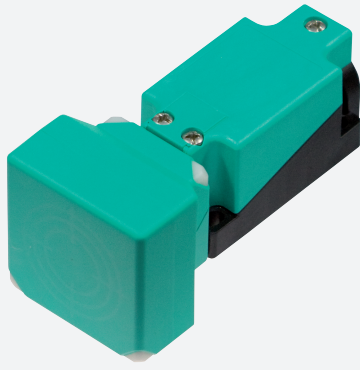


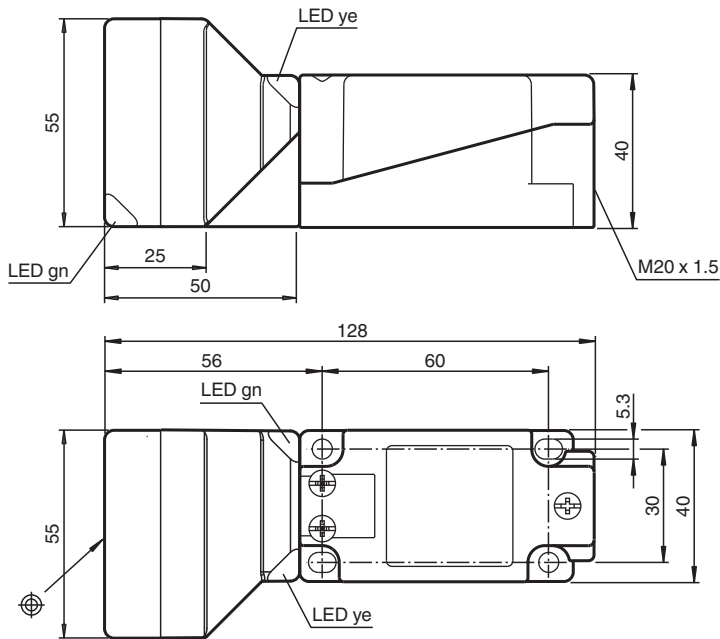


## Inductive sensor NBN40-U1L-A2

- Sensor head bidirectional and rotatable
- 40 mm non-flush
- 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 |
| Actual operating distance    | $s_r$ | 36 ... 44 mm  |
| Reduction factor $r_{Al}$    |       | 0.39          |
| Reduction factor $r_{Cu}$    |       | 0.37          |
| Reduction factor $r_{304}$   |       | 0.75          |
| Reduction factor $r_{Brass}$ |       | 0.45          |

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

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## Technical Data

|                                                 |           |                                                                                                                                            |
|-------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Output type                                     |           | 4-wire                                                                                                                                     |
| <b>Nominal ratings</b>                          |           |                                                                                                                                            |
| Operating voltage                               | $U_B$     | 10 ... 30 V DC                                                                                                                             |
| Switching frequency                             | $f$       | 0 ... 100 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                  | $t_v$     | 120 ms                                                                                                                                     |
| Operating voltage indicator                     |           | LED, green                                                                                                                                 |
| Switching state indicator                       |           | LED, yellow                                                                                                                                |
| <b>Functional safety related parameters</b>     |           |                                                                                                                                            |
| MTTF <sub>d</sub>                               |           | 1310 a                                                                                                                                     |
| Mission Time ( $T_M$ )                          |           | 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>               |           |                                                                                                                                            |
| 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                                                                                                              |
| 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                                 |           | 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                                                                                                                                   |
| Sensing face                                    |           | PA                                                                                                                                         |
| Housing base                                    |           | plastic                                                                                                                                    |
| Degree of protection                            |           | IP68 / IP69K                                                                                                                               |
| Mass                                            |           | 225 g                                                                                                                                      |
| Dimensions                                      |           |                                                                                                                                            |
| Height                                          |           | 55 mm                                                                                                                                      |
| Width                                           |           | 55 mm                                                                                                                                      |
| Length                                          |           | 128 mm                                                                                                                                     |
| Note                                            |           | Tightening torque: 1.8 Nm (housing)                                                                                                        |

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Pepperl+Fuchs Group  
www.pepperl-fuchs.comUSA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.comGermany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.comSingapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com
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## Connection

