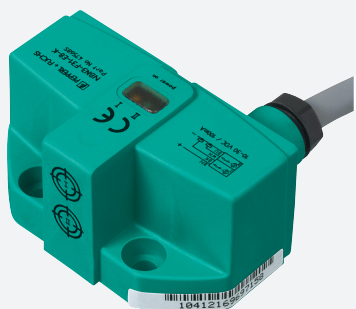


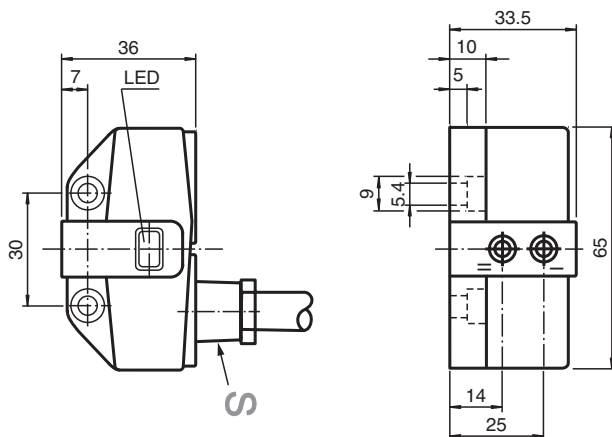


## Inductive sensor NCN3-F31-N4-K

- Direct mounting on standard actuators
- Fixed setting
- Usable up to SIL 2 acc. to IEC 61508
- ATEX & IECEx certifications



### Dimensions



### Technical Data

#### General specifications

|                              |       |                                                               |
|------------------------------|-------|---------------------------------------------------------------|
| Switching function           |       | 2 x normally closed (NC)                                      |
| Output type                  |       | NAMUR                                                         |
| Rated operating distance     | $s_n$ | 3 mm                                                          |
| Installation                 |       | flush mountable                                               |
| Assured operating distance   | $s_a$ | 0 ... 2.4 mm                                                  |
| Actual operating distance    | $s_r$ | 2.7 ... 3.3 mm typ.                                           |
| Actuating element            |       | Stainless steel 1.4305 / AISI 303<br>8.5 mm x 8.5 mm x 0.5 mm |
| Reduction factor $r_{Al}$    |       | 0.5                                                           |
| Reduction factor $r_{Cu}$    |       | 0.4                                                           |
| Reduction factor $r_{304}$   |       | 1                                                             |
| Reduction factor $r_{Si37}$  |       | 1.3                                                           |
| Reduction factor $r_{Brass}$ |       | 0.6                                                           |
| Output type                  |       | 2-wire                                                        |

#### Nominal ratings

|                 |       |                                      |
|-----------------|-------|--------------------------------------|
| Nominal voltage | $U_o$ | 8.2 V ( $R_i$ approx. 1 k $\Omega$ ) |
|-----------------|-------|--------------------------------------|

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

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**PEPPERL+FUCHS**

## Technical Data

|                                                 |                |                                                      |
|-------------------------------------------------|----------------|------------------------------------------------------|
| Switching frequency                             | f              | 0 ... 3 kHz                                          |
| Hysteresis                                      | H              | typ. 5 %                                             |
| Reverse polarity protection                     |                | reverse polarity protected                           |
| Short-circuit protection                        |                | yes                                                  |
| Suitable for 2:1 technology                     |                | yes , Reverse polarity protection diode not required |
| Current consumption                             |                |                                                      |
| Measuring plate not detected                    |                | ≥ 3 mA                                               |
| Measuring plate detected                        |                | ≤ 1 mA                                               |
| Time delay before availability                  | t <sub>v</sub> | ≤ 1.1 ms                                             |
| Switching state indicator                       |                | LED, yellow                                          |
| <b>Functional safety related parameters</b>     |                |                                                      |
| Safety Integrity Level (SIL)                    |                | SIL 2                                                |
| MTTF <sub>d</sub>                               |                | 1470 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              |
| Electromagnetic compatibility                   |                | NE 21:2007                                           |
| Standards                                       |                | EN IEC 60947-5-2                                     |
| <b>Approvals and certificates</b>               |                |                                                      |
| IECEx approval                                  |                |                                                      |
| Equipment protection level Ga                   |                | IECEx TUN 17.0021X                                   |
| Equipment protection level Gb                   |                | IECEx TUN 17.0021X                                   |
| Equipment protection level Da                   |                | IECEx TUN 17.0021X                                   |
| Equipment protection level Mb                   |                | IECEx TUN 17.0021X                                   |
| ATEX approval                                   |                |                                                      |
| Equipment protection level Ga                   |                | TÜV 99 ATEX 1479 X                                   |
| Equipment protection level Gb                   |                | TÜV 99 ATEX 1479 X                                   |
| Equipment protection level Da                   |                | TÜV 99 ATEX 1479 X                                   |
| UL approval                                     |                |                                                      |
| Ordinary Location                               |                | E87056                                               |
| Hazardous Location                              |                | E501628                                              |
| Control drawing                                 |                | 116-0456                                             |
| CCC approval                                    |                |                                                      |
| Hazardous Location                              |                | 2020322315002262                                     |
| NEPSI approval                                  |                |                                                      |
| NEPSI certificate                               |                | GYJ19.1410X                                          |
| <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 (system side)                        |                | PVC cable , 5 m                                      |
| Core cross section (system side)                |                | 0.75 mm <sup>2</sup>                                 |
| Housing material                                |                | PBT                                                  |
| Sensing face                                    |                | PBT                                                  |
| Degree of protection                            |                | IP66 / IP67                                          |
| Cable                                           |                |                                                      |
| Cable diameter                                  |                | 6.8 mm ± 0.2 mm                                      |
| Bending radius                                  |                | > 10 x cable diameter                                |
| Tightening torque, fastening screws             |                | ≤ 5 Nm                                               |
| Dimensions                                      |                |                                                      |

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 **PEPPERL+FUCHS**

Technical Data

|                           |                         |
|---------------------------|-------------------------|
| Height                    | 33.5 mm                 |
| Width                     | 65 mm                   |
| Length                    | 36 mm                   |
| General information       |                         |
| Use in the hazardous area | see instruction manuals |

Connection

N4-K

