

# Hollow-Shaft Conductive Plastic Potentiometric Sensors

WAL300/305 Series

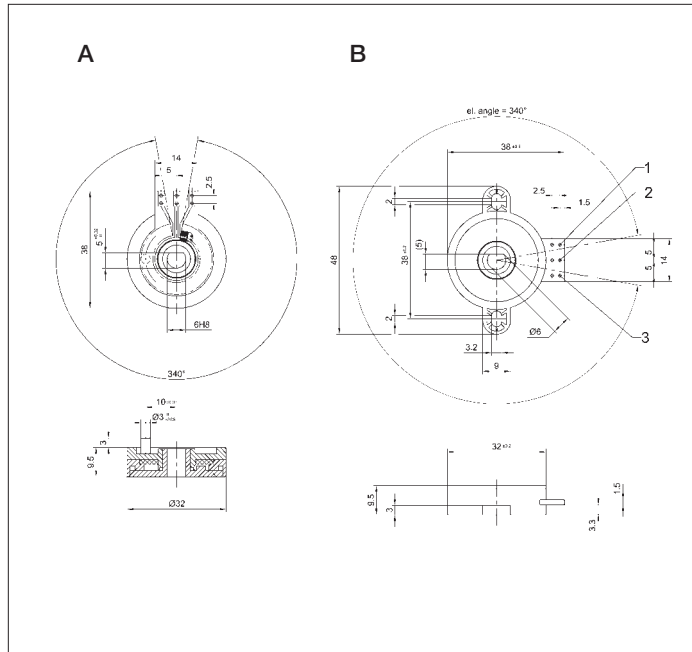


## Special features

- hollow shaft
- low-cost
- $4 \times 10^6$  movements
- very high resolution – better than  $0.3^\circ$

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

Type designations	WAL300	WAL305
<b>Mechanical Data</b>		
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	RPM
Weight	8	g
<b>Electrical Data</b>		
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	5 (typical)	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
<b>Environmental Data</b>		
Temperature range	-25...+75	°C
Vibration	50...500 A <sub>max</sub> = 0.75 a <sub>max</sub> = 2	Hz mm g
Life	4 x 10 <sup>6</sup>	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.

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