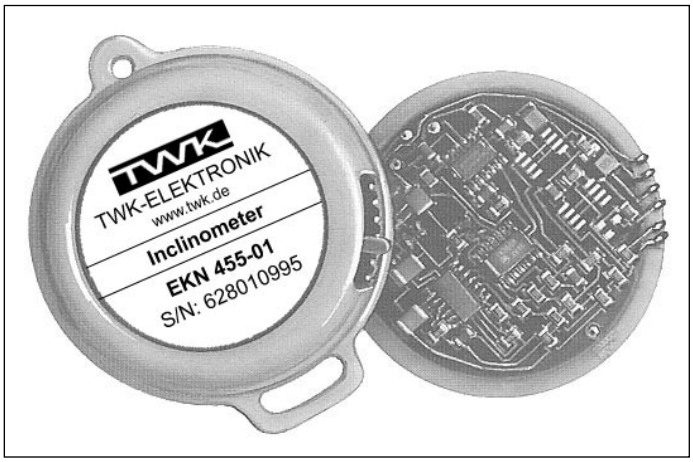
Electronic Inclinometer
Model EKN 455-01

EKN 10356 CE

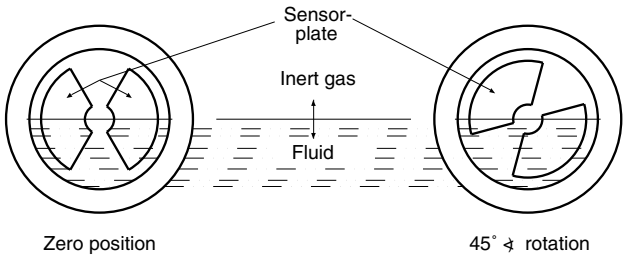
12 / 2005

- Potentiometric sensor system, w/o friction
- Measuring ranges ± 10° ⊀ or ± 45° ⊀
- Measuring signals 60 mV or 200 mV per degree
- Supply voltage ± 8 VDC to ± 20 VDC
- Robust housing for easy mounting
- Low cost device for static supervision of buildings, machinery foundations, cranes, antenna masts and similar applications



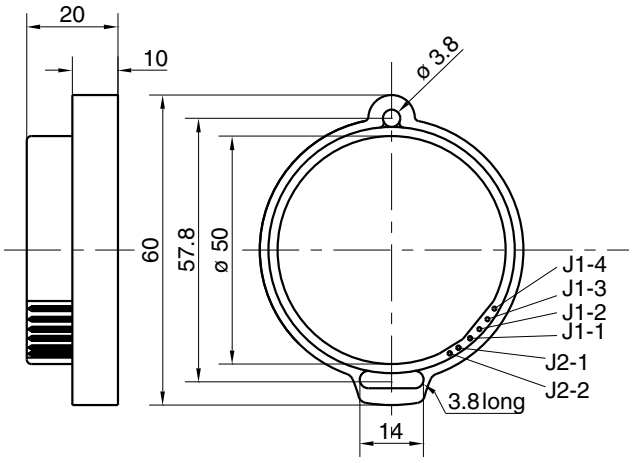
Construction and functional details

The base plate and cover is moulded of a lightweight, reinforced thermoplastic which encloses the surface mounted sensor and CMOS electronics. The sensor provides a change in resistance when rotated about the sensitive axis. This resistance change is then converted to a dc voltage which is proportional to the angle of rotation.



Lateral pins are available for electrical connection and for the choice of the measuring signal (sensitivity). Counter plugs and M3 by 20 fixing screws and washers are supplied with each item.

Dimensions in mm



Technical data

- Measuring ranges: ± 10° ⊀ or ± 45° ⊀
- Measuring signals (sensitivity) *
  - w/o jumper: 200 mV/° ⊀ (range ± 10° ⊀)
  - with jumper: 60 mV/° ⊀ (range ± 45° ⊀)
  - tolerance: ± 10 % (± 2 % at option)
- Permissible load: ≥ 10 kΩ
- Supply voltage: ± 8 VDC to ± 20 VDC (symmetrical) (regulated ± 2 %)
- Supply current: 5 mA max.
- Linearity
  - between 0° and 10° ⊀: ± 0.1° ⊀ (of actual value)
  - between 10° and 45° ⊀: ± 1° ⊀ (of actual value)
- Resolution: 0.001° ⊀
  Repeatability: 0.05° ⊀
- Reponse time: 0.5 sec.
- Mass: 0.045 kg

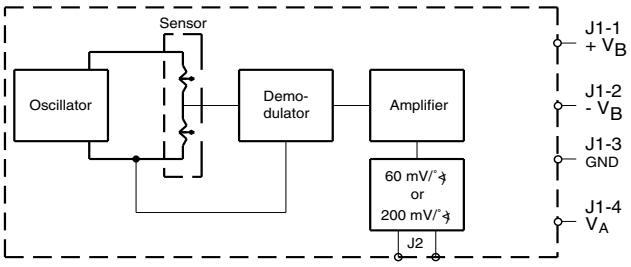
* Jumper for pins J2-1 and J2-2

Environmental data

- Cross axis error: < 1 % up to 45° ⊀
- Temperature coefficient: ≤ 0.008 %/°C at zero
  ≤ 0.1 %/°C full scale
- Operating temperature range: - 40° C to + 85° C
- Storage temperature range: - 55° C to + 85° C

Note: If not otherwise indicated all values refer to 25° C ambient temperature and ± 10 VDC supply voltage.

Block diagram

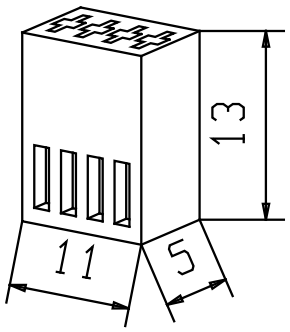


TWK-ELEKTRONIK GmbH · PB. 10 50 63 · D-40041 Düsseldorf · Tel.: +49/211/63 20 67 · Fax: +49/211/63 77 05 · info@twk.de · www.twk.de

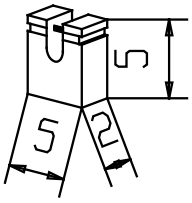
Electrical connections (Dimensions in mm)

Plugs J1 and J2 are supplied with each item.

Counter plug J1 for supply and output signal
with crimp contacts for wire diameters of 0.5 to 1 mm.



Counter plug J2 (jumper) for the choice of the measuring signal (sensitivity).



Counter plug EHR4 with 300 mm lead
(AWG 28) to be ordered separately.

1	red	+ V_B
2	gray	- V_B
3	black	0V (common)
4	blue	Output signal (V_A about 0V)