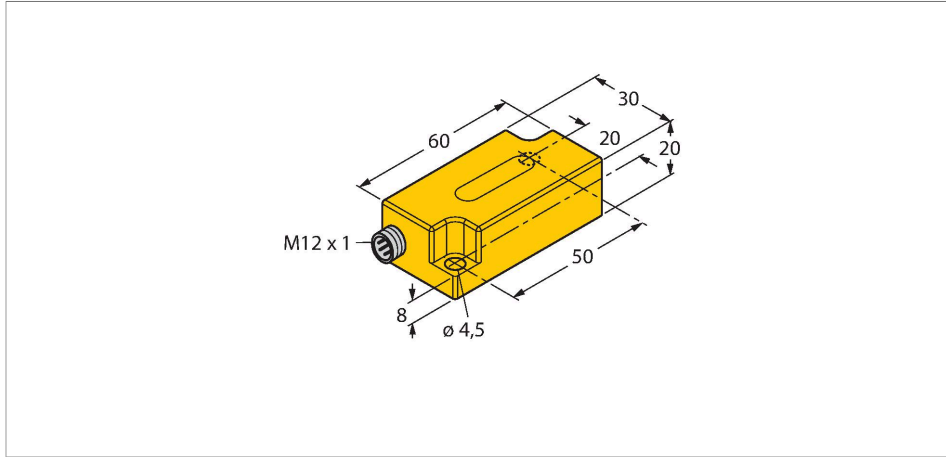


B1N360V-Q20L60-2UP6X3-H1151

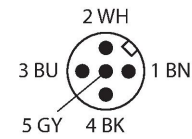
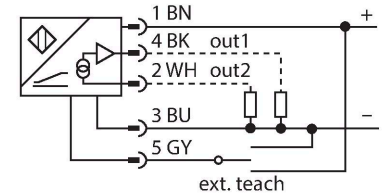
Inclinometer – With two Programmable Switching Points



Features

- Rectangular, height 20 mm
- Plastic, PC
- Indication of operating voltage and switching state
- Two programmable switching outputs
- Switchpoints selectable in a range between 0° and 360°
- DC 4-wire, 10...30 VDC
- M12 x 1 male connector

Wiring diagram



Technical data

Type	B1N360V-Q20L60-2UP6X3-H1151
Ident. no.	1534051
Measuring range	0...360°
measuring range z-axis	0...360°
Number of measuring axes	1
Mounting conditions	Vertical
Repeat accuracy	≤ 0.2 % of full scale
Absolute accuracy (at 25 °C)	± 0.5°
Temperature coefficient typical	0.03 °/K
Resolution	≤ 0.14°
Ambient temperature	-30...+70 °C
Operating voltage	10...30 VDC
Residual ripple	≤ 10 % U _{ss}
Residual current	≤ 0.1 mA
Isolation test voltage	≤ 0.5 kV
Output current	≤ 500 mA
Response delay	500 ms
Dropout delay	350 ms
Short-circuit protection	yes / Thermal
Wire breakage/Reverse polarity protection	yes / Complete
Output function	5-pin, NO/NC, 2 × PNP
	Surge protection from +U _b to (U _b - 40V)
Current consumption	35 mA

Functional principle

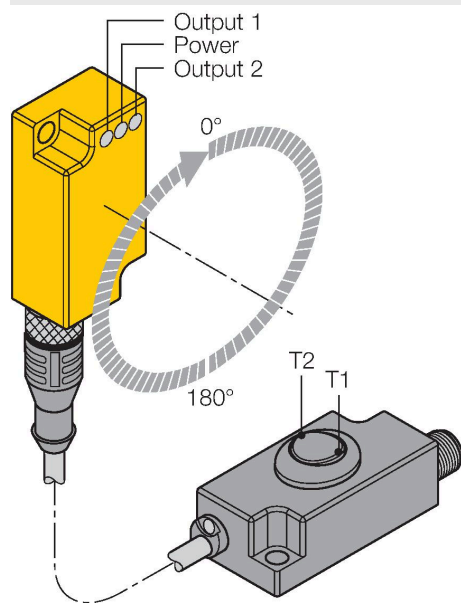
Inclination is determined by a wear-free semiconducting sensor element.

Technical data

Design	Rectangular, Q20L60
Dimensions	60 x 30 x 20 mm
Housing material	Plastic, PC
Electrical connection	Connector, M12 x 1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68 / IP69K
MTTF	399 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	2 x LEDs, Yellow

Mounting instructions

Mounting instructions/Description



The switchpoints are set with the TX1-Q20L60 teach adapter

By actuating the toggle switch T1 (OUT 1), a bridge is formed between GND and pin 5.

By actuating the toggle switch T2 (OUT 2), a bridge is formed between UB and pin 5.

The switch-on and off points are freely selectable within 360° degrees.

You can teach-in the switching points either clockwise or counter-clockwise.

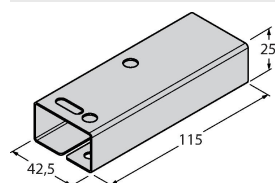
Before programming the wanted switch-on and off points, move the sensor in start position. For details on programming, please see next page. Should you wish to set the switch-off point yourself, the sensor must also be positioned at this point. The sensor must be installed in vertical position.

A further programming method has already a preset range of 180°. Here, only the switch-on point must be set.

Accessories

GUARD-Q20L60

A9684



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

Operating Instructions

Switchpoint adjustable as NO contact counter-clockwise or as NC contact clockwise

Press T1 (T2) for 5 s
 Power LED flashes
 Place the sensor in the wanted start position
 Press T1 (T2) for 1 s to set the switch-on point
 Power LED and Output 1 (2) LED flash
 Place the sensor in the wanted end position
 Press T1 (T2) for 3 s to set the switch-off point
 Power LED and Output 1 (2) LED flash for 3 s then turn steady
 Teach process completed, sensor ready for operation.

Switchpoint adjustable as NO contact clockwise or as NC contact counter-clockwise

Press T1 (T2) for 5 s
 Power LED flashes
 Place the sensor in the wanted start position
 Press T1 (T2) for 3 s to set the switch-on point
 Power LED and Output 1 (2) LED flash fast
 Place the sensor in the wanted end position
 Press T1 (T2) for 1 s to set the switch-off point
 Power LED and Output 1 (2) LED flash for 3 s then turn steady
 Teach process completed, sensor ready for operation.

Switchpoint adjustable as NO contact counter-clockwise or as NC contact clockwise (180° default setting)

Press T1 (T2) for 5 s
 Power LED flashes
 Place the sensor in the wanted start position
 Press T1 (T2) for 1 s to set the switch-on point
 Power LED and Output 1 (2) LED flash
 Press T1 (T2) for 1 s to set the travel path 180° and the hysteresis 1°
 Power LED and Output 1 (2) LED flash for 3 s then turn steady
 Teach process completed, sensor ready for operation.

Switchpoint adjustable as NO contact clockwise or as NC contact counter-clockwise (180° default setting)

Press T1 (T2) for 5 s
 Power LED flashes
 Place the sensor in the wanted start position
 Press T1 (T2) for 3 s to set the switch-on point
 Power LED and Output 1 (2) LED flash fast
 Press T1 (T2) for 3 s to set the overtravel path 180° and the hysteresis 1°
 Power LED and Output 1 (2) LED flash for 3 s then turn steady
 Teach process completed, sensor ready for operation.

T1 = Switching output 1; T2 = Switching output 2

Default settings:

Travel path 180°

Hysteresis 1°

Operating Instructions**Switchpoint adjustable as NO contact counter-clockwise or as NC contact clockwise**

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