1 13/16" (46 mm) Ten Turn Wirewound Potentiometer, Bushing Mount



FEATURES

- Gangable up to 2 sections
- Large range of ohmic values: 20 Ω to 200 kΩ
- Extra taps available upon request
- Ideally suits for all industry applications

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

ELECTRICAL SPECIFICATIONS		
PARAMETER		
Total resistance Standard range Tolerance: 200 Ω and above Below 200 Ω	20 Ω to 200 kΩ **STANDARD** ± 3 % ± 5 %	Special up to 500 kΩ **SPECIAL** ± 1 % ± 3 %
Linearity (independent)	± 0.25 % standard	
20 Ω to 50 Ω 50 Ω to 200 Ω 200 Ω to 5 kΩ 5 kΩ and above	± 0.15 % ± 0.10 % ± 0.05 % ± 0.025 %	
Noise	100 Ω ENR	
Electrical angle	3600° + 4° - 0°	
Power rating	8.0 W at 40 °C derated to zero at 125 °C	
Insulation resistance	1000 MΩ minimum 500 V_{DC}	
Dielectric strength	1000 V_{RMS}, 60 Hz	
Absolute minimum resistance	Not to exceed linearity x total resistance or 1 Ω, whichever is greater	
End Voltage	0.5 % of total applied voltage maximum	
Phasing	CCW end points sect. 2 phased to sect 1 within 1°	
Taps (extra)	Available as special standard tolerance ± 1°	

ORDERING INFORMATION/DESIGNATION

Model 860 can be ordered from this datasheet with a variety of alternate characteristics, as shown. For most rapid service on your order, please state:

860	**B**	**1**	**20K**	**BO10**
MODEL	BUSHING MOUNT	NUMBER OF SECTIONS From 1 up to 2 sections (maximum)	RESISTANCE OF EACH SECTION Beginning with the section nearest the mounting end	PACKAGING Box of 10 pieces

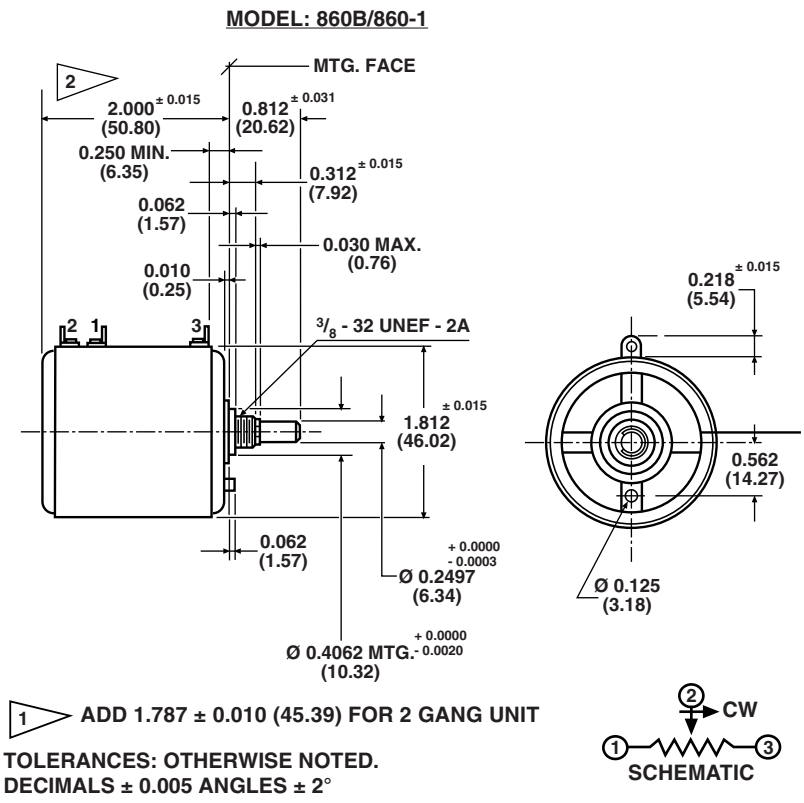
SAP PART NUMBERING GUIDELINES

860	**B**	**1**	**203**	**B10**
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)



