



## Capacitive Proximity Sensors Cylindrical threaded housing, CM12

CM12-08EBP-KW1



**Model Name** > **CM12-08EBP-KW1**  
**Part No.** > **6051029**



#### At a glance

- High electromagnetic compatibility
- Compact sensor with long sensing range of up to 8 mm
- Teach-button for teaching in the background and/or the object (also possible via an external cable)
- Dynamic Teach for teaching in the background and/or the object
- Automatic detection of NPN output or PNP output load
- Teach-in procedure allows you to switch between the NO and NC functions

#### Your benefits

- Its high electromagnetic compatibility prevents switching errors and increases machine availability
- Its long sensing range and compact design allow the sensor to be used in a number of different applications
- The compact sensor design saves installation space
- Fast sensor configuration possible using Teach-in pushbutton or external control cable
- The Dynamic Teach function can be used to familiarize the sensor with the object/medium. This enables more reliable detection and thus increases the machine's throughput
- Less variants (NO/NC, NPN/PNP, flush/non-flush) means that fewer parts need to be stored
- Since measurements can also be made through the wall of the tank or container, there is no need to drill holes, reducing installation time



#### Features

|                           |                                  |
|---------------------------|----------------------------------|
| Design:                   | Cylindrical                      |
| Thread size:              | M12 x 1                          |
| Sensing range Sn:         | 8 mm                             |
| Assured sensing range Sa: | 5.76 mm                          |
| Installation type:        | Non-flush/flush <sup>1)</sup>    |
| Switching frequency:      | Ca. 15 Hz                        |
| Output type:              | NPN, PNP                         |
| Output function:          | Programmable                     |
| Electrical wiring:        | DC 4-wire                        |
| Enclosure rating::        | IP 68 <sup>2) 3)</sup>           |
| Electrical connection:    | Cable, 4-wire, 2 m <sup>4)</sup> |
| Output characteristic:    | Wire configurable                |

Adjustment: Single teach-in button, Sensitivity cable

1) For flush mounting, Teach-in necessary 2) According to EN 60529 3) 1.3 m water depth/60 min 4) Do not bend below 0 °C

### Mechanics/electronics

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Housing material: Plastic  
Supply voltage: 10 V DC ... 36 V  
Residual ripple:  $\leq 10\%$  <sup>1)</sup>  
Voltage drop:  $\leq 2.5\text{ V DC}$  <sup>2)</sup>  
Power consumption:  $\leq 12\text{ mA}$  <sup>3)</sup>  
Time delay before availability:  $\leq 120\text{ ms}$   
Hysteresis: 3 % ... 20 %  
Repeatability:  $\leq 5\%$  <sup>4) 5)</sup>  
EMC: According to EN 60947-5-2 <sup>6)</sup>  
Output current  $I_a$ :  $\leq 200\text{ mA}$   
Cable material: PVC  
Conductor cross-section: 0.34 mm<sup>2</sup>  
Short-circuit protection: ✓  
Reverse polarity protection: ✓  
Power-up pulse protection: ✓  
Shock and vibration resistance: 30 g, 11 ms/10 ... 55 Hz, 1 mm  
Ambient temperature operation: -20 °C ... +85 °C  
Ambient storage temperature: -40 °C ... +85 °C  
Housing length: 84.7 mm  
Thread length: 46.5 mm  
Tightening torque, max.:  $\leq 1\text{ Nm}$

1) Of  $U_b$  2) At  $I_{a\text{ max}}$  3) Without load 4) Of  $S_r$  5)  $U_b$  and  $T_a$  constant 6) For non-flush installation min. 1 x Sn and sensor grounded

### Reduction factors

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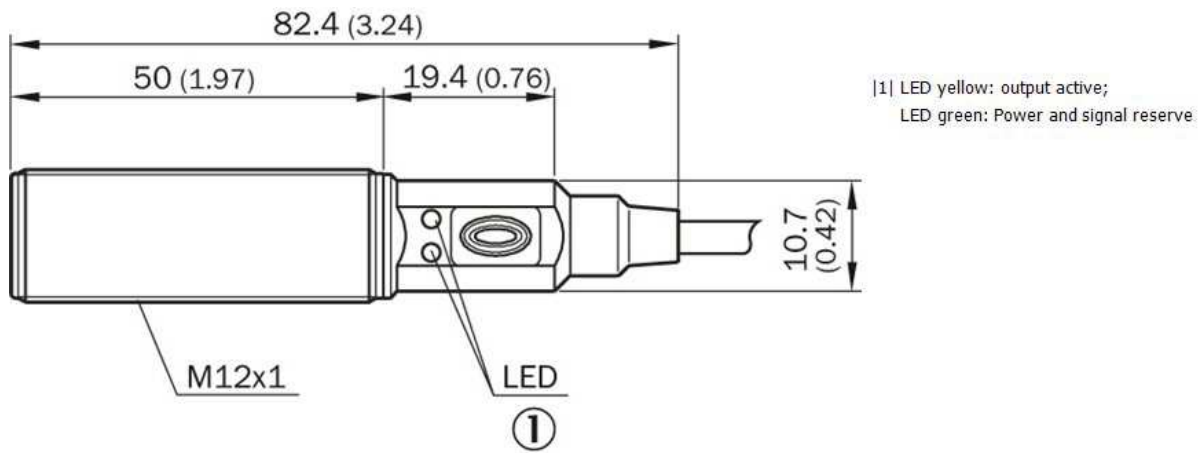
Note: The values are reference values which may vary  
Metal: 1  
Water: 1  
PVC: Ca. 0.4  
Oil: Ca. 0.25

### Installation note

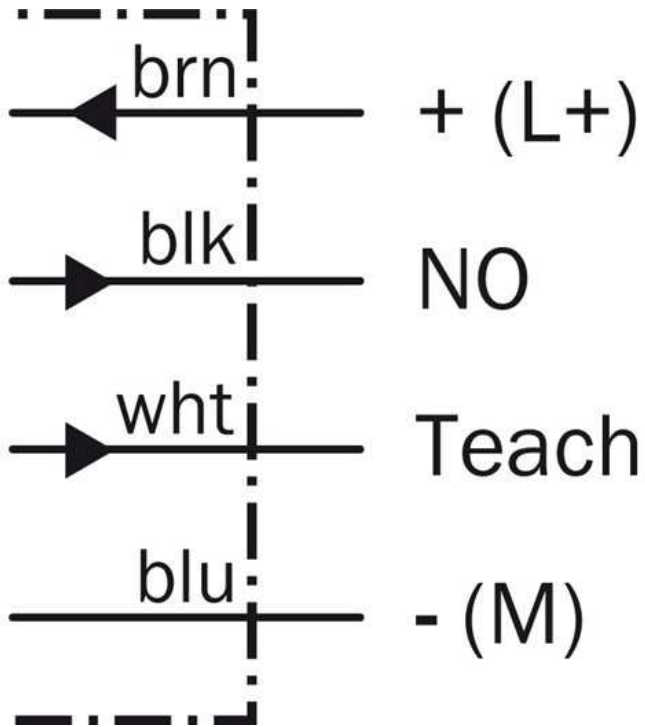
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Remark: Associated graphic see "Installation"

### Dimensional drawing



### Connection diagram



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