



# IM12-06BPS-ZW1

IML

**INDUCTIVE PROXIMITY SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	part no.
IM12-06BPS-ZW1	6027509

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

### Detailed technical data

#### Features

<b>Housing</b>	Metric
<b>Housing</b>	Standard design
<b>Thread size</b>	M12 x 1
<b>Diameter</b>	Ø 12 mm
<b>Sensing range <math>S_n</math></b>	6 mm
<b>Safe sensing range <math>S_a</math></b>	4.86 mm
<b>Installation type</b>	Quasi-flush <sup>1)</sup>
<b>Switching frequency</b>	800 Hz
<b>Connection type</b>	Cable, 3-wire, 2 m
<b>Switching output</b>	PNP
<b>Switching output detail</b>	PNP
<b>Output function</b>	NO
<b>Electrical wiring</b>	DC 3-wire
<b>Enclosure rating</b>	IP67 <sup>2)</sup>
<b>Special features</b>	Triple sensing range
<b>Items supplied</b>	Mounting nut, brass, chromium-plated (2x) Washer, brass, chromium-plated, with locking teeth (2x)

<sup>1)</sup> When installed in conductive materials, the sensors must protrude by distance E (E = 2 mm).

<sup>2)</sup> According to EN 60529.

#### 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>

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

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Of  $S_r$ .

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

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

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

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

2) At I<sub>a</sub> max.

3) Of S<sub>r</sub>.

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

<b>MTTF<sub>D</sub></b>	171 years
<b>DC<sub>avg</sub></b>	0%
<b>T<sub>M</sub> (mission time)</b>	20 years

#### Reduction factors

<b>Note</b>	The values are reference values which may vary
<b>Stainless steel (V4A, 316L)</b>	Approx. 0.7
<b>Aluminum (Al)</b>	Approx. 0.3
<b>Copper (Cu)</b>	Approx. 0.25
<b>Brass (Br)</b>	Approx. 0.4

#### Installation note

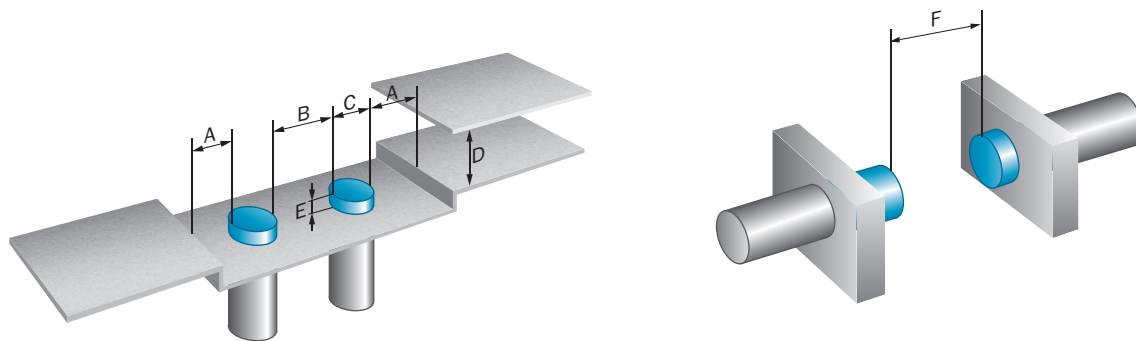
<b>Remark</b>	Associated graphic see "Installation"
<b>A</b>	6 mm
<b>B</b>	18 mm
<b>C</b>	12 mm
<b>D</b>	18 mm
<b>E</b>	2 mm

<b>F</b>	60 mm
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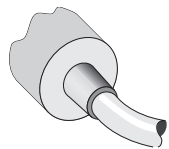
Classifications

<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
<b>ECLASS 8.1</b>	27270101
<b>ECLASS 9.0</b>	27270101
<b>ECLASS 10.0</b>	27270101
<b>ECLASS 11.0</b>	27270101
<b>ECLASS 12.0</b>	27274001
<b>ETIM 5.0</b>	EC002714
<b>ETIM 6.0</b>	EC002714
<b>ETIM 7.0</b>	EC002714
<b>ETIM 8.0</b>	EC002714
<b>UNSPSC 16.0901</b>	39122230

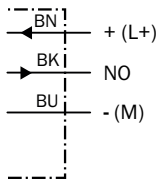
Installation note Non-flush installation



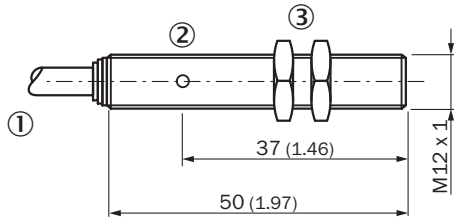
Connection type



### Connection diagram Cd-001



### Dimensional drawing IM12 Triplex, cable, quasi-flush







Dimensions in mm (inch)

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

### Recommended accessories

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

	Brief description	Type	part no.
<b>Mounting systems</b>			
	<ul style="list-style-type: none"> <li><b>Description:</b> Clamping block for round sensors M12, with fixed stop</li> <li><b>Material:</b> Plastic</li> <li><b>Details:</b> Plastic (PA12), glass-fiber reinforced</li> <li><b>Items supplied:</b> Mounting hardware included</li> </ul>	BEF-KHF-M12	2051480
	<ul style="list-style-type: none"> <li><b>Description:</b> Plate N05 for universal clamp bracket, M12</li> <li><b>Material:</b> Steel, zinc diecast</li> <li><b>Details:</b> Zinc plated steel (sheet), Zinc die cast (clamping bracket)</li> <li><b>Items supplied:</b> Universal clamp (5322626), mounting hardware</li> <li><b>Usable for:</b> IMA, IMF, M12 round sensors, UC4, V12-2, MultiV, MultiLine, W4-3, MultiV, MultiLine</li> </ul>	BEF-KHS-N05	2051611
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting plate for M12 sensors</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Without mounting hardware</li> </ul>	BEF-WG-M12	5321869
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for M12 sensors</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Without mounting hardware</li> </ul>	BEF-WN-M12	5308447

## 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)