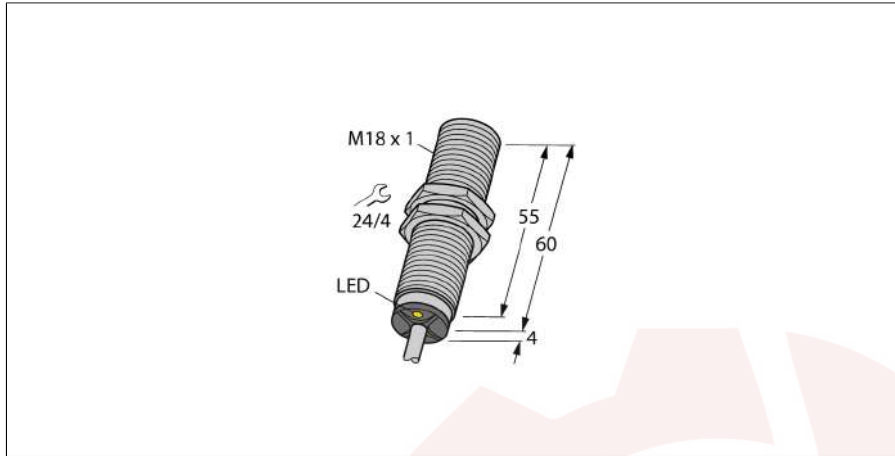


# Inductive sensor BI3-M18-AZ3X/S903

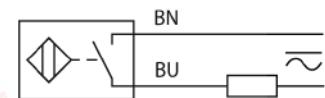
**TURCK**  
*works*

Industrial  
Automation



- Threaded barrel, M18 x 1
- Chrome-plated brass
- Hysteresis always below 0.1 mm
- AC 2-wire, 20...250 VDC
- DC 2-wire, 10...300 VDC
- NO contact
- Cable connection

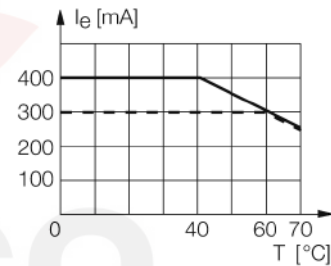
### Wiring diagram



<b>Type code</b>	BI3-M18-AZ3X/S903
Ident-No.	1302100
<b>Rated switching distance <math>S_n</math></b>	3 mm
Mounting conditions	flush
Assured switching distance	$\leq (0,81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeatability	$\leq 2\%$ of full scale
Temperature drift	$\leq \pm 10\%$
Hysteresis	1...3 %
Ambient temperature	-25...+70 °C
<b>Operating voltage</b>	20...250 VAC
Operating voltage	10...300VDC
AC rated operational current	$\leq 400$ mA
DC rated operational current	$\leq 300$ mA
Frequency	$\geq 50... \leq 60$ Hz
Residual current	$\leq 1.7$ mA
Rated insulation voltage	$\leq 1.5$ kV
Surge current	$\leq 8$ A ( $\leq 10$ ms max. 5 Hz)
Voltage drop at $I_n$	$\leq 6$ V
Output function	2-wire, NO contact
Smallest operating current $I_m$	$\geq 3$ mA
Switching frequency	0.02 kHz
<b>Construction</b>	threaded barrel, M18 x 1
Dimensions	64 mm
Housing material	metal, CuZn, chrome-plated
Material active area	plastic, PA
End cap	Plastic, EPTR
Max. tightening torque housing nut	25 Nm
Connection	cable
Cable quality	5.2 mm, LifYY, PVC, 2m
Cable cross section	$3 \times 0.5$ mm <sup>2</sup>
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
IP Rating	IP67
<b>Switching state</b>	LED red

### 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.



**Inductive sensor**  
**BI3-M18-AZ3X/S903**

**TURCK**  
*works*

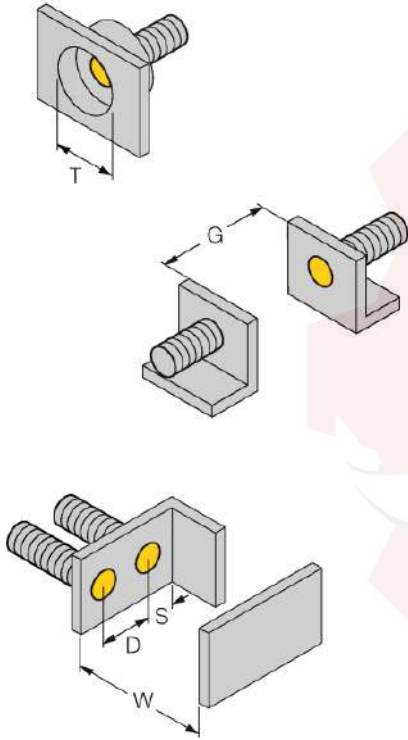
Industrial  
Automation

---

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



**TEINCO**  
INDUSTRIAL