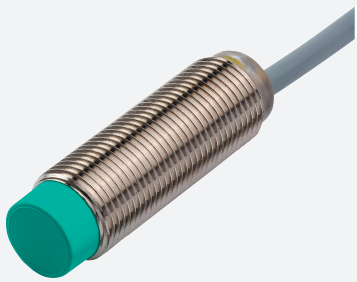


# Inductive sensor

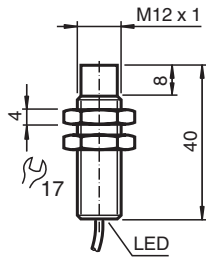
## NRN10-12GS40-E2



- 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    | $s_n$ | 10 mm              |
| Installation                |       | non-flush          |
| Output polarity             |       | switched high      |
| Assured operating distance  | $s_a$ | 0 ... 8.1 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                            |
| Switching frequency         | $f$       | 0 ... 1500 Hz                          |
| Hysteresis                  | $H$       | typ. 5 %                               |
| Reverse polarity protection |           | reverse polarity protected             |
| Short-circuit protection    |           | pulsing                                |
| Voltage drop                | $U_d$     | $\leq 2$ 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 $\mu$ A at 25 °C |
| No-load supply current      | $I_0$     | $\leq 14$ mA                           |

Release date: 2025-06-11 Date of issue: 2025-06-11 Filename: 292521\_eng.pdf

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

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 **PEPPERL+FUCHS**

## Technical Data

|                                                 |                  |                                                                                                                                                           |
|-------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time delay before availability                  | $t_v$            | max. 15 ms                                                                                                                                                |
| Constant magnetic field                         | B                | 200 mT                                                                                                                                                    |
| Alternating magnetic field                      | B                | 200 mT                                                                                                                                                    |
| Switching state indicator                       |                  | all direction 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 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<br>Circuitry: Class 2 Power Source<br>Enclosure Type Rating: Type 1<br>Supply/Switching Voltage: 30 V DC<br>Output Switching Current: 200 mA |
| 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                                 |                  | cable                                                                                                                                                     |
| Housing material                                |                  | Stainless steel 1.4305 / AISI 303                                                                                                                         |
| Sensing face                                    |                  | PBT                                                                                                                                                       |
| Degree of protection                            |                  | IP68 / IP69K                                                                                                                                              |
| Cable                                           |                  |                                                                                                                                                           |
| Wire end ferrules                               |                  | yes                                                                                                                                                       |
| Cable diameter                                  |                  | 4.3 mm ± 0.1 mm                                                                                                                                           |
| Bending radius                                  |                  | > 15 x cable diameter                                                                                                                                     |
| Material                                        |                  | PVC                                                                                                                                                       |
| Color                                           |                  | black                                                                                                                                                     |
| Number of cores                                 |                  | 3                                                                                                                                                         |
| Core cross section                              |                  | 0.34 mm <sup>2</sup>                                                                                                                                      |
| Length                                          | L                | 2 m                                                                                                                                                       |
| Mass                                            |                  | 62 g                                                                                                                                                      |
| Dimensions                                      |                  |                                                                                                                                                           |
| Length                                          |                  | 40 mm                                                                                                                                                     |
| Diameter                                        |                  | 12 mm                                                                                                                                                     |
| <b>General information</b>                      |                  |                                                                                                                                                           |
| Scope of delivery                               |                  | 2 self locking nuts in scope of delivery                                                                                                                  |

## Connection Assignment

