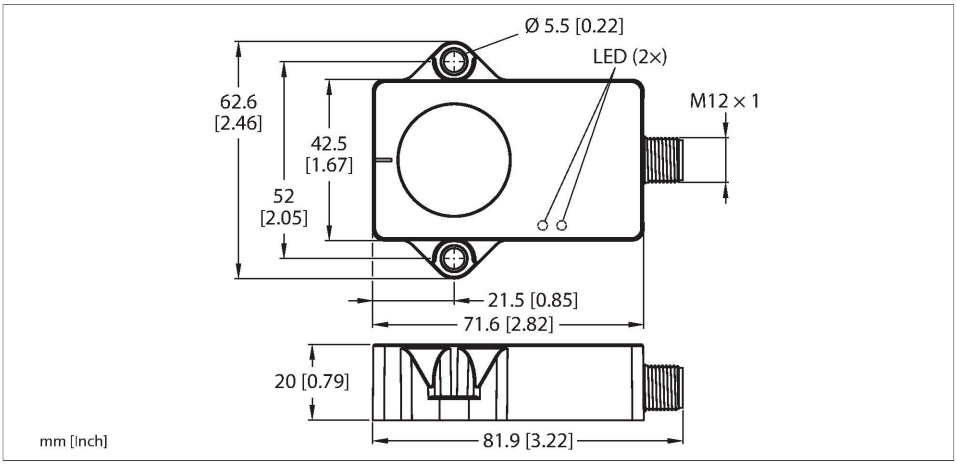
B1N360V-QR20-2LUX3-H1151
Inclinometer – With Analog Outputs



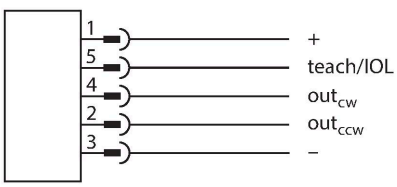
Technical data

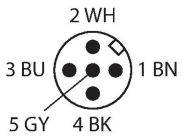
Type	B1N360V-QR20-2LUX3-H1151
ID	100030755
Measuring principle	Acceleration
General data	
Resolution	16 bit
Measuring range	0…360 °
Number of measuring axes	1
Repeat accuracy	≤ 0.05 % of full scale
Linearity deviation	≤ 0.2 %
Temperature drift	≤ ± 0.006 %/K
Electrical data	
Operating voltage U_B	15…30 VDC
Ripple U_{ss}	≤ 10 % U_{Bmax}
Isolation test voltage	0.5 kV
Short-circuit protection	yes
Wire break/reverse polarity protection	yes/yes
Output function	5-pin, Analog output
Voltage output	0…10 V
Load resistance voltage output	≥ 4.7 kΩ
Load resistance current output	≤ 0.4 kΩ
Current consumption	< 80 mA
Mechanical data	
Design	Rectangular, QR20
Dimensions	71.6 x 62.6 x 20 mm

Features

- Rectangular, plastic, Ultem
- Status displayed via LED
- Angle detection via one axis with 360 ° measuring range
- High protection class IP68/IP69K
- Protected against salt spray and rapid temperature change
- 15…30 VDC
- M12 × 1 male connector, 5-pin
- Two counter-running 0…10 V analog outputs improve machine safety through redundancy
- The start, end and center point of the measuring range can be adjusted using teach adaptor TX1-Q20L60
- Individual parameterization possible with USB-2-IOL-0002

Wiring diagram





Functional principle

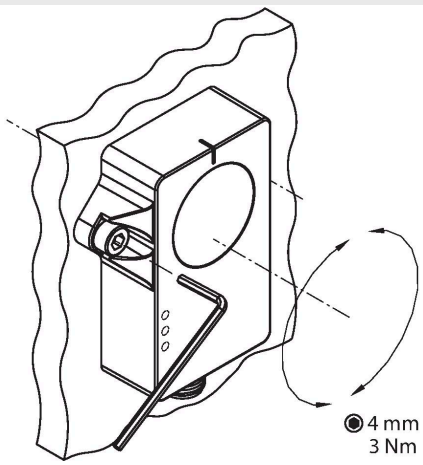
Technical data

Housing material	Plastic, Ultem
Electrical connection	Connector, M12 × 1
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	297 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Measuring range display	LED, yellow
UL certificate	E351232

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

Mounting instructions

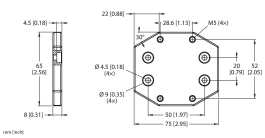
Mounting instructions/Description



The measuring principle used makes mounting and commissioning the device easy, e.g. because being adjacent to metal does not interfere with the measuring principle.
A green LED indicates whether the sensor is being properly supplied with power. The green flashing LED indicates that FDT/IODD 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 within a window of ±0.5° around the center point. The LED flashes with increasing frequency the nearer the sensor gets to the center point position.
In the factory setting, the center point is in an inclination position with the connector pointing downward.

Accessories

AP-Q20L60-QR20	100029224



Adapter plate for mounting the QR20 housing with mounting holes for the Q20L60 housing

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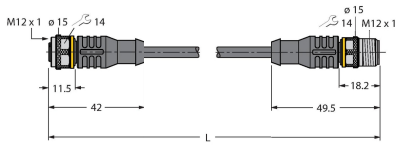
Wiring accessories

Dimension drawing	Type	ID	
	RKC5.301T-1.5-RSC4T/TXL320	6625005	Adapter cable (for uses such as connecting the sensor to the USB-2-IOL-0002 programming unit); M12 female connector, straight, 5-pin to M12 male connector, straight, 3-pin; cable length: 1.5 m; jacket material: PUR, black; cULus approved; RoHS compliant; protection class IP67

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