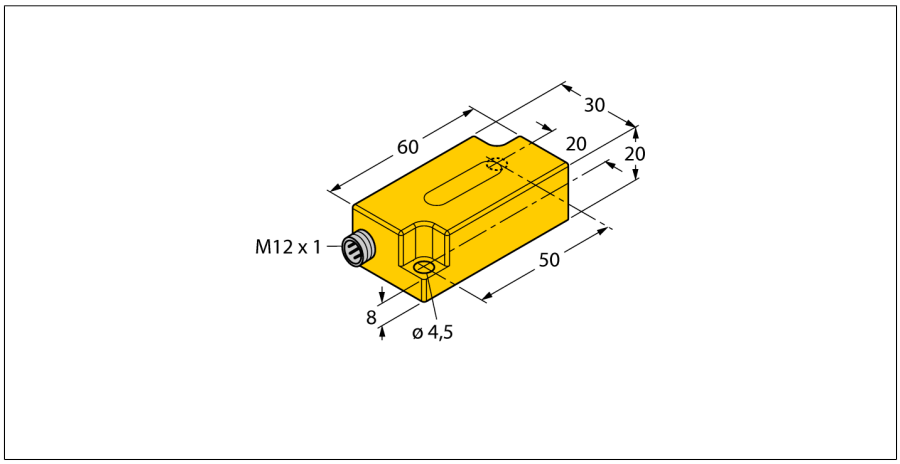
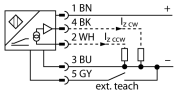
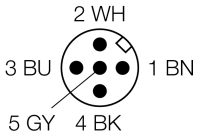
Single-axis inclinometer with 2 analog outputs
B1N360V-Q20L60-2Li2-H1151



- **Rectangular, plastic, PC**
- **Compact housing**
- **Connection via M12x1 plug connectors**
- **Response time 0.1 s**
- **10…30 VDC**
- **Two counter-running 4 … 20mA analog outputs improve machine safety through redundancy**

Wiring diagram





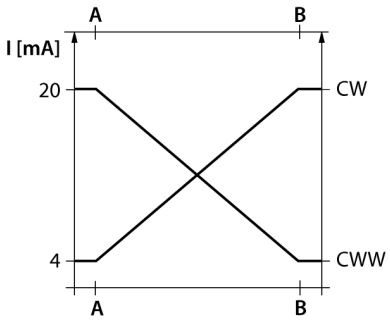
Type code	B1N360V-Q20L60-2Li2-H1151
Ident no.	1534068
Measuring range	0…360°
Repeatability	≤ 0.2 % of measuring range |A - B|
	≤ 0.1 %, after warm-up 0.5 h
Temperature coefficient typical	0.03 °/K
Resolution	≤ 0.14 °
Ambient temperature	-30…+70 °C
Operating voltage	10…30VDC
Rated insulation voltage	≤ 0.5 kV
Short-circuit protection	yes
Wire breakage / Reverse polarity protection	yes/ complete
Output function	5-pin, 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
Current consumption	50…105 mA (voltage-dependent)
Construction	rectangular, Q20L60
Dimensions	60 x 30 x 20 mm
Housing material	plastic, PC
Connection	male, M12 x 1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
IP Rating	IP68 / IP69K
MTTF	203 years acc. to SN 29500 (Ed. 99) 40 °C

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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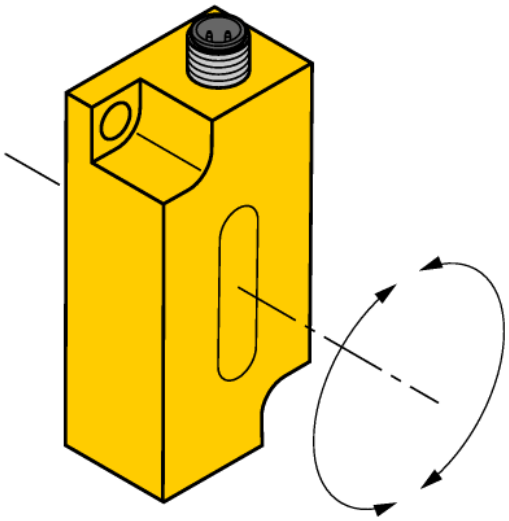
Mounting instructions / Description Tilt angle



Adjusting the measuring range via TX1-Q20L60 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 working range of angle measurement is set back to 360° degrees (in position "connector outgoing topwards" the sensor provides an output signal in accordance with 0 ° degree)

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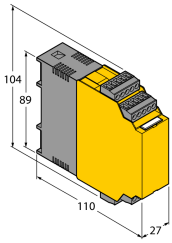
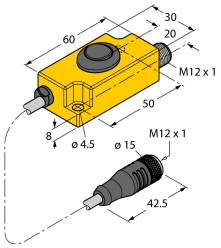
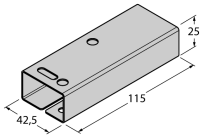
Accessories

Type code	Ident no.	Description	Design
IM43-13-SR	7540041	Trip amplifier; 1-channel; input 0/4…20 mA or 0/2…10 V; supply of 2- or 3-wire transmitters/sensors; limit value adjustment via teach button; three relay outputs with one NO contact each; removable terminal blocks; 27 mm wide; universal voltage supply 20…250 VUC; further Limit value indicators are described in our "Interface Technology" catalog.	
TX1-Q20L60	6967114	Teach adapter for inductive encoders, linear position, angle and ultrasonic sensors	
SG-Q20L60	6901100	Protective frame for Q20L60; protects against mechanical impact; stainless steel	

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