

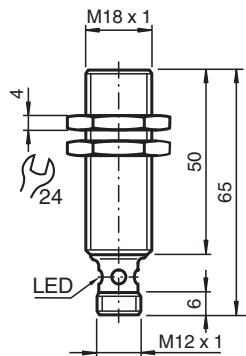


## Inductive sensor NBB8-18GM50-EI-V1-M1

- 8 mm 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     | $s_n$ | 8 mm                                                                        |
| Installation                 |       | flush                                                                       |
| Output polarity              |       | DC                                                                          |
| Assured operating distance   | $s_a$ | 0 ... 6.48 mm                                                               |
| Actuating element            |       | mild steel, e. g. 1.0037, SR235JR (formerly St37-2)<br>24 mm x 24 mm x 1 mm |
| Reduction factor $r_{Al}$    |       | 0.4                                                                         |
| Reduction factor $r_{Cu}$    |       | 0.3                                                                         |
| Reduction factor $r_{304}$   |       | 0.7                                                                         |
| Reduction factor $r_{Brass}$ |       | 0.45                                                                        |
| Output type                  |       | 3-wire                                                                      |

#### Nominal ratings

|                     |       |               |
|---------------------|-------|---------------|
| Operating voltage   | $U_B$ | 9 ... 30 V DC |
| Switching frequency | $f$   | 0 ... 1300 Hz |
| Hysteresis          | $H$   | 2 ... 15 %    |

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

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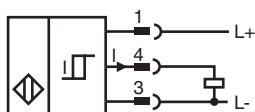
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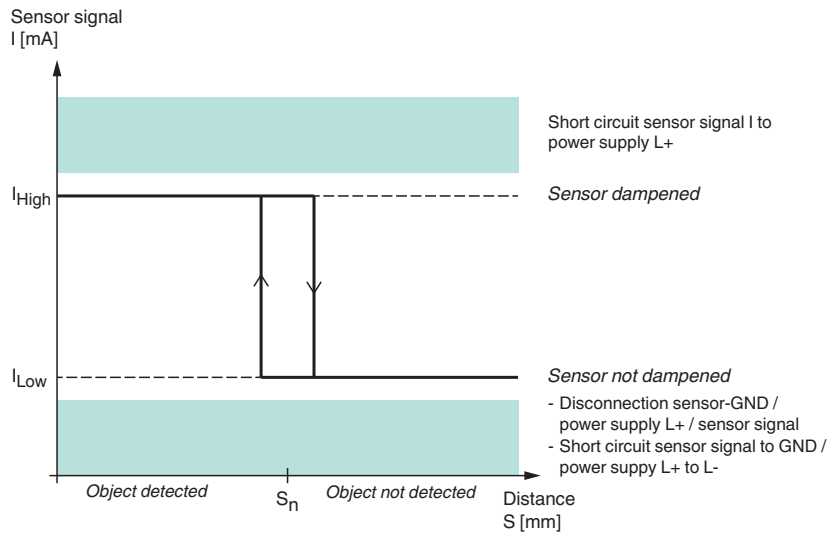
## Technical Data

|                                                 |       |                                                                                             |
|-------------------------------------------------|-------|---------------------------------------------------------------------------------------------|
| Reverse polarity protection                     |       | reverse polarity protected                                                                  |
| Short-circuit protection                        |       | yes                                                                                         |
| Temperature drift                               |       | ≤ 10 %                                                                                      |
| Time delay before availability                  | $t_v$ | ≤ 5 ms                                                                                      |
| Load resistor                                   |       | 100 ... 250 Ohm                                                                             |
| Switching state indicator                       |       | LED, yellow                                                                                 |
| <b>Functional safety related parameters</b>     |       |                                                                                             |
| MTTF <sub>d</sub>                               |       | 1545 a                                                                                      |
| Mission Time (T <sub>M</sub> )                  |       | 20 a                                                                                        |
| Diagnostic Coverage (DC)                        |       | 0 %                                                                                         |
| <b>Digital output</b>                           |       |                                                                                             |
| Output type                                     |       | 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 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>               |       |                                                                                             |
| 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                                 |       | Connector plug M12 x 1 , 4-pin                                                              |
| Housing material                                |       | brass, nickel-plated                                                                        |
| Sensing face                                    |       | PBT                                                                                         |
| Degree of protection                            |       | IP68 / IP69K                                                                                |
| Mass                                            |       | 60 g                                                                                        |
| <b>General information</b>                      |       |                                                                                             |
| Scope of delivery                               |       | 2 self locking nuts in scope of delivery                                                    |

## Connection



## Characteristic Curve



## Accessories

|                                                                                     |                    |                                       |
|-------------------------------------------------------------------------------------|--------------------|---------------------------------------|
|  | <b>BF 18</b>       | Mounting flange, 18 mm                |
|  | <b>V1-G-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable |
|  | <b>V1-W-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable |