Power Panel Potentiometer

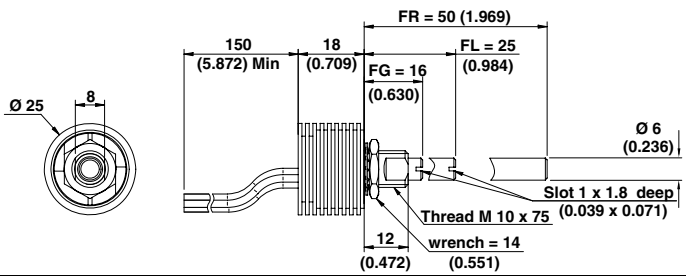
FEATURES

- High power rating (6 W at 50 °C)
- Cermet element
- Full sealing
- Mechanical strength
- Industrial and professional grade
- Tests according to CECC 41 000

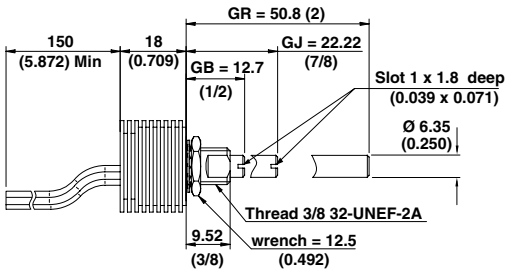
RoHS COMPLIANT

DIMENSIONS in millimeters

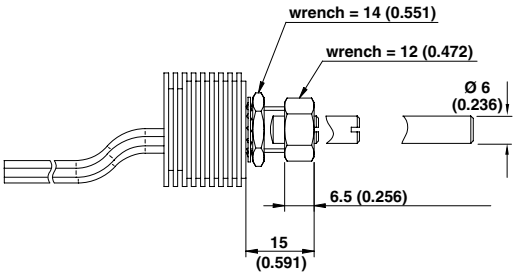
PE 60 L



PE 60 F

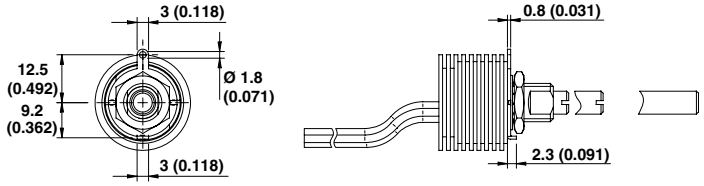


OPTION D: DBAN SHAFT LOCKING



Available only with PE 60 L

OPTION L: PE 60 LPRP - WITH LOCATING PEG

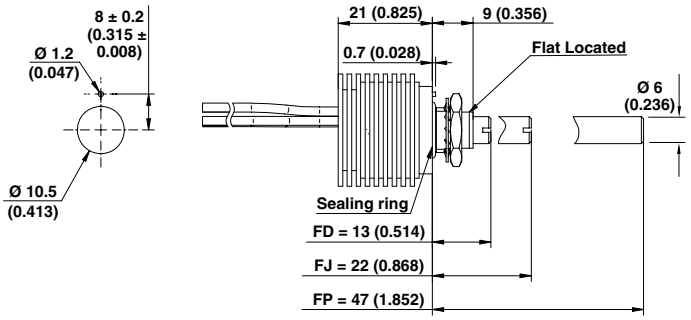


Available on PE 60 L and PE 60 F

Panel sealed version

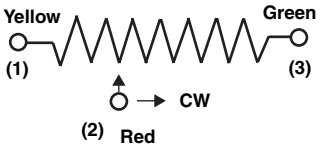
PE 60 M

OPTION E: Including locating peg (available only for PE 60 M)



Available only with bushing M10 x 0.75 and shafts Ø 6 mm

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.

PANEL SEALING: PE60M

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.

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 on the potentiometer face. The peg can therefore be positioned at 90°, 180°, 270° and 360°.

ELECTRICAL SPECIFICATIONS		
Resistive Element		cermet
Electrical Travel		270° ± 10°
Resistance Range	**Linear Law**	1 Ω to 1 MΩ
	Logarithmic Laws	100 Ω to 2.2 MΩ
Standard series E3		1 - 2 - 2.5 - 5
Tolerance	**Standard**	± 20 %
	On Request	± 10 % - ± 5 %
Power Rating	**Linear**	6 W at + 50 °C
	Logarithmic	3 W at + 50 °C
Temperature Coefficient		see Standard Resistance Element Data
Limiting Element Voltage (Linear Law)		350 V
Contact Resistance Variation (Linear Law)		3 % Rn or 0.5 Ω
End Resistance (Typical)		0.5 Ω or 1 %
Dielectric Strength (RMS)		2500 V
Insulation Resistance (500 VDC)		10^6 MΩ

