



CM18-12NNP-KW1

CM

CAPACITIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
CM18-12NNP-KW1	6021457

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

Illustration may differ



Detailed technical data

Features

Housing	Cylindrical thread design
Thread size	M18 x 1
Diameter	Ø 18 mm
Sensing range S_n	3 mm ... 12 mm
Safe sensing range S_a	8.64 mm
Installation type	Non-flush
Switching frequency	30 Hz
Connection type	Cable, 4-wire, 2 m ¹⁾
Switching output	NPN
Output function	Complementary
Electrical wiring	DC 4-wire
Adjustment	Potentiometer, 270° (Sensitivity)
Enclosure rating	IP67 ²⁾

¹⁾ Do not bend below 0 °C.

²⁾ According to EN 60529.

Mechanics/electronics

Supply voltage	10 V DC ... 36 V DC
Ripple	≤ 10 % ¹⁾
Voltage drop	≤ 2.5 V DC ²⁾
Current consumption	10 mA ³⁾
Time delay before availability	≤ 100 ms

¹⁾ Of U_b .

²⁾ At I_a max.

³⁾ Without load.

⁴⁾ Of S_r .

⁵⁾ U_b and T_a 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.).

Hysteresis	4 % ... 20 %
Reproducibility	≤ 5 % ^{4) 5)}
Temperature drift (of S_r)	± 10 %
EMC	According to EN 60947-5-2 ⁶⁾
Continuous current I_a	≤ 200 mA
Cable material	PVC
Conductor size	0.34 mm ²
Short-circuit protection	✓
Reverse polarity protection	✓
Power-up pulse protection	✓
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	-25 °C ... +80 °C
Housing material	Plastic, PBT
Housing length	79.5 mm
Thread length	46.5 mm
Tightening torque, max.	2.6 Nm
Items supplied	Mounting nuts (plastic)

1) Of Ub.

2) At I_a max.

3) Without load.

4) Of S_r.

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.).

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

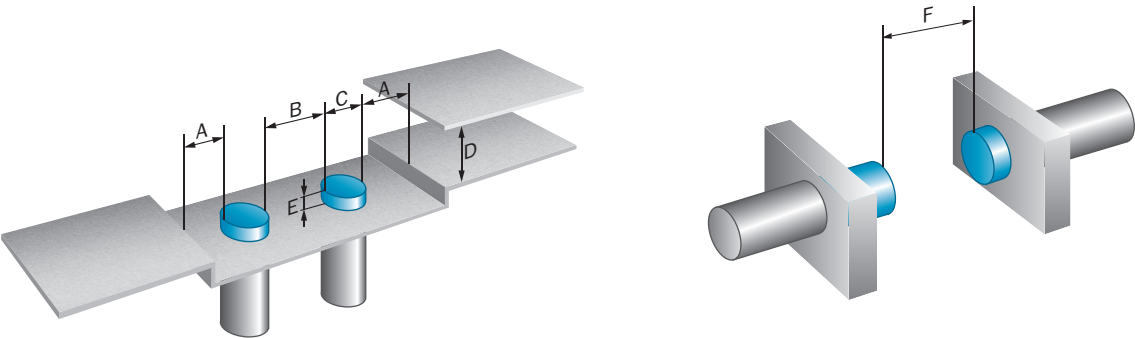
Remark	Associated graphic see "Installation"
A	18 mm
B	36 mm
C	18 mm
D	36 mm
E	24 mm

Classifications

ECI@ss 5.0	27270102
ECI@ss 5.1.4	27270102
ECI@ss 6.0	27270102
ECI@ss 6.2	27270102
ECI@ss 7.0	27270102
ECI@ss 8.0	27270102
ECI@ss 8.1	27270102
ECI@ss 9.0	27270102
ETIM 5.0	EC002715
ETIM 6.0	EC002715
UNSPSC 16.0901	39122230

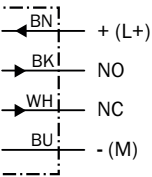
Installation note

Non-flush installation



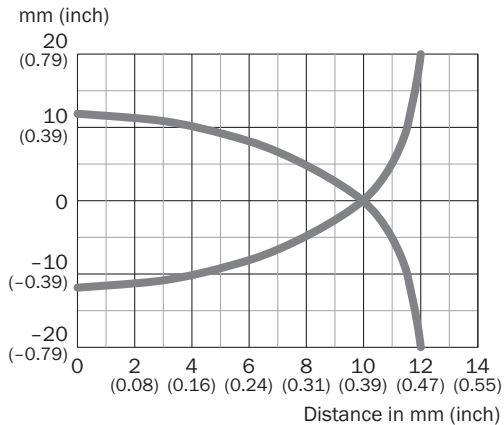
Connection diagram

Cd-005



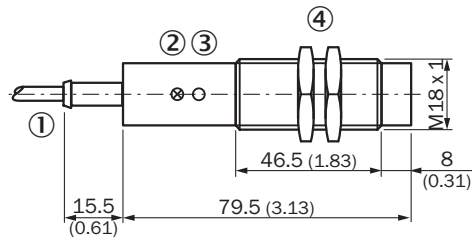
Characteristic curve

CM18, Non-flush installation



Dimensional drawing (Dimensions in mm (inch))

CM18, non-flush, cable





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

Recommended accessories

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

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N06 for universal clamp bracket, M18, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N06	2051612
	Plate N06N for universal clamp bracket, M18, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322627), mounting hardware	BEF-KHS-N06N	2051622
Mounting brackets and plates			
	Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M18	5321870

	Brief description	Type	Part no.
	Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
Terminal and alignment brackets			
	Clamping block for round sensors M18, without fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KH-M18	2051481
	Clamping block for round sensors M18, with fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KHF-M18	2051482

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