

IMA12-06BE1ZCOS

INDUCTIVE PROXIMITY SENSORS

SICKSensor Intelligence.



Ordering information

Туре	part no.
IMA12-06BE1ZCOS	6056420

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

Illustration may differ



Detailed technical data

Features

Housing	Metric
Thread size	M12 x 1
Diameter	Ø 12 mm
Sensing range S _n	0 mm 6 mm
Installation type	Quasi-flush
Connection type	Male connector M12, 4-pin
Output function	Analog
Repeatability (T _a not constant)	0.3 mm ^{1) 2) 3)}
Repeatability (T _a constant)	± 0.01 mm
Resolution	≤ 1 µm
Enclosure rating	IP67 ⁴⁾
Special features	Analog output, triple sensing range
Items supplied	Mounting nut, brass, chromium-plated (2x) Toothed washer, stainless steel (2 x)

¹⁾ As per IEC 60947-5-2.

Mechanics/electronics

Supply voltage	15 V DC 30 V DC
Ripple	≤ 20 % ¹⁾

 $^{^{1)}}$ Of Vs.

²⁾ Ub = DC 20 V ... 30 V.

 $^{^{3)}}$ TA = 23 °C ± 5 °C.

⁴⁾ According to EN 60529: 2000-09.

²⁾ At 0 °C ... +70 °C.

³⁾ At -25 °C ... 0 °C.

⁴⁾ Without load.

⁵⁾ At voltage output QA1.

 $^{^{6)}}$ -3 dB if $S_n = 3$ mm.

Time delay before availability	≤ 50 ms
Temperature drift (of S _r)	± 5 % ²⁾ ± 10 % ³⁾
No load current	\leq 12 mA $^{4)}$
Load current	± 10 mA ⁵⁾
Output voltage Q _{A1}	s = 0 mm: 0 V/-0 +0,4 V (23 °C) s = 3 mm: +5,2 V/ +-0,4 V (23 °C) s = 6 mm: +10 V/ +-0,4 V (23 °C)
Output current Q _{A2}	s = 0 mm: 4 mA/ +-0,8 mA (23 °C) s = 6 mm: 20 mA/ +-0,8 mA (23 °C)
Output voltage	0 V 10 V
Bandwidth	1,000 Hz ⁶⁾
Short-circuit protection	√
Ambient operating temperature	-25 °C +70 °C
Housing material	Brass, chromium-plated
Sensing face material	Plastic, PTB
Housing length	50 mm
Thread length	50 mm

 $^{^{1)}}$ Of V_{S} .

Safety-related parameters

MTTFD	88 years
DC _{avg}	0%
T _M (mission time)	20 years

Reduction factors

Note	The values are reference values which may vary
Stainless steel (V2A, 304)	Approx. 0.47
Aluminum (AI)	Approx. 0.28
Copper (Cu)	Approx. 0.2
Brass (Br)	Approx. 0.35

Installation note

Remark	Associated graphic see "Installation"
Α	6 mm
В	30 mm
c	12 mm
D	18 mm
E	2 mm
F	60 mm

²⁾ At 0 °C ... +70 °C.

³⁾ At -25 °C ... 0 °C.

⁴⁾ Without load.

⁵⁾ At voltage output QA1.

 $^{^{6)}}$ -3 dB if $S_n = 3$ mm.

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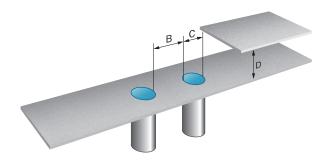
Certificates

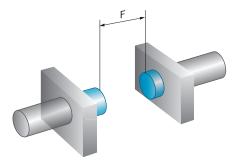
EU declaration of conformity	√
UK declaration of conformity	√
ACMA declaration of conformity	√
Moroccan declaration of conformity	√
China RoHS	√

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





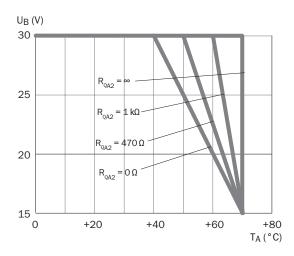
Connection type



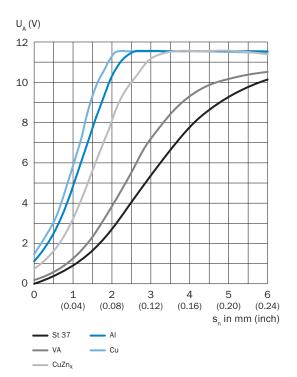
Connection diagram Cd-022



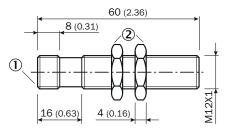
Temperature derating



Response diagram Reduction factors



Dimensional drawing IMA12, connector, quasi-flush



Dimensions in mm (inch)

- ① Connection
- ② Fastening nuts (2x); width across 17, metal

Recommended accessories

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

	Brief description	Туре	part no.
connectors a	nd cables		
Q.	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A14-020VB3XLEAX	2096234
R (0)	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A14-050VB3XLEAX	2096235
3	 Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A14-020VB3XLEAX	2095895
1	 Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A14-050VB3XLEAX	2095897
3	 Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A14- C60VB3XLEAX	2145709
-	 Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A14-010VB3XLEAX	2145710
P (0)	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A14- C60VB3XLEAX	2145707
A.C.	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A14-010VB3XLEAX	2145708
	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14-050UB3XLEAX	2095608
No.	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded 	YF2A14- C60UB3XLEAX	2145654

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	Brief description	Туре	part no.
	Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation		
	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14-010UB3XLEAX	2145655
	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14-030UB3XLEAX	2145656
3	 Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A14- C60UB3XLEAX	2145657
3	 Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A14-010UB3XLEAX	2145658
Mounting sys	stems		
	 Description: Clamping block for round sensors M12, without fixed stop Material: Plastic Details: Plastic (PA12), glass-fiber reinforced Items supplied: Mounting hardware included 	BEF-KH-M12	2051479
40	 Description: Mounting bracket for M12 sensors Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware 	BEF-WN-M12	5308447
	 Description: Plate N05 for universal clamp bracket, M12 Material: Steel, zinc diecast Details: Zinc plated steel (sheet), Zinc die cast (clamping bracket) Items supplied: Universal clamp (5322626), mounting hardware Usable for: IMA, IMF, M12 round sensors, UC4, V12-2, MultiV, MultiLine, W4-3, MultiV, MultiLine 	BEF-KHS-N05	2051611
	 Description: Clamping block for round sensors M12, with fixed stop Material: Plastic Details: Plastic (PA12), glass-fiber reinforced Items supplied: Mounting hardware included 	BEF-KHF-M12	2051480

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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.

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