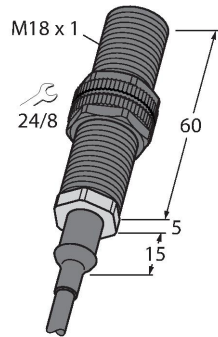


# BI5-P18-AN6/S139-S1261 30M

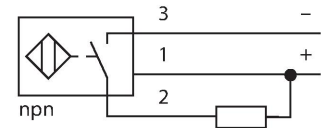
## Inductive Sensor – For Underwater Applications



### Features

- Threaded barrel, M18 x 1
- Plastic, POM
- For underwater and off-shore applications
- Oil and seawater resistant
- Protection class IP68, 500 m water column
- DC 3-wire, 10...30 VDC
- NO contact, NPN output
- Cable connection

### 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.

### Technical data

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | BI5-P18-AN6/S139-S1261 30M                          |
| ID                                     | 1650240                                             |
| <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                            |
| Static pressure                        | $\leq 50$ bar                                       |
| Temperature drift                      | $\leq \pm 10$ %                                     |
| 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 $I_B$       | $\leq 200$ 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 $I_B$                  | $\leq 1.8$ V                                        |
| Wire break/reverse polarity protection | yes/Complete                                        |
| Output function                        | 3-wire, NO contact, NPN                             |
| Switching frequency                    | 0.5 kHz                                             |

Technical data

| Mechanical data                       |                                        |
|---------------------------------------|----------------------------------------|
| Design                                | Threaded barrel, M18 x 1               |
| Dimensions                            | 80 mm                                  |
| Housing material                      | Plastic, POM, Black                    |
| Active area material                  | Plastic, POM, black                    |
| End cap                               | Metal, 1.4401 (AISI 316L)              |
| Max. tightening torque of housing nut | 2 Nm                                   |
| Electrical connection                 | Cable                                  |
| Cable quality                         | Ø 5.2 mm, Ölflex rugged 210, TPE, 30 m |
| Core cross-section                    | 3 x 0.5 mm <sup>2</sup>                |
| Environmental conditions              |                                        |
| Ambient temperature                   | -25...+70 °C                           |
| Vibration resistance                  | 55 Hz (1 mm)                           |
| Shock resistance                      | 30 g (11 ms)                           |
| Protection class                      | IP68                                   |

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 |

BI5-P18-AN6/S139-S1261 30M| 02/21/2025 14-27 | technical changes reserved

## 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.

BST-18B

6947214



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

MW18

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