



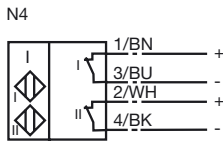
**Model Number**

NCN3-F25-N4-Y51071

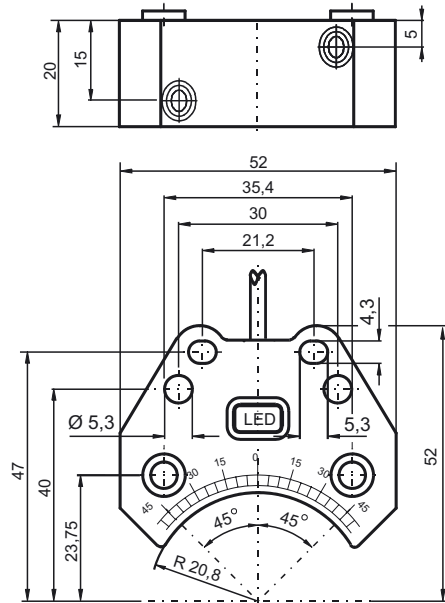
**Features**

- For installation in housing
- Direct mounting on standard actuators
- 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 $r_{V2A}$  |       | 1               |
| Reduction factor $r_{S137}$ |       | 1.2             |

**Nominal ratings**

|                                   |       |                            |
|-----------------------------------|-------|----------------------------|
| Nominal voltage                   | $U_o$ | 8 V                        |
| Switching frequency               | $f$   | 0 ... 1500 Hz              |
| Hysteresis                        | $H$   | typ. 5 %                   |
| Reverse polarity protected        |       | reverse polarity protected |
| Short-circuit protection          |       | yes                        |
| Current consumption               |       |                            |
| Measuring plate not detected      |       | $\geq 3$ mA                |
| Measuring plate detected          |       | $\leq 1$ mA                |
| Indication of the switching state |       | LED, yellow                |

**Ambient conditions**

|                     |                                 |
|---------------------|---------------------------------|
| Ambient temperature | -25 ... 100 °C (-13 ... 212 °F) |
| Storage temperature | -40 ... 100 °C (-40 ... 212 °F) |

**Mechanical specifications**

|                    |   |
|--------------------|---|
| Connection type    | 160 mm PVC cable incl. Binder connector 09-0441-90-04 |
| Core cross-section | 0.14 mm <sup>2</sup>                                  |
| Housing material   | PBT   |
| Sensing face       | PBT   |
| Protection degree  | IP67  |
| Note               | Installation in housing                               |

**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<br>IEC 60947-5-6:1999 |
| Electromagnetic compatibility | NE 21:2007                              |
| Standards                     | EN 60947-5-2:2007<br>IEC 60947-5-2:2007 |

**Approvals and certificates**

|              |                                |
|--------------|--------------------------------|
| UL approval  | cULus Listed, General Purpose  |
| CSA approval | cCSAus Listed, General Purpose |

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**ATEX 1G**

|   |  |
|---|--|
| Instruction                             | <b>Manual electrical apparatus for hazardous areas</b>   |
| Device category 1G                      | for use in hazardous areas with gas, vapour and mist   |
| Directive conformity                    | 94/9/EG  |
| Standard conformity                     | EN 60079-0:2006, EN 60079-11:2007, EN 60079-26:2007  |
| CE symbol                               | Ignition protection "Intrinsic safety"<br>Use is restricted to the following stated conditions<br> 0102   |
| Ex-identification                       |  II 1G Ex ia IIC T6   |
| EC-Type Examination Certificate         | TÜV 99 ATEX 1479 X   |
| Appropriate type                        | NCN3-F25.-N4...  |
| Effective internal capacitance $C_i$    | ≤ 100 nF A cable length of 10 m is considered.<br>The value is applicable for the sensor circuit.  |
| Effective internal inductance $L_i$     | ≤ 100 μH A cable length of 10 m is considered.<br>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:<br>11 cm   |
| Explosion group IIC                     | The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual.   |
| General                                 | The EC-Type Examination Certificate has to be observed. The special conditions must be adhered to!<br>Directive 94/9/EG and hence also EC-Type Examination Certificates apply in general only to the use of electrical apparatus under atmospheric conditions.<br>The use in ambient temperatures of > 60 °C was tested with regard to hot surfaces by the mentioned certification authority.<br>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. 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.<br>The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety.<br>The associated apparatus must satisfy the requirements of category ia.<br>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.<br>Repairs to these apparatus are not possible.  |
| <b>Special conditions</b>               |  |
| 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-F25.-N4...

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

$\leq 100$   $\mu$ 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.

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.

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