



IMA12-02BE1ZW2S

IMA

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
IMA12-02BE1ZW2S	1107315

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 ... 2 mm
Installation type	Flush
Connection type	Cable, 4-wire, 2 m
Output function	Analog
Repeatability (T_a not constant)	0.3 mm ^{1) 2) 3)}
Repeatability (T_a constant)	± 0.1 mm
Enclosure rating	IP67 ⁴⁾
Special features	Analog output
Items supplied	Mounting nut, brass, nickel-plated (2x)

¹⁾ As per IEC 60947-5-2.

²⁾ U_b = DC 20 V ... 30 V.

³⁾ T_A = 23 °C ± 5 °C.

⁴⁾ According to EN 60529: 2000-09.

Mechanics/electronics

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

¹⁾ Of V_S .

²⁾ Without load.

³⁾ -3 dB if S_n = 1 mm.

⁴⁾ QA1 loaded, QA2 unloaded.

⁵⁾ QA1 loaded, QA2 loaded: see temperature reduction.

Time delay before availability	≤ 30 ms
Temperature drift (of S_r)	≤ 10 %
No load current	≤ 12 mA ²⁾
Max. load resistance on Q_{A1}	≥ 2 kΩ
Max. load resistance on Q_{A2}	400 Ω U _b = 15 V
Output voltage Q_{A1}	s = 0 mm: 0 V -0/+0,6 V (23 °C) s = 1 mm: +4,9 V +/-0,6 V (23 °C) s = 2 mm: +10 V +/-0,6 V (23 °C)
Output current Q_{A2}	s = 0 mm: 4 mA +/-0,8 mA (23 °C) s = 2 mm: 20 mA +/-0,8 mA (23 °C)
Output voltage	0 V ... 10 V
Output current	4 mA ... 20 mA
Bandwidth	1,000 Hz ³⁾
Short-circuit protection	✓
Ambient operating temperature	-25 °C ... +70 °C ^{4) 5)}
Housing material	Brass, chromium-plated
Sensing face material	Plastic
Housing length	63 mm
Thread length	48 mm

¹⁾ Of V_S.

²⁾ Without load.

³⁾ -3 dB if S_n = 1 mm.

⁴⁾ Q_{A1} loaded, Q_{A2} unloaded.

⁵⁾ Q_{A1} loaded, Q_{A2} loaded: see temperature reduction.

Safety-related parameters

MTTF_D	1,149 years
DC_{avg}	0 %
T_M (mission time)	20 years

Installation note

Remark	Associated graphic see "Installation"
B	24 mm
C	12 mm
D	12 mm
F	32 mm

Certificates

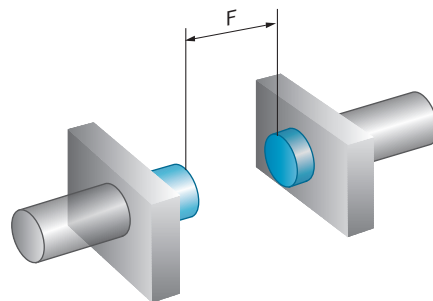
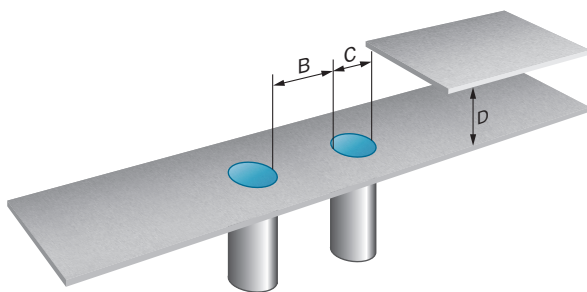
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓

Classifications

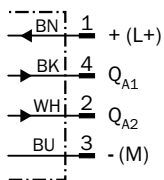
ECLASS 5.0	27270101
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ECLASS 5.1.4	27270101
ECLASS 6.0	27270101
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ECLASS 7.0	27270101
ECLASS 8.0	27270101
ECLASS 8.1	27270101
ECLASS 9.0	27270101
ECLASS 10.0	27270101
ECLASS 11.0	27270101
ECLASS 12.0	27274001
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714
ETIM 8.0	EC002714
UNSPSC 16.0901	39122230

