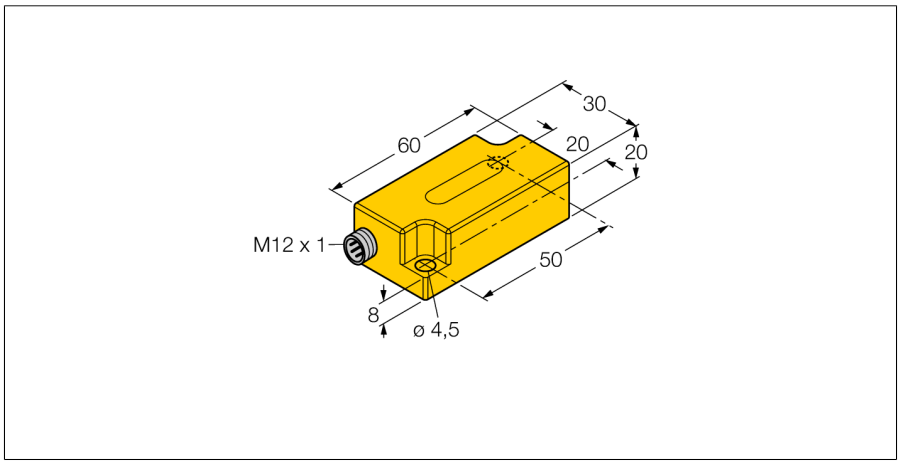
Inclinometer
B1N360V-Q20L60-2Li2-H1151

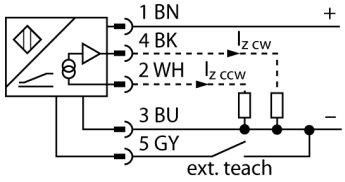
Industrial Automation



- **Rectangular, plastic, PC**
- **Compact housing**
- **Connection via M12x1 plug connectors**
- **12 bit resolution**
- **5-wire, 10…30 VDC**
- **4 … 20mA analog output for clockwise (CW) rotation**
- **4 … 20mA analog output for counter-clockwise (CCW) rotation**

Type	B1N360V-Q20L60-2Li2-H1151
Ident-No.	1534068
Measuring range	0…360°
Repeatability	≤ 0.2 % of measuring range |A - B|
	≤ 0.1 %, after warm-up 0.5 h
Temperature coefficient typical	0.03 °/K
Resolution	≤ 0.14 °
Ambient temperature	-30…+70 °C
Operating voltage	10…30VDC
No-load current I_0	≤ 20 mA
Rated insulation voltage	≤ 0.5 kV
Short-circuit protection	yes
Wire breakage / Reverse polarity protection	yes/ complete
Output function	5-wire, Analog output
Current output	4…20mA
	2 outputs, one for CW and one for CCW
Load resistance current output	≤ 0.2 kΩ
Response time	0.1 s
	Time for the output signal to reach 90% of the adjusted measuring range
Design	rectangular, Q20L60
Dimensions	60x 30x 20 mm
Housing material	Plastic, PC
Connection	male, M12 x 1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68 / IP69K
MTTF	203 years acc. to SN 29500 (Ed. 99) 40 °C

Wiring diagram

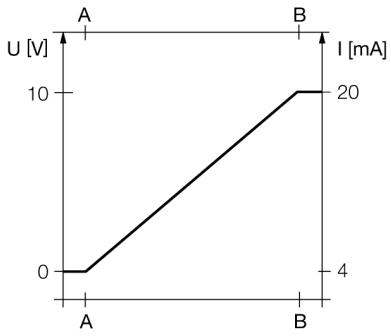


Functional principle

The TURCK inclinometers incorporate a micromechanical pendulum, operating on the principle of MEMS technology (Mikro Elektro Mechanic Systems).

The pendulum basically consists of two 'plate' electrodes arranged in parallel with a dielectric placed in the middle. When the sensor is inclined, the dielectric in the middle moves, causing the capacitance ratio between both electrodes to change.

The downstream electronics evaluates this change in capacitance and generates a corresponding output signal.



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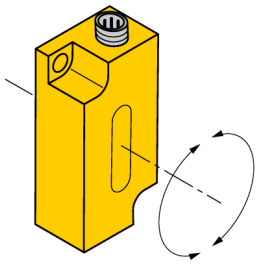
Mounting instructions Tilt angle



Adjusting the measuring range via TX1-Q20L60 teach adapter

Setting the angular range:

- Move the sensor to start position
- Press and hold the button until the output is set to < 4 mA (approx. 1s)
- Move the sensor to end position
- Press and hold Teach-Gnd until the output is set to > 20 mA (approx. 3s)

Resetting the angular range:

- Press and hold Teach-Gnd until the output is set to approx. 12 mA (approx. 6s)
- The angular range is reset to 360°.

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