

IMS30-15BPONU2S

IMS

INDUCTIVE PROXIMITY SENSORS





Ordering information

Туре	Part no.
IMS30-15BP0NU2S	1103221

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

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



Detailed technical data

Features

1 Gataroo	
Housing	Metric
Housing	Standard design
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	Cable, 3-wire, 2 m
Switching output	PNP
Output function	NC
Electrical wiring	DC 3-wire
Enclosure rating	IP68 ¹⁾ IP69K ²⁾
Special features	Resistant to cleaning agents, Temperature resistance
Special applications	Mobile machines, Hygienic and washdown zones, Difficult application conditions
Items supplied	Mounting nut, brass, nickel-plated (2x)

¹⁾ According to EN 60529.

Mechanics/electronics

Supply voltage	7.2 V DC 60 V DC
Ripple	≤ 10 %
Voltage drop	\leq 2.5 V $^{1)}$
Time delay before availability	100 ms

¹⁾ At I_a max.

²⁾ According to ISO 20653:2013-03.

 $^{^{2)}\,\}mbox{Supply}$ voltage $\mbox{U}_{\mbox{\footnotesize B}}$ and constant ambient temperature Ta.

 $^{^{\}rm 3)}\,{\rm See}$ "Continuous current ${\rm I}_{\rm a}$ above temperature" characteristic curve.

EMC 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 immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval approval interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval approval interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval approval interference interference immunity in accordance with Motor Insurance Direction 2-4 Rev. 6: E1-Type approval interference in accordance with ISO 7: E2-Type Approval			
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 INO 11452-2: 100 V/m AIN vertical 20 MHz - 800 MHz -	Hysteresis	3 % 20 %	
Emitted interference and interference immunity in accordance with Motor Insurance Directive ECE.RIO Rev. 5: E1-Type approval Interference immunity in accordance with Motor Insurance Directive ECE.RIO Rev. 5: E1-Type approval Interference immunity in accordance with DIN ISO 11452-2: 100 V/m AM vertical 20 MHz: ABO MHz; AM horizontal 200 MHz - 800 MHz; PM vertical/horizontal 800 MHz - 800 MHz; AM horizontal 200 MHz - 800 MHz; PM vertical/horizontal 800 MHz - 800 MHz; PM vertical/horizontal 800 MHz; AM horizontal 200 MHz - 800 MHz; PM vertical/horizontal 800 MHz; AM horizontal 200 MHz - 800 MHz; PM vertical/horizontal 800 MHz; AM horizontal 200 MHz - 800 MHz; PM vertical/horizontal 800 MHz; AM horizontal 200 MHz; AM horizontal 2	Reproducibility	≤ 2 % ²⁾	
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/W/C/C, 2a/W/A, 2b/W/C/C, 3a/W/A/A, 3b/W/A/A, 4/W/C/A, 5a/W/B/B, 5b/W/B/B EN 61000-42 ESD; 4 kV CD /8 kV AD EN 61000-43 HF radiates: 10 V/m EN 61000-44 brust; 2 kV EN 61000-45 brusge; 0,5 kV LtoL, Ri: 2 0hm Quick temperature change EN 60068-2-14, Na: TA = -25 °C, TB = 75 °C, t1 = 40 min, t2 = < 10 s, 300 cycles, Delta S, s 10% Salt spray test EN 60068-2-52: severity 5, 4 cycles Continuous current Ia	Temperature drift (of S _r)	± 10 %	
Corrosion test Salt spray test EN 60068-2-52: severity 5, 4 cycles Salt spray test EN 60068-2-6 fc: 25 g peak (10 Hz 2,000 Hz) / -20 °C +50 °C Shock resistance EN 60068-2-6 fc: 25	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 S 200 mA No load current Cable material Conductor size Cable diameter Ø 5 mm Short-circuit protection Fower-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 60068-2-12 Ta: 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 Thread length Typ. 100 Nm Ill Protection class	Environmental test		
No load current Cable material PUR 0.5 mm² 0.5 mm² O5 mm No 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 60068-2-9 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 mm (5 Hz 2,000 Hz) / 8 hours in every direction of the 3 coordinate axes / −40 °C +85 °C Ambient operating temperature Housing material Stainless steel V4A, DIN 1.4404 / AISI 316L Sensing face material Plastic, LCP Housing length Thread length Typ. 100 Nm Ill	Corrosion test	Salt spray test EN 60068-2-52: severity 5, 4 cycles	
PUR Conductor size Cable diameter Ø 5 mm Short-circuit 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 Stainless steel V4A, DIN 1.4404 / AISI 316L Sensing face material Plastic, LCP Housing length 1 plastic, LCP 2 plastic, LCP 3 plastic, LCP 4 p	Continuous current I _a	≤ 200 mA ³⁾	
Conductor size Cable diameter Ø 5 mm Short-circuit protection ✓ Vibration resistance EN 60068-2-6 Fc: 25 g peak (10 Hz 2,000 Hz) / −20 °C +50 °C Shock and vibration resistance 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 Stainless steel V4A, DIN 1.4404 / AISI 316L Sensing face material Plastic, LCP Housing length Thread length Tightening torque, max. III	No load current	≤ 10 mA	
Cable diameter Short-circuit 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 Stainless steel V4A, DIN 1.4404 / AISI 316L Sensing face material Plastic, LCP Housing length Thread length Tightening torque, max. Typ. 100 Nm Protection class	Cable material	PUR	
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 Housing length Thread length 55.65 mm Typ. 100 Nm Protection class	Conductor size	0.5 mm ²	
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 Thread length Typ. 100 Nm Protection class III	Cable diameter	Ø 5 mm	
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 -40 °C +85 °C -40 °C +85 °C Stainless steel V4A, DIN 1.4404 / AISI 316L Sensing face material Plastic, LCP Flastic, LCP Flastic, LCP Flowing length Flowing torque, max. Typ. 100 Nm Protection class III	Short-circuit 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 -40 °C +100 °C Stainless steel V4A, DIN 1.4404 / AISI 316L Sensing face material Plastic, LCP Housing length Firead length Thread length Typ. 100 Nm Protection class	Power-up pulse protection	✓	
Housing material Stainless steel V4A, DIN 1.4404 / AISI 316L Plastic, LCP Housing length Thread length Tightening torque, max. Protection class Stainless steel V4A, DIN 1.4404 / AISI 316L Plastic, LCP 61 mm Typ. 100 Nm III	Shock and vibration resistance	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	
Plastic, LCP Housing length 61 mm Thread length 55.65 mm Tightening torque, max. Protection class Plastic, LCP 61 mm Typ. 100 Nm III	Ambient operating temperature	-40 °C +100 °C	
Housing length 61 mm 55.65 mm Tightening torque, max. Typ. 100 Nm Protection class	Housing material	Stainless steel V4A, DIN 1.4404 / AISI 316L	
Thread length 55.65 mm Tightening torque, max. Typ. 100 Nm Protection class III	Sensing face material	Plastic, LCP	
Tightening torque, max. Typ. 100 Nm III	Housing length	61 mm	
Protection class	Thread length	55.65 mm	
	Tightening torque, max.	Typ. 100 Nm	
UL File No. E181493	Protection class	III	
	UL File No.	E181493	

