



CM30-25NPP-EC1

CM

CAPACITIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|----------------|----------|
| CM30-25NPP-EC1 | 6058157 |

Other models and accessories → www.sick.com/CM

Detailed technical data

Features

| | |
|--|---|
| Housing | Cylindrical thread design |
| Thread size | M30 x 1.5 |
| Diameter | Ø 30 mm |
| Sensing range S_n | 0 mm ... 25 mm |
| Safe sensing range S_a | 19.13 mm ¹⁾ |
| Installation type | Non-flush |
| Switching frequency | 50 Hz |
| Connection type | Male connector M12, 4-pin |
| Switching output | PNP |
| Output function | Complementary |
| Output characteristic | Wire configurable |
| Electrical wiring | DC 4-wire |
| Adjustment | Potentiometer, 11 turns (Sensitivity) |
| Enclosure rating | IP67 IP68 ²⁾ IP69K |
| Items supplied | Mounting nut, PA12 plastic (2x) Screwdriver for potentiometer adjustment (1 x) |

¹⁾ For flush mounting in electrically conductive materials $S_a = 0.8 \times S_r$ at temperatures $<0 \text{ }^\circ\text{C}$ and $>60 \text{ }^\circ\text{C}$.

²⁾ 1 m water depth / 60 min.

Mechanics/electronics

| | |
|---|-----------------------------------|
| Supply voltage | 10 V DC ... 36 V DC |
| Ripple | ≤ 10 % ¹⁾ |
| Voltage drop | ≤ 2 V DC ²⁾ |
| Current consumption | 12 mA ³⁾ |
| Time delay before availability | ≤ 200 ms |
| Hysteresis | 3 % ... 20 % |
| Reproducibility | ≤ 5 % ⁴⁾ ⁵⁾ |
| Temperature drift (of S_r) | ± 10 % |
| EMC | According to EN 60947-5-2 |
| Continuous current I_a | ≤ 200 mA |
| Short-circuit protection | ✓ |
| Reverse polarity protection | ✓ |
| Power-up pulse protection | ✓ |
| Shock and vibration resistance | According to EN 60068 |
| Ambient operating temperature | -30 °C ... +85 °C ⁶⁾ |
| Ambient temperature, storage | -40 °C ... +85 °C |
| Housing material | Plastic, PBT |
| Housing length | 74 mm |
| Thread length | 45.5 mm |
| Tightening torque, max. | ≤ 7.5 Nm |
| UL File No. | NRKH.E191603 |

¹⁾ Of U_b.

²⁾ At I_a max.

³⁾ Without load.

⁴⁾ Of S_r.

⁵⁾ U_b and T_a constant.

⁶⁾ +120 °C short time, at the front of the sensor.

Safety-related parameters

| | |
|-------------------------------------|-----------|
| MTTF_D | 919 years |
| DC_{avg} | 0 % |
| T_M (mission time) | 20 years |

Reduction factors

| | |
|-----------------|--|
| Note | The values are reference values which may vary |
| Metal | 1 |
| Water | 1 |
| PVC | Approx. 0.4 |
| Oil | Approx. 0.25 |
| Glass | 0.6 |
| Ceramics | 0.5 |
| Alcohol | 0.7 |

| | |
|-------------|-------------|
| Wood | 0.2 ... 0.7 |
|-------------|-------------|

Installation note

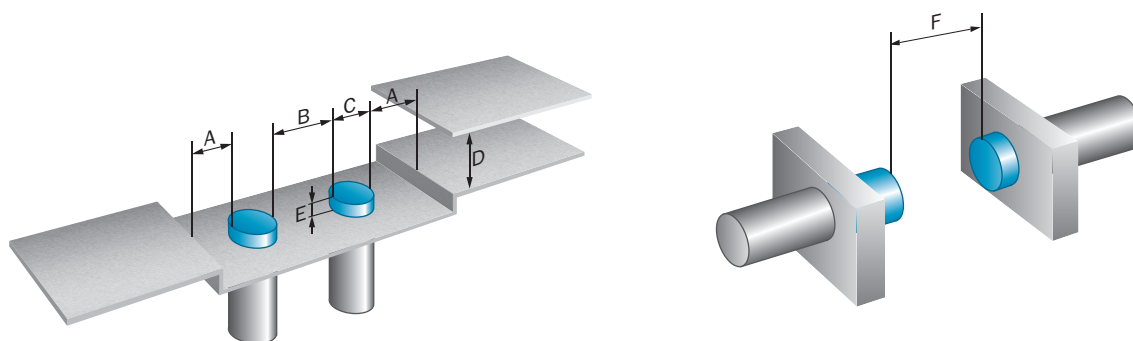
| | |
|---------------|--|
| Remark | Associated graphic see "Installation" |
| A | 30 mm |
| B | 60 mm |
| C | 30 mm |
| D | 75 mm |
| E | 14.5 mm In critical distances, the sensor should be tested in the application |
| F | 75 mm |

