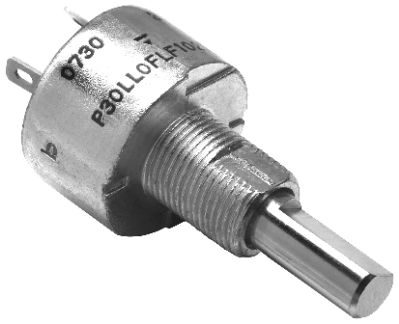
Long Life Potentiometer - 2 Million Cycles
Heavy Duty - Cermet
Fully Sealed



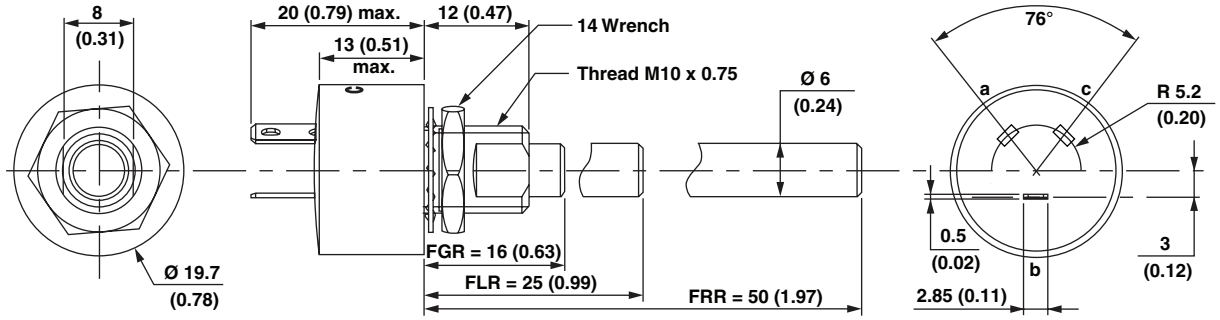
FEATURES

- 2 million cycles
- High power rating (3 W at 70 °C)
- Low temperature coefficient (± 150 ppm/°C typical)
- Custom designs on request
- Compliant to RoHS directive 2002/95/EC

