



## Undeviating accuracy

## New generation of inclinometers.

Measuring the horizontal position of a fire truck basket or of a working platform; vehicle leveling for agricultural and forestry machinery; dynamic measurement of the elevation angle of the distributing boom on construction machinery for tunnel and mining and on heliostats in the solar branch - these are exactly the applications where inclinometers are required.

Kübler has been for many years one of the leading position and motion sensor manufacturers in the area of mobile automation. The company now completes its product portfolio for this area with a newly developed inclinometer.

In this area, the demands placed on the sensors always remain the same: accuracy, robustness and long service life. These demands led to the development of the new Kübler inclinometers.

### Robustness and long service life:

the high protection level IP67 and IP69k, the wide temperature range from -40°C up to +85°C, completed with the high shock resistance up to 100g and vibration resistance up to 10g ensure trouble-free outdoor use. Perfectly suited for the mobile automation and for reliable and long-term use.

### Accuracy:

the new inclinometers allow measuring 2-dimensional inclinations of  $\pm 85^\circ$  or 1-dimensional inclinations up to  $360^\circ$ .

Their resolution reaches  $0.01^\circ$  and an absolute accuracy of

$\pm 0.4^\circ$  is possible at a temperature of 25°C. The measuring principle is capacitive or MEMS.

Filter settings individually parameterizable via CANopen allow adapting easily the inclinometers to the application. The IN88 inclinometers are equipped with the CANopen interface, which belongs to the usual interfaces in mobile automation. The inclinometers are available in the variants with 1 M12 connector or with 2 M12 connectors. Supply voltage is 10...30 V DC. A Modbus version is also available.

The IN81 inclinometers are an analog variant with preset and teach function. They ensure optimal integration in the application.

Redundancy:

Thanks to their flat construction measuring only 80 mm x 60 mm x 23 mm, these inclinometers are particularly easy to mount, and they can be stacked on each other for use as a redundant solution.

These inclinometers are E1 and UL certified.

### **Benefits at a glance**

- . Predestined for outdoor use  
thanks to robust construction and high protection level.
- . Highly accurate measurement - resolution  $0.01^\circ$
- . Flat construction – space-saving
- . Easy installation and possible redundancy

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Contact:  
Filippo Zerbo, Team Manager  
Marketing Communication  
filippo.zerbo@kuebler.com  
Phone: +49 7720 – 3903-80