

IMS30-15BPSNC0S

IMS

INDUCTIVE PROXIMITY SENSORS





Ordering information

Туре	Part no.
IMS30-15BPSNC0S	1103193

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	15 mm
Safe sensing range S _a	12.15 mm
Installation type	Flush
Switching frequency	300 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	Resistant to cleaning agents
Special applications	Mobile machines, Hygienic and washdown zones, Difficult application conditions

¹⁾ With gold plated contact pins.

Mechanics/electronics

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

 $^{^{1)}}$ At I $_{\rm a}$ max.

²⁾ According to EN 60529.

³⁾ According to ISO 20653:2013-03.

²⁾ Without load.

 $^{^{}m 3)}$ Ub and Ta constant.

 $^{^{\}rm 4)}\,{\rm See}$ "Continuous current ${\rm I}_{\rm a}$ above temperature" characteristic curve.

Current consumption 10 ma ²⁾ Time delay before availability Hysteresis 3 % 20 % Reproducibility ≤ 2 % ³⁾ Temperature drift (of S _*) EMC EDECT-10 Rev. 5: £1-Type approval interference immunity in accordance with Motor Insurance Directive ECF-110 Rev. 5: £1-Type approval interference immunity in accordance with DIN ISO 1145-2: 100 V/m AN vertical 20 MHz - 800 MHz; A Morizontal 200 MHz - 800 MHz; A Mz - 800 MHz	Voltage drop	≤ 2.5 V ¹⁾	
Time delay before availability Hysteresis 3 % 20 % Reproducibility 5 2 % 3) Temperature drift (of \$.) EMC EDERLO Rev. 5: E1-Type approval interference and interference immunity in accordance with Motor Insurance Directive ECERLO Rev. 5: E1-Type approval interference immunity in accordance with DIN ISO 11452-2: 100 V/m AN wertical 20 MHz - 800 MHz; PM vertical/horizontal 200			
Hysteresis 3 % 20 % Reproducibility 5 2 ½ 3 9 Temperature drift (of S,) ± 10 % EMC	<u> </u>		
Reproducibility ≤ 2 % ³⁾ 1 ± 10 % Emitted interference and interference immunity in accordance with Motor Insurance Directive ECR-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECR-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECR-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECR-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECR-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECR-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECR-R10 Rev. 5: E1-Type approval Interference Insurance and Interference Insurance	· · · · · · · · · · · · · · · · · · ·		
Temperature drift (of S ₄) EMIC Emitted interference and interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval Interference in ECE-R10 Rev. 6: E1-Type Approval Interfer			
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/S/B, 5b/IV/S/B EN 61000-42 ESD; 4 kV CD / 8 kV AD EN 61000-43 HF radiated: 10 V/m EN 61000-43 HF radiated: 10 V/m EN 61000-44 Surge: 0,5 kV Lto-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, ≤ 10% Corrosion test Salt spray test EN 60068-2-52: severity 5, 4 cycles Continuous current I, \$ 200 mA ⁴⁾ Short-circuit protection / Reverse polarity protection / Power-up pulse protection Vibration resistance EN 60068-2-8 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 / -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 / -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 terque, max. Typ. 100 Nm Thread length Tightening torque, max. III Mounting nut, brass, nickel-plated (2x) III	Reproducibility	≤ 2 % ³⁾	
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 61000-43 PE; AW CD / 8 kV AD EN 61000-43 PE radiated: 10 V/m EN 6100-43 PE radiated: 10 V/m EN 61000-43 PE radiated: 10 V/m EN 61000	Temperature drift (of S _r)	± 10 %	
Corrosion test Salt spray test EN 60068-2-52: severity 5, 4 cycles Continuous current Ia Short-circuit protection ✓ Reverse polarity 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 60068-2-7 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 Eo: 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 Sensing face material Plastic, LCP Housing length 70 mm Thread length 1yp. 100 Nm Items supplied Mounting nut, brass, nickel-plated (2x) Ill	EMC	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	
Continuous current I _a ≤ 200 mA ⁴⁾ Short-circuit protection ✓ Reverse polarity 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 Ambient operating temperature -40 °C +100 °C Stainless steel V4A, DIN 1.4404 / AISI 316L Sensing face material Plastic, LCP Housing length 70 mm Thread length Typ. 100 Nm Items supplied Mounting nut, brass, nickel-plated (2x) Ill	Environmental test		
Short-circuit protection Reverse polarity protection Vibration resistance EN 60068-2-6 Fc: 25 g peak (10 Hz 2,000 Hz) / -20 °C +50 °C, Shock and vibration resistance Vibration 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 To mm Thread length 70 mm Typ. 100 Nm Items supplied Mounting nut, brass, nickel-plated (2x) Protection class	Corrosion test	Salt spray test EN 60068-2-52: severity 5, 4 cycles	
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 60068-2-7 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 Stainless steel V4A, DIN 1.4404 / AISI 316L Sensing face material Plastic, LCP To mm Thread length Typ. 100 Nm Items supplied Mounting nut, brass, nickel-plated (2x) III	Continuous current I _a	\leq 200 mA $^{4)}$	
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 Stainless steel V4A, DIN 1.4404 / AISI 316L Sensing face material Plastic, LCP To mm Thread length To mm Tightening torque, max. Typ. 100 Nm Mounting nut, brass, nickel-plated (2x) Ill Protection class	Short-circuit 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 Stainless steel V4A, DIN 1.4404 / AISI 316L Sensing face material Plastic, LCP Housing length 70 mm 52.15 mm Typ. 100 Nm Items supplied Mounting nut, brass, nickel-plated (2x) III	Reverse polarity protection	✓	
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	Power-up pulse protection	✓	
Housing material Stainless steel V4A, DIN 1.4404 / AISI 316L Plastic, LCP Housing length 70 mm Thread length 52.15 mm Tightening torque, max. Items supplied Mounting nut, brass, nickel-plated (2x) Protection class	Shock and vibration resistance	Shock resistance EN 60068-2-27 Ea: $100 \mathrm{g} 11 \mathrm{ms}$; 3 shocks in every direction of the 3 coordinate axes / $-40 ^{\circ}\mathrm{C} +85 ^{\circ}\mathrm{C}$, Continuous shock resistance EN 60068-2-29 Eb: $40 \mathrm{g} 3 \mathrm{ms}$ rise, 7 ms fall / $5,000 \mathrm{shocks}$ in every direction of the 3 coordinate axes / $-20 ^{\circ}\mathrm{C} +50 ^{\circ}\mathrm{C}$, Broadband noise EN 60068-2-64: $15 \mathrm{g} \mathrm{rms}$ (5 Hz $2,000 \mathrm{Hz}$) / 8 hours in every direction of	
Sensing face material Plastic, LCP To mm Thread length 52.15 mm Tightening torque, max. Typ. 100 Nm Items supplied Mounting nut, brass, nickel-plated (2x) Protection class	Ambient operating temperature	-40 °C +100 °C	
Housing length 70 mm 52.15 mm Tightening torque, max. Typ. 100 Nm Items supplied Mounting nut, brass, nickel-plated (2x) Protection class III	Housing material	Stainless steel V4A, DIN 1.4404 / AISI 316L	
Thread length 52.15 mm Tightening torque, max. Typ. 100 Nm Items supplied Mounting nut, brass, nickel-plated (2x) Protection class	Sensing face material	Plastic, LCP	
Tightening torque, max. Typ. 100 Nm Mounting nut, brass, nickel-plated (2x) Protection class	Housing length	70 mm	
Items supplied Mounting nut, brass, nickel-plated (2x) Protection class III	Thread length	52.15 mm	
Protection class	Tightening torque, max.	Typ. 100 Nm	
	Items supplied	Mounting nut, brass, nickel-plated (2x)	
UL File No. E181493	Protection class	III	
	UL File No.	E181493	

