

# Inductive sensor

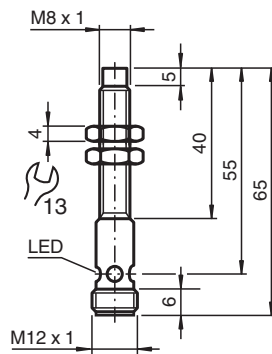
## NRN6-8GS40-E2-V1



- 6 mm non-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    | $s_n$ | 6 mm               |
| Installation                |       | non-flush          |
| Output polarity             |       | DC                 |
| Assured operating distance  | $s_a$ | 0 ... 4.86 mm      |
| Reduction factor $r_{Al}$   |       | 1                  |
| Reduction factor $r_{Cu}$   |       | 1                  |
| Reduction factor $r_{304}$  |       | 1                  |
| Reduction factor $r_{Si37}$ |       | 1                  |
| Output type                 |       | 3-wire             |

#### Nominal ratings

|                             |       |                            |
|-----------------------------|-------|----------------------------|
| Operating voltage           | $U_B$ | 10 ... 30 V                |
| Switching frequency         | $f$   | 0 ... 2500 Hz              |
| Hysteresis                  | $H$   | typ. 5 %                   |
| Reverse polarity protection |       | reverse polarity protected |
| Short-circuit protection    |       | pulsing                    |
| Voltage drop                | $U_d$ | $\leq 2.5$ V               |
| Operating current           | $I_L$ | 0 ... 200 mA               |

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

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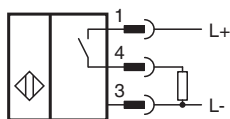
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**PEPPERL+FUCHS**

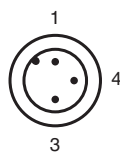
Technical Data

|                                                 |       |                                                                                                                                                                                         |
|-------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Off-state current                               | $I_r$ | 0 ... 0.5 mA typ. 0.1 $\mu$ A at 25 °C                                                                                                                                                  |
| No-load supply current                          | $I_0$ | $\leq$ 15 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>                               |       | 1010.5 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>               |       |                                                                                                                                                                                         |
| UL approval                                     |       | cULus Listed<br>Load Type: General Purpose<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 $\leq$ 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                                                                                                                                                                          |
| Housing material                                |       | Stainless steel 1.4305 / AISI 303                                                                                                                                                       |
| Sensing face                                    |       | LCP , green                                                                                                                                                                             |
| Degree of protection                            |       | IP67                                                                                                                                                                                    |
| <b>Connector</b>                                |       |                                                                                                                                                                                         |
| Threading                                       |       | M12 x 1                                                                                                                                                                                 |
| Number of pins                                  |       | 3                                                                                                                                                                                       |
| <b>Dimensions</b>                               |       |                                                                                                                                                                                         |
| Length                                          |       | 40 mm                                                                                                                                                                                   |
| Diameter                                        |       | 8 mm                                                                                                                                                                                    |

Connection Assignment



Connection Assignment



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## Connection Assignment

Wire colors in accordance with EN 60947-5-2

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