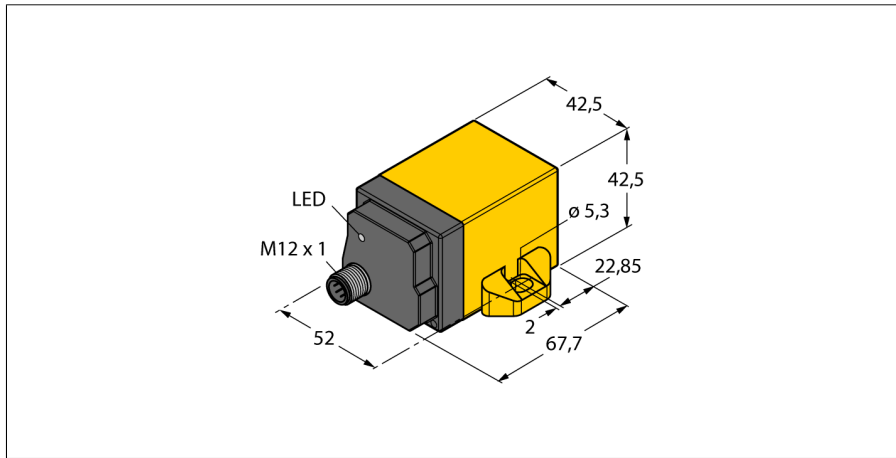


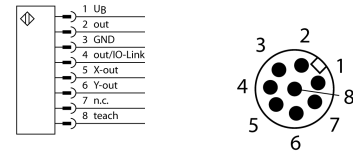
Inclinometer
B2N360-Q42-E2LiUPN8X2-H1181/S97



- Rectangular, plastic, PA12-GF30
- Status display via LEDs
- Different filter functions
- Parametrizable via teach pin
- Acceleration function ± 2 g, measuring range adjustable
- 7 ... 30 VDC supply voltage when using the analog outputs
- 10 ... 30 VDC supply voltage when using the switching outputs
- Programmable current and voltage output functions
- All functions programmable via IO-Link / PACTware
- NC or NO switch functions, available as NPN or PNP version
- Process value for x and y-axis in the 16-bit IO-Link telegram
- M12 x 1 male, 8-pin
- Adapter cable RKC8.301T-1,5-RSC4T/TX320 required for IO-Link communication

| | |
|---|--|
| Type designation | B2N360-Q42-E2LiUPN8X2-H1181/S97 |
| Ident no. | 1534117 |
| Resolution | 16 bit |
| Measuring range | 0...360° |
| Measuring range x-axis | 0...360° |
| Measuring range y-axis | 0...360° |
| Repeatability | ≤ 0.07 % of full scale |
| Linearity deviation | ≤ depending on the filter setting |
| Temperature drift | ≤ ± 0.015 % / K |
| Ambient temperature | -40...+85 °C |
| | Acc. to UL approval to +70 °C |
| Operating voltage | 7... 30VDC |
| Residual ripple | When using the analog outputs |
| DC rated operational current | ≤ 10 % U _{in} |
| Isolation test voltage | ≤ 0.5 kV |
| Short-circuit protection | yes |
| Wire breakage / Reverse polarity protection | yes/ complete |
| Output function | 8-pin, NO/NC , PNP/NPN, Analog output, IO-Link |
| Voltage output | 0...10VDC |
| Current output | 0...20mA |
| Load resistance voltage output | programmable via IO-Link, e.g. 4...20 mA |
| Load resistance, current output | ≥ 4.7 kΩ |
| Sample rate | ≤ 0.4 kΩ |
| Current consumption | 500 Hz |
| | < 60 mA at 24 VDC |
| IO-Link Specification | IO-Link specified acc. to version 1.1 |
| Programming | FDT/DTM |
| Frame type | 2.2 |
| Construction | rectangular, Q42 |
| Dimensions | 67.5 x 42.5 x 42.5 mm |
| Housing material | Plastic, PA12-GF30 |
| Electrical connection | Flange connector, M12 x 1 |
| Vibration resistance | 55 Hz (1 mm) |
| Shock resistance | 30 g (11 ms) |
| Protection class | IP68 / IP69K |
| MTTF | 159 years acc. to SN 29500 (Ed. 99) 40 °C |
| Power-on indication | LED green |
| Switching state | LED yellow |

