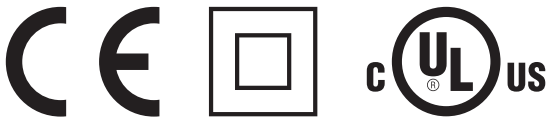


## Inductive sensor

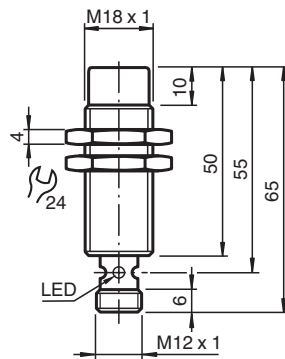
### NRN12-18GM50-E2-C-V1



- Reduction factor = 1
- Magnetic field resistant
- Weld Immune



## Dimensions



## Technical Data

### General specifications

|                             |       |                    |
|-----------------------------|-------|--------------------|
| Switching function          |       | Normally open (NO) |
| Output type                 |       | PNP                |
| Rated operating distance    | $s_n$ | 12 mm              |
| Installation                |       | non-flush          |
| Output polarity             |       | DC                 |
| Assured operating distance  | $s_a$ | 0 ... 9.72 mm      |
| Reduction factor $r_{Al}$   |       | 1                  |
| Reduction factor $r_{Cu}$   |       | 1                  |
| Reduction factor $r_{304}$  |       | 1                  |
| Reduction factor $r_{St37}$ |       | 1                  |
| Output type                 |       | 3-wire             |

### Nominal ratings

|                     |       |                |
|---------------------|-------|----------------|
| Operating voltage   | $U_B$ | 10 ... 30 V DC |
| Switching frequency | $f$   | 0 ... 500 Hz   |
| Hysteresis          | $H$   | typ. 5 %       |

Release date: 2020-03-24 Date of issue: 2020-03-30 Filename: 264615\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

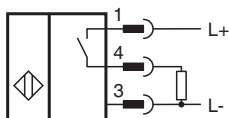
Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**PEPPERL+FUCHS**

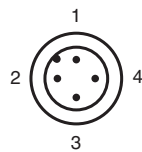
## Technical Data

|                                                 |           |                                                                                             |
|-------------------------------------------------|-----------|---------------------------------------------------------------------------------------------|
| Reverse polarity protection                     |           | reverse polarity protected                                                                  |
| Short-circuit protection                        |           | pulsing                                                                                     |
| Voltage drop                                    | $U_d$     | $\leq 2 \text{ V}$                                                                          |
| Rated insulation voltage                        | $U_{BIS}$ | 60 V                                                                                        |
| Operating current                               | $I_L$     | 0 ... 200 mA                                                                                |
| Off-state current                               | $I_r$     | 0 ... 0.5 mA typ. 0.1 $\mu\text{A}$ at 25 °C                                                |
| No-load supply current                          | $I_0$     | $\leq 14 \text{ mA}$                                                                        |
| Time delay before availability                  | $t_v$     | max. 15 ms                                                                                  |
| Constant magnetic field                         | B         | 200 mT                                                                                      |
| Alternating magnetic field                      | B         | 200 mT                                                                                      |
| Switching state indicator                       |           | Multihole-LED, yellow                                                                       |
| <b>Functional safety related parameters</b>     |           |                                                                                             |
| MTTF <sub>d</sub>                               |           | 1393 a                                                                                      |
| Mission Time (T <sub>M</sub> )                  |           | 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>               |           |                                                                                             |
| Protection class                                |           | II                                                                                          |
| Rated insulation voltage                        | $U_i$     | 60 V                                                                                        |
| Rated impulse withstand voltage                 | $U_{imp}$ | 800 V                                                                                       |
| UL approval                                     |           | cULus Listed, General Purpose<br>Class 2 power source                                       |
| CCC approval                                    |           | CCC approval / marking not required for products rated $\leq 36 \text{ V}$                  |
| <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 plug M12 x 1 , 4-pin                                                              |
| Housing material                                |           | Brass, PTFE coated                                                                          |
| Sensing face                                    |           | PPS                                                                                         |
| Degree of protection                            |           | IP67                                                                                        |
| Mass                                            |           | 43 g                                                                                        |
| <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 18</b>         | Mounting flange, 18 mm                                                                 |
|  | <b>V1-G-OR2M-POC</b> | Female cordset single-ended M12 A-coded 4-pin, TPE cable welding-bead resistant orange |

Release date: 2020-03-24 Date of issue: 2020-03-30 Filename: 264615\_eng.pdf