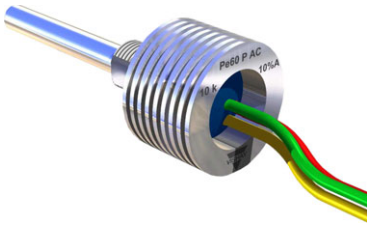
Power Panel 6 W Potentiometer



FEATURES

- High power rating 6 W at 50 °C
- Cermet element
- Full sealing
- Mechanical strength
- Industrial and professional grade
- Tests according to CECC 41000 or IEC 60393-1
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

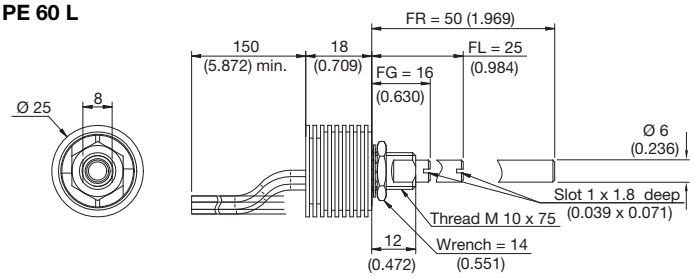
LINKS TO ADDITIONAL RESOURCES

3D Models

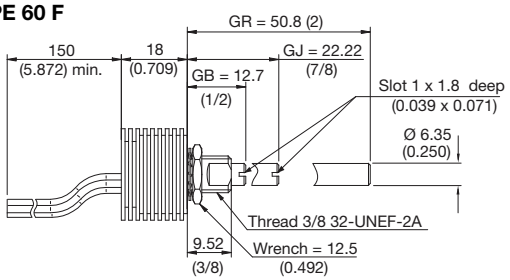
QUICK REFERENCE DATA	
Multiple module	No
Switch module	n/a
Detent module	n/a
Special electrical laws	A: linear, L: logarithmic, F: reverse logarithmic
Sealing level	IP 67
Lifespan	25K cycles

DIMENSIONS in millimeters (inches) ± 0.5 mm (± 0.02")

