



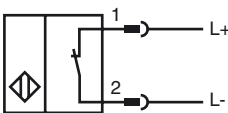
**Model Number**

NJ5-18GM-N-V1

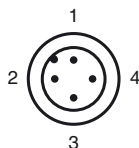
**Features**

- 5 mm flush
- Usable up to SIL2 acc. to IEC 61508

**Connection**



**Pinout**



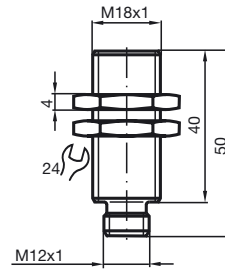
Wire colors in accordance with EN 60947-5-6

- |   |  |    |         |
|---|--|----|---------|
| 1 |  | BN | (brown) |
| 2 |  | BU | (blue)  |

**Accessories**

- V1-G**  
4-pin, M12 female field-attachable connector
- V1-W**  
4-pin, M12 female field-attachable connector
- V1-G-N-2M-PUR**  
Cable socket, M12, 2-pin, NAMUR, PUR cable
- V1-W-N-2M-PUR**  
Cable socket, M12, 2-pin, NAMUR, PUR cable
- BF 18**  
Mounting flange, 18 mm
- EXG-18**  
Quick mounting bracket with dead stop

**Dimensions**



**Technical Data**

**General specifications**

Switching element function		NAMUR, NC
Rated operating distance	$s_n$	5 mm
Installation		flush
Output polarity		NAMUR
Assured operating distance	$s_a$	0 ... 4.05 mm
Reduction factor $r_{A1}$		0.21
Reduction factor $r_{Cu}$		0.18
Reduction factor $r_{304}$		0.63

**Nominal ratings**

Nominal voltage	$U_o$	8.2 V ( $R_i$ approx. 1 k $\Omega$ )
Operating voltage	$U_B$	5 ... 25 V
Switching frequency	$f$	0 ... 500 Hz
Hysteresis	$H$	3 %
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)
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**Mechanical specifications**

Connection type	Device connector M12 x 1 , 4-pin
Housing material	Stainless steel 1.4305 / AISI 303
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
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.

Release date: 2013-02-08 17:06 Date of issue: 2013-02-09 106453\_eng.xml

**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  $L_i$   
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/EGEN 60079-0:2009, EN 60079-11:2007, EN 60079-26:2007  
Ignition protection "Intrinsic safety"  
Use is restricted to the following stated conditions

C 0102

 II 1G Ex ia IIC T6 Ga

PTB 00 ATEX 2048 X

NJ 5-18GM-N...

≤ 70 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!

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" and have electrical isolation between the power supply and signal circuits.

The sensor must be protected from strong electromagnetic fields.

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.

Electrostatic charges must be avoided on the mechanical housing components. Dangerous electrostatic charges on the mechanical housing components can be avoided by incorporating these in the equipotential bonding.

**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

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

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

 0102

 II 1G Ex ia IIC T6 Ga

PTB 00 ATEX 2048 X

NJ 5-18GM-N...

 $\leq 70$  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!

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. The sensor must be protected from strong electromagnetic fields.

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.

Electrostatic charges must be avoided on the mechanical housing components. Dangerous electrostatic charges on the mechanical housing components can be avoided by incorporating these in the equipotential bonding.