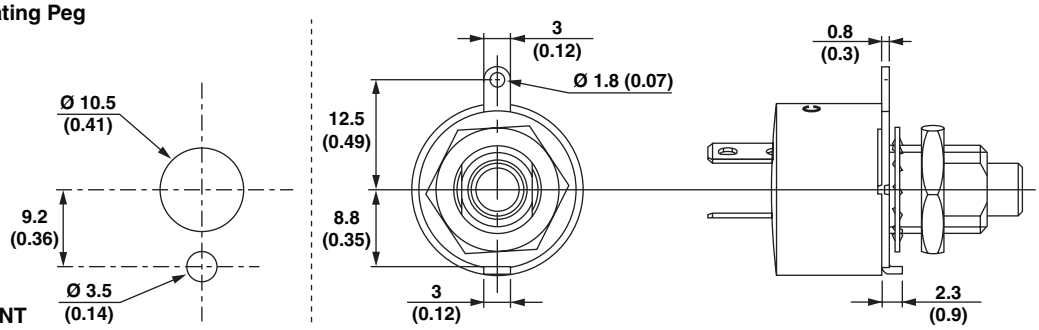
RoHS COMPLIANT

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

P30L

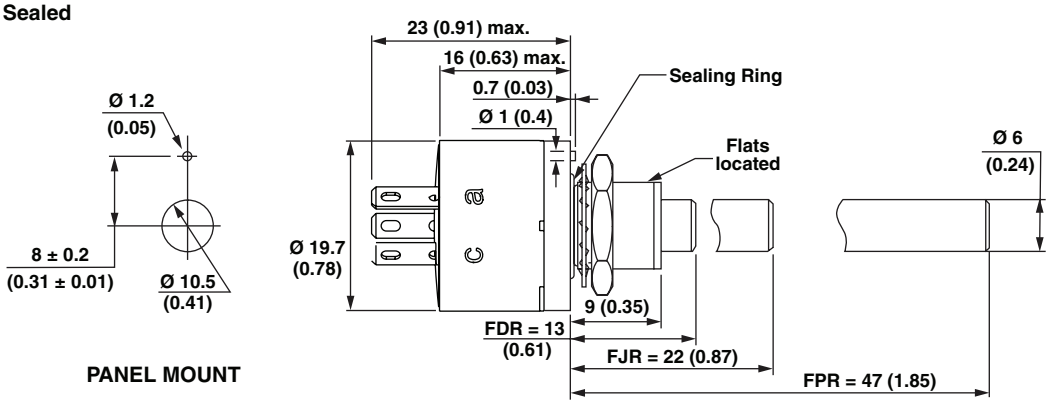


P30L: LPRP - Locating Peg



PANEL MOUNT

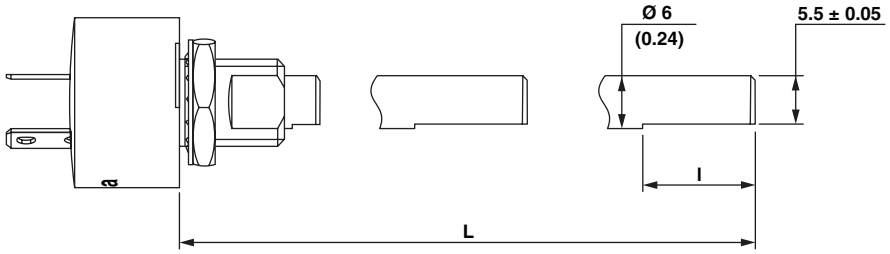
P30LME: Panel Sealed



PANEL MOUNT

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

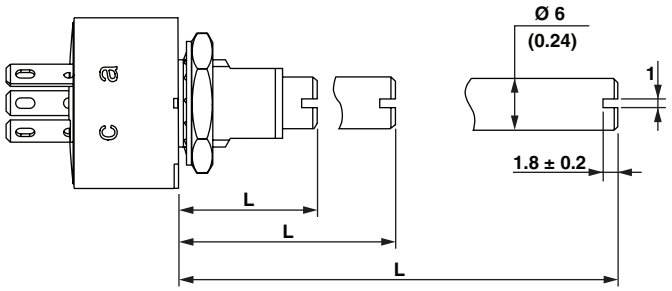
Standard Shaft Style F (Flatted)



Model	Shaft codification	L (mm)	l (mm)
P30L	FGF	16	3.17
	FLF	25	12
	FRF	50	12
P30M	FDF	13	3.17
	FJF	22	12
	FPF	47	12

Shaft shown at center position
Flat opposite to the wiper

Standard Shaft Style S (Slotted)



Model	Shaft codification	L (mm)
P30L	FGS	16
	FLS	25
	FRS	50
P30M	FDS	13
	FJS	22
	FPS	47

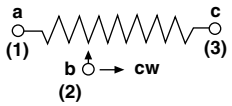
Slot aligned to the wiper at ± 10°

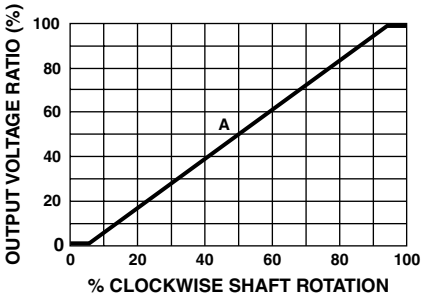
Long Life Potentiometer - 2 Million Cycles
Heavy Duty - Cermet
Fully Sealed

ELECTRICAL SPECIFICATIONS

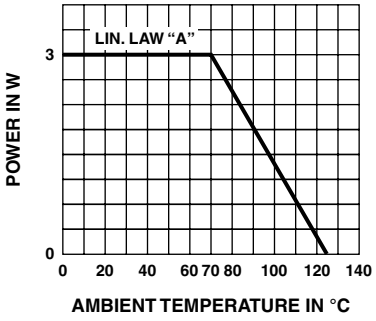
Resistive Element	Cermet
Electrical Travel	270° ± 10°
Standard Resistance Values	1 kΩ - 5 kΩ - 10 kΩ - 50 kΩ
Tolerance	20 %
Varation Law	Linear A

CIRCUIT DIAGRAM





Power Rating	3 W at 70 °C



Standard Resistance Element Data

Resistance Value	Max. Power at 70 °C	Max. Working Voltage
(kΩ)	(W)	(V)
1	2	44.7
5	2	100
10	2	141
50	1.8	300

