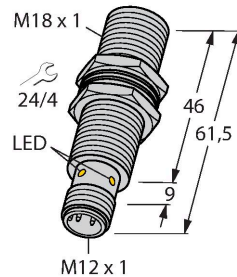


# BI5U-EM18H-AP6X2-H1141/S395/S1589 Inductive Sensor – With WeldGuard™ coating



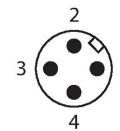
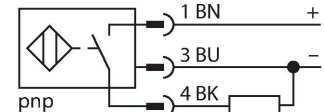
## Features

- Threaded barrel, M18 x 1
- Stainless steel, 1.4301
- Front cap with special coating, very resistant to thermal and mechanical load
- 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

## Technical data

|                                        |                                                                                                  |
|----------------------------------------|--------------------------------------------------------------------------------------------------|
| Type                                   | BI5U-EM18H-AP6X2-H1141/S395/S1589                                                                |
| ID                                     | 1635197                                                                                          |
| Special version                        | S395-S1589 Corresponds to:Housing length: 61.5 mm; thread length: 46 mm; 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                                                                        |
| Temperature drift                      | $\leq \pm 10 \%$                                                                                 |
|                                        | $\leq \pm 15 \%, \leq -25 \text{ °C v } \geq +70 \text{ °C}$                                     |
| 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                                                                                           |

## Wiring diagram



## Functional principle

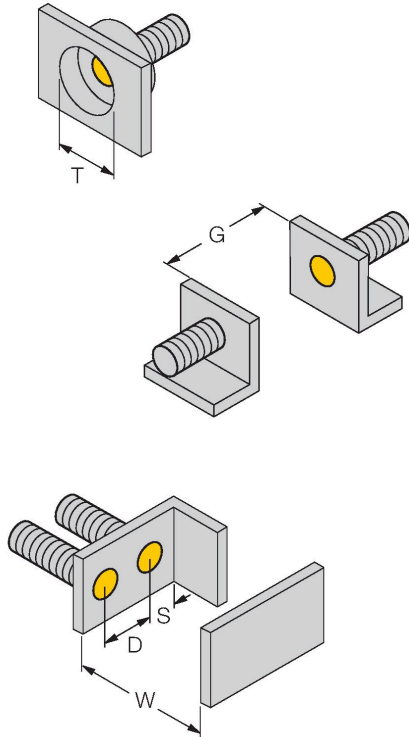
Inductive sensors are designed for wear-free and contactless detection of metal objects. approx Factor 1 sensors have significant advantages due to their patented ferrite-coreless 3-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields. Turck WeldGuard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

## Technical data

|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| AC field stability                    | 300 mT <sub>ss</sub>                      |
| Insulation class                      | □                                         |
| Switching frequency                   | 2.5 kHz                                   |
| <b>Mechanical data</b>                |                                           |
| Design                                | Threaded barrel, M18 x 1                  |
| Dimensions                            | 61.5 mm                                   |
| Housing material                      | Stainless steel, 1.4301 (AISI 304)        |
| Active area material                  | Plastic, PBT + WeldGuard™                 |
| Max. tightening torque of housing nut | 25 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



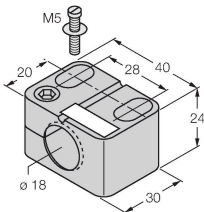
|                        |         |
|------------------------|---------|
| Distance D             | 2 x B   |
| Distance W             | 3 x Sn  |
| Distance T             | 3 x B   |
| Distance S             | 1.5 x B |
| Distance G             | 6 x Sn  |
| Diameter active area B | Ø 18 mm |

## Accessories

### BST-18B

6947214

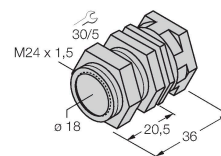
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6



### QM-18

6945102

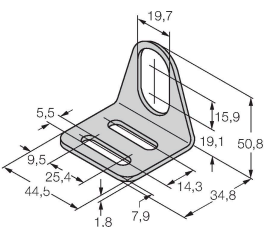
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 x 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.



### MW18

6945004

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



### BSS-18

6901320

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

