

# Fully Sealed Potentiometers Cermet (PRV6) Conductive Plastic (PARV6)

## FEATURES

- PRV6 1.5 Watt at 70°C
- PARV6 0.75 Watt at 70°C
- CECC 41300
- Military performances
- Low cost
- Fully sealed and panel sealed
- Compatible RV6 (MIL R 94)
- High power rating (cermet)
- High stability
- Mechanical life 50,000 cycles



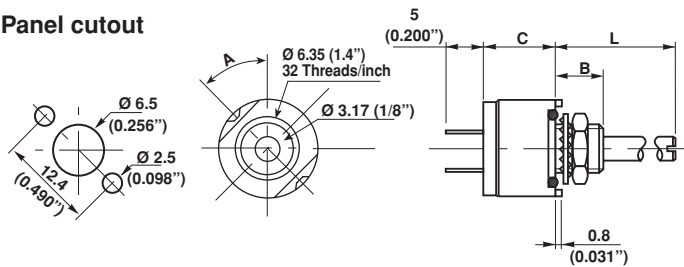
## DIMENSIONS in millimeters [inches]

PRV cermet PRV6  
PARV conductive plastic PARV6

Shafts and bushings : 6 - 61 - 62

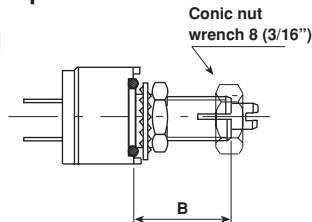
6LC - 61LC - 62LC

### Panel cutout



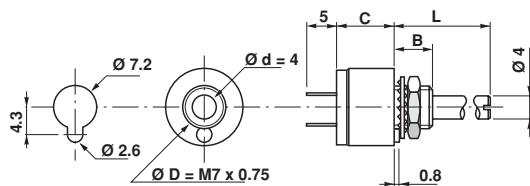
### Locking shaft H option :

61H - 62H  
61LCH - 62LCH



Shaft Dia 4 mm : 6Q - 61Q - 61QH

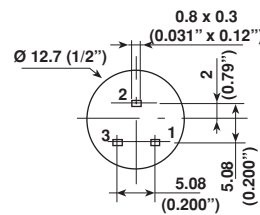
6QLC - 61QLC - 61QLCH



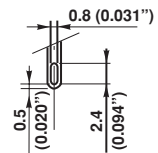
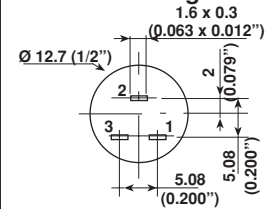
See ordering information for quotation

## Terminal options available on all types

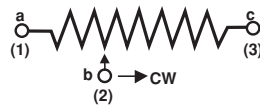
### PCB pins W option



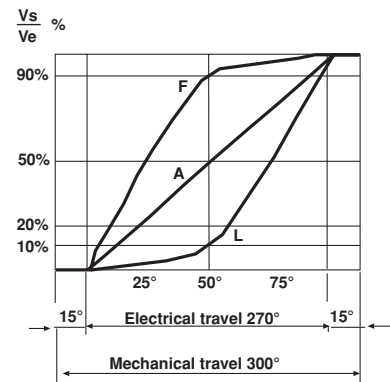
### Solder lugs



## CIRCUIT DIAGRAM



## VARIATION LAWS



## TAPERS

Tapers A - L - F - are measured between the wiper (2) and the ccw terminal (1).

ELECTRICAL SPECIFICATIONS		
	PRV6	PARV6
Resistive Element	cermet	conductive plastic
Electrical Travel	270° ±15°	270° ± 15°
Resistance Range		
Linear Law (A)	20Ω to 10MΩ	1 kΩ to 1MΩ
Non Linear Laws (F-L)	470Ω to 1MΩ	470Ω to 500 kΩ (± 20%)
Tolerance	Standard	± 20% ± 10%
	On Request	± 5 %
Power Rating at + 70°C	Linear	1.5 W
	Others Tapers	0.75 W
Temperature Coefficient	± 100ppm/°C	± 1000ppm/°C
Limiting Element Voltage	350 V	350 V
Contact Resist. Variation CRV	2% or 3Ω	
End Resistance (Typical)	1Ω	
Dielectric Strength	1750 VRMS (2000 VRMS on request)	
Insulation Resistance (500VDC)	10 <sup>6</sup> MΩ	

