



Dimensions

1 ¹³/₁₆" (46 mm) Ten Turn Wirewound Upper Grade Precision Potentiometer



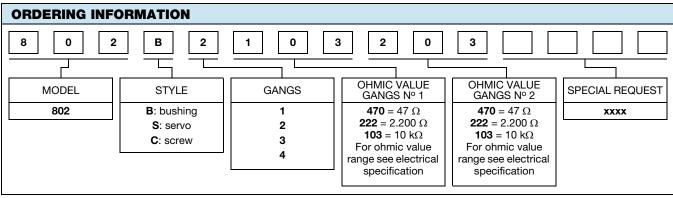
QUICK REFERENCE DATA			
Sensor type	ROTATIONAL, multi turn wirewound		
Output type	Output by turrets		
Market appliance	Professional		

1 ¹³/₁₆" (46 mm)

FEATURES

- Large range of ohmic values: 20 Ω to 200 k Ω
- Bushing mount, servo mount and screw mount versions
- Gangable up to 3 sections
- Extra taps available upon request

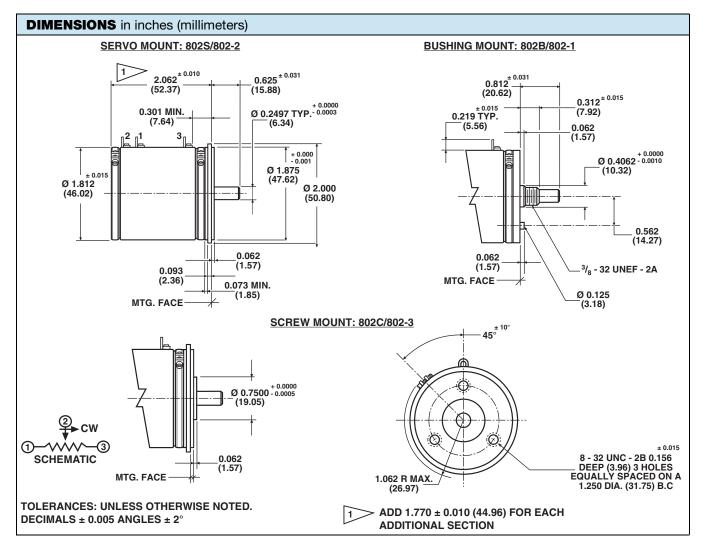
ELECTRICAL SPECIFICATIONS				
PARAMETER				
Total resistance Tolerance: 200 Ω and above Below 200 Ω	STANDARD 20 Ω to 200 kΩ ± 3 % ± 5 %	SPECIAL 500 kΩ ± 1 % ± 3 %		
Linearity (independent) 20 Ω to 50 Ω 50 Ω to 200 Ω 200 Ω and above	\$TANDARD ± 0.25 % ± 0.25 % ± 0.25 %	SPECIAL ± 0.15 % ± 0.10 % ± 0.05 %		
Noise	100	100 Ω ENR		
Electrical rotation	3600	3600° +4° -0°		
Power rating Section 1 Each additional sections:		5.00 Ω 70 °C ambient, derated to zero at 125 °C 75 % of the rating of section 1 (3.8 W at 70 °C)		
Insulation resistance	1000 M Ω minimum, 500 V $_{ m DC}$			
Dielectric strength	1000 V	1000 V _{RMS} , 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 and below			
Phasing (CCW end points)	Additional sections phase	Additional sections phased to section 1 within ± 1°		
Taps (extra)	Available as special,	standard tolerance ± 1°		



PART NUMBER DESCRIPTION (for information only)					
802-	1	1	103	203	xxxx
MODEL	STYLE	GANGS	OHMIC VALUE GANGS Nº 1	OHMIC VALUE GANGS Nº 2	SPECIAL
	B : 1 S : 2 C : 3				

Revision: 27-Mar-15 1 Document Number: 57072





MECHANICAL SPECIFICATION	S				
PARAMETER					
Rotation	3600°	3600° +10° -0°			
Bearing type		SHING SCREW leeve Ball bearing			
Torque (maximums) Servo or screw section 1 Bushing section 1 Each additional section	MAX. STARTING 1.20 oz in (86.4 g - cm) 1.75 oz in (126.0 g - cm) 0.80 oz in (57.6 g - cm)	MAX. RUNNING 0.80 oz in (57.6 g - cm) 1.25 oz in (90.0 g - cm) 0.60 oz in (43.2 g - cm)			
Mechanical runouts (maximums): Shaft (TIR/in) Pilot dia. runout (TIR) Lateral runout (TIR) Shaft end play Shaft radial play	SERVO OR SCROLL 0.002" (0.05 cm) 0.002" (0.05 cm) 0.003" (0.08 cm) 0.005" (0.13 cm) 0.002" (0.05 cm)	BUSHING 0.002" (0.05 cm) 0.002" (0.05 cm) 0.005" (0.13 cm) 0.005" (0.13 cm) 0.003" (0.08 cm)			
Weight: Single section Each additional section		5.5 oz. (156 g) 3.7 oz. (105 g)			
Stop strength	1000 oz in, s	1000 oz in, static (72 kg - cm)			
Ganging		3 sections maximum terminal alignment, added sections within ± 10° of section 1 terminals			
Moment of inertia	15 g - cm ² per	15 g - cm ² per section maximum			



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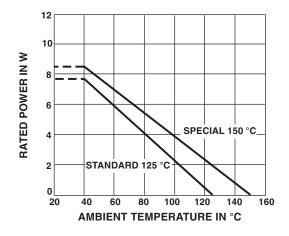
Vishay Spectrol

MATERIAL SPECIFICATIONS			
Housing	Glass filled thermoset plastic		
Lids	Aluminum, anodized		
Shaft	Stainless steel, non-magnetic, non-passivated		
Terminals	Brass, plated for solderability		
Clamp ring	Stainless steel		
Bushing mount hardware Lockwasher: Panel nut:	Internal tooth steel, nickel plated Brass, nickel plated		

MARKING	
Unit identification	Units shall 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: 802-31502

POWER RATING CHART

(Ratings for cup No 1. Additional cups 75 % of values shown)



ENVIRONMENTAL SPECIFICATIONS			
Vibration	15 g thru 2000 CPS		
Shock	50 <i>g</i>		
Salt spray	96 h		
Rotational life	2 million shaft revolutions		
Load life	900 h		
Operating temperature range	-55 °C to +125 °C		

Note

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

RESISTANCE ELEMENT DATA					
STANDARD RESISTANCE VALUES (Ω)	RESO- LUTION (%)	OHMS PER TURN		MAXIMUM VOLTAGE ACROSS COIL (V)	WIRE TEMP. COEF. (ppm/°C)
20	0.044	0.009	500	10.0	800
50	0.027	0.014	316	15.8	800
100	0.024	0.024	224	22.4	800
200	0.028	0.056	158	31.6	180
500	0.023	0.115	100	50.0	20
1K	0.018	0.182	70.7	70.7	20
2K	0.020	0.402	50.0	100	20
5K	0.015	0.754	31.6	158	20
10K	0.013	1.229	22.4	224	20
20K	0.010	1.970	15.8	316	20
50K	0.007	3.686	10.0	500	20
100K	0.007	6.507	7.07	707	20
200K	0.005	6.929	5.00	1000	20
500K	0.004	19.987	2.00	1000	20



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