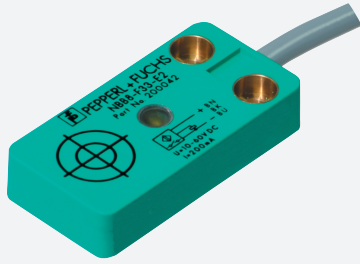


# Inductive sensor

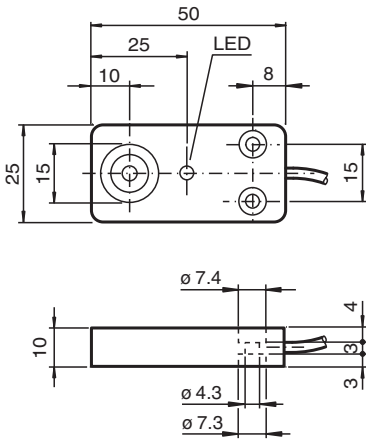
## NBB8-F33-E1



- 8 mm flush
- 3-wire DC



### Dimensions



### Technical Data

#### General specifications

|                            |       |                      |
|----------------------------|-------|----------------------|
| Switching function         |       | Normally closed (NC) |
| Output type                |       | NPN                  |
| Rated operating distance   | $s_n$ | 8 mm                 |
| Installation               |       | flush                |
| Output polarity            |       | DC                   |
| Assured operating distance | $s_a$ | 0 ... 6.48 mm        |
| Reduction factor $r_{Al}$  |       | 0.3                  |
| Reduction factor $r_{Cu}$  |       | 0.2                  |
| Reduction factor $r_{304}$ |       | 0.6                  |
| Output type                |       | 3-wire               |

#### Nominal ratings

|                             |       |                            |
|-----------------------------|-------|----------------------------|
| Operating voltage           | $U_B$ | 10 ... 60 V DC             |
| Switching frequency         | $f$   | 0 ... 350 Hz               |
| Hysteresis                  | $H$   | typ. 5 %                   |
| Reverse polarity protection |       | reverse polarity protected |
| Short-circuit protection    |       | pulsing                    |
| Voltage drop                | $U_d$ | $\leq 3$ V                 |

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## Technical Data

|   |       |   |
|---|-------|---|
| Operating current                               | $I_L$ | 0 ... 200 mA                                      |
| Off-state current                               | $I_r$ | 0 ... 0.1 mA                                      |
| No-load supply current                          | $I_0$ | ≤ 10 mA   |
| Time delay before availability                  | $t_v$ | ≤ 50 ms   |
| Switching state indicator                       |       | LED yellow  |
| <b>Functional safety related parameters</b>     |       |   |
| MTTF <sub>d</sub>                               |       | 1150 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                     |
| CCC approval                                    |       | Certified by China Compulsory Certification (CCC) |
| <b>Ambient conditions</b>                       |       |   |
| Ambient temperature                             |       | -35 ... 70 °C (-31 ... 158 °F)                    |
| Storage temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)                    |
| <b>Mechanical specifications</b>                |       |   |
| Connection type                                 |       | cable   |
| Housing material                                |       | PBT   |
| Sensing face                                    |       | PBT   |
| Degree of protection                            |       | IP67  |
| <b>Cable</b>                                    |       |   |
| Wire end ferrules                               |       | yes   |
| Cable diameter                                  |       | 4.8 mm ± 0.2 mm                                   |
| Bending radius                                  |       | > 10 x cable diameter                             |
| Material  |       | PVC   |
| Color   |       | grey  |
| Number of cores                                 |       | 3   |
| Core cross section                              |       | 0.34 mm <sup>2</sup>                              |
| Length  | L     | 2 m   |
| <b>Dimensions</b>                               |       |   |
| Height  |       | 10 mm   |
| Width   |       | 25 mm   |
| Length  |       | 50 mm   |
| Tightening torque                               |       | ≤ 5 Nm  |

## Connection

