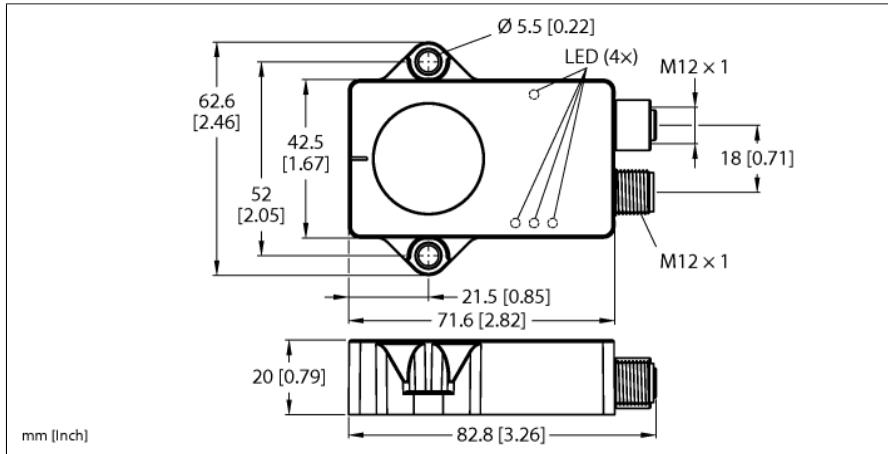


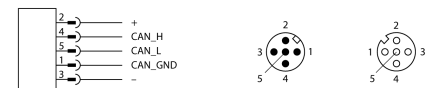
# Dynamic Inclinometer CANopen B1NF360V-QR20-CNX4-2H1150



Type	B1NF360V-QR20-CNX4-2H1150
ID	100046428
Measuring principle	Combination of gyroscopes and accelerometers
<b>General data</b>	
Resolution	16 bit
Measuring range	0...360°
Number of measuring axes	1
Repeat accuracy	≤ 0.03 % of full scale
Linearity deviation	≤ 0.15 %
Temperature drift	≤ ± 0.006 %/K
Resolution	≤ 0.01 °
<b>Electrical data</b>	
Operating voltage $U_s$	8...36 VDC
Ripple $U_{rs}$	≤ 10 % $U_{Bmax}$
Isolation test voltage	0.5 kV
Communication protocol	CANopen
Node ID	1...127; Werkseinstellung: 10
Baud rate	125/250/500/1000 kbps, factory setting 500 kbps
Current consumption	< 80 mA
<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
<b>Environmental conditions</b>	
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	339 years acc. to SN 29500 (Ed. 99) 40 °C

- Rectangular, plastic, Ultem
- Status displayed via LED
- Angle detection over one axis with 360° measuring range
- Recording of the rotation rate over three axes with a measuring range of ±1000°/s
- Recording of the acceleration over three axes with a measuring range of ±4 g
- Temperature detection from -40...85 °C
- High protection class IP68/IP69K
- Increased interference immunity 100 V/m acc. to ISO 11452-2, 200 mA acc. to ISO 11452-4
- Protection against conducted interference acc. to ISO 7637-2 severity degree Level 4 and load dump acc. to ISO 16750-2 for 12-V/24-V systems
- Withstands rapid temperature change
- 8...36 VDC
- Connector, M12 × 1, 5-pin, CAN in, CAN out
- Acc. to CiA 301, CiA 305, CiA 410

## 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 to output

Power-on indication	LED, Green
Status CANopen	Green/red
Measuring range display	LED, yellow
UL certificate	E351232

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

In addition to angle detection, the sensors offer the option to output the acceleration and gyroscope values over three axes.

The measuring principle used makes mounting and commissioning the device easy. 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.

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