$^{7}/_{8}$" (22.2 mm) Three Turn Wirewound Upper Grade Precision Potentiometer



FEATURES

- Large range of ohmic values: 5 Ω to 20 kΩ
- Bushing mount or servo mount designs are available
- 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	$^{7}/_{8}$" (22.2 mm)

ELECTRICAL SPECIFICATIONS

PARAMETER		
Total resistance Tolerance 50 Ω and above Below 50 Ω	**STANDARD RANGE** 5 Ω to 20 kΩ ± 3 % ± 5 %	**SPECIAL** 45 kΩ ± 1 % ± 3 %
Linearity (independent) Total resistance 5 Ω to 500 Ω 500 Ω to 2 kΩ 2 kΩ and above	**STANDARD** ± 0.25 % ± 0.25 % ± 0.25 %	**BEST PRACTICAL** ± 0.25 % ± 0.20 % ± 0.125 %
Noise	100 Ω ENR	
Electrical rotation	1080° +4° -0°	
Power rating Section 1 Additional section	1.0 W at 70 °C ambient to zero at 125 °C 75 % of the rating of section 1 (0.75 W at 70 °C)	
Insulation resistance	1000 MΩ minimum, 500 V_{DC}	
Dielectric strength	1000 V_{RMS} minimum, 60 Hz	
Absolute minimum resistance	Linearity x total resistance or 0.5 Ω, whichever is greater	
End boltage	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 ± 2°	
Taps (extra)	16 available as special, standard tolerance ± 2°	

ORDERING INFORMATION/DESCRIPTION

The model 552 can be ordered from this datasheet with a variety of alternate characteristics, as shown. For most rapid service on your order, please state:

552	**B**	**1**	**10K**	**BO1**
MODEL	MOUNTING	NUMBER OF SECTIONS	OHMIC VALUE OF SECTION Nº 1	PACKAGING
	B: Bushing **S:** Servo	From 1 up to 3		Box of 1 piece

Other characteristics will be standard as described on this datasheet. 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

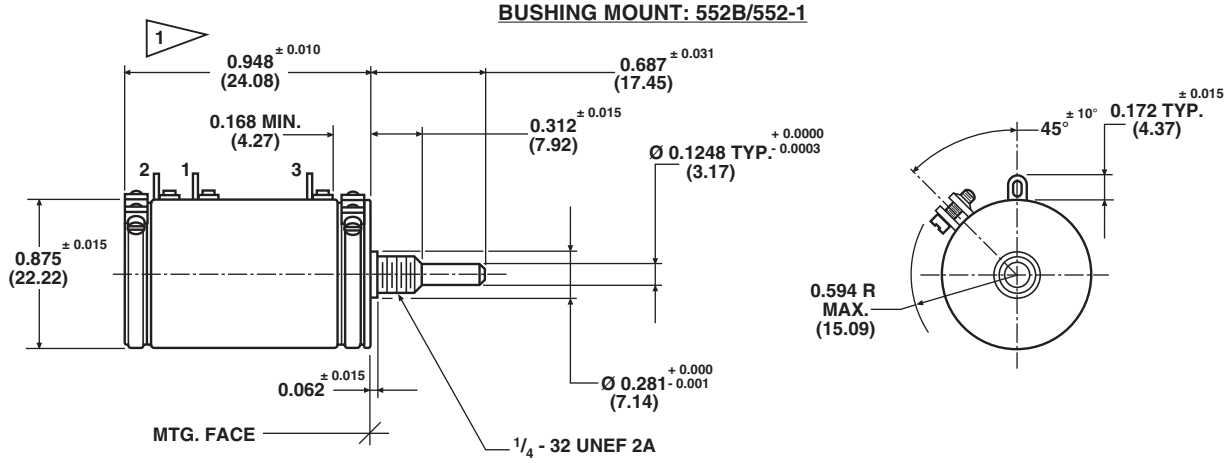
552	**B**	**1**	**103**	**B01**
MODEL	STYLE	NUMBER OF SECTIONS	OHMIC VALUE OF SECTION Nº 1	PACKAGING

