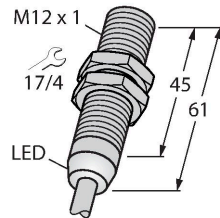


BI2-M12-AP6X/S120

Inductive Sensor – With Increased Temperature Range



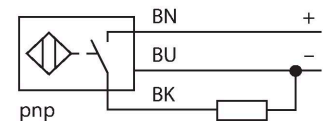
Technical data

Type	BI2-M12-AP6X/S120
ID	4614652
General data	
Rated switching distance	2 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	$\leq \pm 10 \%$ $\leq \pm 20 \%, \geq +70 \text{ }^\circ\text{C}$
Hysteresis	3...15 %
Electrical data	
Operating voltage U_B	10...30 VDC
Ripple U_{rs}	$\leq 10 \%$ U_{Bmax}
DC rated operating current I_B	$\leq 200 \text{ mA}$
No-load current	$\leq 15 \text{ mA}$
Residual current	$\leq 0.1 \text{ mA}$
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_B	$\leq 1.8 \text{ V}$
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, PNP
Switching frequency	0.1 kHz

Features

- M12 × 1 threaded barrel
- Chrome-plated brass
- S120 = Temperatures up to +120 °C
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Cable connection

Wiring diagram

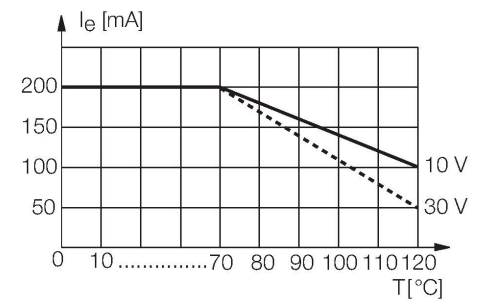


Functional principle

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. Special versions are available for ambient temperatures between -60°C and +250°C.

Technical data

Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	61 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PBT
Max. tightening torque of housing nut	10 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, SiHSi, Silicone, 2 m
Core cross-section	3 x 0.5 mm ²
Environmental conditions	
Ambient temperature	-25...+120 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
Switching state	LED, Red



Mounting instructions

Mounting instructions/Description

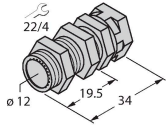
The image contains three technical diagrams illustrating the mounting of a sensor. The top diagram shows a side view of the sensor being inserted into a hole in a plate, with dimension T indicating the distance from the hole center to the sensor center. The middle diagram shows two views of the sensor being secured with a nut and washer, with dimension G indicating the distance from the hole center to the nut center. The bottom diagram shows a top view of the sensor mounted on a plate with two holes, with dimensions D, S, and W indicating the distances between the holes and the sensor center.

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

Accessories

QM-12

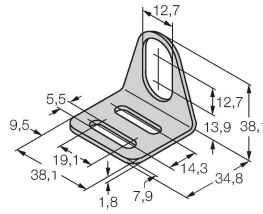
6945101



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.

MW12

6945003



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