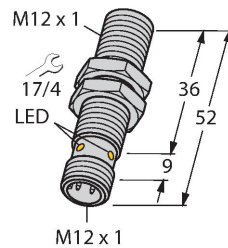


BI3-M12-AD4X-H1141

Inductive Sensor

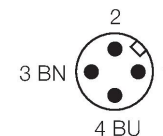
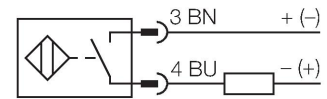


Technical data

Type	BI3-M12-AD4X-H1141
ID	4405041
General data	
Rated switching distance	3 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
Temperature drift	$\leq \pm 10 \%$
Hysteresis	1...15 %
Electrical data	
Operating voltage U_B	10...65 VDC
Ripple U_{rs}	$\leq 10 \%$ U_{Bmax}
DC rated operating current I_o	≤ 100 mA
Residual current	≤ 0.6 mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_o	≤ 5 V
Wire break/reverse polarity protection	Complete
Output function	2-wire, NO contact, 2-wire
Smallest operating current	≥ 3 mA
Switching frequency	1 kHz

Features

- M12 × 1 threaded barrel
- Chrome-plated brass
- DC 2-wire, 10...65 VDC
- NO contact
- M12 x 1 male connector



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

Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	52 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
Max. tightening torque of housing nut	10 Nm
Electrical connection	Connector, M12 × 1
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

Diagram showing the side view of the mounting bracket. Dimension T is indicated as the distance from the center of the active area to the edge of the bracket.

Diagram showing the top view of the mounting bracket. Dimension G is indicated as the distance between the centers of the two active areas.

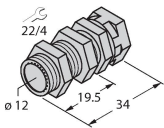
Diagram showing the front view of the mounting bracket. Dimensions D, S, and W are indicated. D is the distance from the center of the active area to the edge of the bracket. S is the distance from the center of the active area to the edge of the bracket. W is the distance from the center of the active area to the edge of the bracket.

Distance D	24 mm
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

BI3-M12-AD4X-H1141 | 02/21/2025 13-25 | technical changes reserved

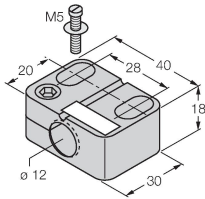
Accessories

QM-12 6945101



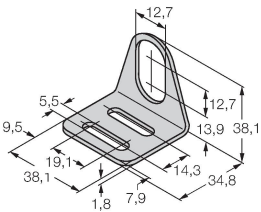
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

BST-12B 6947212



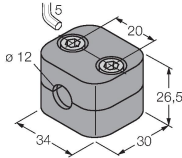
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

MW12 6945003



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-12 6901321



Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

Wiring accessories

Dimension drawing	Type	ID
	RKC4T-2/TEL	6625010



Connection cable, M12 female connector, straight, 3-pin, cable length: 2 m, jacket material: PVC, black; cULus approval