

Eingang-Potentiometer
 PD 121/127
 ø 12.7 mm
 2.000 Zyklen
 Draht

Singleturn Potentiometers
 PD 121/127
 ø 12.7 mm
 2.000 cycles
 Wirewound



Mechanische Daten

Durchmesser PD 121/127
 Maximales Einstell Drehmoment
 Anschlagfestigkeit
 Lebensdauer

Mechanical Data

Diameter 121/127
 Max. Torque
 Stop strength
 Life expectancy

Elektrische Daten

Anschlusswiderstand R
 Widerstandstoleranz PD 127
 Linearität PD 127
 Widerstandstoleranz PD 121
 Linearität PD 121
 Maximaler Schleiferstrom im Störfall
 Belastung P
 Maximale Anschlussspannung
 Maximaler Übergangswiderstand
 Temperaturkoeffizient Widerstand
 Spannungsfestigkeit
 Isolationswiderstand

Electrical Data

Nominal resistance R
 Resistance tolerance PD 127
 Linearity PD 127
 Resistance tolerance PD 121
 Linearity PD 121
 Max. wiper curr. in case of malfunct.
 Power rating P
 Maximum supply voltage
 Maximum contact resistance
 Temperature coefficient resistance
 Dielectric strength
 Insulating resistance

Umgebungsbedingungen

Lagertemperatur PD 127
 Betriebstemperatur PD 127
 Klimatische Prüfklasse PD 127
 Lagertemperatur PD 121
 Betriebstemperatur PD 121
 Klimatische Prüfklasse PD 121
 Schutzart
 Vibrationen
 Schock

Environmental Conditions

Storage temperature PD 127
 Operating temperature PD 127
 Climatic rating PD 127
 Storage temperature PD 121
 Operating temperature PD 121
 Climatic rating PD 121
 Protection rating
 Vibration
 Shock

Material

Gehäuse
 Achse

Material

Housing
 Shaft
 Connections

Optionen

- Achslänge bis 15 mm
- Achse mit Fläche (positioniert)
- Achsarten gerändelt, gekerbt, verzahnt, usw.
- Flanschbefestigung
- Gewindebuchse mit Fläche

Options

- Shaft length up to 15 mm
- Flattened shaft (Index point)
- Special shafts according to drawings (rimmed, notched, toothed, etc.)
- Pilot diameter
- Flattened bush

Auflösungstabelle

Resolution chart

Widerstandswerte/Ohm Resistance values/Ohm	Auflösung/% Resolution/%
100	0.72
200	0.59
500	0.49
1K	0.37
2K	0.30
5K	0.23
10K	0.18



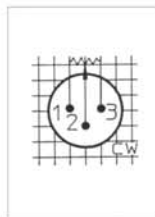
Typenbezeichnung/Abkürzungen

Marking/Remarks

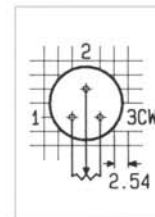
Anschlussarten:	3F = Print rund achsial 3G = Print rund seittl. versetzt
Connections:	3F = axial, PC pins round 3G = side, PC pins round offset
Gewindebuchse	M = Metrisches Gewinde U = Zoll-Gewinde
Bushing:	M = metric thread U = imperial thread
Achse:	B = \varnothing 3 mm, mit Schlitz
Shaft:	B = \varnothing 3 mm, slotted

Typ	Model	PD 127-3F	PD 127-3F-M	PD 127-3F-MB	PD 121-3G-MB
Anschlussbilder	Connecting diagrams	1	1	1	2
Massbilder	Dimension drawings	A	B	C	D
Elektr. Drehwinkel	Electr. angle	310°	310°	310°	310°
Mech. Drehwinkel	Mech. angle	318°	318°	318°	316°
Achslänge in mm	Shaft length in mm	–	0.5	8.5	6.5

