

# Inductive sensor

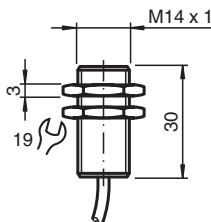
## NJ2-11-SN-G



- 2 mm flush
- Usable up to SIL 3 acc. to IEC 61508
- ATEX approval Ex-i and Ex-nA/tc for zone 0-2 and zone 20-22
- Degree of protection IP68



### Dimensions



### Technical Data

#### General specifications

|                              |       |  |
|------------------------------|-------|--|
| Switching function           |       | Normally closed (NC)   |
| Output type                  |       | NAMUR with safety function   |
| Rated operating distance     | $s_n$ | 2 mm   |
| Installation                 |       | flush  |
| Assured operating distance   | $s_a$ | 0 ... 1.62 mm  |
| Reduction factor $r_{AI}$    |       | 0.4  |
| Reduction factor $r_{Cu}$    |       | 0.3  |
| Reduction factor $r_{304}$   |       | 0.85   |
| Safety Integrity Level (SIL) |       | up to SIL3 acc. to IEC 61508 <b>Danger!</b> In safety-related applications the sensor must be operated with a qualified fail safe interface from Pepperl+Fuchs, such as KFD2-SH-EX1.<br>Consider the "exida Functional Safety Assessment" document which is available on <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> as an integral part of this product's documentation. |
| Output type                  |       | 2-wire   |

#### Nominal ratings

|                     |       |               |
|---------------------|-------|---------------|
| Nominal voltage     | $U_o$ | 8.2 V         |
| Switching frequency | $f$   | 0 ... 3000 Hz |

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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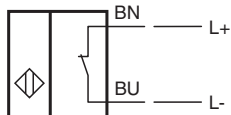
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 **PEPPERL+FUCHS**

## Technical Data

|   |   |
|---|---|
| Suitable for 2:1 technology                     | yes , with reverse polarity protection diode  |
| Current consumption                             |   |
| Measuring plate not detected                    | ≥ 3 mA  |
| Measuring plate detected                        | ≤ 1 mA  |
| <b>Functional safety related parameters</b>     |   |
| Safety Integrity Level (SIL)                    | SIL 3   |
| MTTF <sub>d</sub>                               | 10660 a   |
| Mission Time (T <sub>M</sub> )                  | 20 a  |
| Diagnostic Coverage (DC)                        | 0 %   |
| <b>Compliance with standards and directives</b> |   |
| Standard conformity                             |   |
| NAMUR   | EN 60947-5-6:2000<br>IEC 60947-5-6:1999   |
| Standards                                       | EN 60947-5-2:2007<br>EN 60947-5-2/A1:2012<br>IEC 60947-5-2:2007<br>IEC 60947-5-2 AMD 1:2012 |
| <b>Approvals and certificates</b>               |   |
| EAC conformity                                  | TR CU 012/2011  |
| FM approval                                     |   |
| Control drawing                                 | 116-0165  |
| UL approval                                     | cULus Listed, General Purpose   |
| Ordinary Location                               | E87056  |
| Hazardous Location                              | E501628   |
| Control drawing                                 | 116-0454  |
| CCC approval                                    | CCC approval / marking not required for products rated ≤36 V                                |
| <b>Ambient conditions</b>                       |   |
| Ambient temperature                             | -40 ... 100 °C (-40 ... 212 °F)   |
| <b>Mechanical specifications</b>                |   |
| Connection type                                 | cable silicone , 2 m  |
| Core cross-section                              | 0.34 mm <sup>2</sup>  |
| Housing material                                | stainless steel (303/1.4305)  |
| Sensing face                                    | Valox (PBT) , black   |
| Degree of protection                            | IP68  |
| Cable   |   |
| Bending radius                                  | > 10 x cable diameter   |
| <b>General information</b>                      |   |
| Use in the hazardous area                       | see instruction manuals   |

## Connection



## Application

**Danger!**

In safety-related applications the sensor must be operated with a qualified fail safe interface from Pepperl+Fuchs, such as KFD2-SH-EX1.

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