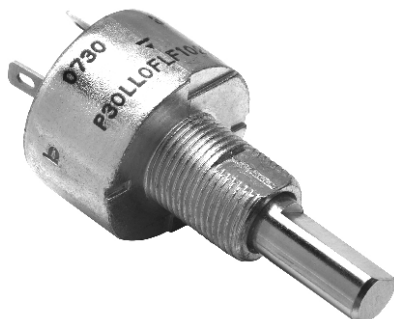


Long Life Potentiometer - 2 Million Cycles Heavy Duty - Cermet Fully Sealed



FEATURES

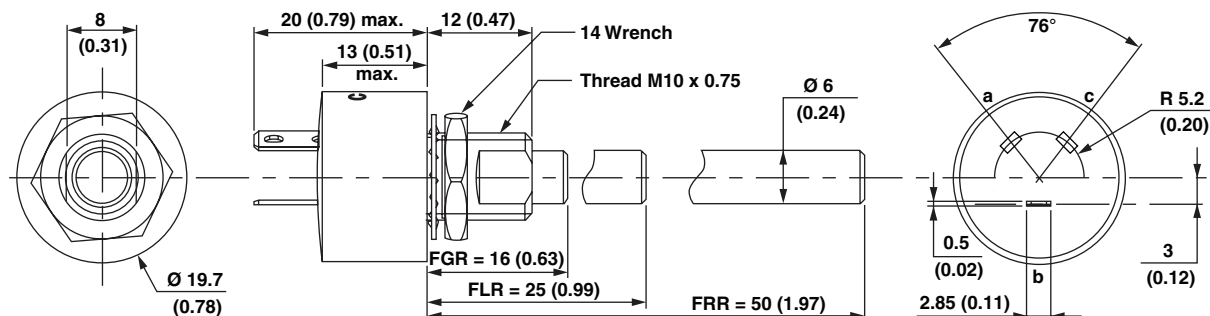
- 2 million cycles
- High power rating (3 W at 70 °C)
- Low temperature coefficient (± 150 ppm/°C typical)
- Custom designs on request
- Compliant to RoHS directive 2002/95/EC



