Vishay Sfernice



Fully Sealed Container Cermet Potentiometers Military and Professional Grade



FEATURES

- 3 Watt at 70°C
- · High power rating
- · Low temperature coefficient
- Excellent stability
- Full sealing
- · Low contact resistance variation
- Mechanical strength
- · Use of faston 2.86 connections

ELECTRICAL SPI	ECIFICATIONS			
Resistive Element		cermet		
Electrical Travel		270° ± 10°		
Resistance Range Linear Law		22Ω to $10M\Omega$		
	Logarithmic Laws	100 Ω to 2.2M Ω		
Standard Series E3		1 - 2.2 - 4.7 and on request 1 - 2 - 5		
Tolerance Standard		± 20%		
	On Request	± 10% - ± 5%		
Power Rating	Linear	3 W at 70°C		
	Logarithmic	1.5 W at 70°C		
Temperature Coefficient		See Standard Resistance Element Data		
Limiting Element Voltage (Linear Law)		300V		
Contact Resistance Variation		3% Rn or 3Ω		
End Resistance (Typical)		1Ω		
Dielectric Strength (RMS)		2500V		
Insulation Resistance (500 VDC)		$10^6 \mathrm{M}\Omega$		

MECHANICAL SPECIFICATIONS

Mechanical Travel $300^{\circ} \pm 5^{\circ}$ Operating Torque (max. Ncm)3 typicalEnd Stop Torque (max. Ncm)70

Max. Tightening Torque

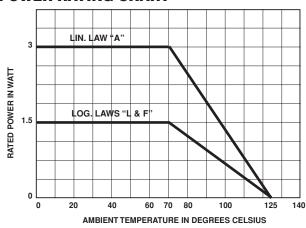
Of Mounting Nut (Ncm) 250 Unit Weight (max. g) 23 to 32

ENVIRONMENTAL SPECIFICATIONS

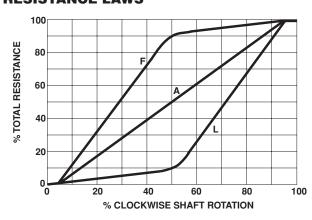
Temperature Range $-55^{\circ}\text{C} + 125^{\circ}\text{C}$ Climatic Category55/125/56Sealingfully sealed

container IP67

POWER RATING CHART



RESISTANCE LAWS

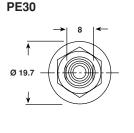


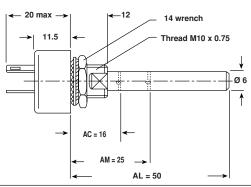


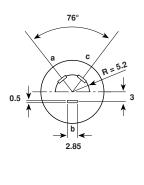
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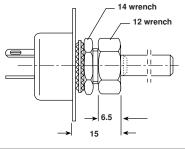


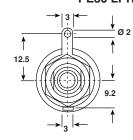


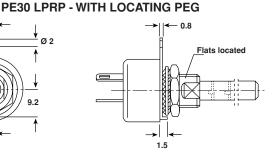




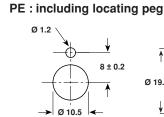
DBAN SHAFT LOCKING

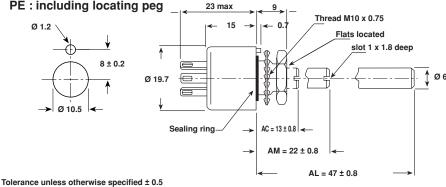




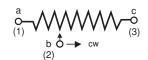


PANEL SEALED VERSION PE30P - PE30PE





CIRCUIT DIAGRAM



SPECIAL FEATURES

COMMAND SHAFT

Length is measured from the mounting surface to the free end of the shaft. The screwdriver slot is aligned with the wiper within ±10°. Special shafts are available, in accordance to drawings supplied by customers. We recommend that customers should not machine shafts, in order to avoid damage. Bending or torsion of terminals should also be avoided.