MECHANICAL SPECIFICATIONS

PARAMETER		
Rotation	3600° + 4° - 0°	
Bearing type	Sleeve bearing	
Torque (maximums): Section 1 Section 2	**STARTING** 1.75 oz. - in (126.02 g - cm) 2.55 oz. - in (183.62 g - cm)	**RUNNING** 1.26 oz. - in (90.01 g - cm) 1.85 oz. - in (133.21 g - cm)
Runouts (maximums) Shaft (TIR) Pilot dia (TIR) Lateral (TIR) Shaft end play Shaft radial play	 0.002" (0.05 cm) 0.002" (0.05 cm) 0.005" (0.13 cm) 0.002" min. 0.010" max. (0.05 cm to 0.25 cm) 0.003" max. (0.08 cm)	
Weight (maximums) Single section Additional section	 4.5 oz. (127.58 g) 4.0 oz. (113.40 g)	
Stop strength	750 oz. - in (static) (54.01 kg - cm)	
Ganging	2 sections maximum ears of clamp band between sections positioned 45°, ± 10° CCW from terminal center line	
Moment inertia	15.0 g - cm^2 maximum	

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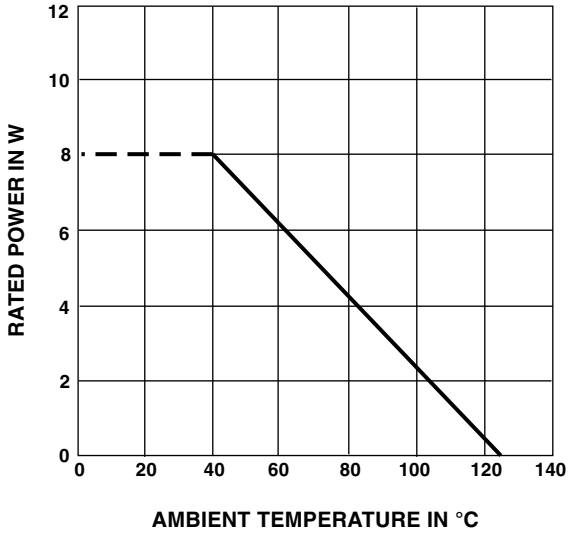
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MATERIAL SPECIFICATIONS	
Bushing	Aluminum, nickel plated
Housing and front lid	Molded glass filled thermoset plastic
Rear lid	Molded glass filled nylon
Shaft	Stainless steel, non magnetic, non-passivated
Terminals	Brass, plated for solderability
Mounting hardware Lockwasher: Panel nut:	Internal tooth steel, nickel plated Brass, nickel plated

ENVIRONMENTAL SPECIFICATIONS	
Vibration	10 *g* thru 500 CPS
Shock	50 *g*
Rotational life	500 000 shaft revolutions
Load life	900 h
Temperature range	- 55 °C to + 125 °C
Salt spray	48 h

MARKING	
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: 860-11202

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)	WIRE TEMPERATURE COEFFICIENT (ppm/°C)
20	0.044	0.009	632	13	800
50	0.027	0.014	400	20	800
100	0.024	0.024	283	28	800
200	0.028	0.056	200	40	180
500	0.023	0.115	126	63	20
1K	0.018	0.182	89	89	20
2K	0.020	0.402	63	126	20
5K	0.015	0.754	40	200	20
10K	0.013	1.23	28	283	20
20K	0.010	1.97	20	400	20
50K	0.007	3.69	13	632	20
100K	0.007	6.51	8.9	894	20
200K	0.005	9.63	5.0	1000	20
500K	0.004	20.0	2.0	1000	20

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