

Inductive sensor

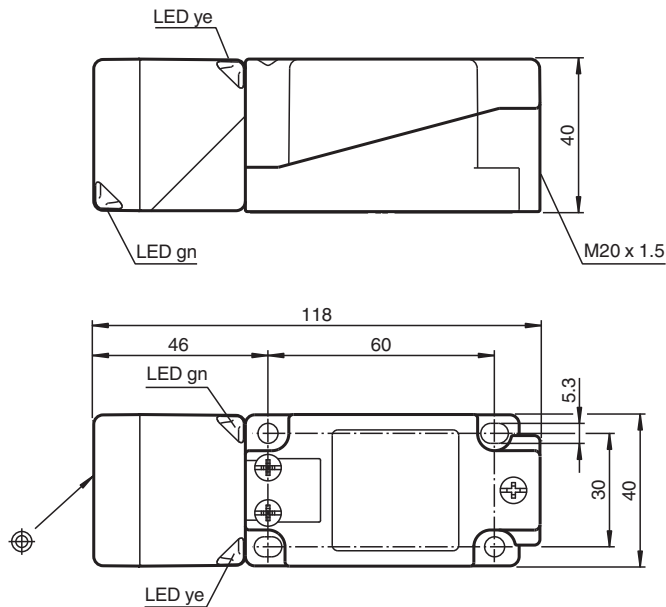
NBN40-U1-E2-M



- 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

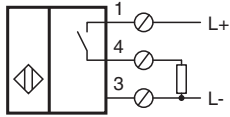
| | | |
|------------------------------|-------|--------------------|
| Switching function | | Normally open (NO) |
| Output type | | PNP |
| Rated operating distance | s_n | 40 mm |
| Installation | | non-flush |
| Output polarity | | DC |
| Assured operating distance | s_a | 0 ... 32.4 mm |
| Actual operating distance | s_r | 36 ... 44 mm |
| Reduction factor r_{Al} | | 0.34 |
| Reduction factor r_{Cu} | | 0.3 |
| Reduction factor r_{304} | | 0.81 |
| Reduction factor r_{St37} | | 1 |
| Reduction factor r_{Brass} | | 0.4 |

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Technical Data

| | | |
|---|--------|--|
| Output type | 3-wire | |
| Nominal ratings | | |
| 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 | ≤ 2 V |
| Operating current | I_L | 0 ... 200 mA |
| Off-state current | I_r | 0 ... 0.5 mA |
| No-load supply current | I_0 | ≤ 20 mA |
| Operating voltage indicator | | LED, green |
| Switching state indicator | | LED, yellow |
| Functional safety related parameters | | |
| MTTF _d | | 880 a |
| Mission Time (T _M) | | 20 a |
| Diagnostic Coverage (DC) | | 0 % |
| Compliance with standards and directives | | |
| Standard conformity | | |
| Standards | | EN IEC 60947-5-2 |
| Approvals and certificates | | |
| 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 |
| Ambient conditions | | |
| Ambient temperature | | -40 ... 85 °C (-40 ... 185 °F) |
| Mechanical specifications | | |
| 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! tightening torque 1.2 Nm + 10 % |
| Core cross section | | up to 2.5 mm ² |
| Minimum core cross-section | | without wire end ferrules 0.5 mm ² , with connector sleeves 0.34 mm ² |
| Maximum core cross-section | | without wire end ferrules 2.5 mm ² , with connector sleeves 1.5 mm ² |
| Housing material | | PA/metal with epoxy powder coating |
| Sensing face | | PA-GF35 |
| 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



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 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