



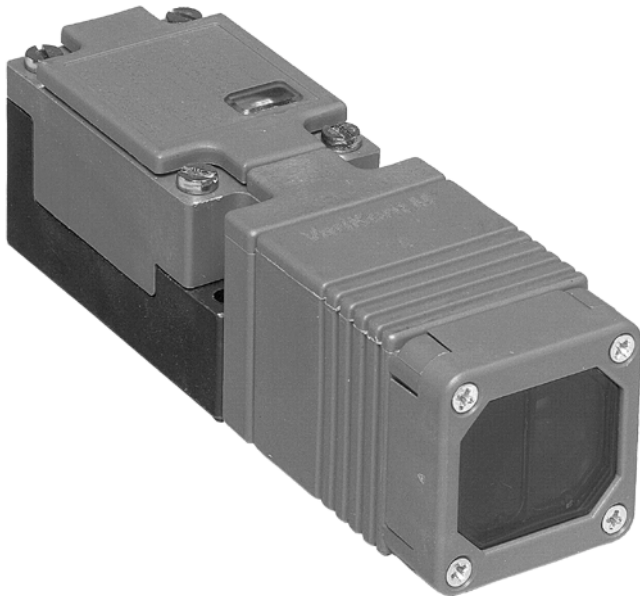
OCS2000-M1K-N2

Reflection light beam switch, NAMUR

# OCS2000-M1K-N2

with terminal compartment


CE



- ◆ Detection range up to 2 m
- ◆ ATEX-approval for zone 1
- ◆ Intrinsically safe, EEx ia IIC T6
- ◆ Light/dark ON, programmable
- ◆ Glare protected with polarisation filter
- ◆ Position of the sensor head adjustable
- ◆ Scratch resistant mineral glass lens
- ◆ Protection degree IP67

Date of edition 12/10/03

**General specifications**

Effective detection range	0 ... 2 m
Reflector distance	100 ... 2000 mm
Threshold detection range	2 m
Light source	LED , 660 nm
Approvals	CE
Marking	Zone 1:  II 2 G EEx ia IIC T6
Reference target	Retro-reflector C110-2
Light type	red, alternating light
Ambient light limit	≤ 10000 Lux sun light ≤ 7500 Lux halogen light

**Indicators/operating means**

Function display	LED yellow: switching state
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**Electrical specifications**

Operating voltage	6 ... 20 V DC (R <sub>i</sub> approx. 0 Ohm)
Ripple	5 %
Time delay before availability t <sub>v</sub>	20 ms

**Output**

Switching type	Light/dark ON, programmable
Signal output	1 NAMUR output NC/NO programmable
Switching voltage	8 V DC (R <sub>i</sub> 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

**Standard conformity**

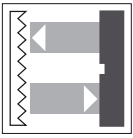
EC-Type Examination Certificate	PTB 01 ATEX 2203 X
Standards	DIN EN 60947-5-6/EN 60947-5-2 EN 50020/EN 50014

**Ambient conditions**

Ambient temperature	-25 ... 70 °C (248 ... 343 K)
Storage temperature	-40 ... 80 °C (233 ... 353 K)

