

# Inductive sensor

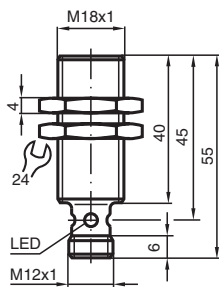
## NRB12-18GS40-E2-V1



- 12 mm quasi flush
- Reduction factor = 1
- Magnetic field resistant
- Stainless steel housing



### Dimensions



### Technical Data

#### General specifications

|                             |       |                    |
|-----------------------------|-------|--------------------|
| Switching function          |       | Normally open (NO) |
| Output type                 |       | PNP                |
| Rated operating distance    | $s_n$ | 12 mm              |
| Installation                |       | quasi 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 $r_{S137}$ |       | 1                  |
| Output type                 |       | 3-wire             |

#### Nominal ratings

|                   |       |             |
|-------------------|-------|-------------|
| Operating voltage | $U_B$ | 10 ... 30 V |
|-------------------|-------|-------------|

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

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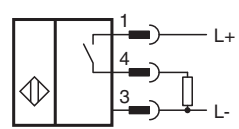
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Technical Data

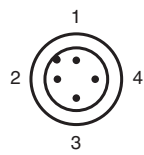
|                                                 |                  |                                                              |
|-------------------------------------------------|------------------|--------------------------------------------------------------|
| Switching frequency                             | f                | 0 ... 600 Hz                                                 |
| Hysteresis                                      | H                | typ. 3 %                                                     |
| Reverse polarity protection                     |                  | reverse polarity protected                                   |
| Short-circuit protection                        |                  | pulsing                                                      |
| Voltage drop                                    | U <sub>d</sub>   | ≤ 3 V                                                        |
| Operating current                               | I <sub>L</sub>   | 0 ... 200 mA                                                 |
| Off-state current                               | I <sub>r</sub>   | 0 ... 0.5 mA typ. 0.1 µA at 25 °C                            |
| No-load supply current                          | I <sub>0</sub>   | ≤ 28 mA                                                      |
| 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>                               |                  | 1248 a                                                       |
| Mission Time (T <sub>M</sub> )                  |                  | 20 a                                                         |
| Diagnostic Coverage (DC)                        |                  | 0 %                                                          |
| <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>   | 60 V                                                         |
| Rated impulse withstand voltage                 | U <sub>imp</sub> | 800 V                                                        |
| UL approval                                     |                  | cULus Listed, General Purpose                                |
| CCC approval                                    |                  | CCC approval / marking not required for products rated ≤36 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                                |                  | Stainless steel 1.4305 / AISI 303                            |
| Sensing face                                    |                  | Crastin (PBTB)                                               |
| Degree of protection                            |                  | IP67                                                         |
| Dimensions                                      |                  |                                                              |
| Length                                          |                  | 40 mm                                                        |
| Diameter                                        |                  | 18 mm                                                        |

Connection



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Connection Assignment



Wire colors in accordance with EN 60947-5-2

|   |    |         |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue)  |
| 4 | BK | (black) |

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