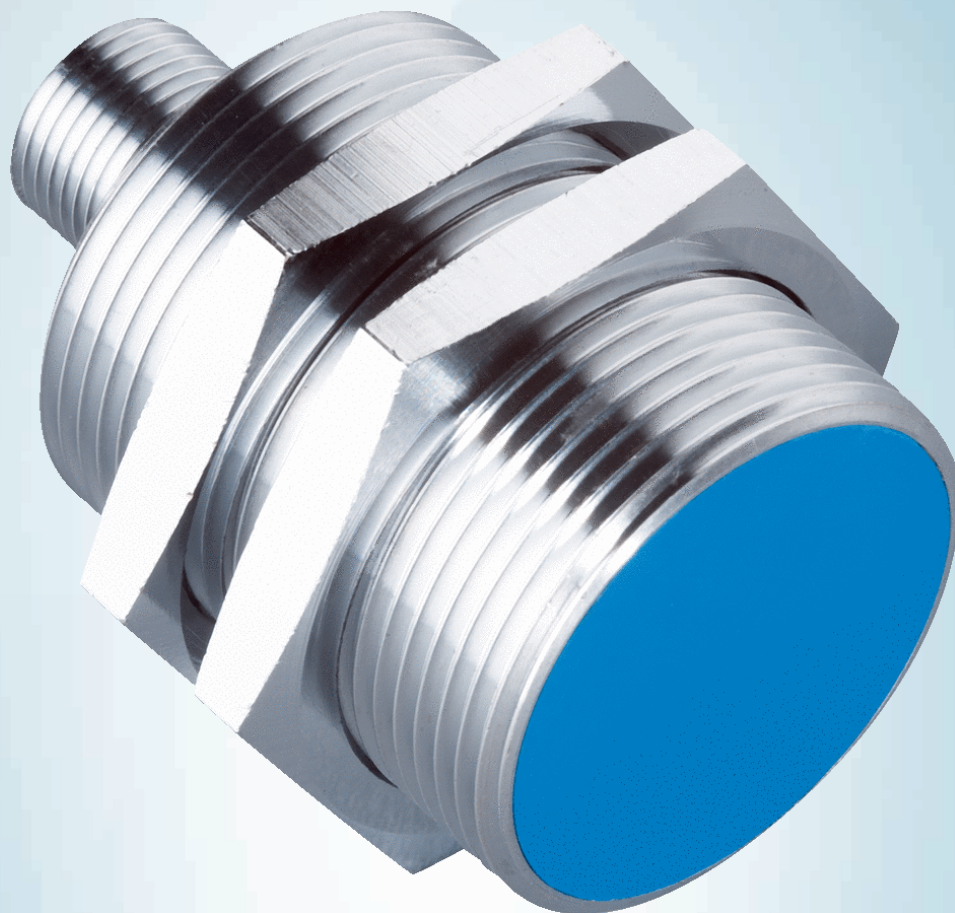




IM30-20B-A-ZC1

IMA

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.

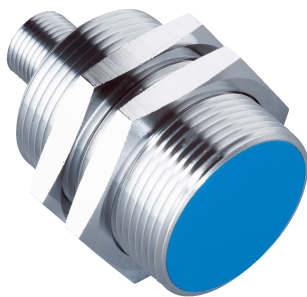


Illustration may differ



Ordering information

Type	Part no.
IM30-20B-A-ZC1	6033125

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

Detailed technical data

Features

Housing	Cylindrical thread design
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
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
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⁾
Time delay before availability	≤ 50 ms

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.

Temperature drift (of S_r)	$\leq 10 \%$
No load current	$\leq 12 \text{ mA}^{2)}$
Load current	$\pm 10 \text{ mA}^{3)}$
Max. load resistance	$\leq 400 \Omega \text{ } U_b = 15 \text{ V}$ $\leq 1,000 \Omega \text{ } U_b = 30 \text{ V}$
Output voltage Q_{A1}	$s = 0 \text{ mm: } 0 \text{ V/-0 } +0,4 \text{ V (23 } ^\circ\text{C)}$ $s = 10 \text{ mm: } +5,2 \text{ V/ } +0,4 \text{ V (23 } ^\circ\text{C)}$ $s = 20 \text{ mm: } +10 \text{ V/ } +0,4 \text{ V (23 } ^\circ\text{C)}$
Output current Q_{A2}	$s = 0 \text{ mm: } 4 \text{ mA/ } +0,8 \text{ mA (23 } ^\circ\text{C)}$ $s = 20 \text{ mm: } 20 \text{ mA } +/ -0,8 \text{ mA (23 } ^\circ\text{C)}$
Output voltage	0 V ... 10 V
Bandwidth	200 Hz ⁴⁾
Short-circuit protection	✓
Reverse polarity protection	✓
Ambient operating temperature	$-25 \text{ } ^\circ\text{C} \dots +70 \text{ } ^\circ\text{C}^{5) 6)}$
Housing material	Brass, chromium-plated
Sensing face material	Plastic, PTB
Housing length	73.5 mm
Thread length	52 mm

1) Of V_S .

2) Without load.

3) At voltage output Q_{A1} .

4) -3 dB if $S_n = 10 \text{ mm}$.

5) Q_{A1} loaded, Q_{A2} unloaded.

