

## Single-Turn Wirewound Potentiometers

### PD280 Series



### Special features

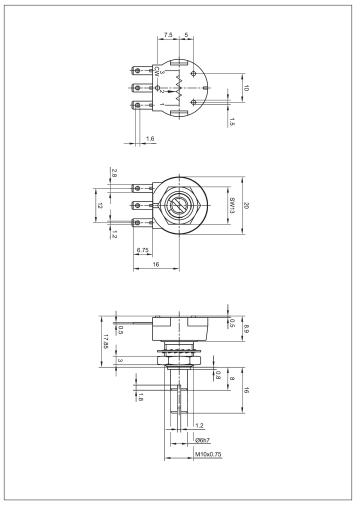
- very small dimensions
- 200 x 10<sup>3</sup> movements
- excellent linearity ±0.6%
- very robust

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

Recommended for applications in harsh environments requiring a sealed potentiometer, the PD280 Series combines extraordinarilyhigh media resistance and robust engineering.

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

Special designs with other shaft dimensions and connections are available on request.



Description						
housing diameter 20 mm						
high-quality, temperature-consistent plastic						
brass, nickel plated						
sleeve bearings						
wirewound						
precious metal						
gold plated						

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Mechanical Data				
Dimensions	see drawing			
Mounting	nut M10 x 0.7	5, serrated wash	ner 3/8"	
Mechanical travel	320			۰
Permitted shaft loading (axial and radial) static or dynamic force	1			N
Torque	≤ 1			Ncm
Permitted max. torque for mech. stops	100			Ncm
Maximum operational speed	120			RPM
Weight	14			g
Electrical Data				
Actual electrical travel	312 ±3			۰
Available resistance values	1	5	10	kΩ
Resistance tolerance	±5			%
Repeatability	0.24 (=0.75°)	0.13 (=0.4°)	0.11 (=0.35°)	%
Effective temperature coefficient of the output-to-applied voltage ratio	40 (typical)			ppm/K
Independent linearity	±0.6			%
Max. permissible applied voltage	36			V
Recommended operating wiper current	≤ 10			μΑ
Max. wiper current in case of malfunction	100			mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10,000			ΜΩ
Dielectric strength (AC, 50 Hz, 1 min, 1 bar)	1,500			V
Environmental Data				
Temperature range	-25+125			°C
Vibration	302000 A <sub>max</sub> = 0.75 a <sub>max</sub> = 10			Hz mm g
Life	200 x 10 <sup>3</sup>			movements
Shock (DIN IEC 68 T2-27)	50 7			g ms
Protection class (DIN 40050)	IP 50			

# Order designations / Abbreviations

4A: connecting pin, radial MB: bushing M10 x 0.75, axis Ø 6 mm

## Included in delivery

1 nut M10 x 0.75 1 serrated washer 3/8"

#### Recommended accessories

Fork coupling Z 104 G6, Art. no. 005690;

Fork coupling Z 105 G6 (back-lash-free), Art. no. 005691, MAP process-control indicators and display. MUP signal conditioner for standardized output signals.

### Important

All values given for this series – including linearity, lifetime, microlinearity, 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 (le  $\leq$  1  $\mu$ A).

Order designations									
Туре			Art. no.	R in kΩ	Length of shaft mm				
PD280	1K0	4A080 MB	78009	1	8				
PD280	5K0	4A080 MB	78014	5	8				
PD280	10K0	4A080 MB	77729	10	8				
PD280	1K0	4A160 MB	78025	1	16				
PD280	5K0	4A160 MB	78030	5	16				
PD280	10K0	4A160 MB	78031	10	16				