

B1N360V-Q20L60-2LU3-H1151

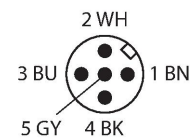
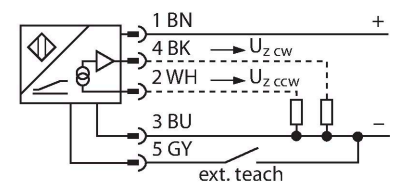
Inclinometer



Features

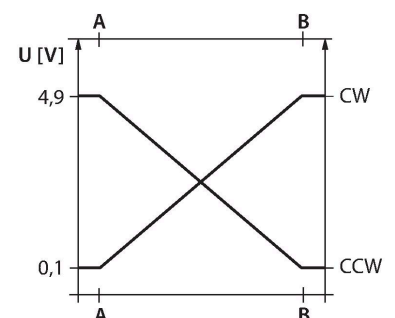
- Rectangular, plastic, PC
- Compact housing
- Connection via M12 × 1 male
- Response time 0.1 s
- 10...30 VDC
- Two counter-running 0.1 ... 4.9 V analog outputs improve machine safety through redundancy

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.



Technical data

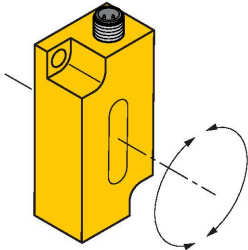
Type	B1N360V-Q20L60-2LU3-H1151
ID	1534069
Measuring principle	Acceleration
General data	
Measuring range	0...360 °
Number of measuring axes	1
Mounting conditions	Vertical
Repeatability	≤ 0.2 % of measuring range A - B
Linearity deviation	≤ 0.6 %
Temperature drift	≤ ± 0.05 %/K
Resolution	≤ 0.14 °
Electrical data	
Operating voltage	10...30 VDC
Isolation test voltage	≤ 0.5 kV
Short-circuit protection	yes
Wire breakage/Reverse polarity protection	yes / Complete
Output function	5-pin, Analog output
Voltage output	0.1...4.9 V
	2 outputs, one for CW and one for CCW
Load resistance voltage output	≥ 40 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)
Mechanical data	
Design	Rectangular, Q20L60
Dimensions	60 x 30 x 20 mm

Technical data

Housing material	Plastic, PC
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-30...+70 °C
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

Mounting instructions

Mounting instructions/Description



Adjusting the measuring range via TX1-Q20L60 teach adaptor

Setting the angular range in CW direction:

1. Move sensor to start position
2. Press and hold Teach-Gnd until the output is set to < 0.1 V (approx. 1 s)
3. Move sensor to end position
4. Press and hold Teach-Gnd until the output is set to 4.9 V (approx. 3 s)

Resetting the angular range:

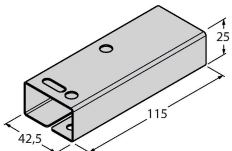
1. Press and hold Teach-Gnd until the output is set to 2.5 V (approx. 6 s)
2. Angle measurement is set back to 360° degrees (in position "connector outgoing towards" the sensor provides an output signal in accordance with 0° degrees)

Accessories

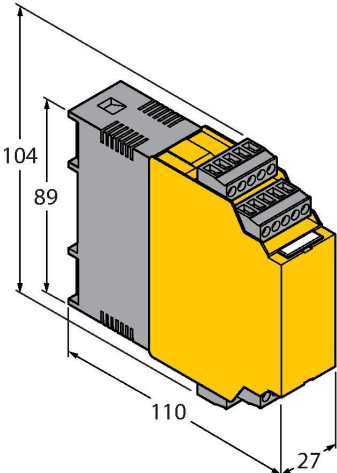
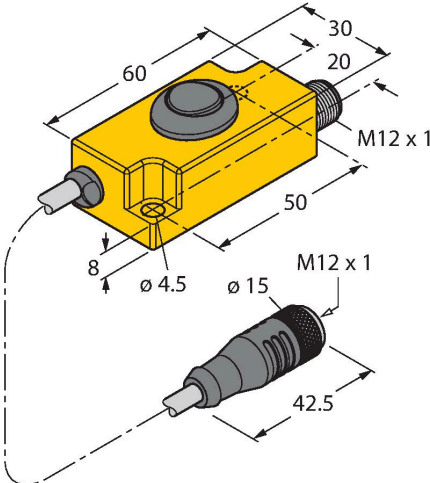
GUARD-Q20L60

A9684

Protective housing for Q20L60 inclinometers for protecting against mechanical impact; material: Stainless steel



Accessories

Dimension drawing	Type	ID	
	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, ultrasonic and capacitive sensors