

Power Panel Potentiometer



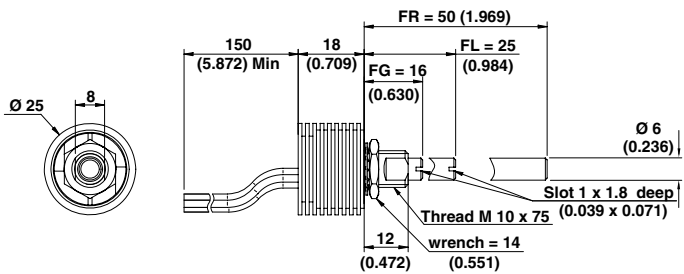
FEATURES

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

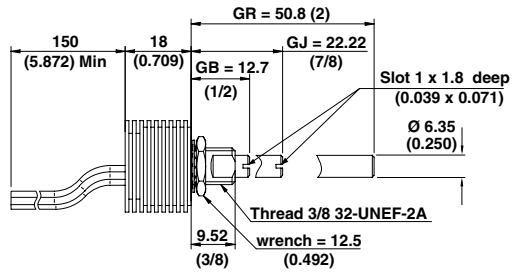


DIMENSIONS in millimeters

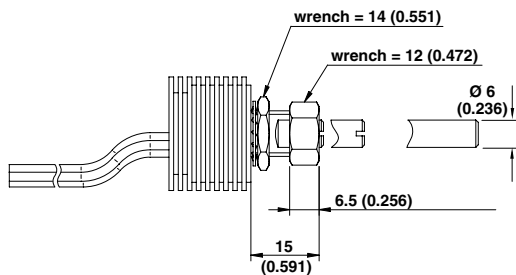
PE 60 L



PE 60 F

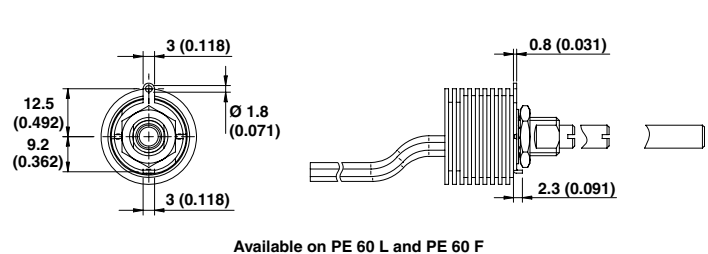


OPTION D: DBAN SHAFT LOCKING



Available only with PE 60 L

OPTION L: PE 60 LPRP - WITH LOCATING PEG

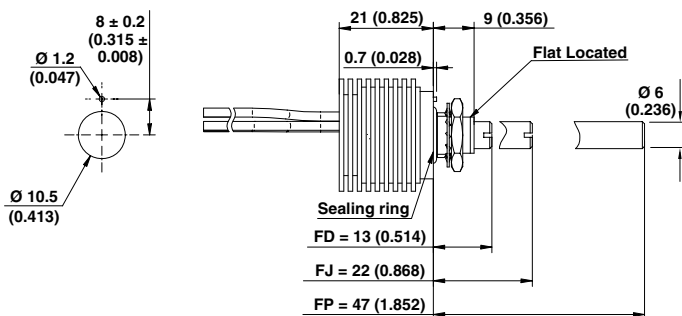


Available on PE 60 L and PE 60 F

Panel sealed version

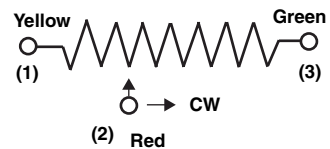
PE 60 M

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 $\pm 10^\circ$. 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 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 | | $270^\circ \pm 10^\circ$ |
| Resistance Range | Linear Law | 1Ω to $1 \text{ M}\Omega$ |
| | Logarithmic Laws | 100Ω to $2.2 \text{ M}\Omega$ |
| Standard series E3 | | 1 - 2 - 2.5 - 5 |
| Tolerance | Standard | $\pm 20 \%$ |
| | On Request | $\pm 10 \%$ - $\pm 5 \%$ |
| Power Rating | Linear | 6 W at $+ 50^\circ \text{C}$ |
| | Logarithmic | 3 W at $+ 50^\circ \text{C}$ |
| Temperature Coefficient | | see Standard Resistance Element Data |
| Limiting Element Voltage (Linear Law) | | 350 V |
| Contact Resistance Variation (Linear Law) | | 3 % R_n or 0.5Ω |
| End Resistance (Typical) | | 0.5Ω or 1 % |
| Dielectric Strength (RMS) | | 2500 V |
| Insulation Resistance (500 VDC) | | $10^6 \text{ M}\Omega$ |

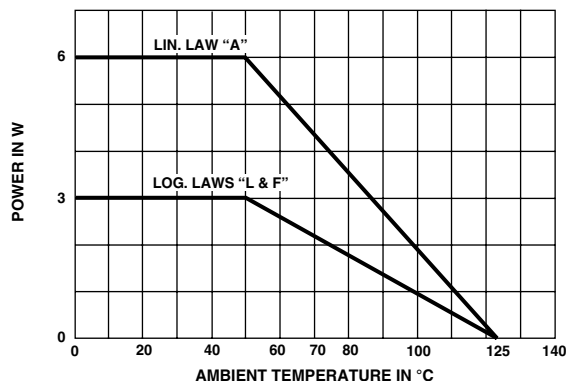
MECHANICAL SPECIFICATIONS

| | |
|---|-------------------------|
| Mechanical Travel | $300^\circ \pm 5^\circ$ |
| 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 |

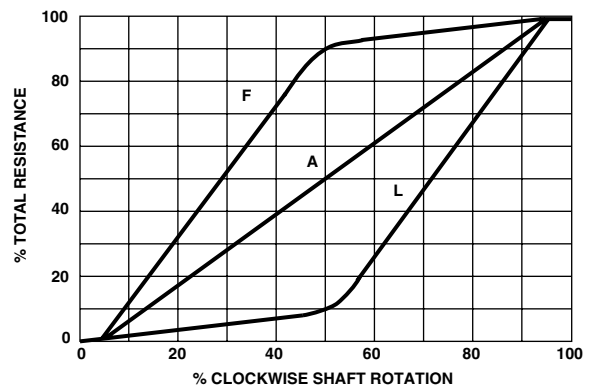
ENVIRONMENTAL SPECIFICATIONS

| | |
|-------------------|---|
| Temperature Range | $- 55^\circ \text{C}$ to $+ 125^\circ \text{C}$ |
| 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 | ± 500 |
| 2 | ↓ | 3.5 | 1732 | |
| 5 | | 5.5 | 1095 | |
| 10 | | 7.7 | 775 | |
| 20 | | 11.0 | 548 | |
| 25 | | 12.2 | 490 | |
| 50 | ↓ | 17.3 | 346 | ± 250 |
| 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 | |
| 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 | | | e3 |
| MODEL | BUSHING | OPTION | SHAFT | LEADS | OHMIC VALUE | TOL | LAW | PACKAGING | SPECIAL | SPECIAL | LEAD (Pb)-FREE |



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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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