



# 7/8" (22.2 mm) Ten Turn Wirewound Precision Potentiometer with a Plastic Shaft



### FEATURES

- 10 standard resistance values
- Plastic shaft
- Rugged integrated construction
- 0.25 % linearity
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

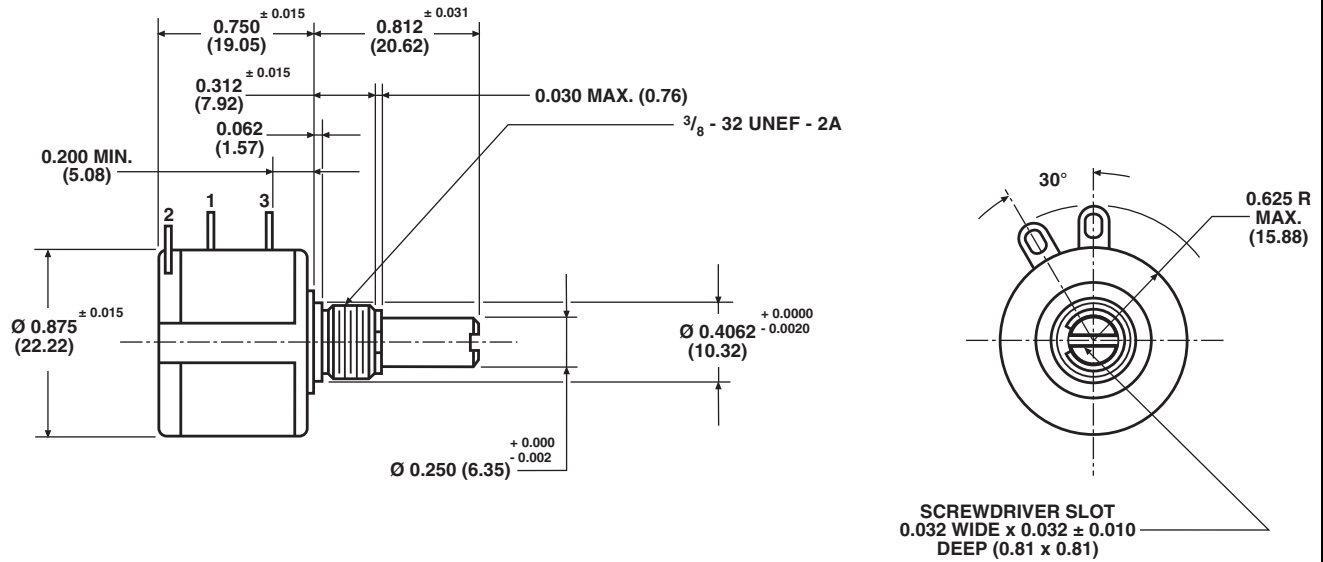
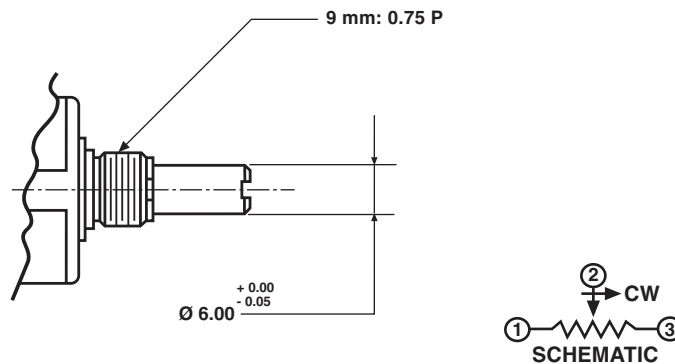
QUICK REFERENCE DATA	
Sensor type	ROTATIONAL, multi turn wirewound
Output type	Output by turrets
Market appliance	Industrial
Dimensions	7/8" (22.2 mm)

ELECTRICAL SPECIFICATIONS	
PARAMETER	
Total resistance	Range 100 Ω to 100 kΩ, tolerance ± 5 %
Linearity (independent)	± 0.25 %
Noise	100 Ω ENR maximum
Electrical angle	3600° +10° -0°
Power rating	2.0 W at 70 °C derated to zero at 125 °C
Insulation resistance	1000 MΩ minimum, 500 V <sub>DC</sub>
Dielectric strength	1000 V <sub>RMS</sub> , 60 Hz
Absolute minimum resistance	Not to exceed 0.10 % of total resistance or 1 Ω, whichever is greater
Temperature coefficient	20 ppm/°C (wire only)
End voltage	0.25 % of total applied voltage maximum

