



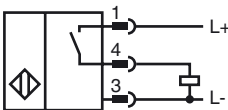
### Model Number

NBB4-12GM50-E2-V1

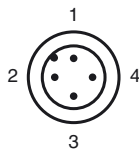
### Features

- 4 mm embeddable
- Increased operating distance
- Extended temperature range

### Connection



### Pinout



Wire colors in accordance with EN 60947-5-2

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

### Accessories

#### BF 12

Mounting flange, 12 mm

#### EXG-12

Quick mounting bracket with dead stop

#### V1-G

4-pin, M12 female field-attachable connector

#### V1-W

4-pin, M12 female field-attachable connector

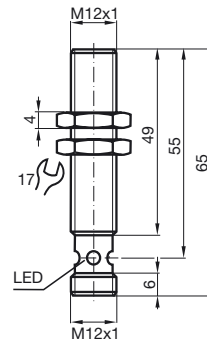
#### V1-G-2M-PUR

Cable socket, M12, 4-pin, PUR cable

#### V1-W-2M-PUR

Cable socket, M12, 4-pin, PUR cable

### Dimensions



### Technical Data

#### General specifications

|                            |       |   |
|----------------------------|-------|---|
| Switching element function |       | PNP NO  |
| Rated operating distance   | $s_n$ | 4 mm  |
| Installation               |       | embeddable  |
| Output polarity            |       | DC  |
| Assured operating distance | $s_a$ | 0 ... 3.24 mm (-25 ... 70 °C (-13 ... 158 °F))<br>0 ... 3.04 mm (-40 ... -25 °C (-40 ... -13 °F)) |
| Reduction factor $r_{Al}$  |       | 0.45  |
| Reduction factor $r_{Cu}$  |       | 0.35  |
| Reduction factor $r_{303}$ |       | 0.7   |

#### Nominal ratings

|                                   |       |  |
|-----------------------------------|-------|--|
| Operating voltage                 | $U_B$ | 10 ... 30 V                            |
| Switching frequency               | $f$   | 0 ... 800 Hz                           |
| Hysteresis                        | $H$   | typ. 5%                                |
| Reverse polarity protected        |       | reverse polarity protected             |
| Short-circuit protection          |       | pulsing                                |
| Voltage drop                      | $U_d$ | $\leq 3$ V                             |
| Operating current                 | $I_L$ | 0 ... 200 mA                           |
| Off-state current                 | $I_r$ | 0 ... 0.5 mA typ. 0.1 $\mu$ A at 25 °C |
| No-load supply current            | $I_0$ | $\leq 15$ mA                           |
| Indication of the switching state |       | Multihole-LED, yellow                  |

#### Functional safety related parameters

|                          |       |
|--------------------------|-------|
| MTTF <sub>d</sub>        | 990 a |
| Mission Time ( $T_M$ )   | 20 a  |
| Diagnostic Coverage (DC) | 0 %   |

#### Ambient conditions

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | -40 ... 70 °C (-40 ... 158 °F) |
|---------------------|--------------------------------|

#### Mechanical specifications

|                   |                                 |
|-------------------|---------------------------------|
| Connection type   | Device connector M12 x 1, 4-pin |
| Housing material  | brass, nickel-plated            |
| Sensing face      | PBT                             |
| Protection degree | IP67                            |

#### General information

|                   |  |
|-------------------|--|
| Scope of delivery | 2 self locking nuts in scope of delivery |
|-------------------|--|

#### Compliance with standards and directives

|                     |   |
|---------------------|---|
| Standard conformity |   |
| Standards           | EN 60947-5-2:2007<br>IEC 60947-5-2:2007 |

#### Approvals and certificates

|              |  |
|--------------|--|
| UL approval  | cULus Listed, General Purpose  |
| CSA approval | cCSAus Listed, General Purpose   |
| CCC approval | Products with a maximum operating voltage of $\leq 36$ V do not bear a CCC marking because they do not require approval. |