



# IMP14-03BN0VC0S

IMP

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

## Ordering information

Type	Part no.
IMP14-03BNOVCOS	6050140

Other models and accessories → [www.sick.com/IMP](http://www.sick.com/IMP)

## Detailed technical data

### Features

<b>Housing</b>	Metric
<b>Thread size</b>	M14 x 1.5
<b>Diameter</b>	Ø 14 mm
<b>Pressure resistance</b>	≤ 500 bar
<b>Sensing range <math>S_n</math></b>	3 mm
<b>Safe sensing range <math>S_a</math></b>	2.4 mm
<b>Installation type</b>	Flush
<b>Switching frequency</b>	500 Hz
<b>Connection type</b>	Male connector M12, 4-pin
<b>Switching output</b>	NPN
<b>Output function</b>	NC
<b>Electrical wiring</b>	DC 3-wire
<b>Enclosure rating</b>	IP68 <sup>1)</sup>
<b>Special features</b>	High pressure resistant
<b>Special applications</b>	Hydraulic application

<sup>1)</sup> Sensing face.

### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC
<b>Ripple</b>	≤ 20 % <sup>1)</sup>
<b>Voltage drop</b>	≤ 2 V <sup>2)</sup>
<b>Time delay before availability</b>	≤ 50 ms
<b>Hysteresis</b>	1 % ... 15 % <sup>3)</sup>

<sup>1)</sup> Of  $V_S$ .

<sup>2)</sup> With  $I_a = 200$  mA.

<sup>3)</sup> Typ. 8%.

<sup>4)</sup>  $U_b = 20$  ... 30 VDC.

<sup>5)</sup>  $T_a = 23$  °C ± 5 °C.

<sup>6)</sup> IEC61000-4-4: 1kV.

<sup>7)</sup> Front.

<b>Reproducibility</b>	≤ 4 % <sup>4) 5)</sup>
<b>Temperature drift (of S<sub>r</sub>)</b>	15 %
<b>EMC</b>	According to EN 60947-5-2 <sup>6)</sup>
<b>Continuous current I<sub>a</sub></b>	≤ 200 mA
<b>Vacuum resistance</b>	10 <sup>-8</sup> Torr <sup>7)</sup>
<b>Large sealing ring</b>	11.5 mm x 2.0 mm
<b>Short-circuit protection</b>	✓
<b>Shock and vibration resistance</b>	30 g, 11 ms / 10 ... 55 Hz, 1 mm
<b>Ambient operating temperature</b>	-25 °C ... +80 °C
<b>Housing material</b>	Stainless steel V4A, DIN 1.4404 / AISI 316L
<b>Sensing face material</b>	Ceramics, ZrO <sub>2</sub>
<b>Sealing ring material</b>	NBR
<b>Housing length</b>	65 mm
<b>Thread length</b>	11 mm
<b>Tightening torque, max.</b>	≤ 70 Nm

1) Of V<sub>S</sub>.

2) With I<sub>a</sub> = 200 mA.

3) Typ. 8%.

4) U<sub>b</sub> = 20 ... 30 VDC.

5) T<sub>a</sub> = 23 °C ± 5 °C.

6) IEC61000-4-4: 1kV.

7) Front.

### Reduction factors

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

### Installation note

<b>Remark</b>	Associated graphic see "Installation"
<b>B</b>	12 mm
<b>C</b>	14 mm
<b>D</b>	9 mm
<b>F</b>	20 mm

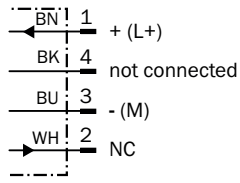
### Classifications

<b>ECLASS 5.0</b>	27270101
<b>ECLASS 5.1.4</b>	27270101
<b>ECLASS 6.0</b>	27270101
<b>ECLASS 6.2</b>	27270101
<b>ECLASS 7.0</b>	27270101
<b>ECLASS 8.0</b>	27270101

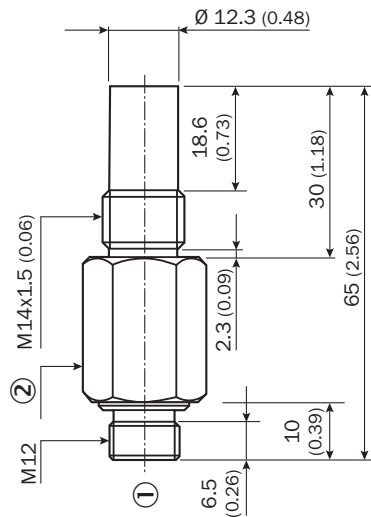


## Connection diagram

Cd-008





## 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](http://www.sick.com/IMP)

	Brief description	Type	Part no.
Other mounting accessories			
	5327495	O-ring IMP14	5327495
Others			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A14-020UB3XLEAX	2095607
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A14-050UB3XLEAX	2095608

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YG2A14-020UB3XLEAX	2095766
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YG2A14-050UB3XLEAX	2095767
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	YF2A14-020VB3XLEAX	2096234
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	YG2A14-020VB3XLEAX	2095895
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	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:

Contacts and other locations –[www.sick.com](http://www.sick.com)