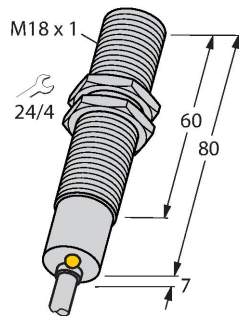


# BI5-M18-AP6X/S120

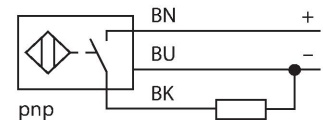
## Inductive Sensor – With Increased Temperature Range



### Features

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

### Wiring diagram

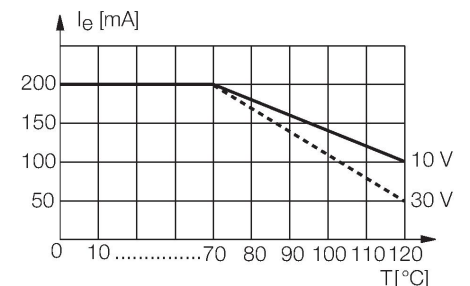


### Technical data

|                                        |                                                           |
|----------------------------------------|-----------------------------------------------------------|
| Type                                   | BI5-M18-AP6X/S120                                         |
| ID                                     | 4611030                                                   |
| Special version                        | S120 Corresponds to: Maximum ambient temperature = 120 °C |
| <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                                  |
| Temperature drift                      | $\leq \pm 10$ %<br>$\leq \pm 20$ %, $\geq +70$ °C         |
| Hysteresis                             | 3...15 %                                                  |
| <b>Electrical data</b>                 |                                                           |
| 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                                   |
| Switching frequency                    | 0.1 kHz                                                   |
| <b>Mechanical data</b>                 |                                                           |
| Design                                 | Threaded barrel, M18 x 1                                  |

### Functional principle

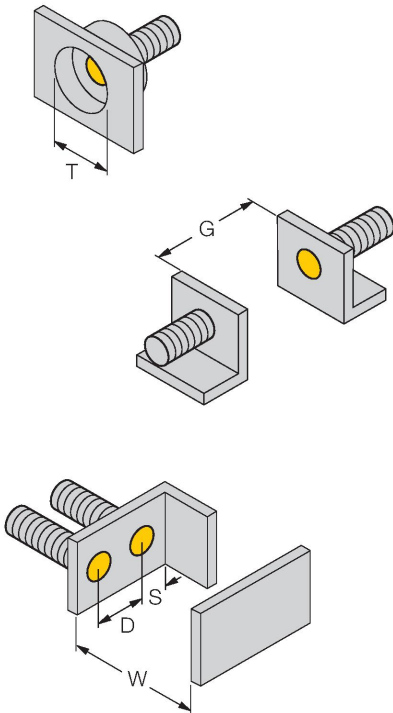
Inductive sensors detect metal objects contactless and wear-free. For this purpose they use a high-frequency electromagnetic AC field that interacts with the target. The sensors hosting a ferrite core coil generate the AC field through an LC resonant circuit. Special versions are available for ambient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



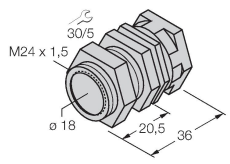
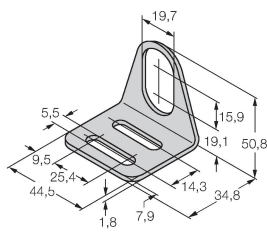
Technical data

|                                       |                                |
|---------------------------------------|--------------------------------|
| Dimensions                            | 87 mm                          |
| Housing material                      | Metal, CuZn, Chrome-plated     |
| Active area material                  | Plastic, PA12-GF30             |
| End cap                               | Plastic, EPTR                  |
| Max. tightening torque of housing nut | 25 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 18 mm |
|                                                                                     |                        |         |

Accessories

|                                                                                   |                                                                                                                                                                                              |                                                                                    |                                                                                              |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| QM-18                                                                             | 6945102                                                                                                                                                                                      | MW18                                                                               | 6945004                                                                                      |
|  | 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. |  | Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304) |