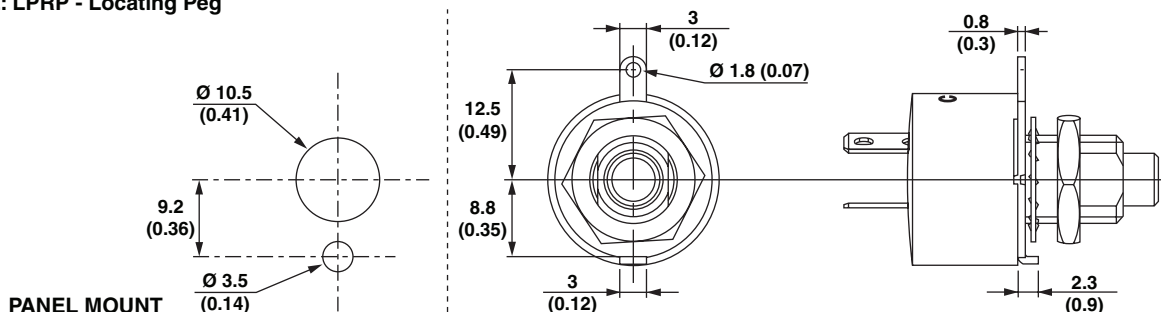
RoHS
COMPLIANT

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

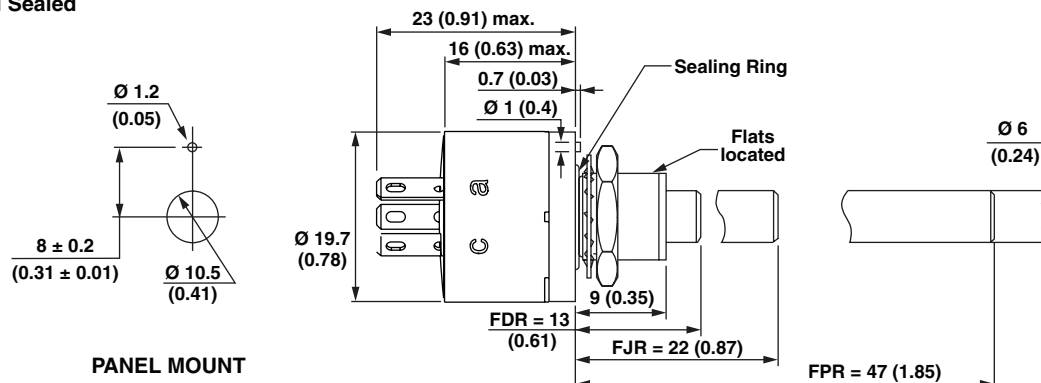
P30L



P30L: LPRP - Locating Peg

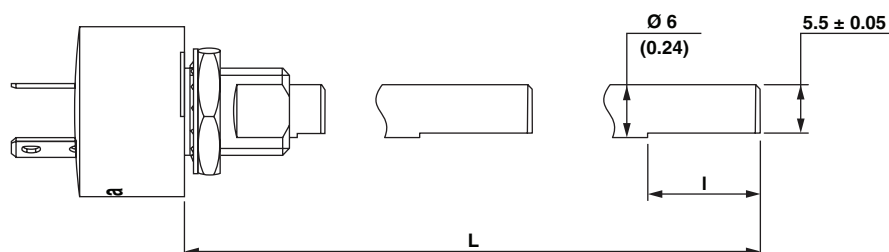


P30LME: Panel Sealed



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

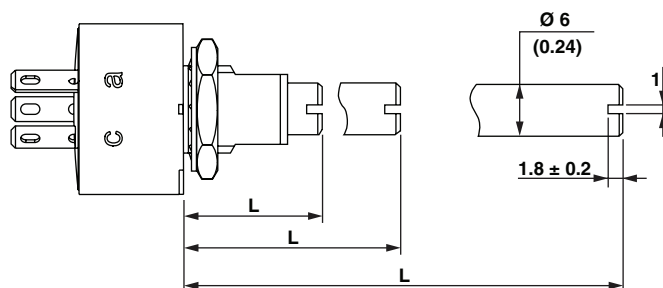
Standard Shaft Style F (Flatted)



Model	Shaft codification	L (mm)	I (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

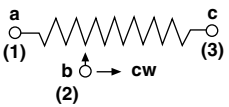
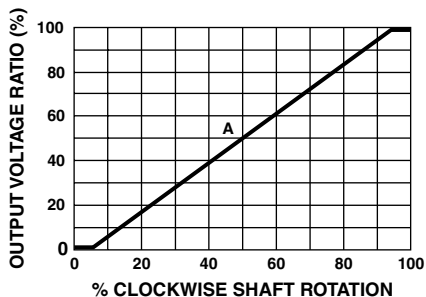
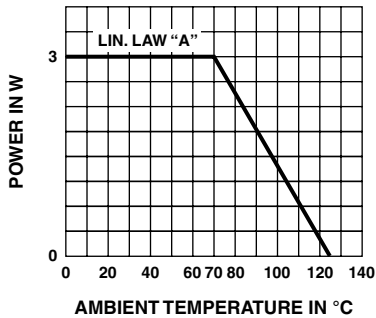
Slot aligned to the wiper at $\pm 10^\circ$



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

Vishay Sfernice

ELECTRICAL SPECIFICATIONS

Resistive Element	Cermet																
Electrical Travel	$270^\circ \pm 10^\circ$																
Standard Resistance Values	1 k Ω - 5 k Ω - 10 k Ω - 50 k Ω																
Tolerance	20 %																
Variation Law	Linear	A															
	<div>CIRCUIT DIAGRAM </div> <div></div>																
Power Rating	3 W at 70 °C																
Standard Resistance Element Data	<table><thead><tr><th>Resistance Value (kΩ)</th><th>Max. Power at 70 °C (W)</th><th>Max. Working Voltage (V)</th></tr></thead><tbody><tr><td>1</td><td>2</td><td>44.7</td></tr><tr><td>5</td><td>2</td><td>100</td></tr><tr><td>10</td><td>2</td><td>141</td></tr><tr><td>50</td><td>1.8</td><td>300</td></tr></tbody></table>		Resistance Value (k Ω)	Max. Power at 70 °C (W)	Max. Working Voltage (V)	1	2	44.7	5	2	100	10	2	141	50	1.8	300
Resistance Value (k Ω)	Max. Power at 70 °C (W)	Max. Working Voltage (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 % R _n																
End Resistance (Typical)	1 Ω																
Dielectric Strength (RMS)	2500 V																
Insulation Resistance (300 V _{DC})	10 ⁵ M Ω																
Independent Linearity (Typical)	± 5 %																

MECHANICAL SPECIFICATIONS

Mechanical Travel	$300^\circ \pm 5$	
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 $\pm 10^\circ$. 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.

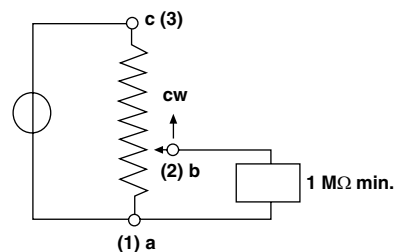
MARKING

- 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 M Ω min. for resistance range of 1k Ω to 50 k Ω





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

Vishay Sfernice

PERFORMANCES				
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS		
		$\Delta R_T/R_T$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)	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				
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	Diameter	Length	End Shaft Shape	Ohmic Value	Tolerance	Variation Law	(If applicable) Given by Vishay for custom design				
			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					

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	SPECIAL	LEAD (Pb)-FREE



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