COMPLIANT





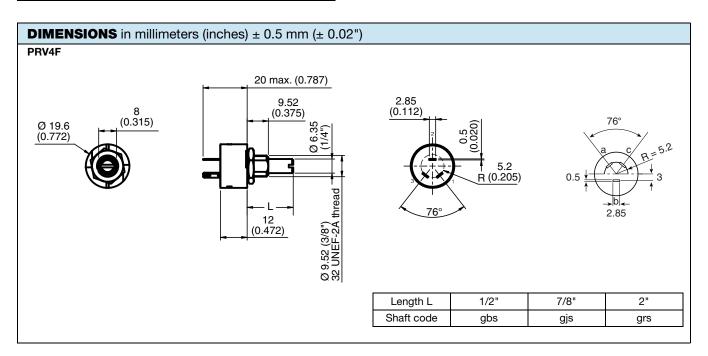
### **Industrial Potentiometer**



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

#### **FEATURES**

- High power rating 2 W at 70 °C
- · Full sealing
- Low contact resistance variation (1 % typical)
- · Robust nickel plated brass shaft
- · Use of faston 2.86 connections
- · Cermet element
- Center detent option
- Test according to CECC 41000 or IEC 60393-1
- Electrical performance in accordance with MIL-PRF-94 standards
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912





# Vishay Sfernice

ELECTRICAL SPECIFICATIONS							
Resistive element		Cermet					
Electrical travel		270° ± 10°					
D. Calendaria	linear taper	20 $\Omega$ to 10 M $\Omega$					
Resistance range	logarithmic taper	100 $\Omega$ to 2.5 M $\Omega$					
Standard series		1 - 2 - 2.5 - 5					
Toloropo	standard	± 20 %					
Tolerance	on request	± 10 %					
Taper		100 80 F 140 20 0 0 20 40 60 80 100 % CLOCKWISE SHAFT ROTATION					
Circuit diagram		$ \begin{array}{c} a \\ \bigcirc \\ (1) \end{array} $ $ \begin{array}{c} c \\ \bigcirc \\ b \\ \bigcirc \\ \rightarrow cw $ $ (2) $					
Power rating	linear Iogarithmic	2 W at 70 °C 1 W at 70 °C 1 W at 70 °C 1 W at 70 °C					
Temperature coefficient (typical)		300 ppm/°C					
Limiting element voltage (linear la		500 V					
Contact resistance variation (typ	ical)	1 % Rn or 3 Ω					
End resistance		4 Ω					
Dielectric strength (RMS)		1500 V					
Insulation resistance (500 V <sub>DC</sub> )		$10^4\mathrm{M}\Omega$					
Independent linearity (typical)		5 %					

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STANDARD RESISTANCE ELEMENT DATA							
		LINEAR TAPER	LOG. TAPER				
STANDARD RESISTANCE VALUES	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH ELEMENT WIPER	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH ELEMENT WIPER	
Ω	W	V	mA	W	V	mA	
20	2	6.32	316				
25	2	7.07	283				
50	2	10.0	200				
100	2 2 2 2 2 2 2 2 2 2 2	14.1	141	1	10.0	100	
200	2	20.0	100.0	1	14.1	70.7	
250	2	22.4	89.4	1	15.8	53.2	
500	2	31.6	53.2	1	22.4	44.7	
1K	2	44.7	44.7	1	31.5	31.6	
2K	2	53.2	31.6	1	44.7	22.4	
2.5K	2	70.7	28.3	1	50.0	20.0	
5K	2	100	20.00	1	70.7	14.1	
10K	2	141	14.14	1	100	10.0	
20K	2	200	10.00	1	141	7.07	
25K	2	224	6.04	1	158	6.32	
50K	2 2 2 2 2	315	6.32	1	224	4.47	
100K	2	447	4.47	1	315	3.16	
200K	1	500	2.50	1	447	2.24	
250K	1	500	2.00	1	499	2.00	
500K	0.50	500	1.00	0.50	500	1.00	
1M	0.25	500	0.50	0.25	500	0.50	
2M	0.13	500	0.25	0.13	500	0.25	
2.5M	0.10	500	0.20	0.10	500	0.20	
5M	0.05	500					
10M	0.03	500					

MECHANICAL SPECIFICATIONS					
Mechanical travel	300° ± 5°				
Operating torque / typical value	3 Ncm (4.3 ozinch)				
End stop torque	70 Ncm max. (6 lb-inch max.)				
Tightening torque of mounting nut	200 Ncm max. (17.3 lb-inch max.)				
Unit weight	23 g to 32 g max. (0.82 oz. to 1.14 oz.)				

ENVIRONMENTAL SPECIFICATIONS					
Temperature range	-55 °C to +125 °C				
Climatic category	55/125/10				
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°. 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.
PRV4 LPRP - with locating peg	$ \begin{array}{c c}  & & & & & & & & & & & \\  & & & & & & &$



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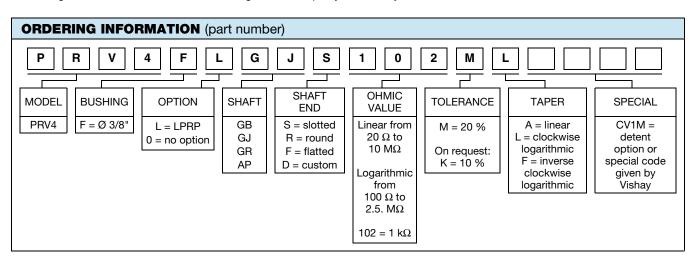
#### **MARKING**

- · Vishay trademark
- Part number (including ohmic value code, tolerance code, and taper)
- Manufacturing date
- Marking of terminals 1, 2, 3

PERFORMANCE								
TESTS	COMPITIONS	TYPICAL VALUES AND DRIFTS						
15919	CONDITIONS	$\Delta R_{T}/R_{T}$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)	OTHER				
Electrical endurance	1000 h at rated power 90'/30' - ambient temp. 70 °C	± 3 %	± 5 %	Contact res. variation: < 5 %				
Moisture resistance	MIL-STD-202 method 105 10 cycles of 24 h constituted with damp heat - cold - vibrations	± 2 %	± 3 %	Dielectric strength: 100 $V_{RMS}$ Insulation resistance: > $10^4~M\Omega$				
Damp heat, steady state	10 days 40 °C, 93 % HR	± 2 %	± 3 %	Dielectric strength: 100 $V_{RMS}$ Insulation resistance: > $10^4~M\Omega$				
Change of temperature	5 cycles -55 °C at +125 °C	± 1 %	-	$\Delta V_{1-2}/V_{1-3} < \pm 2 \%$				
Mechanical endurance	25 000 cycles	± 5 %	-	-				
Shock	MIL-STD-202 method 213/1 100 g's at 6 ms 3 successive shocks in 3 directions	± 1 %	-	$\Delta V_{1-2}/V_{1-3} < \pm 1 \%$				
Vibration	MIL-STD-202 method 204/D 20 g's at 12 h	± 1 %	-	$\Delta V_{1-2}/V_{1-3} < \pm 1 \%$				

#### Note

· Nothing stated herein shall be construed as a guarantee of quality or durability



PART	PART NUMBER DESCRIPTION (for information only)											
PRV4	F	L	GJ	S	1K	20 %	L		BO50			e3
MODEL	BUSHING	OPTION	SHAFT	SHAFT END	VALUE	TOLERANCE	TAPER	DETENT OPTION	PACKAGING	AP N°	SPECIAL	LEAD (Pb)-FREE

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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Vishay

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