Product data sheet

IMS30-20NPONC0S

IMS

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	Part no.
IMS30-20NPONC0S	1103219

Included in delivery: BEF-MU-M30 (1)

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

Detailed technical data

Features

Housing	Cylindrical thread design
Housing	Standard
Thread size	M30 x 1.5
Diameter	Ø 30 mm
Sensing range S_n	20 mm
Safe sensing range S_a	16.2 mm
Installation type	Non-flush
Switching frequency	500 Hz
Connection type	Male connector M12, 4-pin [1]
Switching output	PNP
Output function	NC
Electrical wiring	DC 3-wire
Enclosure rating	IP68 [2] IP69K [3]
Special features	Resistant to cleaning agents
Special applications	Mobile machines, Hygienic and washdown zones, Difficult application conditions

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

Mechanics/electronics

Supply voltage	7.2 V DC ... 60 V DC
Ripple	≤ 10 %

[1] At I_a max.
[2] Without load.
[3] Ub and Ta constant.
[4] See “Continuous current I_a above temperature” characteristic curve.

Voltage drop	≤ 2.5 V [1]
Current consumption	10 mA [2]
Time delay before availability	100 ms
Hysteresis	3 % ... 20 %
Reproducibility	≤ 2 % [3]
Temperature drift (of S_r)	± 10 %
EMC	Emitted interference and interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval Interference immunity in accordance with DIN ISO 11452-2: 100 V/m AM vertical 20 MHz - 800 MHz; AM horizontal 200 MHz - 800 MHz; PM vertical/horizontal 800 MHz - 2.7 GHz Conducted disturbances in accordance with ISO 7637-2 (pulse/severity/failure criterion 12 V/ failure criterion 24 V): 1/IV/C/C, 2a/IV/A/A, 2b/IV/C/C, 3a/IV/A/A, 3b/IV/A/A, 4/IV/C/A, 5a/ IV/B/B, 5b/IV/B/B EN 61000-4-2 ESD: 4 kV CD / 8 kV AD EN 61000-4-3 HF radiated: 10 V/m EN 61000-4-4 burst: 2 kV EN 61000-4-5 surge: 0,5 kV L-to-L, Ri: 2 Ohm
Environmental test	Quick temperature change EN 60068-2-14, Na: TA = –25 °C, TB = 75 °C, t1 = 40 min, t2 = < 10 s, 300 cycles, Delta S_r ≤ 10%
Corrosion test	Salt spray test EN 60068-2-52: severity 5, 4 cycles
Continuous current I_a	≤ 200 mA [4]
Short-circuit protection	✓
Reverse polarity protection	✓
Power-up pulse protection	✓
Shock and vibration resistance	Vibration resistance EN 60068-2-6 Fc: 25 g peak (10 Hz ... 2,000 Hz) / –20 °C ... +50 °C, Shock resistance EN 60068-2-27 Ea: 100 g 11 ms; 3 shocks in every direction of the 3 coordinate axes / –40 °C ... +85 °C, Continuous shock resistance EN 60068-2-29 Eb: 40 g 3 ms rise, 7 ms fall / 5,000 shocks in every direction of the 3 coordinate axes / -20 °C ... +50 °C, Broadband noise EN 60068-2-64: 15 g rms (5 Hz ... 2,000 Hz) / 8 hours in every direction of the 3 coordinate axes / –40 °C ... +85 °C
Ambient operating temperature	–40 °C ... +100 °C
Housing material	Stainless steel V4A, DIN 1.4404 / AISI 316L
Sensing face material	Plastic, LCP
Housing length	70 mm
Thread length	40.15 mm
Tightening torque, max.	Typ. 100 Nm
Items supplied	Mounting nut, brass, nickel-plated (2x)
Protection class	III
UL File No.	E181493

[1] At I_a max.

[2] Without load.

[3] Ub and Ta constant.

[4] See “Continuous current I_a above temperature” characteristic curve.

