



IMB30-20NPSVC0SX02

IMB

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | Part no. |
|--------------------|----------|
| IMB30-20NPSVCOSX02 | 1099574 |

Included in delivery: Cable housing/cover (1), BEF-MU-M30N (1)

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



Detailed technical data

Features

| | |
|--|--|
| Housing | Metric |
| Housing | Standard design |
| Thread size | M30 x 1.5 |
| Diameter | Ø 30 mm |
| Sensing range S_n | 20 mm |
| Safe sensing range S_a | 16.2 mm |
| Installation type | Non-flush |
| Switching frequency | 500 Hz |
| Connection type | Male connector M12, 4-pin ¹⁾ |
| Switching output | PNP |
| Output function | NO |
| Electrical wiring | DC 3-wire |
| Enclosure rating | IP67 ²⁾ |
| Special features | Resistant against coolant lubricants, Visual adjustment indicator, IO-Link, Temperature resistance |
| Special applications | Zones with coolants and lubricants, Mobile machines, Difficult application conditions, Explosive areas |
| Items supplied | Mounting nut, V2A stainless steel, with locking teeth (2x) Cable housing/cover |

¹⁾ With gold plated contact pins.

²⁾ According to EN 60529.

Mechanics/electronics

| | |
|---|--|
| Supply voltage | 10 V DC ... 30 V DC |
| Ripple | ≤ 10 % |
| Voltage drop | ≤ 2 V ¹⁾ |
| Hysteresis | 3 % ... 20 % |
| Reproducibility | ≤ 2 % ^{2) 3)} |
| Temperature drift (of S_r) | ± 10 % |
| EMC | According to EN 60947-5-2 |
| Continuous current I_a | ≤ 200 mA ⁴⁾ |
| No load current | ≤ 10 mA |
| Short-circuit protection | ✓ |
| Power-up pulse protection | ✓ |
| Shock and vibration resistance | 100 g / 2 ms / 500 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz / 1 mm; 55 Hz ... 500 Hz / 60 g |
| Ambient operating temperature | -20 °C ... +95 °C |
| Housing material | Stainless steel V2A, DIN 1.4305 / AISI 303 |
| Sensing face material | Plastic, LCP |
| Housing length | 70 mm |
| Thread length | 40 mm |
| Tightening torque, max. | Typ. 100 Nm ⁵⁾ Typ. 100 Nm ⁶⁾ |
| ATEX marking | II 3G Ex ec IIC T4 Gc X, II 3D Ex tc IIIC T135 °C Dc X |
| Ex area category | 3G, 3D |
| Protection class | III |
| UL File No. | E181493 |

¹⁾ At I_a max.

²⁾ Supply voltage U_B and constant ambient temperature T_a.

³⁾ Of S_r.

⁴⁾ Depend on ambient temperature. For details see operating instructions under „performance data of the sensor“.

⁵⁾ When using the non-toothed side of the nut.

⁶⁾ Valid if toothed side of nut is used.

Safety-related parameters

| | |
|-------------------------|-------------|
| MTTF_D | 1,971 years |
| DC_{avg} | 0 % |

Communication interface

| | |
|---------------------------------------|--|
| Communication interface | IO-Link V1.0 |
| Communication Interface detail | COM2 (38,4 kBaud) |
| Process data length | 1 Byte |
| Process data structure | Bit 0 = S _r reached Bit 1 = S _a reached |

Reduction factors

| | |
|-------------|--|
| Note | The values are reference values which may vary |
|-------------|--|

| | |
|-----------------------------------|--------------|
| St37 steel (Fe) | 1 |
| Stainless steel (V2A, 304) | Approx. 0.78 |
| Aluminum (Al) | Approx. 0.44 |
| Copper (Cu) | Approx. 0.36 |
| Brass (Br) | Approx. 0.46 |

Installation note

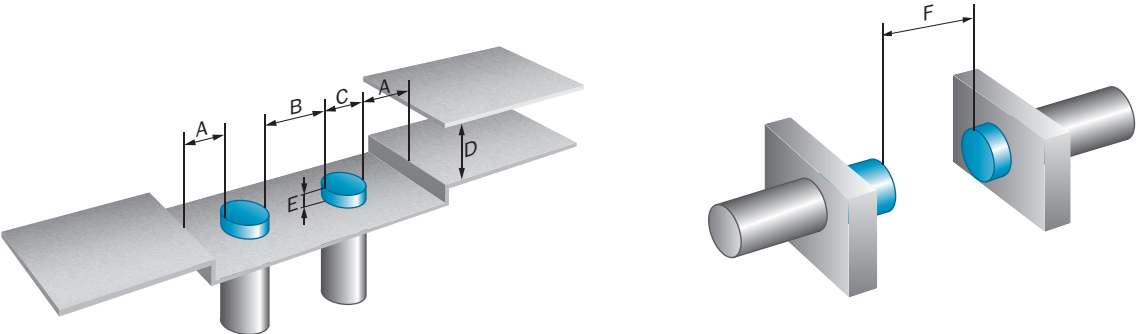
| | |
|---------------|---------------------------------------|
| Remark | Associated graphic see "Installation" |
| A | 20 mm |
| B | 62 mm |
| C | 30 mm |
| D | 60 mm |
| E | 20 mm |
| F | 160 mm |

