



Inductive proximity sensors  
Cylindrical threaded housing, IM12

IM12-04NPO-ZW1



**Model Name** > **IM12-04NPO-ZW1**  
**Part No.** > **6011977**



**At a glance**

- Size M12
- IP 67 enclosure rating
- Operating temperature from -25° C to +75° C

**Your benefits**

- Reduced machine downtime
- Reduced mechanical damage
- Fewer maintenance costs due to longer service life
- High resistance to shock and vibrations



**Features**

|                        |                     |
|------------------------|---------------------|
| Design:                | Cylindrical         |
| Thread size:           | M12 x 1             |
| Sensing range Sn:      | 4 mm                |
| Installation type:     | Non-flush           |
| Switching frequency:   | 2,000 Hz            |
| Output type:           | PNP                 |
| Output function:       | NC                  |
| Electrical wiring:     | DC 3-wire           |
| Enclosure rating:      | IP 67 <sup>1)</sup> |
| Electrical connection: | Cable, 3-wire, 2 m  |
| Housing:               | Standard            |

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

**Mechanics/electronics**

|                                 |                           |
|---------------------------------|---------------------------|
| Supply voltage:                 | 10 V DC ... 30 V DC       |
| Residual ripple:                | ≤ 10 % <sup>1)</sup>      |
| Voltage drop:                   | ≤ 1.2 V <sup>2)</sup>     |
| Power consumption:              | ≤ 20 mA <sup>3)</sup>     |
| Time delay before availability: | ≤ 100 ms                  |
| Hysteresis:                     | 2 % ... 10 %              |
| Repeatability:                  | ≤ 2 % <sup>4) 5)</sup>    |
| Temperature drift (of Sr):      | ± 10 %                    |
| EMC:                            | According to EN 60947-5-2 |
| Output current I <sub>a</sub> : | ≤ 200 mA                  |

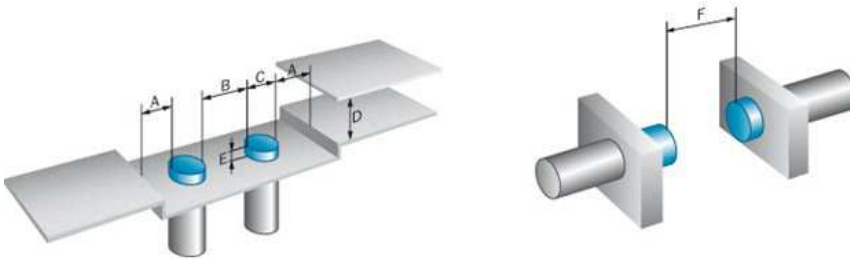
|                                 |                                |
|---------------------------------|--------------------------------|
| Cable material:                 | PVC                            |
| Conductor cross-section:        | 0.22 mm <sup>2</sup>           |
| Wire-break protection:          | 0                              |
| Short-circuit protection:       | ✓                              |
| Reverse polarity protection:    | ✓                              |
| Power-up pulse protection:      | ✓                              |
| Shock and vibration resistance: | 30 g, 11 ms/10 ... 55 Hz, 1 mm |
| Ambient temperature operation:  | -25 °C ... 70 °C               |
| Housing material:               | Metal, Nickel-plated brass     |
| Housing cap material:           | Plastic                        |
| Housing length:                 | 50 mm                          |
| Thread length:                  | 35 mm                          |
| Tightening torque, max.:        | 10 Nm                          |

1) Of  $V_S$  2) At  $I_a$  max 3) Without load 4)  $U_b$  and  $T_a$  constant 5) Of  $S_r$

