

# BI4-M12-AN6X-H1141

## Inductive Sensor – With Increased Switching Distance



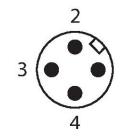
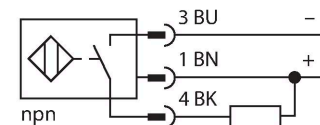
### Technical data

Type	BI4-M12-AN6X-H1141
ID	46071
<b>General data</b>	
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	$\leq 2\%$ of full scale
Temperature drift	$\leq \pm 10\%$
Hysteresis	3...15 %
<b>Electrical data</b>	
Operating voltage	10...30 VDC
Residual ripple	$\leq 10\% U_{ss}$
DC rated operational current	$\leq 200$ mA
No-load current	15 mA
Residual current	$\leq 0.1$ mA
Isolation test voltage	$\leq 0.5$ kV
Short-circuit protection	yes / Cyclic
Voltage drop at $I_o$	$\leq 1.8$ V
Wire breakage/Reverse polarity protection	yes / Complete
Output function	3-wire, NO contact, NPN
Switching frequency	2 kHz

### Features

- M12 × 1 threaded barrel
- Chrome-plated brass
- Large sensing range
- DC 3-wire, 10...30 VDC
- NO contact, NPN output
- M12 x 1 male connector

### 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

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 x 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

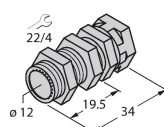
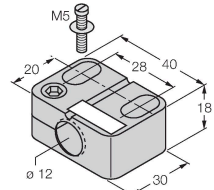
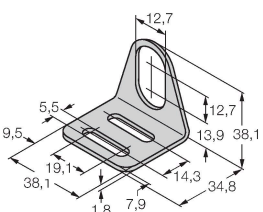
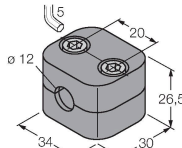
## Mounting instructions

### Mounting instructions/Description

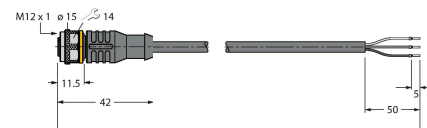


Distance D	24 mm
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Diameter active area B	Ø 12 mm

## Accessories

<b>QM-12</b>	<b>6945101</b>	<b>BST-12B</b>	<b>6947212</b>
 <p>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.</p>	<p>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.</p>	 <p>Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6</p>	<p>Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6</p>
<b>MW-12</b>	<b>6945003</b>	<b>BSS-12</b>	<b>6901321</b>
 <p>Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)</p>	<p>Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)</p>	 <p>Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene</p>	<p>Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene</p>

## Wiring accessories

Dimension drawing	Type	ID	
	<b>RKC4T-2/TEL</b>	<b>6625010</b>	Connection cable, M12 female connector, straight, 3-pin, cable length: 2 m, jacket material: PVC, black; cULus approval