

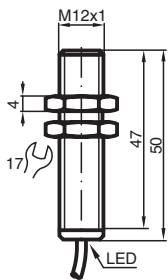
# Inductive sensor NBB2-12GM50-E2-C



- 2 mm flush
- Weld Immune



## Dimensions



## Technical Data

| General specifications      |       |                            |
|-----------------------------|-------|----------------------------|
| Switching function          |       | Normally open (NO)         |
| Output type                 |       | PNP                        |
| Rated operating distance    | $s_n$ | 2 mm                       |
| Installation                |       | flush                      |
| Output polarity             |       | DC                         |
| Assured operating distance  | $s_a$ | 0 ... 1.62 mm              |
| Reduction factor $r_{AI}$   |       | 0.3                        |
| Reduction factor $r_{Cu}$   |       | 0.2                        |
| Reduction factor $r_{304}$  |       | 0.7                        |
| Output type                 |       | 3-wire                     |
| Nominal ratings             |       |                            |
| Operating voltage           | $U_B$ | 10 ... 30 V DC             |
| Switching frequency         | $f$   | 0 ... 1500 Hz              |
| Hysteresis                  | $H$   | typ. 5%                    |
| Reverse polarity protection |       | reverse polarity protected |
| Short-circuit protection    |       | pulsing                    |

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

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 **PEPPERL+FUCHS**

## Technical Data

|                                                 |       |                                                                                                                                                                                         |
|-------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Voltage drop                                    | $U_d$ | $\leq 3 \text{ V}$                                                                                                                                                                      |
| Operating current                               | $I_L$ | 0 ... 200 mA                                                                                                                                                                            |
| Off-state current                               | $I_r$ | 0 ... 0.5 mA typ. 0.1 $\mu\text{A}$ at 25 °C                                                                                                                                            |
| No-load supply current                          | $I_0$ | $\leq 15 \text{ mA}$                                                                                                                                                                    |
| Constant magnetic field                         | B     | 200 mT                                                                                                                                                                                  |
| Alternating magnetic field                      | B     | 200 mT                                                                                                                                                                                  |
| Switching state indicator                       |       | LED, yellow                                                                                                                                                                             |
| <b>Functional safety related parameters</b>     |       |                                                                                                                                                                                         |
| MTTF <sub>d</sub>                               |       | 990 a                                                                                                                                                                                   |
| Mission Time (T <sub>M</sub> )                  |       | 20 a                                                                                                                                                                                    |
| Diagnostic Coverage (DC)                        |       | 0 %                                                                                                                                                                                     |
| <b>Compliance with standards and directives</b> |       |                                                                                                                                                                                         |
| Standard conformity                             |       |                                                                                                                                                                                         |
| Standards                                       |       | EN IEC 60947-5-2                                                                                                                                                                        |
| <b>Approvals and certificates</b>               |       |                                                                                                                                                                                         |
| UL approval                                     |       | cULus Listed<br>Load Type: General Purpose<br>Circuitry: Class 2 Power Source<br>Enclosure Type Rating: Type 1<br>Supply/Switching Voltage: 30 V DC<br>Output Switching Current: 200 mA |
| CCC approval                                    |       | CCC approval / marking not required for products rated $\leq 36 \text{ V}$                                                                                                              |
| <b>Ambient conditions</b>                       |       |                                                                                                                                                                                         |
| Ambient temperature                             |       | -25 ... 70 °C (-13 ... 158 °F)                                                                                                                                                          |
| <b>Mechanical specifications</b>                |       |                                                                                                                                                                                         |
| Connection type                                 |       | cable                                                                                                                                                                                   |
| Housing material                                |       | Brass, PTFE coated                                                                                                                                                                      |
| Sensing face                                    |       | PPS                                                                                                                                                                                     |
| Degree of protection                            |       | IP67                                                                                                                                                                                    |
| <b>Cable</b>                                    |       |                                                                                                                                                                                         |
| Wire end ferrules                               |       | yes                                                                                                                                                                                     |
| Cable diameter                                  |       | 3.5 mm $\pm$ 0.2 mm                                                                                                                                                                     |
| Bending radius                                  |       | > 10 x cable diameter                                                                                                                                                                   |
| Material                                        |       | PVC                                                                                                                                                                                     |
| Color                                           |       | grey                                                                                                                                                                                    |
| Number of cores                                 |       | 3                                                                                                                                                                                       |
| Core cross section                              |       | 0.14 mm <sup>2</sup>                                                                                                                                                                    |
| Length                                          | L     | 2 m                                                                                                                                                                                     |
| <b>Dimensions</b>                               |       |                                                                                                                                                                                         |
| Length                                          |       | 50 mm                                                                                                                                                                                   |
| Diameter                                        |       | 12 mm                                                                                                                                                                                   |

## Connection Assignment