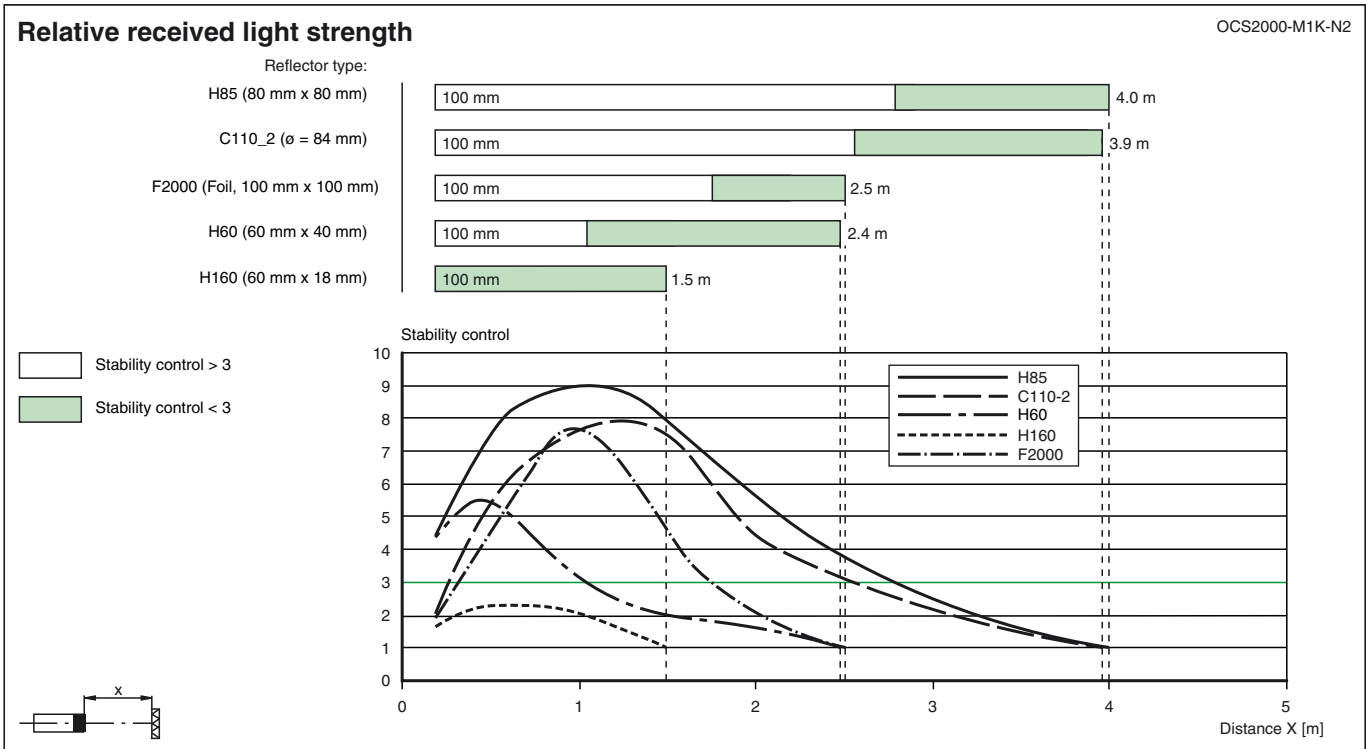
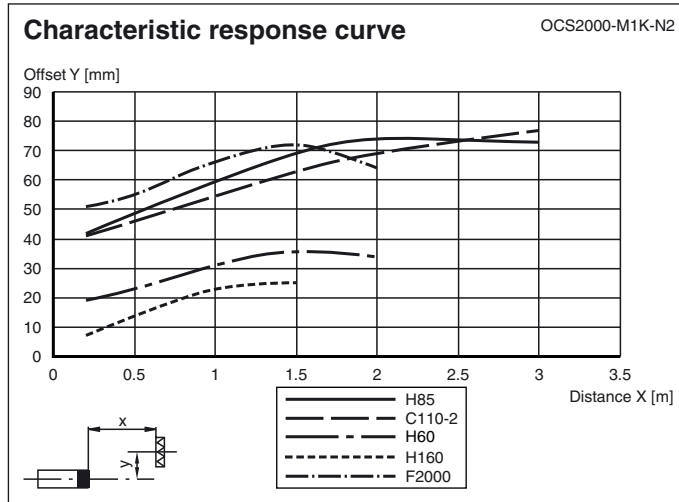
**Mechanical specifications**

Protection degree	IP67 according to EN 60529, Class II insulation
Connection	terminal compartment PG9, ≤ 2.5 mm <sup>2</sup>
Material	
Housing	PBT
Optical face	Scratch resistant mineral glass lens
Mass	100 g



