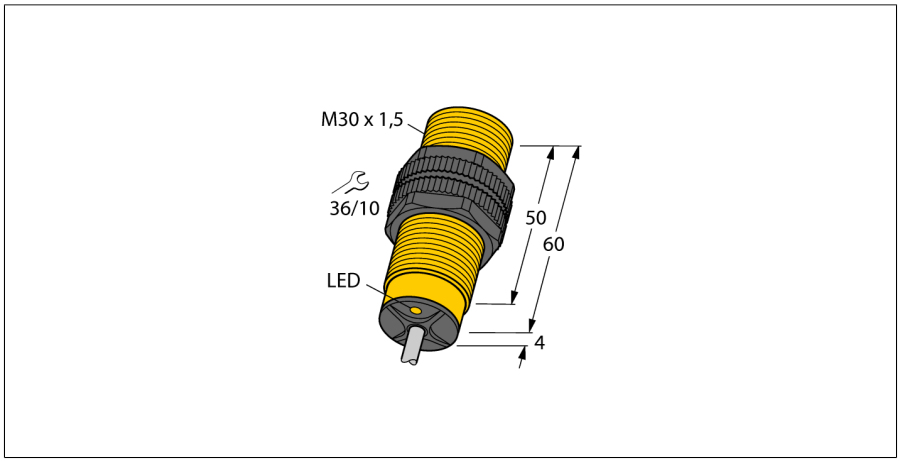
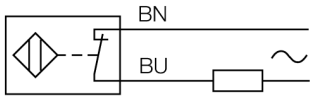
Inductive Sensor
With Increased Temperature Range
BI10-S30-RZ3X/S100



- Threaded barrel, M30 x 1.5
- 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



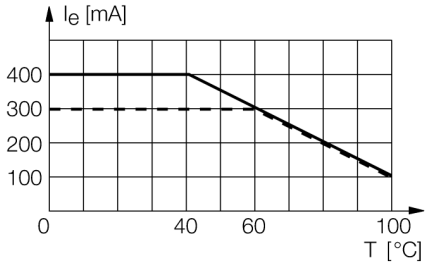
Type	BI10-S30-RZ3X/S100
ID	13713
Special version	S100 Corresponds to:Maximum ambient temperature = 100 °C
General data	
Rated switching distance Sn	10 mm
Mounting conditions	Flush
Secured operating distance	≤ (0.81 × Sn) mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeat accuracy	≤ 2 % of full scale
Temperature drift	≤ ±10 %
	≤ ± 20 %, ≥ +70 °C
Hysteresis	3…15 %
Electrical data	
Operating voltage U_B	20…250VAC
Operating voltage U_B	10…300 VDC
AC rated operational current	≤ 400 mA
DC rated operating current I_e	≤ 300 mA
Rated operational current	See derating curve
Frequency	≥ 50…≤ 60 Hz
Residual current	≤ 1.7 mA
Isolation test voltage	1.5 kV
Surge current	≤ 8 A (≤ 10 ms max. 5 Hz)
Voltage drop at I_e	≤ 6 V
Output function	2-wire, NC contact, 2-wire
Smallest operating current I_m	≥ 3 mA
Switching frequency	0.02 kHz

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.

Derating Curve



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Mechanical data	
Design	Threaded barrel, M30 x 1.5
Dimensions	64 mm
Housing material	Plastic, PA12-GF30
Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Max. tightening torque of housing nut	5 Nm
Electrical connection	Cable
Cable quality	Ø 5.2mm, LifYY-T105, PVC, 2 m
Core cross-section	2 x 0.5 mm^2

Environmental conditions	
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

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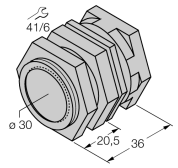
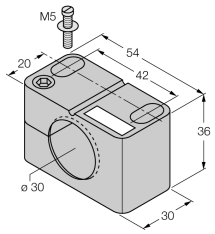
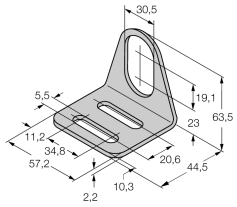
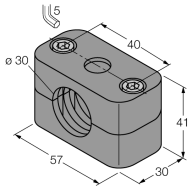
Accessories

Type code	Ident-No.		Dimension drawing
QM-30	6945103	Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M36 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.	
BST-30B	6947216	Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6	
MW-30	6945005	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)	
BSS-30	6901319	Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene	

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