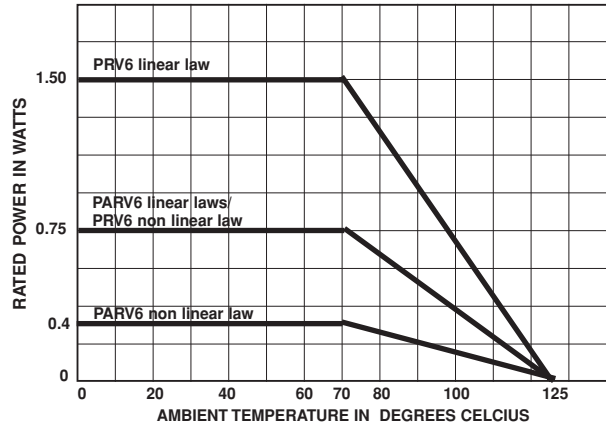
### MECHANICAL SPECIFICATIONS

Mechanical Travel	300° ± 5°
Operating Torque	0.5 to 2 Ncm
	or 0.7 to 3 oz.in.
End Stop Torque max	35 Ncm
	or 3 lb.in.
Tightening Torque max	150 Ncm
	or 13 lb.in

### ENVIRONMENTAL SPECIFICATIONS

	PRV6	PARV6
Temperature Range	- 55°C + 125°C	- 40°C + 125°C
Climatic Category	55/125/56	40/125/56
Sealing	fully sealed container IP67 and panel sealed	

### POWER RATING CHART



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PERFORMANCE (PRV6)			
CECC 41 300 and/or MIL R 94			TYPICAL VALUES AND DRIFTS
TESTS	CONDITIONS	$\frac{\Delta RT}{RT}$ (%) REQUIREMENTS	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
Load Life	1000 h at rated power 90°/30' - temperature 70°C	± 10% CRV < 7% Rn	± 1% CRV < 3% Rn
Climatic Sequence	Phase A dry heat 100°C Phase B damp heat Phase C cold -55°C Phase D damp heat 5 cycles	± 10%	± 10% ± 0.5% ± 1%
Long Term Damp Heat	56 days	± 10% Insulation resist. > 100MΩ	± 10% ± 0.5% Insulation resist. > 10 <sup>4</sup> MΩ
Rapid Temperature Change	5 cycles - 55°C at + 125°C	± 3%	± 0.5%
Vibration	10g 55 to 2000 Hz 2 h each direction	± 2% no CUT > 0.1 ms ± 5%	± 0.1% ± 0.2 %
Shock	100 g 6 ms 20 shocks	± 2%	± 5% ± 0.1% ± 0.2 %
Rotational Life	50.000 cycles	± 10% CRV < 7 % Rn	± 3% CRV < 2% Rn



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Vishay Sfernice

STANDARD RESISTANCE ELEMENT DATA							
STANDARD RESISTANCE VALUES	PRV6 LINEAR LAW			PRV6 NON LINEAR LAWS			T.C. - 55°C + 125°C
	MAX. POWER AT 70°C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH ELEMENT	MAX. POWER AT 70°C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH ELEMENT	
Ω	W	V	mA	W	V	mA	ppm/°C
20	1.5	5.48	274				0
50		8.66	173				+ 200
100		12.2	122				
200		17.3	87				
500		27.4	55				
1k		38.7	38.7	0.75	27.3	27.4	
2k		54.8	27.4		38.2	19.3	
5k		86.6	17.3		61.2	12.2	
10k		122.5	12.2		87	8.7	
20k		173	8.26		122	6.1	PRV6
50k	1.5	274	5.65		194	3.9	± 100
100k	1.22	350	3.5	0.75	273	2.74	
200K	0.61	350	1.75	0.61	350	1.75	
500K	0.25	350	0.7	0.25	350	0.7	
1M	0.12	350	0.35				
2M	0.06	350	0.17				
5M	0.025	350	0.07				
10M	0.012	350	0.035				

### PANEL SEALING

Except for dia. 4 mm shaft, an O.ring is supplied with the potentiometer. This O.ring should be placed into the groove of the body and ensures the panel sealing.

For dia. 4mm shaft please see note "P" in ordering information.