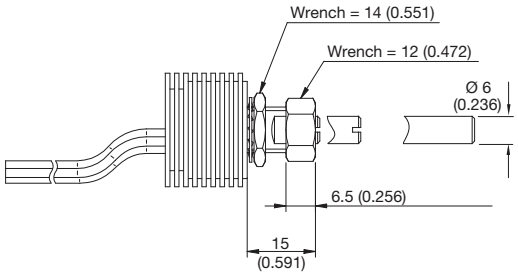
PE 60 L



PE 60 F

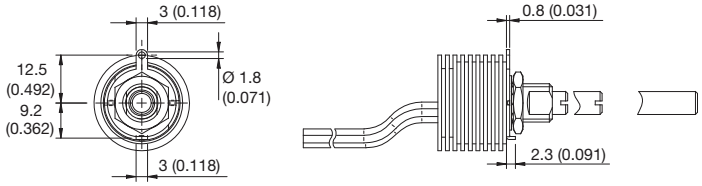


OPTION D: DBAN SHAFT LOCKING



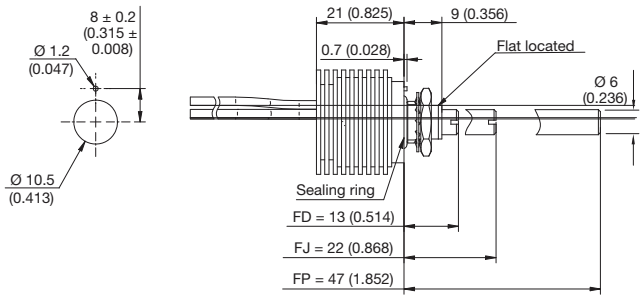
Available only with PE 60 L

OPTION L: PE 60 LPRP - WITH LOCATING PEG



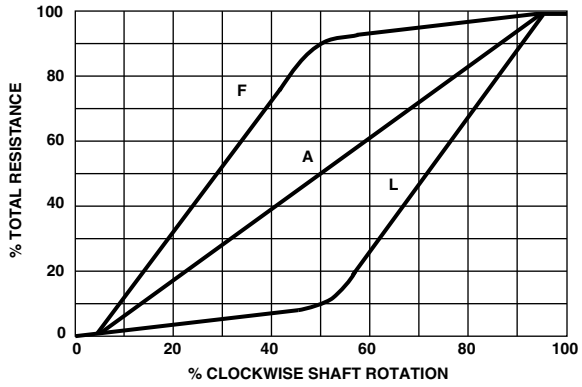
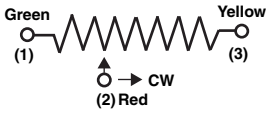
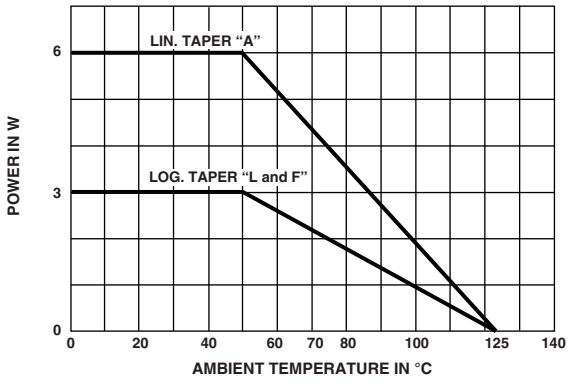
Available on PE 60 L and PE 60 F

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

For technical questions, contact: sferpottrimmers@vishay.com

ELECTRICAL SPECIFICATIONS		
Resistive element		Cermet
Electrical travel		270° ± 10°
Resistance range	linear taper	1 Ω to 1 MΩ
	logarithmic taper	100 Ω to 2.2 MΩ
Standard series e3		1 - 2 - 2.5 - 5
Tolerance	standard	± 20 %
	on request	± 10 %
Taper		
Circuit diagram		
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 taper)		350 V
Contact resistance variation (linear taper)		3 % Rn or 1 %
End resistance (typical)		0.5 Ω or 1 %
Dielectric strength (RMS)		2500 V
Insulation resistance (500 V_{DC})		10^5 MΩ

MECHANICAL SPECIFICATIONS	
Mechanical travel	300° ± 5°
Operating torque (typical)	2 Ncm
End stop torque	70 Ncm max.
Tightening torque of mounting nut	250 Ncm
Unit weight	25 g to 35 g max.

ENVIRONMENTAL SPECIFICATIONS	
Temperature range	-55 °C to +125 °C
Climatic category	55/125/56
Sealing	Fully sealed - container IP67

OPTIONS	
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 groove 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°.

PERFORMANCE

TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS		
		$\Delta R_T/R_T$ (%)	$\Delta R_{1\text{-}2}/R_{1\text{-}2}$ (%)	OTHER
Electrical endurance	1000 h at rated power 90'/30' - ambient temp. 25 °C	± 3 %	-	Contact res. variation: < 3 % Rn
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 %	-
Damp heat, steady state	56 days	± 0.5 %	± 1 %	Insulation resistance: > 10^4 MΩ
Change of temperature	5 cycles, -55 °C at +125 °C	± (0.5 % ± 0.1 Ω)	-	-
Mechanical endurance	25 000 cycles	± 3 %	-	Contact res. variation: < 5 % Rn
Shock	50 *g*'s at 11 ms, 3 successive shocks in 3 directions	± 0.1 %	± 0.2 %	-
Vibration	10 Hz to 55 Hz, 0.75 mm or 10 *g*'s during 6 h	± 0.1 %	± 0.2 %	-

Note

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

STANDARD RESISTANCE ELEMENT DATA

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

MARKING

Printed:
- Vishay trademark
- Part number
- Manufacturing date

PACKAGING

- In box of 5 pieces

ORDERING INFORMATION (part number)

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

MODEL	BUSHING	OPTION	SHAFT	LEADS	OHMIC VALUE	TOLERANCE	TAPER	SPECIAL NUMBER
PE60	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.	TAPER	PACKAGING	SPECIAL	SPECIAL	LEAD (Pb)-FREE

ACCESSORIES

Additional Accessories (to order separately)	www.vishay.com/doc?51051
Control knobs	www.vishay.com/doc?51101

RELATED DOCUMENTS

APPLICATION NOTES	
Potentiometers and Trimmers	www.vishay.com/doc?51001
Guidelines for Vishay Sfernice Resistive and Inductive Components	www.vishay.com/doc?52029

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