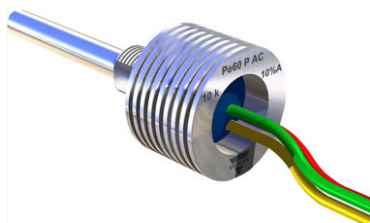


Power Panel 6 W Potentiometer



LINKS TO ADDITIONAL RESOURCES



FEATURES

- High power rating 6 W at 50 °C
- Cermet element
- Mechanical strength
- Tests according to CECC 41000 or IEC 60393-1
- Construction: fully sealed
- Professional grade
- Material categorization: for definitions of compliance please see www.vishay.com/doc299912



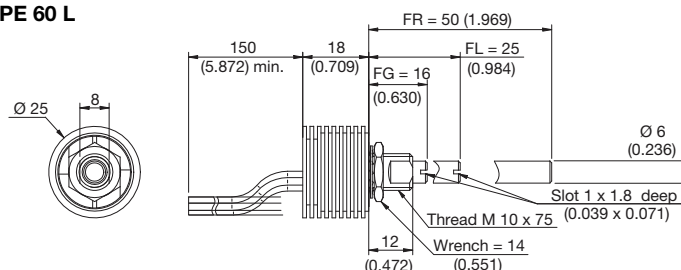
RoHS
COMPLIANT

QUICK REFERENCE DATA

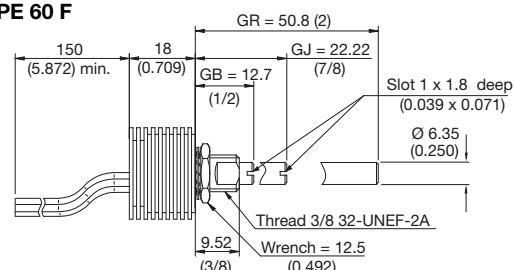
Multiple module	No
Switch module	n/a
Detent module	n/a
Special electrical laws	A: linear, L: logarithmic, F: reverse logarithmic
Sealing level	IP 67
Lifespan	25K cycles

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

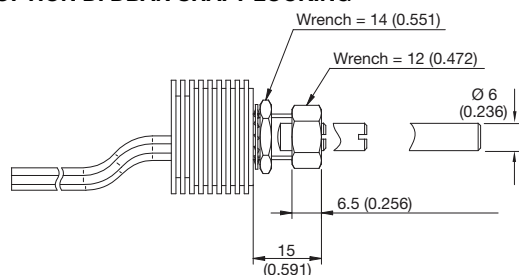
PE 60 L



PE 60 F

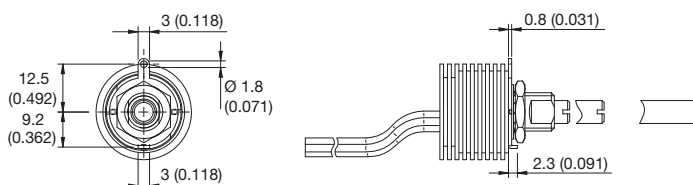


OPTION D: DBAN SHAFT LOCKING



Available only with PE 60 L

OPTION L: PE 60 LPRP - WITH LOCATING PEG

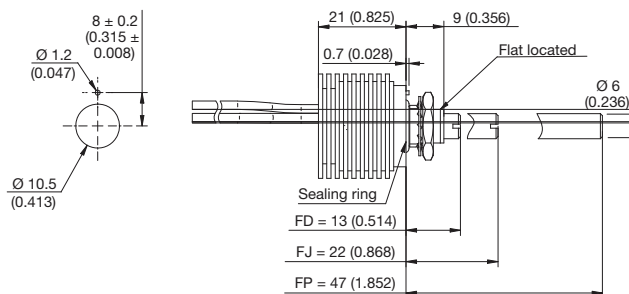


Available on PE 60 L and PE 60 F

Panel sealed version

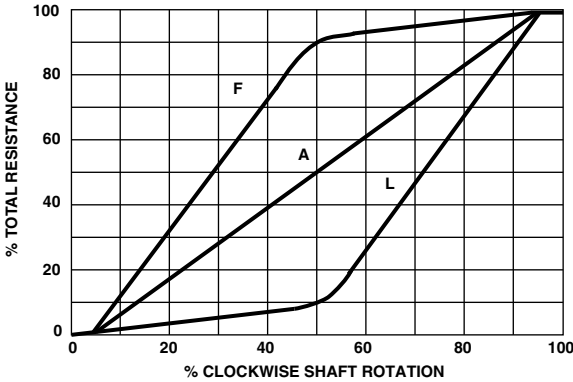
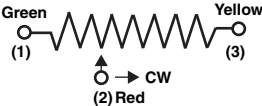
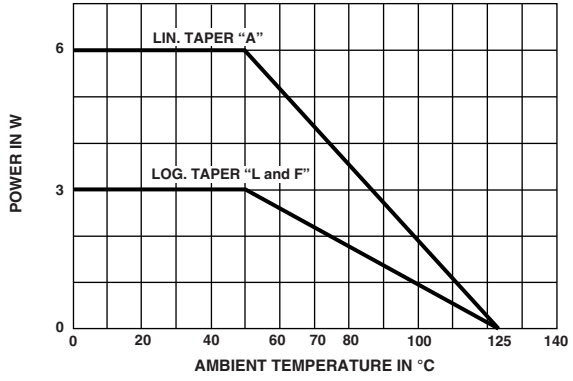
PE 60 M

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 $^\circ\text{C}$
	Logarithmic	3 W at 50 $^\circ\text{C}$
		
Temperature coefficient	± 500 ppm/ $^\circ\text{C}$ for 1 Ω to 25 Ω ± 250 ppm/ $^\circ\text{C}$ for 50 Ω to 1 M Ω	
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: $< 3\%$ R_n
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: $< 5\%$ R_n
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	± 250
50	6	17.3	346	
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

**OPTION RELATIVE TO APPLICATION****"K14" OPTION** for AMS applications (avionics, military, and space)**"K17" OPTION** for MEDICAL applications

Option guarantees:

- Reinforced incoming inspection on raw material
- Traceability of all materials used in the composition of the product
- 50-year traceability (AMS market) / 20-year traceability (MEDICAL market)
- Customer information for any process or product modification having an impact on the function, mountability, shape or reliability of the product
- Periodic product monitoring
- Dedicated technical specification

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 k Ω	$\pm 20\%$ On request: $\pm 10\%$ $\pm 5\%$	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

Potentiometers are delivered with accessories (nut, washer...)	
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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