



DATA SHEET

# IMG18-12NNSZU2K

IMG  
Inductive proximity sensors

# SICK

Sensor Intelligence



Illustration may differ

INDUCTIVE PROXIMITY SENSORS

# IMG18-12NNSZU2K

ORDERING INFORMATION

| Type            | part no.                |
|-----------------|-------------------------|
| IMG18-12NNSZU2K | <a href="#">1135582</a> |

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



DETAILED TECHNICAL DATA

FEATURES

|                          |                                                                                       |
|--------------------------|---------------------------------------------------------------------------------------|
| Housing                  | Metric                                                                                |
| Housing                  | Short-body                                                                            |
| 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          | Cable, 3-wire, 2 m                                                                    |
| Switching output         | NPN                                                                                   |
| Switching output detail  | NPN                                                                                   |
| 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                                 | ≤ 10 %                                                                                                                                                                                                                                                                                                                                        |
| Voltage drop                           | ≤ 2 V <sup>1)</sup>                                                                                                                                                                                                                                                                                                                           |
| Time delay before availability         | ≤ 100 ms                                                                                                                                                                                                                                                                                                                                      |
| Hysteresis                             | 3 % ... 20 %                                                                                                                                                                                                                                                                                                                                  |
| Reproducibility                        | ≤ 2 % <sup>2)</sup><br><sup>3)</sup>                                                                                                                                                                                                                                                                                                          |
| Temperature drift (of S <sub>r</sub> ) | ± 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>      | ≤ 200 mA                                                                                                                                                                                                                                                                                                                                      |
| No load current                        | ≤ 10 mA                                                                                                                                                                                                                                                                                                                                       |
| Cable material                         | PUR                                                                                                                                                                                                                                                                                                                                           |
| Conductor size                         | 0.25 mm <sup>2</sup>                                                                                                                                                                                                                                                                                                                          |
| Cable diameter                         | Ø 3.9 mm                                                                                                                                                                                                                                                                                                                                      |
| Bending radius                         | With fixed installation > 5 x cable diameter<br>For flexible use > 10 x cable diameter                                                                                                                                                                                                                                                        |
| 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                         | 39.4 mm                                                                                                                                                                                                                                                                                                                                       |
| Thread length                          | 26.9 mm                                                                                                                                                                                                                                                                                                                                       |
| Tightening torque, max.                | ≤ 30 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>0</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 |

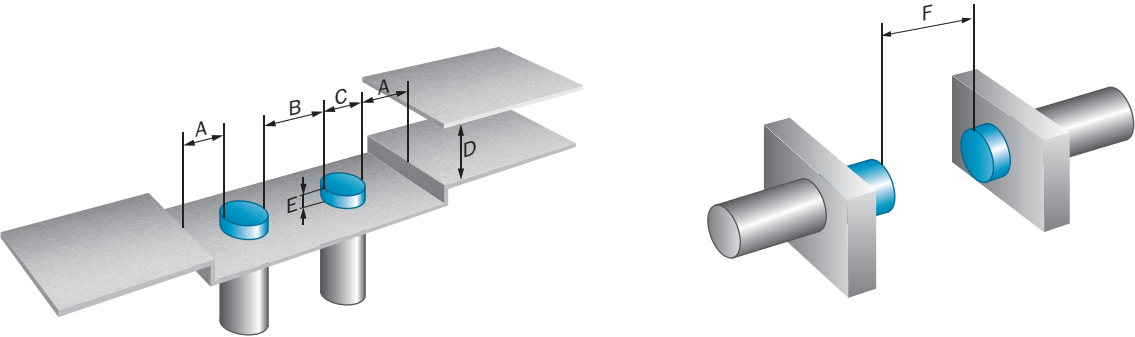
INSTALLATION NOTE

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

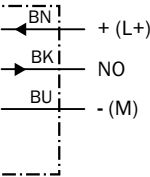
CERTIFICATES

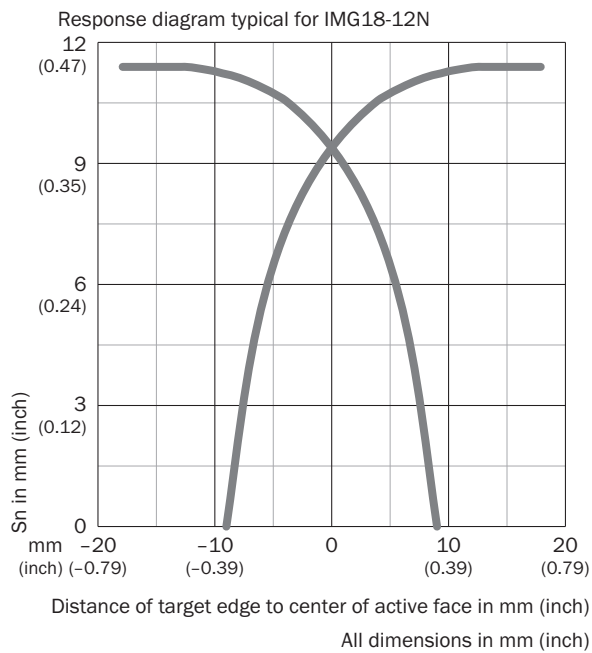
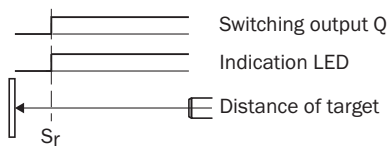
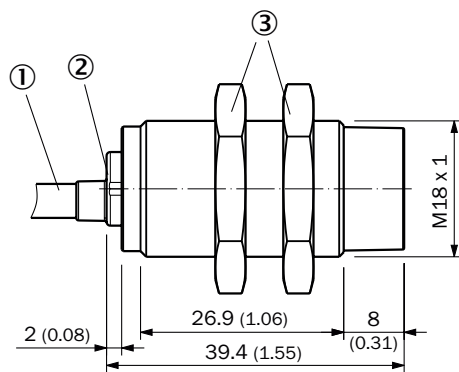
|                                                     |   |
|-----------------------------------------------------|---|
| EU declaration of conformity                        | ✓ |
| UK declaration of conformity                        | ✓ |
| ACMA declaration of conformity                      | ✓ |
|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

INSTALLATION NOTE NON-FLUSH INSTALLATION



CONNECTION DIAGRAM CD-001



**RESPONSE DIAGRAM****FUNCTIONAL PRINCIPLE****DIMENSIONAL DRAWING IMG18, SHORT VARIANT, CABLE, NON FLUSH**

Dimensions in mm (inch)

① Connection

② Display LED

③ Fastening nuts (2x); AF24; nickel-plated brass

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/1135582](http://www.sick.com/1135582)



SICK AG  
WALDKIRCH  
GERMANY  
SICK.COM

# SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

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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