



# IQR40-20BPPKC0K

IMR

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	part no.
IQR40-20BPPKC0K	6069283

Other models and accessories → [www.sick.com/IMR](http://www.sick.com/IMR)



## Detailed technical data

### Features

<b>Housing</b>	Rectangular
<b>Housing</b>	Short-body
<b>Dimensions (W x H x D)</b>	40 mm x 40 mm x 65 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>	Flush
<b>Switching frequency</b>	250 Hz
<b>Connection type</b>	Male connector M12, 4-pin
<b>Switching output</b>	PNP
<b>Switching output detail</b>	PNP
<b>Output function</b>	Complementary
<b>Electrical wiring</b>	DC 4-wire
<b>Enclosure rating</b>	IP68
<b>Special features</b>	Reduction factor 1, Magnetic-field-resistant
<b>Special applications</b>	Welding range, Difficult application conditions
<b>Items supplied</b>	Clamp-lock mounting system (1x)

### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC
<b>Ripple</b>	$\leq 10 \%$
<b>Voltage drop</b>	$\leq 1.8 \text{ V}^{1)}$
<b>Hysteresis</b>	3 % ... 15 %
<b>Reproducibility</b>	$\leq 2 \%^{2)}$ $^{3)}$

<sup>1)</sup> At  $I_a$  max.

<sup>2)</sup> Supply voltage  $U_B$  and constant ambient temperature  $T_a$ .

<sup>3)</sup> Of  $S_r$ .

<sup>4)</sup>  $-25 \text{ }^\circ\text{C}$  ...  $+70 \text{ }^\circ\text{C}$ .

<sup>5)</sup> Reference voltage: 50 V DC.

<b>Temperature drift (of S<sub>r</sub>)</b>	≤ ± 10 % ≤ ± 15 % <sup>4)</sup>
<b>Continuous current I<sub>a</sub></b>	≤ 200 mA
<b>No load current</b>	≤ 15 mA
<b>Off-state current</b>	≤ 0.1 mA
<b>Short-circuit protection</b>	✓
<b>Magnetic field strength</b>	≤ 100 mT
<b>Shock and vibration resistance</b>	30 g, 11 ms / 10 ... 55 Hz, 1 mm
<b>Ambient operating temperature</b>	-30 °C ... +85 °C
<b>Housing material</b>	Plastic, PBT
<b>Sensing face material</b>	Plastic, PBT
<b>Protection class</b>	II <sup>5)</sup>
<b>UL File No.</b>	E191603

<sup>1)</sup> At I<sub>a</sub> max.

<sup>2)</sup> Supply voltage U<sub>B</sub> and constant ambient temperature Ta.

<sup>3)</sup> Of S<sub>r</sub>.

<sup>4)</sup> -25 °C ... +70 °C.

<sup>5)</sup> Reference voltage: 50 V DC.

#### Safety-related parameters

<b>MTTF<sub>D</sub></b>	139 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>Reduction factor</b>	Reduction factor 1
<b>Stainless steel (V2A, 304)</b>	1
<b>Aluminum (Al)</b>	1
<b>Copper (Cu)</b>	1
<b>Brass (Br)</b>	1

#### Installation note

<b>Remark</b>	Associated graphic see "Installation"
<b>A</b>	20 mm
<b>B</b>	40 mm
<b>C</b>	40 mm
<b>D</b>	90 mm
<b>E</b>	0 mm
<b>F</b>	180 mm