ORDERING INFORMATION										
5	3	6	B	1	0	3				
MODEL		STYLE		OHMIC VALUE			SPECIAL REQUEST			
536		B: bushing		470 = 47 Ω 222 = 2.200 Ω 103 = 10 kΩ For ohmic value range see electrical specification			xxxx			

PART NUMBER DESCRIPTION (for information only)			
536-	1-	103	xxxx
MODEL	STYLE	OHMIC VALUE	SPECIAL
	B: 1		

**DIMENSIONS** in inches (millimeters)

**BUSHING MOUNT: 536B/536-1**

**METRIC SHAFT/BUSHING THREAD**


TOLERANCES: UNLESS OTHERWISE NOTED.  
 DECIMALS  $\pm 0.005$  ANGLES  $\pm 2^\circ$

**MECHANICAL SPECIFICATIONS**

PARAMETER		
Rotation	3600° <sup>+10°</sup> <sub>-0°</sub>	
Torque (maximums)	<b>STARTING</b> 0.5 oz. - in (36.00 g - cm)	<b>RUNNING</b> 0.4 oz. - in (28.80 g - cm)
Mechanical runouts		
Shaft (TIR)	0.005" (0.13 cm)	
Pilot dia. (TIR)	0.003" (0.08 cm)	
Lateral runout (TIR)	0.005" (0.13 cm)	
Shaft end play	0.010" (0.25 cm)	
Shaft radial play	0.005" (0.13 cm)	
Weight (maximum)	0.75 oz. (21.26 g)	
Stop strength	75 oz. - in (static) (5.4 kg - cm)	



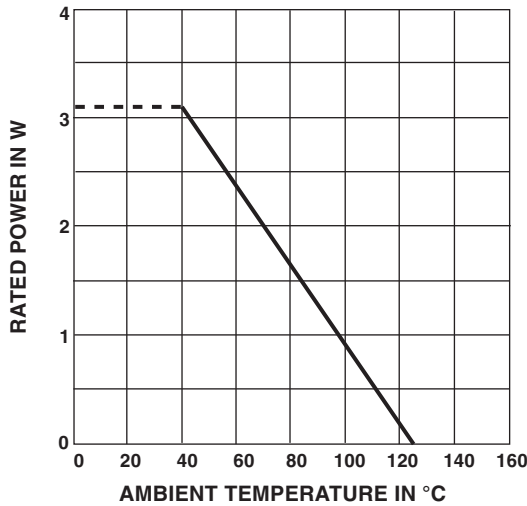
MATERIAL SPECIFICATIONS	
Front lid	Stainless steel and nickel plated brass bushing
Housing	Thermoplastic nylon glass filled
Rear lid	Thermo-glass filled
Shaft	Thermo-glass filled
Terminals	Brass plated for solderability
Mounting hardware Lockwasher internal tooth: Panel nut:	Steel nickel plated Brass, nickel plated

ENVIRONMENTAL SPECIFICATIONS	
Vibration	15 g thru 2000 Hz
Shock	50 g
Rotational life	1 million 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.

**POWER RATING CHART**



RESISTANCE ELEMENT DATA				
STANDARD RESISTANCE VALUES (Ω)	RESOLUTION (%)	OHMS PER TURN	MAXIMUM CURRENT AT 70 °C AMBIENT (mA)	MAXIMUM VOLTAGE ACROSS COIL (V)
100	0.060	0.0603	141.0	14.1
200	0.037	0.0746	100.0	20.0
500	0.031	0.1520	63.2	31.6
1K	0.025	0.2459	44.7	44.7
2K	0.021	0.4113	31.6	63.2
5K	0.016	0.8206	20.0	100.0
10K	0.017	1.7230	14.1	141.0
20K	0.015	3.0160	10.0	200.0
50K	0.009	4.6690	6.32	316.0
100K	0.007	7.4560	4.47	447.0

MARKING	
Unit identification	Units shall be marked with Vishay Spectrol name and model no, resistance, resistance tolerance, linearity, terminal identification and date code. Example of a marking for a standard part: 536-1-1-502



## **Disclaimer**

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

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 in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

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