

# BI15-M30-AN6X 7M

## Inductive Sensor – With Increased Switching Distance



### Features

- M30 × 1.5 threaded tube
- Chrome-plated brass
- Large sensing range
- DC 3-wire, 10...30 VDC
- NO contact, NPN output
- Cable connection

### Wiring diagram



### Technical data

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | BI15-M30-AN6X 7M                                    |
| ID                                     | 4618621                                             |
| General data                           |                                                     |
| Rated switching distance               | 15 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                            |
| Hysteresis                             | 3...15 %                                            |
| Electrical data                        |                                                     |
| 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                        | $\leq 15$ 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                             |
| Insulation class                       | □                                                   |
| Switching frequency                    | 0.3 kHz                                             |
| Mechanical data                        |                                                     |
| Design                                 | Threaded barrel, M30 x 1.5                          |
| Dimensions                             | 64 mm                                               |
| Housing material                       | Metal, CuZn, Chrome-plated                          |

### 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

|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| Active area material                  | Plastic, PA12-GF30                         |
| End cap                               | Plastic, EPTR                              |
| Max. tightening torque of housing nut | 75 Nm                                      |
| Electrical connection                 | Cable                                      |
| Cable quality                         | Ø 5.2 mm, LifYY, PVC, 7 m                  |
| Core cross-section                    | 3 x 0.34 mm <sup>2</sup>                   |
| 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

A side view of a square mounting bracket with a central circular hole. A dimension line labeled 'T' indicates the thickness of the bracket.

Two square mounting brackets are shown, one in front of the other. A dimension line labeled 'G' indicates the distance between the two brackets.

A top view of a mounting bracket with two circular holes. Dimensions are indicated: 'D' for the distance between the centers of the holes, 'S' for the distance from the edge to the center of a hole, and 'W' for the width of the bracket.

|                        |         |
|------------------------|---------|
| 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 |

Accessories

BST-30B 6947216



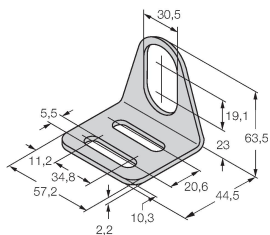
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

QM-30 6945103



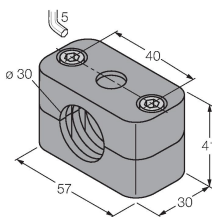
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M36 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

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