

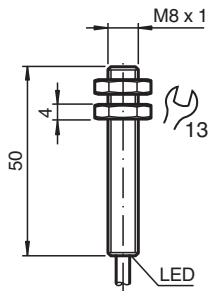


# Inductive sensor NBB2-8GM50-A2-5M

- 2 mm flush
- Increased operating distance
- Extended temperature range  
-40 ... +85 °C



## Dimensions



## Technical Data

| General specifications              |                |                                                                           |
|-------------------------------------|----------------|---------------------------------------------------------------------------|
| Switching function                  |                | complementary                                                             |
| Output type                         |                | PNP                                                                       |
| Rated operating distance            | s <sub>n</sub> | 2 mm                                                                      |
| Installation                        |                | flush                                                                     |
| Output polarity                     |                | DC                                                                        |
| Assured operating distance          | s <sub>a</sub> | 0 ... 1.62 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 <sub>Al</sub>    |                | 0.4                                                                       |
| Reduction factor r <sub>Cu</sub>    |                | 0.3                                                                       |
| Reduction factor r <sub>304</sub>   |                | 0.75                                                                      |
| Reduction factor r <sub>Brass</sub> |                | 0.5                                                                       |
| Output type                         |                | 4-wire                                                                    |
| Nominal ratings                     |                |                                                                           |
| Operating voltage                   | U <sub>B</sub> | 5 ... 30 V                                                                |
| Switching frequency                 | f              | 0 ... 6000 Hz                                                             |
| Hysteresis                          | H              | typ. 5%                                                                   |
| Reverse polarity protection         |                | reverse polarity protected                                                |
| Short-circuit protection            |                | pulsing                                                                   |
| Voltage drop                        | U <sub>d</sub> | ≤ 1.5 V                                                                   |
| Operating current                   | I <sub>L</sub> | 0 ... 100 mA                                                              |
| Off-state current                   | I <sub>r</sub> | 0 ... 0.2 mA                                                              |

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

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## Technical Data

|                                                 |       |                                                                            |
|-------------------------------------------------|-------|----------------------------------------------------------------------------|
| 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                                 |       | cable                                                                      |
| Housing material                                |       | brass, nickel-plated                                                       |
| Sensing face                                    |       | LCP                                                                        |
| Degree of protection                            |       | IP65 / IP66 / IP67                                                         |
| <b>Cable</b>                                    |       |                                                                            |
| Wire end ferrules                               |       | yes                                                                        |
| Cable diameter                                  |       | 3.3 mm $\pm$ 0.1 mm                                                        |
| Bending radius                                  |       | > 10 x cable diameter                                                      |
| Material                                        |       | PVC                                                                        |
| Color                                           |       | black                                                                      |
| Number of cores                                 |       | 4                                                                          |
| Core cross section                              |       | 0.14 mm <sup>2</sup>                                                       |
| Length                                          | L     | 5 m                                                                        |
| <b>Dimensions</b>                               |       |                                                                            |
| Length                                          |       | 50 mm                                                                      |
| Diameter                                        |       | 8 mm                                                                       |
| <b>General information</b>                      |       |                                                                            |
| Scope of delivery                               |       | 2 hex nuts included                                                        |

## Connection