For technical questions, contact: sferprecisionpot@vishay.com

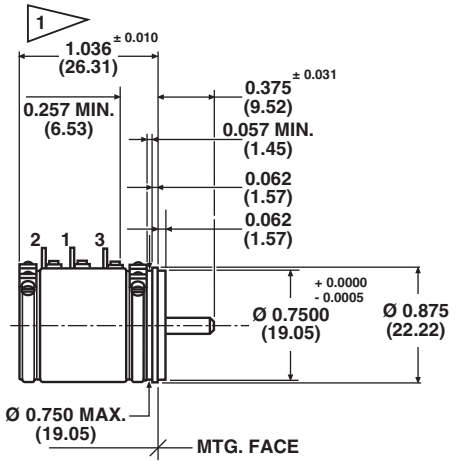
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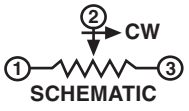
DIMENSIONS in inches (millimeters)

BUSHING MOUNT: 552B/552-1



SERVO MOUNT: 552S/552-2





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

1 **ADD 0.782 ± 0.002 (19.86) FOR EACH ADDITIONAL SECTION**

MECHANICAL SPECIFICATIONS

PARAMETER		
Mechanical rotation	1080° +10° -0°	
Bearing type: servo mount Bushing mount	Ball bearing Sleeve bearing	
Torque (maximum) Servo: 1 section Bushing: 1 section Each additional section	**STARTING** 0.4 oz. - in (28.8 g - cm) 0.5 oz. - in (36.0 g - cm) 0.3 oz. - in (21.6 g - cm)	**RUNNING** 0.3 oz. - in (21.6 g - cm) 0.4 oz. - in (28.8 g - cm) 0.2 oz. - in (14.4 g - cm)
Mechanical runouts (maximum) Shaft runout (TIR/in) Pilot dia. runout (TIR) Lateral runout (TIR) Shaft end play Shaft radial play	**SERVO** 0.002" (0.05 cm) 0.002" (0.05 cm) 0.002" (0.05 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 (maximum): single section Additional section	0.75 oz. (21.7 g) 0.60 oz. (17.0 g)	
Stop strength	100 oz. - in static (7.2 kg - cm)	
Ganging	3 sections maximum, terminal alignment added sections within ± 10° of section 1 terminals	
Moment of inertia	0.30 g - cm^2 per section maximum	

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MATERIAL SPECIFICATIONS	
Housing	Glass filled phenolic (black)
Lids	Aluminum, anodized
Shaft	Stainless steel, non magnetic, non-passivated
Terminals	Brass, gold plated
Clamp ring	Stainless steel
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	600 000 shaft revolutions
Load life	900 h
Operating temperature range	-65 °C to +125 °C

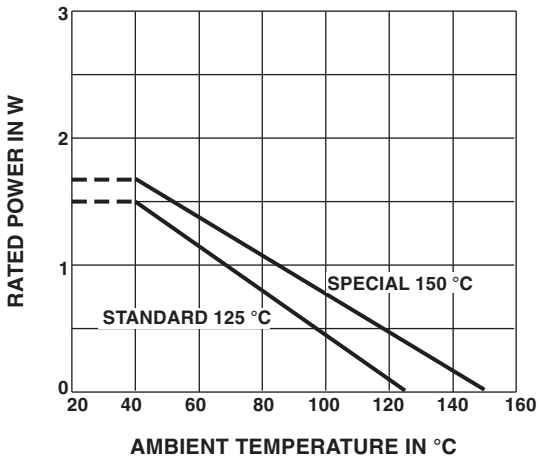
Note

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

MARIKNG	
Unit identification	Units will be marked with Vishay Spectrol name and model no, resistance and resistance tolerance, linearity, terminal identification, and date code. Example of a marking for a standard part: 552-22102502

POWER RATING CHART

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



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)
5	0.265	0.013	447	2.24	800
10	0.182	0.018	316	3.16	800
20	0.155	0.031	224	4.48	800
50	0.150	0.075	141	7.05	180
100	0.125	0.125	100	10.0	20
200	0.116	0.232	70.7	14.1	20
500	0.103	0.517	44.7	22.4	20
1K	0.089	0.886	31.6	31.6	20
2K	0.071	1.411	22.4	44.8	20
5K	0.057	2.828	14.1	70.5	20
10K	0.044	4.381	10.0	100	20
20K	0.036	7.199	7.07	141	20
45K	0.031	14.170	4.71	212	20

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