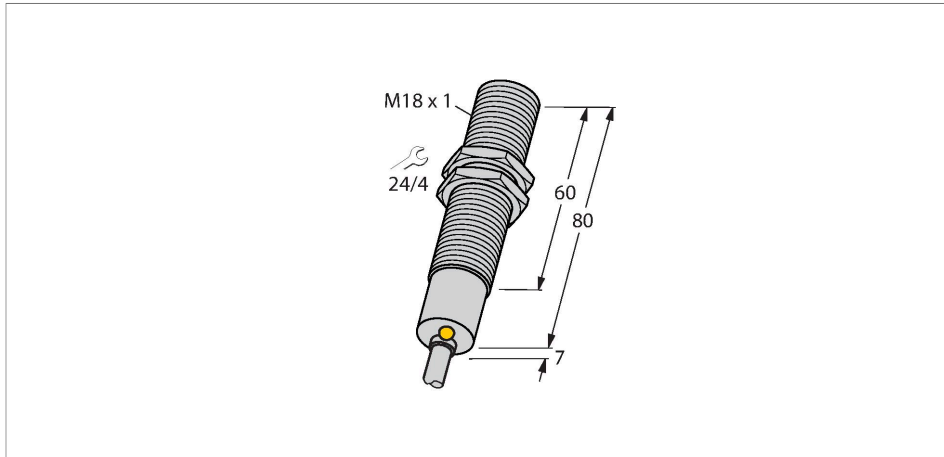


# BI5-M18-AP6X/S120 7M

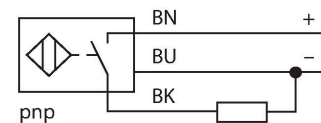
## Inductive Sensor – With Increased Temperature Range



### Features

- Threaded barrel, M18 x 1
- Chrome-plated brass
- S120 = Temperatures up to +120 °C
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Cable connection

### Wiring diagram



### Technical data

|   |  |
|---|--|
| Type                                      | BI5-M18-AP6X/S120 7M   |
| ID  | 4611013  |
| <b>General data</b>                       |  |
| Rated switching distance                  | 5 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<br>$\leq \pm 20\%$ , $\geq +70\text{ °C}$ |
| Hysteresis                                | 3...15 %   |
| <b>Electrical data</b>                    |  |
| Operating voltage                         | 10...30 VDC  |
| Residual ripple                           | $\leq 10\% U_{ss}$   |
| DC rated operational current              | $\leq 200$ mA  |
| No-load current                           | 15 mA  |
| Residual current                          | $\leq 0.1$ mA  |
| Isolation test voltage                    | $\leq 0.5$ kV  |
| Short-circuit protection                  | yes / Cyclic   |
| Voltage drop at $I_o$                     | $\leq 1.8$ V   |
| Wire breakage/Reverse polarity protection | yes / Complete   |
| Output function                           | 3-wire, NO contact, PNP  |
| Switching frequency                       | 0.1 kHz  |

### 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

| Mechanical data                       |                                |
|---------------------------------------|--------------------------------|
| Design                                | Threaded barrel, M18 x 1       |
| Dimensions                            | 87 mm                          |
| Housing material                      | Metal, CuZn, Chrome-plated     |
| Active area material                  | Plastic, PA12-GF30             |
| End cap                               | Plastic, EPTR                  |
| Max. tightening torque of housing nut | 25 Nm                          |
| Electrical connection                 | Cable                          |
| Cable quality                         | Ø 5.2 mm, SiHSi, Silicone, 7 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                    |

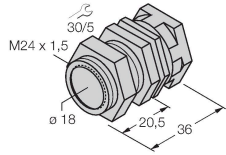
## Mounting instructions

| 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 18 mm |

## Accessories

QM-18

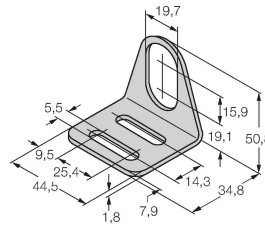
6945102



Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

MW-18

6945004



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)