Data sheet

IMB18-08BPSVU2S

IMB

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
IMB18-08BPSVU2S	1072813

Included in delivery: BEF-MU-M18N (1)

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

Detailed technical data

Features

Housing	Metric
Housing	Standard design
Thread size	M18 x 1
Diameter	Ø 18 mm
Sensing range S_n	8 mm
Safe sensing range S_a	6.48 mm
Installation type	Quasi-flush [1]
Switching frequency	1,000 Hz
Connection type	Cable, 3-wire, 2 m
Switching output	PNP
Switching output detail	PNP
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP68 [2] IP69K [3]
Special features	Resistant against coolant lubricants, Visual adjustment indicator, IO-Link, Temperature resistance
Special applications	Zones with coolants and lubricants, Mobile machines, Difficult application conditions
Items supplied	Mounting nut, V2A stainless steel, with locking teeth (2x)

[1] When installed in conductive materials, the sensors must protrude by distance E (E = 2 mm).
[2] According to EN 60529.
[3] According to ISO 20653:2013-03.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	≤ 10 %
Voltage drop	≤ 2 V [1]
Hysteresis	3 % ... 20 %
Reproducibility	≤ 2 % [2] [3]
Temperature drift (of S_r)	± 10 %
EMC	According to EN 60947-5-2
Continuous current I_a	≤ 200 mA
No load current	≤ 10 mA
Cable material	PUR
Conductor size	0.34 mm²
Cable diameter	Ø 4.5 mm
Short-circuit 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 V2A, DIN 1.4305 / AISI 303
Sensing face material	Plastic, LCP
Housing length	50 mm
Thread length	45 mm
Tightening torque, max.	Typ. 60 Nm [4] Typ. 90 Nm [5]
Protection class	III
UL File No.	E181493

[1] At I_a max.
[2] Supply voltage U_B and constant ambient temperature Ta.
[3] Of Sr.
[4] When using the non-toothed side of the nut.
[5] Valid if toothed side of nut is used.

Safety-related parameters

$MTTF_D$	1,971 years
DC_{avg}	0 %

Communication interface

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

Reduction factors

Note	The values are reference values which may vary
St37 steel (Fe)	1
Stainless steel (V2A, 304)	Approx. 0.55
Aluminum (Al)	Approx. 0.24
Copper (Cu)	Approx. 0.19
Brass (Br)	Approx. 0.24

Installation note

Remark	Associated graphic see "Installation"
A	9 mm
B	18 mm
C	18 mm
D	24 mm
E	2 mm
F	64 mm

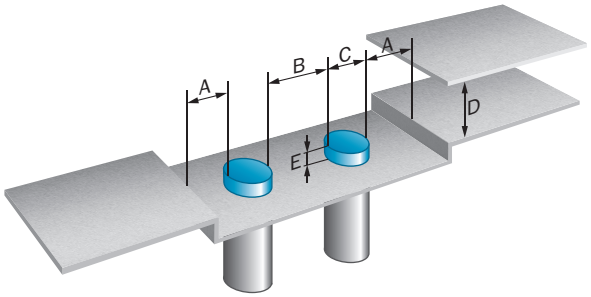
Certificates

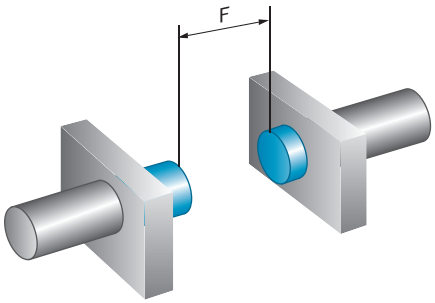
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
IO-Link certificate	✓

Classifications

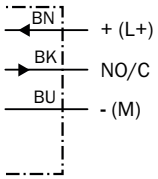
ECLASS 5.0	27270101
ECLASS 5.1.4	27270101
ECLASS 6.0	27270101
ECLASS 6.2	27270101
ECLASS 7.0	27270101
ECLASS 8.0	27270101
ECLASS 8.1	27270101
ECLASS 9.0	27270101
ECLASS 10.0	27270101
ECLASS 11.0	27270101
ECLASS 12.0	27274001
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714
ETIM 8.0	EC002714
UNSPSC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

Installation note Quasi-flush installation

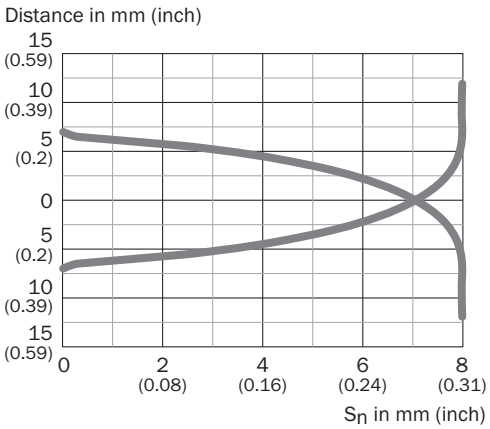




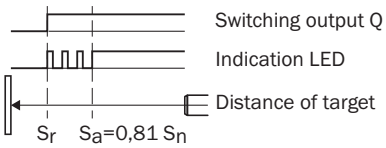
Connection diagram Cd-452



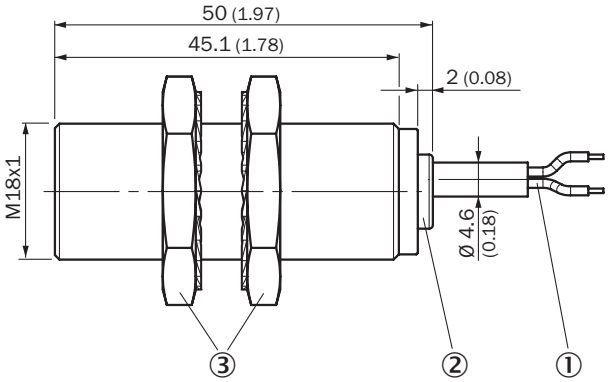
Response diagram



Functional principle Installation aid



Dimensional drawing IMB18 Standard, cable, flush



Dimensions in mm (inch)
① Connection
② Display LED
③ Fastening nuts (2 x); width across 24, stainless steel V2A

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Mounting plate for M18 sensors • **Material:** Stainless steel • **Details:** Stainless steel • **Items supplied:** Without mounting hardware	BEF-WG-M18N	5320948
	• **Description:** Mounting bracket for M18 sensors • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Without mounting hardware • **Suitable for:** GR18, V180-2, V18, W15, Z1, Z2	BEF-WN-M18	5308446
	• **Description:** Mounting bracket for M18 sensors • **Material:** Stainless steel • **Details:** Stainless steel • **Items supplied:** Without mounting hardware	BEF-WN-M18N	5320947
	• **Description:** Plate N06N for universal clamp bracket, M18 • **Material:** Stainless steel, stainless steel • **Details:** Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) • **Items supplied:** Universal clamp (5322627), mounting hardware • **Usable for:** MH15, MH15V, V180-2, V18V, W15, GR18, V18, V18 Laser, V12-2, SimpleSense, SureSense, M18 round sensors	BEF-KHS-N06N	2051622

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm² • **Application:** Hygienic and washdown zones	DOS-1204-GN	6028357
	• **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm² • **Application:** Hygienic and washdown zones	DOS-1204-WN	6028358
	• **Connection type head A:** Male connector, M12, 4-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm² • **Application:** Hygienic and washdown zones	STE-1204-GN	6028359

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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