IMA12-06BE3ZC0K

IMA

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.

IMA12-06BE3ZC0K | IMA

INDUCTIVE PROXIMITY SENSORS

Illustration may differ

Ordering information

Type	Part no.
IMA12-06BE3ZC0K	6041792

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

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.
[2] Ub = DC 20 V ... 30 V.
[3] TA = 23 °C ± 5 °C.
[4] According to EN 60529: 2000-09.

Mechanics/electronics

Supply voltage	15 V DC ... 30 V DC
Ripple	≤ 20 % [1]
Time delay before availability	≤ 50 ms
Temperature drift (of S_r)	± 5 % [2]

[1] Of V_S.
[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.

	± 10 % [3]
No load current	≤ 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 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	45 mm
Thread length	29 mm

[1] Of V$_S$.

[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.

Safety-related parameters

MTTF$_D$	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 (Al)	Approx. 0.28
Copper (Cu)	Approx. 0.2
Brass (Br)	Approx. 0.35

Installation note

Remark	Associated graphic see "Installation"
A	6 mm
B	18 mm
C	12 mm
D	18 mm
E	2 mm
F	60 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 type
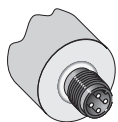
Connection diagram

Cd-021

Product data sheet | 2024-10-22 14:07:27

Subject to change without notice

Response diagram
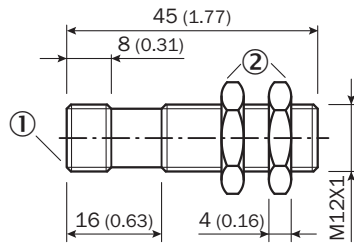
IMA12

I_A (mA) U_A (V)

IMA12-06BE3ZC0K

s (mm)
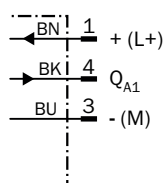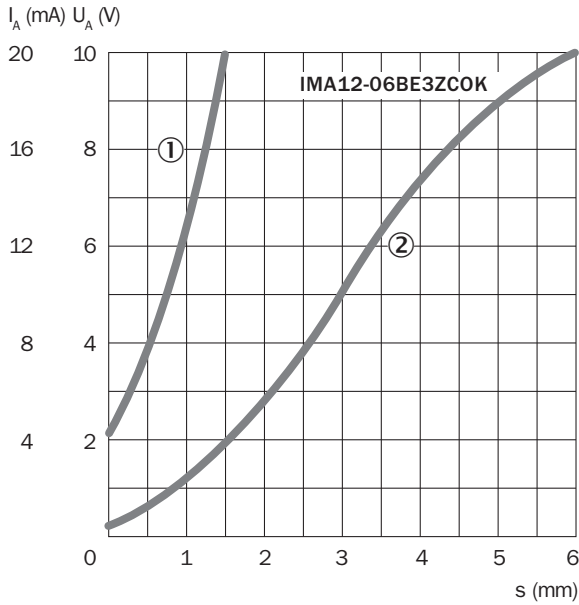
① Aluminium (AL)
② St37 (FE)

Dimensional drawing (Dimensions in mm (inch))

IMA12, connector, quasi-flush

45 (1.77)
8 (0.31)
16 (0.63)
4 (0.16)
M12X1

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

Recommended accessories

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

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N05 for universal clamp bracket, M12, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N05	2051611

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket for M12 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M12	5308447
Terminal and alignment brackets			
	Clamping block for round sensors M12, without fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KH-M12	2051479
	Clamping block for round sensors M12, with fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KHF-M12	2051480
Others			
	• **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	YF2A14-020VB3XLEAX	2096234
	• **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	YF2A14-050VB3XLEAX	2096235
	• **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	YG2A14-020VB3XLEAX	2095895
	• **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	YG2A14-050VB3XLEAX	2095897
	• **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, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YF2A14-020UB3XLEAX	2095607
	• **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:** Zones with oils and lubricants, Drag chain operation, Robot	YF2A14-050UB3XLEAX	2095608
	• **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, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YG2A14-020UB3XLEAX	2095766
	• **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, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YG2A14-050UB3XLEAX	2095767

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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