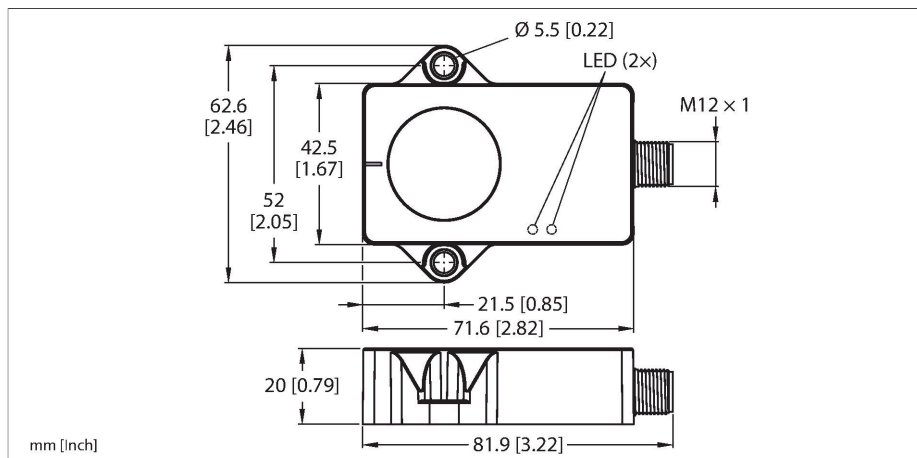


# B1N360V-QR20-IOLX3-H1141

## Inclinometer



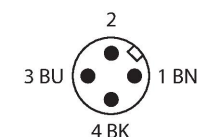
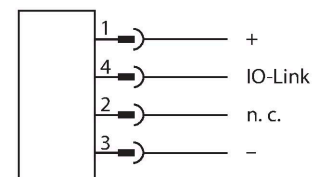
### Technical data

Type	B1N360V-QR20-IOLX3-H1141
ID	100025084
Measuring principle	Acceleration
<b>General data</b>	
Measuring range	0...360 °
Number of measuring axes	1
Repeat accuracy	≤ 0.05 % of full scale
Linearity deviation	≤ 0.2 %
Temperature drift	≤ ± 0.006 %/K
Resolution	≤ 0.01 °
<b>Electrical data</b>	
Operating voltage	18...30 VDC
Residual ripple	≤ 10 % U <sub>ss</sub>
Isolation test voltage	≤ 0.5 kV
Wire breakage/Reverse polarity protection	yes
Communication protocol	IO-Link
Current consumption	< 50 mA
<b>IO-Link</b>	
Communication mode	COM 3 (230.4 kBaud)
Minimum cycle time	1.3 ms
Function pin 4	IO-Link
<b>Mechanical data</b>	
Design	Rectangular, QR20
Dimensions	71.6 x 62.6 x 20 mm
Housing material	Plastic, Ultem
Electrical connection	Connector, M12 × 1

### Features

- Rectangular, plastic, Ultem
- Status displayed via LED
- Angle detection via one axis with 360 ° measuring range
- Temperature detection from -40 °C to 85 °C
- High protection class IP68/IP69K
- Protected against salt spray and rapid temperature change
- 18...30 VDC
- M12 × 1 connector, 4-pin
- Communication via IO-Link

### Wiring diagram



### Functional principle

The inclinometers use an acceleration measuring cell to determine the angle. The Earth's gravity is used as a reference. If the inclinometer changes its angle relative to the Earth's gravity, this is detected by the acceleration measuring cell. The signal is then linearized so that a value proportional to the angle is output. The measuring principle used makes mounting and commissioning the device easy. The robust sensors are positioned with the

## Technical data

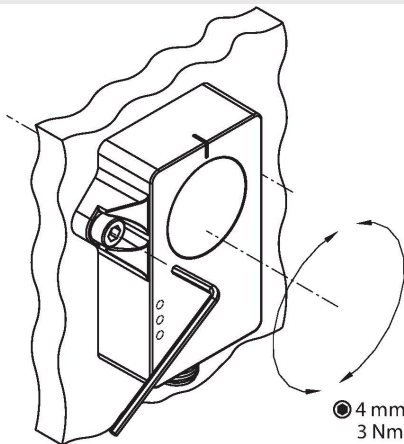
Environmental conditions	
Ambient temperature	-40...+85 °C
Temperature changes (EN60068-2-14)	-40... +85 °C; 20 cycles
Vibration resistance (EN 60068-2-6)	20 g; 5 h/axis; 3 axes
Shock resistance (EN 60068-2-27)	150 g; 4 ms ½ sine
Protection class	IP68 IP69K
MTTF	548 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Measuring range display	LED, yellow

cast side on a flat surface so that the casting compound is covered. The sensor is then secured with two screws.

The sensor can also record the temperature, which can be used to monitor the condition of the machine.

## Mounting instructions

### Mounting instructions/Description



The measuring principle enables simple mounting and commissioning, for example because a metal environment does not interfere with the measuring principle. A green LED indicates whether the sensor is being supplied properly. The green flashing LED indicates that IO-Link communication is active. One yellow LED per inclination axis acts as a zero position indicator to aid commissioning. It is constantly illuminated when the position of the inclinometer is in a window of  $\pm 0.5^\circ$  around the center point. The LED flashes with increasing frequency the more the sensor approaches the center point position.

## Accessories

AP-Q20L60-QR20	100029224
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Adapter plate for mounting the QR20 housing with mounting holes for the Q20L60 housing

## Accessories

Dimension drawing	Type	ID	
	RKC4T-2-RSC4T/TXL	6625604	Extension cable, M12 female connector, straight, 3-pin to M12 male connector, straight, 3-pin; cable length: 2 m, jacket material: PUR, black; cULus approval

## Dimension drawing

Type  
RKC4T-2/TXLID  
6625500Connection cable, M12 female  
connector, straight, 3-pin, cable length:  
2 m, jacket material: PUR, black; cULus  
approval