

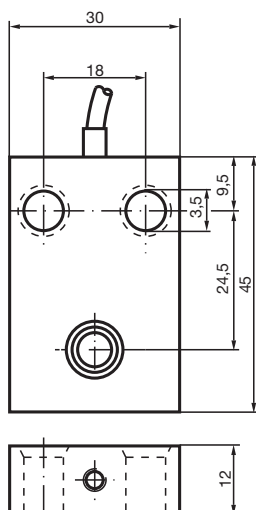


## Inductive sensor NJ6-F-N-5M

- Comfort series
- 6 mm flush



### Dimensions



### Technical Data

#### General specifications

|                            |       |                      |
|----------------------------|-------|----------------------|
| Switching function         |       | Normally closed (NC) |
| Output type                |       | NAMUR                |
| Rated operating distance   | $s_n$ | 6 mm                 |
| Installation               |       | flush                |
| Assured operating distance | $s_a$ | 0 ... 4.8 mm         |
| Actual operating distance  | $s_r$ | 5.4 ... 6.6 mm typ.  |
| Reduction factor $r_{AI}$  |       | 0.4                  |
| Reduction factor $r_{Cu}$  |       | 0.3                  |
| Reduction factor $r_{304}$ |       | 0.7                  |
| Output type                |       | 2-wire               |

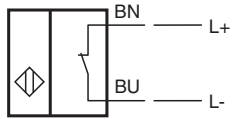
#### Nominal ratings

|                     |       |                                      |
|---------------------|-------|--------------------------------------|
| Nominal voltage     | $U_o$ | 8.2 V ( $R_i$ approx. 1 k $\Omega$ ) |
| Switching frequency | $f$   | 0 ... 5000 Hz                        |

## Technical Data

|                                                 |   |                                                                                             |
|-------------------------------------------------|---|---------------------------------------------------------------------------------------------|
| Hysteresis                                      | H | 0 ... 0.3 typ. 0.1 %                                                                        |
| Reverse polarity protection                     |   | reverse polarity protected                                                                  |
| Current consumption                             |   |                                                                                             |
| Measuring plate not detected                    |   | min. 3 mA                                                                                   |
| Measuring plate detected                        |   | ≤ 1 mA                                                                                      |
| <b>Functional safety related parameters</b>     |   |                                                                                             |
| MTTF <sub>d</sub>                               |   | 4540 a                                                                                      |
| Mission Time (T <sub>M</sub> )                  |   | 20 a                                                                                        |
| Diagnostic Coverage (DC)                        |   | 0 %                                                                                         |
| <b>Compliance with standards and directives</b> |   |                                                                                             |
| Standard conformity                             |   |                                                                                             |
| 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>               |   |                                                                                             |
| IECEx approval                                  |   |                                                                                             |
| Equipment protection level Gb                   |   | IECEx PTB 11.0021X                                                                          |
| Equipment protection level Da                   |   | IECEx PTB 11.0021X                                                                          |
| Equipment protection level Mb                   |   | IECEx PTB 11.0021X                                                                          |
| ATEX approval                                   |   |                                                                                             |
| Equipment protection level Gb                   |   | PTB 00 ATEX 2032 X                                                                          |
| Equipment protection level Da                   |   | PTB 00 ATEX 2032 X                                                                          |
| FM approval                                     |   |                                                                                             |
| Control drawing                                 |   | 116-0165                                                                                    |
| UL approval                                     |   | cULus Listed, General Purpose                                                               |
| CSA approval                                    |   | cCSAus Listed, General Purpose                                                              |
| CCC approval                                    |   | CCC approval / marking not required for products rated ≤36 V                                |
| <b>Ambient conditions</b>                       |   |                                                                                             |
| Ambient temperature                             |   | -25 ... 100 °C (-13 ... 212 °F)                                                             |
| Storage temperature                             |   | -40 ... 100 °C (-40 ... 212 °F)                                                             |
| <b>Mechanical specifications</b>                |   |                                                                                             |
| Connection type                                 |   | cable                                                                                       |
| Housing material                                |   | PBT                                                                                         |
| Sensing face                                    |   | PBT                                                                                         |
| Degree of protection                            |   | IP67                                                                                        |
| Cable                                           |   |                                                                                             |
| Cable diameter                                  |   | 4.8 mm ± 0.2 mm                                                                             |
| Bending radius                                  |   | > 10 x cable diameter                                                                       |
| Material                                        |   | PUR                                                                                         |
| Core cross-section                              |   | 0.34 mm <sup>2</sup>                                                                        |
| Length                                          | L | 5 m                                                                                         |
| Mass                                            |   | 165 g                                                                                       |
| <b>General information</b>                      |   |                                                                                             |
| Use in the hazardous area                       |   | see instruction manuals                                                                     |

## Connection



## Operation

**Attention!**

NAMUR-compliant switch amplifiers can, due to a low current consumption at the recorded measuring plate (0.2 mA ... 1 mA), incorrectly report cable breaks (required in accordance with EN 60947-5-6:2000: 0.4 mA ... 1 mA).