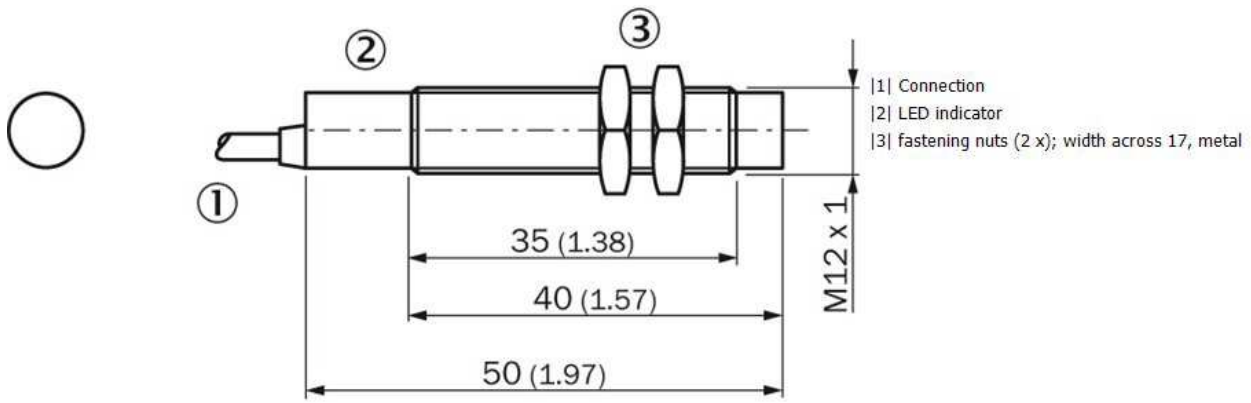
### Installation note

|         |                                       |
|---------|---------------------------------------|
| A:      | 12 mm                                 |
| B:      | 24 mm                                 |
| C:      | 12 mm                                 |
| D:      | 12 mm                                 |
| E:      | 8 mm                                  |
| F:      | 32 mm                                 |
| Remark: | Associated graphic see "Installation" |

### Installation note

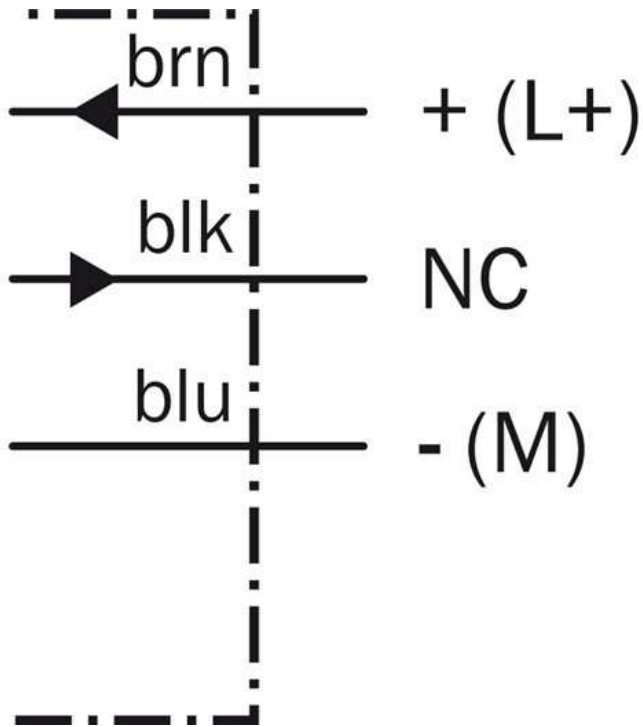


Dimensional drawing



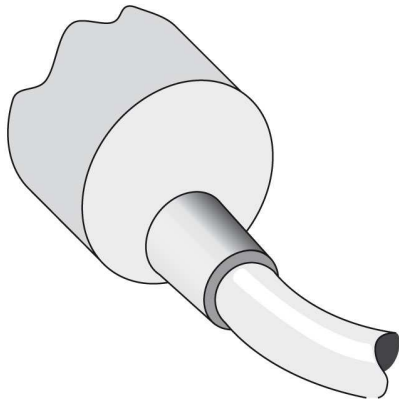
All dimensions in mm (inch)

Connection diagram



**Connection type**

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**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – 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 marketing@sick.com.br

**Canada**

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

**Česká 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 info@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 +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

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

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

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

**Nederland**

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

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@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 sales.gsg@sick.com

**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 88 65 878  
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)