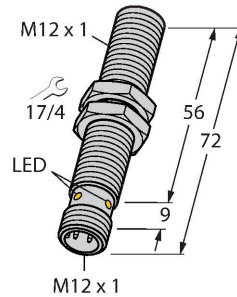


# BI3U-M12EE-AP6X-H1141

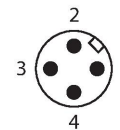
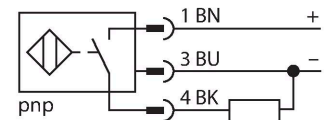
## Inductive Sensor



### Features

- Threaded barrel, M12 x 1
- Extra long version
- Chrome-plated brass
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M12 x 1 male connector

### Wiring diagram



### Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox Factor 1 sensors have significant advantages due to their patented ferrite-coreless multi-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.

### Technical data

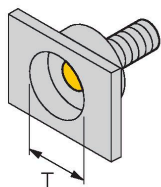
Type	BI3U-M12EE-AP6X-H1141
ID	1634149
General data	
Rated switching distance	3 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2 \%$ of full scale
Temperature drift	$\leq \pm 10 \%$
	$\leq \pm 15 \%, \leq -25 \text{ °C v } \geq +70 \text{ °C}$
Hysteresis	3...15 %
Electrical data	
Operating voltage $U_B$	10...30 VDC
Ripple $U_{ss}$	$\leq 10 \%$ $U_{Bmax}$
DC rated operating current $I_o$	$\leq 200$ mA
No-load current	$\leq 25$ mA
Residual current	$\leq 0.1$ mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at $I_o$	$\leq 1.8$ V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, PNP
DC field stability	300 mT
AC field stability	300 mT <sub>ss</sub>
Switching frequency	3 kHz

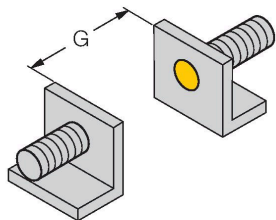
Technical data

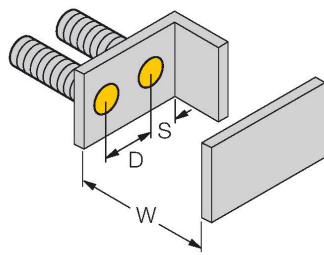
Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	72 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, LCP
Max. tightening torque of housing nut	10 Nm
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-30...+85 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED, Yellow

Mounting instructions

Mounting instructions/Description

An isometric view of the sensor head, which is a square plate with a central circular opening. A dimension line labeled 'T' indicates the thickness of the plate.

An isometric view showing the sensor head and its base. The sensor head is a square plate with a central circular opening. The base is a rectangular block. A dimension line labeled 'G' indicates the distance between the center of the circular opening in the sensor head and the center of the base.

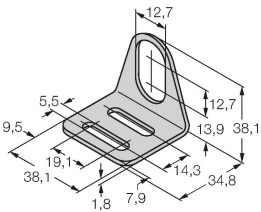
An isometric view showing the sensor head and its base. The sensor head is a square plate with two circular openings. The base is a rectangular block. Dimensions are indicated: 'D' is the distance between the centers of the two circular openings, 'S' is the distance from the center of the base to the center of the circular opening, and 'W' is the width of the base.

Distance D	24 mm
Distance W	9 mm
Distance T	36 mm
Distance S	18 mm
Distance G	18 mm
Diameter active area B	Ø 12 mm

BI3U-M12EE-AP6X-H1141 | 02/21/2025 13-15 | technical changes reserved

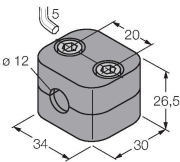
Accessories

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

