

# 1/2" (12.7 mm) Ten Turn Wirewound Bushing Mount Precision Potentiometer


**FEATURES**

- Large range of ohmic values: 100 Ω to 100 kΩ
- Smallest size available on the market
- Very easy and accurate adjustment
- 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	Professional
Dimensions	1/2" (12.7 mm)

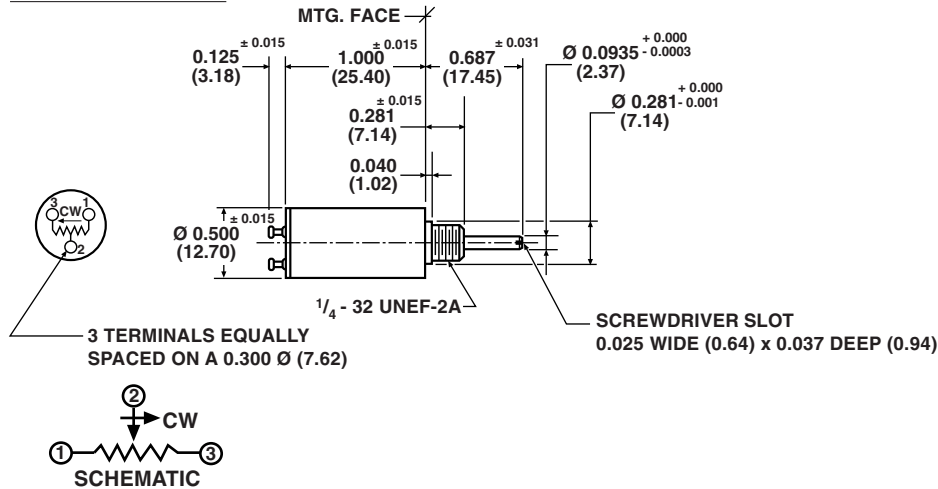
ELECTRICAL SPECIFICATIONS		
PARAMETER		
Total Resistance Standard Range Tolerance	<b>STANDARD</b> 100 Ω to 100 kΩ ± 5 %	<b>SPECIAL</b> 115 kΩ max. ± 2 %
Linearity (independent)	<b>STANDARD</b> ± 0.30 %	<b>BEST PRACTICAL</b> ± 0.15 %
Noise	100 Ω ENR	
Electrical Angle	3600° +15° -0°	
Power Rating	2.0 W at 40 °C ambient, derated to zero at 125 °C	
Insulation Resistance	100 MΩ minimum, 500 V <sub>DC</sub>	
Dielectric Strength	500 V <sub>RMS</sub> , 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	

ORDERING INFORMATION														
1	6	2	B	1	2	0	3	2	0	3	X	X	X	X
MODEL		STYLE		GANGS			OHMIC VALUE GANGS N° 1		OHMIC VALUE GANGS N° 2		SPECIAL REQUEST			
162		B: bushing S: servo		1			470 = 47 Ω 222 = 2.200 Ω 103 = 10 kΩ For ohmic value range see electrical specification		470 = 47 Ω 222 = 2.200 Ω 103 = 10 kΩ For ohmic value range see electrical specification		xxxx			

PART NUMBER DESCRIPTION (for information only)					
162-	1	1	103	203	xxxx
MODEL	STYLE	GANGS	OHMIC VALUE GANGS N° 1	OHMIC VALUE GANGS N° 2	SPECIAL
	B: 1 S: 2				

## DIMENSIONS in inches (millimeters)

### MODEL 162B/162-1...



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

MECHANICAL SPECIFICATIONS	
PARAMETER	
Mechanical Rotation	3600°, +15° -0°
Bearing Type:	<b>Sleeve</b>
Torque (Maximum)	<b>STARTING</b> 0.8 oz. - in (57.60 g - cm) <b>RUNNING</b> 0.6 oz. - in (43.20 g - cm)
Mechanical Runouts (maximums):	
Shaft (TIR)	0.003" (0.08 cm)
Pilot Dia. (TIR)	0.003" (0.08 cm)
Lateral (TIR)	0.005" (0.13 cm)
Shaft End Play	0.010" (0.25 cm)
Shaft Radial Play	0.003" (0.08 cm)
Weight	0.3 oz. (8.50 g) maximum
Stop Strength	20 oz. - in (static) (1.44 kg - cm)

MATERIAL SPECIFICATIONS	
Housing and Lids	Molded, glass filled, thermoset plastic
Bushing	Brass, nickel plated
Shaft	Stainless steel, non-passivated
Terminals	Brass, plated for solderability
Bushing Mount Hardware	Steel, nickel plated Brass, nickel plated
Lockwasher Internal Tooth: Panel Nut:	

ENVIRONMENTAL SPECIFICATIONS	
Vibration	15 g thru 2000 Hz
Shock	50 g
Salt Spray	48 h
Rotational Life	500 000 shaft revolutions
Temperature Range	-55 °C to +125 °C

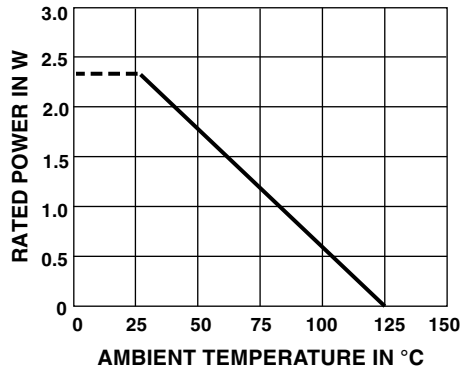
#### Note

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

MARKING	
Unit Identification	Units shall be marked with Vishay Spectrol name and model no, resistance and resistance tolerance, linearity, terminal identification and date code



POWER RATING CHART



MARKING
Example of a marking for a standard part: 162-11103

RESISTANCE ELEMENT DATA					
STANDARD RESISTANCE VALUES (Ω)	RESOLUTION (%)	OHMS PER TURN	MAXIMUM CURRENT AT 40 °C AMBIENT (mA)	MAXIMUM VOLTAGE ACROSS COIL (V)	WIRE TEMP. COEF. (ppm/°C)
100	0.092	0.092	141	14	20
200	0.069	0.138	100	20	20
500	0.049	0.245	63	32	20
1K	0.047	0.470	45	45	20
2K	0.038	0.763	32	64	20
5K	0.031	1.56	20	100	20
10K	0.025	2.55	14	140	20
20K	0.020	3.94	10	200	20
30K	0.018	5.34	8.2	246	20
50K	0.015	7.64	6.3	315	20
100K	0.013	13.2	4.5	450	20



## 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.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. 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.