 $^{^{1)}}$ At I_a max.

Safety-related parameters

MTTF _D	1,196 years
DC _{avg}	0%

²⁾ Without load.

³⁾ Ub and Ta constant.

 $^{^{\}rm 4)}$ See "Continuous current $\rm I_a$ above temperature" characteristic curve.

Reduction factors

Note	The values are reference values which may vary	
Stainless steel (V2A, 304)	Approx. 0.62	
Aluminum (AI)	Approx. 0.26	
Copper (Cu)	Approx. 0.17	
Brass (Br)	Approx. 0.27	

Installation note

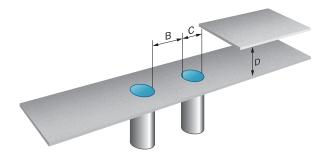
Remark	Associated graphic see "Installation"
В	40 mm
C	30 mm
D	45 mm
F	120 mm

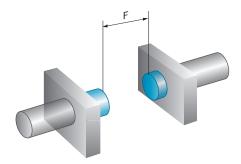
Classifications

ECI@ss 5.0	27270101
ECI@ss 5.1.4	27270101
ECI@ss 6.0	27270101
ECI@ss 6.2	27270101
ECI@ss 7.0	27270101
ECI@ss 8.0	27270101
ECI@ss 8.1	27270101
ECI@ss 9.0	27270101
ECI@ss 10.0	27270101
ECI@ss 11.0	27270101
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714
UNSPSC 16.0901	39122230

Installation note

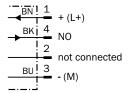
Flush installation





Connection diagram

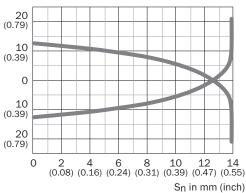
Cd-007



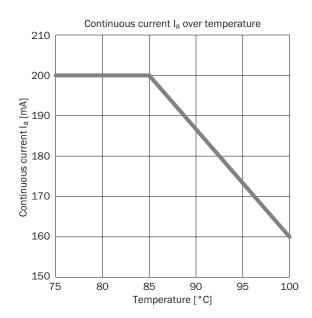
Characteristic curve

Response diagram

Distance in mm (inch)

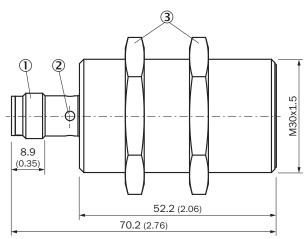


Temperature derating



Dimensional drawing (Dimensions in mm (inch))

IMS30, V4A, 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	Туре	Part no.
Universal bar	clamp systems		
6	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

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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