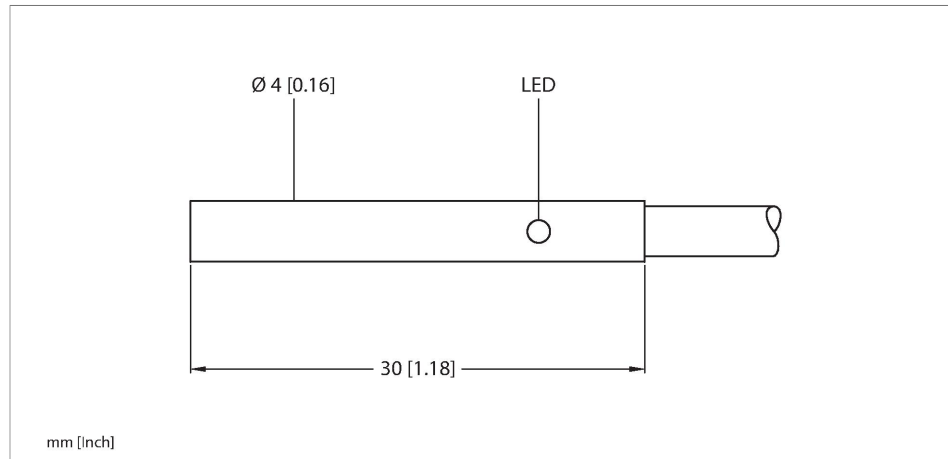


# BI1-EH04-AP6X 7M

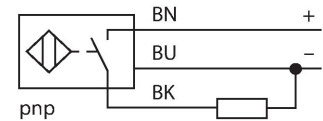
## Inductive Sensor



### Features

- Smooth barrel, Ø 4 mm
- Stainless steel 1.4305 (AISI 303)
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Cable connection

### Wiring diagram



### Technical data

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | BI1-EH04-AP6X 7M                                    |
| ID                                     | 4609543                                             |
| <b>General data</b>                    |                                                     |
| Rated switching distance               | 1 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                             | 10 %                                                |
| <b>Electrical data</b>                 |                                                     |
| Operating voltage $U_B$                | 10...30 VDC                                         |
| Ripple $U_{ss}$                        | $\leq 10$ % $U_{Bmax}$                              |
| DC rated operating current $I_o$       | $\leq 100$ 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, PNP                             |
| Switching frequency                    | 3 kHz                                               |
| <b>Mechanical data</b>                 |                                                     |
| Design                                 | Smooth barrel, 4 mm                                 |

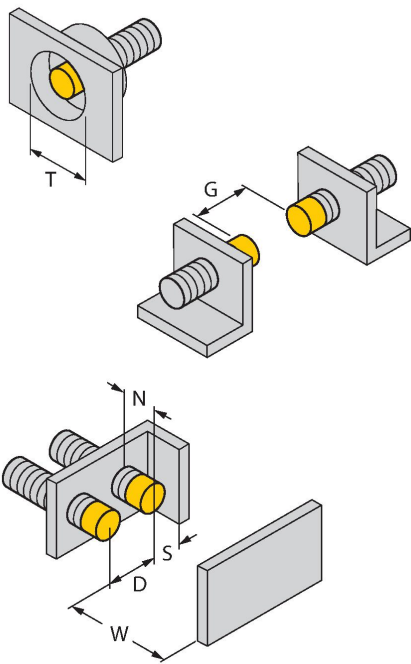
### Functional principle

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

|                          |                                            |
|--------------------------|--------------------------------------------|
| Dimensions               | 30 mm                                      |
| Housing material         | Stainless steel, 1.4305 (AISI 303)         |
| Active area material     | Plastic, PA6.6                             |
| Electrical connection    | Cable                                      |
| Cable quality            | Ø 3.3 mm, Gray, LifY-11Y, PUR, 7 m         |
| Core cross-section       | 3 x 0.14 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                                                   |                        |         |
|-------------------------------------------------------------------------------------|------------------------|---------|
|  | Distance D             | 2 × B   |
|                                                                                     | Distance W             | 3 × Sn  |
|                                                                                     | Distance T             | 3 × B   |
|                                                                                     | Distance S             | 1.5 × B |
|                                                                                     | Distance G             | 6 × Sn  |
|                                                                                     | Diameter active area B | Ø 4 mm  |
|                                                                                     |                        |         |

BI1-EH04-AP6X 7M | 02/21/2025 13:48 | technical changes reserved

## Accessories

MBS40

69477

Fixing clamp; material mounting  
block: Anodized aluminium

