



# IQ40-20NUP-KK0

IQ Standard

**INDUCTIVE PROXIMITY SENSORS**

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
IQ40-20NUP-KK0	7902137

Other models and accessories → [www.sick.com/IQ\\_Standard](http://www.sick.com/IQ_Standard)



### Detailed technical data

#### Features

<b>Housing</b>	Rectangular
<b>Housing</b>	Standard design
<b>Dimensions (W x H x D)</b>	40 mm x 40 mm x 121 mm
<b>Sensing range <math>S_n</math></b>	20 mm
<b>Safe sensing range <math>S_a</math></b>	16.2 mm
<b>Installation type</b>	Non-flush
<b>Switching frequency</b>	20 Hz <sup>1)</sup> 55 Hz <sup>2)</sup>
<b>Connection type</b>	Terminal connection with M20 gland
<b>Output function</b>	NC or NO
<b>Output characteristic</b>	Wire configurable
<b>Electrical wiring</b>	AC/DC 2-wire
<b>Enclosure rating</b>	IP65 <sup>3)</sup>

<sup>1)</sup> AC.

<sup>2)</sup> DC.

<sup>3)</sup> According to EN 60529.

## Mechanics/electronics

<b>Supply voltage</b>	20 V AC/DC ... 250 V AC/DC
<b>Voltage drop</b>	≤ 6.5 V (AC) ≤ 6 V (DC)
<b>Hysteresis</b>	1 % ... 15 %
<b>Reproducibility</b>	≤ 10 % <sup>1) 2) 3)</sup>
<b>Temperature drift (of S<sub>r</sub>)</b>	± 10 %
<b>EMC</b>	As per EN 55011, class B According to EN 60947-5-2
<b>Continuous current I<sub>a</sub></b>	≤ 350 mA <sup>4)</sup> ≤ 250 mA <sup>5)</sup> ≤ 100 mA <sup>6)</sup>
<b>Off-state current</b>	≤ 2.5 mA (AC 250 V) ≤ 1.3 mA (AC 110 V) ≤ 0.8 mA (DC 24 V)
<b>Minimum load current</b>	> 5 mA
<b>Short-time withstand current</b>	2.2 A <sup>7)</sup>
<b>Cable gland clamping area</b>	M20 1.5
<b>Wire size</b>	≤ 2.5 mm <sup>2</sup>
<b>Short-circuit protection</b>	<sup>8)</sup>
<b>Shock and vibration resistance</b>	30 g, 11 ms / 10 ... 55 Hz, 1 mm
<b>Ambient operating temperature</b>	-25 °C ... +80 °C
<b>Housing material</b>	Plastic
<b>Sensing face material</b>	Plastic, PPE
<b>Protection class</b>	II
<b>Rated insulation voltage U<sub>i</sub></b>	250 V AC
<b>Usage category</b>	AC-140 <sup>9)</sup> DC-13 <sup>10)</sup>
<b>Contamination rating</b>	3
<b>Rated impulse withstand voltage</b>	4 kV

<sup>1)</sup> Supply voltage U<sub>b</sub> and constant ambient temperature T<sub>a</sub>.

<sup>2)</sup> Of S<sub>r</sub>.

<sup>3)</sup> Repeatability (T<sub>a</sub> not constant).

<sup>4)</sup> AC (+50 °C).

<sup>5)</sup> AC (+80 °C).

<sup>6)</sup> DC.

<sup>7)</sup> 20 ms / 0.5 Hz.

<sup>8)</sup> Miniature fuse to IEC 60217-2 Sheet 1, ≤ 2 A (quick-blow).

<sup>9)</sup> Control of small electromagnetic loads with holding currents < 200 mA.

<sup>10)</sup> Control of solenoids.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	966 years
<b>DC<sub>avg</sub></b>	0 %
<b>T<sub>M</sub> (mission time)</b>	20 years

### Reduction factors

<b>Note</b>	The values are reference values which may vary
<b>Stainless steel (V2A, 304)</b>	Approx. 0.7
<b>Aluminum (Al)</b>	Approx. 0.3
<b>Copper (Cu)</b>	Approx. 0.2
<b>Brass (Br)</b>	Approx. 0.4