#### Classifications

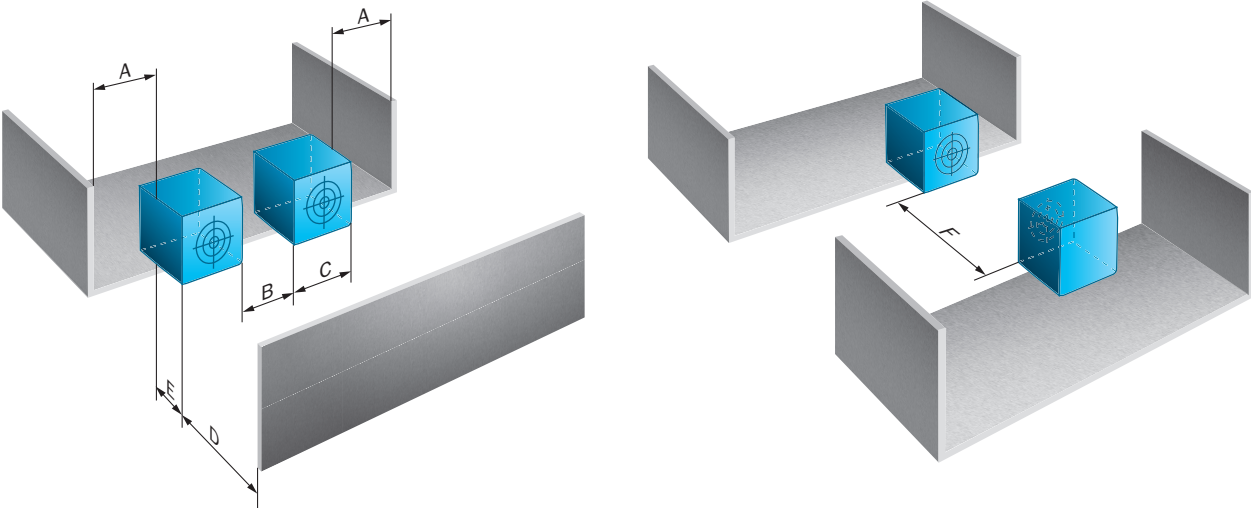
<b>ECLASS 5.0</b>	27270101
<b>ECLASS 5.1.4</b>	27270101
<b>ECLASS 6.0</b>	27270101
<b>ECLASS 6.2</b>	27270101

<b>ECLASS 7.0</b>	27270101
<b>ECLASS 8.0</b>	27270101
<b>ECLASS 8.1</b>	27270101
<b>ECLASS 9.0</b>	27270101
<b>ECLASS 10.0</b>	27270101
<b>ECLASS 11.0</b>	27270101
<b>ECLASS 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

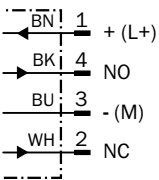
Certificates

<b>EU declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>cULus certificate</b>	✓

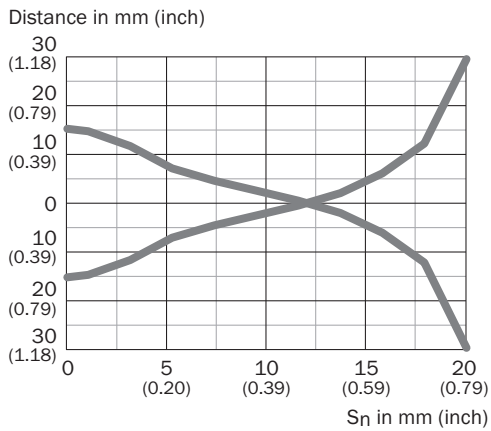
Installation note



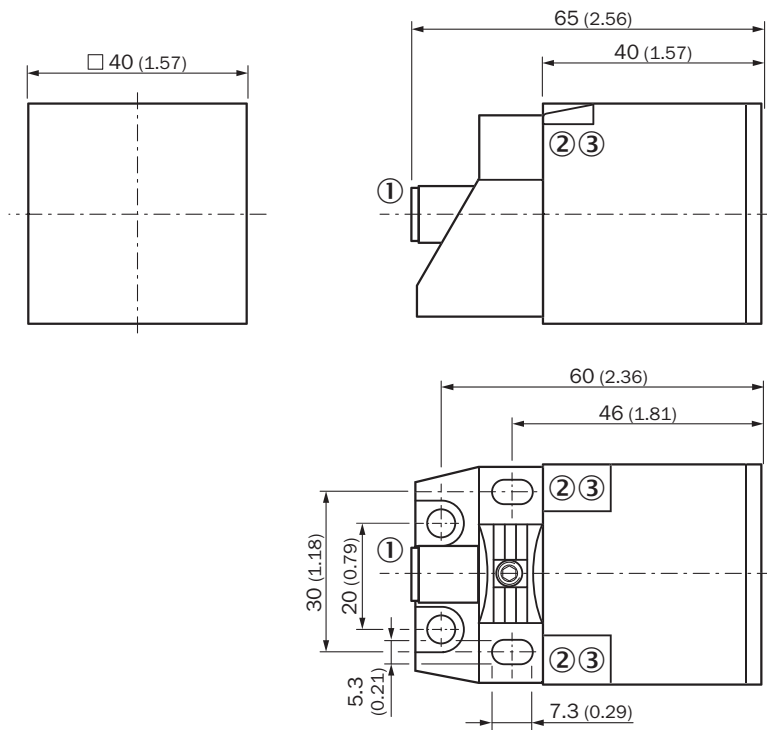
Connection diagram Cd-009



## Response diagram



## Dimensional drawing



Dimensions in mm (inch)

- ① M12 x 1
- ② LED output state, yellow
- ③ operational status LED, green

## 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](http://www.sick.com)