



Inductive proximity sensors  
Cylindrical threaded housing, IM12

IM12-10NPS-ZW1



**Model Name** > [IM12-10NPS-ZW1](#)  
**Part No.** > [6027512](#)



**At a glance**

- Triple operating distance up to 10 mm
- Operating temperature from -25 °C to +70 °C
- High switching frequencies
- Sizes M12

**Your benefits**

- Reduced machine downtime and maintenance costs
- Large operating reserve due to triple operating distance improves machine throughput - no missed targets
- Saves installation space on the machine. Less space required for the same operating distance when compared with standard sensors
- Lower risk of mechanical damage due their ability to be mounted further from the target
- High level of sensitivity makes them suitable for detecting difficult parts such as wires, thin sheets, small screws – reduces design and installation time



**Features**

Housing:	Cylindrical
Thread size:	M12 x 1
Sensing range Sn:	10 mm
Assured sensing range Sa:	8.1 mm
Installation type:	Non-flush
Switching frequency:	400 Hz
Output type:	PNP
Output function:	NO
Electrical wiring:	DC 3-wire
Enclosure rating:	IP 67 <sup>1)</sup>
Connection type:	Cable, 3-wire, 2 m
Housing:	Standard

<sup>1)</sup> According to EN 60529

**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC
Ripple:	≤ 10 % <sup>1)</sup>
Voltage drop:	≤ 2 V <sup>2)</sup>
Power consumption:	≤ 10 mA <sup>3)</sup>

Time delay before availability:	≤ 50 ms
Hysteresis:	1 % ... 15 %
Repeatability::	≤ 5 % <sup>4) 5)</sup>
Temperature drift (% of Sr):	± 10 %
EMC:	According to EN 60947-5-2
Output current I <sub>a</sub> :	≤ 200 mA
Cable material:	PVC
Conductor cross-section:	0.34 mm <sup>2</sup>
Cable diameter:	5 mm
Short-circuit protection:	✓
Reverse polarity protection:	✓
Power-up pulse protection:	✓
Shock/vibration:	30 g, 11 ms/10 ... 55 Hz, 1 mm
Adjustment indicator:	-
Ambient operating temperature:	-25 °C ... 70 °C
Housing material:	Metal, Chrome-plated brass
Housing cap material:	Plastic, PBTP
Housing length:	52 mm
Thread length:	44 mm
Tightening torque, max.:	10 Nm

1) Of V<sub>S</sub> <sup>2)</sup> At I<sub>a</sub> max <sup>3)</sup> Without load <sup>4)</sup> Of Sr <sup>5)</sup> UB = 20 V DC ... 30 V DC, TA = 23 °C ± 5 °C <sup>6)</sup> LED lights continuously (0 ≤ s ≤ 0.8 Sr); LED flashing (0.8 Sr < s ≤ Sr)

#### Reduction factors

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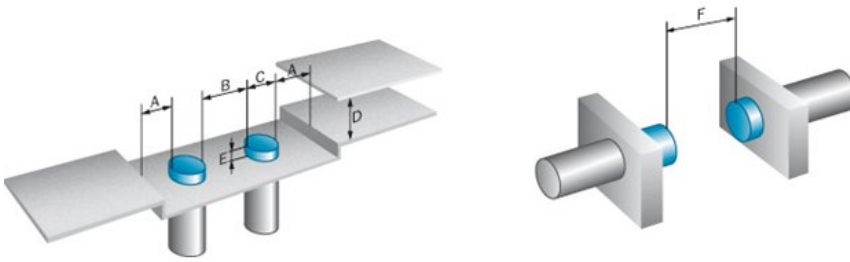
Note:	The values are reference values which may vary
Stainless steel (V2A, 304):	Ca. 0.77
Copper (Cu):	Ca. 0.45
Aluminum (Al):	Ca. 0.49
Brass (Br):	Ca. 0.56

