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



FEATURES

- Gangable up to 2 sections
- Large range of ohmic values: 15 Ω to 50 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	MODEL 830	
Total resistance Standard range Tolerance: 200 Ω and above Below 200 Ω	15 Ω to 50 kΩ **STANDARD** ± 3 % ± 5 %	**SPECIAL** to 150 kΩ **SPECIAL** ± 1 % ± 3 %
Linearity (independent)	± 0.25 % standard	
15 Ω to 1 kΩ 1 kΩ to 5 kΩ 5 kΩ to 25 kΩ 25 kΩ and above	± 0.15 % ± 0.10 % ± 0.075 % ± 0.05 %	
Noise	100 Ω ENR	
Electrical rotation	1080° +4° -0°	
Power rating	3.0 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/DESCRIPTION

Model 830 can be ordered from this datasheet with a variety of alternate characteristics, as shown. For most rapid service on your order, please state:

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

SAP PART NUMBERING GUIDELINES

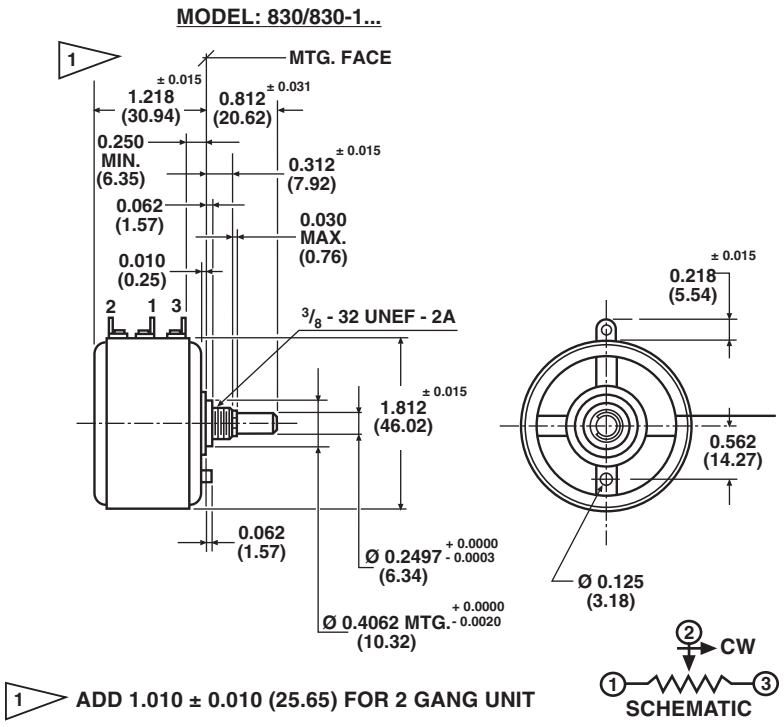
830	**B**	**1**	**203**	**B10**
MODEL	STYLE	NUMBER OF SECTION	OHMIC VALUE OF SECTION Nº 1	PACKAGING

For technical questions, contact: sferprecisionpot@vishay.com

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DIMENSIONS in inches (millimeters)



MECHANICAL SPECIFICATIONS

PARAMETER		
Rotation	1080° +4° -0°	
Bearing type	Sleeve bearing	
Torque (maximums): starting 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	 3.0 oz. (85.05 g) 2.5 oz. (70.80 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	5.5 g - cm^2 maximum	

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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

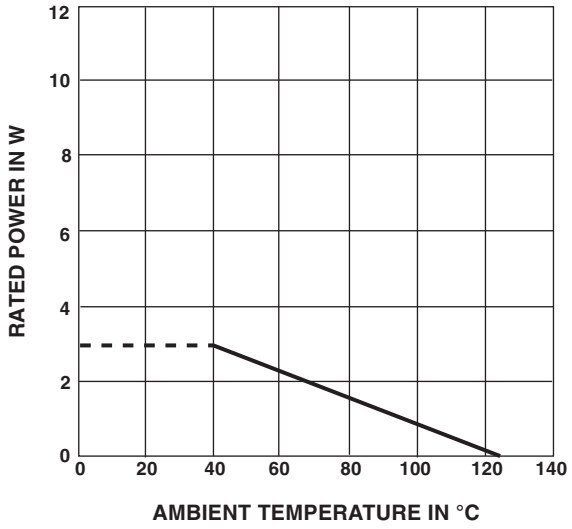
ENVIRONMENTAL SPECIFICATIONS	
Vibration	10 *g* thru 500 CPS
Shock	50 *g*
Rotational life	500 000 shaft revolution
Load life	900 h
Temperature range	-55 °C to +125 °C
Salt spray	48 h

Note

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

MARKING	
Unit identification	Units will be marked with Spectrol name and model no, resistance and resistance tolerance, linearity, terminal identification, and date code. Example of a marking for a standard part: 830-11103

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 TEMP. COEF. (ppm/°C)
20	0.094	0.019	387	8	800
50	0.074	0.037	245	12	800
100	0.071	0.071	173	17	180
200	0.072	0.145	122	25	20
500	0.064	0.320	77	39	20
1K	0.050	0.500	55	55	20
2K	0.047	0.948	39	77	20
5K	0.035	1.73	24	125	20
10K	0.029	2.92	17	176	20
20K	0.024	4.80	12	250	20
50K	0.017	8.31	8	375	20
100K	0.015	14.5	5	600	20
150K	0.013	20.0	4	750	20

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