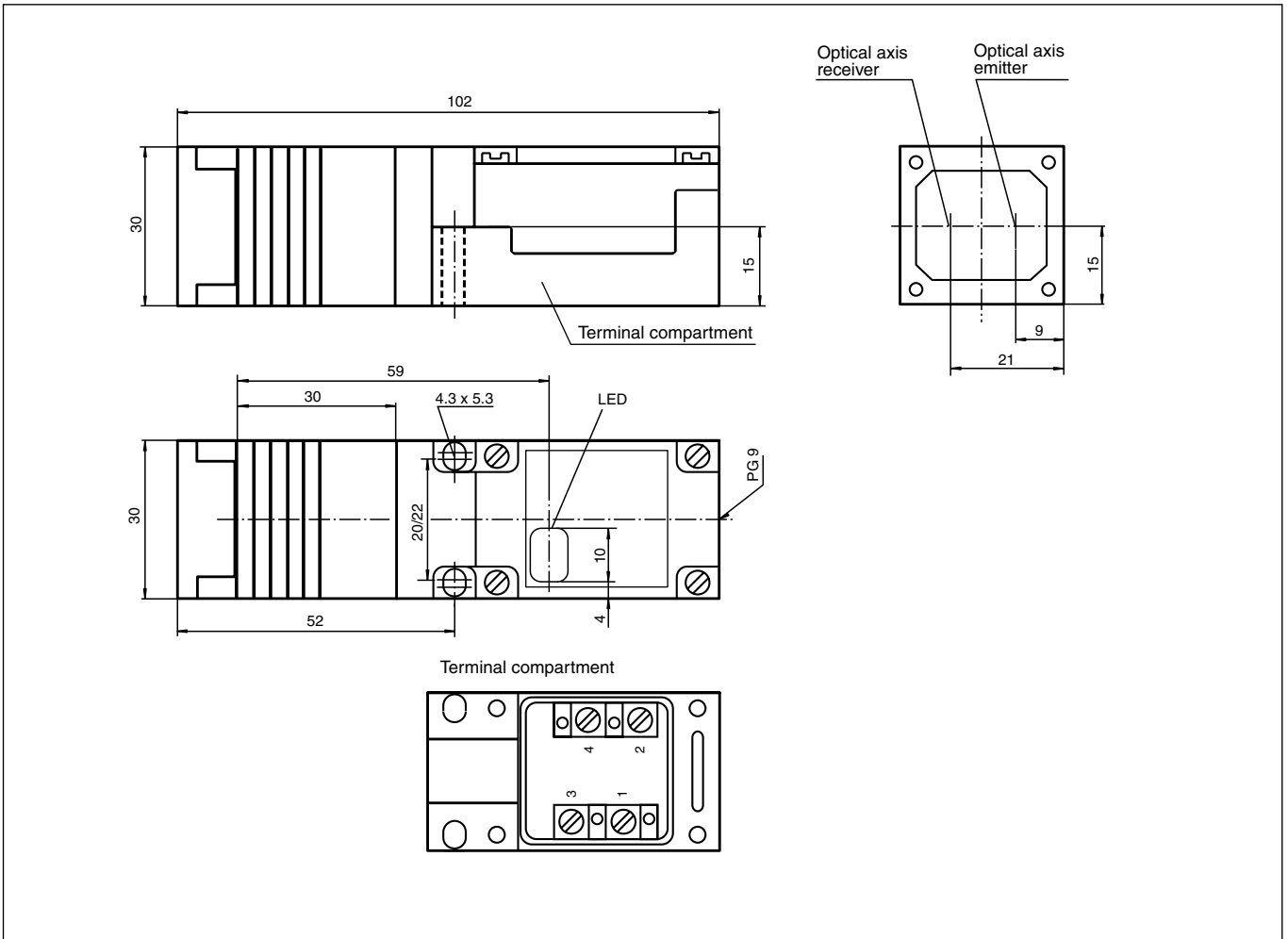
# OCS2000-M1K-N2

## Curves/Diagrams

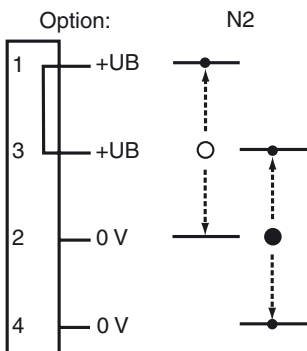


Dimensions and electrical connection

Dimensions



Electrical connection



○ = light on, ● = dark on

## OCS2000-M1K-N2

<b>EC-Type examination certificate</b>	<b>PTB 01 ATEX 2203 X</b>	
Effective internal capacity $C_i$	75 nF	
Effective internal inductivity $L_i$	approx. 0	
	<b>Type 1</b>	<b>Type 2</b>
Voltage $U_i$	15.5 V	15.5 V
Current $I_i$	20 mA	52 mA
Power $P_i$	64 mW	169 mW
Ambient temperature	-25 °C < $T_a$ < 65 °C at T6	-25 °C < $T_a$ < 54 °C at T6
T6	65 °C	54 °C
T5	70 °C	69 °C
T4-T1	70 °C	70 °C

more information, please see the EC-type examination certificate

### Marking



**Directive relevant conformity explosion prevention: EC-directive 94/9/EG**

### Installation, commissioning

This product has been developed and approved for use in areas which are exposed to danger of explosion with the protection method for intrinsic safety as per EN 50014 and EN 50020. The intrinsic safety is only ensured in combination with the corresponding and appropriate consumable materials and in accordance with the Proof of Intrinsic Safety. The data and notes of the EC-Declaration of conformity and national installation directions should be observed. Special apparatus you will find in the DIN-Rail Housing catalogue of Pepperl+Fuchs. The device must be protected from high-power electromagnetic fields and mechanical damage.

### Maintenance

Neither changes nor repairs must be made to devices that are operated in areas which are exposed to danger of explosion.

### Attention!

- 1) During use in areas which are exposed to danger of explosion, the device must be protected within the temperature range -25 °C to -20 °C by installing an additional housing to protect it from the effects of shock.
- 2) The connection parts must be assembled in such a manner that at least protection class IP20 is achieved as defined by IEC Publication 60529:1989.

