Industrial Potentiometer

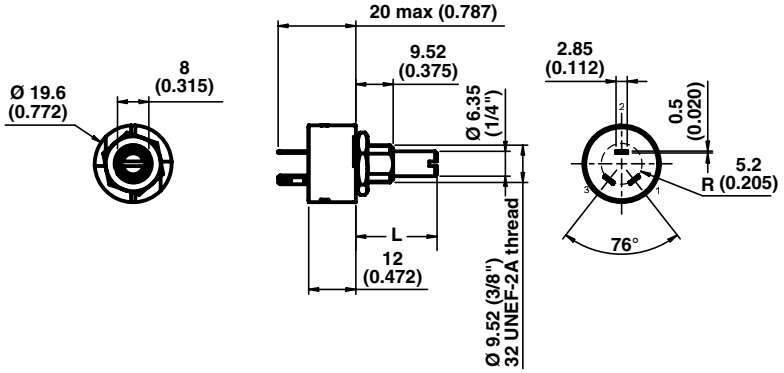
FEATURES

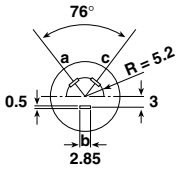
- High power rating 2 Watt at 70 °C
- Full sealing
- Low contact resistance variation (1 % typical)
- Robust nickel plated brass shaft
- Use of faston 2.86 connections
- Cermet element
- Electrical performance in accordance with MIL-PRF-94 standards

RoHS COMPLIANT

DIMENSIONS in millimeters

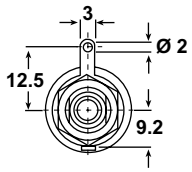
PRV4F



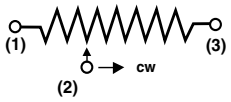


LENGTH L	1/2"	7/8"	2"
SHAFT CODE	GBS	GJS	GRS

PRV4 LPRP - WITH LOCATING PEG



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 ± 10°. Special shafts are available, in accordance to drawings supplied by customers. We recommend that customers should not machine shafts, in order to avoid damage. Bending or torsion of terminals should also be avoided.

LINEARITY

The typical linearity of linear variation law potentiometers is ± 5 %. Guaranteed linearity on request. Consult VISHAY.

ELECTRICAL SPECIFICATIONS		
Resistive Element		cermet
Electrical Travel		270° ± 10°
Resistance Range	**Linear Law**	20 Ω to 10 MΩ
	Logarithmic Laws	100 Ω to 2.5 MΩ
Standard series		1 - 2 - 2.5 - 5
Tolerance	**Standard**	± 20 %
	On Request	± 10 %
Power Rating	**Linear**	2 W at + 70 °C
	Logarithmic	1 W at + 70 °C
Temperature Coefficient		See Standard Resistance Element Data
Limiting Element Voltage (Linear Law)		500 V
Contact Resistance Variation (Typical)		1 % Rn or 3 Ω
End Resistance		4 Ω
Dielectric Strength (RMS)		1500 V
Insulation Resistance (500 VDC)		10^4 MΩ

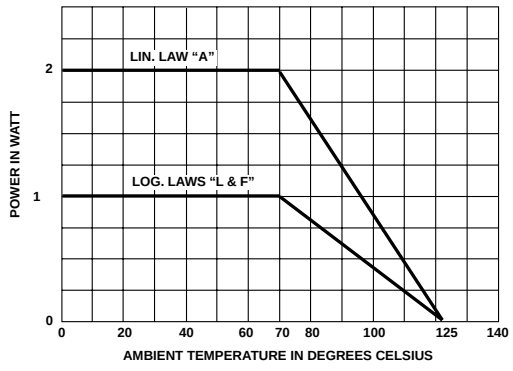
MECHANICAL SPECIFICATIONS

Mechanical Travel	300° ± 5°
Operating Torque (max. Ncm)	3 typical [4.3 oz. inch]
End Stop Torque (max. Ncm)	70 [6 lb. inch]
Max Tightening Torque of Mounting Nut (Ncm)	200 [17.3 lb. inch]
Unit Weight (max. g)	23 to 32 [0.82 oz to 1.14 oz]

