

# Inductive sensor

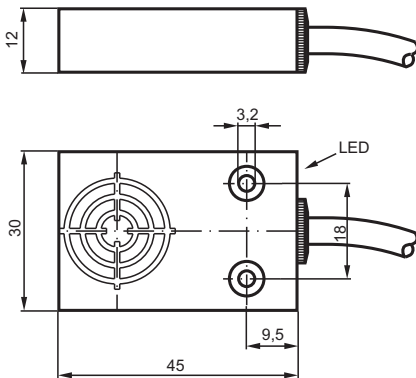
## NBB6-F-B3B



- Basic series
- NO/NC selectable
- Degree of protection IP67
- Oscillator monitoring



### Dimensions



### Technical Data

#### General specifications

|                                |       |   |
|--------------------------------|-------|---|
| Switching function             |       | Normally open/closed (NO/NC) programmable |
| Output type                    |       | AS-Interface                              |
| Rated operating distance       | $s_n$ | 6 mm                                      |
| Installation                   |       | flush                                     |
| Assured operating distance     | $s_a$ | 0 ... 4.86 mm                             |
| Reduction factor $r_{Al}$      |       | 0.28                                      |
| Reduction factor $r_{Cu}$      |       | 0.25                                      |
| Reduction factor $r_{304}$     |       | 0.75                                      |
| Node type                      |       | A/B node                                  |
| AS-Interface specification     |       | V3.0                                      |
| Required gateway specification |       | $\geq$ V2.1                               |
| Output type                    |       | 2-wire                                    |

#### Nominal ratings

Release date: 2022-05-18 Date of issue: 2022-05-18 Filename: 190764\_eng.pdf

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

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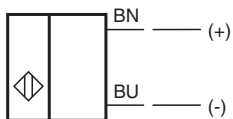
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## Technical Data

|   |       |  |
|---|-------|--|
| Operating voltage                               | $U_B$ | 26.5 ... 31.9 V via AS-i bus system                                |
| Switching frequency                             | $f$   | $\geq 500$ (P3=0), $\geq 100$ (P3=1)                               |
| Hysteresis                                      | $H$   | typ. 5 %   |
| Operating current                               | $I_L$ | 20 mA  |
| Time delay before availability                  | $t_v$ | $\leq 1000$ ms   |
| <b>Functional safety related parameters</b>     |       |  |
| MTTF <sub>d</sub>                               |       | 532 a  |
| Mission Time ( $T_M$ )                          |       | 20 a   |
| Diagnostic Coverage (DC)                        |       | 0 %  |
| <b>Indicators/operating means</b>               |       |  |
| LED POWER                                       |       | AS-Interface voltage; LED green                                    |
| LED IN  |       | switching state (input); LED yellow                                |
| LED OUT   |       | Dual LED yellow/red<br>yellow: switching state<br>red: error mode  |
| <b>Electrical specifications</b>                |       |  |
| Rated operating voltage                         | $U_e$ | 26.5 ... 31.6 V from AS-Interface                                  |
| <b>Compliance with standards and directives</b> |       |  |
| Standard conformity                             |       |  |
| Standards                                       |       | EN 60947-5-2:2007<br>IEC 60947-5-2:2007<br>EN 50295:1999           |
| <b>Approvals and certificates</b>               |       |  |
| UL approval                                     |       | cULus Listed, General Purpose                                      |
| CSA approval                                    |       | cCSAus Listed, General Purpose                                     |
| CCC approval                                    |       | CCC approval / marking not required for products rated $\leq 36$ V |
| <b>Ambient conditions</b>                       |       |  |
| Ambient temperature                             |       | -25 ... 70 °C (-13 ... 158 °F)                                     |
| Storage temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)                                     |
| <b>Mechanical specifications</b>                |       |  |
| Connection type                                 |       | cable PVC , 2 m  |
| Core cross section                              |       | 0.34 mm <sup>2</sup>   |
| Housing material                                |       | PBT  |
| Degree of protection                            |       | IP67   |
| Mass  |       | 90 g   |

## Connection



## Additional Information

### Programming instructions

Address 00 preset, alterable via  
Busmaster or  
programming units

IO-code 0  
ID-code A  
ID1-code 7  
ID2-code E

### Data bit

| Bit | Function              |
|-----|-----------------------|
| D0  | switching state       |
| D1  | not used              |
| D2  | oscillator monitoring |
| D3  | not used              |

### Parameterbit

| Bit | Function   |
|-----|--|
| P0  | Pulse extension<br>P0 = 1 : 10 ms*<br>P0 = 0 : Without |
| P1  | switching element function<br>NO* / NC                 |
| P2  | not used   |
| P3  | not used   |

\* Standard setting

### Fault mode

- No communication  
Red LED On  
Green LED On
- Address 0 set  
Red LED On  
Green LED flashes