



IMP14-03BNSVC0S

IMP

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | Part no. |
|-----------------|----------|
| IMP14-03BNSVC0S | 6050139 |

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

Detailed technical data

Features

| | |
|---|---------------------------|
| Housing | Cylindrical thread design |
| Thread size | M14 1.5 |
| Diameter | Ø 14 mm |
| Pressure resistance | ≤ 500 bar |
| Sensing range S_n | 3 mm |
| Safe sensing range S_a | 2.4 mm |
| Installation type | Flush |
| Switching frequency | 500 Hz |
| Connection type | Male connector M12, 4-pin |
| Switching output | NPN |
| Output function | NO |
| Electrical wiring | DC 3-wire |
| Enclosure rating | IP68 ¹⁾ |
| Special features | High pressure resistant |

¹⁾ Sensing face.

Mechanics/electronics

| | |
|---------------------------------------|-----------------------|
| Supply voltage | 10 V DC ... 30 V DC |
| Ripple | ≤ 20 % ¹⁾ |
| Voltage drop | ≤ 2 V ²⁾ |
| Current consumption | ≤ 10 mA ³⁾ |
| Time delay before availability | ≤ 50 ms |

¹⁾ Of V_S.

²⁾ With I_a = 200 mA.

³⁾ Without load.

⁴⁾ Typ. 8%.

⁵⁾ U_b = 20 ... 30 VDC.

⁶⁾ T_a = 23 °C ± 5 °C.

⁷⁾ IEC61000-4-4: 1kV.

⁸⁾ Front.

| | |
|---|---|
| Hysteresis | 1 % ... 15 % ⁴⁾ |
| Reproducibility | ≤ 4 % ^{5) 6)} |
| Temperature drift (of S_r) | 15 % |
| EMC | According to EN 60947-5-2 ⁷⁾ |
| Continuous current I_a | ≤ 200 mA |
| Vacuum resistance | 10 ⁻⁸ Torr ⁸⁾ |
| Large sealing ring | 11.5 mm x 2.0 mm |
| Short-circuit protection | ✓ |
| Reverse polarity protection | ✓ |
| Shock and vibration resistance | 30 g, 11 ms / 10 ... 55 Hz, 1 mm |
| Ambient operating temperature | -25 °C ... +80 °C |
| Housing material | Stainless steel, V4A |
| Sensing face material | Ceramics, ceramics |
| Sealing ring material | NBR |
| Housing length | 65 mm |
| Thread length | 11 mm |
| Tightening torque, max. | ≤ 70 Nm |

¹⁾ Of V_S.

²⁾ With I_a = 200 mA.

³⁾ Without load.

⁴⁾ Typ. 8%.

⁵⁾ U_b = 20 ... 30 VDC.

⁶⁾ T_a = 23 °C ± 5 °C.

⁷⁾ IEC61000-4-4: 1kV.

⁸⁾ Front.

Reduction factors

| | |
|-----------------------------------|--|
| Note | The values are reference values which may vary |
| St37 steel (Fe) | 1 |
| Stainless steel (V2A, 304) | Approx. 0.85 |
| Aluminum (Al) | Approx. 0 |
| Copper (Cu) | Approx. 0 |
| Brass (Br) | Approx. 0.15 |

Installation note

| | |
|---------------|---------------------------------------|
| Remark | Associated graphic see "Installation" |
|---------------|---------------------------------------|

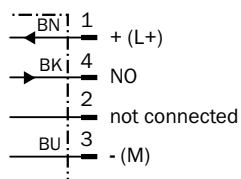
Classifications

| | |
|---------------------|----------|
| 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 |

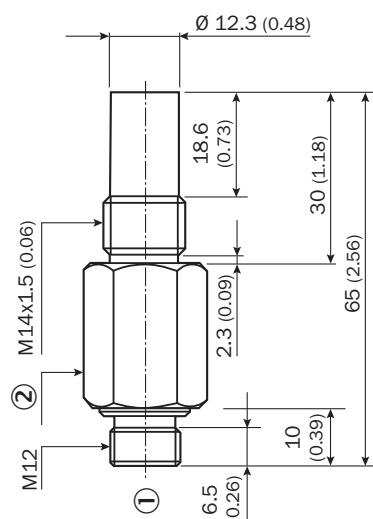
| | |
|-----------------------|----------|
| ECl@ss 9.0 | 27270101 |
| ETIM 5.0 | EC002714 |
| ETIM 6.0 | EC002714 |
| UNSPSC 16.0901 | 39122230 |

Connection diagram

cd-007



Dimensional drawing (Dimensions in mm (inch))



- ① Male connector M12, 4-pin
- ② Width across 19

Recommended accessories

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

| Brief description | Type | Part no. |
|----------------------------|--------------|----------|
| Other mounting accessories | | |
| | O-ring IMP14 | 5327495 |

| | Brief description | Type | Part no. |
|--|--|--------------------|-----------------|
| Plug connectors and cables | | | |
|  | Head A: female connector, M12, 4-pin, straight, A-coded Head B: open cable ends Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YF2A14-020UB3XLEAX | 2095607 |
|  | Head A: female connector, M12, 4-pin, straight, A-coded Head B: open cable ends Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YF2A14-020VB3XLEAX | 2096234 |
|  | Head A: female connector, M12, 4-pin, straight, A-coded Head B: open cable ends Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YF2A14-050UB3XLEAX | 2095608 |
|  | Head A: female connector, M12, 4-pin, straight, A-coded Head B: open cable ends Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A14-050VB3XLEAX | 2096235 |
|  | Head A: female connector, M12, 4-pin, angled, A-coded Head B: open cable ends Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YG2A14-020UB3XLEAX | 2095766 |
|  | Head A: female connector, M12, 4-pin, angled, A-coded Head B: open cable ends Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YG2A14-020VB3XLEAX | 2095895 |
|  | Head A: female connector, M12, 4-pin, angled, A-coded Head B: open cable ends Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YG2A14-050UB3XLEAX | 2095767 |
|  | Head A: female connector, M12, 4-pin, angled, A-coded Head B: open cable ends Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YG2A14-050VB3XLEAX | 2095897 |

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:

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