

# Inductive sensor

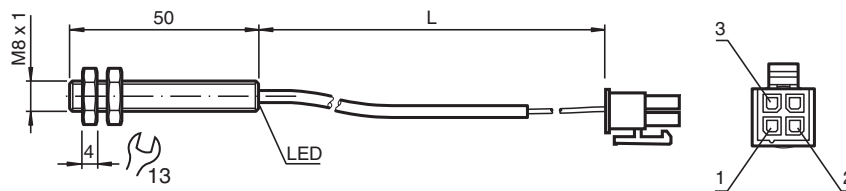
## NBB1-8GS50-E2-Y0237



- 1 mm flush
- Stainless steel version
- Extended temperature range  
-40 ... +85 °C



### Dimensions



### Technical Data

#### General specifications

|                              |       |                                                                           |
|------------------------------|-------|---------------------------------------------------------------------------|
| Switching function           |       | Normally open (NO)                                                        |
| Output type                  |       | PNP                                                                       |
| Rated operating distance     | $s_n$ | 1 mm                                                                      |
| Installation                 |       | flush                                                                     |
| Output polarity              |       | DC                                                                        |
| Assured operating distance   | $s_a$ | 0 ... 0.81 mm                                                             |
| Actuating element            |       | mild steel, e. g. 1.0037, SR235JR (formerly St37-2)<br>8 mm x 8 mm x 1 mm |
| Reduction factor $r_{Al}$    |       | 0.2                                                                       |
| Reduction factor $r_{Cu}$    |       | 0.1                                                                       |
| Reduction factor $r_{304}$   |       | 0.55                                                                      |
| Reduction factor $r_{Brass}$ |       | 0.25                                                                      |
| Output type                  |       | 3-wire                                                                    |

#### Nominal ratings

|                     |       |               |
|---------------------|-------|---------------|
| Operating voltage   | $U_B$ | 5 ... 30 V    |
| Switching frequency | $f$   | 0 ... 6000 Hz |

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

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## Technical Data

|                                                 |       |                                                                            |
|-------------------------------------------------|-------|----------------------------------------------------------------------------|
| Hysteresis                                      | H     | typ. 5%                                                                    |
| Reverse polarity protection                     |       | reverse polarity protected                                                 |
| Short-circuit protection                        |       | pulsing                                                                    |
| Voltage drop                                    | $U_d$ | $\leq 1.5 \text{ V}$                                                       |
| Operating current                               | $I_L$ | 0 ... 100 mA                                                               |
| Off-state current                               | $I_r$ | 0 ... 0.2 mA                                                               |
| No-load supply current                          | $I_0$ | $\leq 10 \text{ mA}$                                                       |
| Time delay before availability                  | $t_v$ | $\leq 100 \text{ ms}$                                                      |
| Switching state indicator                       |       | LED, yellow                                                                |
| <b>Functional safety related parameters</b>     |       |                                                                            |
| MTTF <sub>d</sub>                               |       | 960 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, General Purpose, Class 2 Power Source                        |
| CCC approval                                    |       | CCC approval / marking not required for products rated $\leq 36 \text{ V}$ |
| <b>Ambient conditions</b>                       |       |                                                                            |
| Ambient temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)                                             |
| Storage temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)                                             |
| <b>Mechanical specifications</b>                |       |                                                                            |
| Connection type                                 |       | fixed cable with plug                                                      |
| Housing material                                |       | Stainless steel 1.4305 / AISI 303                                          |
| Sensing face                                    |       | LCP, green                                                                 |
| Degree of protection                            |       | IP65 / IP66 / IP67                                                         |
| Connector                                       |       |                                                                            |
| Number of pins                                  |       | 3                                                                          |
| Connection assembly                             |       | Molex connector; 43025-0400<br>Molex crimp 43030-0005                      |
| Cable                                           |       |                                                                            |
| Cable diameter                                  |       | 3.5 mm $\pm$ 0.1 mm                                                        |
| Bending radius                                  |       | > 10 x cable diameter                                                      |
| Material                                        |       | PVC                                                                        |
| Color                                           |       | black                                                                      |
| Number of cores                                 |       | 3                                                                          |
| Core cross section                              |       | 0.14 mm <sup>2</sup>                                                       |
| Length                                          | L     | 370 mm $\pm$ 5 mm                                                          |
| Dimensions                                      |       |                                                                            |
| Length                                          |       | 50 mm                                                                      |
| Diameter                                        |       | 8 mm                                                                       |
| <b>General information</b>                      |       |                                                                            |
| Scope of delivery                               |       | 2 hex nuts included                                                        |

## Connection