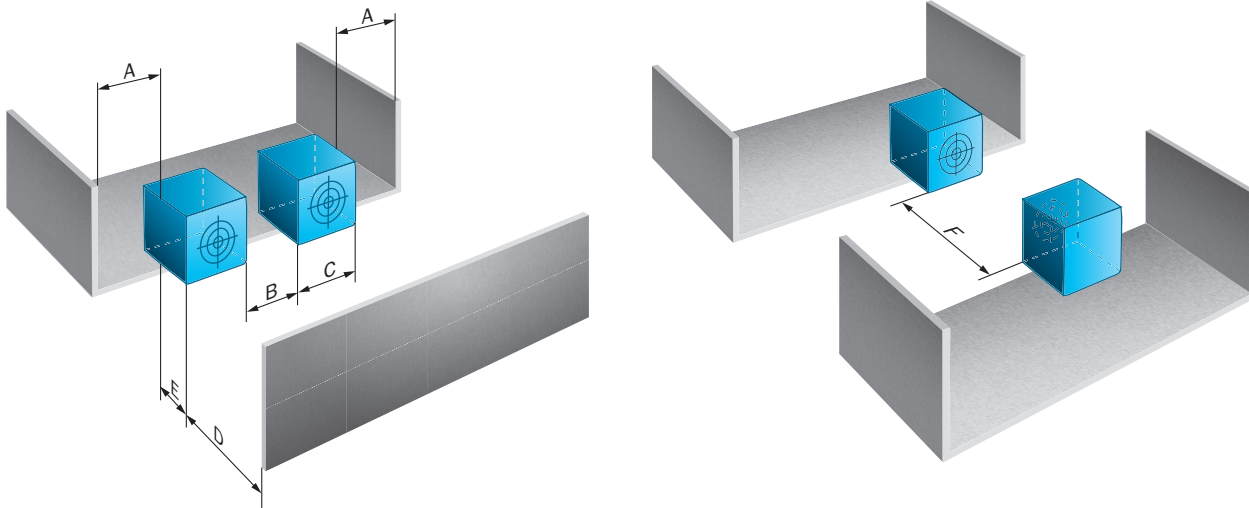
### Installation note

<b>Remark</b>	Associated graphic see "Installation"
<b>A</b>	80 mm
<b>B</b>	80 mm
<b>C</b>	40 mm
<b>D</b>	60 mm
<b>F</b>	160 mm

### Classifications

<b>eCl@ss 5.0</b>	27270101
<b>eCl@ss 5.1.4</b>	27270101
<b>eCl@ss 6.0</b>	27270101
<b>eCl@ss 6.2</b>	27270101
<b>eCl@ss 7.0</b>	27270101
<b>eCl@ss 8.0</b>	27270101
<b>eCl@ss 8.1</b>	27270101
<b>eCl@ss 9.0</b>	27270101
<b>eCl@ss 10.0</b>	27270101
<b>eCl@ss 11.0</b>	27270101
<b>eCl@ss 12.0</b>	27274001
<b>ETIM 5.0</b>	EC002714
<b>ETIM 6.0</b>	EC002714
<b>ETIM 7.0</b>	EC002714
<b>ETIM 8.0</b>	EC002714
<b>UNSPSC 16.0901</b>	39122230

### Installation note

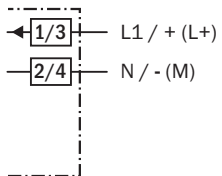


### Connection type



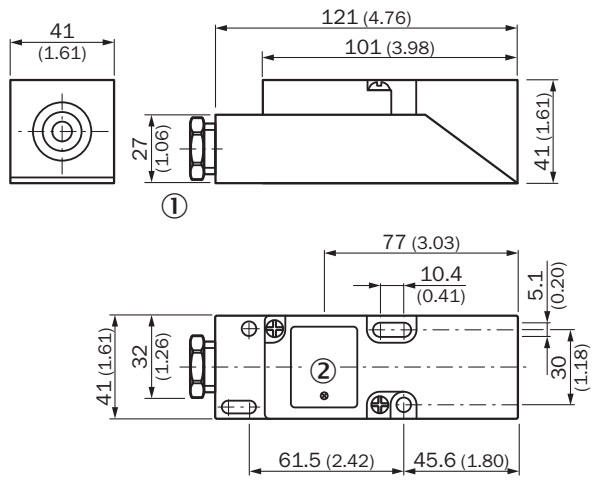
### Connection diagram

Cd-018



Miniature fuse to IEC60127-2  
sheet 1,  $\leq 2$  A (fast acting)

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



## SICK AT A GLANCE

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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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