

# CQF16-06ENSEW1

CQF

CAPACITIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type           | part no. |
|----------------|----------|
| CQF16-06ENSEW1 | 6068626  |

**Included in delivery:** BEF-WMCQF16 (1)

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

## Detailed technical data

### Features

|                                       |   |
|---------------------------------------|---|
| <b>Housing</b>                        | Rectangular   |
| <b>Dimensions (W x H x D)</b>         | 16 mm x 34 mm x 8 mm  |
| <b>Sensing range <math>S_n</math></b> | 0.5 mm ... 6 mm   |
| <b>Installation type</b>              | Flush<br>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>                | NO  |
| <b>Electrical wiring</b>              | DC 4-wire   |
| <b>Adjustment</b>                     | Wire/pin Teach-in (full or empty)   |
| <b>Enclosure rating</b>               | IP67, IP68, IP69K   |
| <b>Special features</b>               | Detection of water-based liquids with conductivity up to 50 mS/cm; container diameter: min. 8 mm; container thickness: 0.5 mm ... 6 mm (plastic), 0.5 mm ... 4 mm (glass) |
| <b>Items supplied</b>                 | Mounting bracket (1x)   |

<sup>1)</sup> Do not bend below 0 °C.

### Mechanics/electronics

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

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

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

|   |   |
|---|---|
| <b>Voltage drop</b>                         | ≤ 1.5 V DC <sup>1)</sup>  |
| <b>Current consumption</b>                  | 13 mA <sup>2)</sup>   |
| <b>Time delay before availability</b>       | ≤ 300 ms  |
| <b>Temperature drift (of S<sub>i</sub>)</b> | ± 20 %  |
| <b>EMC</b>                                  | EN 60947-5-2  |
| <b>Continuous current I<sub>a</sub></b>     | ≤ 100 mA  |
| <b>Cable material</b>                       | PVC   |
| <b>Conductor size</b>                       | 0.14 mm <sup>2</sup>  |
| <b>Short-circuit protection</b>             | ✓   |
| <b>Power-up pulse protection</b>            | ✓   |
| <b>Shock and vibration resistance</b>       | 30 g, 11 ms / 6 pos., 6 neg. per axis, 10 ... 150 Hz, 1.0 mm / 15 g |
| <b>Ambient operating temperature</b>        | -25 °C ... +80 °C   |
| <b>Ambient temperature, storage</b>         | -40 °C ... +85 °C   |
| <b>Housing material</b>                     | Plastic, PBT  |
| <b>Tightening torque, max.</b>              | 0.2 Nm  |
| <b>Protection class</b>                     | III   |
| <b>UL File No.</b>                          | NRKH.E191603  |

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

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

#### Safety-related parameters

|                                     |             |
|-------------------------------------|-------------|
| <b>MTTF<sub>D</sub></b>             | 1,972 years |
| <b>DC<sub>avg</sub></b>             | 0 %         |
| <b>T<sub>M</sub> (mission time)</b> | 20 years    |

#### Installation note

|               |                                       |
|---------------|---------------------------------------|
| <b>Remark</b> | Associated graphic see "Installation" |
| <b>A</b>      | ≥ 10 mm (at factory setting)          |
| <b>B</b>      | 16 mm                                 |
| <b>F</b>      | ≥ 25 mm (at factory setting)          |

#### Certificates

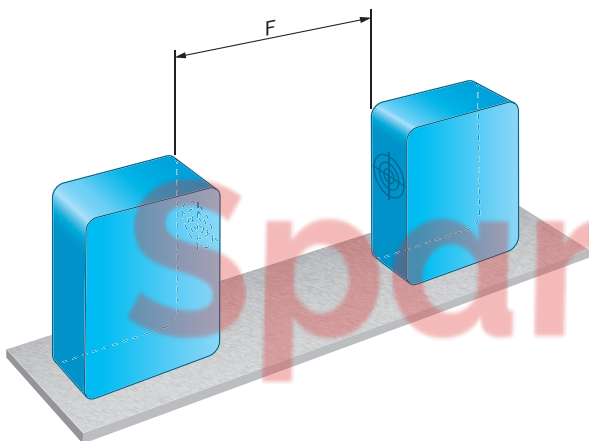
|   |   |
|---|---|
| <b>EU declaration of conformity</b>       | ✓ |
| <b>UK declaration of conformity</b>       | ✓ |
| <b>Moroccan declaration of conformity</b> | ✓ |
| <b>China RoHS</b>                         | ✓ |
| <b>cULus certificate</b>                  | ✓ |