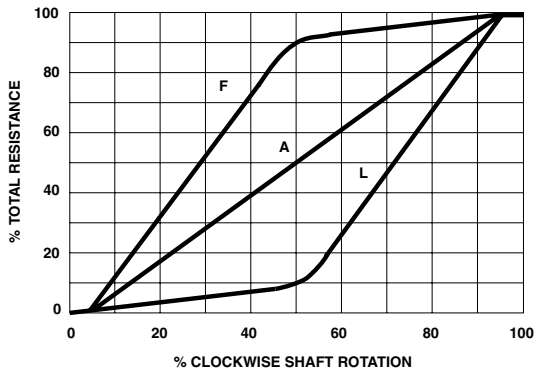
ENVIRONMENTAL SPECIFICATIONS

Temperature Range	- 55 °C to + 125 °C
Climatic Category	55/125/10
Sealing	fully sealed container IP67

POWER RATING CHART



RESISTANCE LAWS



PERFORMANCE

TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS	
		$\frac{\Delta RT}{RT}$ (%)	$\frac{\Delta RT_{1-2}}{RT_{1-2}}$ (%)
Load Life	1000 h at rated power 90'/30' - ambient temp. 70 °C	± 3 % Contact resistance variation: < 5 %	± 5 %
Moisture Resistance	MIL STD 202 Method 105 10 cycles of 24 hours constituted with damp heat - cold - vibrations	± 2 % Dielectric strength: 100 V RMS Insulation resistance: > 10^4 MΩ	± 3 %
Long Term Damp Heat	Temperature 40 °C - RH 93 % 10 days	± 2 % Dielectric strength: 100 V RMS Insulation resistance: > 10^4 MΩ	± 3 %
Thermal Shock	55 °C to + 125 °C - 5 cycles	± 1 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$ ≤ ± 2 %
Rotational Life (Electrical and Mechanical)	25 000 cycles	± 5 %	
Shock	MIL STD 202 Method 213/1 100 g - 6 ms 3 sucessive shocks in 3 directions	± 1 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$ ≤ ± 1 %
Vibration	MIL STD 202 Method 204/D 20 g - 12 hours	± 1 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$ ≤ ± 1 %

STANDARD RESISTANCE ELEMENT DATA

STANDARD RESISTANCE VALUES	LINEAR LAW			LOGS LAW			TCR 55 °C + 125 °C
	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	ppm/°C
20	2	6.32	316	1	4.47	224	
25		7.07	283		5.00	200	0
50		10.0	200		7.07	141	+ 400
100		14.1	141		10.0	100	
200		20.0	100.0		14.1	70.7	
250		22.4	89.4		15.8	53.2	
500		31.6	53.2		22.4	44.7	
1K		44.7	44.7		31.5	31.6	
2K		53.2	31.6		44.7	22.4	
2.5K		70.7	28.3		50.0	20.0	
5K		100	20.00		70.7	14.1	
10K		141	14.14		100	10.0	
20K		200	10.00		141	7.07	± 200
25K		224	6.04		158	6.32	
50K		315	6.32		224	4.47	
100K	2	447	4.47		315	3.16	
200K	1	500	2.50		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	

MARKING

Printed:
- VISHAY trademark
- SERIE
- ohmic value (EIA Resistance Code)
- tolerance (IEC Code)
- manufacturing date
- marking of terminals 1, 2, 3

ORDERING INFORMATION

PRV4	F	Ø	GJS	200 KΩ	± 20 %		A	BO	e3
MODEL	BUSHING	OPTION	SHAFT	OHMIC VALUE	TOLERANCE		LAW	PACKAGING	LEAD FINISH
		0: none L: LPRP			± 20 % standard ± 10 % on request	A F L	Linear clockwise reverse logarithmic clockwise logarithmic	Box 50 pcs	e3: pure Sn

SAP PART NUMBERING GUIDELINES

P	R	V	4	F	0	G	J	S	2	0	4	M	A				
MODEL				BUSHING	OPTION	SHAFT			OHMIC VALUE			TOL	LAW	SPECIAL (IF APPLICABLE)			

See the end of this data book for conversion tables

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.