

IMA30-20BE1ZC0K

IMA

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.

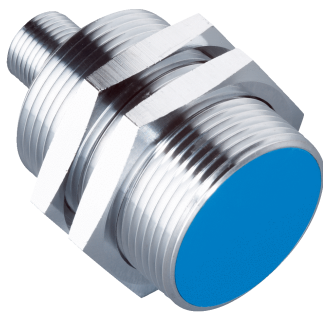


Illustration may differ



Ordering information

| Type | part no. |
|-----------------|----------|
| IMA30-20BE1ZC0K | 6041795 |

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

Detailed technical data

Features

| | |
|--|--|
| Housing | Metric |
| Thread size | M30 x 1.5 |
| Diameter | Ø 30 mm |
| Sensing range S_n | 0 mm ... 20 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) | ± 0.05 mm |
| Resolution | ≤ 5 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⁾ 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⁾ At voltage output QA1.

⁴⁾ -3 dB if S_n = 10 mm.

⁵⁾ QA1 loaded, QA2 unloaded.

⁶⁾ QA1 loaded, QA2 loaded: see temperature reduction.

| | |
|---|--|
| Time delay before availability | ≤ 50 ms |
| Temperature drift (of S_r) | ≤ 10 % |
| No load current | ≤ 12 mA ²⁾ |
| Load current | ± 10 mA ³⁾ |
| Max. load resistance | ≤ 400 Ω U _b = 15 V ≤ 1,000 Ω U _b = 30 V |
| Output voltage Q_{A1} | s = 0 mm: 0 V/-0 +0,4 V (23 °C) s = 10 mm: +5,2 V/ +0,4 V (23 °C) s = 20 mm: +10 V/ +0,4 V (23 °C) |
| Output current Q_{A2} | s = 0 mm: 4 mA/ +0,8 mA (23 °C) s = 20 mm: 20 mA +/-0,8 mA (23 °C) |
| Output voltage | 0 V ... 10 V |
| Bandwidth | 200 Hz ⁴⁾ |
| Short-circuit protection | ✓ |
| Ambient operating temperature | -25 °C ... +70 °C ^{5) 6)} |
| Housing material | Brass, chromium-plated |
| Sensing face material | Plastic, PTB |
| Housing length | 48.5 mm |
| Thread length | 27 mm |

1) Of V_S.

2) Without load.

3) At voltage output QA1.

4) -3 dB if S_n = 10 mm.

5) QA1 loaded, QA2 unloaded.

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

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. 0.65 |
| Aluminum (Al) | Approx. 0.2 |
| Copper (Cu) | Approx. 0.17 |
| Brass (Br) | Approx. 0.3 |

Installation note

| | |
|---------------|---------------------------------------|
| Remark | Associated graphic see "Installation" |
| A | 25 mm |
| B | 50 mm |
| C | 30 mm |
| D | 60 mm |
| E | 6 mm |
| F | 200 mm |

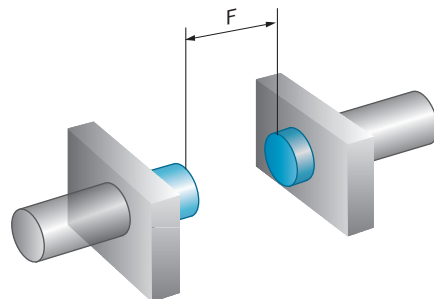
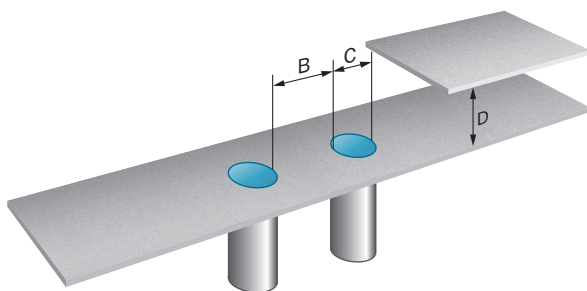
Certificates

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

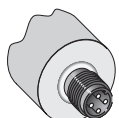
Classifications

| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270101 |
| 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 |

