

CM30-25NPP-EC1

CAPACITIVE PROXIMITY SENSORS





Ordering information

Туре	part no.
CM30-25NPP-EC1	6058157

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

Illustration may differ



Detailed technical data

Features

Housing	Metric
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
Switching output detail	PNP
Output function	Complementary
Output characteristic	Wire configurable
Electrical wiring	DC 4-wire
Adjustment	
Potentiometer	Sensitivity (11 turns)
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 Sa = 0.8 x Sr at temperatures <0 °C and >60 °C.

 $^{^{2)}\, 1\, \}text{m}$ water depth / 60 min.

Mechanics/electronics

Supply voltage	10 V DC 36 V DC
Ripple	≤ 10 % ¹⁾
Voltage drop	\leq 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	√
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 Ub.

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

²⁾ At I_a max.

³⁾ Without load.

⁴⁾ Of Sr.

 $^{^{5)}}$ Supply voltage $\ensuremath{\text{U}_{B}}$ and constant ambient temperature Ta.

 $^{^{6)}}$ +120 °C short time, at the front of the sensor.

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Wood	0.2 0.7
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Installation note

Remark	Associated graphic see "Installation"
A	30 mm
В	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

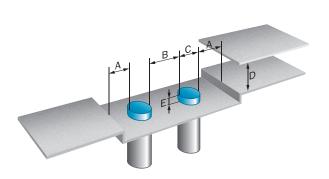
Certificates

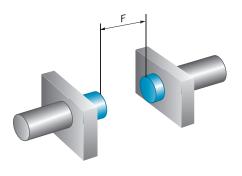
EU declaration of conformity	✓
UK declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓

Classifications

FOLACC F O	27270102
ECLASS 5.0	27270102
ECLASS 5.1.4	27270102
ECLASS 6.0	27270102
ECLASS 6.2	27270102
ECLASS 7.0	27270102
ECLASS 8.0	27270102
ECLASS 8.1	27270102
ECLASS 9.0	27270102
ECLASS 10.0	27270102
ECLASS 11.0	27270102
ECLASS 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

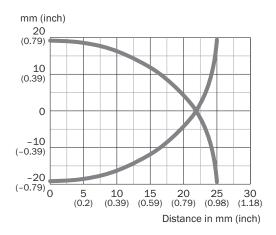
Electromagnetic compatibility (EMC)

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 0hm) Sensor output > 2 kV (with 500 0hm)	
Wire conducted disturbances (EN 61000-4-6):	> 20 Vrms	
Power-frequency magnetic fields (EN 61000-4-8):	Continous > 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	

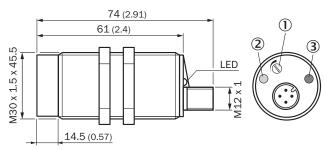
Connection diagram Cd-006



Response diagram CM30, Non-flush installation



Dimensional drawing CM30, non-flush, connector



Dimensions in mm (inch)

- 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	Туре	part no.	
Mounting syst	Mounting systems			
()	 Description: Mounting bracket for M30 sensors Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware 	BEF-WN-M30	5308445	
0	 Description: Mounting plate for M30 sensors Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware 	BEF-WG-M30	5321871	

	Brief description	Туре	part no.
connectors and cables			
	Connection type head A: Male connector, M12, 4-pin, angled, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm²	STE-1204-W	6022084
	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	DOS-1204-G	6007302
	 Connection type head A: Female connector, M12, 4-pin, angled, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	DOS-1204-W	6007303
	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14- C60UB3XLEAX	2145654
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-010UB3XLEAX	2145655
	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14-030UB3XLEAX	2145656
	 Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A14- C60UB3XLEAX	2145657
	 Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A14-010UB3XLEAX	2145658
-	 Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A14- C60VB3XLEAX	2145709
3	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YG2A14-010VB3XLEAX	2145710
P (0)	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YF2A14- C60VB3XLEAX	2145707
P	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YF2A14-010VB3XLEAX	2145708

SICK AT A GLANCE

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For us, that is "Sensor Intelligence."

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