

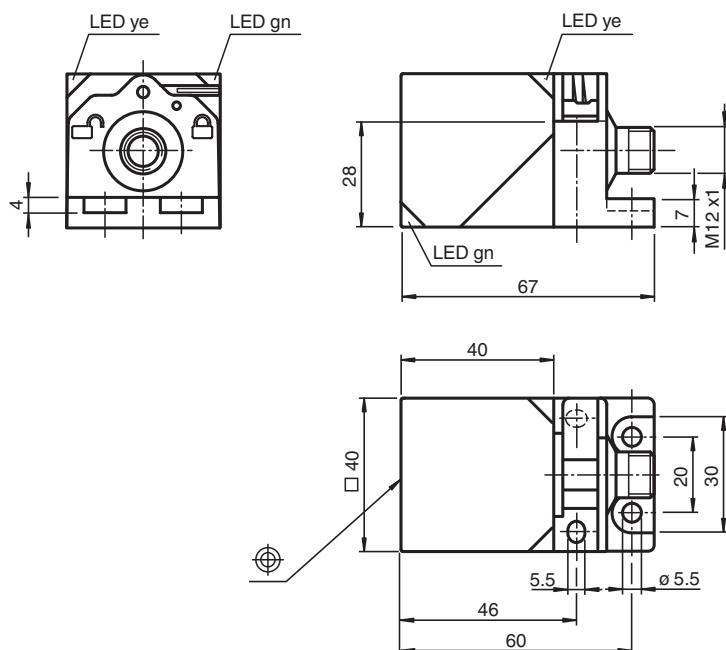


## Inductive sensor NBN40-L2-A2-V1-M

- Sensor head bidirectional and rotatable
- 40 mm non-flush
- E1-Type approval
- Extended temperature range  
-40 ... +85 °C
- 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 $r_{AI}$  |       | 0.34          |
| Reduction factor $r_{Cu}$  |       | 0.3           |

Release date: 2024-10-16 Date of issue: 2024-10-16 Filename: 223318\_eng.pdf

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

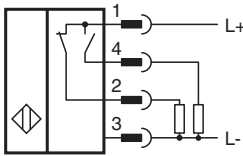
**PEPPERL+FUCHS**

## Technical Data

|                                                 |       |                                                   |
|-------------------------------------------------|-------|---------------------------------------------------|
| Reduction factor $r_{304}$                      |       | 0.81                                              |
| Reduction factor $r_{St37}$                     |       | 1                                                 |
| Reduction factor $r_{Brass}$                    |       | 0.4                                               |
| Output type                                     |       | 4-wire                                            |
| <b>Nominal ratings</b>                          |       |                                                   |
| Operating voltage                               | $U_B$ | 10 ... 60 V DC                                    |
| Switching frequency                             | $f$   | 0 ... 150 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                                      |
| No-load supply current                          | $I_0$ | $\leq 20$ mA                                      |
| Operating voltage indicator                     |       | LED, green                                        |
| Switching state indicator                       |       | LED, yellow                                       |
| <b>Functional safety related parameters</b>     |       |                                                   |
| MTTF <sub>d</sub>                               |       | 680 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>               |       |                                                   |
| UL approval                                     |       | cULus Listed, General Purpose                     |
| CSA approval                                    |       | cCSAus Listed, General Purpose                    |
| CCC approval                                    |       | Certified by China Compulsory Certification (CCC) |
| E1 Type approval                                |       | 10R-04                                            |
| <b>Ambient conditions</b>                       |       |                                                   |
| Ambient temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)                    |
| <b>Mechanical specifications</b>                |       |                                                   |
| Connection type                                 |       | Connector plug                                    |
| Housing material                                |       | PA-GF35                                           |
| Sensing face                                    |       | PA-GF35                                           |
| Degree of protection                            |       | IP69K                                             |
| Connector                                       |       |                                                   |
| Threading                                       |       | M12 x 1                                           |
| Number of pins                                  |       | 4                                                 |
| Mass                                            |       | 155 g                                             |
| Dimensions                                      |       |                                                   |
| Height                                          |       | 40 mm                                             |
| Width                                           |       | 40 mm                                             |
| Length                                          |       | 67 mm                                             |

Release date: 2024-10-16 Date of issue: 2024-10-16 Filename: 223318\_eng.pdf

Connection



Mounting

Emitted interference and interference immunity in accordance with motor vehicle directive 2006/28/EG (e1 Type approval)  
Interference immunity in accordance with DIN ISO 11452-2: 100 V/m  
Frequency band 20 MHz up to 2 GHz

Mains-borne interference in accordance with ISO 7637-2: Pulse

|                   |     |     |     |     |     |     |    |
|-------------------|-----|-----|-----|-----|-----|-----|----|
|                   | 1   | 2a  | 2b  | 3 a | 3b  | 4   | 5  |
| Severity level    | III | III | III | III | III | III | IV |
| Failure criterion | C   | A   | C   | A   | A   | A   | C  |

|                |                        |
|----------------|------------------------|
| EN 61000-4-2:  | CD: 8 kV / AD: 15 kV   |
| Severity level | IV                     |
| EN 61000-4-3:  | 30 V/m (80...2500 MHz) |
| Severity level | IV                     |
| EN 61000-4-4:  | 2 kV                   |
| Severity level | III                    |
| EN 61000-4-6:  | 10 V (0.01...80 MHz)   |
| Severity level | III                    |
| EN 55011:      | Class A                |

Release date: 2024-10-16 Date of issue: 2024-10-16 Filename: 223318\_eng.pdf