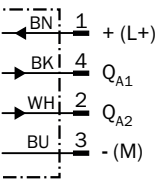
Installation note Flush installation



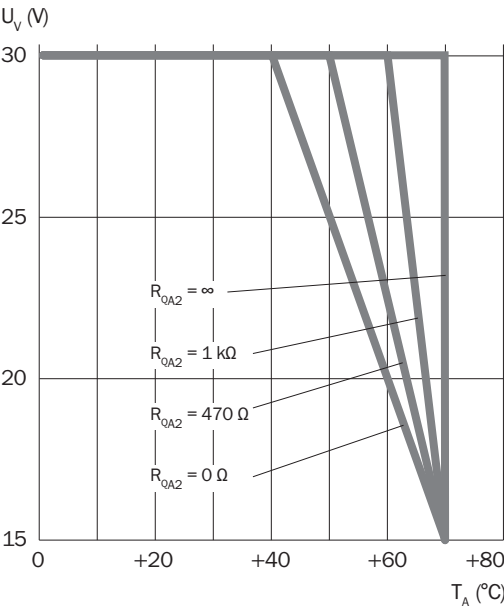
Connection type



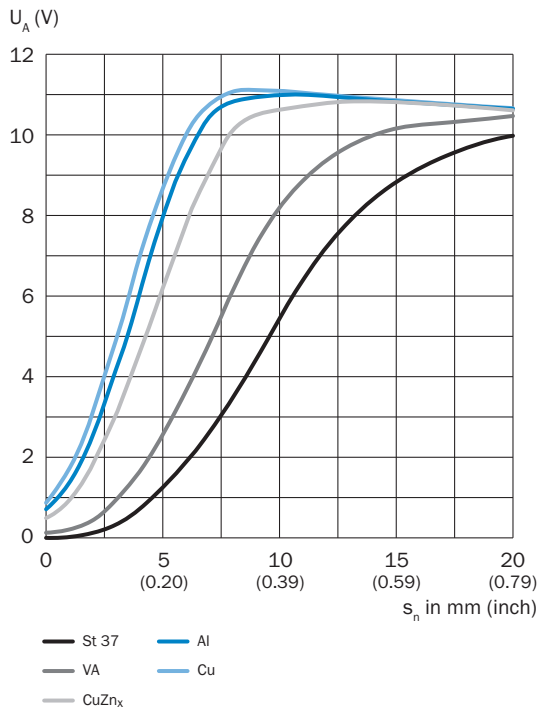
Connection diagram Cd-022



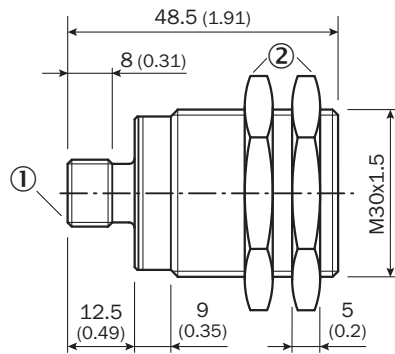
Temperature derating



Response diagram Reduction factors



Dimensional drawing IMA30, connector, quasi-flush










Dimensions in mm (inch)







① Connection

② Fastening nuts (2x); width across 36, metal

Recommended accessories

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

| | Brief description | Type | part no. |
|---|--|--------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |

| | Brief description | Type | part no. |
|---|---|--------------------|----------|
|  | <ul style="list-style-type: none"> • 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 |
|  | <ul style="list-style-type: none"> • 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 |
|  | <ul style="list-style-type: none"> • 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 |
|  | <ul style="list-style-type: none"> • 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 systems | | | |
|  | <ul style="list-style-type: none"> • Description: Mounting bracket for M30 sensors • Material: Steel • Details: Steel, zinc coated • Items supplied: Without mounting hardware | BEF-WN-M30 | 5308445 |
|  | <ul style="list-style-type: none"> • Description: Mounting plate for M30 sensors • Material: Steel • Details: Steel, zinc coated • Items supplied: Without mounting hardware | BEF-WG-M30 | 5321871 |

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.

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