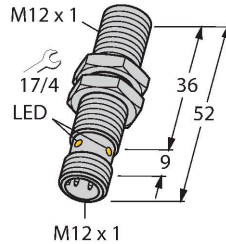


# BI6U-M12-VN6X-H1141

## Inductive Sensor



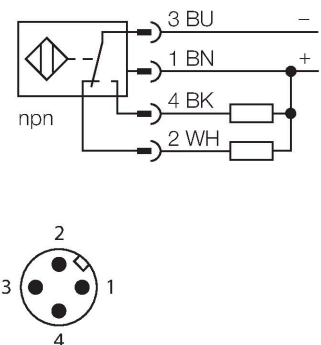
### Technical data

|                                        |                                    |
|----------------------------------------|------------------------------------|
| Type                                   | BI6U-M12-VN6X-H1141                |
| ID                                     | 1644814                            |
| <b>General data</b>                    |                                    |
| Rated switching distance               | 6 mm                               |
| Mounting conditions                    | Flush                              |
| Secured operating distance             | $\leq (0.81 \times S_n)$ mm        |
| Repeat accuracy                        | $\leq 2 \%$ of full scale          |
| Temperature drift                      | $\leq \pm 10 \%$                   |
| Hysteresis                             | 3...15 %                           |
| <b>Electrical data</b>                 |                                    |
| Operating voltage $U_B$                | 10...30 VDC                        |
| Ripple $U_{ss}$                        | $\leq 10 \%$ $U_{Bmax}$            |
| DC rated operating current $I_e$       | $\leq 200$ mA                      |
| No-load current                        | $\leq 25$ mA                       |
| Residual current                       | $\leq 0.1$ mA                      |
| Isolation test voltage                 | 0.5 kV                             |
| Short-circuit protection               | yes/Cyclic                         |
| Voltage drop at $I_e$                  | $\leq 1.8$ V                       |
| Wire break/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>               |
| Switching frequency                    | 2 kHz                              |
| <b>Mechanical data</b>                 |                                    |
| Design                                 | Threaded barrel, M12 x 1           |
| Dimensions                             | 52 mm                              |
| Housing material                       | Metal, CuZn, Chrome-plated         |

### Features

- M12 x 1 threaded barrel
- Chrome-plated brass
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Large switching distance
- DC 4-wire, 10...30 VDC
- Changeover contact, NPN output
- M12 x 1 male connector

### Wiring diagram



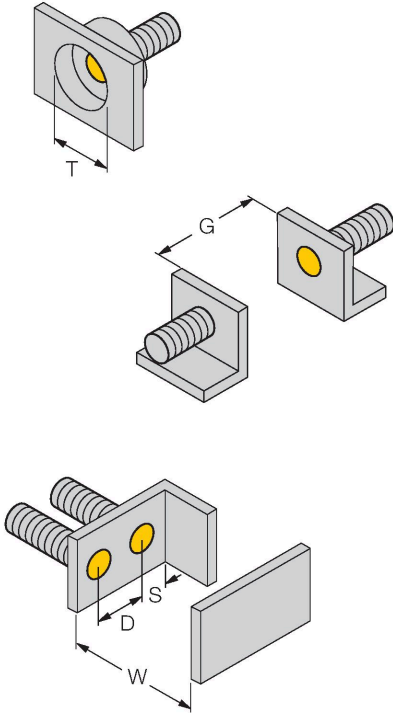
### Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox3 sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching distances, maximum flexibility and operational reliability as well as efficient standardization.

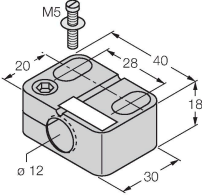
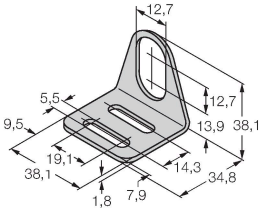
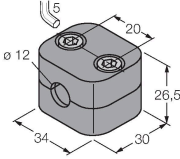
Technical data

|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| Active area material                  | Plastic, LCP                              |
| Max. tightening torque of housing nut | 7 Nm                                      |
| 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                      | 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                |
| The sensor along with the BSS-12 half-shell clamp can be mounted with a torque of up to 0.5 Nm in any orientation. |                        |

Accessories

|                                                                                   |         |                                                                                |                                                                                    |         |                                                                                              |
|-----------------------------------------------------------------------------------|---------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------|----------------------------------------------------------------------------------------------|
| BST-12B                                                                           | 6947212 | Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6      | MW12                                                                               | 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 |