



# CM18-08BPP-KW1

CM

CAPACITIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

## Ordering information

| Type           | part no. |
|----------------|----------|
| CM18-08BPP-KW1 | 6020136  |

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

## Detailed technical data

### Features

|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| <b>Housing</b>                             | Cylindrical thread design         |
| <b>Thread size</b>                         | M18 x 1                           |
| <b>Diameter</b>                            | Ø 18 mm                           |
| <b>Sensing range <math>S_n</math></b>      | 3 mm ... 8 mm                     |
| <b>Safe sensing range <math>S_a</math></b> | 5.76 mm                           |
| <b>Installation type</b>                   | Flush                             |
| <b>Switching frequency</b>                 | 30 Hz                             |
| <b>Connection type</b>                     | Cable, 4-wire, 2 m <sup>1)</sup>  |
| <b>Switching output</b>                    | PNP                               |
| <b>Output function</b>                     | Complementary                     |
| <b>Electrical wiring</b>                   | DC 4-wire                         |
| <b>Adjustment</b>                          | Potentiometer, 270° (Sensitivity) |
| <b>Enclosure rating</b>                    | IP67 <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 ... 36 V DC      |
| <b>Ripple</b>                         | ≤ 10 % <sup>1)</sup>     |
| <b>Voltage drop</b>                   | ≤ 2.5 V DC <sup>2)</sup> |
| <b>Current consumption</b>            | 10 mA <sup>3)</sup>      |
| <b>Time delay before availability</b> | ≤ 100 ms                 |
| <b>Hysteresis</b>                     | 4 % ... 20 %             |

<sup>1)</sup> Of  $U_b$ .

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Without load.

<sup>4)</sup> Of  $S_r$ .

<sup>5)</sup>  $U_b$  and  $T_a$  constant.

<sup>6)</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>Reproducibility</b>                      | ≤ 5 % <sup>4) 5)</sup>                                                            |
| <b>Temperature drift (of S<sub>r</sub>)</b> | ± 10 %                                                                            |
| <b>EMC</b>                                  | According to EN 60947-5-2 <sup>6)</sup>                                           |
| <b>Continuous current I<sub>a</sub></b>     | ≤ 200 mA                                                                          |
| <b>Cable material</b>                       | PVC                                                                               |
| <b>Conductor size</b>                       | 0.34 mm <sup>2</sup>                                                              |
| <b>Short-circuit protection</b>             | ✓                                                                                 |
| <b>Reverse polarity protection</b>          | ✓                                                                                 |
| <b>Power-up pulse protection</b>            | ✓                                                                                 |
| <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, PBT                                                                      |
| <b>Housing length</b>                       | 71.5 mm                                                                           |
| <b>Thread length</b>                        | 46.5 mm                                                                           |
| <b>Tightening torque, max.</b>              | ≤ 2.6 Nm                                                                          |
| <b>Items supplied</b>                       | Mounting nut, PA12 plastic (2x)<br>Screwdriver for potentiometer adjustment (1 x) |

1) Of Ub.

2) At I<sub>a</sub> max.

3) Without load.

4) Of S<sub>r</sub>.

5) Ub and Ta constant.

6) 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> | 1,149 years |
| <b>DC<sub>avg</sub></b> | 0 %         |

## 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                                    |

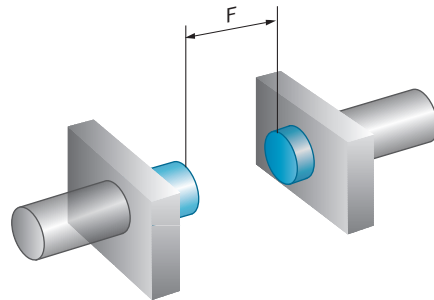
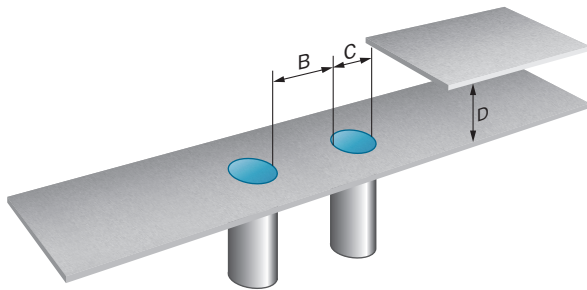
## Installation note

|               |                                       |
|---------------|---------------------------------------|
| <b>Remark</b> | Associated graphic see "Installation" |
| <b>B</b>      | 18 mm                                 |
| <b>C</b>      | 18 mm                                 |
| <b>D</b>      | 24 mm                                 |

