



## Inductive sensor

### NBN40-U1-E0

- Sensor head bidirectional and rotatable
- 40 mm non-flush
- 3-wire DC
- 4 LEDs indicator for 360° visibility



## Dimensions



## Technical Data

### General specifications

|                              |       |                    |
|------------------------------|-------|--------------------|
| Switching function           |       | Normally open (NO) |
| Output type                  |       | NPN                |
| Rated operating distance     | $s_n$ | 40 mm              |
| Installation                 |       | non-flush          |
| Output polarity              |       | DC                 |
| Assured operating distance   | $s_a$ | 0 ... 32.4 mm      |
| Actual operating distance    | $s_r$ | 36 ... 44 mm       |
| Reduction factor $r_{Al}$    |       | 0.31               |
| Reduction factor $r_{Cu}$    |       | 0.3                |
| Reduction factor $r_{304}$   |       | 0.74               |
| Reduction factor $r_{Brass}$ |       | 0.39               |
| Output type                  |       | 3-wire             |

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

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## Technical Data

### Nominal ratings

|                                |       |                                        |
|--------------------------------|-------|----------------------------------------|
| Operating voltage              | $U_B$ | 10 ... 30 V DC                         |
| Switching frequency            | $f$   | 0 ... 180 Hz                           |
| Hysteresis                     | $H$   | typ. 5 %                               |
| Reverse polarity protection    |       | reverse polarity protected             |
| Short-circuit protection       |       | pulsing                                |
| Voltage drop                   | $U_d$ | $\leq 2$ V                             |
| Operating current              | $I_L$ | 0 ... 200 mA                           |
| Off-state current              | $I_r$ | 0 ... 0.5 mA typ. 0.1 $\mu$ A at 25 °C |
| No-load supply current         | $I_0$ | $\leq 20$ mA                           |
| Time delay before availability | $t_v$ | 80 ms                                  |
| Operating voltage indicator    |       | LED, green                             |
| Switching state indicator      |       | LED, yellow                            |

### Functional safety related parameters

|                          |  |        |
|--------------------------|--|--------|
| MTTF <sub>d</sub>        |  | 1510 a |
| Mission Time ( $T_M$ )   |  | 20 a   |
| Diagnostic Coverage (DC) |  | 0 %    |

### Compliance with standards and directives

|                     |  |                  |
|---------------------|--|------------------|
| Standard conformity |  |                  |
| Standards           |  | EN IEC 60947-5-2 |

### Approvals and certificates

|              |  |                                                                    |
|--------------|--|--------------------------------------------------------------------|
| UL approval  |  | cULus Listed, General Purpose                                      |
| CCC approval |  | CCC approval / marking not required for products rated $\leq 36$ V |

### Ambient conditions

|                     |  |                                |
|---------------------|--|--------------------------------|
| Ambient temperature |  | -25 ... 85 °C (-13 ... 185 °F) |
|---------------------|--|--------------------------------|

### Mechanical specifications

|                            |  |                                                                                                                                            |
|----------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------|
| Connection type            |  | screw terminals                                                                                                                            |
| Information for connection |  | A maximum of two conductors with the same core cross section may be mounted on one terminal connection!<br>tightening torque 1.2 Nm + 10 % |
| Core cross section         |  | up to 2.5 mm <sup>2</sup>                                                                                                                  |
| Minimum core cross-section |  | without wire end ferrules 0.5 mm <sup>2</sup> , with connector sleeves 0.34 mm <sup>2</sup>                                                |
| Maximum core cross-section |  | without wire end ferrules 2.5 mm <sup>2</sup> , with connector sleeves 1.5 mm <sup>2</sup>                                                 |
| Housing material           |  | PA/metal with epoxy powder coating                                                                                                         |
| Sensing face               |  | PA                                                                                                                                         |
| Housing base               |  | plastic                                                                                                                                    |
| Degree of protection       |  | IP68 / IP69K                                                                                                                               |
| Mass                       |  | 225 g                                                                                                                                      |
| Dimensions                 |  |                                                                                                                                            |
| Height                     |  | 40 mm                                                                                                                                      |
| Width                      |  | 40 mm                                                                                                                                      |
| Length                     |  | 118 mm                                                                                                                                     |
| Note                       |  | Tightening torque: 1.8 Nm (housing)                                                                                                        |

## Connection

