



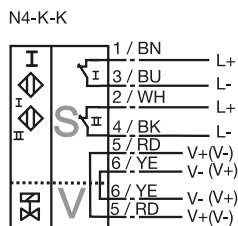
Model Number

NCN3-F31-N4-K-K-Y120844

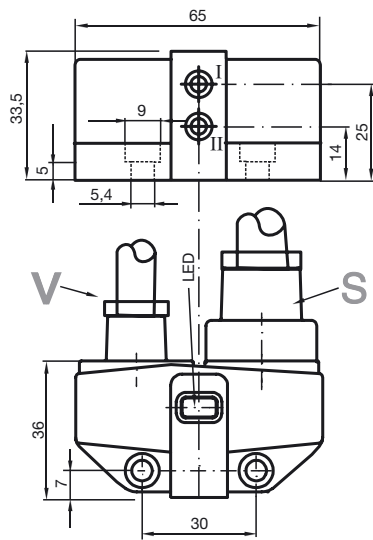
Features

- Direct mounting on standard actuators
- Compact and stable housing
- Fixed setting
- Satisfies machinery directive
- EC-Type Examination Certificate TÜV99 ATEX 1479X

Connection



Dimensions



Technical Data

General specifications			
Switching element function		DC	Dual NC
Rated operating distance	s_n	3 mm	
Installation		flush mountable	
Output polarity		NAMUR	
Assured operating distance	s_a	0 ... 2.43 mm	
Reduction factor r_{Al}		0.5	
Reduction factor r_{Cu}		0.4	
Reduction factor r_{304}		1	
Reduction factor r_{St37}		1.2	
Nominal ratings			
Nominal voltage	U_o	8 V	
Switching frequency	f	0 ... 200 Hz	
Reverse polarity protected		reverse polarity protected	
Short-circuit protection		yes	
Current consumption			
Measuring plate not detected		≥ 3 mA	
Measuring plate detected		≤ 1 mA	
Indication of the switching state		LED, yellow	
Functional safety related parameters			
MTTF _d		1980 a	
Mission Time (T_M)		20 a	
Diagnostic Coverage (DC)		0 %	
Ambient conditions			
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)	
Storage temperature		-40 ... 70 °C (-40 ... 158 °F)	
Mechanical specifications			
Connection (system side)		20 m, PVC cable	
Core cross-section (system side)		0.75 mm ²	
Connection (valve side)		0.5 m, PVC cable	
Core cross-section (valve side)		0.75 mm ²	
Housing material		PBT	
Sensing face		PBT	
Protection degree		IP67	
General information			
Use in the hazardous area		see instruction manuals	
Category		1G; 2G	
Compliance with standards and directives			
Standard conformity			
NAMUR		EN 60947-5-6:2000 IEC 60947-5-6:1999	
Electromagnetic compatibility			
Standards		NE 21:2007 EN 60947-5-2:2007 IEC 60947-5-2:2007	
Approvals and certificates			
UL approval		cULus Listed, General Purpose	
CSA approval		cCSAus Listed, General Purpose	
CCC approval		Products with a maximum operating voltage of ≤ 36 V do not bear a CCC marking because they do not require approval.	

Release date: 2012-05-30 10:36 Date of issue: 2012-05-30 120844_eng.xml

ATEX 1G

Instruction

Manual electrical apparatus for hazardous areas

Device category 1G

for use in hazardous areas with gas, vapour and mist
94/9/EGDirective conformity
Standard conformityEN 60079-0:2006, EN 60079-11:2007, EN 60079-26:2007
Ignition protection "Intrinsic safety"
Use is restricted to the following stated conditions
C 0102

CE symbol

Ex-identification

 II 1G Ex ia IIC T6

EC-Type Examination Certificate

TÜV 99 ATEX 1479 X

Appropriate type

NCN3-F31-N4...

Effective internal capacitance C_i ≤ 100 nF A cable length of 10 m is considered.
The value is applicable for the sensor circuit.Effective internal inductance L_i ≤ 100 μ H A cable length of 10 m is considered.
The value is applicable for the sensor circuit.

Cable length

Dangerous electrostatic charges on the fixed connection cable must be taken into account for lengths equal to and exceeding the following values:

Explosion group IIA

60 cm

Explosion group IIB

30 cm

Explosion group IIC

4 cm

General

The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual.

The EC-Type Examination Certificate has to be observed. The special conditions must be adhered to!

Directive 94/9/EG and hence also EC-Type Examination Certificates apply in general only to the use of electrical apparatus under atmospheric conditions.

The use in ambient temperatures of > 60 °C was tested with regard to hot surfaces by the mentioned certification authority.

If the equipment is not used under atmospheric conditions, a reduction of the permissible minimum ignition energies may have to be taken into consideration.

Highest permissible ambient temperature

The temperature ranges, according to temperature class, are given in the EC-Type Examination Certificate. **The maximum permissible ambient temperature of the data sheet must be noted, in addition, the lower of the two values must be maintained.** Note: Use the temperature table for category 1 !!! The 20 % reduction in accordance with EN 1127-1:2007 has already been accounted for in the temperature table for category 1.

Installation, Commissioning

Laws and/or regulations and standards governing the use or intended usage goal must be observed.

The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety.

The associated apparatus must satisfy the requirements of category ia.

Due to the possible danger of ignition, which can arise due to faults and/or transient currents in the equipotential bonding system, galvanic isolation of the power supply and signal circuit is preferable. Associated apparatus without electrical isolation must only be used if the appropriate requirements of IEC 60079-14 are met.

Maintenance

No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.

Special conditions

Protection from mechanical danger

When used in the temperature range below -20 °C the sensor should be protected from knocks by the provision of an additional housing.

Electrostatic charging

When used in group IIC non-permissible electrostatic charges should be avoided on the plastic housing parts.

ATEX 2G

Instruction

Device category 2G

Directive conformity

Standard conformity

CE symbol

Ex-identification

EC-Type Examination Certificate

Appropriate type

Effective internal capacitance C_i Effective internal inductance L_i

General

Highest permissible ambient temperature

Installation, Commissioning

Maintenance

Special conditions

Protection from mechanical danger

Manual electrical apparatus for hazardous areas

for use in hazardous areas with gas, vapour and mist

94/9/EG

EN 60079-0:2006, EN 60079-11:2007

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

 0102

 II 1G Ex ia IIC T6

TÜV 99 ATEX 1479 X

NCN3-F31-N4...

≤ 100 nF ; a cable length of 10 m is considered. The value is applicable for the sensor circuit.

≤ 100 μ H ; a cable length of 10 m is considered. The value is applicable for the sensor circuit.

The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The EC-Type Examination Certificate has to be observed. The special conditions must be adhered to!

Directive 94/9/EG and hence also EC-Type Examination Certificates apply in general only to the use of electrical apparatus under atmospheric conditions.

The use in ambient temperatures of > 60 °C was tested with regard to hot surfaces by the mentioned certification authority.

If the equipment is not used under atmospheric conditions, a reduction of the permissible minimum ignition energies may have to be taken into consideration.

The temperature ranges, according to temperature class, are given in the EC-Type Examination Certificate. **The maximum permissible ambient temperature of the data sheet must be noted, in addition, the lower of the two values must be maintained.**

Laws and/or regulations and standards governing the use or intended usage goal must be observed. The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety.

No changes can be made to apparatus, which are operated in hazardous areas.

Repairs to these apparatus are not possible.

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