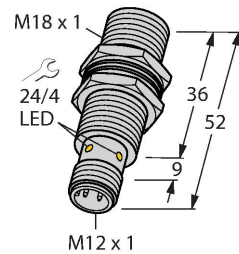


# BI5U-MT18-AP6X2-H1141/S1589 Inductive Sensor – With WeldGuard™ coating



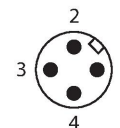
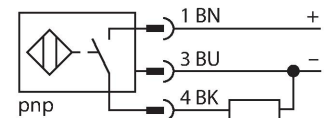
## Technical data

|                                        |                                                                |
|----------------------------------------|----------------------------------------------------------------|
| Type                                   | BI5U-MT18-AP6X2-H1141/S1589                                    |
| ID                                     | 1635292                                                        |
| Special version                        | S1589 Corresponds to: With weldguard coating                   |
| <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                                      |
|                                        | $\leq \pm 15 \%, \leq -25 \text{ °C} \vee \geq +70 \text{ °C}$ |
| 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 $I_o$       | $\leq 200$ 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 $I_o$                  | $\leq 1.8$ V                                                   |
| Wire break/reverse polarity protection | yes/Complete                                                   |
| Output function                        | 3-wire, NO contact, PNP                                        |
| DC field stability                     | 300 mT                                                         |
| AC field stability                     | 300 mT <sub>ss</sub>                                           |

## 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 3-wire, 10...30 VDC
- NO contact, PNP output
- M12 x 1 male connector

## Wiring diagram



## Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox Factor 1 sensors have significant advantages due to their patented ferrite-coreless 3-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.

## Technical data

Turck WeldGuard sensors for use in welding systems are equipped with a thin coating made of thermosetting plastic. This high-tech coating is resistant to abrasion and withstands mechanical stress.

|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| Switching frequency                   | 2.5 kHz                                   |
| <b>Mechanical data</b>                |                                           |
| Design                                | Threaded barrel, M18 x 1                  |
| Dimensions                            | 52 mm                                     |
| Housing material                      | Metal, CuZn, PTFE-coated                  |
| Active area material                  | Plastic, PBT, PTFE-coated                 |
| Max. tightening torque of housing nut | 15 Nm                                     |
| Electrical connection                 | Connector, M12 × 1                        |
| <b>Environmental conditions</b>       |                                           |
| 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 |
| Power-on indication                   | LED, Green                                |
| Switching state                       | LED, Yellow                               |

## Mounting instructions

### Mounting instructions/Description



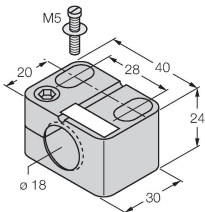
|                        |         |
|------------------------|---------|
| Distance D             | 2 x B   |
| Distance W             | 3 x Sn  |
| Distance T             | 3 x B   |
| Distance S             | 1.5 x B |
| Distance G             | 6 x Sn  |
| Diameter active area B | Ø 18 mm |

## Accessories

### BST-18B

6947214

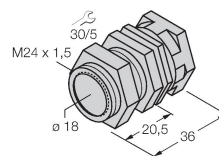
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6



### QMT-18

6945104

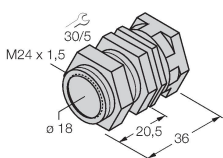
Quick-mount bracket with dead-stop; material: brass, PTFE-coated; Male thread M24 x 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.



### QM-18

6945102

Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 x 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.



### BSS-18

6901320

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

