



DATA SHEET

# IMG18-12NPSZC0S

IMG  
Inductive proximity sensors

**SICK** Sensor Intelligence



Illustration may differ

# INDUCTIVE PROXIMITY SENSORS

## IMG18-12NPSZC0S

### ORDERING INFORMATION

| Type            | part no. |
|-----------------|----------|
| IMG18-12NPSZC0S | 1135572  |

Further device versions and accessories at [www.sick.com/IMG](http://www.sick.com/IMG)



### DETAILED TECHNICAL DATA

#### FEATURES

|                          |                                                                                       |
|--------------------------|---------------------------------------------------------------------------------------|
| Housing                  | Metric                                                                                |
| Housing                  | Standard design                                                                       |
| Thread size              | M18 x 1                                                                               |
| Diameter                 | Ø 18 mm                                                                               |
| Sensing range $S_n$      | 12 mm                                                                                 |
| Safe sensing range $S_a$ | 9.72 mm                                                                               |
| Installation type        | Non-flush                                                                             |
| Switching frequency      | 1,000 Hz                                                                              |
| Connection type          | Male connector M12, 4-pin                                                             |
| Switching output         | PNP                                                                                   |
| Switching output detail  | PNP                                                                                   |
| Output function          | NO                                                                                    |
| Electrical wiring        | DC 3-wire                                                                             |
| Enclosure rating         | IP67 <sup>1)</sup><br>IP68 <sup>1)</sup><br>IP69K <sup>2)</sup>                       |
| Special features         | Resistant against coolant lubricants, Temperature resistance                          |
| Special applications     | Zones with coolants and lubricants, Mobile machines, Difficult application conditions |
| Items supplied           | Mounting nut, brass, nickel-plated (2x)                                               |

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

<sup>2)</sup> According to ISO 20653:2013-03.

**MECHANICS/ELECTRONICS**

|                                        |                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supply voltage                         | 10 V DC ... 30 V DC                                                                                                                                                                                                                                                                                                                           |
| Ripple                                 | $\leq 10 \%$                                                                                                                                                                                                                                                                                                                                  |
| Voltage drop                           | $\leq 2 \text{ V}^{1)}$                                                                                                                                                                                                                                                                                                                       |
| Time delay before availability         | $\leq 100 \text{ ms}$                                                                                                                                                                                                                                                                                                                         |
| Hysteresis                             | 3 % ... 20 %                                                                                                                                                                                                                                                                                                                                  |
| Reproducibility                        | $\leq 2 \%$ <sup>2)</sup><br><sup>3)</sup>                                                                                                                                                                                                                                                                                                    |
| Temperature drift (of S <sub>r</sub> ) | $\pm 10 \%$                                                                                                                                                                                                                                                                                                                                   |
| EMC                                    | According to EN 60947-5-2                                                                                                                                                                                                                                                                                                                     |
| Environmental test                     | Quick temperature change EN 60068-2-14, Na: TA = -25 °C, TB = 75 °C, t1 = 40 min, t2 = < 10 s, 300 cycles                                                                                                                                                                                                                                     |
| Corrosion test                         | Salt spray test EN 60068-2-52: severity 5, 4 cycles                                                                                                                                                                                                                                                                                           |
| Continuous current I <sub>a</sub>      | $\leq 200 \text{ mA}$                                                                                                                                                                                                                                                                                                                         |
| No load current                        | $\leq 10 \text{ mA}$                                                                                                                                                                                                                                                                                                                          |
| Short-circuit protection               | ✓                                                                                                                                                                                                                                                                                                                                             |
| Power-up pulse protection              | ✓                                                                                                                                                                                                                                                                                                                                             |
| Shock and vibration resistance         | Vibration resistance acc. to EN 60068-2-6 Fc: 60 g peak (10 Hz ... 2,000 Hz)<br>Long-term shock resistance acc. to EN 60068-2-27 Ea: 100 g 2 ms sinusoidal; 500 shocks in each direction of the 3 coordinate axes<br>Broadband noise acc. to EN 60068-2-64: 15 g rms (5 Hz ... 2,000 Hz) / 8 hours in each direction of the 3 coordinate axes |
| Display                                | LED yellow<br>Switching status<br>Permanently on: Switching output active                                                                                                                                                                                                                                                                     |
| Ambient operating temperature          | -40 °C ... +85 °C                                                                                                                                                                                                                                                                                                                             |
| Housing material                       | Nickel-plated brass                                                                                                                                                                                                                                                                                                                           |
| Sensing face material                  | Plastic, LCP                                                                                                                                                                                                                                                                                                                                  |
| Housing length                         | 69.4 mm                                                                                                                                                                                                                                                                                                                                       |
| Thread length                          | 43.4 mm                                                                                                                                                                                                                                                                                                                                       |
| Tightening torque, max.                | $\leq 30 \text{ Nm}$                                                                                                                                                                                                                                                                                                                          |
| Protection class                       | III                                                                                                                                                                                                                                                                                                                                           |
| UL File No.                            | E181493                                                                                                                                                                                                                                                                                                                                       |

<sup>1)</sup> At I<sub>a</sub> max.<sup>2)</sup> Supply voltage U<sub>s</sub> and constant ambient temperature Ta.<sup>3)</sup> Of Sr.**SAFETY-RELATED PARAMETERS**

|                               |             |
|-------------------------------|-------------|
| MTTF <sub>D</sub>             | 1,820 years |
| DC <sub>avg</sub>             | 0 %         |
| T <sub>M</sub> (mission time) | 20 years    |

