



IM12-04N-N-ZW0

IMN

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
IM12-04N-N-ZW0	6021125

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

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

Illustration may differ



Detailed technical data

Features

Housing	Metric
Thread size	M12 x 1
Diameter	Ø 12 mm
Sensing range S_n	4 mm
Safe sensing range S_a	3.24 mm
Installation type	Non-flush
Switching frequency	1,500 Hz
Connection type	Cable, 2-wire, 2 m
Switching output	NAMUR
Switching output detail	NAMUR
Output function	NC
Enclosure rating	IP67 ¹⁾
Special applications	Explosive areas
Items supplied	Mounting nut, brass, nickel-plated (2x)

¹⁾ According to EN 60529.

Mechanics/electronics

Supply voltage	7.5 V DC ... 25 V DC ¹⁾
Hysteresis	1 % ... 15 %
Temperature drift (of S_n)	± 10 %
EMC	According to EN 60947-5-6
Current consumption, sensor is activated	≤ 1 mA

¹⁾ When used outside the hazardous area.

²⁾ For connection to a separately certified intrinsically safe circuit only.

³⁾ 1 kΩ.

Current consumption, sensor is not activated	≥ 2.2 mA
Cable material	PVC
Conductor size	0.34 mm ²
Cable diameter	Ø 4.9 mm
Cable resistance	50 Ω
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	-20 °C ... +70 °C
Housing material	Brass, nickel-plated
Sensing face material	Plastic, PTB
Housing length	30 mm
Thread length	25 mm
Tightening torque, max.	7 Nm
Weight	+ 127 g
Type approval certificate	PTB 03 ATEX 2037
Ex area category	1G
Input voltage U_i max.	15 V ²⁾
Input power P_i max.	120 mW ²⁾
Input current I_i max.	50 mA ²⁾
Internal capacitance C_i max.	140 nF ²⁾
Internal inductance L_i max.	130 µH ²⁾
Nominal voltage	8.2 V DC ³⁾
Device labeling	II 1G Ex ia IIC T6 Ga Ta -20 °C ... +70 °C

1) When used outside the hazardous area.

2) For connection to a separately certified intrinsically safe circuit only.

3) 1 kΩ.

Safety-related parameters

MTTF_D	7,577 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. 0.7
Aluminum (Al)	Approx. 0.4
Copper (Cu)	Approx. 0.3
Brass (Br)	Approx. 0.5

Installation note

Remark	Associated graphic see "Installation"
A	12 mm
B	24 mm

C	12 mm
D	12 mm
E	8 mm
F	32 mm

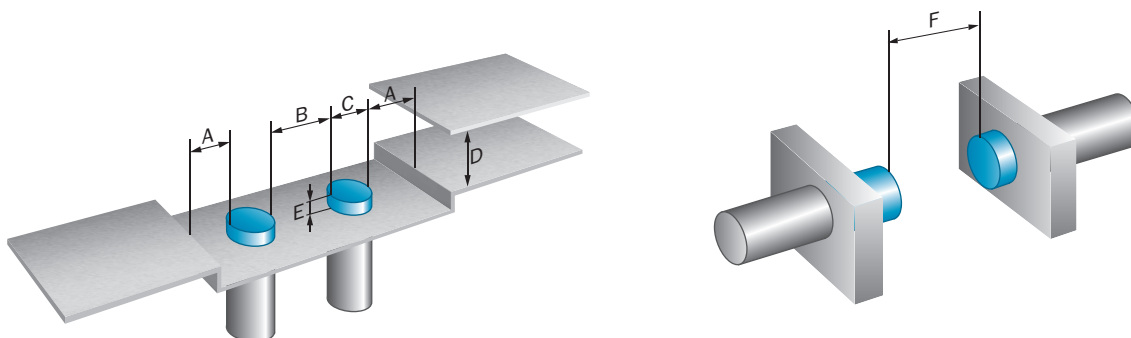
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
CCC certificate	✓
ATEX certificate	✓

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

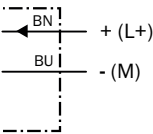
Installation note Non-flush installation



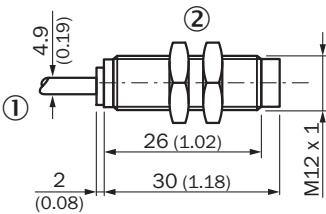
Connection type



Connection diagram Cd-012



Dimensional drawing IM12 Namur, non flush



Dimensions in mm (inch)

① Connection

② Fastening nuts (2x); width across 17, metal

Recommended accessories

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

	Brief description	Type	part no.
integration modules and adapters			
	Description: NAMUR isolating amplifier, Cable fault detection, Switching outputs: 2 NO relay (1 per channel), Supply voltage: 24 V ... 230 V, Voltage type: AC/DC	EN2-2EX1	6041096

	Brief description	Type	part no.
Mounting systems			
	• Description: Plate N05 for universal clamp bracket, M12 • Material: Steel, zinc diecast • Details: Zinc plated steel (sheet), Zinc die cast (clamping bracket) • Items supplied: Universal clamp (5322626), mounting hardware • Usable for: IMA, IMF, M12 round sensors, UC4, V12-2, MultiV, MultiLine, W4-3, MultiV, MultiLine	BEF-KHS-N05	2051611
	• Description: Mounting plate for M12 sensors • Material: Steel • Details: Steel, zinc coated • Items supplied: Without mounting hardware	BEF-WG-M12	5321869
	• Description: Mounting bracket for M12 sensors • Material: Steel • Details: Steel, zinc coated • Items supplied: Without mounting hardware	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