



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 x 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
Special applications	Hydraulic application

¹⁾ Sensing face.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	≤ 20 % ¹⁾
Voltage drop	≤ 2 V ²⁾
Time delay before availability	≤ 50 ms

¹⁾ Of V_S .

²⁾ With $I_a = 200$ mA.

³⁾ Typ. 8%.

⁴⁾ $U_b = 20 \dots 30$ VDC.

⁵⁾ $T_a = 23 \text{ °C} \pm 5 \text{ °C}$.

⁶⁾ IEC61000-4-4: 1kV.

⁷⁾ Front.

Hysteresis	1 % ... 15 % ³⁾
Reproducibility	≤ 4 % ^{4) 5)}
Temperature drift (of S_r)	15 %
EMC	According to EN 60947-5-2 ⁶⁾
Continuous current I_a	≤ 200 mA
Vacuum resistance	10 ⁻⁸ Torr ⁷⁾
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, DIN 1.4404 / AISI 316L
Sensing face material	Ceramics, ZrO ₂
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) Typ. 8%.

4) U_b = 20 ... 30 VDC.

5) T_a = 23 °C ± 5 °C.

6) IEC61000-4-4: 1kV.

7) Front.

Safety-related parameters

MTTF_D	156 years
DC_{avg}	0%
T_M (mission time)	20 years

Reduction factors

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

Installation note

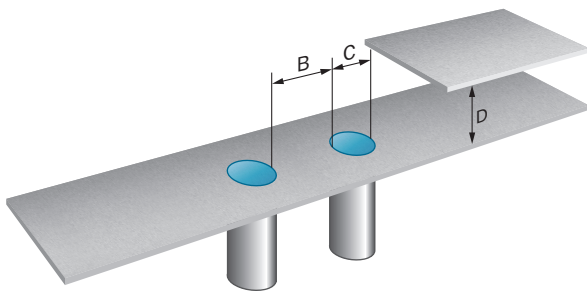
Remark	Associated graphic see "Installation"
B	12 mm
C	14 mm
D	9 mm
F	20 mm

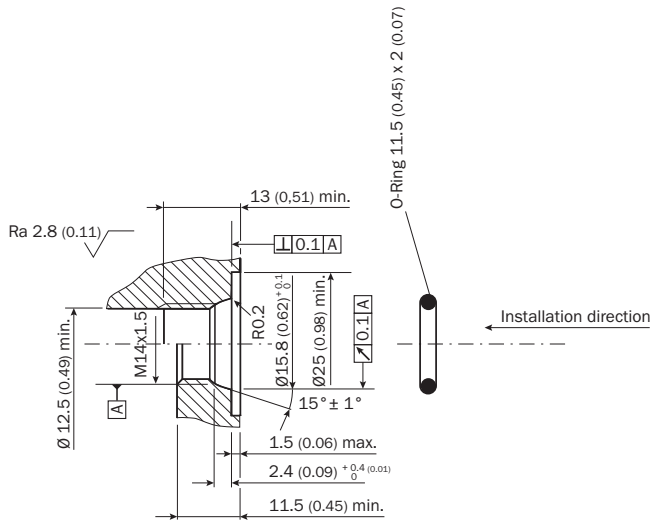
Classifications

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

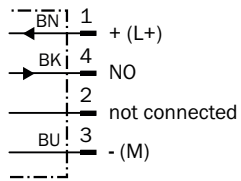
Flush installation



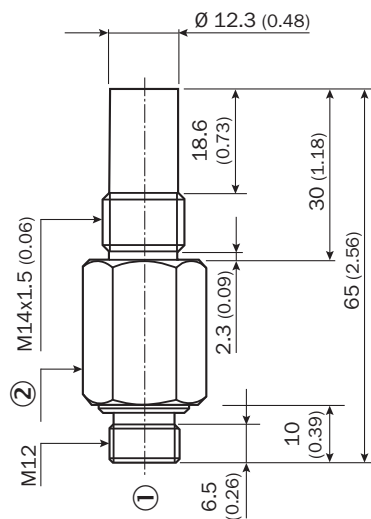


Connection diagram

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			
	5327495	O-ring IMP14	5327495
Others			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A14-020UB3XLEAX	2095607
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A14-050UB3XLEAX	2095608
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot 	YG2A14-020UB3XLEAX	2095766
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot 	YG2A14-050UB3XLEAX	2095767
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YF2A14-020VB3XLEAX	2096234
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YG2A14-020VB3XLEAX	2095895
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YG2A14-050VB3XLEAX	2095897

SICK AT A GLANCE

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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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