

**Geared
Wirewound
Potentiometers**

PD2310 Series



Special features

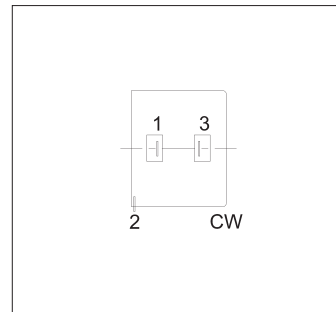
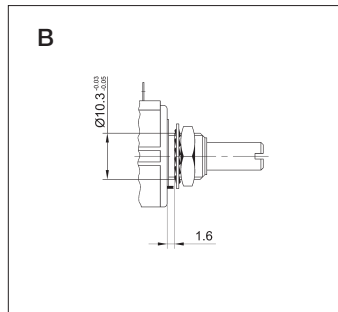
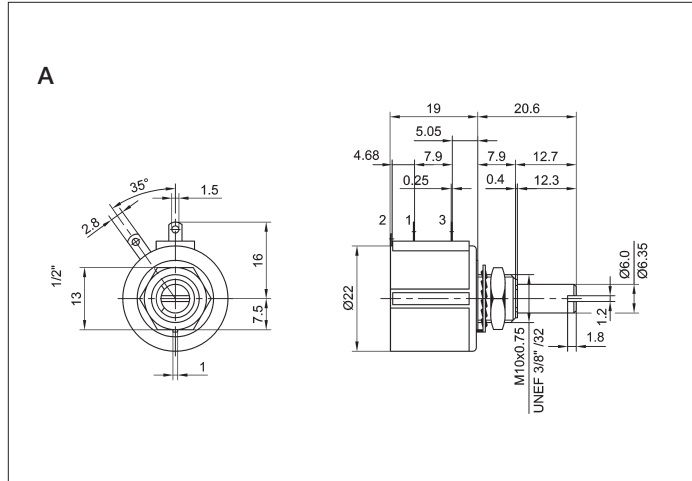
- very small dimensions
- 1×10^6 movements
- excellent linearity $\pm 0.15\%$
- very robust

Sealed potentiometer with a wire-wound 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	PD2310...5A-MB	PD2310...5A-UK	PD2310...5A-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, serrated washer	
Mechanical travel	3,600		°
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		°
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		μA
Max. wiper current in case of malfunction	50		mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10,000		MΩ
Dielectric strength (AC, 50 Hz, 1 min, 1 bar)	1,000		V
Environmental Data			
Temperature range	-55...+125		°C
Vibration	30...2000 A _{max} = 0.75 a _{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

Type	Art. no.	R in kΩ	Repeatability
PD2310 1K0 5A127 MB	76924	1	0.031% (= 1.1°)
PD2310 5K0 5A127 MB	76927	5	0.021% (= 0.76°)
PD2310 10K0 5A127 MB	76928	10	0.020% (= 0.72°)
PD2310 1K0 5A127 UK	76936	1	0.031% (= 1.1°)
PD2310 5K0 5A127 UK	76939	5	0.021% (= 0.76°)
PD2310 10K0 5A127 UK	76940	10	0.020% (= 0.72°)
PD2310 1K0 5A127 FK	76948	1	0.031% (= 1.1°)
PD2310 5K0 5A127 FK	76951	5	0.021% (= 0.76°)
PD2310 10K0 5A127 FK	76916	10	0.020% (= 0.72°)

Order designations /**Abbreviations**

5A: connecting side pin

MB: bushing

M10 x 0.75, axis Ø 6 mm,
with slotUK: imperial thread UNEF 3/8",
axis Ø 6.35 mm, with slotFK: 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 accessoriesMAP process-control indicators
and display. MUP signal condi-
tioner 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 ≤ 1 μA).

Subject to changes

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