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 |

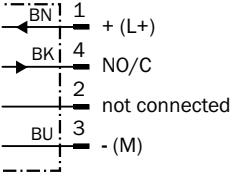
Installation note

Non-flush installation



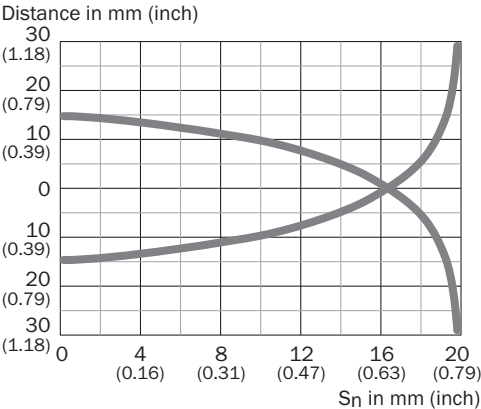
Connection diagram

Cd-456



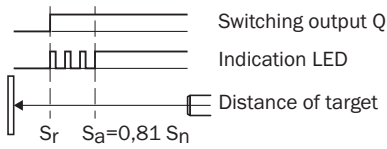
Response diagram

Response diagram



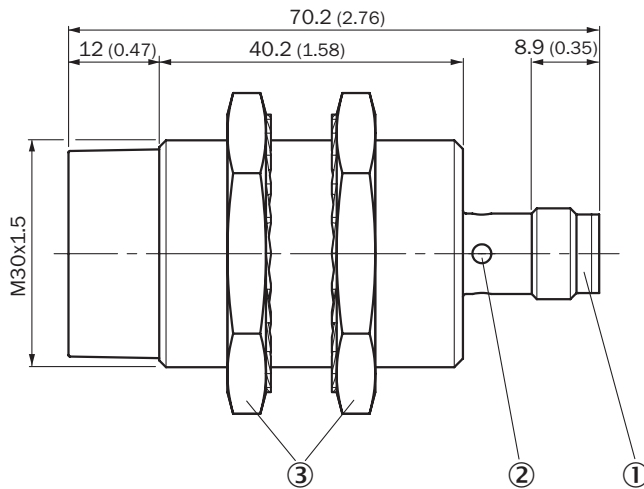
Functional principle

Installation aid



Dimensional drawing (Dimensions in mm (inch))





IMB30 Standard, connector M12, non-flush



- ① Connection
- ② Display LED
- ③ Fastening nuts (2 x); width across 36, stainless steel V2A

Recommended accessories

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

| | Brief description | Type | Part no. |
|---|--|------------|----------|
| Device protection (mechanical) | | | |
| | Screw-on protective cap for metric sensors. Protects the sensor from damage caused by impacts on the front., plastic | CAP-M30-DN | 2083542 |
| Mounting brackets and plates | | | |
|  |  | BEF-WG-M30 | 5321871 |
|  |  | BEF-WN-M30 | 5308445 |

| | Brief description | Type | Part no. |
|---|---|--------------------|----------|
| Others | | | |
|  |  | DOL-1204-G02MRN | 6058291 |
|  |  | DOL-1204-G05MRN | 6058476 |
|  |  | DOL-1204-W02MRN | 6058474 |
|  |  | DOL-1204-W05MRN | 6058477 |
|  |  | DOL-1204-L02MRN | 6058482 |
|  |  | DOL-1204-L05MRN | 6058483 |
|  |  | DSL-1204-B02MRN | 6058502 |
|  |  | DSL-1204-B05MRN | 6058503 |
|  |  | DSL-1204-G02MRN | 6058499 |
|  |  | DSL-1204-G05MRN | 6058500 |
|  |  | YF2A14-050UB3M2A14 | 2096001 |
|  |  | YF2A14-020UB3XLEAX | 2095607 |
|  |  | YF2A14-050UB3XLEAX | 2095608 |
|  |  | YG2A14-050UB3XLEAX | 2095767 |
|  |  | YF2AP4-020PA2M2AP4 | 2143765 |

Recommended services

Additional services → www.sick.com/IMB

| | Type | Part no. |
|--|------------------------|------------|
| Function Block Factory | | |
| <ul style="list-style-type: none"> • Description: The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found <a _blank"="" href="https://fbf.cloud.sick.com target=">here. • Note: You can configure your function block at <a _blank"="" href="https://fbf.cloud.sick.com target=">Function Block Factory. As a login please use your SICK ID. | Function Block Factory | On request |

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