



# CQ28-10NNP-KW1

CQ

CAPACITIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
CQ28-10NNP-KW1	6030133

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

### Detailed technical data

#### Features

<b>Housing</b>	Rectangular
<b>Dimensions (W x H x D)</b>	28 mm x 46 mm x 5.5 mm
<b>Sensing range <math>S_n</math></b>	1 mm ... 10 mm
<b>Safe sensing range <math>S_a</math></b>	7.2 mm
<b>Installation type</b>	Non-flush
<b>Switching frequency</b>	10 Hz
<b>Connection type</b>	Cable, 4-wire, 2 m <sup>1)</sup>
<b>Switching output</b>	NPN
<b>Switching output detail</b>	NPN
<b>Output function</b>	NC or NO
<b>Electrical wiring</b>	DC 4-wire
<b>Adjustment</b>	
	Teach-in button
	Wire/pin
	Sensitivity
	Sensitivity
<b>Enclosure rating</b>	IP68 <sup>2)</sup>

<sup>1)</sup> Do not bend below 0 °C.

<sup>2)</sup> According to EN 60529.

#### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC
<b>Ripple</b>	≤ 10 %

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

<sup>2)</sup> Without load.

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

<sup>4)</sup> Supply voltage  $U_B$  and constant ambient temperature  $T_a$ .

<sup>5)</sup> In EMC critical applications, conducted interference levels may lie within the frequency range of the oscillator. This can cause changes to the output signal. (See operating instructions.)

<b>Voltage drop</b>	≤ 2.5 V DC <sup>1)</sup>
<b>Current consumption</b>	12 mA <sup>2)</sup>
<b>Time delay before availability</b>	≤ 300 ms
<b>Reproducibility</b>	≤ 5 % <sup>3)</sup> <sup>4)</sup>
<b>Temperature drift (of S<sub>r</sub>)</b>	± 10 %
<b>EMC</b>	According to EN 60947-5-2 <sup>5)</sup>
<b>Continuous current I<sub>a</sub></b>	≤ 200 mA
<b>Cable material</b>	PVC
<b>Conductor size</b>	0.14 mm <sup>2</sup>
<b>Short-circuit protection</b>	✓
<b>Shock and vibration resistance</b>	30 g, 11 ms / 10 ... 55 Hz, 1 mm
<b>Ambient operating temperature</b>	-20 °C ... +85 °C
<b>Ambient temperature, storage</b>	-40 °C ... +85 °C
<b>Housing material</b>	Plastic, PBT
<b>Sensing face material</b>	Plastic
<b>UL File No.</b>	NRKH.E191603

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

<sup>2)</sup> Without load.

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

<sup>4)</sup> Supply voltage U<sub>B</sub> and constant ambient temperature T<sub>a</sub>.

<sup>5)</sup> In EMC critical applications, conducted interference levels may lie within the frequency range of the oscillator. This can cause changes to the output signal. (See operating instructions.).

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,112 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>Metal</b>	1
<b>Water</b>	1
<b>PVC</b>	Approx. 0.4
<b>Oil</b>	Approx. 0.25
<b>Glass</b>	0.6
<b>Ceramics</b>	0.5
<b>Alcohol</b>	0.7
<b>Wood</b>	0.2 ... 0.7

### Installation note

<b>Remark</b>	Associated graphic see "Installation"
<b>A</b>	27.6 mm
<b>B</b>	27.6 mm

<b>F</b>	6 x S <sub>n</sub> (max. 60 mm)
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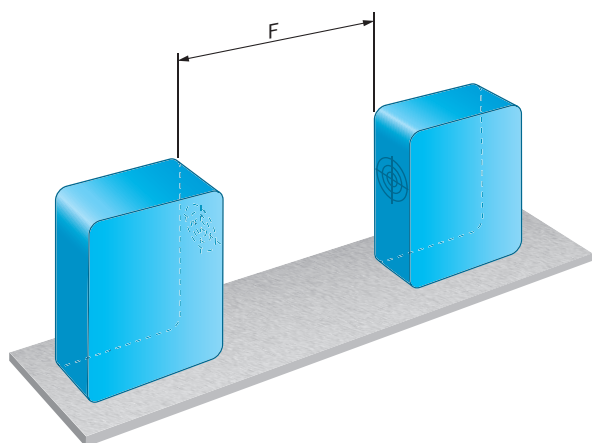
Certificates

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

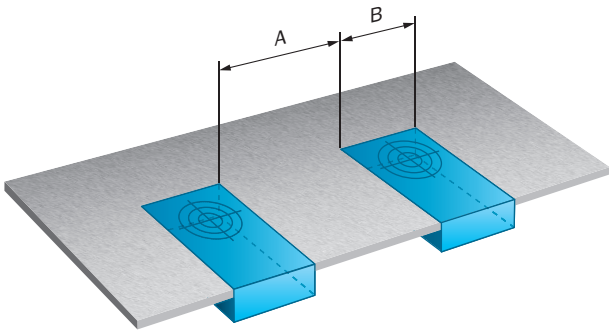
Classifications

<b>ECLASS 5.0</b>	27270102
<b>ECLASS 5.1.4</b>	27270102
<b>ECLASS 6.0</b>	27270102
<b>ECLASS 6.2</b>	27270102
<b>ECLASS 7.0</b>	27270102
<b>ECLASS 8.0</b>	27270102
<b>ECLASS 8.1</b>	27270102
<b>ECLASS 9.0</b>	27270102
<b>ECLASS 10.0</b>	27270102
<b>ECLASS 11.0</b>	27270102
<b>ECLASS 12.0</b>	27274201
<b>ETIM 5.0</b>	EC002715
<b>ETIM 6.0</b>	EC002715
<b>ETIM 7.0</b>	EC002715
<b>ETIM 8.0</b>	EC002715
<b>UNSPSC 16.0901</b>	39122230

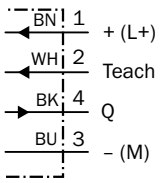
Installation note



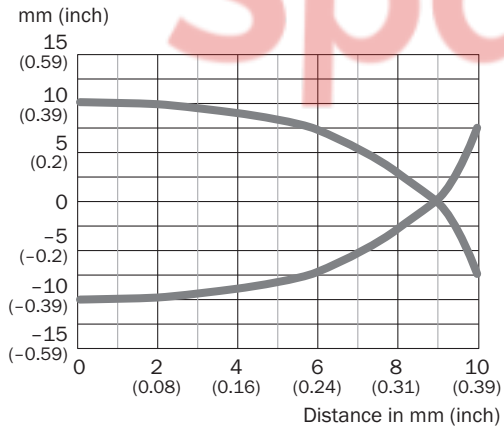
Installation note



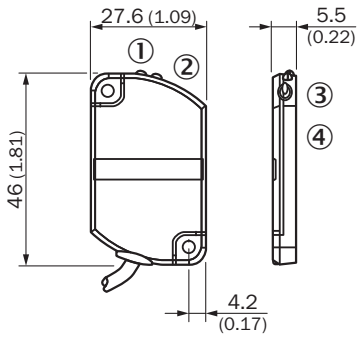
Connection diagram Cd-023



Response diagram



Dimensional drawing CQ28, cable



Dimensions in mm (inch)

- ① LED indicator green
- ② LED indicator yellow
- ③ Teach-in button
- ④ Sensing face

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## 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)

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