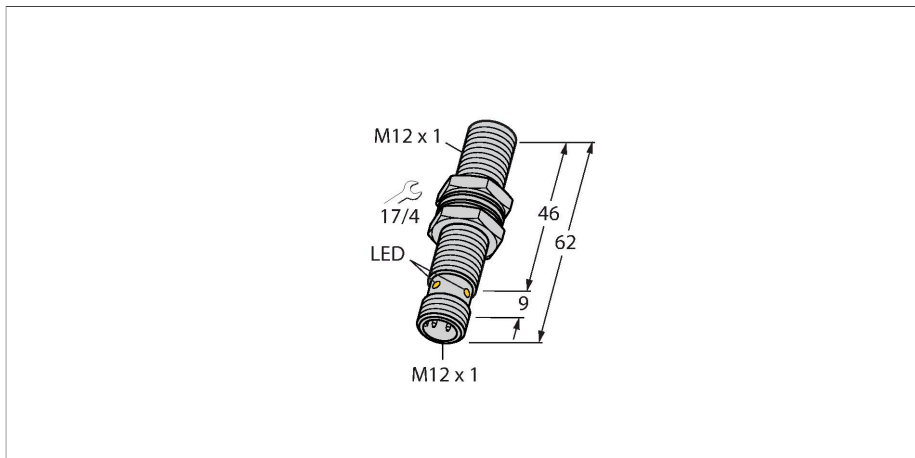


# BI3U-M12E-VN4X-H1141

## Inductive Sensor



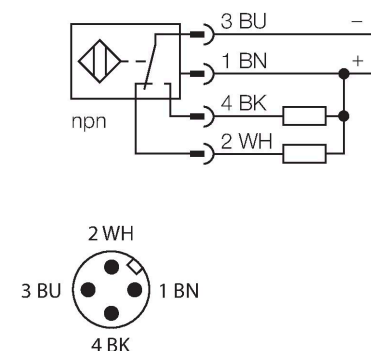
### Technical data

|   |  |
|---|--|
| Type                                      | BI3U-M12E-VN4X-H1141   |
| ID  | 1580354  |
| <b>General data</b>                       |  |
| Rated switching distance                  | 3 mm   |
| Mounting conditions                       | Flush  |
| Secured operating distance                | $\leq (0.81 \times S_n)$ mm  |
| Repeat accuracy                           | $\leq 2\%$ of full scale   |
| Temperature drift                         | $\leq \pm 10\%$<br>$\leq \pm 15\%$ , $-25\text{ °C} \leq v \leq +70\text{ °C}$ |
| Hysteresis                                | 3...15 %   |
| <b>Electrical data</b>                    |  |
| Operating voltage                         | 10...65 VDC  |
| Residual ripple                           | $\leq 10\% U_{ss}$   |
| DC rated operational current              | $\leq 200\text{ mA}$   |
| No-load current                           | 15 mA  |
| Residual current                          | $\leq 0.1\text{ mA}$   |
| Isolation test voltage                    | $\leq 0.5\text{ kV}$   |
| Short-circuit protection                  | yes / Cyclic   |
| Voltage drop at $I_o$                     | $\leq 1.8\text{ V}$  |
| Wire breakage/Reverse polarity protection | yes / Complete   |
| Output function                           | 4-wire, Complementary contact, NPN   |
| DC field stability                        | 300 mT   |
| AC field stability                        | 300 mT <sub>ss</sub>   |
| Insulation class                          | □  |
| Switching frequency                       | 3 kHz  |

### Features

- M12 × 1 threaded barrel
- Long version
- Chrome-plated brass
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- DC 4-wire, 10...65 VDC
- Changeover contact, NPN output
- M12 × 1 male connector

### Wiring diagram



### Functional principle

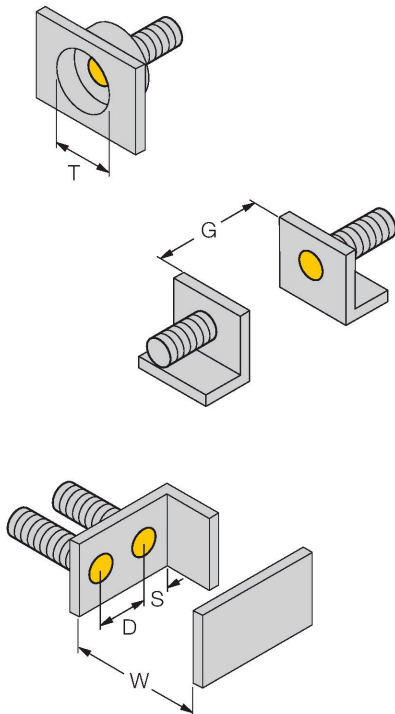
Inductive sensors are designed for wear-free and contactless detection of metal objects. Iprox Factor 1 sensors have significant advantages due to their patented ferrite-coreless multi-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.

## Technical data

| Mechanical data                       |   |
|---------------------------------------|---|
| Design                                | Threaded barrel, M12 x 1                  |
| Dimensions                            | 62 mm                                     |
| Housing material                      | Metal, CuZn, Chrome-plated                |
| Active area material                  | Plastic, LCP                              |
| Max. tightening torque of housing nut | 10 Nm                                     |
| Electrical connection                 | Connector, M12 x 1                        |
| Environmental conditions              |   |
| Ambient temperature                   | -30...+85 °C                              |
| Vibration resistance                  | 55 Hz (1 mm)                              |
| Shock resistance                      | 30 g (11 ms)                              |
| Protection class                      | IP68                                      |
| MTTF                                  | 874 years acc. to SN 29500 (Ed. 99) 40 °C |
| Switching state                       | LED, Yellow                               |

## Mounting instructions

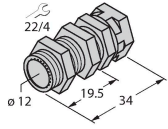
### Mounting instructions/Description



|                        |         |
|------------------------|---------|
| Distance D             | 24 mm   |
| Distance W             | 3 x Sn  |
| Distance T             | 3 x B   |
| Distance S             | 1.5 x B |
| Distance G             | 6 x Sn  |
| Diameter active area B | Ø 12 mm |

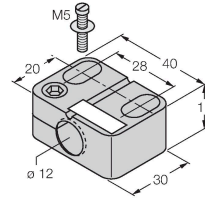
Accessories

QM-12 6945101



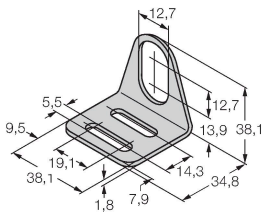
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

BST-12B 6947212



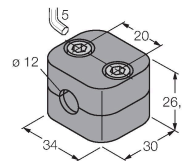
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

MW-12 6945003



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-12 6901321



Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

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