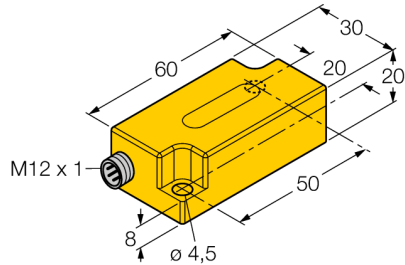
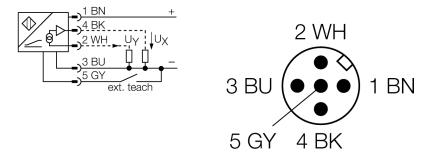


**Inclinometer**  
**B2N45H-Q20L60-2LU3-H1151/3GD**



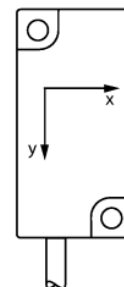
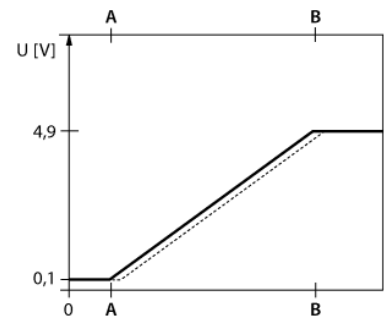
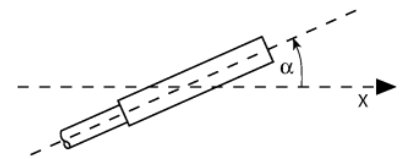
- ATEX category II 3 G, Ex Zone 2
- ATEX category II 3 D, Ex Zone 22
- Plastic, PC
- Zero point calibration +/- 15°
- Two analog outputs
- Male M12 x 1

**Wiring diagram**



**Functional principle**

Inclination is determined by a wear-free semi-conducting sensor element.



<b>Type code</b>	B2N45H-Q20L60-2LU3-H1151/3GD
Ident no.	1534110
<b>Measuring range</b>	-45...+45°
Measuring range x-axis	-45...+45°
measuring range y-axis	-45...+45°
Repeatability	≤ 0.2 % of measuring range  A - B  ≤ 0.1 %, after warm-up 0.5 h
Absolute accuracy (at 25 °C)	+/- 0.5 °
Temperature coefficient typical	0.03 °/K
Resolution	≤ 0.1 °
Ambient temperature	-30...+70 °C in the explosion hazardous area see instruction leaflet
<b>Operating voltage</b>	10...30VDC
No-load current I <sub>0</sub>	≤ 20 mA
Rated insulation voltage	≤ 0.5 kV
Wire breakage / Reverse polarity protection	yes/ yes
surge protection	-48...+48VDC [U <sub>b,max</sub> ]
Output function	4-wire, analog output
Voltage output	0.1...4.9V
Load resistance voltage output	≥ 40 kΩ
Outout impedance	99...105Ω
Voltage output	Short circuit proof U <sub>s</sub> (= 10...30 VDC)
Response time	0.1 s time for the output signal to achieve 90% full scale if the angle changes from -45° to +45°
<b>Approval acc. to</b>	ATEX declaration of conformity TURCK Ex-12002H X
Device designation	Ex II 3 G Ex nA IIC T5 Gc/II 3 D Ex tc IIIC T85°C Dc
<b>Design</b>	rectangular, Q20L60
Dimensions	60 x 30 x 20 mm
Housing material	plastic, PC
Connection	male, M12 x 1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68 / IP69K
MTTF	203 years acc. to SN 29500 (Ed. 99) 40 °C
<b>Included in scope of supply</b>	Security clip SC-M12/3GD

