# IM18-12NNS-ZQD

IM Standard

**INDUCTIVE PROXIMITY SENSORS**

**SICK**
Sensor Intelligence.

# IM18-12NNS-ZQD | IM Standard

INDUCTIVE PROXIMITY SENSORS

Illustration may differ

## Ordering information

| Type | Part no. |
|---|---|
| IM18-12NNS-ZQD | 6032715 |

Other models and accessories ➔ www.sick.com/IM_Standard

## Detailed technical data

### Features

| | |
|---|---|
| Housing | Cylindrical thread design |
| Housing | Standard design |
| Thread size | M18 x 1 |
| Diameter | Ø 18 mm |
| Sensing range $S_n$ | 12 mm |
| Installation type | Non-flush |
| Switching frequency | 300 Hz |
| Connection type | Cable with M12 male connector, 4-pin, 1 m |
| Switching output | NPN |
| Output function | NO |
| Electrical wiring | DC 3-wire |
| Enclosure rating | IP67 [1] |
| Special characteristic | Including toothed washers |

[1] According to EN 60529.

### Mechanics/electronics

| | |
|---|---|
| Supply voltage | 10 V DC ... 30 V DC |
| Ripple | ≤ 10 % |
| Voltage drop | ≤ 1 V [1] |
| Time delay before availability | ≤ 100 ms |
| Hysteresis | 2 % ... 15 % |
| Reproducibility | ≤ 5 % [2] [3] |
| Temperature drift (of $S_r$) | ± 10 % |

[1] At $I_a$ max.
[2] Supply voltage Ub and constant ambient temperature Ta.
[3] Of Sr.

| | |
|---|---|
| **EMC** | According to EN 60947-5-2 |
| **Continuous current $I_a$** | ≤ 400 mA |
| **Cable material** | PVC |
| **Conductor size** | 0.34 mm² |
| **Short-circuit protection** | ✓ |
| **Reverse polarity protection** | ✓ |
| **Power-up pulse protection** | ✓ |
| **Shock and vibration resistance** | 30 g, 11 ms / 10 … 55 Hz, 1 mm |
| **Ambient operating temperature** | –25 °C … +70 °C |
| **Housing material** | Brass, Nickel-plated brass |
| **Sensing face material** | Plastic |
| **Housing length** | 50 mm |
| **Thread length** | 32 mm |
| **Tightening torque, max.** | ≤ 30 Nm |

[1] At $I_a$ max.

[2] Supply voltage Ub and constant ambient temperature Ta.

[3] Of Sr.

## Safety-related parameters

| | |
|---|---|
| **$MTTF_D$** | 93 years |
| **$DC_{avg}$** | 0 % |

## Installation note

| | |
|---|---|
| **Remark** | Associated graphic see "Installation" |
| **A** | 18 mm |
| **B** | 36 mm |
| **C** | 18 mm |
| **D** | 36 mm |
| **E** | 16 mm |
| **F** | 96 mm |

## Classifications

| | |
|---|---|
| **eCl@ss 5.0** | 27270101 |
| **eCl@ss 5.1.4** | 27270101 |
| **eCl@ss 6.0** | 27270101 |
| **eCl@ss 6.2** | 27270101 |
| **eCl@ss 7.0** | 27270101 |
| **eCl@ss 8.0** | 27270101 |
| **eCl@ss 8.1** | 27270101 |
| **eCl@ss 9.0** | 27270101 |
| **eCl@ss 10.0** | 27270101 |
| **eCl@ss 11.0** | 27270101 |
| **eCl@ss 12.0** | 27274001 |
| **ETIM 5.0** | EC002714 |

