



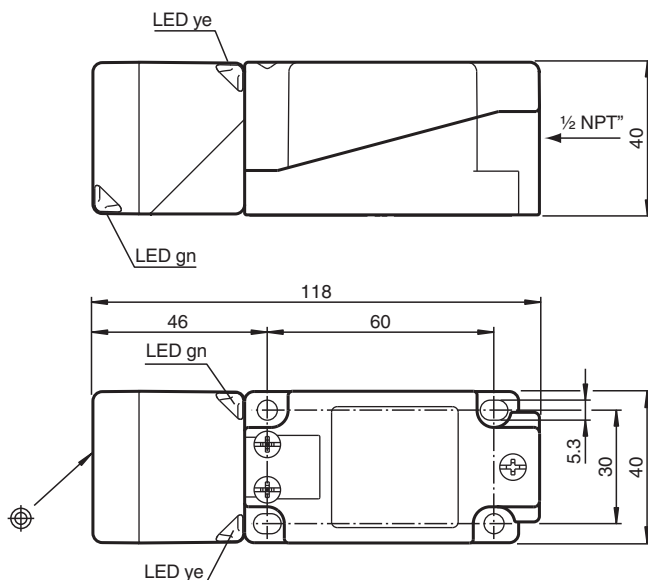
## Inductive sensor

### NBN40-U2-A2

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



## Dimensions



## Technical Data

### General specifications

|                              |       |               |
|------------------------------|-------|---------------|
| Switching function           |       | complementary |
| Output type                  |       | PNP           |
| Rated operating distance     | $s_n$ | 40 mm         |
| Installation                 |       | non-flush     |
| Output polarity              |       | DC            |
| Assured operating distance   | $s_a$ | 0 ... 32.4 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                  |       | 4-wire        |

### Nominal ratings

|                   |       |                |
|-------------------|-------|----------------|
| Operating voltage | $U_B$ | 10 ... 30 V DC |
|-------------------|-------|----------------|

## Technical Data

|                                                 |                |                                                                                                                                            |
|-------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Switching frequency                             | f              | 0 ... 180 Hz                                                                                                                               |
| Hysteresis                                      | H              | typ. 5 %                                                                                                                                   |
| Reverse polarity protection                     |                | reverse polarity protected                                                                                                                 |
| Short-circuit protection                        |                | pulsing                                                                                                                                    |
| Voltage drop                                    | U <sub>d</sub> | ≤ 2 V                                                                                                                                      |
| Operating current                               | I <sub>L</sub> | 0 ... 200 mA                                                                                                                               |
| Off-state current                               | I <sub>r</sub> | 0 ... 0.5 mA                                                                                                                               |
| No-load supply current                          | I <sub>0</sub> | ≤ 20 mA                                                                                                                                    |
| Time delay before availability                  | t <sub>v</sub> | 80 ms                                                                                                                                      |
| Operating voltage indicator                     |                | LED, green                                                                                                                                 |
| Switching state indicator                       |                | LED, yellow                                                                                                                                |
| <b>Functional safety related parameters</b>     |                |                                                                                                                                            |
| MTTF <sub>d</sub>                               |                | 1230 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                                                                                                              |
| CCC approval                                    |                | CCC approval / marking not required for products rated ≤36 V                                                                               |
| <b>Ambient conditions</b>                       |                |                                                                                                                                            |
| Ambient temperature                             |                | -25 ... 85 °C (-13 ... 185 °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>                                                                                                                  |
| 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

