



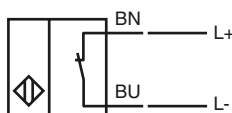
## Model Number

NJ4-F-N

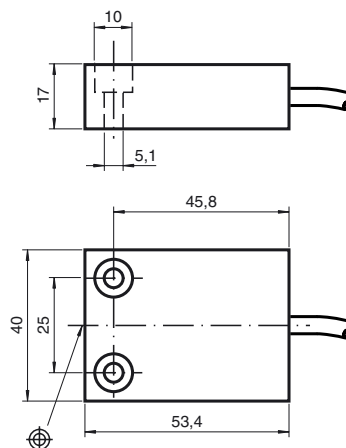
## Features

- Comfort series
- 4 mm non-flush

## Connection



## Dimensions



## Technical Data

### General specifications

Switching element function		NAMUR, NC
Rated operating distance	$s_n$	4 mm
Installation		non-flush
Assured operating distance	$s_a$	0 ... 3.24 mm
Reduction factor $r_{Al}$		0.4
Reduction factor $r_{Cu}$		0.3
Reduction factor $r_{304}$		0.8

### Nominal ratings

Nominal voltage	$U_o$	8.2 V ( $R_i$ approx. 1 k $\Omega$ )
Switching frequency	$f$	0 ... 2000 Hz
Hysteresis	$H$	typ. %
Current consumption		
Measuring plate not detected		$\geq 3$ mA
Measuring plate detected		$\leq 1$ mA

### Ambient conditions

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

### Mechanical specifications

Connection type	cable PVC , 2 m
Core cross-section	0.75 mm <sup>2</sup>
Housing material	PA 6
Sensing face	PA 6
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
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

### Approvals and certificates

FM approval	
Control drawing	116-0165F
UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	Products with a maximum operating voltage of $\leq 36$ V do not bear a CCC marking because they do not require approval.

**ATEX 1G**

## Instruction

Device category 1G  
Directive conformity  
Standard conformity

CE marking

Ex-identification

EC-Type Examination Certificate

Appropriate type

Effective internal capacitance  $C_i$ Effective internal inductance  $L_i$ 

Cable length

Explosion group IIA

Explosion group IIB

Explosion group IIC

General

Highest permissible ambient temperature

Installation, Commissioning

Maintenance

**Specific conditions**

Protection from mechanical danger

Electrostatic charging

**Manual electrical apparatus for hazardous areas**

for use in hazardous areas with gas, vapour and mist

94/9/EG

EN 60079-0:2009, EN 60079-11:2007, EN 60079-26:2007

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

II 1G Ex ia IIC T6 Ga

PTB 00 ATEX 2032 X

NJ4-F-N...

≤ 150 nF ; a cable length of 10 m is considered.

≤ 100 μH ; a cable length of 10 m is considered.

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

78 cm

39 cm

6 cm

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 &gt; 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. 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.

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.

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.

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 marking

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

**Specific 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 60079-0:2009, EN 60079-11:2007

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

 0102

 II 1G Ex ia IIC T6 Ga

PTB 00 ATEX 2032 X

NJ4-F-N...

≤ 150 nF ; a cable length of 10 m is considered.

≤ 100 μH ; a cable length of 10 m is considered.

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.