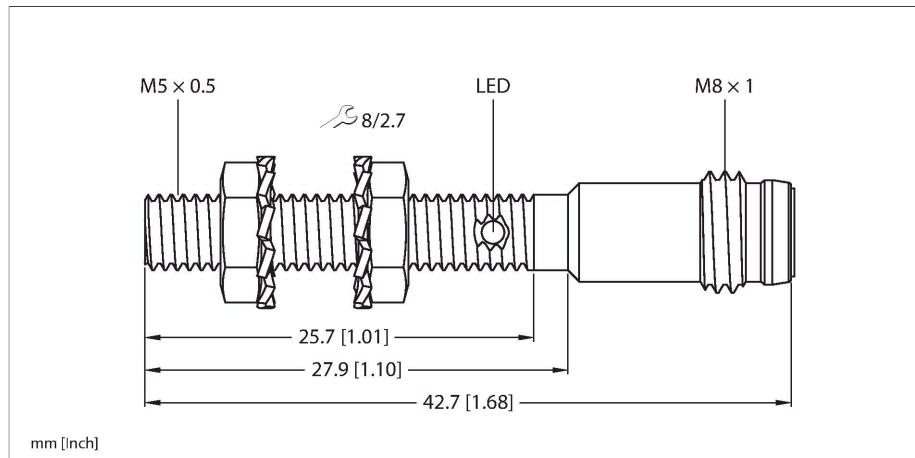


# BI1-EG05-AP6X-V1331

## Inductive Sensor



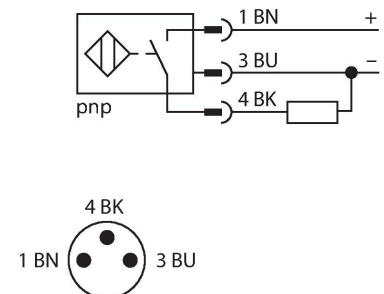
### Technical data

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | BI1-EG05-AP6X-V1331                                 |
| ID                                     | 4608640                                             |
| General data                           |                                                     |
| 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 %                                                |
| Electrical data                        |                                                     |
| 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                                               |
| Mechanical data                        |                                                     |
| Design                                 | Threaded barrel, M5 x 0.5                           |
| Dimensions                             | 42.7 mm                                             |
| Housing material                       | Stainless steel, 1.4305 (AISI 303)                  |
| Active area material                   | Plastic, PA6.6                                      |

### Features

- Threaded barrel, M5 x 0.5
- Stainless steel, 1.4305 (AISI303)
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M8 x 1 male connector

### Wiring diagram



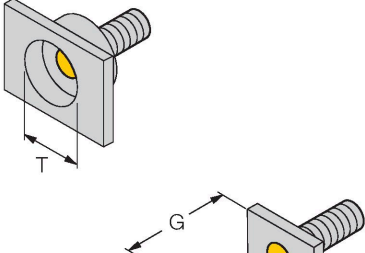
### Functional principle

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.

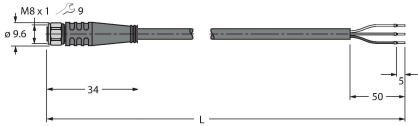
Technical data

|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| Max. tightening torque of housing nut | 2.5 Nm                                     |
| Electrical connection                 | Connector, M8 × 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                                                  |                        |         |
|------------------------------------------------------------------------------------|------------------------|---------|
|  | Distance D             | 3 × B   |
|                                                                                    | Distance W             | 3 x Sn  |
|                                                                                    | Distance T             | 3 × B   |
|                                                                                    | Distance S             | 1.5 x B |
|                                                                                    | Distance G             | 6 x Sn  |
|                                                                                    | Diameter active area B | Ø 5 mm  |
|                                                                                    |                        |         |

Accessories

| Dimension drawing                                                                   | Type         | ID      |                                                                                                                                                      |
|-------------------------------------------------------------------------------------|--------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | PKGV3M-2/TEL | 6625385 | Connection cable, M8 female connector, straight, 3-pin, stainless steel coupling nut, cable length: 2 m, jacket material: PVC, black; cULus approval |