

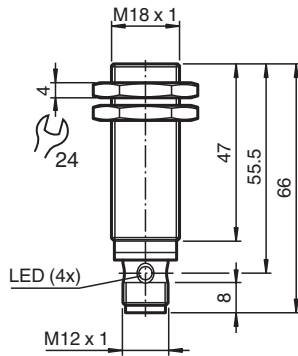


## Inductive sensor NBB5-18GM50-E2-V1

- 5 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           |       | Normally open (NO)                                                          |
| Output type                  |       | PNP                                                                         |
| Rated operating distance     | $s_n$ | 5 mm                                                                        |
| Installation                 |       | flush                                                                       |
| Output polarity              |       | DC                                                                          |
| Assured operating distance   | $s_a$ | 0 ... 4.05 mm                                                               |
| Actuating element            |       | mild steel, e. g. 1.0037, SR235JR (formerly St37-2)<br>18 mm x 18 mm x 1 mm |
| Reduction factor $r_{Al}$    |       | 0.35                                                                        |
| Reduction factor $r_{Cu}$    |       | 0.29                                                                        |
| Reduction factor $r_{304}$   |       | 0.73                                                                        |
| Reduction factor $r_{Brass}$ |       | 0.44                                                                        |
| Output type                  |       | 3-wire                                                                      |

#### Nominal ratings

|                             |       |                            |
|-----------------------------|-------|----------------------------|
| Operating voltage           | $U_B$ | 5 ... 36 V                 |
| Switching frequency         | $f$   | 0 ... 1950 Hz              |
| 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      | $I_0$ | $\leq 10$ mA               |

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

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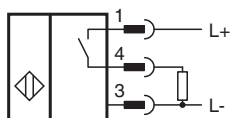
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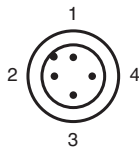
## Technical Data

|                                                 |                  |                                                                            |
|-------------------------------------------------|------------------|----------------------------------------------------------------------------|
| Time delay before availability                  | $t_v$            | $\leq 10 \text{ ms}$                                                       |
| Switching state indicator                       |                  | Multihole-LED, yellow                                                      |
| <b>Functional safety related parameters</b>     |                  |                                                                            |
| MTTF <sub>d</sub>                               |                  | 1721 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 IEC 60947-5-2                                                           |
| <b>Approvals and certificates</b>               |                  |                                                                            |
| Protection class                                |                  | II                                                                         |
| Rated insulation voltage                        | U <sub>i</sub>   | 36 V                                                                       |
| Rated impulse withstand voltage                 | U <sub>imp</sub> | 500 V                                                                      |
| UL approval                                     |                  | cULus Listed, General Purpose, Class 2 Power Source                        |
| CCC approval                                    |                  | CCC approval / marking not required for products rated $\leq 36 \text{ V}$ |
| Marine approval                                 |                  | DNVGL TAA00003AK                                                           |
| <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                            |                  | IP65 / IP66 / IP67 / IP68                                                  |
| Connector                                       |                  |                                                                            |
| Threading                                       |                  | M12 x 1                                                                    |
| Number of pins                                  |                  | 3                                                                          |
| Mass                                            |                  | 61 g                                                                       |
| Dimensions                                      |                  |                                                                            |
| Length                                          |                  | 66 mm                                                                      |
| Diameter                                        |                  | 18 mm                                                                      |
| Mounting                                        |                  | with nuts, M18                                                             |
| Tightening torque                               |                  | $\leq 30 \text{ Nm}$                                                       |
| <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) |