

CE  
0102

### Model Number

NJ2-V3-N-0,21M

### Features

- Comfort series
- 2 mm flush

## Technical Data

### General specifications

Switching element function		NAMUR, NC
Rated operating distance	$s_n$	2 mm
Installation		flush
Output polarity		NAMUR
Assured operating distance	$s_a$	0 ... 1.62 mm
Reduction factor $r_{Al}$		0.25
Reduction factor $r_{Cu}$		0.2
Reduction factor $r_{304}$		0.7

### Nominal ratings

Nominal voltage	$U_o$	8 V
Switching frequency	$f$	0 ... 1000 Hz
Hysteresis	$H$	typ. %
Current consumption		
Measuring plate not detected		$\geq 3$ mA
Measuring plate detected		$\leq 1$ mA

### Standard conformity

EMC in accordance with	IEC / EN 60947-5-2:2004
Standards	DIN EN 60947-5-6 (NAMUR)

### Ambient conditions

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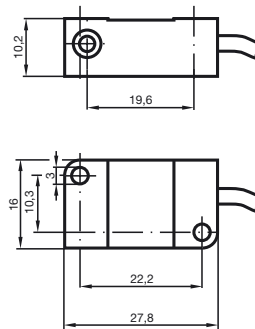
### Mechanical specifications

Connection type	cable PVC , 210 mm
Core cross-section	0.14 mm <sup>2</sup>
Housing material	PBT
Sensing face	PBT
Degree of protection	IP67

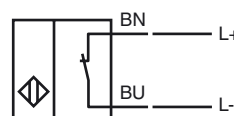
### General information

Use in the hazardous area	see instruction manuals
Category	1G; 2G; 1D

## Dimensions



## Electrical Connection



**ATEX 1G**

Instruction

Device category 1G

EC-Type Examination Certificate

CE marking

ATEX marking

Directive conformity

Standards

Appropriate type

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

Cable length

Explosion group IIC

General

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

PTB 00 ATEX 2032 X

CE 0102

Ex II 1G EEx ia IIC T6

94/9/EG

EN 50014:1997; EN 50020:1994; EN 50284:1999

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

NJ 2-V3-N ...

≤ 40 nF ; a cable length of 10 m is considered.

≤ 50 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:

14.8 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!

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 has already been applied to 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**

EC-Type Examination Certificate

CE marking

ATEX marking

Directive conformity

Standards

Appropriate type

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

General

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

PTB 00 ATEX 2032 X

CE 0102

II 1G EEx ia IIC T6

94/9/EG

EN 50014:1997, EN 50020:1994

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

NJ 2-V3-N ...

 $\leq 40$  nF ; a cable length of 10 m is considered. $\leq 50$   $\mu$ H ; 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!

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.

**ATEX 1D**

Instruction

**Device category 1D**

EC-Type Examination Certificate

CE marking

ATEX marking

Directive conformity

Standards

Appropriate type

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

General

Maximum housing surface temperature

Installation, Commissioning

Maintenance

**Specific conditions**

Electrostatic charging

**Manual electrical apparatus for hazardous areas**

for use in hazardous areas with combustible dust

ZELM 03 ATEX 0128 X

CE 0102

Ⓔ II 1D Ex iaD 20 T 108 °C (226.4 °F)

The Ex-significant identification is on the enclosed adhesive label

94/9/EG

IEC 61241-11:2002: draft; prEN61241-0:2002

type of protection intrinsic safety "iD"

Use is restricted to the following stated conditions

NJ 2-V3-N ...

≤ 40 nF ; a cable length of 10 m is considered.

≤ 50 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!

The maximum surface temperature of the housing is 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.

The associated apparatus must satisfy at least the requirements of category ia IIB or iaD. Because of the possibility of the danger of ignition, which can arise due to faults and/or transient currents in the equipotential bonding system, galvanic isolation in the power supply and signal circuits is preferable. Associated apparatus without electrical isolation must only be used if the appropriate requirements of IEC 60079-14 are met.

The intrinsically safe circuit has to be protected against influences due to lightning. When used in the isolating wall between Zone 20 and Zone 21 or Zone 21 und Zone 22 the sensor must not be exposed to any mechanical danger and must be sealed in such a way, that the protective function of the isolating wall is not impaired. The applicable directives and standards must be observed.

The adhesive label provided must be affixed in the immediate vicinity of the sensor!

The surface to which the label is applied must be clean, flat and free from grease!

The affixed adhesive label must be readable and durable, taking account of the possibility of chemical corrosion!

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

Repairs to these apparatus are not possible.

The connection cables are to be laid in accordance with EN 50281-1-2 and must not normally be subjected to chaffing during use.