Wiring Diagram



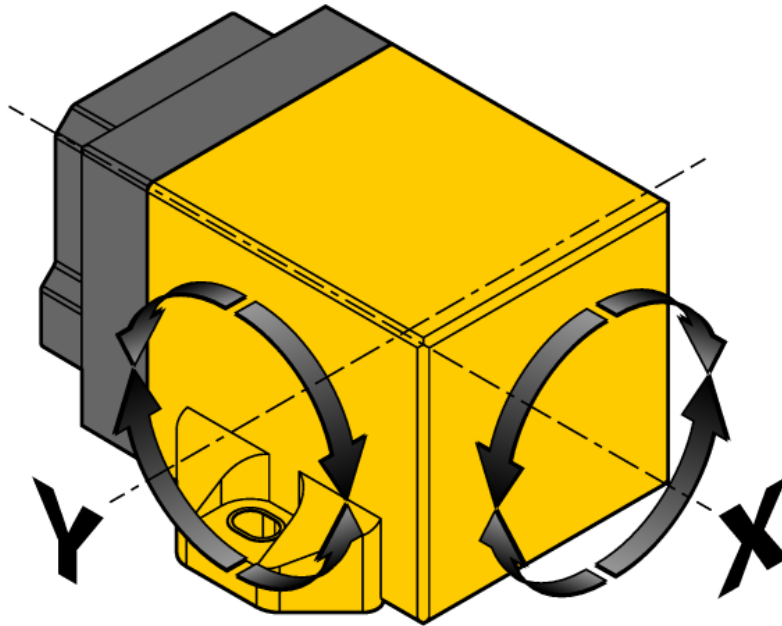
Functional principle

The TURCK inclinometers incorporate a micro-mechanical pendulum, operating on the principle of MEMS technology (Mikro Elektro Mechanic Systems). The pendulum basically consists of two 'plate' electrodes arranged in parallel with a dielectric placed in the middle. When the sensor is inclined, the dielectric in the middle moves, causing the capacitance ratio between both electrodes to change. The downstream electronics evaluates this change in capacitance and generates a corresponding output signal.

Inclinometer
B2N360-Q42-E2LiUPN8X2-H1181/S97

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The sensor is able to display any angular value via 2 axes. The drawing shows the assignment to the respective inclination axes X or Y.

The devices can be parametrized via IO-Link (measuring range, zero offset, switching window, filter settings) and adapted to the application. Different analog and digital output values provide highest flexibility in terms of process integration. 4 ... 20 mA, 0 ... 10 V, PNP/NPN hysteresis NC or NO programmable, 2 x 16 bit (IO-Link telegram)

