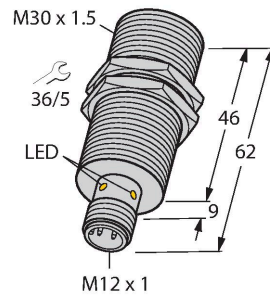


# BI10-M30-AN6X-H1141

## Inductive Sensor



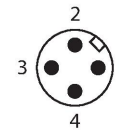
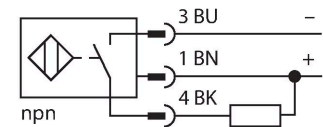
### Technical data

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | BI10-M30-AN6X-H1141                                 |
| ID                                     | 46176                                               |
| <b>General data</b>                    |                                                     |
| Rated switching distance               | 10 mm                                               |
| Mounting conditions                    | Flush                                               |
| Secured operating distance             | $\leq (0.81 \times S_n)$ mm                         |
| Correction factors                     | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| 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 $U_{rs}$                        | $\leq 10 \%$ $U_{Bmax}$                             |
| DC rated operating current $I_o$       | $\leq 200$ mA                                       |
| No-load current                        | $\leq 15$ 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, NPN                             |
| Switching frequency                    | 0.5 kHz                                             |

### Features

- M30 × 1.5 threaded tube
- Chrome-plated brass
- DC 3-wire, 10...30 VDC
- NO contact, NPN output
- M12 x 1 male connector

### Wiring diagram



### Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

Technical data

| Mechanical data                       |                                            |
|---------------------------------------|--------------------------------------------|
| Design                                | Threaded barrel, M30 x 1.5                 |
| Dimensions                            | 62 mm                                      |
| Housing material                      | Metal, CuZn, Chrome-plated                 |
| Active area material                  | Plastic, PA12-GF30                         |
| Max. tightening torque of housing nut | 75 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                      | IP67                                       |
| MTTF                                  | 2283 years acc. to SN 29500 (Ed. 99) 40 °C |
| Switching state                       | LED, Yellow                                |

Mounting instructions

Mounting instructions/Description

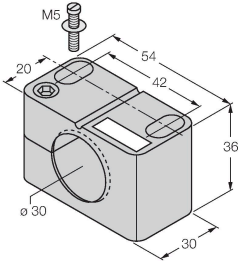
The image contains three technical drawings of a sensor mounting bracket. The top drawing is a side view showing the bracket's profile with a dimension line labeled 'T' indicating its thickness. The middle drawing is a top-down view showing the bracket's footprint with a dimension line labeled 'G' indicating the distance between the mounting holes. The bottom drawing is a front view showing the bracket's face with two mounting holes, with dimension lines labeled 'D' (hole diameter), 'S' (hole spacing), and 'W' (bracket width).

|                        |         |
|------------------------|---------|
| 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 30 mm |

BI10-M30-AN6X-H1141 | 02/21/2025 13-30 | technical changes reserved

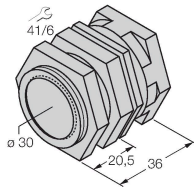
Accessories

BST-30B 6947216



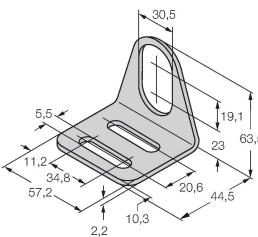
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

QM-30 6945103



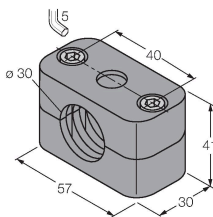
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M36 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

MW30 6945005



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

BSS-30 6901319



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

Wiring accessories

| Dimension drawing | Type        | ID      |
|-------------------|-------------|---------|
|                   | RKC4T-2/TEL | 6625010 |



Connection cable, M12 female connector, straight, 3-pin, cable length: 2 m, jacket material: PVC, black; cULus approval