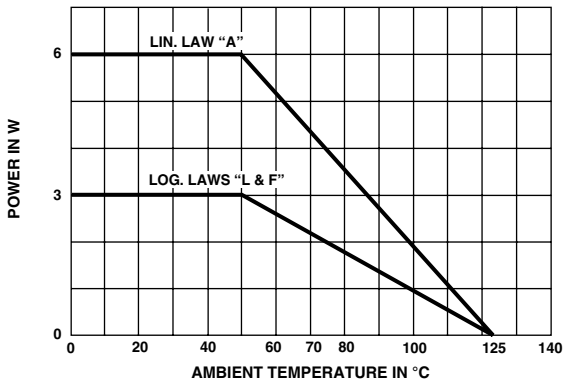
MECHANICAL SPECIFICATIONS

Mechanical Travel	300° ± 5°
Operating Torque (max. Ncm)	3 typical
End Stop Torque (max. Ncm)	70
Max Tightening Torque of Mounting Nut (Ncm)	250
Unit Weight (max. g)	25 to 35

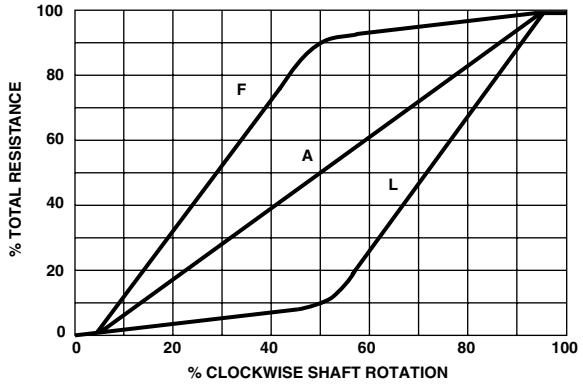
ENVIRONMENTAL SPECIFICATIONS

Temperature Range	- 55 °C to + 125 °C
Climatic Category	55/125/56
Sealing	fully sealed container IP67

POWER RATING CHART



RESISTANCE LAWS



PERFORMANCE

TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS $\frac{\Delta RT}{RT}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
Climatic Sequence	Phase A dry heat 125 °C Phase B damp heat Phase C cold - 55 °C Phase D damp heat 5 cycles	± 0.5 %	± 1 %
Long Term Damp Heat	56 days	± 0.5 % Insulation resistance: > 10^4 MΩ	± 1 %
Rotational Life	25 000 cycles	± 3 % Contact res. variation: < 5 % Rn	
Load Life	1000 hours at rated power 90'/30' - ambient temp. 25 °C	± 3 % Contact res. variation: < 3 % Rn	
Rapid Temperature Change	5 cycles - 55 °C at + 125 °C	± (0.5 % ± 0.1 Ω)	
Shock	50 g at 11 ms 3 successive shocks in 3 directions	± 0.1 %	± 0.2 %
Vibration	10 - 55 Hz 0.75 mm or 10 g during 6 hours	± 0.1 %	± 0.2 %

STANDARD RESISTANCE ELEMENT DATA

STANDARD RESISTANCE VALUES	LINEAR LAW			TYPICAL TCR - 55 °C + 125 °C
	MAX. POWER AT 25 °C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH WIPER	
Ω	W	V	mA	ppm/°C
1	6	2.4	2449	
2		3.5	1732	
5		5.5	1095	
10		7.7	775	± 500
20		11.0	548	
25		12.2	490	
50		17.3	346	
100		24.5	245	
200		34.6	173.2	
250		38.7	154.9	
500		54.8	109.5	
1K		77.5	77.5	
2K		110	54.8	
2.5K		122	49.0	
5K		173	34.64	
10K		245	24.49	± 250
20K	6	346	17.32	
25K	4.90	350	14.00	
50K	2.45		7.00	
100K	1.23		3.50	
200K	0.61		1.75	
250K	0.49		1.40	
500K	0.25		0.70	
1M	0.12	350	0.35	

MARKING

Printed:

- VISHAY trademark
- SAP Part number
- manufacturing date

PACKAGING

- in box of 5 pieces

SAP ORDERING INFORMATION (Part Number 18 digits)

P	E	6	0	L	0	F	G	W	2	0	4	M	A				

MODEL	BUSHING	OPTION	SHAFT	LEADS	OHMIC VALUE	TOLERANCE	LAW	SPECIAL NUMBER
	M = Panel sealed L = STD F = 3/8"	0 = none For L Bushing D = DBAN L = LPRP B = DBAN and LPRP For F Bushing L = LPRP For M Bushing E = Peg	For L Bushing FG 16 mm, slotted FL 25 mm, slotted FR 50 mm, plain For F Bushing GB 1/2", slotted GJ 7/8", slotted GR 2", slotted For M Bushing FD = 13 mm, slotted FJ = 22 mm, slotted FP = 47 mm, plain	W: Wire	204 = 200 kΩ	± 20 % on request ± 10 % ± 5 %	A = Linear L = clockwise logarithmic F = clockwise inverse logarithmic	(if applicable) Given by VISHAY for custom design

PART NUMBER DESCRIPTION (for information only)

PE60	L	0	FG	W	200 kΩ	20 %	A	BO5			e4
MODEL	BUSHING	OPTION	SHAFT	LEADS	OHMIC VALUE	TOL	LAW	PACKAGING	SPECIAL	SPECIAL	LEAD (Pb)-FREE

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