



## Model Number

**NBB4-12GM30-E2**

## Features

- 4 mm flush
- Increased operating distance

## Accessories

### BF 12

Mounting flange, 12 mm

### EXG-12

Quick mounting bracket with dead stop

## Technical Data

### General specifications

|                            |                     |
|----------------------------|---------------------|
| Switching function         | Normally open (NO)  |
| Output type                | PNP                 |
| Rated operating distance   | $s_n$ 4 mm          |
| Installation               | flush               |
| Output polarity            | DC                  |
| Assured operating distance | $s_a$ 0 ... 3.24 mm |
| Reduction factor $r_{AI}$  | 0.45                |
| Reduction factor $r_{CU}$  | 0.35                |
| Reduction factor $r_{304}$ | 0.7                 |
| Output type                | 3-wire              |

### Nominal ratings

|                                                                    |       |                               |
|--------------------------------------------------------------------|-------|-------------------------------|
| Operating voltage                                                  | $U_B$ | 10 ... 30 V                   |
| Switching frequency                                                | $f$   | 0 ... 500 Hz                  |
| Hysteresis                                                         | $H$   | typ. 5%                       |
| Reverse polarity protection                                        |       | reverse polarity protected    |
| Short-circuit protection                                           |       | pulsing                       |
| Voltage drop                                                       | $U_d$ | $\leq 3$ V                    |
| Design data                                                        |       |                               |
| Operating current                                                  | $I_L$ | 0 ... 150 mA                  |
| Off-state current                                                  | $I_r$ | 0 ... 0.5 mA typ. 0.1 $\mu$ A |
| Off-state current $T_{U=40^\circ\text{C}}$ , switching element off |       | $\leq$                        |
| No-load supply current                                             | $I_0$ | $\leq 15$ mA                  |
| Time delay before availability                                     | $t_v$ | $\leq 20$ ms                  |
| Switching state indicator                                          |       | Multihole-LED, yellow         |

### Functional safety related parameters

|                          |        |
|--------------------------|--------|
| MTTF <sub>d</sub>        | 1770 a |
| Mission Time ( $T_M$ )   | 20 a   |
| Diagnostic Coverage (DC) | 0 %    |

### Ambient conditions

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 70 °C (-13 ... 158 °F) |
|---------------------|--------------------------------|

### Mechanical specifications

|                      |                       |
|----------------------|-----------------------|
| Connection type      | cable PVC, 2 m        |
| Core cross-section   | 0.14 mm <sup>2</sup>  |
| Housing material     | brass, nickel-plated  |
| Sensing face         | PBT                   |
| Degree of protection | IP67                  |
| Cable                |                       |
| Cable diameter       | 3.5 mm $\pm$ 0.2 mm   |
| Bending radius       | > 10 x cable diameter |
| Mass                 | 30 g                  |

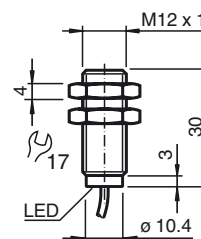
### Compliance with standards and directives

|                     |                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------|
| 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 |

### Approvals and certificates

|              |                                                                    |
|--------------|--------------------------------------------------------------------|
| UL approval  | cULus Listed, General Purpose                                      |
| CSA approval | cCSAus Listed, General Purpose                                     |
| CCC approval | CCC approval / marking not required for products rated $\leq 36$ V |

## Dimensions





Electrical Connection

