

# Inductive sensor

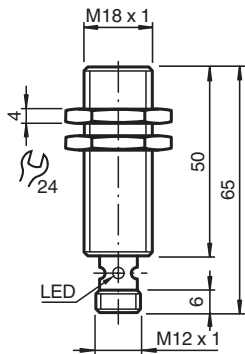
## NJ5-18GM50-E2-V1



- Comfort series
- 5 mm flush



### 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            |
| Actual operating distance    | $s_r$ | 4.5 ... 5.5 mm typ. 5 mm |
| Reduction factor $r_{Al}$    |       | 0.2                      |
| Reduction factor $r_{Cu}$    |       | 0.15                     |
| Reduction factor $r_{304}$   |       | 0.62                     |
| Reduction factor $r_{Brass}$ |       | 0.32                     |
| Output type                  |       | 3-wire                   |
| Nominal ratings              |       |                          |
| Operating voltage            | $U_B$ | 10 ... 60 V              |
| Switching frequency          | $f$   | 0 ... 1500 Hz            |

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

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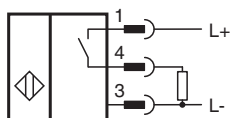
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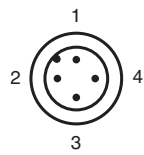
## Technical Data

|                                                                     |       |                                                                                             |
|---------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------------|
| Hysteresis                                                          | H     | 1 ... 10 typ. 6 %                                                                           |
| Reverse polarity protection                                         |       | reverse polarity protected                                                                  |
| Short-circuit protection                                            |       | pulsing                                                                                     |
| Voltage drop                                                        | $U_d$ | $\leq 3 \text{ V}$                                                                          |
| Voltage drop at $I_L$                                               |       |                                                                                             |
| Voltage drop $I_L = 100 \text{ mA}$ , switching element on          | $U_d$ | 1.5 ... 2.5 V typ. 1.9 V                                                                    |
| Operating current                                                   | $I_L$ | 0 ... 200 mA                                                                                |
| Lowest operating current                                            | $I_m$ | 0 mA                                                                                        |
| Off-state current                                                   | $I_r$ | 0 ... 0.5 mA typ. 0.01 mA                                                                   |
| Off-state current $T_U = 40^\circ \text{C}$ , switching element off |       | $\leq 100 \mu\text{A}$                                                                      |
| No-load supply current                                              | $I_0$ | $\leq 9 \text{ mA}$                                                                         |
| Time delay before availability                                      | $t_v$ | $\leq 30 \text{ ms}$                                                                        |
| Switching state indicator                                           |       | LED, yellow                                                                                 |
| <b>Functional safety related parameters</b>                         |       |                                                                                             |
| MTTF <sub>d</sub>                                                   |       | 750 a                                                                                       |
| Mission Time ( $T_M$ )                                              |       | 20 a                                                                                        |
| Diagnostic Coverage (DC)                                            |       | 0 %                                                                                         |
| <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>                                   |       |                                                                                             |
| UL approval                                                         |       | cULus Listed, General Purpose                                                               |
| CSA approval                                                        |       | cCSAus Listed, General Purpose                                                              |
| CCC approval                                                        |       | Certified by China Compulsory Certification (CCC)                                           |
| <b>Ambient conditions</b>                                           |       |                                                                                             |
| Ambient temperature                                                 |       | -25 ... 70 °C (-13 ... 158 °F)                                                              |
| Storage temperature                                                 |       | -40 ... 85 °C (-40 ... 185 °F)                                                              |
| <b>Mechanical specifications</b>                                    |       |                                                                                             |
| Connection type                                                     |       | Connector M12 x 1, 3-pin                                                                    |
| Housing material                                                    |       | Stainless steel 1.4305 / AISI 303                                                           |
| Sensing face                                                        |       | PBT                                                                                         |
| Degree of protection                                                |       | IP67                                                                                        |

## 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 18</b>       | Mounting flange, 18 mm                |
|    | <b>V1-W-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable |
|   | <b>EXG-18</b>      | Quick mounting bracket with dead stop |
|  | <b>V1-G-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable |

Release date: 2020-03-24 Date of issue: 2020-03-30 Filename: 282958\_eng.pdf