Inclinometer

B2N360-Q42-E2LiUPN8X2-H1181/S97

Programming instructions

| Parameters | Teach input | LED |
|--|--|--|
| Zero point offset (see notes) | Bridge Pin 3 (GND) and Pin 8 for 5 s | Status LED (yellow) flashes, after 1 s steady, after 3 s flashes, after 5 s steady |
| Measuring range start, X-axis (see notes) | Bridge Pin 1 (U _s) and Pin 8 for 1 s | Status LED (green) flashes, after 1 s steady |
| Measuring range end, X-axis (see notes) | Bridge Pin 1 (U _s) and Pin 8 for 3 s | Status LED (green) flashes, after 1 s steady, after 3 s flashes |
| Measuring range start, Y-axis (see notes) | Bridge Pin 3 (GND) and Pin 8 for 1 s | Status LED (yellow) flashes, after 1 s steady |
| Measuring range end, Y-axis (see notes) | Bridge Pin 3 (GND) and Pin 8 for 3 s | Status LED (yellow) flashes, after 1 s steady, after 3 s flashes |
| Pre-set mode Angle | Bridge Pin 1 (U _s) and Pin 8 for 10 s You must set a further teach input within 10 s or the device exits this mode automatically | Status LED (green) flashes, after 10 s steady |
| -10° ... +10° | Bridge Pin 3 (GND) and Pin 8 once briefly | LED (yellow) flashes once |
| -45° ... +45° | Bridge Pin 3 (GND) and Pin 8 twice briefly | LED (yellow) flashes twice |
| -60° ... +60° | Bridge Pin 3 (GND) and Pin 8 three times briefly | LED (yellow) flashes three times |
| -85° ... +85° | Bridge Pin 3 (GND) and Pin 8 four times briefly | LED (yellow) flashes four times |
| Pre-set mode Function | Bridge Pin 1 (U _s) and Pin 8 for 10 s You must set a further teach input within 10 s or the device exits this mode automatically | Status LED (green) steady, after 10 s flashes |
| Mode 1 "upper hemisphere", default setting | Bridge Pin 1 (U _s) and Pin 8 once briefly | LED (green) flashes once |
| Mode 2 "lower hemisphere" | Bridge Pin 1 (U _s) and Pin 8 twice briefly | LED (green) flashes twice |
| Mode 3, 2 x 360° | Bridge Pin 1 (U _s) and Pin 8 three times briefly | LED (green) flashes three times |
| Mode 4, X: 0...360°, Y: off | Bridge Pin 1 (U _s) and Pin 8 four times briefly | LED (green) flashes four times |
| Mode 5, Y: 0...360°, X: off | Bridge Pin 1 (U _s) and Pin 8 five times briefly | LED (green) flashes five times |
| Filter setting mode | Bridge Pin 3 (GND) and Pin 8 for 10 s You must set a further teach input within 10 s or the device exits this mode automatically | Status LED (yellow) steady, after 10 s flashes |
| 24 Hz, default setting | Bridge Pin 3 (GND) and Pin 8 once briefly | LED (yellow) flashes once |
| 15 Hz | Bridge Pin 3 (GND) and Pin 8 twice briefly | LED (yellow) flashes twice |
| Most effective filter setting | Bridge Pin 3 (GND) and Pin 8 three times briefly | LED (yellow) flashes three times |
| Default setting | Bridge Pin 3 (GND) or Pin 1 (UB) and Pin 8 for 15 s | LED flashes fast after 15 s |

Note:

Please note that with changing the zero point you also change the start and end point of the measuring range accordingly. Furthermore, it is not possible to offset the zero point in the "upper hemisphere" and "lower hemisphere" mode, since this would cause the measuring range to partially exceed the defined spread of 0°...±90° or rather 90°... 270°.

This must also be observed when programming the start and end point.

Inclinometer B2N360-Q42-E2LiUPN8X2-H1181/S97

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Accessories

| Type code | Ident no. | Description | |
|--------------------------------|-----------|---|--|
| USB-2-IOL-0002 | 6825482 | IO-Link Master with integrated USB port | |
| SDPX-IOL4-0001 | 6825480 | 4-channel IO-Link master for connection to compact IP67 PROFIBUS-DP networks | |
| TX3-Q20L60 | 6967118 | Teach adapter for 8-pin sensors | |
| RKC8.301T-1,5-RSC4T/ TXL320 | 6625002 | Adapter cable to connect sensor to USB-2-IOL-0002 programming unit; female M12, straight, 8-pin on male M12, straight, 3-pin; cable length: 1.5 m; sheath material: PUR, sheath color: black, cULus approved; RoHS conform; protection class IP67 | |