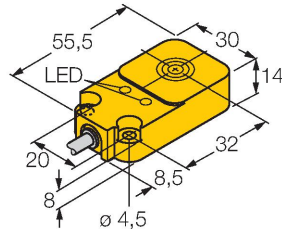


# BI10U-Q14-AP6X2

## Inductive Sensor



### Features

- Rectangular, height 14 mm
- Active face on top
- Plastic, PBT-GF30-V0
- Factor 1 for all metals
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Cable connection

### Wiring diagram



### Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. approx Factor 1 sensors have significant advantages due to their patented ferrite-coreless multi-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.

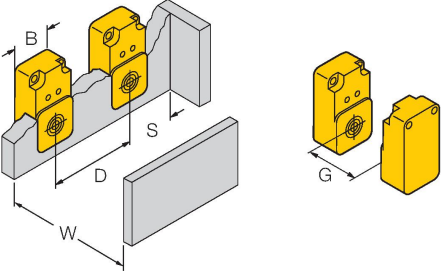
### Technical data

|                                        |                                                                                |
|----------------------------------------|--------------------------------------------------------------------------------|
| Type                                   | BI10U-Q14-AP6X2                                                                |
| ID                                     | 1608700                                                                        |
| General data                           |                                                                                |
| Rated switching distance               | 10 mm                                                                          |
| Mounting conditions                    | Flush                                                                          |
| Secured operating distance             | $\leq (0.81 \times S_n)$ mm                                                    |
| Repeat accuracy                        | $\leq 2 \%$ of full scale                                                      |
| Temperature drift                      | $\leq \pm 10 \%$<br>$\leq \pm 15 \%, -25^\circ\text{C} \leq +70^\circ\text{C}$ |
| 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, PNP                                                        |
| DC field stability                     | 300 mT                                                                         |
| AC field stability                     | 300 mT <sub>ss</sub>                                                           |
| Insulation class                       | □                                                                              |
| Switching frequency                    | 0.25 kHz                                                                       |
| Mechanical data                        |                                                                                |
| Design                                 | Rectangular, Q14                                                               |

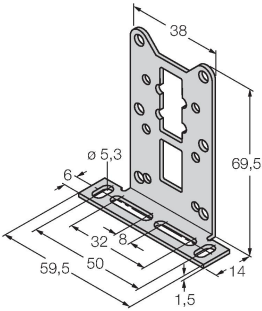
Technical data

|                          |                                           |
|--------------------------|-------------------------------------------|
| Dimensions               | 52 x 30 x 14 mm                           |
| Housing material         | Plastic, PBT-GF30-V0                      |
| Active area material     | PBT-GF30-V0                               |
| Electrical connection    | Cable                                     |
| Cable quality            | Ø 5.2 mm, LifYY-11Y, PUR, 2 m             |
| Core cross-section       | 3 x 0.34 mm²                              |
| Environmental conditions |                                           |
| Ambient temperature      | -30...+85 °C                              |
| Vibration resistance     | 55 Hz (1 mm)                              |
| Shock resistance         | 30 g (11 ms)                              |
| Protection class         | IP67                                      |
| MTTF                     | 874 years acc. to SN 29500 (Ed. 99) 40 °C |
| Power-on indication      | LED, Green                                |
| Switching state          | LED, Yellow                               |

Mounting instructions

| Mounting instructions/Description                                                   |                     |         |
|-------------------------------------------------------------------------------------|---------------------|---------|
|  | Distance D          | 1.5 x B |
|                                                                                     | Distance W          | 3 x Sn  |
|                                                                                     | Distance S          | 1 x B   |
|                                                                                     | Distance G          | 6 x Sn  |
|                                                                                     | Width active area B | 30 mm   |
|                                                                                     |                     |         |

Accessories

|                                                                                     |         |
|-------------------------------------------------------------------------------------|---------|
| MW-Q14/Q20                                                                          | 6945006 |
|  |         |
| Mounting bracket for rectangular Q14 or Q20; material VA 1.4301                     |         |