

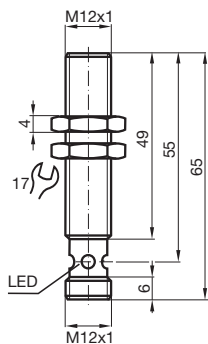
# Inductive sensor

## NBB4-12GM50-E1-V1

- Increased operating distance



### Dimensions



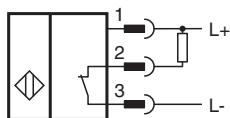
### Technical Data

| General specifications       |       |                      |
|------------------------------|-------|----------------------|
| Switching function           |       | Normally closed (NC) |
| Output type                  |       | NPN                  |
| Rated operating distance     | $s_n$ | 4 mm                 |
| Installation                 |       | flush                |
| Output polarity              |       | DC                   |
| Assured operating distance   | $s_a$ | 0 ... 3.24 mm        |
| Reduction factor $r_{Al}$    |       | 0.39                 |
| Reduction factor $r_{Cu}$    |       | 0.35                 |
| Reduction factor $r_{304}$   |       | 0.75                 |
| Reduction factor $r_{Brass}$ |       | 0.49                 |
| Nominal ratings              |       |                      |
| Operating voltage            | $U_B$ | 10 ... 30 V          |

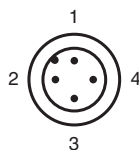
Technical Data

|                                                 |                |                                                              |
|-------------------------------------------------|----------------|--------------------------------------------------------------|
| Switching frequency                             | f              | 0 ... 800 Hz                                                 |
| Hysteresis                                      | H              | typ. 5 %                                                     |
| Reverse polarity protection                     |                | reverse polarity protected                                   |
| Short-circuit protection                        |                | pulsing                                                      |
| Voltage drop                                    | U <sub>d</sub> | ≤ 3 V                                                        |
| Operating current                               | I <sub>L</sub> | 0 ... 200 mA                                                 |
| Off-state current                               | I <sub>r</sub> | 0 ... 0.5 mA typ. 0.1 µA at 25 °C                            |
| No-load supply current                          | I <sub>0</sub> | ≤ 15 mA                                                      |
| Switching state indicator                       |                | Multihole-LED, yellow                                        |
| <b>Functional safety related parameters</b>     |                |                                                              |
| MTTF <sub>d</sub>                               |                | 1600 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>IEC 60947-5-2:2007                      |
| <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 ≤36 V |
| <b>Ambient conditions</b>                       |                |                                                              |
| Ambient temperature                             |                | -25 ... 70 °C (-13 ... 158 °F)                               |
| <b>Mechanical specifications</b>                |                |                                                              |
| Connection type                                 |                | 4-pin, M12 x 1 connector                                     |
| Housing material                                |                | brass, nickel-plated                                         |
| Sensing face                                    |                | PBT                                                          |
| Degree of protection                            |                | IP67                                                         |
| <b>General information</b>                      |                |                                                              |
| Scope of delivery                               |                | 2 self locking nuts in scope of delivery                     |

Connection



Connection Assignment



Release date: 2020-03-23 Date of issue: 2020-03-30 Filename: 200463\_eng.pdf

Wire colors in accordance with EN 60947-5-2

|   |    |         |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue)  |
| 4 | BK | (black) |

Accessories

|                                                                                   |                    |                                       |
|-----------------------------------------------------------------------------------|--------------------|---------------------------------------|
|  | <b>BF 12</b>       | Mounting flange, 12 mm                |
|  | <b>EXG-12</b>      | Quick mounting bracket with dead stop |
|  | <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 |

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