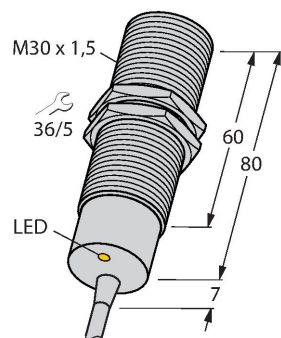


# BI10-M30-AP6X/S120

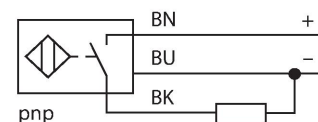
## Inductive Sensor – With Increased Temperature Range



### Features

- M30 × 1.5 threaded tube
- Chrome-plated brass
- Temperatures up to +120 °C
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Cable connection

### Wiring diagram

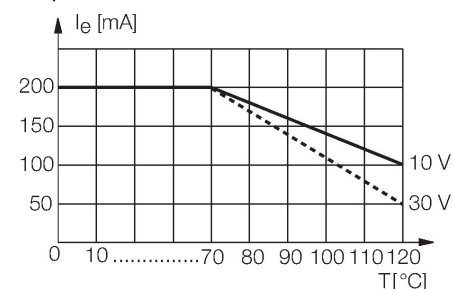


### Technical data

|                                           |                                                           |
|-------------------------------------------|-----------------------------------------------------------|
| Type                                      | BI10-M30-AP6X/S120                                        |
| ID                                        | 4617010                                                   |
| Special version                           | S120 Corresponds to: Maximum ambient temperature = 120 °C |
| <b>General data</b>                       |                                                           |
| Rated switching distance                  | 10 mm                                                     |
| Mounting conditions                       | Flush                                                     |
| Secured operating distance                | ≤ (0.81 × Sn) mm                                          |
| Correction factors                        | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4       |
| Repeat accuracy                           | ≤ 2 % of full scale                                       |
| Temperature drift                         | ≤ ±10 %<br>≤ ± 20 %, ≥ +70 °C                             |
| Hysteresis                                | 3...15 %                                                  |
| <b>Electrical data</b>                    |                                                           |
| Operating voltage U <sub>B</sub>          | 10...30 VDC                                               |
| Ripple U <sub>ss</sub>                    | ≤ 10 % U <sub>Bmax</sub>                                  |
| DC rated operating current I <sub>e</sub> | ≤ 200 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 break/reverse polarity protection    | yes/Complete                                              |
| Output function                           | 3-wire, NO contact, PNP                                   |
| Switching frequency                       | 0.1 kHz                                                   |
| <b>Mechanical data</b>                    |                                                           |
| Design                                    | Threaded barrel, M30 x 1.5                                |

### Functional principle

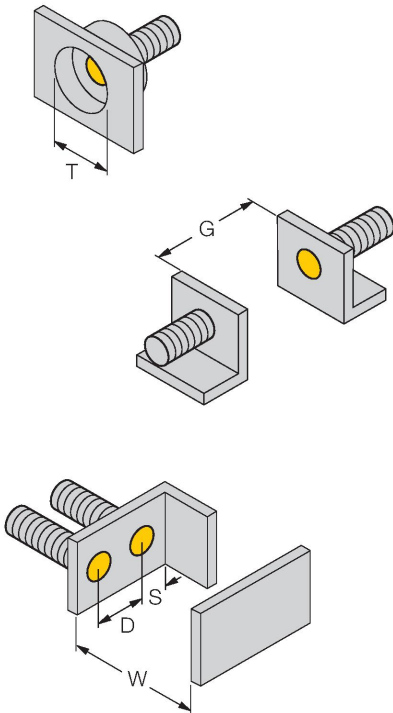
Inductive sensors detect metal objects contactless and wear-free. For this purpose they use a high-frequency electromagnetic AC field that interacts with the target. The sensors hosting a ferrite core coil generate the AC field through an LC resonant circuit. Special versions are available for ambient temperatures between -60°C and +250°C.



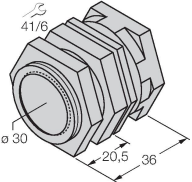
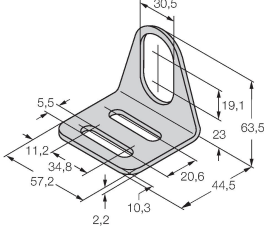
Technical data

|                                       |                                |
|---------------------------------------|--------------------------------|
| Dimensions                            | 87 mm                          |
| Housing material                      | Metal, CuZn, Chrome-plated     |
| Active area material                  | Plastic, PA12-GF30             |
| End cap                               | Plastic, PA12-GF30             |
| Max. tightening torque of housing nut | 40 Nm                          |
| Electrical connection                 | Cable                          |
| Cable quality                         | Ø 5.2 mm, SiHSi, Silicone, 2 m |
| Core cross-section                    | 3 x 0.5 mm <sup>2</sup>        |
| Environmental conditions              |                                |
| Ambient temperature                   | -25...+120 °C                  |
| Vibration resistance                  | 55 Hz (1 mm)                   |
| Shock resistance                      | 30 g (11 ms)                   |
| Protection class                      | IP67                           |
| Switching state                       | LED, Yellow                    |

Mounting instructions

| Mounting instructions/Description                                                   |                        |         |
|-------------------------------------------------------------------------------------|------------------------|---------|
|  | 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

| QM-30                                                                             | 6945103                                                                                                                                                                                             | MW30                                                                               | 6945005                                                                                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
|  | <p>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.</p> |  | <p>Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)</p> |