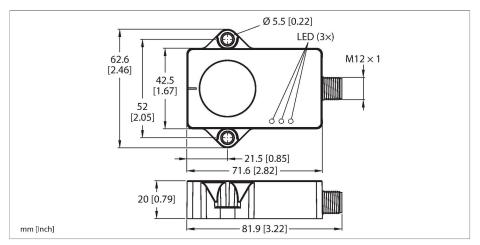


B2NF45H-QR20-2LI2X3-H1151 Dynamic Inclinometer





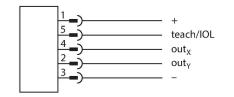
Type	B2NF45H-QR20-2LI2X3-H1151		
ID	100031517		
Measuring principle	Combination of gyroscopes and accelerometers		
General data			
Resolution	16 bit		
Measuring range	-4545 °		
Number of measuring axes	2		
Repeat accuracy	≤ 0.12 % of full scale		
Linearity deviation	≤ 0.4 %		
Temperature drift	≤ ± 0.025 %/K		
Electrical data			
Operating voltage	1530 VDC		
Residual ripple	≤ 10 % U _{ss}		
Isolation test voltage	≤ 0.5 kV		
isolation test voltage	≥ 0.5 KV		
Short-circuit protection	yes		
Short-circuit protection Wire breakage/Reverse polarity protec-	yes		
Short-circuit protection Wire breakage/Reverse polarity protection	yes / yes		
Short-circuit protection Wire breakage/Reverse polarity protection Output function	yes yes / yes 5-pin, Analog output		
Short-circuit protection Wire breakage/Reverse polarity protection Output function Current output	yes yes / yes 5-pin, Analog output 420 mA		
Short-circuit protection Wire breakage/Reverse polarity protection Output function Current output Load resistance voltage output	yes yes / yes 5-pin, Analog output 420 mA ≥ 4.7 kΩ		
Short-circuit protection Wire breakage/Reverse polarity protection Output function Current output Load resistance voltage output Load resistance current output	yes yes / yes 5-pin, Analog output 420 mA $\geq 4.7 \text{ k}\Omega$ $\leq 0.4 \text{ k}\Omega$		
Short-circuit protection Wire breakage/Reverse polarity protection Output function Current output Load resistance voltage output Load resistance current output Current consumption	yes yes / yes 5-pin, Analog output 420 mA $\geq 4.7 \text{ k}\Omega$ $\leq 0.4 \text{ k}\Omega$		
Short-circuit protection Wire breakage/Reverse polarity protection Output function Current output Load resistance voltage output Load resistance current output Current consumption Mechanical data	yes yes / yes 5-pin, Analog output 420 mA $\geq 4.7 \text{ k}\Omega$ $\leq 0.4 \text{ k}\Omega$ < 80 mA		
Short-circuit protection Wire breakage/Reverse polarity protection Output function Current output Load resistance voltage output Load resistance current output Current consumption Mechanical data Design	yes yes / yes 5-pin, Analog output 420 mA $\geq 4.7 \text{ k}\Omega$ $\leq 0.4 \text{ k}\Omega$ < 80 mA Rectangular, QR20		

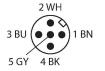


Features

- Rectangular, plastic, Ultem
- Status displayed via LED
- Angle detection along two axes with ±45 ° measuring range
- High protection class IP68/IP69K
- Protected against salt spray and rapid temperature change
- ■15...30 VDC
- ■M12 × 1 male connector, 5-pin
- ■Analog output 4...20 mA
- ■The 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

The dynamic inclinometers use an acceleration measuring cell and a gyroscope sensor to determine angles. Influences caused by vibrations or interfering acceleration are minimized by applying an intelligent fusion algorithm to the acceleration data and the rotation rate values. This enables the sensor



Technical data

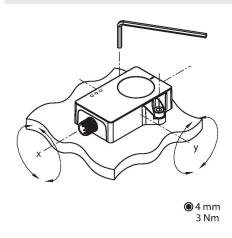
Environmental conditions	
Ambient temperature	-40+85 °C
Temperature changes (EN60068-2-14)	-40 +85 °C; 20 cycles
Vibration resistance (EN 60068-2-6)	20 g; 5 h/axis; 3 axes
Shock resistance (EN 60068-2-27)	200 g; 4 ms ½ sine
Protection class	IP68 IP69K
MTTF	297 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Measuring range display	LED, yellow

to output a robust signal with impressive precision and speed, even in moving, dynamic applications.

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.

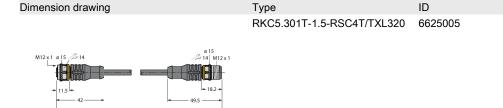
A green LED indicates whether the sensor is being properly supplied with power. The green flashing LED indicates that FDT/IODD communication is active.

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 in a window of $\pm 0.5\,^\circ$ around the center point. The LED flashes with increasing frequency the nearer the sensor gets to the center point position.

Accessories

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

Accessories

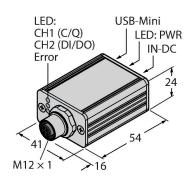


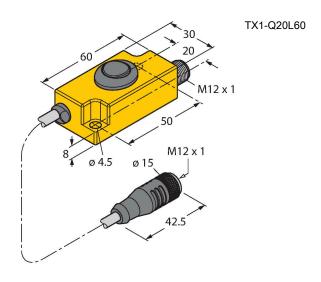
Adapter cable (for uses such as connecting the sensor to the USB-2-IOL-0002 programming unit); M12 female connector, straight, 5-pin to M12 male connector, straight, 3-pin; cable length: 1.5 m; jacket material: PUR, black; cULus approved; RoHS compliant; protection class IP67



Accessories

Dimension drawing	Type	ID	
	USB-2-IOL-0002	6825482	IO-Link Master with integrated USB port





6967114

Teach adapter for inductive encoders, linear position, angle, ultrasonic and capacitive sensors