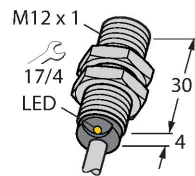


BI4-G12K-AN6X

Inductive Sensor – With Increased Switching Distance



Features

- Threaded barrel, M12 x 1
- Chrome-plated brass
- Large sensing range
- 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	BI4-G12K-AN6X
ID	4670251
General data	
Rated switching distance	4 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	≤ 2 % of full scale
Temperature drift	$\leq \pm 10$ %
Hysteresis	3...15 %
Electrical data	
Operating voltage U_B	10...30 VDC
Ripple U_{ss}	≤ 10 % U_{Bmax}
DC rated operating current I_o	≤ 200 mA
No-load current	≤ 15 mA
Residual current	≤ 0.1 mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_o	≤ 1.8 V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, NPN
Switching frequency	2 kHz
Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	34 mm
Housing material	Metal, CuZn, Chrome-plated

Technical data

Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Max. tightening torque of housing nut	10 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, LifYY, PVC, 2 m
Core cross-section	3 x 0.34 mm 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
Switching state	LED, Yellow

Mounting instructions

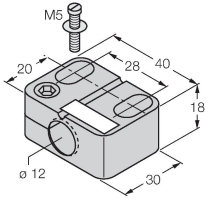
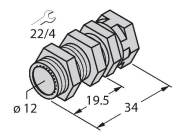
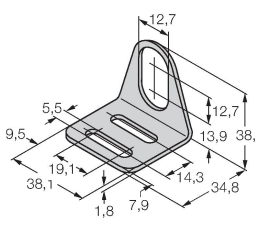
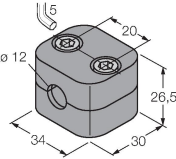
Mounting instructions/Description

The image contains three technical diagrams illustrating different mounting configurations for a sensor. The sensor is depicted as a rectangular plate with a central circular active area, highlighted in yellow.

- Top Diagram:** Shows a single sensor mounted on a surface. A dimension line labeled 'T' indicates the distance from the bottom edge of the sensor to the surface it is mounted on.
- Middle Diagram:** Shows two sensors mounted on a surface. A dimension line labeled 'G' indicates the distance between the centers of the two sensors.
- Bottom Diagram:** Shows two sensors mounted on a surface. Three dimension lines are used: 'D' for the distance between the centers of the two sensors, 'S' for the distance from the center of a sensor to the surface it is mounted on, and 'W' for the distance from the bottom edge of the sensor to the surface it is mounted on.

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 12 mm

Accessories

BST-12B	6947212	QM-12	6945101
			
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6		Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.	
MW12	6945003	BSS-12	6901321
			
Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)		Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene	