

# Inductive sensor

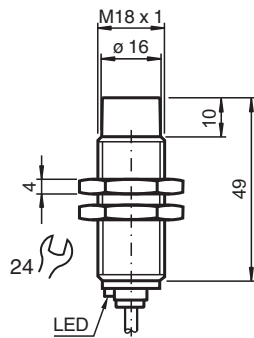
## NBN12-18GM50-E1-M1



- 12 mm non-flush
- Increased operating distance
- Extended temperature range  
-40 ... +85 °C
- With increased sealing, protection class  
IP68 / IP69K
- E1-Type approval



### Dimensions



### Technical Data

| General specifications       |       |   |
|------------------------------|-------|---|
| Switching function           |       | Normally closed (NC)  |
| Output type                  |       | NPN   |
| Rated operating distance     | $s_n$ | 12 mm   |
| Installation                 |       | non-flush   |
| Output polarity              |       | DC  |
| Assured operating distance   | $s_a$ | 0 ... 9.72 mm   |
| Actuating element            |       | mild steel, e. g. 1.0037, SR235JR (formerly St37-2)<br>36 mm x 36 mm x 1 mm |
| Reduction factor $r_{Al}$    |       | 0.5   |
| Reduction factor $r_{Cu}$    |       | 0.45  |
| Reduction factor $r_{304}$   |       | 0.7   |
| Reduction factor $r_{Brass}$ |       | 0.5   |
| Output type                  |       | 3-wire  |
| Nominal ratings              |       |   |
| Operating voltage            | $U_B$ | 7 ... 30 V  |
| Switching frequency          | $f$   | 0 ... 1200 Hz   |

Release date: 2022-06-30 Date of issue: 2022-06-30 Filename: 293454-0045\_eng.pdf

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

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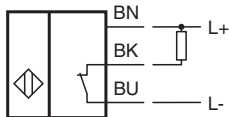
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**PEPPERL+FUCHS**

## Technical Data

|   |       |   |
|---|-------|---|
| Hysteresis                                      | H     | typ. 5%   |
| Reverse polarity protection                     |       | reverse polarity protected  |
| Short-circuit protection                        |       | pulsing   |
| Voltage drop                                    | $U_d$ | $\leq 2$ V  |
| Operating current                               | $I_L$ | 0 ... 200 mA  |
| Off-state current                               | $I_r$ | 0 ... 0.5 mA typ. 4 $\mu$ A at 25 °C  |
| No-load supply current                          | $I_o$ | $\leq 10$ mA  |
| Time delay before availability                  | $t_v$ | $\leq 100$ ms   |
| Switching state indicator                       |       | LED, yellow   |
| <b>Functional safety related parameters</b>     |       |   |
| MTTF <sub>d</sub>                               |       | 1484 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<br>EN 12895: 2015 |
| <b>Approvals and certificates</b>               |       |   |
| UL approval                                     |       | cULus Listed, General Purpose, Class 2 Power Source   |
| CCC approval                                    |       | CCC approval / marking not required for products rated $\leq 36$ V  |
| E1 Type approval                                |       | 10R-04  |
| <b>Ambient conditions</b>                       |       |   |
| Ambient temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)  |
| Storage temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)  |
| <b>Mechanical specifications</b>                |       |   |
| Connection type                                 |       | cable PUR , 2 m   |
| Core cross section                              |       | 0.34 mm <sup>2</sup>  |
| Housing material                                |       | brass, nickel-plated  |
| Sensing face                                    |       | PBT   |
| Degree of protection                            |       | IP68 / IP69K  |
| Mass  |       | 90 g  |
| <b>General information</b>                      |       |   |
| Scope of delivery                               |       | 2 self locking nuts in scope of delivery  |

## Connection



## Technical Features

Mains-borne interference in accordance with ISO 7637-2:

|                   |     |     |     |     |     |     |
|-------------------|-----|-----|-----|-----|-----|-----|
| Pulse             | 1   | 2a  | 2b  | 3a  | 3b  | 4   |
| Severity level    | III | III | III | III | III | III |
| Failure criterion | A   | A   | C   | A   | A   | C   |

EN 61000-4-2: CD: 8 kV / AD: 15 kV  
Severity level IV IV


EN 61000-4-3: 36 V/m (80...2500 MHz)  
Severity level IV

EN 61000-4-4: 2 kV  
Severity level III

EN 61000-4-6: 30 V (0.01...80 MHz)  
Severity level III

EN 55011: Class A

## Accessories

|   |                     |                               |
|---|---------------------|-------------------------------|
|  | <p><b>BF 18</b></p> | <p>Mounting flange, 18 mm</p> |
|---|---------------------|-------------------------------|

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