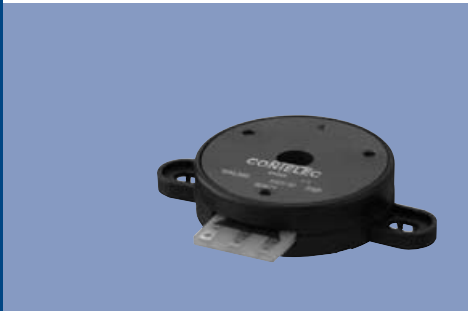


**Hollow Shaft
Sensors
potentiometric
Conductive Plastic**

Series WAL300/305



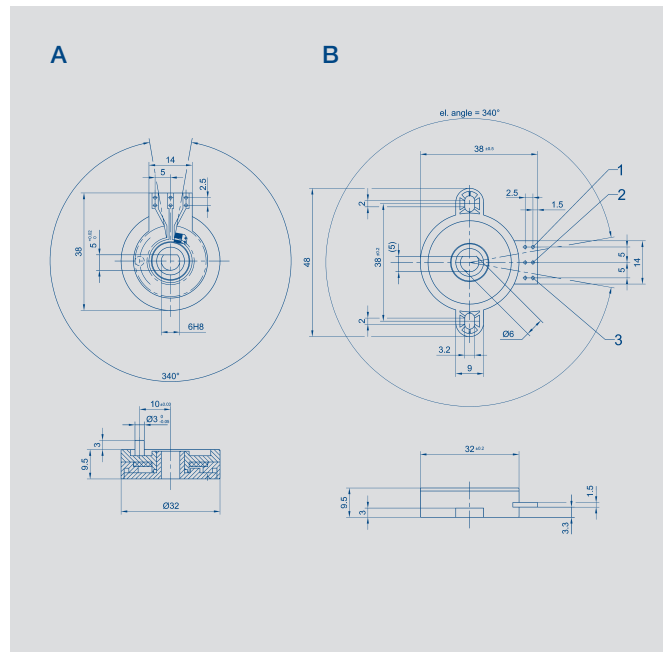
Special features

- Hollow shaft
- low-cost
- 4×10^6 movements
- very high resolution - better 0.3°

This hollow-shaft potentiometer combines the advantages of the hollow-shaft design and low-cost construction.

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 angular ranges on request.



Description

Size	housing diameter 32 mm
Housing	Thermoplast
Bearings	sleeve bearings
Resistance element	conductive plastic
Wiper assembly	precious metal multi-finger wiper
Electrical connections	soldering pads

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Type designations	WAL300	WAL305
Mechanical Data		
Dimensions	see drawing A	see drawing B
Mechanical travel	continuous	°
Permitted shaft loading (axial and radial) static or dynamic force	1	N
Torque	≤ 1	Ncm
Maximum operational speed	120	min ⁻¹
Weight	8	g
Electrical Data		
Actual electrical travel	340	°
Resistance value	5	kΩ
Resistance tolerance	± 20	%
Repeatability	0.09 (=0.3°)	%
Effective temperature coefficient of the output-to-applied voltage	typical 5	ppm/K
Independent linearity	± 2	%
Max. permissible applied voltage	35	V
Recommended operating wiper current	≤ 1	μA
Max. wiper current in case of malfunction	5	mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10 000	MΩ
Dielectric strength (AC, 50 Hz, 1 min, 1 bar)	500	V
Environmental Data		
Temperature range	-25...+75	°C
Vibration	50...500 A _{max} = 0.75 a _{max} = 2	Hz mm g
Life	4 x 10 ⁸	movements
Shock (DIN IEC68T2-27)	50 10	g ms
Protection class (DIN 40050)	IP50	

Order designations / Abbreviations

1A: soldering pads

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 ≤ 1 μA).

Order designations		
Type	Art.no.	R in kΩ
WAL300 5K0 1A	044100	5
WAL305 5K0 1A	044101	5

Subject to changes