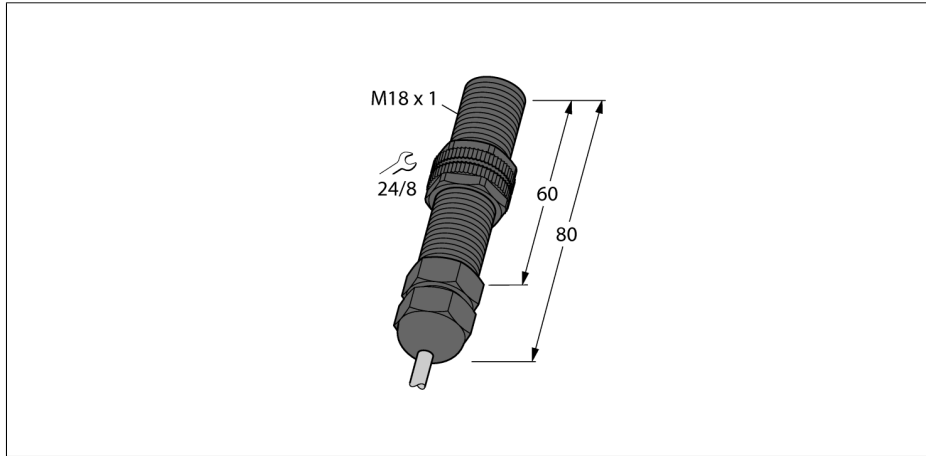
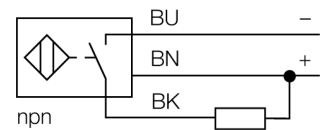


**Inductive sensor  
for underwater applications  
BI5-P18-AN6/S139-S90**



- Threaded barrel, M18 x 1
- Plastic, POM
- Underwater and off-shore application
- 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**

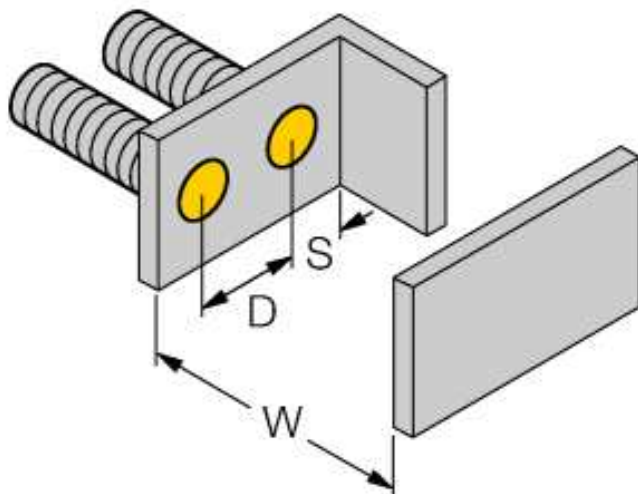
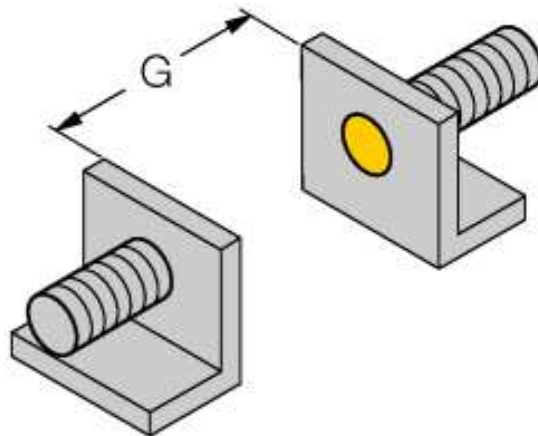
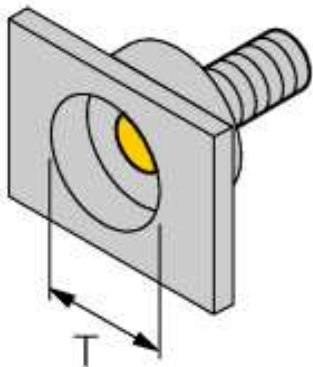
Inductive sensors detect metal objects contactless and wear-free. For this purpose they use a high-frequency electromagnetic AC field that interacts with the target. The sensors hosting a ferrite core coil generate the AC field through an LC resonant circuit.

<b>Type code</b>	BI5-P18-AN6/S139-S90
Ident no.	1660351
<b>Rated operating distance Sn</b>	5 mm
Mounting condition	flush
Assured sensing range	≤ (0,81 x Sn) mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeatability	≤ 2 % of full scale
Temperaturdrift	10 %
Hysteresis	3...15 %
Ambient temperature	-25...+70 °C
<b>Operating voltage</b>	10...30VDC
Residual ripple	≤ 10 % U <sub>ss</sub>
DC rated operational current	≤ 200 mA
No-load current I <sub>0</sub>	≤ 15 mA
Residual current	≤ 0.1 mA
Rated insulation voltage	≤ 0.5 kV
Short-circuit protection	yes/ cyclic
Voltage drop at I <sub>e</sub>	≤ 1.8 V
Wire breakage / Reverse polarity protection	yes/ complete
Output function	3-wire, NO contact, NPN
Switching frequency	0.5 kHz
<b>Design</b>	threaded barrel, M18 x 1
Dimensions	80 mm
Housing material	Plastic, POM, black
Material active face	Plastic, POM, Black
End cap	Plastic, PA
Max. tightening torque housing nut	2 Nm
Connection	cable
Cable quality	5.2 mm, LifYY-11Y, PUR, 2 m
Cable cross section	3 x 0.34 mm <sup>2</sup>
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68

**Inductive sensor  
for underwater applications  
BI5-P18-AN6/S139-S90**

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 of the active area B                       $\varnothing$  18 mm



**Inductive sensor  
for underwater applications  
BI5-P18-AN6/S139-S90**

**Accessories**

Type code	Ident no.	Description	Dimension drawing
QM-18	6945102	Quick-mount bracket with dead-stop; material: Chrome-plated brass Male thread M24 x 1.5. Note: The switching distance of proximity switches can be reduced by the use of quick-mount brackets.	
BST-18B	6947214	Fixing clamp for threaded barrel devices, with dead-stop; material: PA6	
MW-18	6945004	Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304)	
BSS-18	6901320	Mounting bracket for smooth and threaded barrel devices; material: Polypropylene	