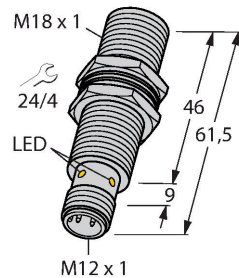


# BI5U-MT18M-VN4X-H1141

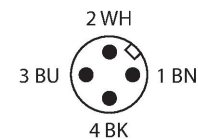
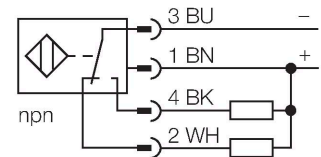
## Inductive Sensor



### Features

- Threaded barrel, M18 x 1
- Brass, PTFE-coated
- 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 x 1 male connector

### Wiring diagram



### Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. Approx 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

|                                           |                                                                      |
|-------------------------------------------|----------------------------------------------------------------------|
| Type                                      | BI5U-MT18M-VN4X-H1141                                                |
| ID                                        | 1581352                                                              |
| <b>General data</b>                       |                                                                      |
| Rated switching distance                  | 5 mm                                                                 |
| Mounting conditions                       | Flush                                                                |
| Secured operating distance                | $\leq (0.81 \times S_n)$ mm                                          |
| Repeat accuracy                           | $\leq 2 \%$ of full scale                                            |
| Temperature drift                         | $\leq \pm 10 \%$                                                     |
|                                           | $\leq \pm 15 \%, \leq -25^\circ\text{C} \vee \geq +70^\circ\text{C}$ |
| Hysteresis                                | 3...15 %                                                             |
| <b>Electrical data</b>                    |                                                                      |
| Operating voltage                         | 10...65 VDC                                                          |
| Residual ripple                           | $\leq 10 \%$ $U_{ss}$                                                |
| DC rated operational current              | $\leq 200$ mA                                                        |
| No-load current                           | 15 mA                                                                |
| Residual current                          | $\leq 0.1$ mA                                                        |
| Isolation test voltage                    | $\leq 0.5$ kV                                                        |
| Short-circuit protection                  | yes / Cyclic                                                         |
| Voltage drop at $I_o$                     | $\leq 1.8$ 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                       | 2.5 kHz                                                              |

Technical data

| Mechanical data                       |                                           |
|---------------------------------------|-------------------------------------------|
| Design                                | Threaded barrel, M18 x 1                  |
| Dimensions                            | 61.5 mm                                   |
| Housing material                      | Metal, CuZn, PTFE-coated                  |
| Active area material                  | Plastic, LCP, PTFE-coated                 |
| Max. tightening torque of housing nut | 15 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                               |

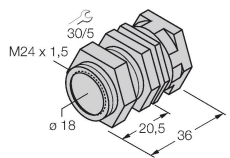
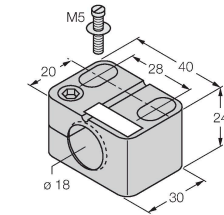
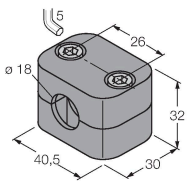
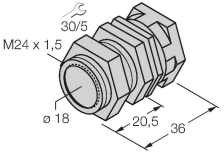
Mounting instructions

Mounting instructions/Description

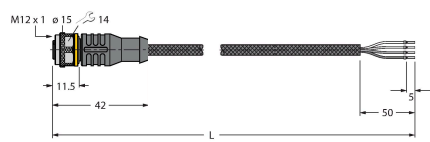
The image contains three technical diagrams illustrating the mounting of a threaded barrel. The top diagram shows a side view of the barrel with a dimension line labeled 'T' indicating the thickness of the mounting plate. The middle diagram shows two views of the barrel: one from the side and one from the front, with a dimension line labeled 'G' indicating the distance between the mounting plate and the barrel. The bottom diagram shows a top view of the barrel with two mounting holes, with dimension lines labeled 'D', 'S', 'W', and 'B' indicating the distance between the mounting holes, the distance from the mounting holes to the edge of the mounting plate, the width of the mounting plate, and the diameter of the active area of the barrel, respectively.

|                        |         |
|------------------------|---------|
| Distance D             | 36 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 18 mm |

Accessories

|                                                                                   |         |                                                                                                                                                                                             |                                                                                    |         |                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QMT-18                                                                            | 6945104 | Quick-mount bracket with dead-stop; material: brass, PTFE-coated; Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets. | BST-18B                                                                            | 6947214 | Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6                                                                                                                    |
|  |         |                                                                                                                                                                                             |  |         |                                                                                                                                                                                              |
| BSS-18                                                                            | 6901320 | Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene                                                                                                              | QM-18                                                                              | 6945102 | Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets. |
|  |         |                                                                                                                                                                                             |  |         |                                                                                                                                                                                              |

Accessories

| Dimension drawing                                                                   | Type              | ID      |                                                                                                                                                         |
|-------------------------------------------------------------------------------------|-------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | RKC4.4T-2/TXL1001 | 6628825 | Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, protective jacket material: aramid fibers, yellow; temperature peak: 200 °C |