



Model Number

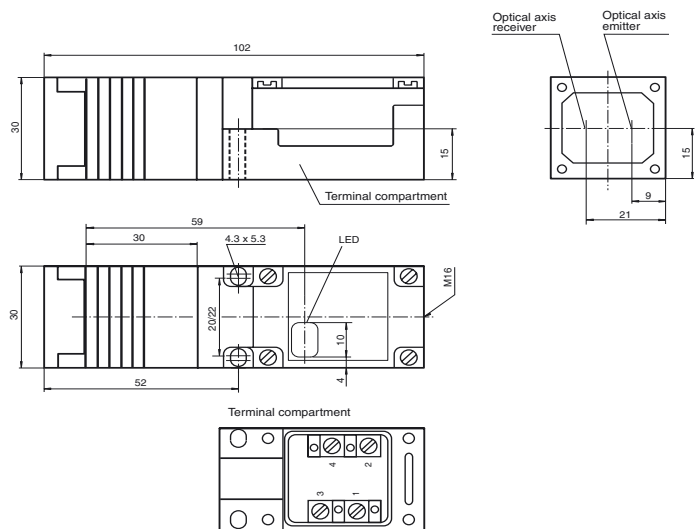
OCS2000-M1K-N2

NAMUR retroreflective sensor, special design, 2 m detection range, red light, light/dark on, DC version, NAMUR output, terminal compartment

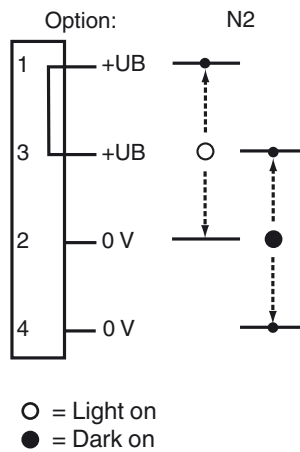
Features

- ATEX-, IECEx approval for zone 20 (Dust) and zone 1 (Gas)
- Intrinsically safe, Ex op is ia IIC T6 Gb/IIIC T 135 °C Da
- Glare protected with polarization filter
- Adjustable sensor head
- Scratch resistant mineral glass lens

Dimensions



Electrical connection



Technical data**General specifications**

Effective detection range	0 ... 2 m
Reflector distance	100 ... 2000 mm
Threshold detection range	2 m
Reference target	Retro-reflector C110-2
Light source	LED, 660 nm
Light type	modulated visible red light
Polarization filter	yes
Ambient light limit	≤ 10000 Lux sun light ≤ 7500 Lux halogen light

Functional safety related parameters

MTTF _d	1319 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Function indicator	LED yellow: switching state
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Electrical specifications

Operating voltage	U _B	6 ... 20 V DC (R _i approx. 0 Ohm)
Ripple		5 %
Time delay before availability	t _v	20 ms

Output

Switching type	light/dark on, programmable	
Signal output	1 NAMUR output NC/NO programmable	
Switching voltage	8 V DC (R _i approx. 1 kΩ)	
Switching frequency	f	≤ 100 Hz

Current consumption

Reference target detected	connection 1, 2: ≥ 2.2 mA connection 1, 4: ≤ 1 mA
Reference target not detected	connection 1, 2: ≤ 1 mA connection 1, 4: ≥ 2.2 mA

Response time	5 ms
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Conformity

Product standard	EN 60947-5-2
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Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 80 °C (-40 ... 176 °F)

Mechanical specifications

Housing width	30 mm
Housing height	30 mm
Housing depth	102 mm
Degree of protection	IP67 according to EN 60529, Class II insulation
Connection	M16 terminal compartment, core cross section ≤ 2.5 mm ²
Material	
Housing	PBT
Optical face	Scratch resistant mineral glass lens
Mass	100 g

Compliance with standards and directives

Standard conformity	
Standards	EN 60947-5-6:2000

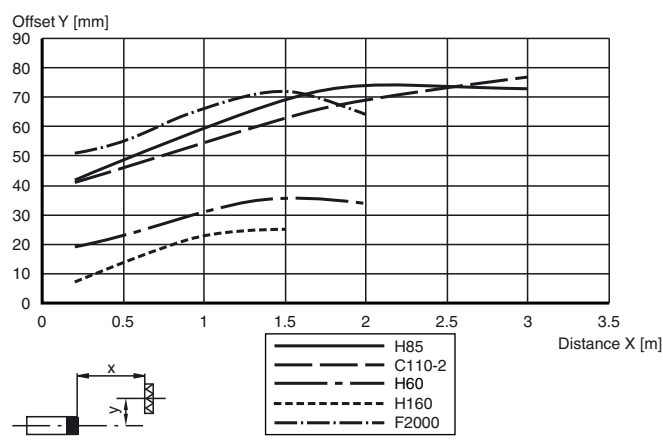
Approvals and certificates

FM approval	
Approved for	IS / I,II,III / 1 / ABCDEFG / T5 - 116-0110; Entity NI / I / 2 / ABCD / T6 Entity Parameters: V _{Max} = 12.6 V, I _{Max} = 20 mA, C _i = 1.11 μF, L _i = 0 mH (Groups A, B, C, D, E, F, G). V _{Max} = 15.5 V, I _{Max} = 52 mA, C _i = 1.11 μF, L _i = 0 mH (Groups C, D, E, F, G).
CSA approval	
Approved for	Class I, Division 2, Groups A, B, C and D Rated 20V (max), 50mA. These sensors are suitable for installation in (or through the wall of) a suitable enclosure with provision for connection of rigid metal conduit, as acceptable to the local inspection authority having jurisdiction.
CCC approval	CCC approval / marking not required for products rated ≤36 V

Curves / Diagrams

Characteristic response curve

OCS2000-M1K-N2



Relative received light strength

OCS2000-M1K-N2

Reflector type:

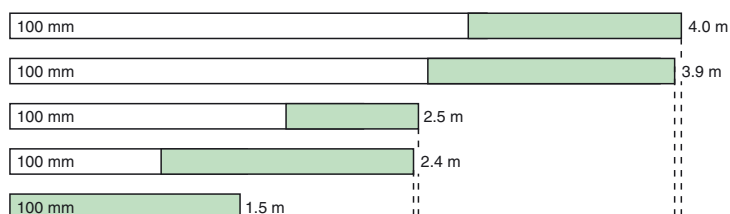
H85 (80 mm x 80 mm)

C110_2 (ø = 84 mm)

F2000 (Foil, 100 mm x 100 mm)

H60 (60 mm x 40 mm)

H160 (60 mm x 18 mm)



Stability control > 3

Stability control < 3

Stability control

