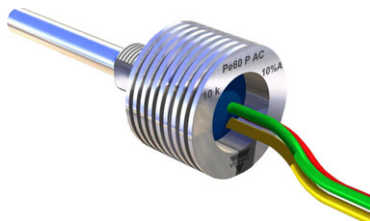




Power Panel 6 W Potentiometer



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

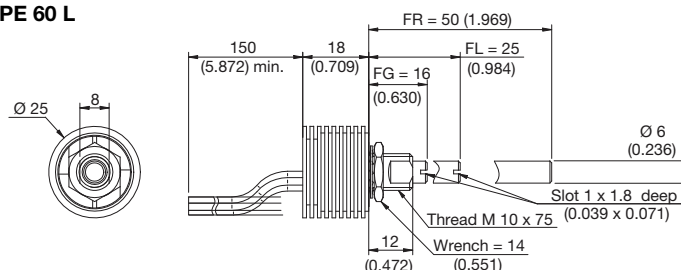


QUICK REFERENCE DATA

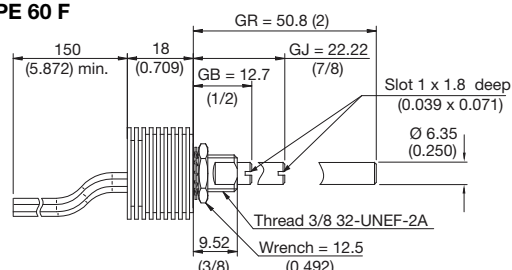
Multiple module	No
Switch module	n/a
Detent module	n/a
Special electrical laws	A: linear, L: logarithmic, F: reverse logarithmic
Sealing level	IP 67
Lifespan	25K cycles

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

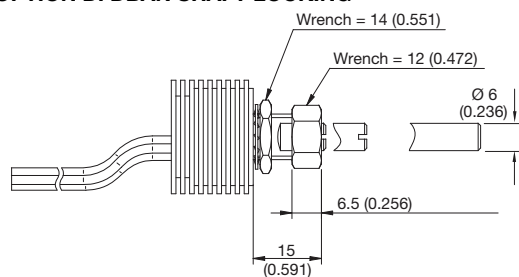
PE 60 L



PE 60 F

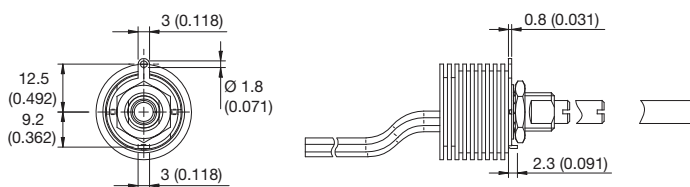


OPTION D: DBAN SHAFT LOCKING



Available only with PE 60 L

OPTION L: PE 60 LPRP - WITH LOCATING PEG

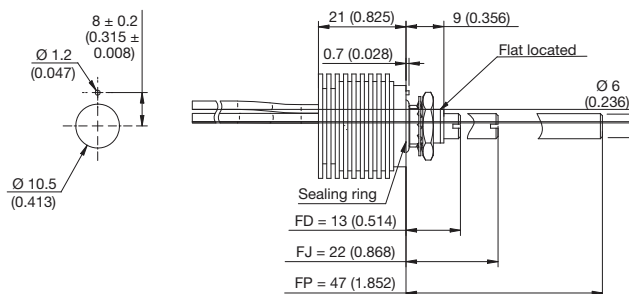


Available on PE 60 L and PE 60 F

Panel sealed version

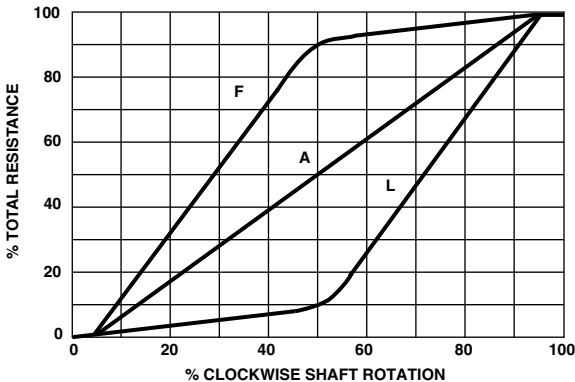
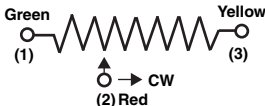
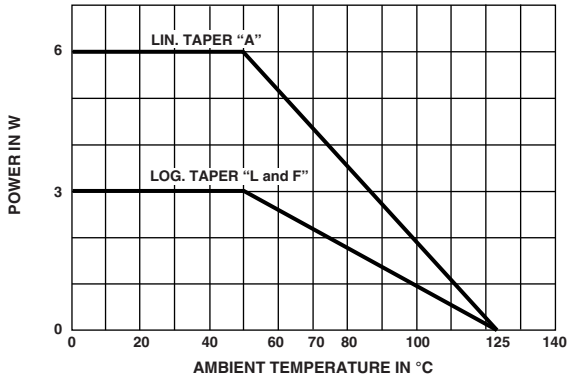
PE 60 M

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



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



ELECTRICAL SPECIFICATIONS		
Resistive element		Cermet
Electrical travel		$270^\circ \pm 10^\circ$
Resistance range	linear taper	1 Ω to 1 M Ω
	logarithmic taper	100 Ω to 2.2 M Ω
Standard series e3		1 - 2 - 2.5 - 5
Tolerance	standard	$\pm 20\%$
	on request	$\pm 10\%$
Taper		
Circuit diagram		
Power rating	linear	6 W at 50 $^\circ\text{C}$ 3 W at 50 $^\circ\text{C}$
	logarithmic	
		
Temperature coefficient		See Standard Resistance Element Data
Limiting element voltage (linear taper)		350 V
Contact resistance variation (linear taper)		3 % R _n or 1 %
End resistance (typical)		0.5 Ω or 1 %
Dielectric strength (RMS)		2500 V
Insulation resistance (500 V _{DC})		10 ⁵ M Ω

MECHANICAL SPECIFICATIONS	
Mechanical travel	$300^\circ \pm 5^\circ$
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 $^\circ\text{C}$ to +125 $^\circ\text{C}$
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 $\pm 10^\circ$. 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		
		$\Delta R_T/R_T$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)	OTHER
Electrical endurance	1000 h at rated power $90^\circ/30^\circ$ - ambient temp. 25°C	$\pm 3\%$	-	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	$\pm 0.5\%$	$\pm 1\%$	-
Damp heat, steady state	56 days	$\pm 0.5\%$	$\pm 1\%$	Insulation resistance: $> 10^4\text{ M}\Omega$
Change of temperature	5 cycles, -55°C at $+125^\circ\text{C}$	$\pm (0.5\% \pm 0.1\Omega)$	-	-
Mechanical endurance	25 000 cycles	$\pm 3\%$	-	Contact res. variation: $< 5\%$ Rn
Shock	50 g's at 11 ms, 3 successive shocks in 3 directions	$\pm 0.1\%$	$\pm 0.2\%$	-
Vibration	10 Hz to 55 Hz, 0.75 mm or 10 g's during 6 h	$\pm 0.1\%$	$\pm 0.2\%$	-

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 $+125^\circ\text{C}$
	MAX. POWER at 50°C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH WIPER	
Ω	W	V	mA	ppm/ $^\circ\text{C}$
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 k Ω	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



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.