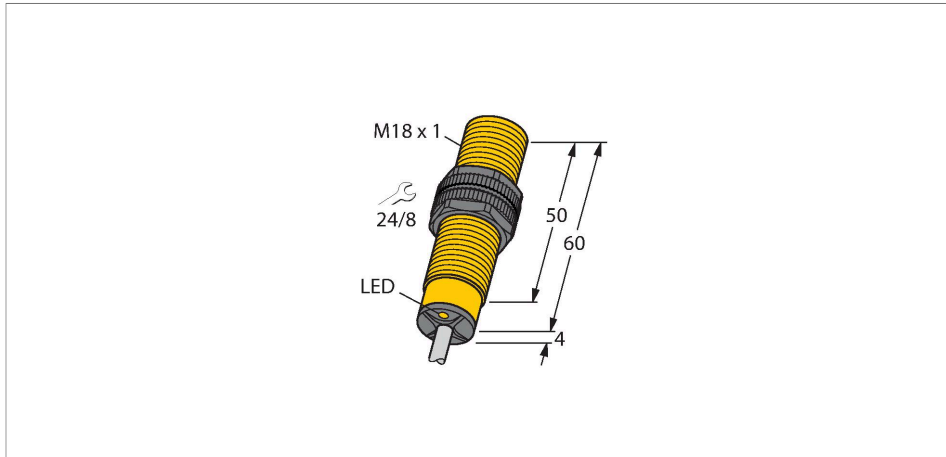


# BI5-S18-RZ3X/S100

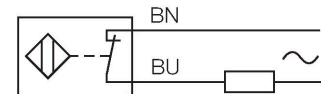
## Inductive Sensor – With Increased Temperature Range



### Features

- Threaded barrel, M18 x 1
- Plastic, PA12-GF30
- Temperatures up to +100 °C
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- NC contact
- Cable connection

### Wiring diagram

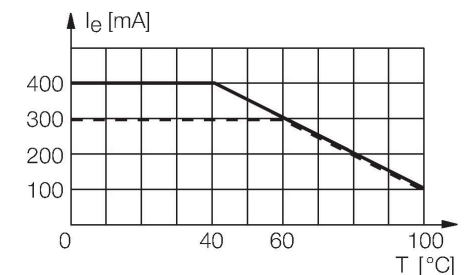


### Technical data

|                              |  |
|------------------------------|--|
| Type                         | BI5-S18-RZ3X/S100  |
| ID                           | 13760  |
| Special version              | S100 corresponds to:<br>Maximum ambient temperature = 100 °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            | 20...250 VAC   |
| Operating voltage            | 10...300 VDC   |
| AC rated operational current | $\leq 400$ mA  |
| DC rated operational current | $\leq 300$ mA  |
| Rated operational current    | See derating curve   |
| Frequency                    | $\geq 50$ ... $\leq 60$ Hz                                   |
| Residual current             | $\leq 1.7$ mA  |
| Isolation test voltage       | $\leq 1.5$ kV  |
| Surge current                | $\leq 8$ A ( $\leq 10$ ms max. 5 Hz)                         |
| Voltage drop at $I_e$        | $\leq 6$ V   |

### 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

|                                       |  |
|---------------------------------------|--|
| Output function                       | 2-wire, NC contact, 2-wire                 |
| Smallest operating current            | ≥ 3 mA                                     |
| Switching frequency                   | 0.02 kHz                                   |
| <b>Mechanical data</b>                |  |
| Design                                | Threaded barrel, M18 x 1                   |
| Dimensions                            | 64 mm                                      |
| Housing material                      | Plastic, PA12-GF30                         |
| Active area material                  | Plastic, PA12-GF30                         |
| End cap                               | Plastic, EPTR                              |
| Max. tightening torque of housing nut | 2 Nm                                       |
| Electrical connection                 | Cable                                      |
| Cable quality                         | Ø 5.2 mm, LifYY-T105, PVC, 2 m             |
| Core cross-section                    | 3 x 0.5 mm <sup>2</sup>                    |
| <b>Environmental conditions</b>       |  |
| Ambient temperature                   | -25...+100 °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, Red                                   |

## Mounting instructions

### Mounting instructions/Description



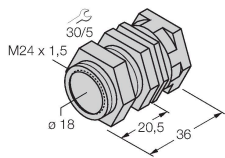
|                        |         |
|------------------------|---------|
| Distance D             | 2 x B   |
| Distance W             | 3 x Sn  |
| Distance T             | 3 x B   |
| Distance S             | 1.5 x B |
| Distance G             | 6 x Sn  |
| Diameter active area B | Ø 18 mm |

## Accessories

QM-18

6945102

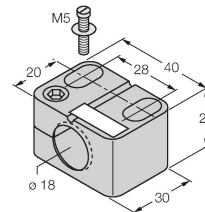
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 x 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.



BST-18B

6947214

Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6



MW-18

6945004

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



BSS-18

6901320

Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