#### Installation note

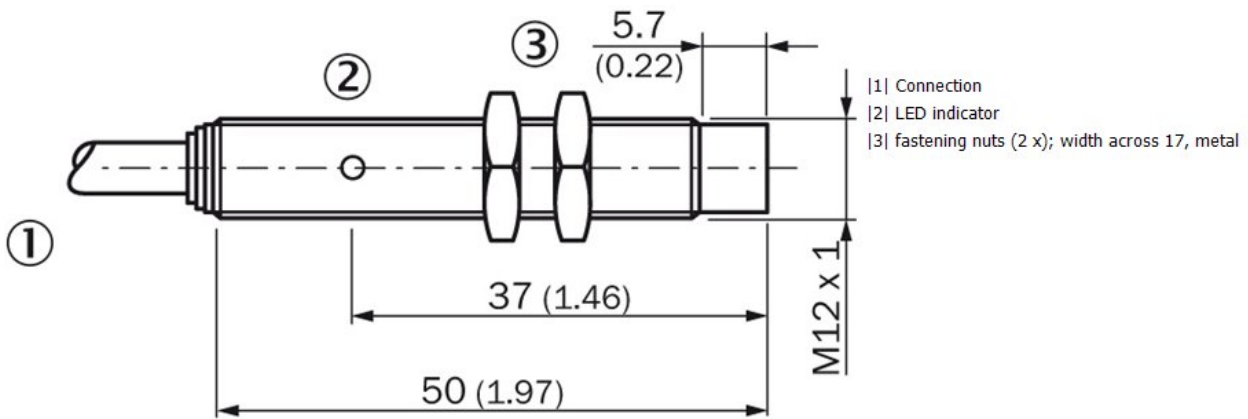
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A:	10 mm
B:	30 mm
C:	12 mm
D:	30 mm
E:	10 mm
F:	100 mm
Remark:	Associated graphic see "Installation"

## Installation note non-flush installation



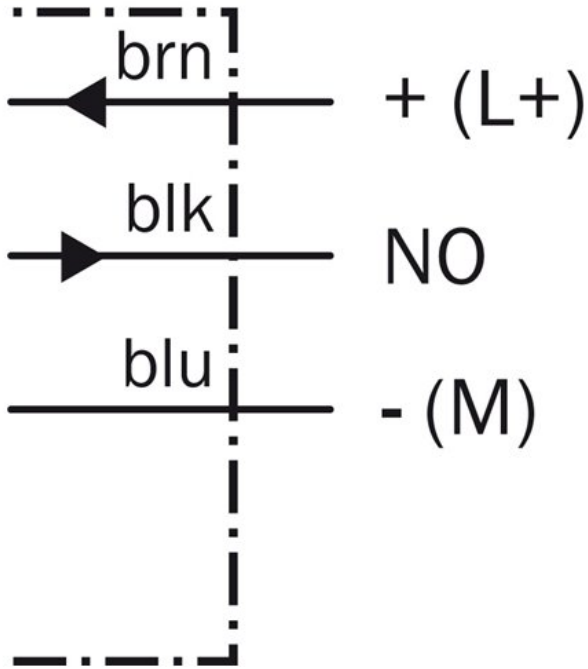
## Dimensional drawing



All dimensions in mm (inch)

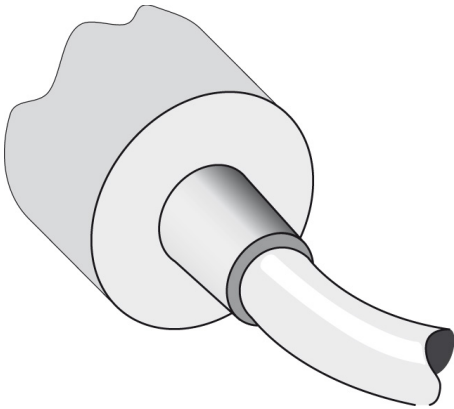
Connection diagram

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Connection type

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**Australia**

Phone +61 3 9457 0600  
1800 334 802 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail sac@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Ceská Republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail kundenservice@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6801000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 3358 1341  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederlands**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail austefjord@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail admin@sicksgp.com.sg

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886-2-2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 8865 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 800-325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)