

Inclinometers

Inclinometer MEMS / capacitive	IS60, 2-dimensional	CANopen
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The inclinometer IS60 permits 2-dimensional inclinations to be measured. Versions are available for the measuring ranges $\pm 10^\circ$, $\pm 45^\circ$ or $\pm 60^\circ$.

The sensor has a standardised CANopen interface, which enables easy configuration and start-up. All the parameters are stored in the internal permanent memory.

Can be supplied with customer-specific parameterising.



CANopen



High protection level



Shock / vibration resistant



Reverse polarity protection

Robust and reliable

- Protection rating IP68 / IP69k.
- Robust plastic housing.
- High shock resistance.

User-friendly and accurate

- High resolution and accuracy.
- Programmable vibration suppression.
- High sampling rate and bandwidth.

Order code Inclinometer IS60

8.IS60 . **2X523**
Type a b c d e

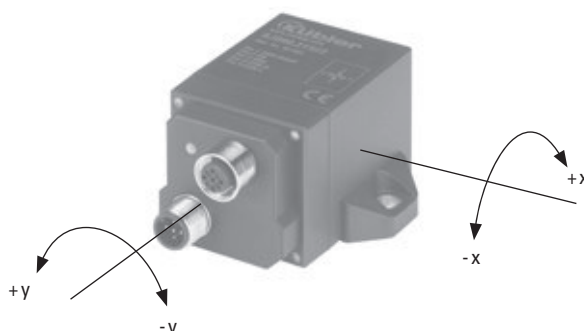
a Measuring direction 2 = 2-dimensional x/y	b Measuring range 1 = $\pm 10^\circ$ 2 = $\pm 45^\circ$ 3 = $\pm 60^\circ$	c Interface 5 = CANopen	d Power supply 2 = 10 ... 30 V DC	e Type of connection 3 = 2 x M12 connector
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Connection technology

		Order no.
Connector, self-assembly (straight)	M12 female connector with coupling, Bus in	05.B-8151-0/9
	M12 male connector with external thread, Bus out	05.BS-8151-0/9
Cordset, pre-assembled	M12 female connector with coupling, 6 m [19.69'] PVC cable, Bus in	05.00.6021.2211.006M
	M12 male connector with external thread, 6 m [19.69'] PVC cable, Bus out	05.00.6021.2411.006M

Further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories
Additional connectors can be found in the connection technology section or in the connection technology area of our website at: www.kuebler.com/connection_technology

Direction of inclination



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Technical data

Mechanical characteristics

Connection CAN	M12 connector, 5-pin
Weight	approx. 0.2 kg [7.06 oz]
Protection acc. to EN 60529	IP68 / IP69k
Working temperature range	-40°C ... +80°C [-40°F ... +176°F]
Material	plastic PA12-GF30
Shock resistance	300 m/s ² , 11 ms
Vibration resistance	100 m/s ² , 10 ... 2000 Hz
Dimensions	68 x 42.5 x 42.5 mm [2.68 x 1.67 x 1.67"]

Interface characteristics CANopen

Interface	CANopen according to CiA DS-301, Profile to CiA DSP-410
Data rates	10 kbit/s, 20 kbit/s, 50 kbit/s, 125 kbit/s, 250 kbit/s, 500 kbit/s, 800 kbit/s, 1 Mbit/s
Functions	TPDO (RTR, cyclic, event-driven, synchronized), parameterization per SDO and object register, digital filter (Butterworth Low pass, 8th order), SYNC Consumer, EMCY Producer, output and control of internal device temperature (±2.0 K accuracy), failure control with the help of Heartbeat or Nodeguarding / Lifeguarding
Note ID	1 ... 127

Electrical characteristics

Power supply	10 ... 30 V DC
Power consumption (no load)	40 ... 105 mA
Reverse polarity protection	yes
Measuring axes	2 (x/y)
Measuring range	±10°, ±45°, ±60°
Resolution	0.1°
Linearity deviation	max. ±0.4°
Calibration accuracy – at 25°C [77°F]	±0.1° (Zero point and final values)
Temperature drift (Zero point)	typ. ±0.008°/K
Sampling rate	100 Hz
CE compliant acc. to	EMC guideline 2004/108/EC RoHS guideline 2011/65/EU

A full description of the technical data can be found in the relevant product manual at www.kuebler.com.

Terminal assignment

PIN	Signal	Assignment
1	CAN_SHLD	Shield
2	CAN V+	Power supply (+24 V DC)
3	CAN_GND	0 V
4	CAN_H	CAN_H Bus cable
5	CAN_L	CAN_L Bus cable



Dimensions

Dimensions in mm [inch]

