ 5 kΩ and above	**STANDARD** ± 0.25 % ± 0.25 % ± 0.25 %	**SPECIAL** ± 0.15 % ± 0.10 % ± 0.1 % (lower linearity available on request)
Noise	100 Ω ENR	
Electrical rotation	1080° +4° -0°	
Power rating Section 1 Additional sections	2.0 W at 70 °C ambient, derated to zero at 125 °C 75 % of the rating of section 1 (1.5 W at 70 °C)	
Insulation resistance	1000 MΩ minimum, 500 V_{DC}	
Dielectric strength	1000 V_{RMS}, 60 Hz	
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	
Phasing (CCW end points)	Additional sections phased to section 1 within ± 1°	
Taps (extra)	Available as special, standard tolerance ± 1°	

ORDERING INFORMATION / DESCRIPTION

The Model 852 can be ordered from this datasheet with a variety of alternate characteristics, as shown above. For most rapid service on your order, please state:

852	**C**	**1**	**50K**	**BO1**
MODEL	MOUNTING	NUMBER OF SECTIONS	RESISTANCE OF EACH SECTION	PACKAGING
	B: Bushing **S:** Servo **C:** Screw	From 1 up to 3 max.	Beginning with the section nearest the mounting end	Box of 1 piece

SAP PART NUMBERING GUIDELINES

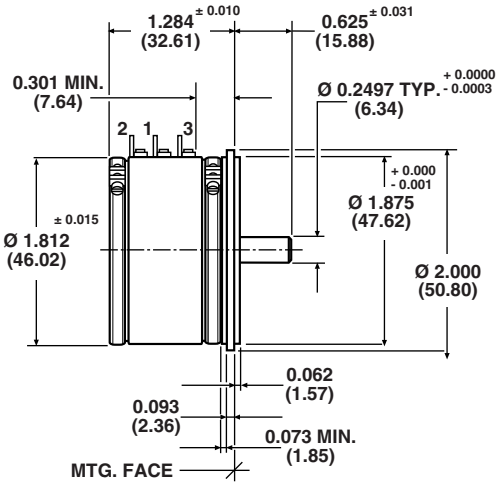
852	**C**	**1**	**503**
MODEL	STYLE	NUMBER OF SECTION	OHMIC VALUE SECTION Nº 1

For technical questions, contact: sferprecisionpot@vishay.com

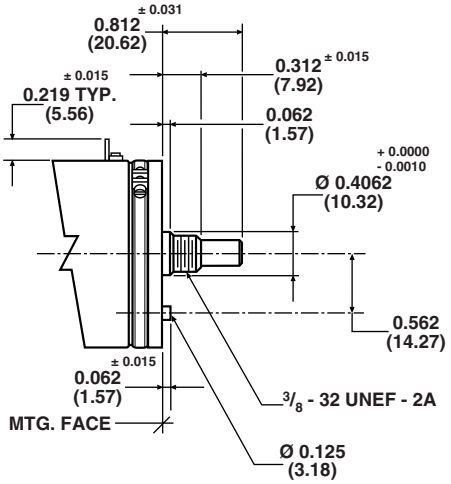
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DIMENSIONS in inches (millimeters)

