

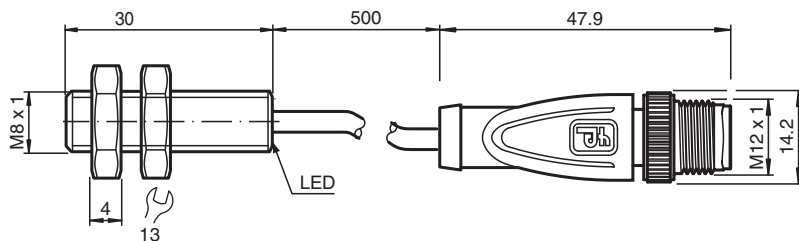
## Inductive sensor

### NBB2-8GM30-E2-0,5M-V1

- 2 mm flush
- Increased operating distance
- Extended temperature range  
-40 ... +85 °C



## Dimensions



## Technical Data

### General specifications

|                              |       |                                                                           |
|------------------------------|-------|---------------------------------------------------------------------------|
| Switching function           |       | Normally open (NO)                                                        |
| Output type                  |       | PNP                                                                       |
| Rated operating distance     | $s_n$ | 2 mm                                                                      |
| Installation                 |       | flush                                                                     |
| Output polarity              |       | DC                                                                        |
| Assured operating distance   | $s_a$ | 0 ... 1.62 mm                                                             |
| Actuating element            |       | mild steel, e. g. 1.0037, SR235JR (formerly St37-2)<br>8 mm x 8 mm x 1 mm |
| Reduction factor $r_{Al}$    |       | 0.4                                                                       |
| Reduction factor $r_{Cu}$    |       | 0.3                                                                       |
| Reduction factor $r_{304}$   |       | 0.75                                                                      |
| Reduction factor $r_{Brass}$ |       | 0.45                                                                      |
| Output type                  |       | 3-wire                                                                    |

### Nominal ratings

|                             |       |                            |
|-----------------------------|-------|----------------------------|
| Operating voltage           | $U_B$ | 5 ... 30 V                 |
| Switching frequency         | $f$   | 0 ... 6000 Hz              |
| Hysteresis                  | $H$   | typ. 5%                    |
| Reverse polarity protection |       | reverse polarity protected |
| Short-circuit protection    |       | pulsing                    |
| Voltage drop                | $U_d$ | $\leq 1.5$ V               |
| Operating current           | $I_L$ | 0 ... 100 mA               |
| Off-state current           | $I_r$ | 0 ... 0.2 mA               |
| No-load supply current      | $I_0$ | $\leq 10$ mA               |

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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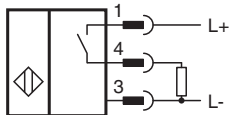
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**PEPPERL+FUCHS**

## Technical Data

|                                                 |       |                                                                            |
|-------------------------------------------------|-------|----------------------------------------------------------------------------|
| Time delay before availability                  | $t_v$ | $\leq 100 \text{ ms}$                                                      |
| Switching state indicator                       |       | LED, yellow                                                                |
| <b>Functional safety related parameters</b>     |       |                                                                            |
| MTTF <sub>d</sub>                               |       | 960 a                                                                      |
| Mission Time (T <sub>M</sub> )                  |       | 20 a                                                                       |
| Diagnostic Coverage (DC)                        |       | 0 %                                                                        |
| <b>Compliance with standards and directives</b> |       |                                                                            |
| Standard conformity                             |       |                                                                            |
| Standards                                       |       | EN IEC 60947-5-2                                                           |
| <b>Approvals and certificates</b>               |       |                                                                            |
| UL approval                                     |       | cULus Listed, General Purpose, Class 2 Power Source                        |
| CCC approval                                    |       | CCC approval / marking not required for products rated $\leq 36 \text{ V}$ |
| <b>Ambient conditions</b>                       |       |                                                                            |
| Ambient temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)                                             |
| Storage temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)                                             |
| <b>Mechanical specifications</b>                |       |                                                                            |
| Connection type                                 |       | fixed cable with plug                                                      |
| Housing material                                |       | brass, nickel-plated                                                       |
| Sensing face                                    |       | LCP                                                                        |
| Degree of protection                            |       | IP65 / IP66 / IP67                                                         |
| Connector                                       |       |                                                                            |
| Threading                                       |       | M12 x 1                                                                    |
| Number of pins                                  |       | 3                                                                          |
| Cable                                           |       |                                                                            |
| Cable diameter                                  |       | 3 mm - 0.2 mm                                                              |
| Bending radius                                  |       | > 12 x cable diameter                                                      |
| Material                                        |       | PVC                                                                        |
| Color                                           |       | grey                                                                       |
| Number of cores                                 |       | 3                                                                          |
| Core cross section                              |       | 0.14 mm <sup>2</sup>                                                       |
| Length                                          | L     | 0.5 m                                                                      |
| Dimensions                                      |       |                                                                            |
| Length                                          |       | 30 mm                                                                      |
| Diameter                                        |       | 8 mm                                                                       |
| <b>General information</b>                      |       |                                                                            |
| Scope of delivery                               |       | 2 hex nuts included                                                        |

## Connection



Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

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