



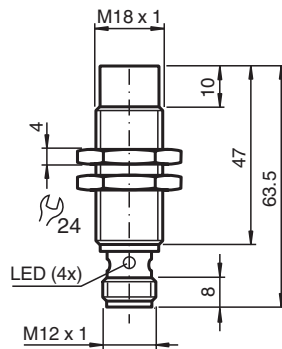
## Inductive sensor

### NEN20-18GM50-E0-V1

- Increased operating distance
- 20 mm non-flush



## Dimensions



## Technical Data

### General specifications

|                              |       |                                                                             |
|------------------------------|-------|-----------------------------------------------------------------------------|
| Switching function           |       | Normally open (NO)                                                          |
| Output type                  |       | NPN                                                                         |
| Rated operating distance     | $s_n$ | 20 mm                                                                       |
| Installation                 |       | non-flush                                                                   |
| Output polarity              |       | DC                                                                          |
| Assured operating distance   | $s_a$ | 0 ... 16.2 mm                                                               |
| Actuating element            |       | mild steel, e. g. 1.0037, SR235JR (formerly St37-2)<br>60 mm x 60 mm x 1 mm |
| Reduction factor $r_{Al}$    |       | 0.35                                                                        |
| Reduction factor $r_{Cu}$    |       | 0.3                                                                         |
| Reduction factor $r_{304}$   |       | 0.7                                                                         |
| Reduction factor $r_{Brass}$ |       | 0.45                                                                        |

### Nominal ratings

|                         |  |                               |
|-------------------------|--|-------------------------------|
| Installation conditions |  |                               |
| A                       |  | in steel 1.0037 (St37): 20 mm |
| B                       |  | 30 mm                         |

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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

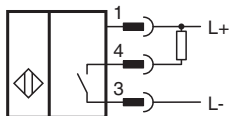
Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

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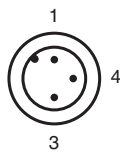
## Technical Data

|                                                 |       |                                                                    |
|-------------------------------------------------|-------|--------------------------------------------------------------------|
| C                                               |       | 60 mm                                                              |
| F                                               |       | 78 mm                                                              |
| Operating voltage                               | $U_B$ | 10 ... 30 V                                                        |
| Switching frequency                             | $f$   | 0 ... 200 Hz                                                       |
| Hysteresis                                      | H     | 0.1 ... 2 mm                                                       |
| Reverse polarity protection                     |       | yes                                                                |
| Short-circuit protection                        |       | pulsing                                                            |
| Overload resistance                             |       | yes                                                                |
| Wire breakage protection                        |       | yes                                                                |
| Inductive overvoltage protection                |       | yes                                                                |
| Surge suppression                               |       | yes                                                                |
| Ripple                                          |       | 10 %                                                               |
| Voltage drop                                    | $U_d$ | $\leq 2$ V                                                         |
| Repeat accuracy                                 | R     | 1 mm                                                               |
| Operating current                               | $I_L$ | 0 ... 200 mA                                                       |
| Off-state current                               | $I_r$ | $\leq 10$ $\mu$ A                                                  |
| No-load supply current                          | $I_0$ | $\leq 11$ mA                                                       |
| Time delay before availability                  | $t_v$ | $\leq 50$ ms                                                       |
| Switching state indicator                       |       | LED, yellow                                                        |
| <b>Functional safety related parameters</b>     |       |                                                                    |
| MTTF <sub>d</sub>                               |       | 1960 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>IEC 60947-5-2:2007                            |
| <b>Approvals and certificates</b>               |       |                                                                    |
| EAC conformity                                  |       | TR CU 020/2011                                                     |
| UL approval                                     |       | cULus Listed, General Purpose                                      |
| CCC approval                                    |       | CCC approval / marking not required for products rated $\leq 36$ V |
| <b>Ambient conditions</b>                       |       |                                                                    |
| Ambient temperature                             |       | -25 ... 85 °C (-13 ... 185 °F)                                     |
| Storage temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)                                     |
| <b>Mechanical specifications</b>                |       |                                                                    |
| Connection type                                 |       | Connector M12 x 1 , 3-pin                                          |
| Housing material                                |       | brass, nickel-plated                                               |
| Sensing face                                    |       | PBT                                                                |
| Degree of protection                            |       | IP67                                                               |
| Mass                                            |       | 30 g                                                               |
| Tightening torque, fastening screws             |       | max. 20 Nm                                                         |

## Connection



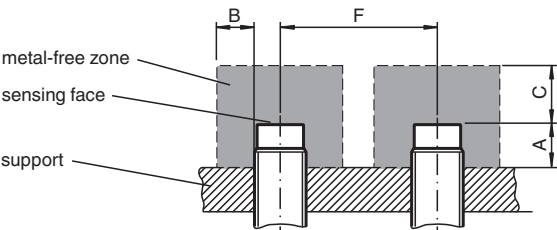
Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

Installation



Accessories

|                                                                                     |                    |                                       |
|-------------------------------------------------------------------------------------|--------------------|---------------------------------------|
|  | <b>BF 18</b>       | Mounting flange, 18 mm                |
|  | <b>V1-G-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable |
|  | <b>V1-W-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable |

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