Inclinometer MEMS / capacitive | IS40, 1-dimensional | Analog

With the IS40 inclinometer 1-dimensional inclinations in the measuring range 0 - 360° can be measured.

The compact robust construction makes this sensor the ideal device for measuring angles in harsh environments.

Output | High protection level | Shock / vibration resistant | Reverse polarity protection

Innovative

- Rugged construction – high shock resistance.
- High resolution and accuracy.
- Current or voltage interface.
- Adjusting of the measuring range via teach adapter.

Compact / Many applications

- Small design – minimal space requirement.
- For use in vehicle technology, solar installations, cranes and hoists or in commercial vehicles.

Order code Inclinometer IS40

8.IS40 . 1 4 X 2 1
Type — a b c d e

a *Measuring direction*
1 = 1-dimensional

b *Measuring range*
4 = 0 ... 360°

c *Interface*
1 = 4 ... 20 mA
3 = 0.1 ... 4.9 V DC

d *Power supply*
2 = 10 ... 30 V DC

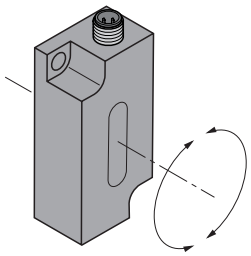
e *Type of connection*
1 = M12 connector

Accessories		Order no.
Teach adapter	for inductive encoders, linear position, angle and ultrasonic sensors	**05.TX40.1**

Connection technology		Order no.
Cordset, pre-assembled	M12 female connector with coupling nut, 5-pin 2 m [6.56'] PVC cable	**05.00.6081.2211.002M**
Connector, self-assembly (straight)	M12 female connector with coupling nut, 5-pin	**8.0000.5116.0000**

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



Adjusting the measuring range via 05.TX40.1 teach adapter

- Setting the angular range in CW direction:
  - Move sensor to start position ■
  - Press and hold Teach-GND until the output is set to < 4 mA / 0.1 V (approx. 1 s)
  - Move sensor to end position
  - Press and hold Teach-GND until the output is set to 20 mA / 4.9 V (approx. 3 s)
- Resetting the angular range: ■
  - Press and hold Teach-GND until the output is set to 12 mA (approx. 6 s) ■
  - The angular range is reset to 360°

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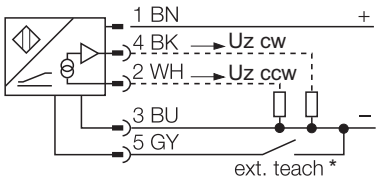
Technical data

Mechanical characteristics	
Connection	M12 connector
Weight	50 g [1.76 oz]
Protection acc. to EN 60529	IP68 / IP69k
Working temperature range	-30°C ... +70°C [-22°F ... +158°F]
Material	plastic PBT-GF20-V0
Shock resistance	300 m/s², 11 ms
Vibration resistance	100 m/s², 10 ... 2000 Hz
Dimensions	60 x 30 x 20 mm [2.36 x 1.18 x 0.79"]

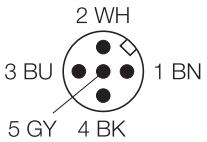
Interface characteristics	
Voltage output	0.1 ... 4.9 V DC short-circuit protected to +V
Load resistance voltage output	≥ 40 kΩ
Output impedance voltage output	99 ... 105 Ω
Current output	4 ... 20 mA
Load resistance current output	≤ 200 Ω

Electrical characteristics	
Power supply	10 ... 30 V DC
Power consumption	50 ... 105 mA (depending on voltage)
Reverse polarity protection	yes
Measuring axes	1
Measuring range	0 ... 360°
Resolution	≤ 0.14°
Repeat accuracy	≤ 0.2 % of measuring range ≤ 0.1 % after a warm-up period of 30 min
Temperature drift	0.03°/K
Reaction time	0.1 s – Time that the output signal requires to reach 90 % full scale
CE compliant acc. to	EMC guideline 2014/30/EU RoHS guideline 2011/65/EU

Connections



Terminal assignment



*) Teach adapter, accessory (Order no. 05.TX40.1)

Dimensions

Dimensions in mm [inch]