Classifications

| | |
|-----------------------|----------|
| eCl@ss 5.0 | 27270102 |
| eCl@ss 5.1.4 | 27270102 |
| eCl@ss 6.0 | 27270102 |
| eCl@ss 6.2 | 27270102 |
| eCl@ss 7.0 | 27270102 |
| eCl@ss 8.0 | 27270102 |
| eCl@ss 8.1 | 27270102 |
| eCl@ss 9.0 | 27270102 |
| eCl@ss 10.0 | 27270102 |
| eCl@ss 11.0 | 27270102 |
| eCl@ss 12.0 | 27274201 |
| ETIM 5.0 | EC002715 |
| ETIM 6.0 | EC002715 |
| ETIM 7.0 | EC002715 |
| ETIM 8.0 | EC002715 |
| UNSPSC 16.0901 | 39122230 |

Installation note

Non-flush installation



Shock and vibration resistance

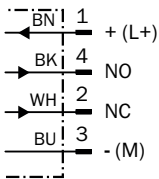
| | |
|---|--------------------------------------|
| Shock (IEC 60068-2-27): | 30 G / 11ms, 3 pos, 3 neg per axis |
| Rough handling shocks (IEC 60068-2-31): | 2 times from 1m, 100 times from 0,5m |
| Vibration (IEC 60068-2-6): | 10 to 150 Hz, 1 mm / 15 G |

Electromagnetic compatibility (EMC)

| | |
|--|---|
| Electrostatic discharge (EN61000-4-2): | Contact discharge > 40 kV Air discharge > 40 kV |
| Electrical fast transients/burst (EN 61000-4-4): | +/- 4 kV |
| Surge (EN 61000-4-5): | Power supply > 2 kV (with 500 Ohm) Sensor output > 2 kV (with 500 Ohm) |
| Wire conducted disturbances (EN 61000-4-6): | > 20 Vrms |
| Power-frequency magnetic fields (EN 61000-4-8): | Continuous > 60 A/m, 75.9 μ tesla Short-time > 600 A/m, 759 μ tesla |
| Radiated RF electromagnetic fields (EN 61000-4-3): | > 20 V/m |

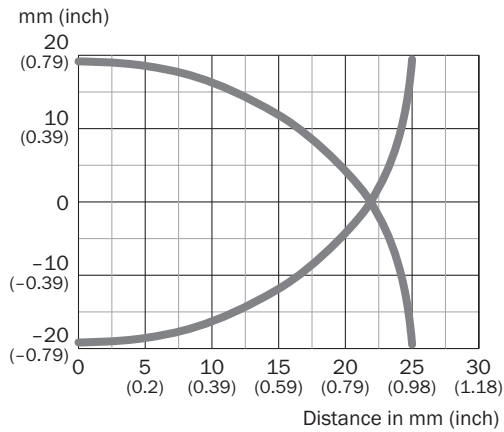
Connection diagram

Cd-006



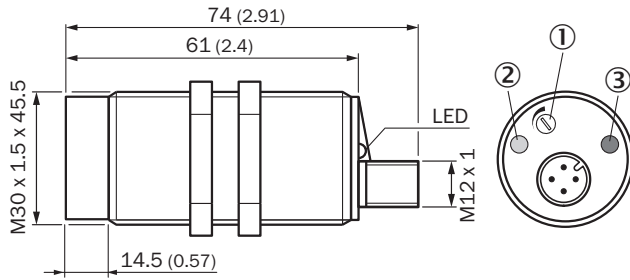
Characteristic curve

CM30, Non-flush installation



Dimensional drawing (Dimensions in mm (inch))

CM30, non-flush, connector








- ① Potentiometer for sensitivity adjustment
- ② LED yellow: output active
- ③ LED green: operating indicator

Recommended accessories

Other models and accessories → www.sick.com/CM

| | Brief description | Type | Part no. |
|-------------------------------------|---|--------------------|-----------------|
| Mounting brackets and plates | | | |
| | Mounting plate for M30 sensors, steel, zinc coated, without mounting hardware | BEF-WG-M30 | 5321871 |
| | Mounting bracket for M30 sensors, steel, zinc coated, without mounting hardware | BEF-WN-M30 | 5308445 |
| Plug connectors and cables | | | |
| | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YF2A14-020UB3XLEAX | 2095607 |
| | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YF2A14-020VB3XLEAX | 2096234 |
| | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YF2A14-050UB3XLEAX | 2095608 |
| | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A14-050VB3XLEAX | 2096235 |
| | Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YG2A14-020UB3XLEAX | 2095766 |
| | Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YG2A14-020VB3XLEAX | 2095895 |
| | Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YG2A14-050UB3XLEAX | 2095767 |

| | Brief description | Type | Part no. |
|---|---|--------------------|----------|
|  | Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YG2A14-050VB3XLEAX | 2095897 |
|  | Head A: female connector, M12, 4-pin, straight Cable: unshielded | DOS-1204-G | 6007302 |
|  | Head A: female connector, M12, 4-pin, angled Cable: unshielded | DOS-1204-W | 6007303 |
|  | Head A: male connector, M12, 4-pin, straight Cable: unshielded | STE-1204-G | 6009932 |
|  | Head A: male connector, M12, 4-pin, angled Cable: unshielded | STE-1204-W | 6022084 |

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