**REDUCTION FACTORS**

|                            |                                                |
|----------------------------|------------------------------------------------|
| Note                       | The values are reference values which may vary |
| St37 steel (Fe)            | 1                                              |
| Stainless steel (V2A, 304) | Approx. 0.82                                   |
| Aluminum (Al)              | Approx. 0.45                                   |
| Copper (Cu)                | Approx. 0.39                                   |
| Brass (Br)                 | Approx. 0.47                                   |

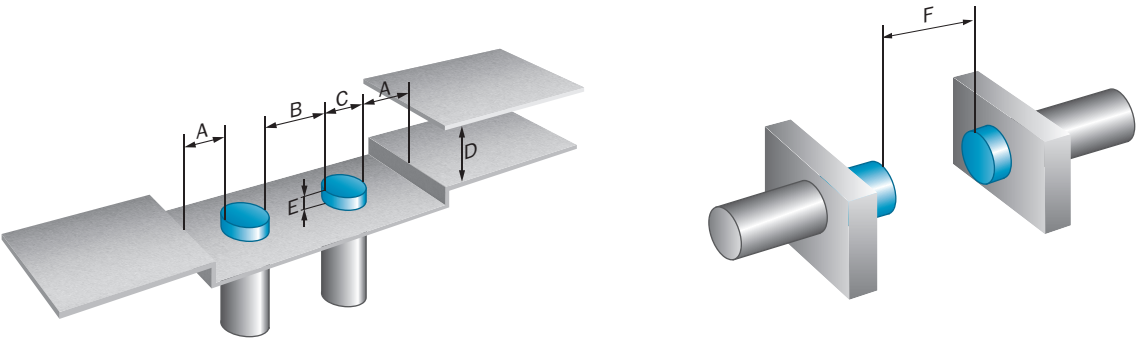
INSTALLATION NOTE

| Remark | Associated graphic see "Installation note" |
|--------|--------------------------------------------|
| A      | 18 mm                                      |
| B      | 50 mm                                      |
| C      | 18 mm                                      |
| D      | 36 mm                                      |
| E      | 12 mm                                      |
| F      | 96 mm                                      |

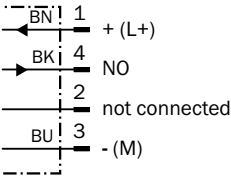
CERTIFICATES

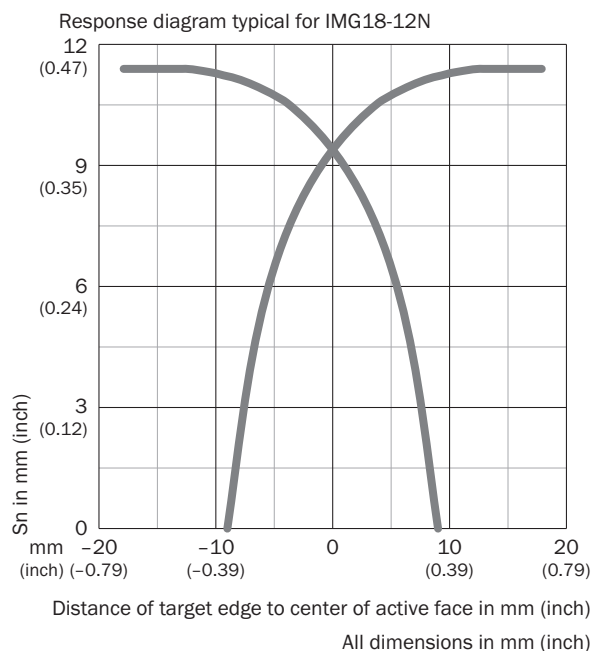
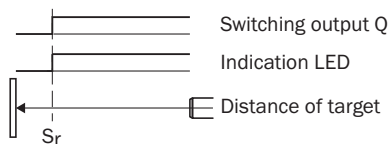
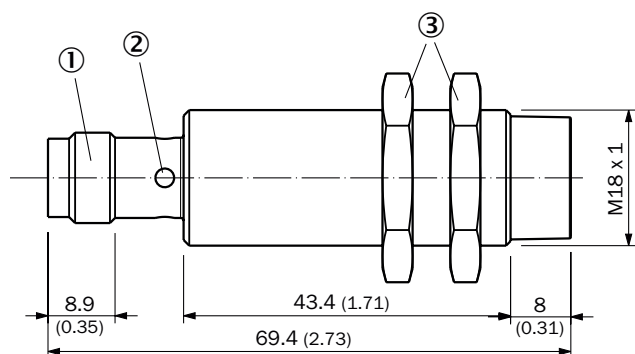
|                                                      |   |
|------------------------------------------------------|---|
| EU declaration of conformity                         | ✓ |
| UK declaration of conformity                         | ✓ |
| ACMA declaration of conformity                       | ✓ |
| Moroccan declaration of conformity                   | ✓ |
| China RoHS                                           | ✓ |
| China Compulsory Product Certification (CCC) ex-empt | ✓ |
| cULus certificate                                    | ✓ |

INSTALLATION NOTE NON-FLUSH INSTALLATION



CONNECTION DIAGRAM CD-007



**RESPONSE DIAGRAM****FUNCTIONAL PRINCIPLE****DIMENSIONAL DRAWING IMG18, STANDARD VARIANT, MALE CONNECTOR, NON-FLUSH**

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/1135572](http://www.sick.com/1135572)



SICK AG  
WALDKIRCH  
GERMANY  
SICK.COM

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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