Data sheet

IM12-02BAO-ZU0

IMW

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
IM12-02BA0-ZU0	7902119

Included in delivery: BEF-MU-M12 (1)

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

Detailed technical data

Features

Housing	Metric
Housing	Standard design
Thread size	M12 x 1
Diameter	Ø 12 mm
Sensing range S_n	2 mm
Safe sensing range S_a	1.62 mm
Installation type	Flush
Switching frequency	25 Hz
Connection type	Cable, 2-wire, 2 m
Output function	NC
Electrical wiring	AC 2-wire
Enclosure rating	IP67 [1]
Items supplied	Mounting nut, brass, nickel-plated (2x)

[1] According to EN 60529.

Mechanics/electronics

Supply voltage	20 V AC ... 250 V AC
Voltage drop	≤ 8.5 V [1]
Time delay before availability	≤ 10 ms
Hysteresis	1 % ... 15 %

[1] At I_a max.
[2] Supply voltage U_B and constant ambient temperature Ta.
[3] Of Sr.
[4] 50 °C.
[5] 80 °C.
[6] 20 ms / 0.5 Hz.
[7] Miniature fuse to IEC 60217-2 Sheet 1, ≤ 2 A (quick-blow).

Reproducibility	≤ 10 % [2] [3]
Temperature drift (of S_r)	± 10 %
EMC	According to EN 60947-5-2 As per EN 55011, class B
Continuous current I_a	≤ 250 mA [4] ≤ 200 mA [5]
Off-state current	≤ 3 mA (AC 250 V) ≤ 1.5 mA (AC 120 V)
Minimum load current	≥ 8 mA
Short-time withstand current	0.9 A [6]
Cable material	PUR/PVC
Conductor size	0.5 mm²
Short-circuit protection	[7]
Power-up pulse protection	✓
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	–25 °C ... +80 °C
Housing material	Brass, nickel-plated
Sensing face material	Plastic, PBT
Housing length	71 mm
Thread length	50 mm
Tightening torque, max.	≤ 7 Nm
Protection class	I

[1] At I_a max.
[2] Supply voltage U_B and constant ambient temperature Ta.
[3] Of Sr.
[4] 50 °C.
[5] 80 °C.
[6] 20 ms / 0.5 Hz.
[7] Miniature fuse to IEC 60217-2 Sheet 1, ≤ 2 A (quick-blow).

Safety-related parameters

$MTTF_D$	1,491 years
DC_{avg}	0 %
T_M (mission time)	20 years

Reduction factors

Note	The values are reference values which may vary
Stainless steel (V2A, 304)	Approx. 0.8
Aluminum (Al)	Approx. 0.45
Copper (Cu)	Approx. 0.4

Installation note

Remark	Associated graphic see "Installation"
A	0 mm
B	12 mm

C	12 mm
D	6 mm
E	0 mm
F	16 mm

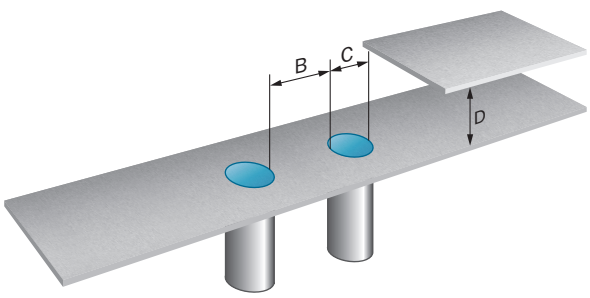
Certificates

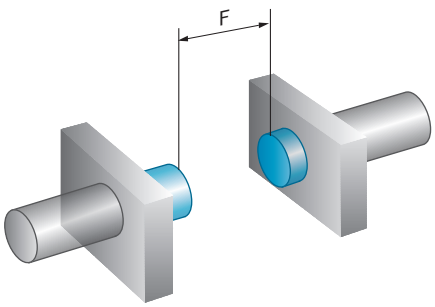
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓

Classifications

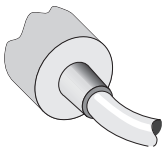
ECLASS 5.0	27270101
ECLASS 5.1.4	27270101
ECLASS 6.0	27270101
ECLASS 6.2	27270101
ECLASS 7.0	27270101
ECLASS 8.0	27270101
ECLASS 8.1	27270101
ECLASS 9.0	27270101
ECLASS 10.0	27270101
ECLASS 11.0	27270101
ECLASS 12.0	27274001
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714
ETIM 8.0	EC002714
UNSPSC 16.0901	39122230

Installation note Flush installation

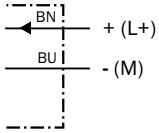




Connection type

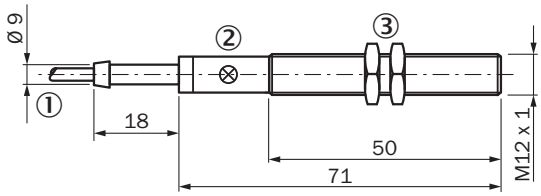


Connection diagram Cd-121



Miniature fuse to IEC60127-2
sheet 1, ≤ 2 A (fast acting)

Dimensional drawing IM12, AC, cable, 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/IMW

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Mounting bracket for M12 sensors • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Without mounting hardware	BEF-WN-M12	5308447
	• **Description:** Mounting plate for M12 sensors • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Without mounting hardware	BEF-WG-M12	5321869
	• **Description:** Clamping block for round sensors M12, without fixed stop • **Material:** Plastic • **Details:** Plastic (PA12), glass-fiber reinforced • **Items supplied:** Mounting hardware included	BEF-KH-M12	2051479
	• **Description:** Clamping block for round sensors M12, with fixed stop • **Material:** Plastic • **Details:** Plastic (PA12), glass-fiber reinforced • **Items supplied:** Mounting hardware included	BEF-KHF-M12	2051480
connectors and cables			
	• **Description:** Unshielded • **Connection type head A:** Male connector, M8, 3-pin, straight, A-coded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322

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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