1 1/16" (27 mm) Single Turn Wirewound Precision Potentiometer



FEATURES

- Gangable up to 6 sections
- Extra taps on request
- Bushing or servo mount types available
- Ohmic value range: 5 Ω up to 100 kΩ
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

QUICK REFERENCE DATA	
Sensor type	ROTATIONAL, single turn wirewound
Output type	Output by turrets
Market appliance	Professional
Dimensions	1 1/16" (27 mm)

ELECTRICAL SPECIFICATIONS

PARAMETER		
Total resistance Tolerance: 20 Ω and above Below 20 Ω	**STANDARD** 5 Ω to 20 kΩ ± 3 % ± 5 %	**SPECIAL** to 30 kΩ ± 1 % ± 3 %
Linearity (independent): 5 Ω to 200 Ω 200 Ω to 2 kΩ 2 kΩ to 10 kΩ 10 kΩ and above	**STANDARD** ± 1.0 % ± 0.5 % ± 0.5 % ± 0.5 %	**BEST PRACTICAL** ± 0.50 % ± 0.35 % ± 0.25 % ± 0.20 %
Noise	100 Ω ENR	
Electrical angle	350° ± 2°	
Power rating Section 1: Additional sections:	1.50 W at 70 °C ambient, derated to zero at 125 °C 75 % of the rating of section 1 (1.125 W at 70 °C)	
Insulation resistance	1000 MΩ minimum, 500 V_{DC}	
Dielectric strength	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 Ω and below	
Phasing (CCW end points)	Additional sections phased to section 1 within ± 1°	
Taps (extra)	9 available as special standard tolerance ± 1°	

ORDERING INFORMATION

1	2	2	S	1	2	0	3	2	0	3	X	X	X	X

MODEL	STYLE	GANGS	OHMIC VALUE GANGS Nº 1	OHMIC VALUE GANGS Nº 2	SPECIAL REQUEST
122	**B**: bushing **S**: servo	**1** **2** **3** **4** **5** **6**	**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**

For technical questions, contact: sferprecisionpot@vishay.com

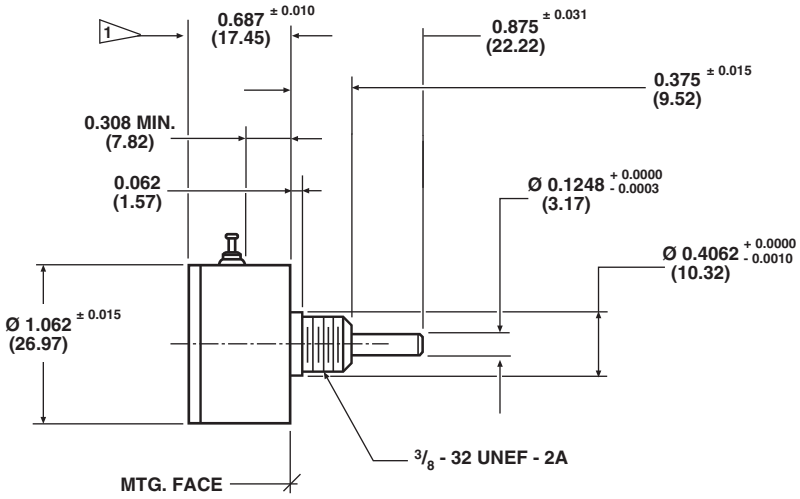
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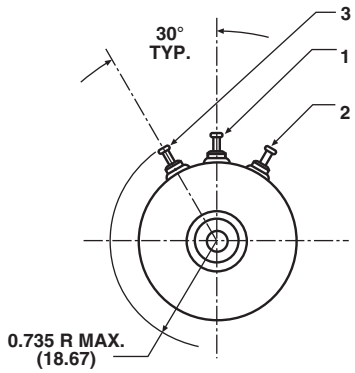
PART NUMBER DESCRIPTION (for information only)

122-	1	1	102	103	xxxx
MODEL	STYLE	GANGS	OHMIC VALUE GANGS Nº 1	OHMIC VALUE GANGS Nº 2	SPECIAL
	B: 1 **S**: 2				

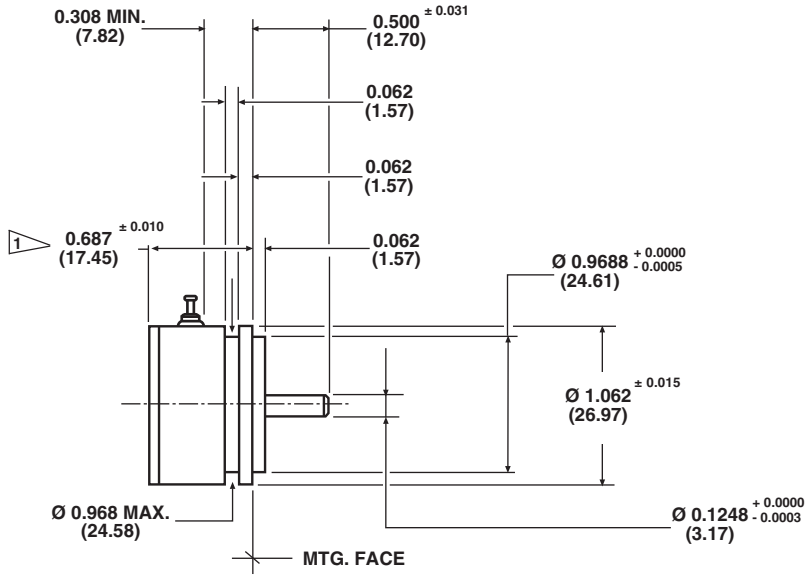
DIMENSIONS in inches (millimeters)

