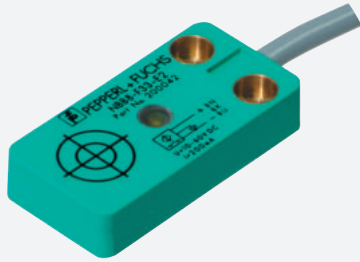


# Inductive sensor

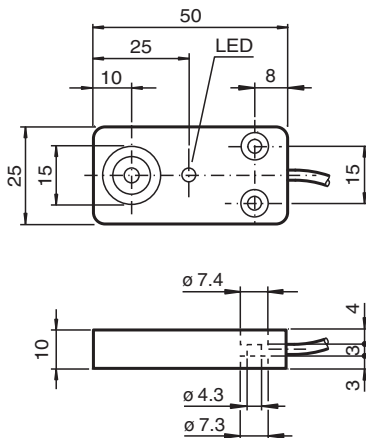
## NBB8-F33-E2-M-Y278280



- 8 mm flush
- E1-Type approval
- Extended temperature range  
-40 ... +85 °C
- Increased operating distance
- Increased noise immunity 100 V/m
- Flame resistant cable



### Dimensions



### Technical Data

| General specifications            |                |                            |
|-----------------------------------|----------------|----------------------------|
| Switching function                |                | Normally open (NO)         |
| Output type                       |                | PNP                        |
| Rated operating distance          | s <sub>n</sub> | 8 mm                       |
| Installation                      |                | flush                      |
| Output polarity                   |                | DC                         |
| Assured operating distance        | s <sub>a</sub> | 0 ... 6.48 mm              |
| Reduction factor r <sub>Al</sub>  |                | 0.3                        |
| Reduction factor r <sub>Cu</sub>  |                | 0.2                        |
| Reduction factor r <sub>304</sub> |                | 0.6                        |
| Output type                       |                | 3-wire                     |
| Nominal ratings                   |                |                            |
| Operating voltage                 | U <sub>B</sub> | 5 ... 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 <sub>d</sub> | ≤ 2 V                      |

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

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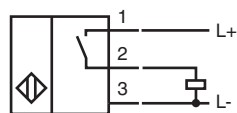
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 **PEPPERL+FUCHS**

Technical Data

|                                                 |       |                                         |
|-------------------------------------------------|-------|-----------------------------------------|
| 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                  | $t_v$ | ≤ 80 ms                                 |
| Switching state indicator                       |       | LED yellow                              |
| <b>Functional safety related parameters</b>     |       |                                         |
| MTTF <sub>d</sub>                               |       | 1140 a                                  |
| Mission Time (T <sub>M</sub> )                  |       | 20 a                                    |
| Diagnostic Coverage (DC)                        |       | 0 %                                     |
| <b>Compliance with standards and directives</b> |       |                                         |
| Standard conformity                             |       |                                         |
| Standards                                       |       | EN 60947-5-2:2007<br>IEC 60947-5-2:2007 |
| <b>Approvals and certificates</b>               |       |                                         |
| E1 Type approval                                |       | 10R-04                                  |
| <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 , 2.5 m<br>RADOX TENUIS-TW        |
| Core cross section                              |       | 0.5 mm <sup>2</sup>                     |
| Housing material                                |       | PBT                                     |
| Sensing face                                    |       | PBT                                     |
| Degree of protection                            |       | IP67 / IP69K                            |
| <b>Dimensions</b>                               |       |                                         |
| Height                                          |       | 25 mm                                   |
| Width                                           |       | 50 mm                                   |
| Length                                          |       | 10 mm                                   |
| Note                                            |       | Tightening torque: 5 Nm                 |

Connection



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Mounting

Emitted interference and interference immunity in accordance with motor vehicle directive 2006/28/EG (e1 Type approval)  
Interference immunity in accordance with DIN ISO 11452-2: 100 V/m  
Frequency band 20 MHz up to 2 GHz

Mains-borne interference in accordance with ISO 7637-2: Pulse

|                   |     |     |     |     |     |     |    |
|-------------------|-----|-----|-----|-----|-----|-----|----|
|                   | 1   | 2a  | 2b  | 3 a | 3b  | 4   | 5  |
| Severity level    | III | III | III | III | III | III | IV |
| Failure criterion | C   | A   | C   | A   | A   | A   | C  |

|                |                        |
|----------------|------------------------|
| EN 61000-4-2:  | CD: 8 kV / AD: 15 kV   |
| Severity level | IV IV                  |
| EN 61000-4-3:  | 30 V/m (80...2500 MHz) |
| Severity level | IV                     |
| EN 61000-4-4:  | 2 kV                   |
| Severity level | III                    |
| EN 61000-4-6:  | 10 V (0.01...80 MHz)   |
| Severity level | III                    |
| EN 55011:      | Class A                |

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