



# 1 <sup>13</sup>/<sub>16</sub>" (46 mm) Three Turn Wirewound Potentiometer Bushing Mount



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

## **FEATURES**

- Gangable up to 2 sections
- Large range of ohmic values: 15  $\Omega$  to 50 k $\Omega$
- Extra taps available upon request
- Ideally suits for all industry applications

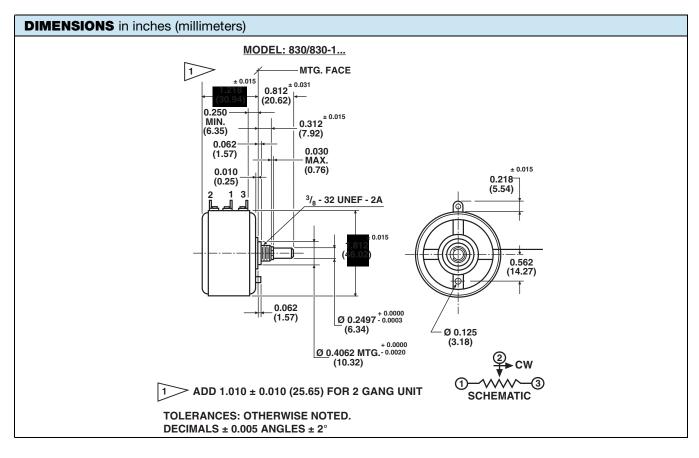
PARAMETER	MODEL 830		
Total resistance Standard range Tolerance: 200 $\Omega$ and above Below 200 $\Omega$	15 Ω to 50 kΩ <b>STANDARD</b> ± 3 % ± 5 %	<b>SPECIAL</b> to 150 kΩ <b>SPECIAL</b> ± 1 % ± 3 %	
Linearity (independent)	± 0.25 %	6 standard	
15 $\Omega$ to 1 k $\Omega$ 1 k $\Omega$ to 5 k $\Omega$ 5 k $\Omega$ to 25 k $\Omega$ 25 k $\Omega$ 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 M $\Omega$ minimum 500 V $_{DC}$		
Dielectric strength	1000 V <sub>RMS</sub> , 60 Hz		
Absolute minimum resistance	Not to exceed linearity x total resistance or 1 $\Omega$ , 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	В	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	

Revision: 27-Mar-15 1 Document Number: 57073





MECHANICAL SPECIFIC	ATIONS				
PARAMETER					
Rotation	1080° -	1080° +4° -0°			
Bearing type	Sleeve	bearing			
Torque (maximums): starting Section 1 Section 2	STARTING         RUNNING           1.75 oz in (126.02 g - cm)         1.26 oz in (90.01 g - cm)           2.55 oz in (183.62 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 <sup>2</sup> maximum				



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# Vishay Spectrol

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			

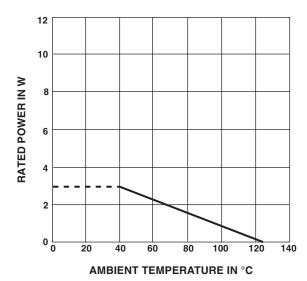
ENVIRONMENTAL SPECIFICATIONS				
Vibration 10 g thru 500 CPS				
Shock 50 g				
Rotational life 500 000 shaft revolution				
Load life	900 h			
Temperature range	-55 °C to +125 °C			
Salt spray	48 h			

#### 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)	RESO- LUTION (%)	OHMS PER TURN		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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