

# Inductive sensor

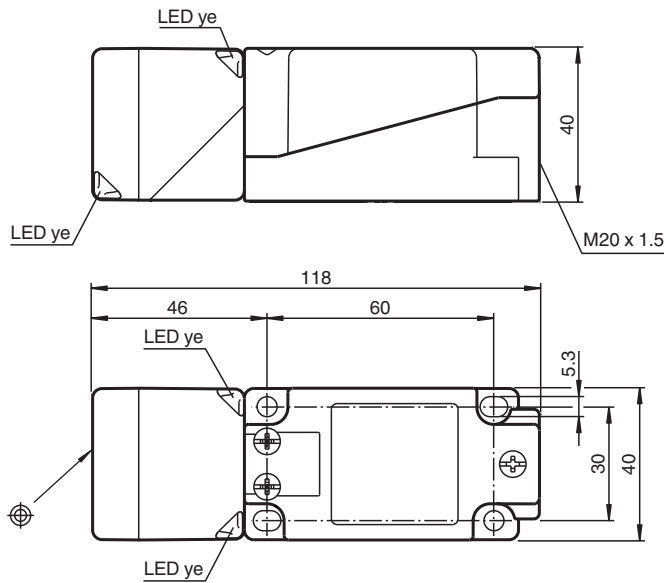
## NBN40-U1K-N0



- Sensor head bidirectional and rotatable
- 40 mm non-flush



### Dimensions



### Technical Data

#### General specifications

|                            |       |                      |
|----------------------------|-------|----------------------|
| Switching function         |       | Normally closed (NC) |
| Output type                |       | NAMUR                |
| Rated operating distance   | $s_n$ | 40 mm                |
| Installation               |       | non-flush            |
| Assured operating distance | $s_a$ | 0 ... 32.4 mm        |
| Actual operating distance  | $s_r$ | 36 ... 44 mm         |
| Reduction factor $r_{Al}$  |       | 0.45                 |
| Reduction factor $r_{Cu}$  |       | 0.45                 |
| Reduction factor $r_{304}$ |       | 0.8                  |

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

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## Technical Data

|   |                |  |
|---|----------------|--|
| Output type                                     |                | 2-wire   |
| <b>Nominal ratings</b>                          |                |  |
| Nominal voltage                                 | U <sub>o</sub> | 8.2 V (R <sub>i</sub> approx. 1 kΩ)  |
| Switching frequency                             | f              | 0 ... 100 Hz   |
| Hysteresis                                      | H              | 1 ... 15 typ. 5 %  |
| Reverse polarity protection                     |                | reverse polarity protected   |
| Short-circuit protection                        |                | yes  |
| Current consumption                             |                |  |
| Measuring plate not detected                    |                | ≥ 3 mA   |
| Measuring plate detected                        |                | ≤ 1 mA   |
| Switching state indicator                       |                | LED, yellow  |
| <b>Functional safety related parameters</b>     |                |  |
| MTTF <sub>d</sub>                               |                | 1415 a   |
| Mission Time (T <sub>M</sub> )                  |                | 20 a   |
| Diagnostic Coverage (DC)                        |                | 0 %  |
| <b>Compliance with standards and directives</b> |                |  |
| Standard conformity                             |                |  |
| NAMUR   |                | EN 60947-5-6:2000<br>IEC 60947-5-6:1999  |
| Electromagnetic compatibility                   |                | NE 21:2007   |
| Standards                                       |                | EN 60947-5-2:2007<br>EN 60947-5-2/A1:2012<br>IEC 60947-5-2:2007<br>IEC 60947-5-2 AMD 1:2012  |
| <b>Approvals and certificates</b>               |                |  |
| IECEX approval                                  |                |  |
| Equipment protection level Ga                   |                | IECEX PTB 11.0021X   |
| Equipment protection level Gb                   |                | IECEX PTB 11.0021X   |
| Equipment protection level Da                   |                | IECEX PTB 11.0021X   |
| Equipment protection level Mb                   |                | IECEX PTB 11.0021X   |
| ATEX approval                                   |                |  |
| Equipment protection level Ga                   |                | PTB 00 ATEX 2032 X   |
| Equipment protection level Gb                   |                | PTB 00 ATEX 2032 X   |
| Equipment protection level Da                   |                | PTB 00 ATEX 2032 X   |
| UL approval                                     |                |  |
| Ordinary Location                               |                | E87056   |
| Hazardous Location                              |                | E501628  |
| Control drawing                                 |                | 116-0451   |
| CCC approval                                    |                |  |
| Hazardous Location                              |                | 2020322315002303   |
| NEPSI approval                                  |                |  |
| NEPSI certificate                               |                | GYJ16.1394X  |
| CML approval                                    |                | on request   |
| ANZEx   |                | 19.3001X   |
| Marine approval                                 |                | DNVGL TAA00001A5   |
| <b>Ambient conditions</b>                       |                |  |
| Ambient temperature                             |                | -25 ... 100 °C (-13 ... 212 °F)  |
| Storage temperature                             |                | -40 ... 100 °C (-40 ... 212 °F)  |
| <b>Mechanical specifications</b>                |                |  |
| 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> , stripped insulation length: 7 mm   |
| Minimum core cross-section                      |                | without wire end ferrule 0.5 mm <sup>2</sup> , with connector sleeves 0.34 mm <sup>2</sup>   |

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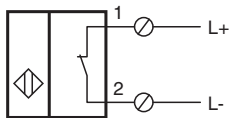
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## Technical Data

|                            |  |
|----------------------------|--|
| Maximum core cross-section | without wire end ferrule 2.5 mm <sup>2</sup> , with connector sleeves 1.5 mm <sup>2</sup>          |
| Connection (system side)   | screw terminals , M20 x 1.5 cable gland , usable thread length 9.1 mm , screw-in depth max. 9.1 mm |
| Housing material           | PA   |
| Sensing face               | PA   |
| Degree of protection       | IP66 / IP68 / IP69K  |
| Mass                       | 225 g  |
| Note                       | Tightening torque: 1.8 Nm (housing)  |
| <b>General information</b> |  |
| Use in the hazardous area  | see instruction manuals  |

## Connection



## Accessories

|   |                    |  |
|---|--------------------|--|
|  | <b>MHW 01</b>      | Modular mounting bracket                                       |
|  | <b>MH 04-2057B</b> | Mounting aid for VariKont and +U1+                             |
|  | <b>KCD2-E2L</b>    | Sensor output interface terminal with lead breakage monitoring |

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