

Geared Wirewound Potentiometers

PD2310 Series



Special features

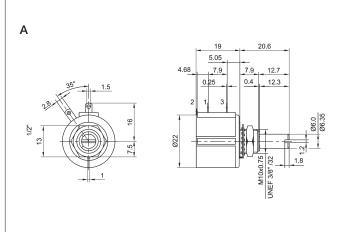
- very small dimensions
- 1 x 106 movements
- excellent linearity ±0.15%
- very robust

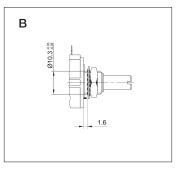
Sealed potentiometer with a wirewound resistance element for control electronics and measuring applications.

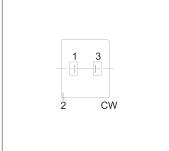
The PD2310 Series of sealed potentiometers provide a wire-wound resistance element in a small package for control electronics and measuring applications. With a housing diameter of only 22 mm and robust design, the PD2310 Series provides reliable measurements in severe environments.

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

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







Description	
Size	housing diameter 22 mm
Housing	Thermoplast
Shaft	brass, nickel plated
Bearings	sleeve bearings
Resistance element	wirewound
Wiper assembly	precious metal
Electrical connections	gold plated

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Type designations	PD23105A-MB	PD23105A-UK	PD23105A-FK	
Mechanical Data				
Dimensions	see drawing A	see drawing A	see drawing A/B	
Mounting	nut M10 x 0.75, serrated washer	nut 3/8" UNEF, serra	ted washer	
Mechanical travel	3,600			۰
Permitted shaft loading (axial and radial) static or dynamic force	3			N
Torque	≤ 0.7			Ncm
Permitted max. torque for mech. stops	50			Ncm
Maximum operational speed	120			RPM
Weight	22			g
Electrical Data				
Actual electrical travel	3,600			٥
Available resistance values	1; 5; 10			kΩ
Resistance tolerance	±5			%
Repeatability	see order designations			
Effective temperature coefficient of the output-to-applied voltage ratio	5 (typical)			ppm/K
Independent linearity	±0.15			%
Max. permissible applied voltage	42			V
Recommended operating wiper current	≤ 10			μΑ
Max. wiper current in case of malfunction	50			mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10,000			ΜΩ
Dielectric strength (AC, 50 Hz, 1 min, 1 bar)	1,000			V
Environmental Data				
Temperature range	-55+125			°C
Vibration	302000 $A_{\text{max}} = 0.75$ $a_{\text{max}} = 10$			Hz mm g
Life	1 x 10 ⁶			movements
Shock (DIN IEC 68 T2-27)	50 7			g ms
Protection class (DIN 40050)	IP 50			

Order designations / Abbreviations

5A: connecting side pin MB: bushing M10 x 0.75, axis Ø 6 mm, with slot UK: imperial thread UNEF 3/8", axis Ø 6.35 mm, with slot FK: imperial thread 3/8" with pilot diameter, axis Ø 6.35 mm with slot

Included in delivery

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

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, 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 μ A).

Order designations								
Туре			Art. no.	R in kΩ	Repeatability			
PD2310	1K0	5A127 MB	048026	1	0.031% (= 1.1°)			
PD2310	5K0	5A127 MB	048029	5	0.021% (= 0.76°)			
PD2310	10K0	5A127 MB	048032	10	0.020% (= 0.72°)			
PD2310	1K0	5A127 UK	048027	1	0.031% (= 1.1°)			
PD2310	5K0	5A127 UK	048030	5	0.021% (= 0.76°)			
PD2310	10K0	5A127 UK	048033	10	0.020% (= 0.72°)			
PD2310	1K0	5A127 FK	048025	1	0.031% (= 1.1°)			
PD2310	5K0	5A127 FK	048028	5	0.021% (= 0.76°)			
PD2310	10K0	5A127 FK	048031	10	0.020% (= 0.72°)			