



IM12-10NPS-ZW1

IML

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|----------------|----------|
| IM12-10NPS-ZW1 | 6027512 |

Other models and accessories → www.sick.com/IML

Illustration may differ



Detailed technical data

Features

| | |
|--|--|
| Housing | Metric |
| Housing | Standard design |
| Thread size | M12 x 1 |
| Diameter | Ø 12 mm |
| Sensing range S_n | 10 mm |
| Safe sensing range S_a | 8.1 mm |
| Installation type | Non-flush |
| Switching frequency | 400 Hz |
| Connection type | Cable, 3-wire, 2 m |
| Switching output | PNP |
| Output function | NO |
| Electrical wiring | DC 3-wire |
| Enclosure rating | IP67 ¹⁾ |
| Special features | Triple sensing range |
| Items supplied | Mounting nut, brass, chromium-plated (2x) Washer, brass, chromium-plated, with locking teeth (2x) |

¹⁾ According to EN 60529.

Mechanics/electronics

| | |
|-----------------------|----------------------|
| Supply voltage | 10 V DC ... 30 V DC |
| Ripple | ≤ 10 % ¹⁾ |
| Voltage drop | ≤ 2 V ²⁾ |

¹⁾ Of V_S .

²⁾ At I_a max.

³⁾ Of S_r .

⁴⁾ UB = 20 V DC ... 30 V DC, TA = 23 °C ± 5 °C.

⁵⁾ LED lights continuously ($0 \leq s \leq 0.8 S_r$); LED flashing ($0.8 S_r < s \leq S_r$).

| | |
|---|----------------------------------|
| Time delay before availability | ≤ 50 ms |
| Hysteresis | 1 % ... 15 % |
| Reproducibility | ≤ 5 % ^{3) 4)} |
| Temperature drift (of S_r) | ± 10 % |
| EMC | According to EN 60947-5-2 |
| Continuous current I_a | ≤ 200 mA |
| Cable material | PVC |
| Conductor size | 0.34 mm ² |
| Cable diameter | Ø 5 mm |
| Short-circuit protection | ✓ |
| Power-up pulse protection | ✓ |
| Shock and vibration resistance | 30 g, 11 ms / 10 ... 55 Hz, 1 mm |
| Installation aid | ✓ ⁵⁾ |
| Ambient operating temperature | -25 °C ... +70 °C |
| Housing material | Brass, chromium-plated |
| Sensing face material | Plastic, PTB |
| Housing length | 52 mm |
| Thread length | 44 mm |
| Tightening torque, max. | 10 Nm |

1) Of V_S.

2) At I_a max.

3) Of S_r.

4) UB = 20 V DC ... 30 V DC, TA = 23 °C ± 5 °C.

5) LED lights continuously (0 ≤ s ≤ 0.8 Sr); LED flashing (0.8 Sr < s ≤ Sr).

Safety-related parameters

| | |
|-------------------------------------|-----------|
| MTTF_D | 171 years |
| DC_{avg} | 0% |
| T_M (mission time) | 20 years |

Reduction factors

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

Installation note

| | |
|---------------|---------------------------------------|
| Remark | Associated graphic see "Installation" |
| A | 10 mm |
| B | 30 mm |
| C | 12 mm |
| D | 30 mm |
| E | 13 mm |

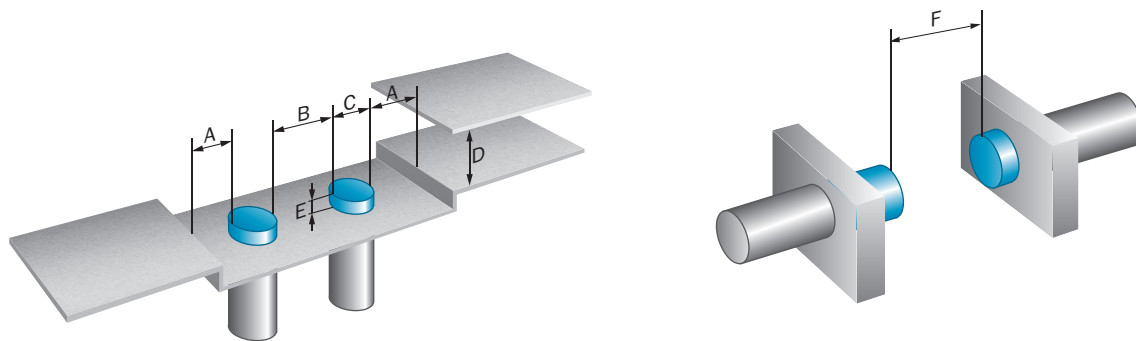
| | |
|----------|--------|
| F | 100 mm |
|----------|--------|

Classifications

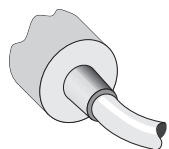
| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270101 |
| ECLASS 5.1.4 | 27270101 |
| ECLASS 6.0 | 27270101 |
| ECLASS 6.2 | 27270101 |
| ECLASS 7.0 | 27270101 |
| ECLASS 8.0 | 27270101 |
| ECLASS 8.1 | 27270101 |
| ECLASS 9.0 | 27270101 |
| ECLASS 10.0 | 27270101 |
| ECLASS 11.0 | 27270101 |
| ECLASS 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



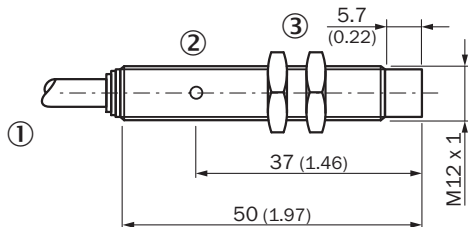
Connection diagram

Cd-001



Dimensional drawing (Dimensions in mm (inch))

IM12 Triplex, cable, non-flush



- ① Connection
- ② Display LED
- ③ Fastening nuts (2x); width across 17, metal

Recommended accessories

Other models and accessories → www.sick.com/IML

| | Brief description | Type | Part no. |
|--|---|-------------|----------|
| Universal bar clamp systems | | | |
| | Plate N05 for universal clamp bracket, M12, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware | BEF-KHS-N05 | 2051611 |
| Mounting brackets and plates | | | |
| | Mounting plate for M12 sensors, steel, zinc coated, without mounting hardware | BEF-WG-M12 | 5321869 |
| | Mounting bracket for M12 sensors, steel, zinc coated, without mounting hardware | BEF-WN-M12 | 5308447 |
| Terminal and alignment brackets | | | |
| | Clamping block for round sensors M12, with fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included | BEF-KHF-M12 | 2051480 |

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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.”

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