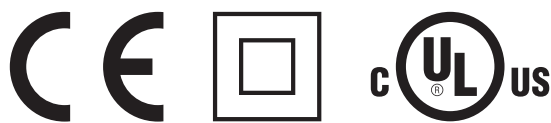




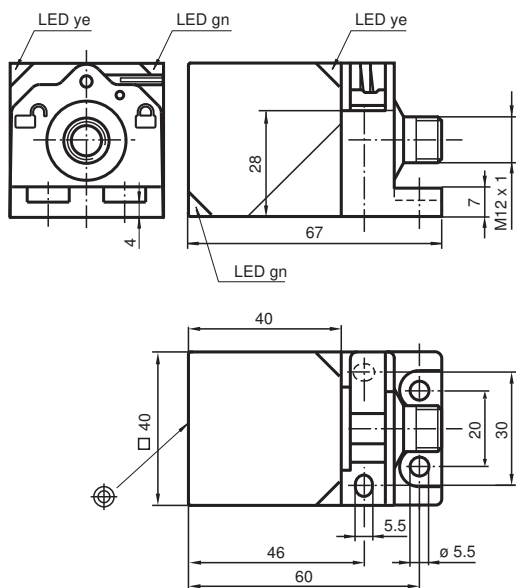
# Inductive sensor

## NBN40-L2-E2-V1-3G-3D

- Sensor head bidirectional and rotatable
- 40 mm non-flush
- 3-wire DC
- Quick mounting bracket
- 4-way LED indicator
- ATEX-approval for zone 2 and zone 22



### Dimensions



### Technical Data

| General specifications              |                |                         |  |
|-------------------------------------|----------------|-------------------------|--|
| Switching function                  |                | Normally open (NO)      |  |
| Output type                         |                | PNP                     |  |
| Rated operating distance            | s <sub>n</sub> | 40 mm                   |  |
| Installation                        |                | non-flush               |  |
| Output polarity                     |                | DC                      |  |
| Assured operating distance          | s <sub>a</sub> | 0 ... 32.4 mm           |  |
| Actual operating distance           | s <sub>r</sub> | 36 ... 44 mm typ. 40 mm |  |
| Reduction factor r <sub>Al</sub>    |                | 0.33                    |  |
| Reduction factor r <sub>Cu</sub>    |                | 0.31                    |  |
| Reduction factor r <sub>304</sub>   |                | 0.74                    |  |
| Reduction factor r <sub>Brass</sub> |                | 0.38                    |  |
| Output type                         |                | 3-wire                  |  |

## Technical Data

### 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                 |
| 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>        |  | 1057 a |
| Mission Time ( $T_M$ )   |  | 20 a   |
| Diagnostic Coverage (DC) |  | 0 %    |

### 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

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

### Ambient conditions

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

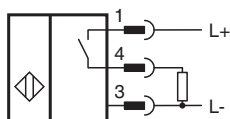
### Mechanical specifications

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

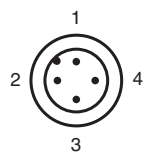
### General information

|                           |  |                         |
|---------------------------|--|-------------------------|
| Use in the hazardous area |  | see instruction manuals |
|---------------------------|--|-------------------------|

## Connection



Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

Accessories

|                                                                                     |                    |                                          |
|-------------------------------------------------------------------------------------|--------------------|------------------------------------------|
|    | <b>MHW 01</b>      | Modular mounting bracket                 |
|    | <b>MH 02-L</b>     | Mounting aid                             |
|   | <b>MH 04-2681F</b> | Mounting aid for VariKont, +U1+ and +U9* |
|  | <b>V1-W-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable    |
|  | <b>V1-G-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable    |

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