| ETIM 6.0 | EC002714 |
|---|---|
| ETIM 7.0 | EC002714 |
| ETIM 8.0 | EC002714 |
| UNSPSC 16.0901 | 39122230 |

## Installation note

Non-flush installation
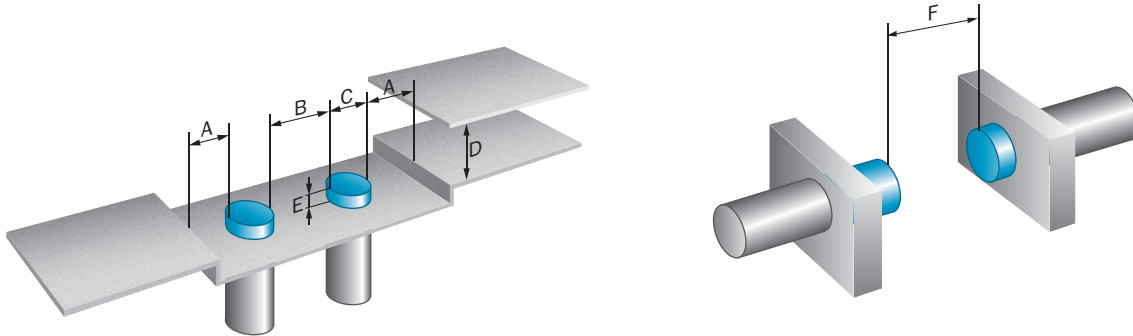


## Connection type

## Connection diagram



Cd-007



| | | |
|---|---|---|
| BN | 1 | + (L+) |
| BK | 4 | NO |
| | 2 | not connected |
| BU | 3 | - (M) |
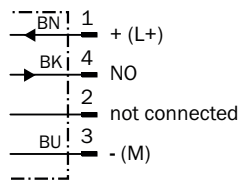
## Dimensional drawing (Dimensions in mm (inch))



50 (1.97)
M18 x 1
32 (1.26)
8 (0.31)
L = 1000
42.5 (1.67)
M12 x 1
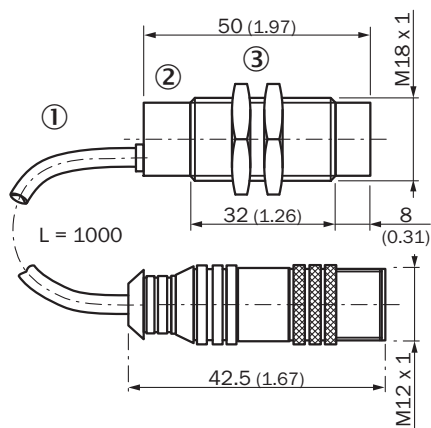
① Connection
② Display LED
③ Fastening nuts (2x); width across 24, metal

## Recommended accessories

Other models and accessories ➜ www.sick.com/IM_Standard

| | Brief description | Type | Part no. |
|---|---|---|---|
| **Mounting brackets and plates** | | | |
| | Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware | BEF-WG-M18 | 5321870 |
| | Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware | BEF-WN-M18 | 5308446 |
| **Plug connectors and cables** | | | |
| | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YF2A14-020VB3XLEAX | 2096234 |
| | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A14-050VB3XLEAX | 2096235 |
| | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YG2A14-020VB3XLEAX | 2095895 |
| | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YG2A14-050VB3XLEAX | 2095897 |
| | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 2 m<br>Only suitable for PNP sensors | YI2A14-020VB3XLEAX | 2096222 |
| | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m<br>Only suitable for PNP sensors | YI2A14-050VB3XLEAX | 2096223 |
| | Head A: female connector, M12, 4-pin, straight<br>Cable: unshielded | DOS-1204-G | 6007302 |
| | Head A: female connector, M12, 4-pin, angled<br>Cable: unshielded | DOS-1204-W | 6007303 |
| | Head A: male connector, M12, 4-pin, straight<br>Cable: unshielded | STE-1204-G | 6009932 |
| | Head A: male connector, M12, 4-pin, angled<br>Cable: unshielded | STE-1204-W | 6022084 |
| **Terminal and alignment brackets** | | | |
| | Clamping block for round sensors M18, without fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included | BEF-KH-M18 | 2051481 |

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is "Sensor Intelligence."**

## WORLDWIDE PRESENCE:

Contacts and other locations –**www.sick.com**

SICK AG  |  Waldkirch  |  Germany  |  www.sick.com