Anschlussbilder Connecting diagrams

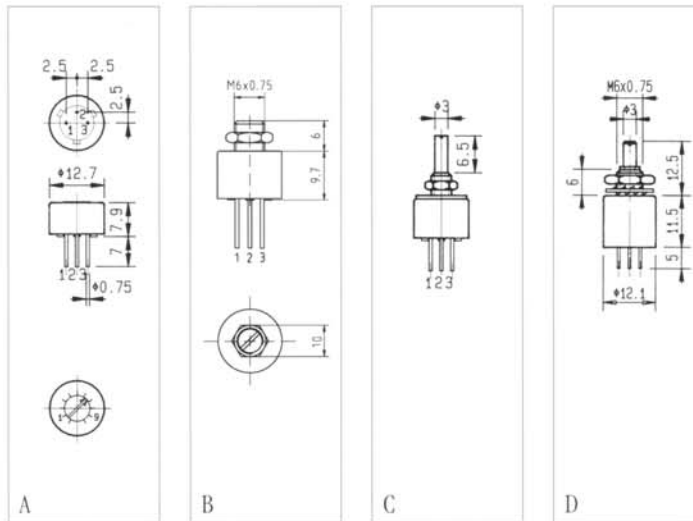


1 Raster: 2.5 mm
Ansicht: von unten
1 grid: 2.5 mm
bottom view



2 Raster: 2.54 mm
Ansicht: von unten
2 grid: 2.54 mm
bottom view

Massbilder Dimension drawings



Zubehör Accessories

Art. Nr.	Typ	Bezeichnung	Bemerkung
Art. No.	Model	Marking	Remarks
20762	Mutter	M6 x 0.75	serienmässig
20762	Nut	M6 x 0.75	standard item
20765	Scheibe	Fächerscheibe M6	serienmässig
20765	Washer	Fan washer M6	standard item

Single-Turn Wirewound Potentiometers

PD121/127 Series



Special features

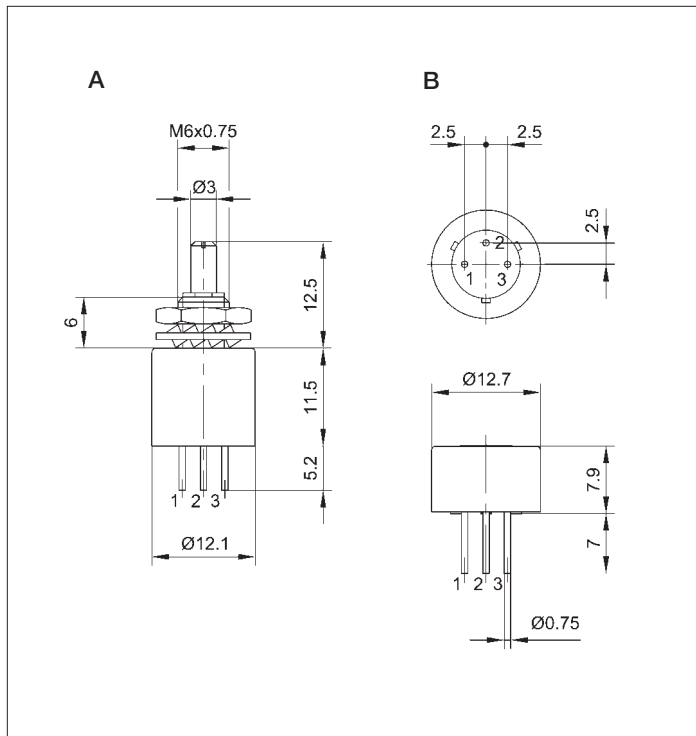
- very small dimensions
- 4×10^3 movements
- linearity $\pm 1\%$
- very robust
- highest protection class

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

Recommended for applications in harsh environments, the PD121/127 Series combines extraordinary-high media resistance and robust engineering.

Careful selection of materials and high-quality components ensure constant and accurate angle measurement throughout the entire service life of the sensor.

Special designs with other shaft dimensions are available 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		RPM
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	5 (typical)		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 ⁷		movements
Shock (DIN IEC 68 T2-27)	50 7		g ms
Protection class (DIN 40050)	IP 67		

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

MAP process-control indicators and display. MUP signal conditioner for standardized output signals.

Important

All values given for this series – including linearity, lifetime, micro-linearity, resistance to external disturbances and temperature coefficient in voltage dividing mode – are quoted for the device operating with the wiper voltage driving an operational amplifier working as a voltage follower where virtually no load is applied to the wiper ($I_e \leq 1 \mu A$).

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°)