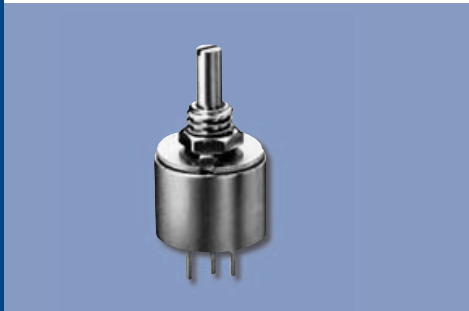


Singleturn Potentiometers Wirewound

Series PD121/127



Special features

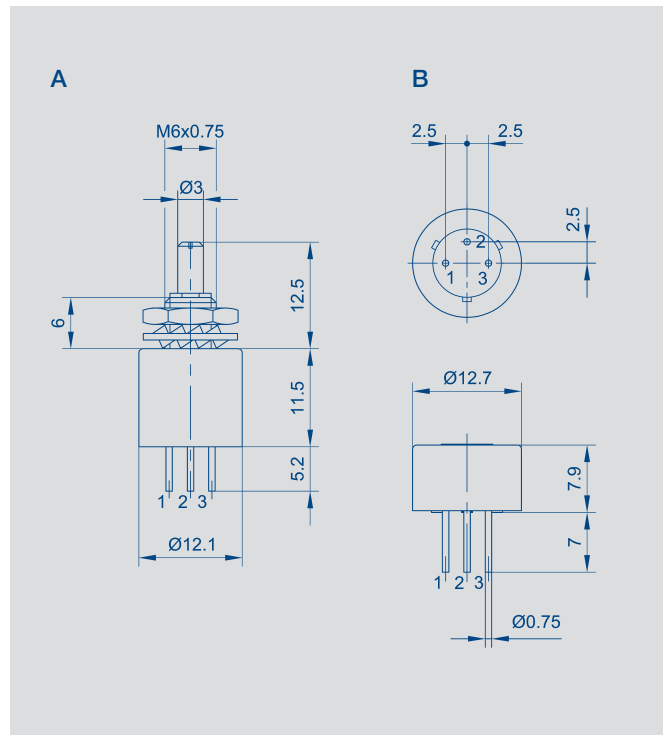
- very small dimensions
- 4×10^3 movements
- linearity $\pm 1\%$
- very robust
- highest protection class

Precise potentiometer with a wirewound resistance element for control electronics and measuring applications.

Due to its robust engineering the potentiometer can be used under particularly detrimental environmental conditions. In view of the extraordinarily high media resistance, this potentiometer can be recommended for all applications in aggressive environment.

The careful selection of the materials and high quality of the components used ensure a constant and high level of quality throughout the entire service life of the angle sensor.

Special designs with other shaft dimensions on request.



Description

Size	housing diameter 12.7 mm
Housing	brass, nickel plated
Shaft	brass, nickel plated
Bearings	sleeve bearings
Resistance element	wirewound
Wiper assembly	precious metal
Electrical connections	gold plated

Type designations	PD121...3G-MB	PD127-3F	
Mechanical Data			
Dimensions	see drawing A	see drawing B	
Mounting	nut M6 x 0.75 and serrated washer		
Mechanical travel	316	318	°
Permitted shaft loading (axial and radial) static or dynamic force	1		N
Torque	≤ 1		Ncm
Permitted max. torque for mech. stops	40	30	Ncm
Maximum operational speed	120		min ⁻¹
Weight	7		g
Electrical Data			
Actual electrical travel	310 ±3		°
Available resistance values	1; 5; 10		kΩ
Resistance tolerance	± 10		%
Repeatability	see order designations		
Effective temperature coefficient of the output-to-applied voltage ratio	typical 5		ppm/K
Independent linearity	± 1		%
Max. permissible applied voltage	30		V
Recommended operating wiper current	≤ 10		μA
Max. wiper current in case of malfunction	100		mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10 000		MΩ
Dielectric strength (AC, 50 Hz, 1 min, 1 bar)	900		V
Environmental Data			
Temperature range	-55...+150		°C
Vibration	30...2000 A _{max} = 0.75 a _{max} = 10		Hz mm g
Life	4 x 10 ⁹		movements
Shock (DIN IEC68T2-27)	50 7		g ms
Protection class (DIN 40050)	IP67		

Order designations / Abbreviations

3F: connecting solder pin axial
3G: connecting solder pin axial, Layout off-set
MB: bushing M6 x 0.75, axis Ø 3 mm with slot

Included in delivery

1 nut M6 x 0.75
1 serrated washer M6

Recommended accessories

Process-controlled indicators MAP... with display,
Signal conditioner MUP... for standardized output signals

Important

All the values given in this data sheet for linearity, lifetime and temperature coefficient in the voltage dividing mode are quoted for the device operating with the wiper voltage driving on operational amplifier working as a voltage follower, where virtually no load is applied to the wiper ($I_e \leq 10 \mu A$).

Order designations

Type	Art.no.	R in kΩ	Repeatability in %
PD121 1K0 3G065 MB	049000	1	0.37 (= 1.2°)
PD121 5K0 3G065 MB	049001	5	0.23 (= 0.7°)
PD121 10K0 3G065 MB	049002	10	0.18 (= 0.6°)
PD127 1K0 3F	049003	1	0.37 (= 1.2°)
PD127 5K0 3F	049004	5	0.23 (= 0.7°)
PD127 10K0 3F	049005	10	0.18 (= 0.6°)

Subject to changes