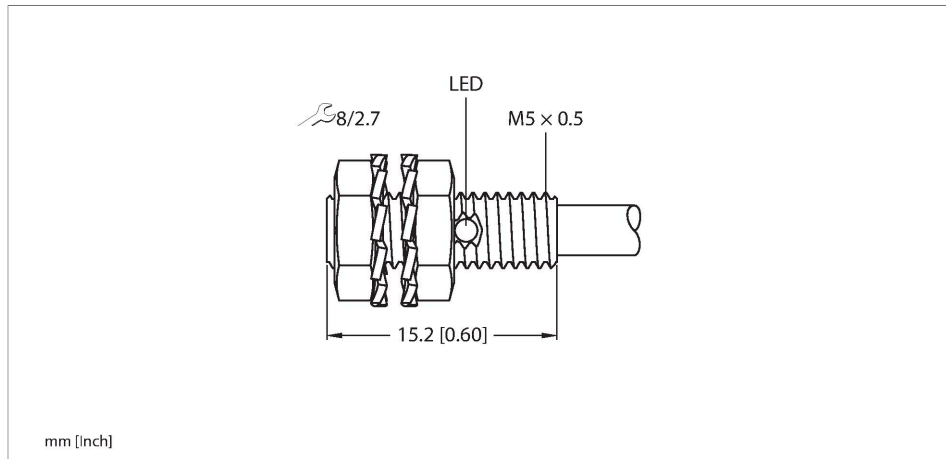


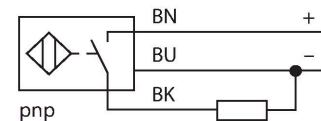
# BI1-EG05K-AP6X Inductive Sensor



## Features

- Threaded barrel, M5 × 0.5
- Stainless steel, 1.4305
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Cable connection

## Wiring diagram



## Technical data

|   |   |
|---|---|
| Type                                      | BI1-EG05K-AP6X                                      |
| Ident. no.                                | 4609765   |
| Rated switching distance                  | 1 mm  |
| Mounting conditions                       | Flush   |
| Secured operating distance                | ≤ (0.81 × S <sub>n</sub> ) mm                       |
| Correction factors                        | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| Repeat accuracy                           | ≤ 2 % of full scale                                 |
| Temperature drift                         | ≤ ± 10 %  |
| Hysteresis                                | 10 %  |
| Ambient temperature                       | -25...+70 °C  |
| Operating voltage                         | 10...30 VDC   |
| Residual ripple                           | ≤ 10 % U <sub>s</sub>                               |
| DC rated operational current              | ≤ 100 mA  |
| No-load current                           | ≤ 15 mA   |
| Residual current                          | ≤ 0.1 mA  |
| Isolation test voltage                    | ≤ 0.5 kV  |
| Short-circuit protection                  | yes / Cyclic  |
| Voltage drop at I <sub>e</sub>            | ≤ 1.8 V   |
| Wire breakage/Reverse polarity protection | yes / Complete                                      |
| Output function                           | 3-wire, NO contact, PNP                             |
| Switching frequency                       | 2 kHz   |
| Design                                    | Threaded barrel, M5 × 0.5                           |
| Dimensions                                | 15 mm   |
| Housing material                          | Stainless steel, 1.4305 (AISI 303)                  |

## Functional principle

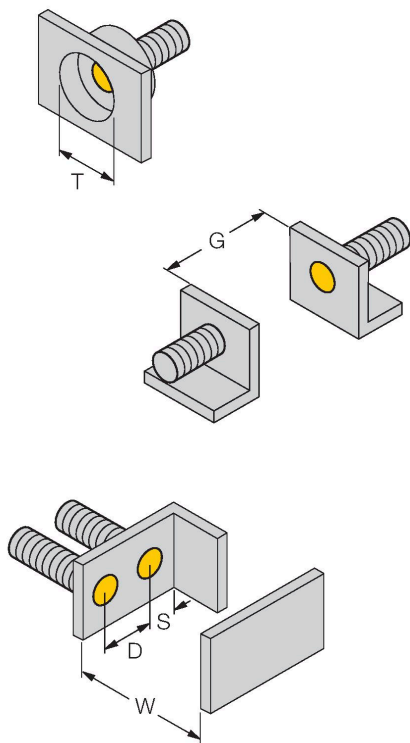
Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

## Technical data

|                                    |  |
|------------------------------------|--|
| Active area material               | Plastic, PA6.6                             |
| Max. tightening torque housing nut | 2.5 Nm                                     |
| Electrical connection              | Cable                                      |
| Cable quality                      | Ø 3.3 mm, Gray, LifY-11Y, PUR, 2 m         |
| Core cross-section                 | 3 x 0.14 mm <sup>2</sup>                   |
| 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                | 3 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<br>B | Ø 5 mm  |