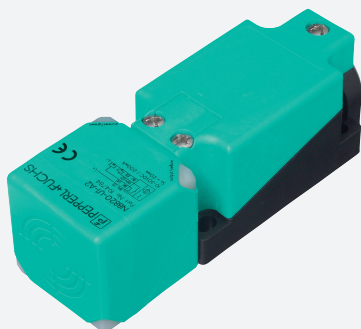


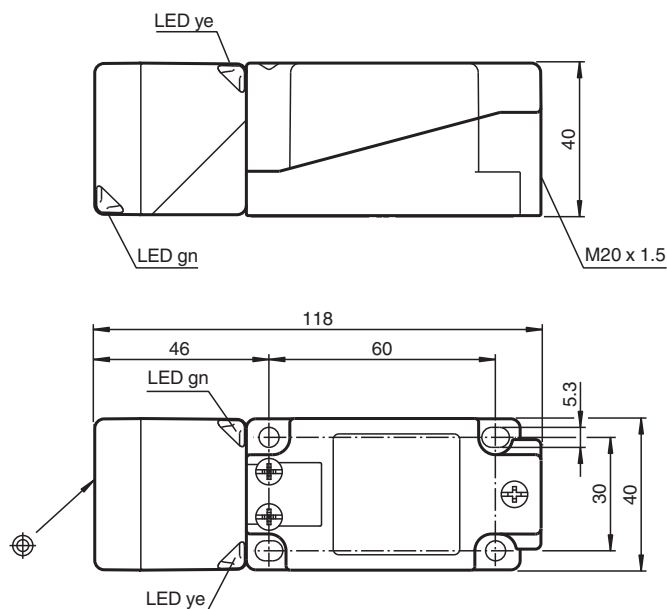


## Inductive sensor NBB15-U1-A2-T

- Sensor head bidirectional and rotatable
- 15 mm flush
- 4 LEDs indicator for 360° visibility
- Temperature range  
-25 ... 100 °C (-13 ... 212 °F)



### Dimensions



### Technical Data

#### General specifications

|                              |       |                |
|------------------------------|-------|----------------|
| Rated operating distance     | $s_n$ | 15 mm          |
| Installation                 |       | flush          |
| Output polarity              |       | DC             |
| Assured operating distance   | $s_a$ | 0 ... 12.15 mm |
| Reduction factor $r_{Al}$    |       | 0.33           |
| Reduction factor $r_{Cu}$    |       | 0.3            |
| Reduction factor $r_{304}$   |       | 0.74           |
| Reduction factor $r_{Brass}$ |       | 0.41           |
| Output type                  |       | 4-wire         |

#### Nominal ratings

|                     |       |              |
|---------------------|-------|--------------|
| Operating voltage   | $U_B$ | 10 ... 30 V  |
| Switching frequency | $f$   | 0 ... 560 Hz |

## Technical Data

|                                                 |       |                                                                                                                                                                                         |
|-------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hysteresis                                      | H     | typ. 5 %                                                                                                                                                                                |
| Reverse polarity protection                     |       | reverse polarity protected                                                                                                                                                              |
| Short-circuit protection                        |       | pulsing                                                                                                                                                                                 |
| Voltage drop                                    | $U_d$ | $\leq 2 \text{ V}$                                                                                                                                                                      |
| Operating current                               | $I_L$ | 0 ... 200 mA                                                                                                                                                                            |
| Off-state current                               | $I_r$ | 0 ... 0.5 mA                                                                                                                                                                            |
| No-load supply current                          | $I_0$ | $\leq 20 \text{ mA}$                                                                                                                                                                    |
| Time delay before availability                  | $t_v$ | 80 ms                                                                                                                                                                                   |
| Operating voltage indicator                     |       | LED, green                                                                                                                                                                              |
| Switching state indicator                       |       | LED, yellow                                                                                                                                                                             |
| <b>Safety-relevant product characteristics</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<br>Load Type: General Purpose<br>Circuitry: Class 2 Power Source<br>Enclosure Type Rating: Type 1<br>Supply/Switching Voltage: 30 V DC<br>Output Switching Current: 200 mA |
| CCC approval                                    |       | CCC approval / marking not required for products rated $\leq 36 \text{ V}$                                                                                                              |
| <b>Ambient conditions</b>                       |       |                                                                                                                                                                                         |
| Ambient temperature                             |       | -25 ... 100 °C (-13 ... 212 °F)                                                                                                                                                         |
| <b>Mechanical specifications</b>                |       |                                                                                                                                                                                         |
| Connection type                                 |       | screw terminals                                                                                                                                                                         |
| Core cross section                              |       | max. 2.5 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                                                                                                                                                                                   |
| <b>Dimensions</b>                               |       |                                                                                                                                                                                         |
| Height                                          |       | 40 mm                                                                                                                                                                                   |
| Width                                           |       | 40 mm                                                                                                                                                                                   |
| Length                                          |       | 118 mm                                                                                                                                                                                  |
| Note                                            |       | Tightening torque: 1.8 Nm (housing)<br>Tightening torque: 1.0 Nm (Screw terminal)                                                                                                       |

## Connection Assignment

