

# 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)

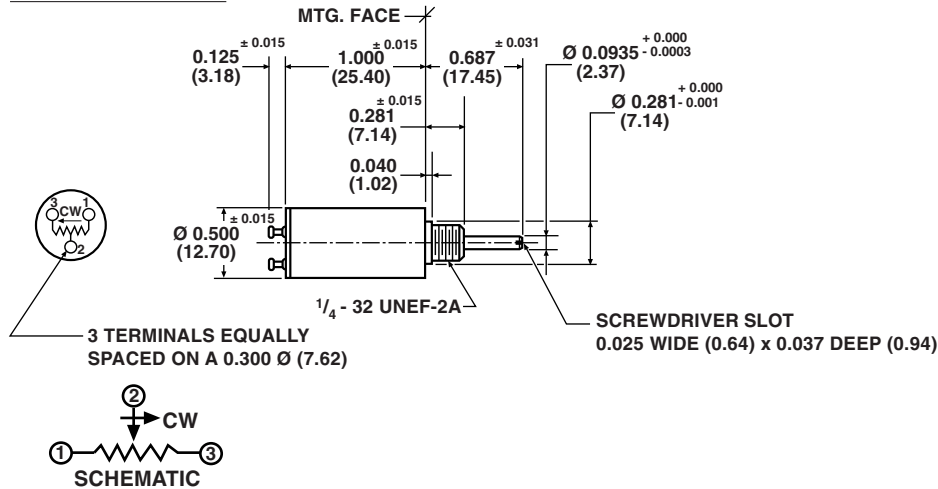
ELECTRICAL SPECIFICATIONS		
PARAMETER		
Total Resistance Standard Range Tolerance	<b>STANDARD</b> 100 Ω to 100 kΩ ± 5 %	<b>SPECIAL</b> 115 kΩ max. ± 2 %
Linearity (independent)	<b>STANDARD</b> ± 0.30 %	<b>BEST PRACTICAL</b> ± 0.15 %
Noise	100 Ω ENR	
Electrical Angle	3600° +15° -0°	
Power Rating	2.0 W 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

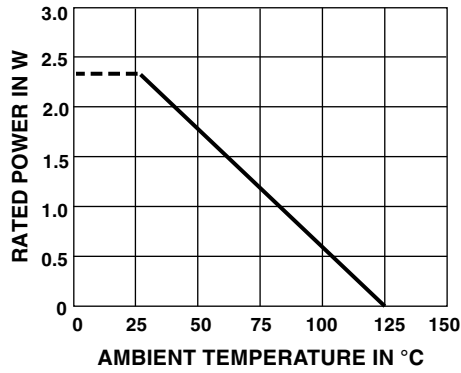
#### Note

- 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



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