#### Classifications

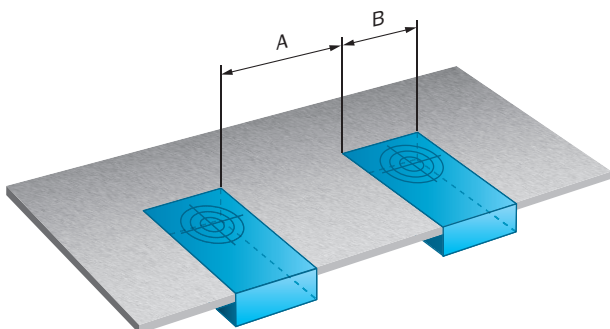
|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270102 |
| <b>ECLASS 5.1.4</b> | 27270102 |
| <b>ECLASS 6.0</b>   | 27270102 |
| <b>ECLASS 6.2</b>   | 27270102 |
| <b>ECLASS 7.0</b>   | 27270102 |

|                       |          |
|-----------------------|----------|
| <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 |

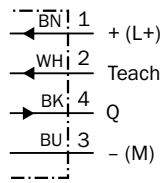
Installation note



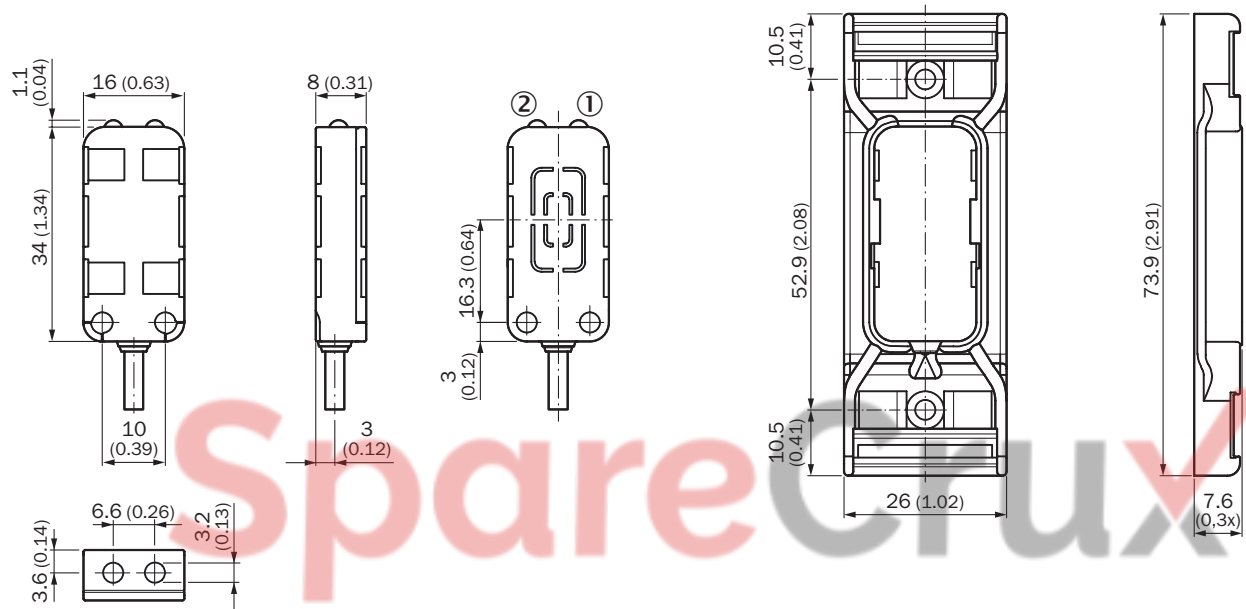
Installation note



Connection diagram Cd-023



Dimensional drawing Sensor with bracket (included in the scope of delivery)



Dimensions in mm (inch)

- ① Yellow LED indicator: Switching output
- ② LED indicator green: Supply voltage active

## 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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