

# Inductive sensor

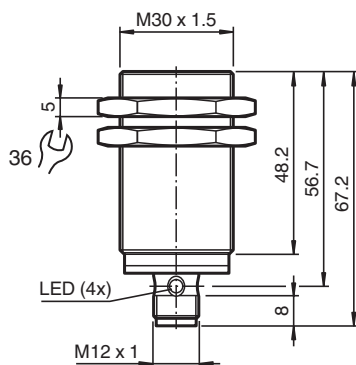
## NBB10-30GM50-A0-V1



- 10 mm flush
- Extended temperature range  
-40 ... +85 °C
- Extended operating voltage range
- Flexible use with versatile mounting opportunities



### Dimensions



### Technical Data

#### General specifications

|                              |       |   |
|------------------------------|-------|---|
| Switching function           |       | complementary   |
| Output type                  |       | NPN   |
| Rated operating distance     | $s_n$ | 10 mm   |
| Installation                 |       | flush   |
| Output polarity              |       | DC  |
| Assured operating distance   | $s_a$ | 0 ... 8.1 mm  |
| Actuating element            |       | mild steel, e. g. 1.0037, SR235JR (formerly St37-2)<br>30 mm x 30 mm x 1 mm |
| Reduction factor $r_{Al}$    |       | 0.5   |
| Reduction factor $r_{Cu}$    |       | 0.42  |
| Reduction factor $r_{304}$   |       | 0.74  |
| Reduction factor $r_{Brass}$ |       | 0.52  |
| Output type                  |       | 4-wire  |
| <b>Nominal ratings</b>       |       |   |
| Operating voltage            | $U_B$ | 5 ... 36 V  |
| Switching frequency          | $f$   | 0 ... 1100 Hz   |

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

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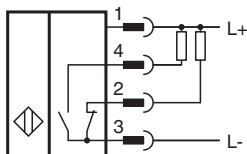
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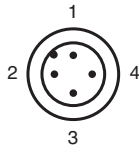
## Technical Data

|   |           |   |
|---|-----------|---|
| Hysteresis                                      | H         | typ. 5 %  |
| Reverse polarity protection                     |           | reverse polarity protected  |
| Short-circuit protection                        |           | pulsing   |
| Voltage drop                                    | $U_d$     | $\leq 1$ V  |
| Operating current                               | $I_L$     | 0 ... 200 mA  |
| Off-state current                               | $I_r$     | max. 20 $\mu$ A   |
| No-load supply current                          | $I_o$     | $\leq 15$ mA  |
| Time delay before availability                  | $t_v$     | $\leq 10$ ms  |
| Switching state indicator                       |           | Multihole-LED, yellow   |
| <b>Functional safety related parameters</b>     |           |   |
| MTTF <sub>d</sub>                               |           | 1248 a  |
| Mission Time (T <sub>M</sub> )                  |           | 20 a  |
| Diagnostic Coverage (DC)                        |           | 0 %   |
| <b>Conformity</b>                               |           |   |
| PWIS conformity                                 |           | VDMA 24364-A1/B2/C1/T100°C-W  |
| <b>Compliance with standards and directives</b> |           |   |
| 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 ??? |
| <b>Approvals and certificates</b>               |           |   |
| Protection class                                |           | II  |
| Rated insulation voltage                        | $U_i$     | 36 V  |
| Rated impulse withstand voltage                 | $U_{imp}$ | 500 V   |
| UL approval                                     |           | cULus Listed, General Purpose, Class 2 Power Source   |
| CCC approval                                    |           | CCC approval / marking not required for products rated $\leq 36$ 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                                 |           | Connector plug  |
| Housing material                                |           | brass , white bronze coated   |
| Sensing face                                    |           | PBT , green   |
| Degree of protection                            |           | IP68  |
| Connector                                       |           |   |
| Threading                                       |           | M12 x 1   |
| Number of pins                                  |           | 4   |
| Mass  |           | 156 g   |
| Tightening torque                               |           | 0 ... 30 Nm   |
| <b>General information</b>                      |           |   |
| Scope of delivery                               |           | 2 self locking nuts in scope of delivery  |

## 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>BF 30</b>           | Mounting flange, 30 mm  |
|    | <b>BF 30-F</b>         | Plastic mounting adapter, 30 mm   |
|   | <b>MH-EXG-30</b>       | Quick mounting bracket with dead stop   |
|  | <b>V1-G-2M-PUR</b>     | Female cordset single-ended M12 straight A-coded, 4-pin, PUR cable grey   |
|  | <b>V1-W-2M-PUR</b>     | Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey   |
|  | <b>V1-G-BK2M-PUR-U</b> | Female cordset single-ended M12 straight A-coded, 4-pin, PUR cable black, UL approved, drag chain suitable, torsion resistant |
|  | <b>V1-W-BK2M-PUR-U</b> | Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable black, UL approved, drag chain suitable, torsion resistant   |
|  | <b>V1-G-BK</b>         | Female connector M12 straight A-coded 4-pin, for cable diameter 4 - 6 mm, field-attachable                                    |
|  | <b>V1-W-BK</b>         | Female connector M12 angled A-coded 4-pin, for cable diameter 4 - 6 mm, field-attachable                                      |

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