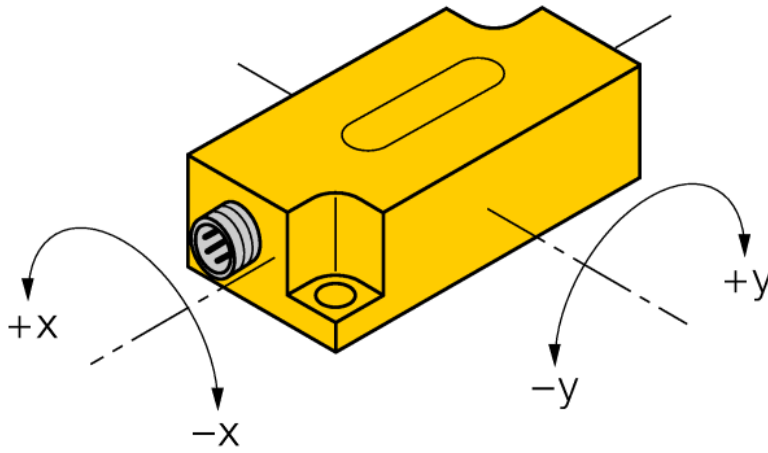
**Inclinometer**  
**B2N45H-Q20L60-2LU3-H1151/3GD**

**TURCK**

Industrial  
Automation

Mounting instructions / Description

Tilt angle


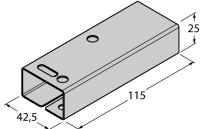


**Inclinometer**  
**B2N45H-Q20L60-2LU3-H1151/3GD**

**TURCK**

Industrial  
Automation

**Accessories**

Type code	Ident no.	Description	Dimension drawing
VB2-SP3	6999085	Teach adapter	
SG-Q20L60	6901100	Protective frame for Q20L60; protects against mechanical impact; stainless steel	

# Inclinometer

## B2N45H-Q20L60-2LU3-H1151/3GD

### Operating manual

#### Intended use

This device fulfills the directive 94/9/EC and is suited for use in explosion hazardous areas acc. to EN60079-0:2009, EN60079-15:2010 and EN60079-31:2009.

In order to ensure correct operation to the intended purpose it is required to observe the national regulations and directives.

#### For use in explosion hazardous areas conform to classification

II 3 G and II 3 D (Group II, Category 3 G, electrical equipment for gaseous atmospheres and category 3 D, electrical equipment for dust atmospheres).

#### Marking (see device or technical data sheet)

Ex II 3 G Ex nA IIC T5 Gc acc. to EN 60079-0:2009 and EN 60079-15:2010 and Ex II 3 D Ex tc IIIC T85°C Dc acc. to EN 60079-0:2009 and EN 60079-31:2009

#### Local admissible ambient temperature

-30...+70 °C

#### Installation / Commissioning

These devices may only be installed, connected and operated by trained and qualified staff. Qualified staff must have knowledge of protection classes, directives and regulations concerning electrical equipment designed for use in explosion hazardous areas.

Please verify that the classification and the marking on the device comply with the actual application conditions.

#### Installation and mounting instructions

Avoid static charging of cables and plastic devices. Please only clean the device with a damp cloth. Do not install the device in a dust flow and avoid build-up of dust deposits on the device.

If the devices and the cable could be subject to mechanical damage, they must be protected accordingly. They must also be shielded against strong electro-magnetic fields.

The pin configuration and the electrical specifications can be taken from the device marking or the technical data sheet.

In order to avoid contamination of the device, please remove possible blanking plugs of the cable glands or connectors only shortly before inserting the cable or opening the cable socket.

#### Special conditions for safe operation

For devices with M12 connectors please use the supplied safety clip SC-M12/3GD. The safety clips SC-M12/3GD are not required when using the protective housing SG-Q20L60.

Do not disconnect the plug-in connection or cable when energised.

Please attach a warning label permanently in an appropriate fashion in close proximity to the plug-in connection with the following inscription: Nicht unter Spannung trennen / Do not separate when energized.

The device must be protected against any kind of mechanical damage and degrading UV-radiation. On selecting the approval-relevant accessories, always ensure that they are installed conform to the application.

Load voltage and operating voltage of this equipment must be provided by power supplies featuring safe isolation (IEC 60 364/ UL 508), which ensures that the rated voltage (24 VDC +20% = 28.8 VDC) of the equipment is not exceeded by more than 40%.

#### service / maintenance

Repairs are not possible. The approval expires if the device is repaired or modified by a person other than the manufacturer. The most important data from the approval are listed.