### SHAFTS

Shaft lengths are measured from the mounting face to the free end of the shaft. Special shafts are available if the customer supplies a drawing. The shaft slot is aligned to the wiper within ± 10°.

### HARDWARE

Nuts, washer and O.ring are **separately supplied** (not mounted on the potentiometer), in a small bag placed in the packaging.

### LOCATING PEG

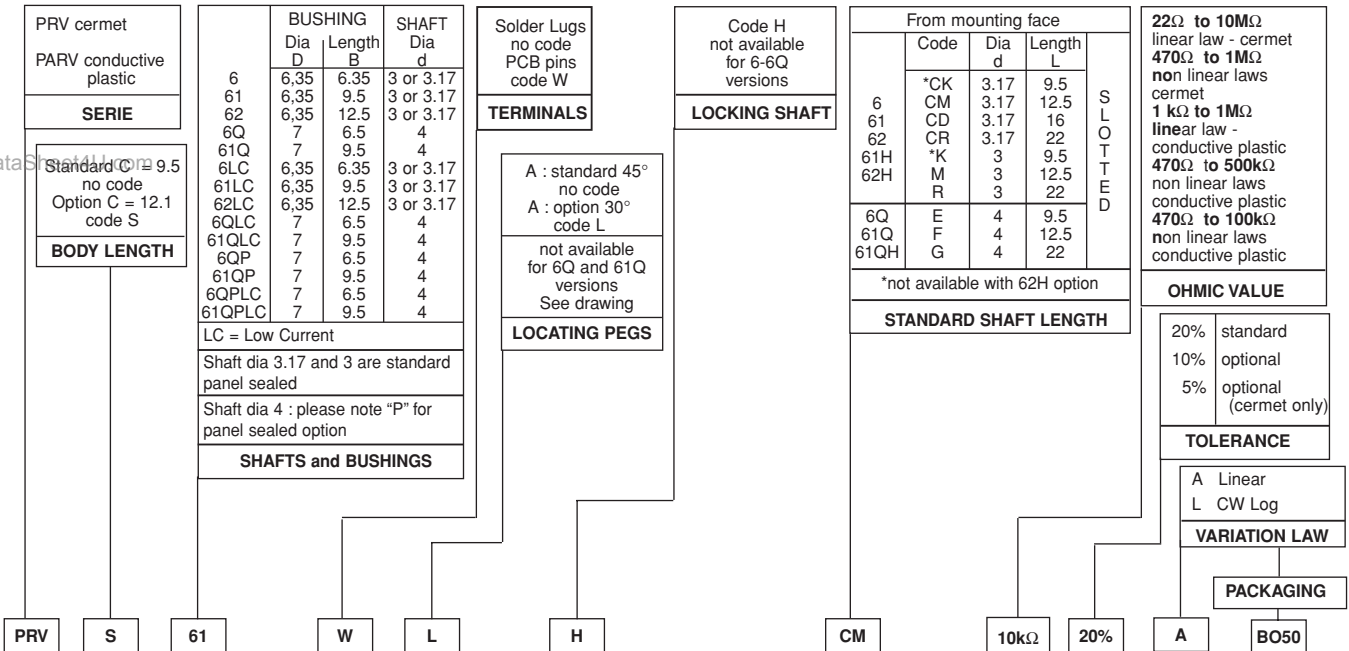
Except for dia. 4 mm shaft, the potentiometers are delivered with 2 opposite locating pegs orientated at 45°. These 2 pegs can be easily broken-off by the customer. On request, the orientation of the pegs can be at 30° instead of 45°. Order Designation: PRV6 L (see ordering information).

### MARKING

VISHAY trademark, series, style, ohmic value (in Ω, kΩ or MΩ), tolerance in %, taper code, manufacturing date (4 digits : 2 for year, 2 for week), terminal 1.

PACKAGING
Carton box of 50, code: BO50

### ORDERING INFORMATION



### "LC" OPTION LOW CURRENT

For sensitive applications, when the current going through the wiper of the potentiometer is very low (less than 1 μ Amp) or when the climatic conditions of use are tightened up, we recommend to use the Low Current (LC) option of the PRV6 and PARV6 series. The general characteristics of this model are identical with the standard PRV6/PARV6 characteristics but it gives exceptional results in matter of stability when used in extreme climatic conditions and/or current close to 0 Amp.