BUSHING MOUNT: 122B/122-1...



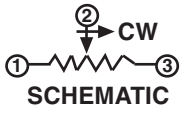


SERVO MOUNT: 122S/122-2...



1 ADD 0.500 ± 0.002 (12.70) FOR EACH ADDITIONAL SECTION

TOLERANCES: UNLESS OTHERWISE NOTED.
DECIMALS ± 0.005 ANGLES ± 2°



MATERIAL SPECIFICATIONS

Housing and lids	Aluminum, anodized
Shaft	Stainless steel, non-magnetic non-passivated
Terminals	Brass, plated for solderability
Bushing mount hardware Lockwasher internal tooth: Panel nut:	 Steel, nickel plated Brass, nickel plated

ENVIRONMENTAL SPECIFICATIONS

Vibration	15 *g* thru 2000 CPS
Shock	50 *g*
Salt spray	96 h
Rotational life	1 million shaft revolutions
Load sife	900 h
Temperature range	-55 °C to +125 °C

Note

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

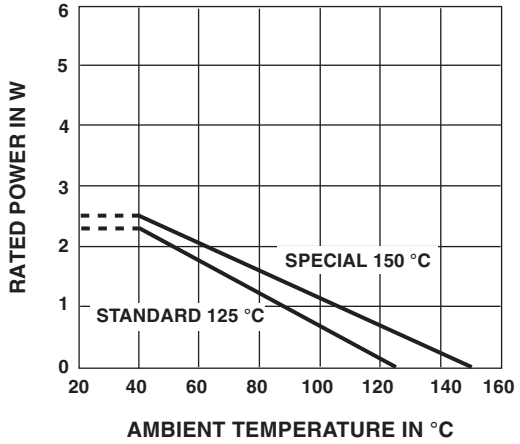
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MARKING	
Unit identification	Units shall be marked with Vishay Spectrol name and model number resistance and resistance tolerance, linearity, terminal identification and data code. Example of a marking for a standard part: 122-11502

POWER RATING CHART

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



RESISTANCE ELEMENT DATA					
RESISTANCE VALUES (Ω)	RESO-LUTION (%)	OHMS PER TURN	MAXIMUM CURRENT AT 70 °C AMBIENT (mA)	MAXIMUM VOLTAGE ACROSS COIL (V)	WIRE TEMP. COEF. (ppm/°C)
5	0.364	0.018	548	2.74	800
10	0.311	0.031	387	3.87	800
20	0.250	0.050	274	5.48	180
50	0.232	0.116	173	8.65	180
100	0.232	0.231	122	12.2	20
200	0.194	0.389	86.6	17.3	20
500	0.168	0.841	54.8	27.4	20
1K	0.156	1.557	38.7	38.7	20
2K	0.109	2.178	27.4	54.8	20
5K	0.088	4.382	17.3	86.5	20
10K	0.076	7.644	12.2	122	20
20K	0.071	14.235	8.66	173	20
50K	0.062	30.921	5.48	274	20
100K	0.052	51.983	3.87	387	20

MECHANICAL SPECIFICATIONS		
PARAMETER		
Rotation	360° continuous	
Bearing type	Servo mount: ball bearing Bushing mount: sleeve bearing	
Torque (maximums) Servo, 1 section Bushing, 1 section Each additional section	**STARTING** 0.25 oz. - in (18.0 g - cm) 0.30 oz. - in (21.6 g - cm) 0.20 oz. - in (14.4 g - cm)	**RUNNING** 0.15 oz. - in (10.8 g - cm) 0.25 oz. - in (18.0 g - cm) 0.15 oz. - in (10.8 g - cm)
Mechanical runouts (maximums): Shaft runout (TIR/in) Pilot dia. runout (TIR) Lateral runout (TIR) Shaft end play Shaft radial play	**SERVO** 0.002" (0.05 cm) 0.002" (0.05 cm) 0.002" (0.05 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 (maximums): Single section Each additional section	0.8 oz. (22.7 g) 0.4 oz. (11.3 g)	
Ganging	6 sections maximum, terminal alignment, added sections within ± 10° of section 1 terminals	
Moment of inertia	0.12 g - cm^2 per section maximum	

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