



IM12-06BNS-ZC1

IML

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.

Ordering information



Type	Part no.
IM12-06BNS-ZC1	6030524

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

Illustration may differ



Detailed technical data

Features

Housing	Cylindrical thread design
Housing	Standard
Thread size	M12 1
Diameter	Ø 12 mm
Sensing range S_n	6 mm
Safe sensing range S_a	4.86 mm
Installation type	Quasi-flush ¹⁾
Switching frequency	800 Hz
Connection type	Male connector M12, 4-pin
Switching output	NPN
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP67 ²⁾
Special features	Triple sensing range

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

²⁾ According to EN 60529.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	≤ 20 % ¹⁾
Voltage drop	≤ 2 V ²⁾

¹⁾ Of V_s.

²⁾ At I_a max.

³⁾ Without load.

⁴⁾ Of S_r.

⁵⁾ UB = 20 V DC ... 30 V DC, TA = 23 °C ± 5 °C.

⁶⁾ LED lights continuously (0 ≤ s ≤ 0.8 Sr); LED flashing (0.8 Sr < s ≤ Sr).

Current consumption	≤ 10 mA ³⁾
Time delay before availability	≤ 50 ms
Hysteresis	1 % ... 15 %
Reproducibility	≤ 5 % ^{4) 5)}
Temperature drift (of S_r)	± 10 %
EMC	According to EN 60947-5-2
Continuous current I_a	≤ 200 mA
Short-circuit protection	✓
Reverse polarity protection	✓
Power-up pulse protection	✓
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Installation aid	✓ ⁶⁾
Ambient operating temperature	-25 °C ... +70 °C
Housing material	Metal, Chrome-plated brass
Sensing face material	Plastic, Plastic
Housing length	60 mm
Thread length	37 mm
Tightening torque, max.	10 Nm

1) Of V_S.

2) At I_a max.

3) Without load.

4) Of S_r.

5) U_B = 20 V DC ... 30 V DC, T_A = 23 °C ± 5 °C.

6) LED lights continuously (0 ≤ s ≤ 0.8 Sr); LED flashing (0.8 Sr < s ≤ Sr).

Reduction factors

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

Installation note

Remark	Associated graphic see "Installation"
A	6 mm
B	18 mm
C	12 mm
D	18 mm
E	2 mm
F	60 mm

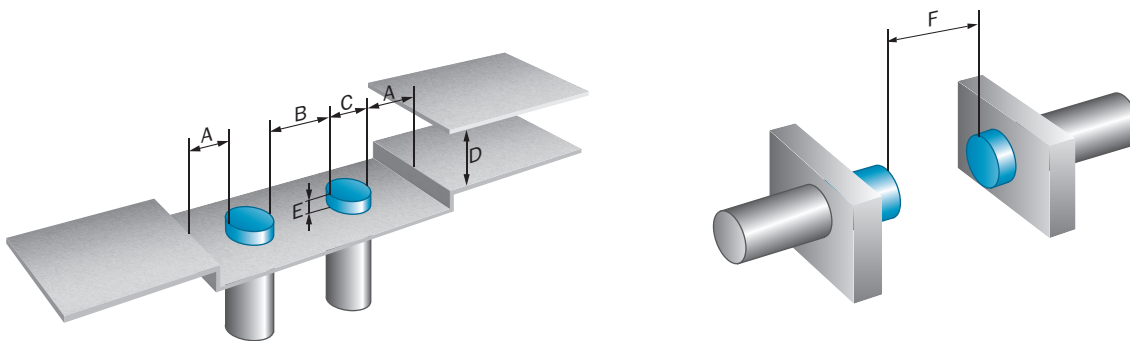
Classifications

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

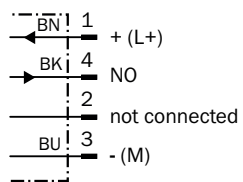
Installation note

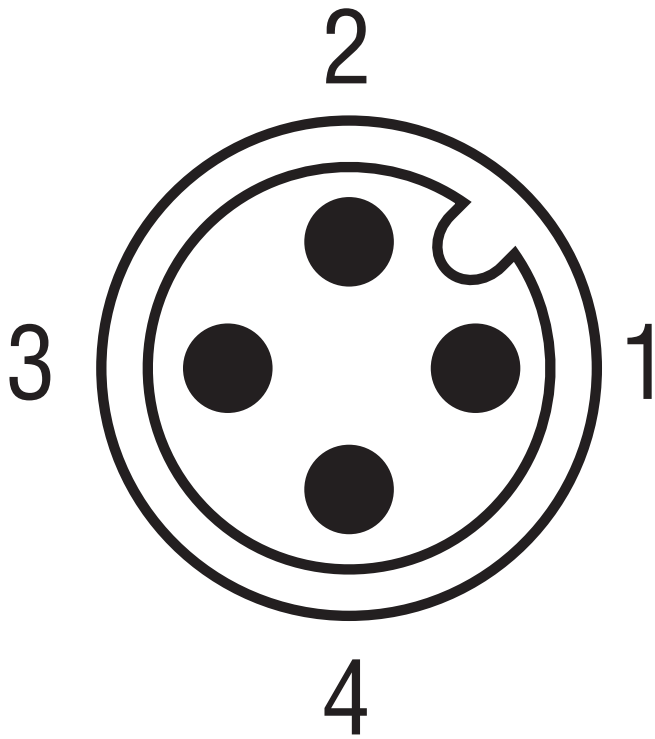
Non-flush installation



Connection diagram

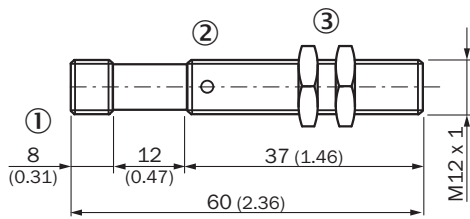
cd-007





Dimensional drawing (Dimensions in mm (inch))


IM12 Triplex, connector, quasi-flush












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

Recommended accessories

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

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N05 for universal clamp bracket, M12, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N05	2051611

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting plate for M12 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M12	5321869
	Mounting bracket for M12 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M12	5308447
Terminal and alignment brackets			
	Clamping block for round sensors M12, with fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KHF-M12	2051480
Plug connectors and cables			
	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, 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, 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, PVC, unshielded, 5 m	YG2A14-050VB3XLEAX	2095897
	Head A: female connector, M12, 4-pin, straight Head B: - Cable: unshielded	DOS-1204-G	6007302
	Head A: female connector, M12, 4-pin, angled Head B: - Cable: unshielded	DOS-1204-W	6007303
	Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded	STE-1204-G	6009932
	Head A: male connector, M12, 4-pin, angled Head B: - Cable: unshielded	STE-1204-W	6022084

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