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

Safety-related parameters

MTTF _D	87 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"
--------	---------------------------------------

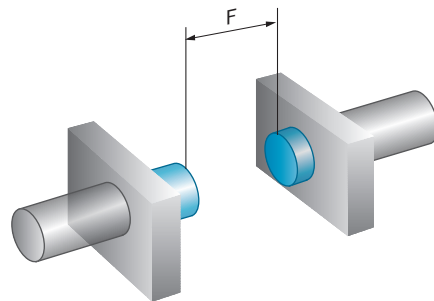
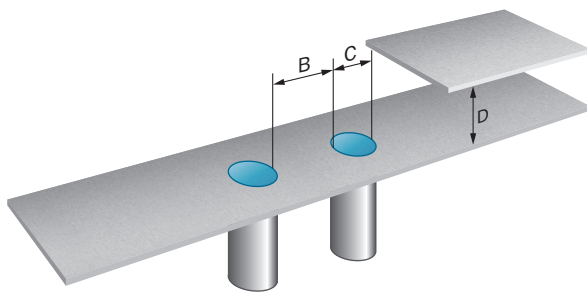
Classifications

eCl@ss 5.0	27270101
eCl@ss 5.1.4	27270101
eCl@ss 6.0	27270101
eCl@ss 6.2	27270101
eCl@ss 7.0	27270101

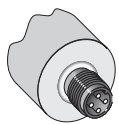
eCl@ss 8.0	27270101
eCl@ss 8.1	27270101
eCl@ss 9.0	27270101
eCl@ss 10.0	27270101
eCl@ss 11.0	27270101
eCl@ss 12.0	27274001
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714
ETIM 8.0	EC002714
UNSPSC 16.0901	39122230

Installation note

Flush installation

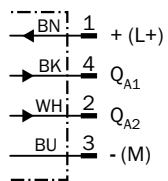


Connection type

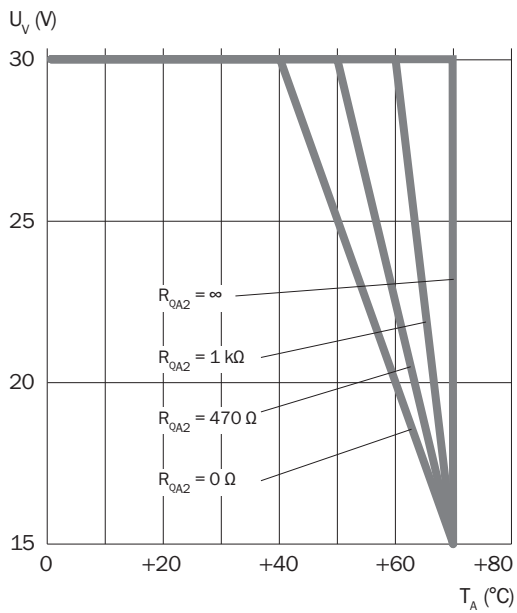


Connection diagram

Cd-022

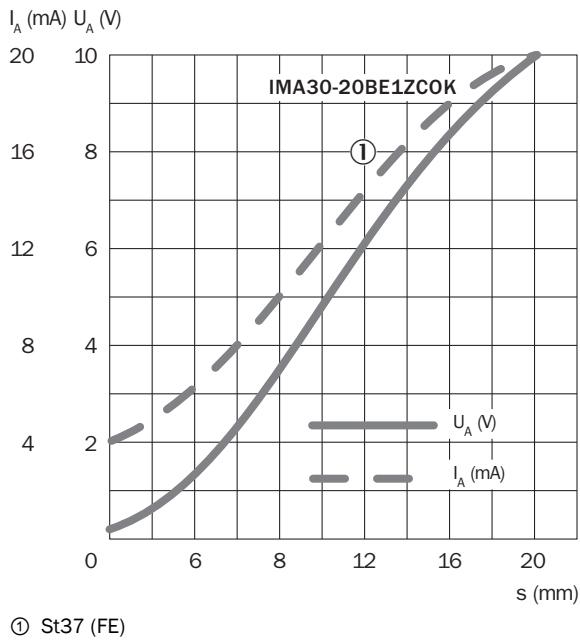


Temperature derating



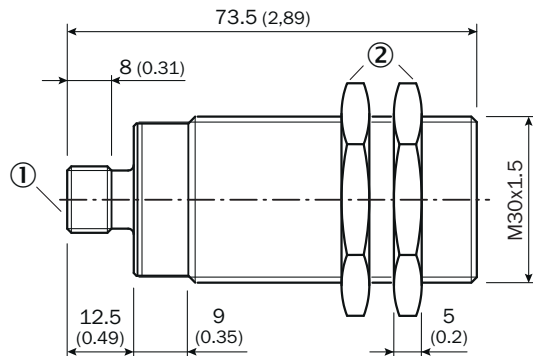
Response diagram

IMA30



Dimensional drawing (Dimensions in mm (inch))

IMA30, connector, quasi-flush



- 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.
Mounting brackets and plates			
	Mounting plate for M30 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M30	5321871
	Mounting bracket for M30 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M30	5308445
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A14-020UB3XLEAX	2095607
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YF2A14-020VB3XLEAX	2096234
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A14-050UB3XLEAX	2095608
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YG2A14-020UB3XLEAX	2095766
	Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YG2A14-020VB3XLEAX	2095895

	Brief description	Type	Part no.
	Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YG2A14-050UB3XLEAX	2095767
	Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YG2A14-050VB3XLEAX	2095897

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