



# CM12-08EBP-KW1

CM

CAPACITIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

Type	Part no.
CM12-08EBP-KW1	6051029

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>	M12 x 1
<b>Diameter</b>	Ø 12 mm
<b>Sensing range <math>S_n</math></b>	0.5 mm ... 8 mm <sup>1)</sup> 0.5 mm ... 4 mm <sup>2)</sup>
<b>Safe sensing range <math>S_a</math></b>	5.76 mm
<b>Installation type</b>	Non-flush / flush <sup>3)</sup>
<b>Switching frequency</b>	15 Hz
<b>Connection type</b>	Cable, 4-wire, 2 m <sup>4)</sup>
<b>Switching output</b>	PNP / NPN
<b>Output function</b>	Programmable
<b>Output characteristic</b>	Wire configurable <sup>5)</sup>
<b>Electrical wiring</b>	DC 4-wire
<b>Adjustment</b>	Single teach-in button (Sensitivity) Cable (Sensitivity)
<b>Enclosure rating</b>	IP68 (According to EN 60529) <sup>6)</sup>

<sup>1)</sup> For non-flush installation.

<sup>2)</sup> For flush mounting.

<sup>3)</sup> For flush mounting, Teach-in necessary.

<sup>4)</sup> Do not bend below 0 °C.

<sup>5)</sup> Automatic detection.

<sup>6)</sup> 1.3 m water depth / 60 min.

### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 36 V DC
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<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> For non-flush installation min. 1 x  $S_n$  and sensor grounded.

<b>Ripple</b>	≤ 10 % <sup>1)</sup>
<b>Voltage drop</b>	≤ 2.5 V DC <sup>2)</sup>
<b>Current consumption</b>	12 mA <sup>3)</sup>
<b>Time delay before availability</b>	≤ 120 ms
<b>Hysteresis</b>	3 % ... 20 %
<b>Reproducibility</b>	≤ 5 % <sup>4) 5)</sup>
<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>	0.14 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>	-20 °C ... +85 °C
<b>Ambient temperature, storage</b>	-40 °C ... +85 °C
<b>Housing material</b>	Plastic
<b>Housing length</b>	84.7 mm
<b>Thread length</b>	46.5 mm
<b>Tightening torque, max.</b>	≤ 1 Nm
<b>Items supplied</b>	Mounting nut, PA12 plastic (2x)
<b>UL File No.</b>	NRKH.E191603

<sup>1)</sup> Of Ub.

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

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

<sup>4)</sup> Of Sr.

<sup>5)</sup> Ub and Ta constant.

<sup>6)</sup> For non-flush installation min. 1 x Sn and sensor grounded.

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	603 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
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Installation note

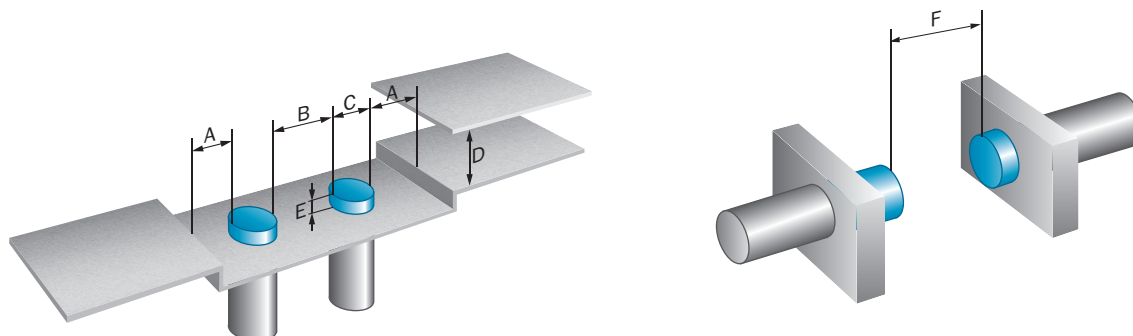
<b>Remark</b>	Associated graphic see "Installation"
<b>B</b>	12 mm
<b>C</b>	12 mm
<b>D</b>	12 mm
<b>E</b>	8 mm

Classifications

<b>ECl@ss 5.0</b>	27270102
<b>ECl@ss 5.1.4</b>	27270102
<b>ECl@ss 6.0</b>	27270102
<b>ECl@ss 6.2</b>	27270102
<b>ECl@ss 7.0</b>	27270102
<b>ECl@ss 8.0</b>	27270102
<b>ECl@ss 8.1</b>	27270102
<b>ECl@ss 9.0</b>	27270102
<b>ECl@ss 10.0</b>	27270102
<b>ECl@ss 11.0</b>	27270102
<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

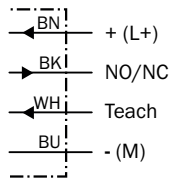
Installation note

Non-flush installation



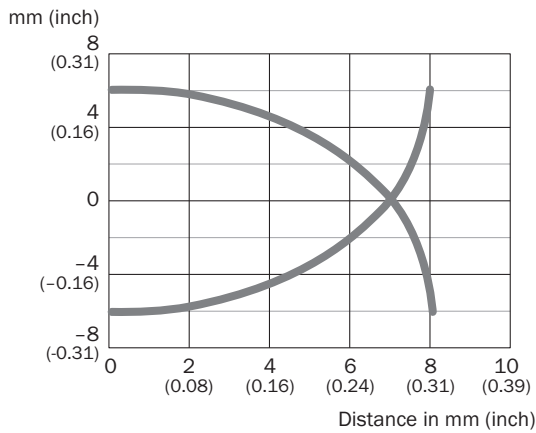
### Connection diagram

Cd-236



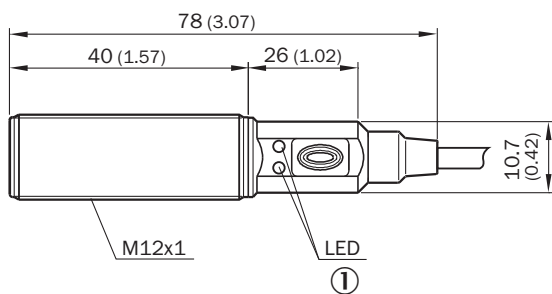
### Characteristic curve

CM12



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




CM12, cable



① LED yellow: output active; LED green: Power and signal reserve

Recommended accessories

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

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N05 for universal clamp bracket, M12, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N05	2051611
Mounting brackets and plates			
	Mounting plate for M12 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M12	5321869
	Mounting bracket for M12 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M12	5308447

## 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)