

Hollow-Shaft Conductive Plastic Potentiometric Sensors

WAL300/305 Series

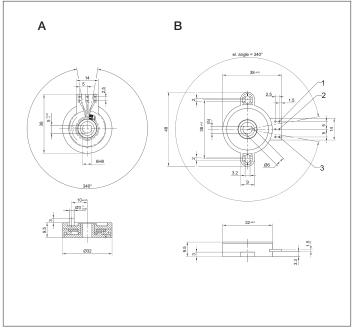


Special features

- hollow shaft
- low-cost
- 4 x 106 movements
- very high resolution better than 0.3°

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 angular ranges are available 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		۰
Permitted shaft loading (axial and radial) static or dynamic force	1		N
Torque	≤ 1		Ncm
Maximum operational speed	120		RPM
Weight	8		g
Electrical Data			
Actual electrical travel	340		۰
Resistance value	5		kΩ
Resistance tolerance	±20		%
Repeatability	0.09 (=0.3°)		%
Effective temperature coefficient of the output-to-applied voltage	5 (typical)		ppm/K
Independent linearity	±2		%
Max. permissible applied voltage	35		V
Recommended operating wiper current	≤ 1		μΑ
Max. wiper current in case of malfunction	5		mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10,000		ΜΩ
Dielectric strength (AC, 50 Hz, 1 min, 1 bar)	500		V
Environmental Data			
Temperature range	-25+75		°C
Vibration	50500 A _{max} = 0.75 a _{max} = 2		Hz mm g
Life	4 x 10 ⁶		movements
Shock (DIN IEC 68 T2-27)	50 10		g ms
Protection class (DIN 40050)	IP 50		

Order designations / Abbreviations

1A: soldering pads

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		
WAL300 5K0 1A	82920	5		
WAL305 5K0 1A	82871	5		