PANEL SEALING: PE30 P

The panel sealing device consists of a ring located in a slot on the potentiometer face. Sealing is obtained by tightening the ring against the panel when mounting the potentiometer.

LINEARITY

The typical linearity of linear variation law potentiometers is ±5%. Guaranteed linearity on request. Consult VISHAY.

SHAFT LOCKING: DBAN

The shaft locking device consists of a tapered nut tightening a slotted notched washer against both bushing and shaft. DBAN tightening torque is 200 Ncm, shaft locking torque being 30 Ncm. DBAN is also available with all special types. This device is normally supplied in a separate bag. Can be pre-mounted on request.

LOCATING PEG: LPRP

Location is obtained by fitting a special washer in 2 holes drilled at 180° in the potentiometer face.

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PERFORMANCE					
	NF C 83-253			TYPICAL VALUES AND DRIFTS	
TESTS	CONDITIONS	$\frac{\Delta RT}{RT}$ (%) REQUIREMENTS	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)	$\frac{\Delta RT}{RT}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
Climatic Sequence	Phase A dry heat 125°C Phase B damp heat Phase C cold –55°C Phase D damp heat 5 cycles	± 10%	± 10%	± 0.5%	± 1%
Long Term Damp Heat	56 days	± 10% Insulation resist. > 100MΩ	Ω	± 0.5% Insulation resist. > 10 ⁴ N	± 1% ¶Ω
Rotational Life	25000 cycles	± 10% Contact res. variat.: < 7%	Rn	± 3% Contact res. variat.: < 2	% Rn
Load Life	1000 h at rated power 90'/30' - ambient temp. 70°C	± 10% Contact res. variat.: < 7%	Rn	± 1% Contact res. variat.: < 3	% Rn
Rapid Temperature Change	5 cycles – 55°C to + 125°C	± 3%		± 0.5%	
Shock	50 g 11 ms 3 successive shocks in 3 directions	± 2%		± 0.1%	± 0.2 %
Vibration	10 - 55 Hz 0.75mm or 10 g during 6 hours	± 2%		± 0.1%	± 0.2 %

STANDARD RESISTANCE ELEMENT DATA							
STANDARD	LINEAR LAW			LOG LAWS			T.C.
RESIS- TANCE VALUES	MAX. POWER AT +70°C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH ELEMENT	MAX. POWER AT +70°C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH ELEMENT	-55°C +125°C
Ω	W	V	mA	W	V	mA	ppm/°C
22 47	3	8.12 11.87	369 252				200
100 220 470 1k 2.2k 4.7k 10k 22k 47k 100k 220k 470k 1M 2.2M 4.7M	3 3 3 3 3 3 3 1.91 0.90 0.41 0.19 0.09 0.04 0.02	17.32 25.69 37.55 54.77 81.24 118.74 173.20 256.9 300 300 300 300 300 300 300 300	173 116 79 54 37 25 17 11 6.3 3 1.36 0.63 0.30 0.13 0.06 0.03	1.5 1.5 1.5 1.5 1.5 1.5 0.9 0.41 0.19 0.09	38.7 57.4 83.9 122 181.6 265 300 300 300 300	38.7 26.1 17.9 12.2 8.25 5.64 3 1.36 0.63 0.30	±100

MARKING

VISHAY trademark, series, NF types if applicable, ohmic value (in Ω , $k\Omega$, $M\Omega$), tolerance (in %), manufacturing date, marking of terminals 1, 2, 3 or a, b, c.

	ORDE	RING	INFOR	MATION
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PE30 P AC 200 k Ω ± 20% A BO10

SERIES FEATURE SHAFT LENGTH OHMIC VALUE TOLERANCE LAW PACKAGING

P Panel sealing* AC 16 \pm 0.5mm slotted

LPRP Locating peg **AM** 25 ± 0.5 mm slotted **DBAN** Shaft locking **AL** 50 ± 0.5 mm plain round

± 20% standard A linear ± 10% on request L clocky

L clockwise logarithmic

F inverse clockwise logarithmic

* PE Panel sealing with locating peg (former designation E108)