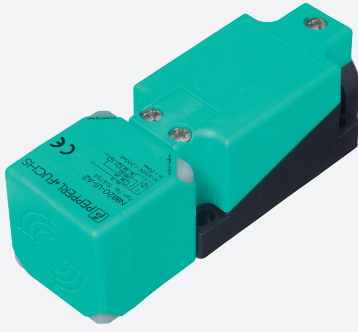


# Inductive sensor

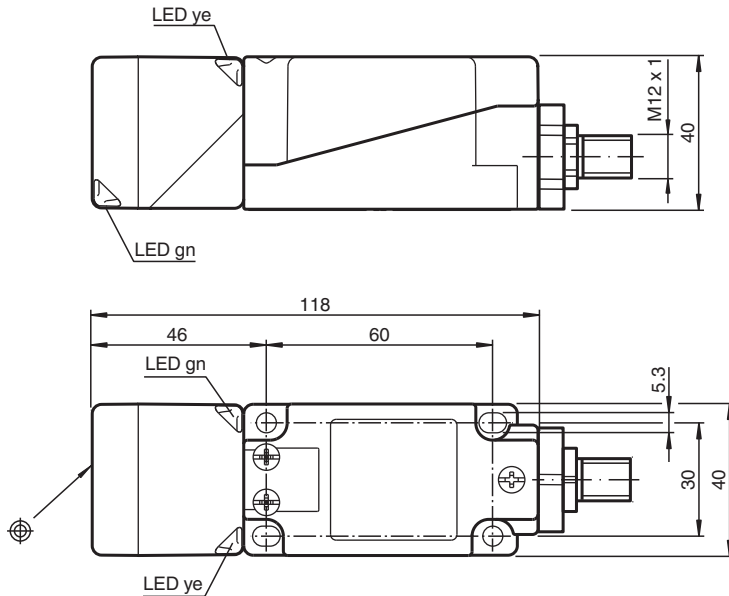
## NBB15-U4-E2-V1



- Sensor head bidirectional and rotatable
- 4 LEDs indicator for 360° visibility
- 15 mm flush



### Dimensions



### Technical Data

#### General specifications

|                              |       |                             |
|------------------------------|-------|-----------------------------|
| Switching function           |       | Normally open (NO)          |
| Output type                  |       | PNP                         |
| Rated operating distance     | $s_n$ | 15 mm                       |
| Installation                 |       | flush                       |
| Output polarity              |       | DC                          |
| Assured operating distance   | $s_a$ | 0 ... 12.15 mm              |
| Actual operating distance    | $s_r$ | 13.5 ... 16.5 mm typ. 15 mm |
| Reduction factor $r_{Al}$    |       | 0.33                        |
| Reduction factor $r_{Cu}$    |       | 0.31                        |
| Reduction factor $r_{304}$   |       | 0.74                        |
| Reduction factor $r_{Brass}$ |       | 0.41                        |
| Output type                  |       | 3-wire                      |

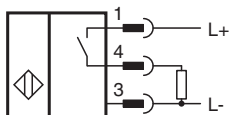
#### Nominal ratings

Release date: 2025-03-12 Date of issue: 2025-03-12 Filename: 203030\_eng.pdf

## Technical Data

|   |       |  |
|---|-------|--|
| Operating voltage                               | $U_B$ | 10 ... 30 V  |
| Switching frequency                             | f     | 0 ... 560 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. 0.01 mA  |
| 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  |
| <b>Functional safety related parameters</b>     |       |  |
| MTTF <sub>d</sub>                               |       | 1289 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 $\leq 36$ V |
| <b>Ambient conditions</b>                       |       |  |
| Ambient temperature                             |       | -25 ... 85 °C (-13 ... 185 °F)                                     |
| <b>Mechanical specifications</b>                |       |  |
| Connection type                                 |       | Connector plug   |
| Housing material                                |       | PA/metal with epoxy powder coating                                 |
| Sensing face                                    |       | PA   |
| Housing base                                    |       | metal  |
| Degree of protection                            |       | IP68 / IP69K   |
| Connector                                       |       |  |
| Threading                                       |       | M12 x 1  |
| Number of pins                                  |       | 4  |
| Mass  |       | 225 g  |
| Dimensions                                      |       |  |
| Height  |       | 40 mm  |
| Width   |       | 40 mm  |
| Length  |       | 118 mm   |
| Note  |       | Tightening torque: 1.8 Nm (housing)                                |

## Connection



## Connection Assignment



Wire colors in accordance with EN 60947-5-2

|   |    |         |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue)  |
| 4 | BK | (black) |