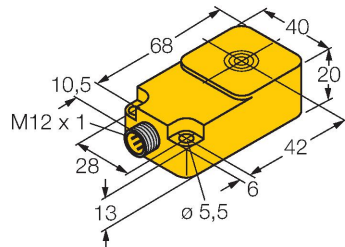


# BI15-Q20-LIU-H1141

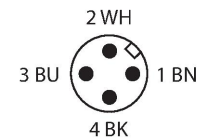
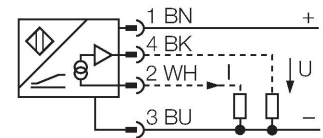
## Inductive Sensor – With Analog Output



### Features

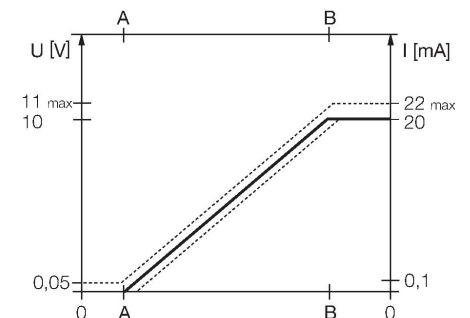
- Rectangular, height 20 mm
- Active face on top
- Plastic, PBT-GF30-V0
- 4-wire, 15...30 VDC
- Analog output
- 0...10 V and 0...20 mA
- M12 x 1 male connector

### Wiring diagram



### Functional principle

Inductive TURCK sensors with analog output accomplish simple control tasks. They provide a current, voltage or frequency signal proportional to the target's distance. The output signal is linear to the distance of the target over the entire sensing range.



### Technical data

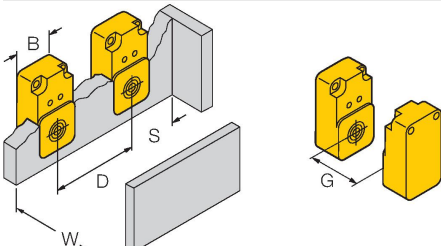
|                                        |                                                       |
|----------------------------------------|-------------------------------------------------------|
| Type                                   | BI15-Q20-LIU-H1141                                    |
| ID                                     | 1534601                                               |
| <b>General data</b>                    |                                                       |
| Measuring range                        | 4...11 mm                                             |
| Mounting conditions                    | Flush                                                 |
| Secured operating distance             | $\leq (0.81 \times S_n)$ mm                           |
| Correction factors                     | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4   |
| Repeatability                          | $\leq 1 \%$ of measuring range  A - B                 |
|                                        | 0.5 %, after warm-up 0.5 h                            |
| Reproducibility                        | $\leq 70 \mu\text{m}$                                 |
|                                        | $\leq 35 \mu\text{m}$ , after a warm-up time of 0.5 h |
| Linearity deviation                    | $\leq 3 \%$                                           |
| Temperature drift                      | $\leq \pm 0.06 \%/K$                                  |
| <b>Electrical data</b>                 |                                                       |
| Operating voltage $U_B$                | 15...30 VDC                                           |
| Ripple $U_{ss}$                        | $\leq 10 \%$ $U_{Bmax}$                               |
| No-load current                        | $\leq 8 \text{ mA}$                                   |
| Isolation test voltage                 | 0.5 kV                                                |
| Short-circuit protection               | yes                                                   |
| Wire break/reverse polarity protection | no/Complete                                           |
| Output function                        | 4-wire, Analog output                                 |
| Voltage output                         | 0...10 V                                              |
| Current output                         | 0...20 mA                                             |
| Load resistance voltage output         | $\geq 4.7 \text{ k}\Omega$                            |
| Load resistance current output         | $\leq 0.4 \text{ k}\Omega$                            |
| Measuring sequence frequency           | 110 Hz                                                |

Technical data

| Mechanical data          |                                           |
|--------------------------|-------------------------------------------|
| Design                   | Rectangular, Q20                          |
| Dimensions               | 68 x 40 x 20 mm                           |
| Housing material         | Plastic, PBT-GF30-V0                      |
| Active area material     | PBT-GF30-V0                               |
| Electrical connection    | Connector, M12 × 1                        |
| Environmental conditions |                                           |
| Ambient temperature      | -25...+70 °C                              |
| Vibration resistance     | 55 Hz (1 mm)                              |
| Shock resistance         | 30 g (11 ms)                              |
| Protection class         | IP67                                      |
| MTTF                     | 751 years acc. to SN 29500 (Ed. 99) 40 °C |

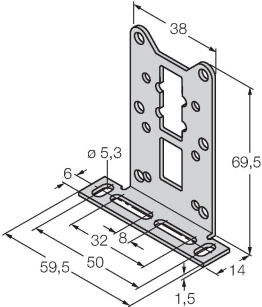
Mounting instructions

Mounting instructions/Description



|                   |       |
|-------------------|-------|
| Distance D        | 60 mm |
| Distance W        | 33 mm |
| Distance S        | 40 mm |
| Distance G        | 66 mm |
| Width active area | 40 mm |
| B                 |       |

Accessories

|                                                                                     |         |
|-------------------------------------------------------------------------------------|---------|
| MW-Q14/Q20                                                                          | 6945006 |
|  |         |
| Mounting bracket for rectangular Q14 or Q20; material VA 1.4301                     |         |

Accessories

| Dimension drawing | Type                         | ID      |                                                                                                                                                                                                                                                        |
|-------------------|------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | RKC4.4T-2/TEL                | 6625013 | Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval                                                                                                                                |
|                   | RKC4.301T-0.15-RSC4.334T/TXL | 6631382 | Extension cable, M12 female/male, straight, 4-pin, cable length: 0.15m, jacket material: PUR, black; cULus approval; Adapter cable for sensors with analog output on pin 2, for connection to analog inputs of fieldbus modules with 4-wire technology |

Accessories

| Dimension drawing | Type       | ID      |                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | IM43-13-SR | 7540041 | Trip amplifier; 1-channel; input 0/4... 20 mA or 0/2...10 V; supply of 2- or 3-wire transmitters/sensors; limit value adjustment via teach button; three relay outputs with one NO contact each; removable terminal blocks; 27 mm wide; universal voltage supply 20...250 VUC; further Limit value indicators are described in our "Interface Technology" catalog. |