

Inclinometers

Inclinometer	IS40	Analogue
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The inclinometer IS40 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 compact robust construction makes this sensor the ideal device for measuring angles in harsh environments.



Output



High IP value



Shock / vibration resistant



Reverse polarity protection

Innovative

- Rugged construction
- High resolution and accuracy
- Current or voltage interface
- High shock resistance
- Zero point adjustment

Compact / Many applications

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

Order code Inclinometer IS40

8.IS40 . 2XXXX1
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
1 = 4 ... 20 mA
3 = 0.1 ... 4.9 V DC
4 = ratiometric 2% ... 98% ¹⁾

d Supply voltage
1 = 5 V DC ²⁾
2 = 10 ... 30 V DC

e Type of connection
1 = M12 connector

Connection Technology

Connectors, self-assembly (straight)	M12	05.B-8151-0/9
Cordset, pre-assembled with 2 m PVC cable	Coupling M12	05.WAKS4.5-2/P00

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.

1) In relation to the supply voltage 5 V DC
2) Only in combination with interface 4

Inclinometers

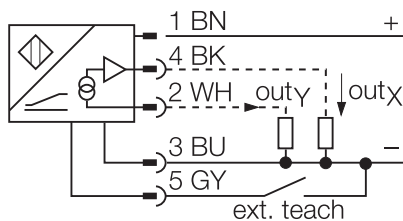
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Mechanical characteristics	
Connection	M12 connector
Weight	50 g
Protection EN 60529	IP68
Working temperature range	-30...+70°C
Materials	plastic PBT-GF20-V0
Shock resistance	30 g, 11 ms
Vibration resistance	55 Hz (1 mm)
Dimensions	60 x 30 x 20 mm

Interface characteristics	
Voltage output	at U_B 10 ... 30 V DC 0.1 ... 4.9 V short-circuit protected to U_B at U_B 5 V DC 2 ... 98% ratiometric (in relation to U_B)
Load resistance voltage output	≥ 40 kΩ
Output impedance voltage output	99...105 Ω
Current output	4...20 mA
Load resistance current output	≤ 200 Ω

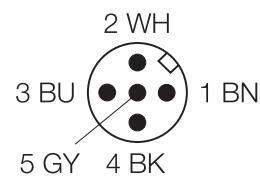
General electrical characteristics	
Supply voltage	5 V DC +/-0.25 V or 10 ... 30 V DC (depending on version)
Power consumption (no load)	≤ 20 mA
Reverse polarity protection (U_B)	yes
Measuring axes	2 (X/Y)
Measuring range	±10°, ±45°, ±60°
Resolution	for version ±10° ≤ 0.05° for version ±45° ≤ 0.1° for version ±60° ≤ 0.15°
Repeat accuracy	≤ 0.2% of measuring range ≤ 0.1% after a warm-up period of 30 min
Absolute accuracy	for version ±10° 0.3° for version ±45° and ±60° 0.5°
Cross sensitivity	3%
Temperature drift	for version ±10° typ. 0.01°/K for version ±45° and ±60° 0.03°/K
Reaction time	0.1 s Time that the output signal requires to reach 90 % full scale, if the angle is changed from -60° to +60°
Zero point adjustment	for version ±10° ± 5° for version ±45° and ±60° ± 15°
CE compliant acc. to	EN 61362-2-3 EMC requirements for transducers

Connections

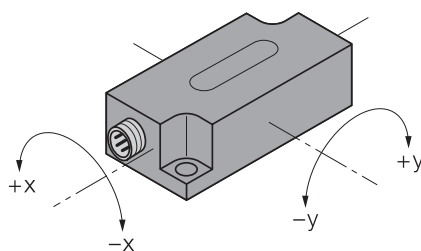


ext. teach: if this input is connected to 0 V, then the output of the inclinometer is reset to 0°.

Terminal assignment



Direction of Inclination



Dimensions

