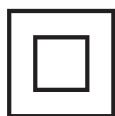




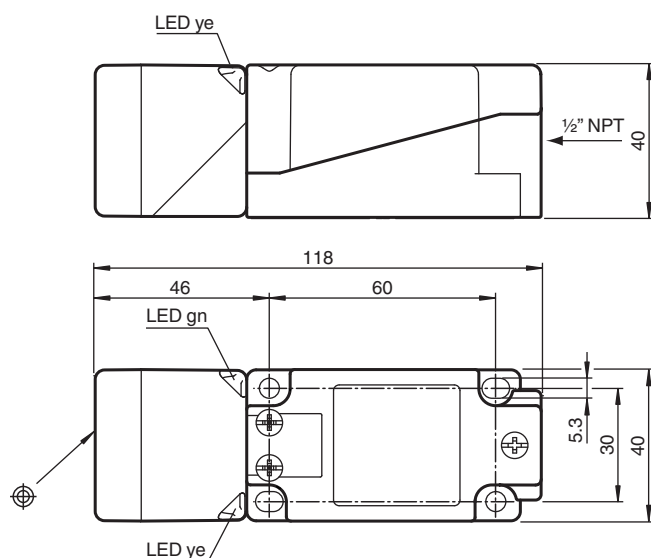
## Inductive sensor

### NBN40-U2-UU

- Sensor head bidirectional and rotatable
- NO/NC selectable
- Comfort series



## Dimensions



## Technical Data

### General specifications

|                            |       |                              |
|----------------------------|-------|------------------------------|
| Switching function         |       | Normally open/closed (NO/NC) |
| Output type                |       | Two-wire                     |
| Rated operating distance   | $s_n$ | 40 mm                        |
| Installation               |       | non-flush                    |
| Output polarity            |       | AC/DC                        |
| Assured operating distance | $s_a$ | 0 ... 32.4 mm                |
| Actual operating distance  | $s_r$ | 36 ... 44 mm typ. 40 mm      |
| Reduction factor $r_{AI}$  |       | 0.37                         |

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

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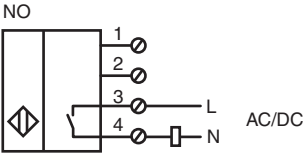
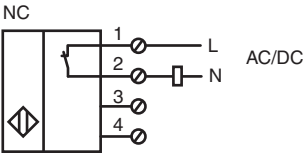
**PEPPERL+FUCHS**

## Technical Data

|                                                 |           |                                                                                                                                                                                 |
|-------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reduction factor $r_{Cu}$                       |           | 0.3                                                                                                                                                                             |
| Reduction factor $r_{304}$                      |           | 0.73                                                                                                                                                                            |
| Reduction factor $r_{Fe}$                       |           | 1                                                                                                                                                                               |
| Reduction factor $r_{Brass}$                    |           | 0.4                                                                                                                                                                             |
| Output type                                     |           | 2-wire                                                                                                                                                                          |
| <b>Nominal ratings</b>                          |           |                                                                                                                                                                                 |
| Switching frequency                             | f         | AC, 0 ... 30 Hz<br>DC, 0 ... 100 Hz                                                                                                                                             |
| Hysteresis                                      | H         | 1 ... 10 typ. 5 %                                                                                                                                                               |
| Reverse polarity protection                     |           | reverse polarity tolerant                                                                                                                                                       |
| Short-circuit protection                        |           | pulsing                                                                                                                                                                         |
| Voltage drop                                    | $U_d$     | $\leq 5$ V (typ. 2V) DC operation<br>$\leq 8$ V (typ. 3 V) AC operation                                                                                                         |
| Momentary current<br>(20 ms, 0.1 Hz)            |           | 0 ... 3000 mA                                                                                                                                                                   |
| Operating current                               | $I_L$     | 5 ... 500 mA                                                                                                                                                                    |
| Off-state current                               | $I_r$     | $\leq 1.5$ mA                                                                                                                                                                   |
| Time delay before availability                  | $t_v$     | $\leq 300$ ms                                                                                                                                                                   |
| Operating voltage indicator                     |           | LED, green                                                                                                                                                                      |
| Switching state indicator                       |           | LED, yellow                                                                                                                                                                     |
| Error indicator                                 |           | flashes when overcurrent                                                                                                                                                        |
| <b>Functional safety related parameters</b>     |           |                                                                                                                                                                                 |
| MTTF <sub>d</sub>                               |           | 540 a                                                                                                                                                                           |
| Mission Time ( $T_M$ )                          |           | 20 a                                                                                                                                                                            |
| Diagnostic Coverage (DC)                        |           | 0 %                                                                                                                                                                             |
| <b>Electrical specifications</b>                |           |                                                                                                                                                                                 |
| Rated operating voltage                         | $U_e$     | 24 ... 250 V DC / 24 ... 230 V AC                                                                                                                                               |
| Operating voltage                               | $U_B$     | 20 ... 300 V DC / 20 ... 253 V AC                                                                                                                                               |
| <b>Compliance with standards and directives</b> |           |                                                                                                                                                                                 |
| Standard conformity                             |           |                                                                                                                                                                                 |
| 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>               |           |                                                                                                                                                                                 |
| Protection class                                |           | II                                                                                                                                                                              |
| Rated insulation voltage                        | $U_i$     | 230 V                                                                                                                                                                           |
| Rated impulse withstand voltage                 | $U_{imp}$ | 2.5 kV                                                                                                                                                                          |
| UL approval                                     |           | cULus Listed, General Purpose<br>"For use in NFPA 79 Applications only"<br>For overcurrent protection, install a fuse with a rated current of max. 3 A and at least 300 V AC/DC |
| CCC approval                                    |           | Ue 75VDC - 250VDC Ue 75VAC - 230VAC                                                                                                                                             |
| <b>Ambient conditions</b>                       |           |                                                                                                                                                                                 |
| Ambient temperature                             |           | -25 ... 85 °C (-13 ... 185 °F)                                                                                                                                                  |
| Storage temperature                             |           | -25 ... 85 °C (-13 ... 185 °F)                                                                                                                                                  |
| <b>Mechanical specifications</b>                |           |                                                                                                                                                                                 |
| Connection type                                 |           | terminal compartment                                                                                                                                                            |
| Core cross-section                              |           | up to 2.5 mm <sup>2</sup>                                                                                                                                                       |
| Housing material                                |           | PA 6.6 / metal                                                                                                                                                                  |
| Sensing face                                    |           | PA 6.6                                                                                                                                                                          |
| Housing base                                    |           | plastic                                                                                                                                                                         |
| Degree of protection                            |           | IP67                                                                                                                                                                            |

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Connection



Accessories

|                                                                                   |               |                          |
|-----------------------------------------------------------------------------------|---------------|--------------------------|
|  | <b>MHW 01</b> | Modular mounting bracket |
|-----------------------------------------------------------------------------------|---------------|--------------------------|

## Connection

### Note

The sensor is designed for individual operation. A series or parallel connection of sensors is not permissible.