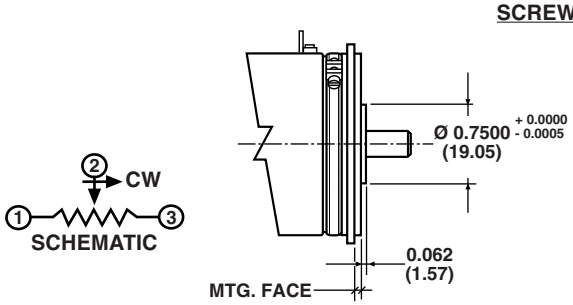
SERVO MOUNT: 852S/852-2

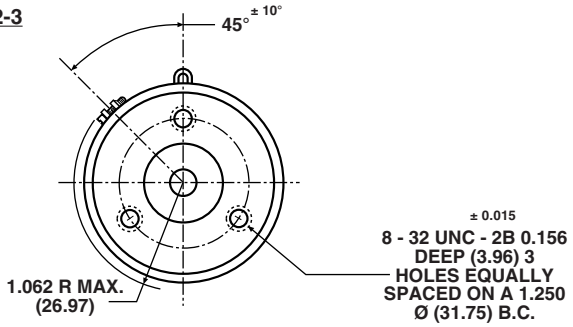


BUSHING MOUNT: 852B/852-1



SCREW MOUNT: 852C/852-3





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

1 ADD 0.992 ± 0.010 (25.20) FOR EACH ADDITIONAL SECTION

MECHANICAL SPECIFICATIONS

PARAMETER			
Rotation	1080° +10° -0°		
Bearing type	**SERVO** Ball bearing	**SCREW** Ball bearing	**BUSHING** Sleeve bearing
Torque (maximums) Servo or screw section 1 Bushing section 1 Each additional section	**STARTING** 1.20 oz. - in (86.4 g - cm) 1.75 oz. - in (126.0 g - cm) 0.80 oz. - in (57.6 g - cm)		**RUNNING** 0.80 oz. - in (57.6 g - cm) 1.25 oz. - in (90.0 g - cm) 0.60 oz. - cm (43.2 g - cm)
Mechanical runouts (maximums): Shaft runout (TIR/in) Pilot dia. runout (TIR) Lateral runout (TIR) Shaft end play Shaft radial play	**SERVO/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)
Weight (maximums) Single section Each additional section Stop strength	3.5 oz. (99.2 g) 2.7 oz. (76.5 g) 1000 oz. - in, static (72 kg - cm)		
Ganging	3 sections maximum, terminal alignment, added sections within ± 10° of section 1 terminals		
Moment of inertia	5.5 g - cm^2 per section maximum		

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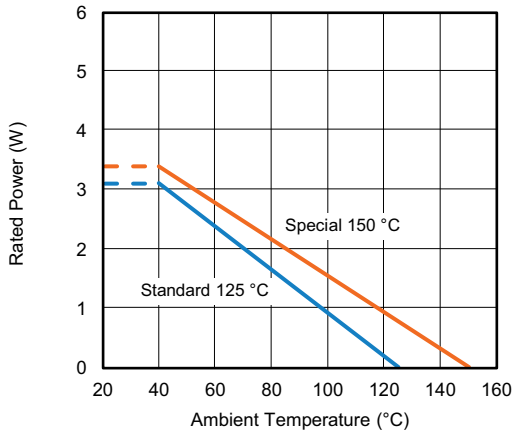
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MATERIAL SPECIFICATIONS	
Housing	Glass filled, thermoset plastic
Lids	Aluminum, anodized
Shaft	Stainless steel, non-magnetic non-passivated
Terminals	Brass, plated for solderability
Clamp ring	Stainless steel
Bushing mount hardware Lockwasher internal tooth: Panel nut:	 Steel, nickel plated Brass nickel plated

MARKING	
Unit identification	Units shall be marked with Spectrol name and model No, resistance and resistance tolerance, linearity, terminal identification and date code. Example of a marking for a standard part: 852-22203503

POWER RATING CHART

(Ratings for cup Nº 1. Additional cups 75 % of values shown)



ENVIRONMENTAL SPECIFICATIONS	
Vibration	15 *g* thru 2000 CPS
Shock	50 *g*
Salt spray	96 h
Rotational life	600 000 shaft revolutions
Load life	900 h
Operating temperature range	-55 °C to +125 °C

Note

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

RESISTANCE ELEMENT DATA					
STANDARD RESISTANCE VALUES (Ω)	RESO-LUTION (%)	OHMS PER TURN	MAXIMUM CURRENT AT 70 °C AMBIENT (mA)	MAXIMUM VOLTAGE ACROSS COIL (V)	WIRE TEMP. COEF. (ppm/°C)
20	0.094	0.019	316	6.33	800
50	0.074	0.037	200	10.0	800
100	0.071	0.071	141	14.2	180
200	0.072	0.145	100	20.0	20
500	0.064	0.320	63.2	31.6	20
1K	0.050	0.500	44.7	44.7	20
2K	0.047	0.948	31.6	63.3	20
5K	0.035	1.733	20.0	100	20
10K	0.029	2.923	14.1	142	20
20K	0.024	4.797	10.0	200	20
50K	0.017	8.313	6.32	316	20
100K	0.015	14.535	4.47	447	20
150K	0.013	19.987	3.65	548	20

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