Safety-related parameters

$MTTF_D$	1,196 years
DC_{avg}	0%

Reduction factors

Note	The values are reference values which may vary
Stainless steel (V2A, 304)	Approx. 0.78
Aluminum (Al)	Approx. 0.44
Copper (Cu)	Approx. 0.36
Brass (Br)	Approx. 0.46

Installation note

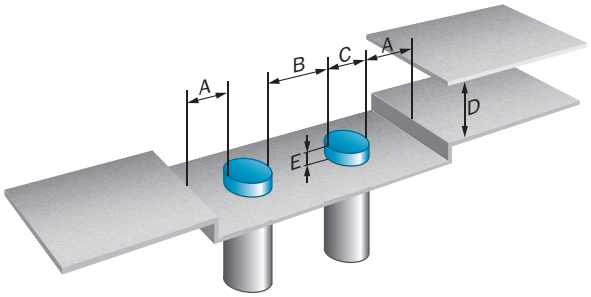
Remark	Associated graphic see "Installation"
A	20 mm
B	62 mm
C	30 mm
D	60 mm
E	20 mm
F	160 mm

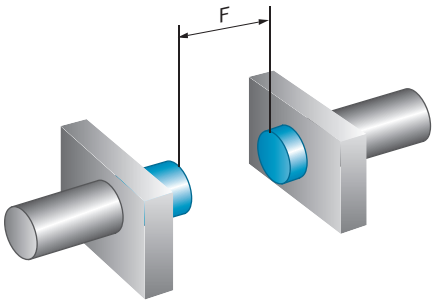
Classifications

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
ECl@ss 10.0	27270101
ECl@ss 11.0	27270101
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714
UNSPSC 16.0901	39122230

Installation note

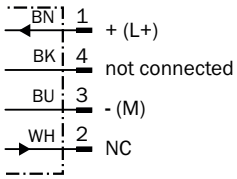
Non-flush installation





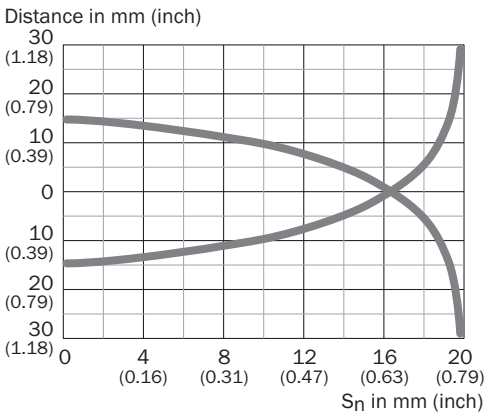
Connection diagram

Cd-008

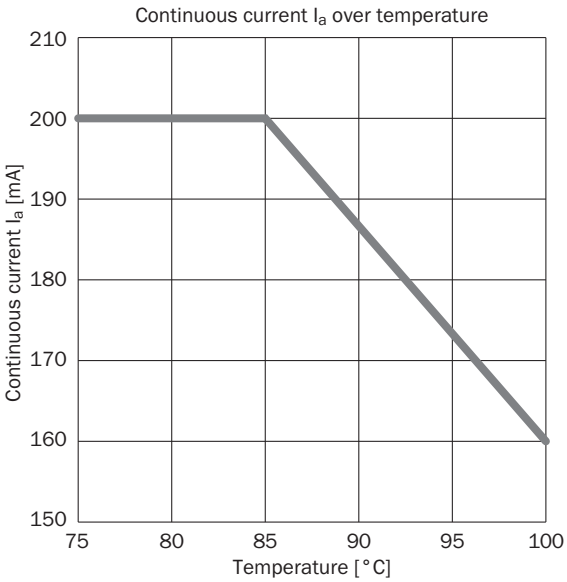


Characteristic curve

Response diagram

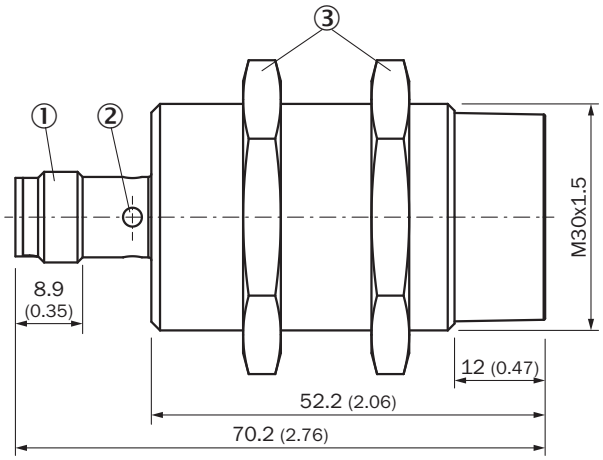


Temperature derating



Dimensional drawing (Dimensions in mm (inch))

IMS30, V4A, non-flush



① Connection
② Indication LED
③ Fastening nuts (2x); width across 36, brass nickel-plated

Recommended accessories

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

	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

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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.

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