¹⁾ At I₂ max

Safety-related parameters

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

Reduction factors

 $^{^{2)}\,\}mbox{Supply}$ voltage $\mbox{U}_{\mbox{\footnotesize B}}$ and constant ambient temperature Ta.

 $^{^{\}rm 3)}$ See "Continuous current ${\rm I}_{\rm a}$ above temperature" characteristic curve.

Stainless steel (V2A, 304)	Approx. 0.62
Aluminum (Al)	Approx. 0.26
Copper (Cu)	Approx. 0.17
Brass (Br)	Approx. 0.27

Installation note

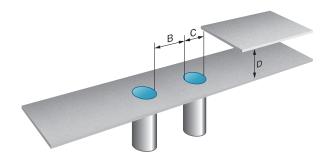
Remark	Associated graphic see "Installation"
В	40 mm
C	30 mm
D	45 mm
F	120 mm

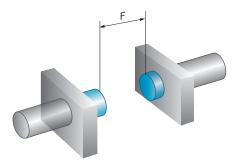
Classifications

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

Flush installation



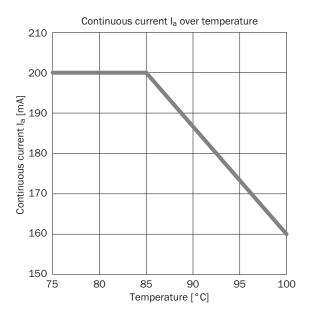


Connection diagram

Cd-003



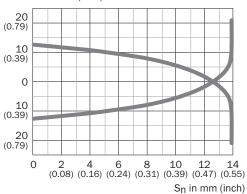
Temperature derating



Response diagram

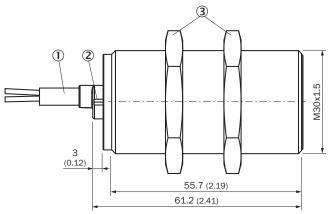
Response diagram

Distance in mm (inch)



Dimensional drawing (Dimensions in mm (inch))

IMS30, V4A, flush



- ① Connection
- ② Display 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."

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