Temperature Coefficient (Typical)	± 150 ppm/°C
Limiting Element Voltage	300 V
Contact Resistance Variation	3 % Rn
End Resistance (Typical)	1 Ω
Dielectric Strength (RMS)	2500 V
Insulation Resistance (300 V_{DC})	10^5 MΩ
Independent Linearity (Typical)	± 5 %

MECHANICAL SPECIFICATIONS

Mechanical Travel	300° ± 5	
Operating Torque (Typical)	3 Ncm max.	4.25 oz.-inch max.
End Stop Torque	70 Ncm max.	99 oz.-inch max.
Tightening Torque of Mounting Nut	250 Ncm max.	22.13 lb-inch max.
Unit Weight	23 g to 32 g max.	0.8 oz. to 1.13 oz.
Terminals	e3: Pure Sn	

ENVIRONMENTAL SPECIFICATIONS	
Temperature Range	- 55 °C to 125 °C
Climatic Category	55/125/56
Sealing	Fully sealed - Container IP67

OPTIONS	
Special Feature 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 tool shafts, in order to avoid damage. Bending or torsion of terminals should also be avoided.
Panel Sealing	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.
Locating Peg	Location is obtained by fitting a special washer on the mounting face of the potentiometer.

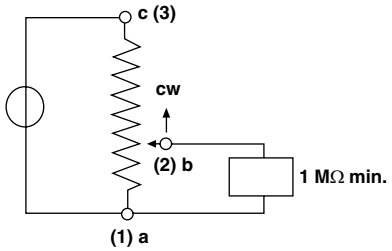
MARKING

- VISHAY trademark
- Part number (including model, ohmic value code, tolerance code)
- Manufacturing date code
- Marking of terminals 3, and a, b, c

APPLICATION NOTE

The potentiometer shall be used in voltage divider with an impedance load at least 100 times higher than the total potentiometer nominal resistance value.

Advised load impedance:
1 MΩ min. for resistance range of 1kΩ to 50 kΩ



Long Life Potentiometer - 2 Million Cycles
Heavy Duty - Cermet
Fully Sealed

PERFORMANCES

TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS		
		$\Delta R_T/R_T$ (%)	$\Delta R_{1\text{-}2}/R_{1\text{-}2}$ (%)	OTHER
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 40 °C 93 % HR	± 0.5 %	± 1 %	Insulation resistance > 100 MΩ
Rotational Life	2 000 000 cycles at rated power Turn angle: ± 60° 33 cycles per minute Temperature: 20 °C	± 20 %	-	Contact resistance variation max. 35 % Independent linearity ± 10 % (typical)
Load Life	1000 h at rated power 90'/30' Ambient temperature 70 °C	± 20 %	± 20 %	Contact resistance variation max. 30%
Rapid Temperature Change	5 cycles - 55 °C at 125 °C	± 0.5 %	-	-
Shock	50 g 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 during 6 h	± 0.1 %	± 0.2 %	-

SAP ORDERING INFORMATION (Part Number 18 digits)

P	3	0	L	L	0	F	G	R	1	0	3	M	A				

MODEL	BUSHING	OPTION	SHAFT			RESISTANCE CODE/TOLERANCE CODE/TAPER			SPECIAL NUMBER
			Diameter	Length	End Shaft Shape	Ohmic Value	Tolerance	Variation Law	(If applicable)
P30L	L = M10 x 0.75 M = Panel sealed M10 x 0.75	0 = None E = With Locating Peg (for M bushing only) L = LPRP	F = Ø 6 mm AP = Custom shaft	For L Bushing G = 16 mm L = 25 mm R = 50 mm For M Bushing D = 13 mm J = 22 mm P = 47 mm	R = Round On request S = Slotted D = Custom end shaft F = Flatted	102 = 1 kΩ 502 = 5 kΩ 103 = 10 kΩ 503 = 50 kΩ	M = 20 % On request K = 10 %	A = Linear	Given by Vishay for custom design

PART NUMBER DESCRIPTION (for information only)

P30L	L	0	FGR	10K	20 %	A		BO10			e3
MODEL	BUSHING	OPTION	SHAFT	VALUE	TOLERANCE	TAPER	SPECIAL	PACKAGING	SPECIAL	SPECIAL	LEAD (Pb)-FREE

Disclaimer

All product specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.