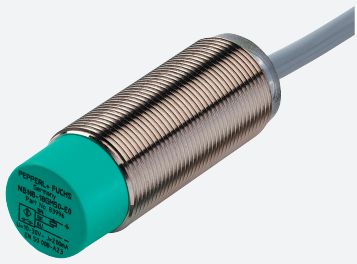


# Inductive sensor

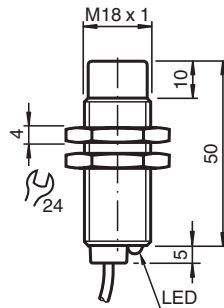
## NBN12-18GM50-EI-M1



- 12 mm non-flush
- Extended temperature range  
-40 ... +85 °C
- Digital current output
- E1-Type approval



### Dimensions



### Technical Data

| General specifications       |       |  |                                                                             |
|------------------------------|-------|--|-----------------------------------------------------------------------------|
| Output type                  |       |  | Digital current output                                                      |
| 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 $r_{Al}$    |       |  | 0.45                                                                        |
| Reduction factor $r_{Cu}$    |       |  | 0.4                                                                         |
| Reduction factor $r_{304}$   |       |  | 0.7                                                                         |
| Reduction factor $r_{Brass}$ |       |  | 0.5                                                                         |
| Output type                  |       |  | 3-wire                                                                      |
| Nominal ratings              |       |  |                                                                             |
| Operating voltage            | $U_B$ |  | 9 ... 30 V DC                                                               |
| Switching frequency          | $f$   |  | 0 ... 1000 Hz                                                               |
| Hysteresis                   | $H$   |  | 2 ... 15 %                                                                  |

Release date: 2024-05-27 Date of issue: 2024-05-29 Filename: 283416-0007\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

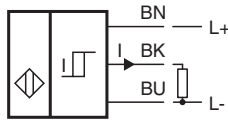
Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**PEPPERL+FUCHS**

# Technical Data

|                                                 |                |                                                                   |
|-------------------------------------------------|----------------|-------------------------------------------------------------------|
| Reverse polarity protection                     |                | reverse polarity protected                                        |
| Short-circuit protection                        |                | yes                                                               |
| Temperature drift                               |                | ≤ 10 %                                                            |
| Time delay before availability                  | t <sub>v</sub> | ≤ 5 ms                                                            |
| Load resistor                                   |                | 100 ... 250 Ohm                                                   |
| Switching state indicator                       |                | LED, yellow                                                       |
| <b>Functional safety related parameters</b>     |                |                                                                   |
| MTTF <sub>d</sub>                               |                | 1535 a                                                            |
| Mission Time (T <sub>M</sub> )                  |                | 20 a                                                              |
| Diagnostic Coverage (DC)                        |                | 0 %                                                               |
| <b>Digital output</b>                           |                |                                                                   |
| Output value                                    |                | object detected: 10 mA ± 1 mA<br>object not detected: 5 mA ± 1 mA |
| <b>Compliance with standards and directives</b> |                |                                                                   |
| Standard conformity                             |                |                                                                   |
| Standards                                       |                | EN IEC 60947-5-2                                                  |
| <b>Approvals and certificates</b>               |                |                                                                   |
| UL approval                                     |                | cULus Listed, General Purpose, Class 2 Power Source               |
| 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                              |                | 3 x 0.34 mm <sup>2</sup>                                          |
| Housing material                                |                | brass, nickel-plated                                              |
| Sensing face                                    |                | PBT                                                               |
| Degree of protection                            |                | IP68 / IP69K                                                      |
| Mass                                            |                | 97 g                                                              |
| Dimensions                                      |                |                                                                   |
| Length                                          |                | 50 mm                                                             |
| Diameter                                        |                | 18 mm                                                             |
| <b>General information</b>                      |                |                                                                   |
| Scope of delivery                               |                | 2 self locking nuts in scope of delivery                          |

# Connection



Characteristic Curve