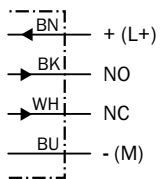
## Classifications

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

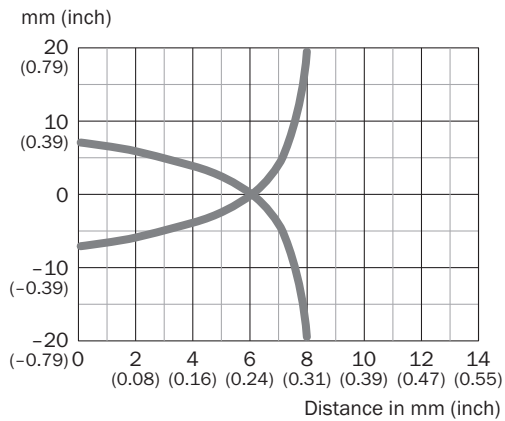
## Installation note Flush installation



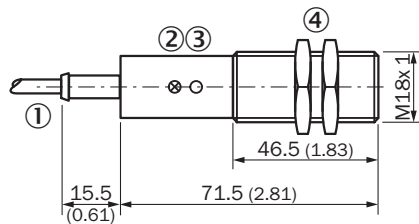
## Connection diagram Cd-005



## Response diagram CM18, Flush installation



## Dimensional drawing CM18, flush, cable



Dimensions in mm (inch)

- ① Connection
- ② Display LED
- ③ Potentiometer
- ④ fastening nuts (2 x); 34 mm hex, plastic

## Recommended accessories

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

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Type         | part no. |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|
| Mounting systems                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |          |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Clamping block for round sensors M18, with fixed stop</li> <li><b>Material:</b> Plastic</li> <li><b>Details:</b> Plastic (PA12), glass-fiber reinforced</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> GR18, MH15V, V180-2, V18</li> </ul>                                                                                                                                      | BEF-KHF-M18  | 2051482  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Clamping block for round sensors M18, without fixed stop</li> <li><b>Material:</b> Plastic</li> <li><b>Details:</b> Plastic (PA12), glass-fiber reinforced</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> GR18, MH15V, V180-2, V18, IME18, IMX18, IMA18, IMB18, IMI18</li> </ul>                                                                                                | BEF-KH-M18   | 2051481  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Plate N06 for universal clamp bracket, M18</li> <li><b>Material:</b> Steel, zinc diecast</li> <li><b>Details:</b> Zinc plated steel (sheet), Zinc die cast (clamping bracket)</li> <li><b>Items supplied:</b> Universal clamp (5322626), mounting hardware</li> <li><b>Usable for:</b> MH15, MH15V, V180-2, V18V, W15, GR18, V18, V18 Laser, V12-2, SimpleSense, SureSense, M18 round sensors</li> </ul>                  | BEF-KHS-N06  | 2051612  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Plate N06N for universal clamp bracket, M18</li> <li><b>Material:</b> Stainless steel, stainless steel</li> <li><b>Details:</b> Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li><b>Items supplied:</b> Universal clamp (5322627), mounting hardware</li> <li><b>Usable for:</b> MH15, MH15V, V180-2, V18V, W15, GR18, V18, V18 Laser, V12-2, SimpleSense, SureSense, M18 round sensors</li> </ul> | BEF-KHS-N06N | 2051622  |
|   | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting plate for M18 sensors</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Without mounting hardware</li> <li><b>Suitable for:</b> GR18, V180-2, V18, W15, Z1, Z2</li> </ul>                                                                                                                                                                              | BEF-WG-M18   | 5321870  |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for M18 sensors</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Without mounting hardware</li> <li><b>Suitable for:</b> GR18, V180-2, V18, W15, Z1, Z2</li> </ul>                                                                                                                                                                            | BEF-WN-M18   | 5308446  |

## 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)