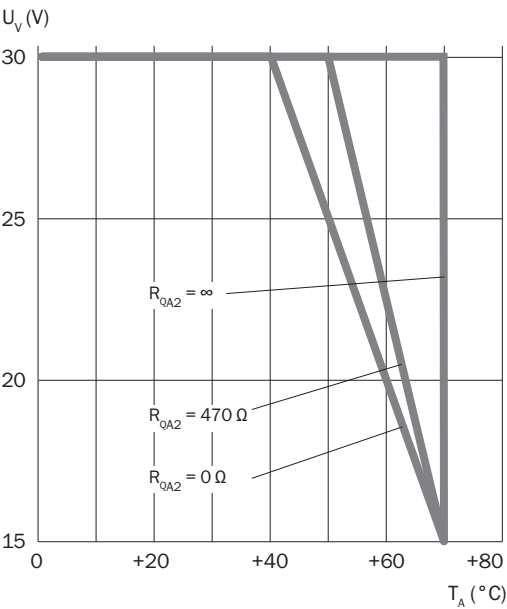
Installation note Flush installation



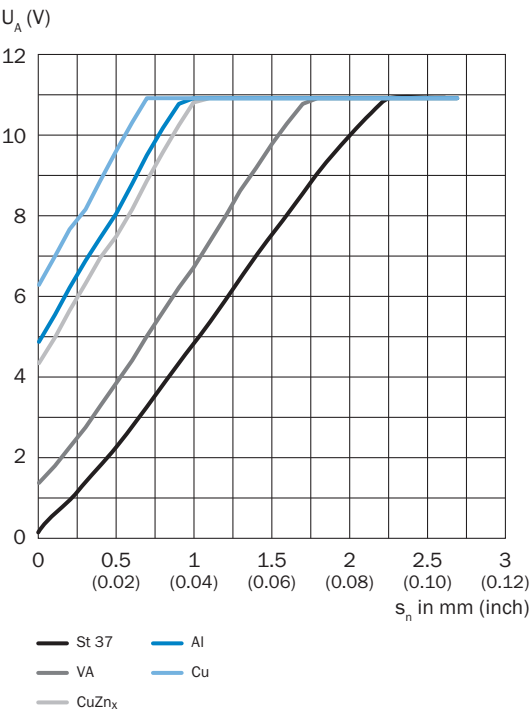
Connection diagram Cd-022



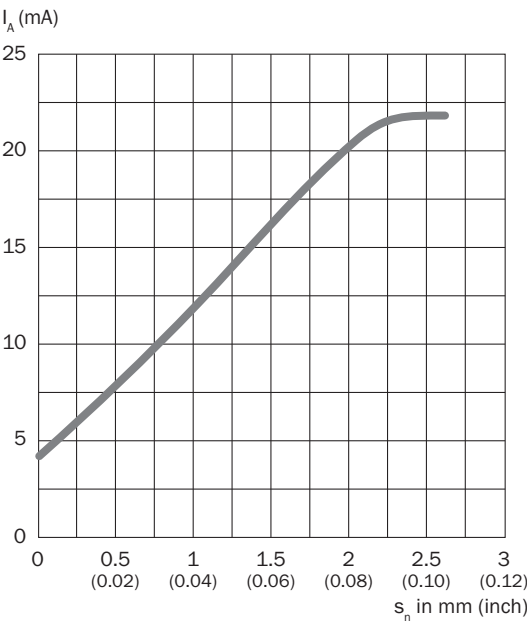
Temperature derating Temperature derating



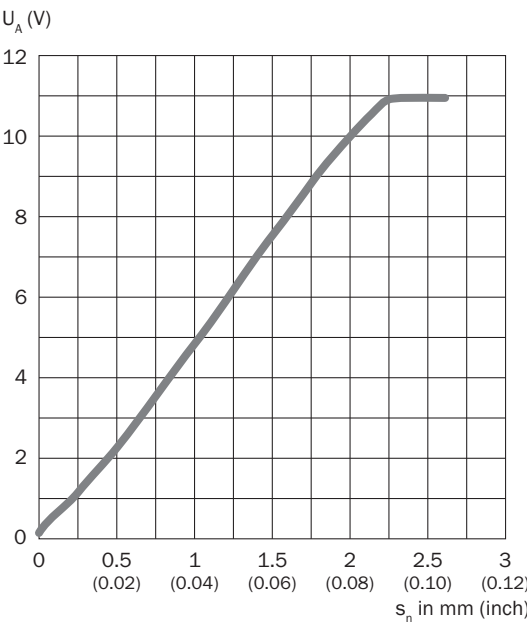
Response diagram Reduction factors



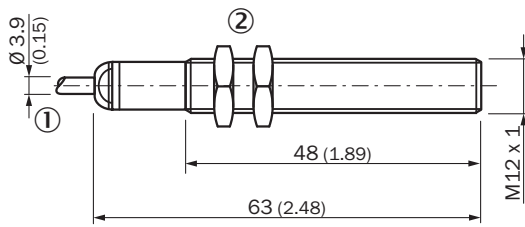
Response diagram Output current



Response diagram Output voltage



Dimensional drawing IMA12, cable, 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	Type	part no.
connectors and cables			
	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
	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
	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
	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
	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
	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
	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: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm²	STE-1204-G	6009932

	Brief description	Type	part no.
Mounting systems			
	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
	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

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:

Contacts and other locations –www.sick.com