Online data sheet



IMF18-12NPSNC0S

IMF

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
IMF18-12NPSNC0S	1076666

Other models and accessories ➜ www.sick.com/IMF

Detailed technical data

Features

Housing	Cylindrical thread design
Housing	Standard
Thread size	M18 1
Diameter	Ø 18 mm
Sensing range S_n	12 mm
Safe sensing range S_a	9.72 mm
Installation type	Non-flush
Switching frequency	1,000 Hz
Connection type	Male connector M12, 4-pin [1]
Switching output	PNP
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP68 [2] IP69K [3]
Special features	Suitable for use in the food industry, Resistant to cleaning agentsCapable of communication via IO-Link 1.0

[1] With gold plated contact pins.
[2] According to EN 60529.
[3] According to ISO 20653:2013-03.

Communication interface

Communication interface	IO-Link V1.0
Mode	COM2 (38,4 kBaud)
Process data length	2 Byte
Process data structure	Bit 0 = Sr reached Bit 1 = Sa reached

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	≤ 10 %
Voltage drop	≤ 2 V [1]
Current consumption	≤ 10 mA [2]
Hysteresis	3 % ... 20 %
Reproducibility	≤ 2 % [3] [4]
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	100 g / 2 ms / 500 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz / 1 mm; 55 Hz ... 500 Hz / 60 g
Ambient operating temperature	–40 °C ... +100 °C
Housing material	Stainless steel, V4A (1.4404, AISI 316L)
Sensing face material	Plastic, LCP (FDA certified)
Housing length	65 mm
Thread length	39 mm
Tightening torque, max.	Typ. 90 Nm
Protection class	II [5]
UL File No.	E181493

[1] At I_a max.
[2] Without load.
[3] Ub and Ta constant.
[4] Of Sr.
[5] Reference voltage DC 50 V.

Reduction factors

Note	The values are reference values which may vary
Stainless steel (V2A, 304)	Approx. 0.7
Aluminum (Al)	Approx. 0.43
Copper (Cu)	Approx. 0.37
Brass (Br)	Approx. 0.43

Installation note

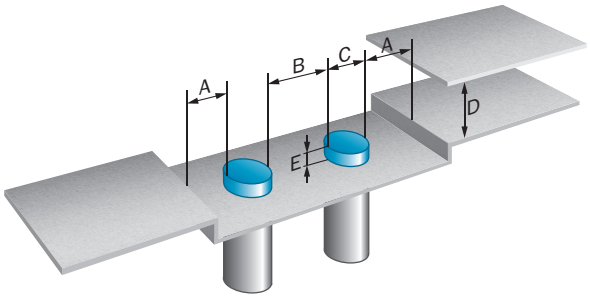
Remark	Associated graphic see "Installation"
A	18 mm
B	45 mm
C	18 mm
D	36 mm
E	12 mm
F	96 mm

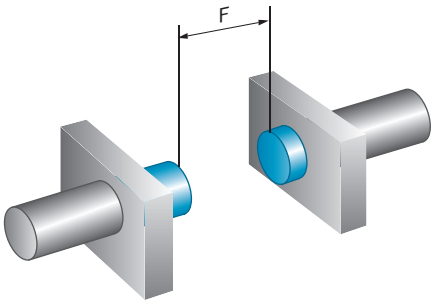
Classifications

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

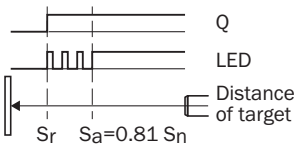
Non-flush installation





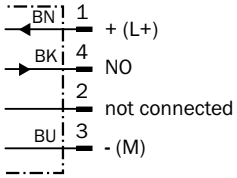
Adjustments possible

Normally open



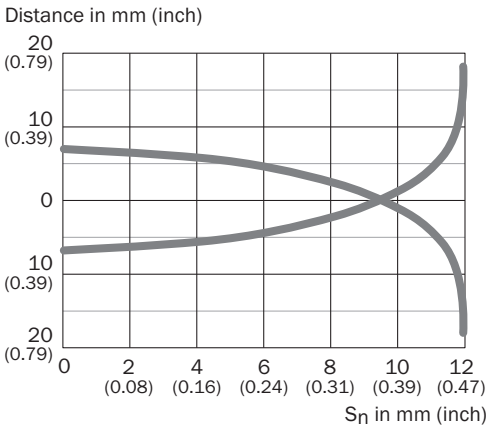
Connection diagram

cd-007



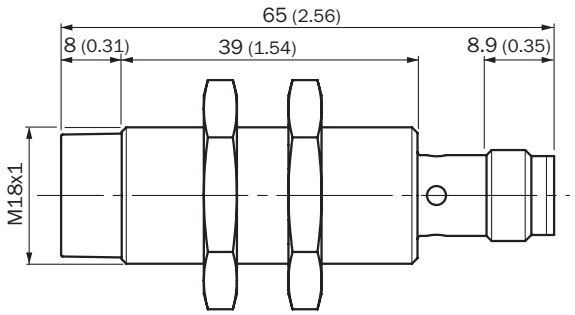
Characteristic curve

Non-flush installation



Dimensional drawing (Dimensions in mm (inch))

IMF18, non flush



Recommended accessories

Other models and accessories ➜ www.sick.com/IMF

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N06N for universal clamp bracket, M18, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322627), mounting hardware	BEF-KHS-N06N	2051622
Mounting brackets and plates			
	Mounting plate for M18 sensors, stainless steel, without mounting hardware	BEF-WG-M18N	5320948
	Mounting bracket for M18 sensors, stainless steel, without mounting hardware	BEF-WN-M18N	5320947
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight Head B: open cable ends Cable: PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DOL-1204-G02MRN	6058291
	Head A: female connector, M12, 4-pin, straight Head B: open cable ends Cable: PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DOL-1204-G05MRN	6058476
	Head A: female connector, M12, 4-pin, angled with LED Head B: open cable ends Cable: PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DOL-1204-L02MRN	6058482
	Head A: female connector, M12, 4-pin, angled with LED Head B: open cable ends Cable: PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DOL-1204-L05MRN	6058483
	Head A: female connector, M12, 4-pin, angled Head B: open cable ends Cable: PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DOL-1204-W02MRN	6058474
	Head A: female connector, M12, 4-pin, angled Head B: open cable ends Cable: PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DOL-1204-W05MRN	6058477
	Head A: female connector, M12, 4-pin, angled Head B: male connector, M12, 4-pin, straight Cable: PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DSL-1204-B02MRN	6058502

	Brief description	Type	Part no.
	Head A: female connector, M12, 4-pin, angled Head B: male connector, M12, 4-pin, straight Cable: PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DSL-1204-B05MRN	6058503
	Head A: female connector, M12, 4-pin, straight Head B: male connector, M12, 4-pin, straight Cable: PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DSL-1204-G02MRN	6058499
	Head A: female connector, M12, 4-pin, straight Head B: male connector, M12, 4-pin, straight Cable: PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DSL-1204-G05MRN	6058500

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.”

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