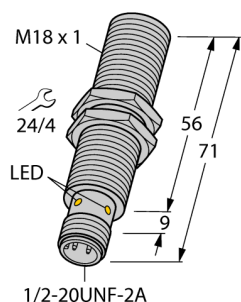


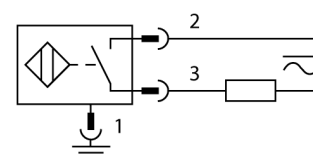
# Inductive Sensor

## BI5-G18-AZ3X2-B3331/S983



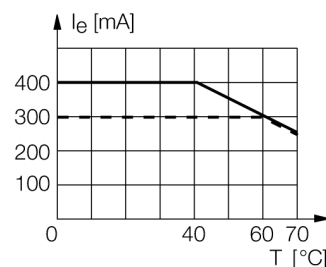
- Threaded barrel, M18 x 1
- Chrome-plated brass
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- NO contact
- 1/2" connector

### Wiring Diagram



### Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.



|                 |                                                       |
|-----------------|-------------------------------------------------------|
| Type            | BI5-G18-AZ3X2-B3331/S983                              |
| ID              | 1351601                                               |
| Special version | S983 Corresponds to: Load current 200 mA, UL approval |

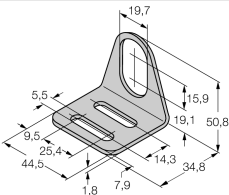
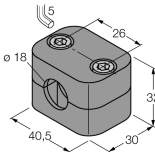
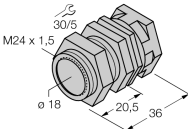
|                                |                                                     |
|--------------------------------|-----------------------------------------------------|
| General data                   |                                                     |
| Rated switching distance $S_n$ | 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              | $\leq \pm 10\%$                                     |
| Hysteresis                     | 3...15 %                                            |

|                                    |                                      |
|------------------------------------|--------------------------------------|
| Electrical data                    |                                      |
| Operating voltage $U_a$            | 20...250VAC                          |
| Operating voltage $U_a$            | 10...300 VDC                         |
| AC rated operational current       | $\leq 200$ mA                        |
| DC rated operational current $I_a$ | $\leq 200$ mA                        |
| Frequency                          | $\geq 50... \leq 60$ Hz              |
| Residual current                   | $\leq 1.7$ mA                        |
| Isolation test voltage             | 1.5 kV                               |
| Surge current                      | $\leq 8$ A ( $\leq 10$ ms max. 5 Hz) |
| Voltage drop at $I_a$              | $\leq 6$ V                           |
| Output function                    | 2-wire, NO contact, 2-wire           |
| Smallest operating current $I_m$   | $\geq 3$ mA                          |
| Switching frequency                | 0.02 kHz                             |

|                                       |                            |
|---------------------------------------|----------------------------|
| Mechanical data                       |                            |
| Design                                | Threaded barrel, M18 x 1   |
| Dimensions                            | 71 mm                      |
| Housing material                      | Metal, CuZn, Chrome-plated |
| Active area material                  | Plastic, PA12-GF30         |
| Max. tightening torque of housing nut | 25 Nm                      |
| Electrical connection                 | Connector, 1/2"            |

|                          |                                            |
|--------------------------|--------------------------------------------|
| Environmental conditions |                                            |
| Ambient temperature      | -25...+70 °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 |
|                          |                                            |
| Power-on indication      | LED, Green                                 |
| Switching state          | LED, Yellow                                |

Accessories

| Type code | Ident-No. |                                                                                                                                                                                              | Dimension drawing                                                                    |
|-----------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 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                                                                                                               |   |
| 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. |  |