

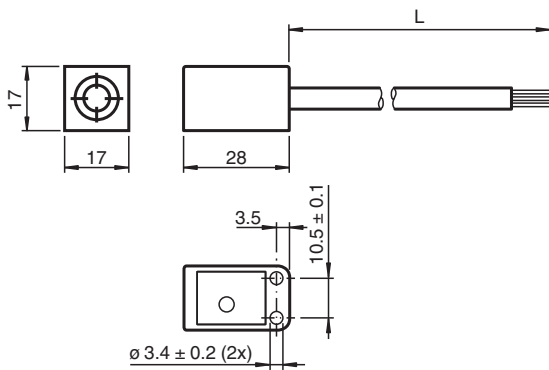
# Inductive sensor

## NBN5-F7A-E2-5M-PUR

- Extended operating voltage range
- Operating distance 5 mm



### Dimensions



### Technical Data

| General specifications      |       |                                   |
|-----------------------------|-------|-----------------------------------|
| Switching function          |       | Normally open (NO)                |
| Output type                 |       | PNP                               |
| Rated operating distance    | $s_n$ | 5 mm                              |
| Installation                |       | single-sided flush mountable      |
| Output polarity             |       | DC                                |
| Assured operating distance  | $s_a$ | 0 ... 4.05 mm                     |
| Reduction factor $r_{Al}$   |       | 0.4                               |
| Reduction factor $r_{Cu}$   |       | 0.37                              |
| Reduction factor $r_{304}$  |       | 0.89                              |
| Output type                 |       | 3-wire                            |
| Nominal ratings             |       |                                   |
| Operating voltage           | $U_B$ | 10 ... 60 V                       |
| Switching frequency         | $f$   | 0 ... 500 Hz                      |
| Hysteresis                  | $H$   | typ. 5 %                          |
| Reverse polarity protection |       | reverse polarity protected        |
| Short-circuit protection    |       | pulsing                           |
| Voltage drop                | $U_d$ | ≤ 3 V                             |
| Operating current           | $I_L$ | 0 ... 100 mA                      |
| Off-state current           | $I_r$ | 0 ... 0.5 mA typ. 0.1 μA at 25 °C |

Release date: 2025-06-03 Date of issue: 2025-06-03 Filename: 70163733\_eng.pdf

## Technical Data

|   |       |   |
|---|-------|---|
| No-load supply current                          | $I_0$ | $\leq 9 \text{ mA}$   |
| Switching state indicator                       |       | LED, yellow   |
| <b>Functional safety related parameters</b>     |       |   |
| MTTF <sub>d</sub>                               |       | 1396 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                                    |       | Certified by China Compulsory Certification (CCC)                                     |
| <b>Ambient conditions</b>                       |       |   |
| Ambient temperature                             |       | -25 ... 70 °C (-13 ... 158 °F)<br>-30 ... 70 °C (-22 ... 158 °F) , fixed installation |
| Storage temperature                             |       | -25 ... 70 °C (-13 ... 158 °F)  |
| <b>Mechanical specifications</b>                |       |   |
| Connection type                                 |       | cable   |
| Housing material                                |       | PBT   |
| Sensing face                                    |       | PBT   |
| Degree of protection                            |       | IP67  |
| Cable   |       |   |
| Wire end ferrules                               |       | yes   |
| Cable diameter                                  |       | 3.5 mm ± 0.2 mm   |
| Bending radius                                  |       | > 10 x cable diameter   |
| Material  |       | PUR   |
| Color   |       | black   |
| Number of cores                                 |       | 3   |
| Core cross section                              |       | 0.14 mm <sup>2</sup>  |
| Length  | L     | 5 m   |
| Dimensions                                      |       |   |
| Height  |       | 17 mm   |
| Width   |       | 17 mm   |
| Length  |       | 28 mm   |

## Connection Assignment

