

# IMA18-20NE1ZCOK

**INDUCTIVE PROXIMITY SENSORS** 



# Ordering information

Туре	Part no.
IMA18-20NE1ZC0K	6041794

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

Illustration may differ







#### Detailed technical data

#### **Features**

Housing	Cylindrical thread design
Thread size	M18 x 1
Diameter	Ø 18 mm
Sensing range S <sub>n</sub>	0 mm 20 mm
Installation type	Non-flush
Connection type	Male connector M12, 4-pin
Output function	Analog
Repeatability (T <sub>a</sub> not constant)	0.3 mm <sup>1) 2) 3)</sup>
Repeatability (T <sub>a</sub> constant)	± 0.05 mm
Resolution	≤ 5 µm
Enclosure rating	IP67 <sup>4)</sup>
Special features	Analog output
Items supplied	Mounting nut, brass, chromium-plated $(2x)$ Toothed washer, stainless steel $(2x)$

<sup>&</sup>lt;sup>1)</sup> As per IEC 60947-5-2.

### Mechanics/electronics

Supply voltage	15 V DC 30 V DC
Ripple	≤ 20 % <sup>1)</sup>

 $<sup>^{1)}</sup>$  Of Vs.

<sup>&</sup>lt;sup>2)</sup> Ub = DC 20 V ... 30 V.

 $<sup>^{3)}</sup>$  TA = 23 °C ± 5 °C.

<sup>&</sup>lt;sup>4)</sup> According to EN 60529: 2000-09.

<sup>&</sup>lt;sup>2)</sup> Without load.

<sup>3)</sup> At voltage output QA1.

 $<sup>^{4)}</sup>$  -3 dB if  $S_n$  = 10 mm.

<sup>&</sup>lt;sup>5)</sup> QA1 loaded, QA2 unloaded.

 $<sup>^{\</sup>rm 6)}$  QA1 loaded, QA2 loaded: see temperature reduction.

Time delay before availability	≤ 60 ms
Temperature drift (of S <sub>r</sub> )	≤ 10 %
No load current	$\leq$ 12 mA $^{2)}$
Load current	± 10 mA <sup>3)</sup>
Max. load resistance	$\leq 400 \ \Omega \ \text{Ub} = 15 \ \text{V}$ $\leq 1,000 \ \Omega \ \text{Ub} = 30 \ \text{V}$
Output voltage Q <sub>A1</sub>	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 <sub>A2</sub>	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	250 Hz <sup>4)</sup>
Short-circuit protection	<b>√</b>
Reverse polarity protection	<b>√</b>
Ambient operating temperature	-25 °C +70 °C <sup>5) 6)</sup>
Housing material	Brass, chromium-plated
Sensing face material	Plastic, PTB
Housing length	48.5 mm
Thread length	22 mm

 $<sup>^{1)}</sup>$  Of  $V_{S}$ .

#### Safety-related parameters

MTTF <sub>D</sub>	88 years
DC <sub>avg</sub>	0%
T <sub>M</sub> (mission time)	20 years

#### Reduction factors

Note	The values are reference values which may vary
Stainless steel (V2A, 304)	Approx. 0.69
Aluminum (AI)	Approx. 0.38
Copper (Cu)	Approx. 0.36
Brass (Br)	Approx. 0.46

#### Installation note

Remark	Associated graphic see "Installation"
Α	21 mm
В	60 mm
c	18 mm
D	60 mm
E	20 mm

<sup>&</sup>lt;sup>2)</sup> Without load.

<sup>3)</sup> At voltage output QA1.

 $<sup>^{4)}</sup>$  -3 dB if S<sub>n</sub> = 10 mm.

<sup>&</sup>lt;sup>5)</sup> QA1 loaded, QA2 unloaded.

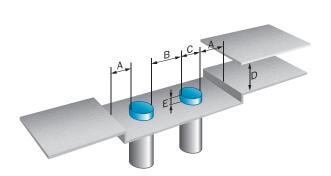
<sup>6)</sup> QA1 loaded, QA2 loaded: see temperature reduction.

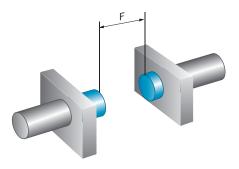
# INDUCTIVE PROXIMITY SENSORS

F	200 mm
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

Non-flush installation





#### Connection type



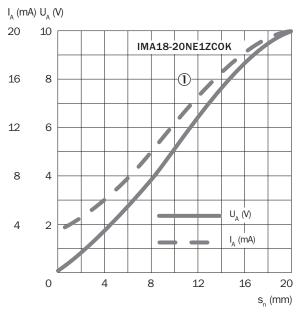
#### Connection diagram

#### Cd-022



#### Response diagram

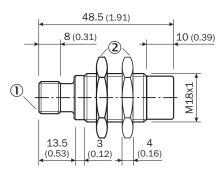
#### IMA18



① St37 (FE)

#### Dimensional drawing (Dimensions in mm (inch))

IMA18, connector, non-flush



- ① Connection
- ② Fastening nuts (2x); width across 24, metal

#### Recommended accessories

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

	Brief description	Туре	Part no.
Universal bar	clamp systems		
6	Plate N06 for universal clamp bracket, M18, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N06	2051612
Mounting bra	ckets and plates		
40	Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
Plug connecto	ors 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
3	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
3	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
>	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
3	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
Terminal and	alignment brackets		
0	Mounting bracket with ball-and-socket, plastic, mounting hardware included	BEF-WN-M18-ST02	5312973
	Clamping block for round sensors M18, without fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included $$	BEF-KH-M18	2051481
	Clamping block for round sensors M18, with fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included $$	BEF-KHF-M18	2051482

# 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

