



## Model Number

NBN40-L2-E2-V1

## Features

- Sensor head bidirectional and rotatable
- 40 mm non-flush
- 3-wire DC
- Quick mounting bracket
- 4-way LED indicator

## Accessories

### V1-G

Female connector, M12, 4-pin, field attachable

### V1-W

Female connector, M12, 4-pin, field attachable

### V1-G-2M-PUR

Female cordset, M12, 4-pin, PUR cable

### V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

### MHW 01

Modular mounting bracket

### MH 02-L

Mounting aid

## Technical Data

### General specifications

|                              |                     |
|------------------------------|---------------------|
| Switching function           | Normally open (NO)  |
| Output type                  | PNP                 |
| Rated operating distance     | $s_n$ 40 mm         |
| Installation                 | non-flush           |
| Output polarity              | DC                  |
| Assured operating distance   | $s_a$ 0 ... 32.4 mm |
| Actual operating distance    | $s_r$ 36 ... 44 mm  |
| Reduction factor $r_{Al}$    | 0.33                |
| Reduction factor $r_{Cu}$    | 0.31                |
| Reduction factor $r_{304}$   | 0.74                |
| Reduction factor $r_{Brass}$ | 0.38                |
| Output type                  | 3-wire              |

### Nominal ratings

|                                |                            |
|--------------------------------|----------------------------|
| Operating voltage              | $U_B$ 10 ... 30 V DC       |
| Switching frequency            | $f$ 0 ... 180 Hz           |
| Hysteresis                     | $H$ typ. 5 %               |
| Reverse polarity protection    | reverse polarity protected |
| Short-circuit protection       | pulsing                    |
| Voltage drop                   | $U_d$ $\leq 2$ V           |
| Design data                    |                            |
| Operating current              | $I_L$ 0 ... 200 mA         |
| Off-state current              | $I_r$ 0 ... 0.5 mA         |
| No-load supply current         | $I_0$ $\leq 20$ mA         |
| Time delay before availability | $t_v$ 80 ms                |
| Operating voltage indicator    | LED, green                 |
| Switching state indicator      | LED, yellow                |

### Functional safety related parameters

|                          |        |
|--------------------------|--------|
| MTTF <sub>d</sub>        | 1510 a |
| Mission Time ( $T_M$ )   | 20 a   |
| Diagnostic Coverage (DC) | 0 %    |

### Ambient conditions

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 85 °C (-13 ... 185 °F) |
| Storage temperature | -40 ... 85 °C (-40 ... 185 °F) |

### Mechanical specifications

|                      |                               |
|----------------------|-------------------------------|
| Connection type      | Connector plug M12 x 1, 4-pin |
| Housing material     | PA                            |
| Sensing face         | PA                            |
| Degree of protection | IP69K                         |
| Cable                |                               |
| Cable diameter       | 3.3 mm $\pm$ 0.15 mm          |
| Mass                 | 130 g                         |

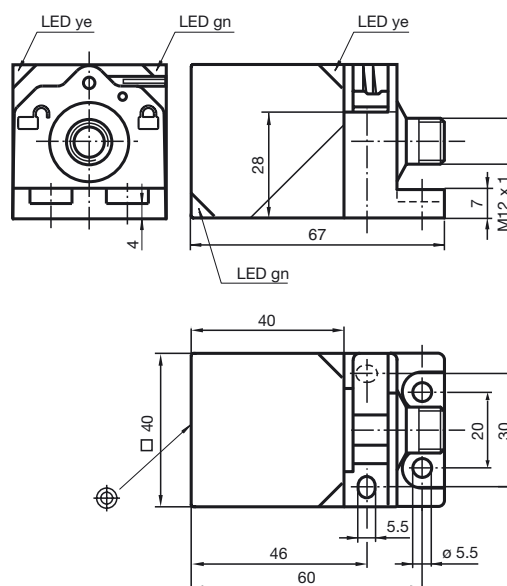
### Compliance with standards and directives

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

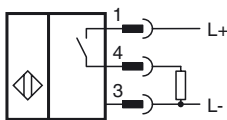
### Approvals and certificates

|                                 |                                                                    |
|---------------------------------|--------------------------------------------------------------------|
| EAC conformity                  | TR CU 020/2011                                                     |
| Protection class                | II                                                                 |
| Rated insulation voltage        | $U_i$ 253 V                                                        |
| Rated impulse withstand voltage | $U_{imp}$ 4000 V                                                   |
| UL approval                     | cULus Listed, General Purpose                                      |
| CCC approval                    | CCC approval / marking not required for products rated $\leq 36$ V |

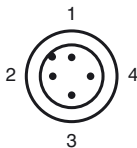
## Dimensions



Electrical Connection



Pinout



Wire colors in accordance with EN 60947-5-2

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