

Inductive sensor

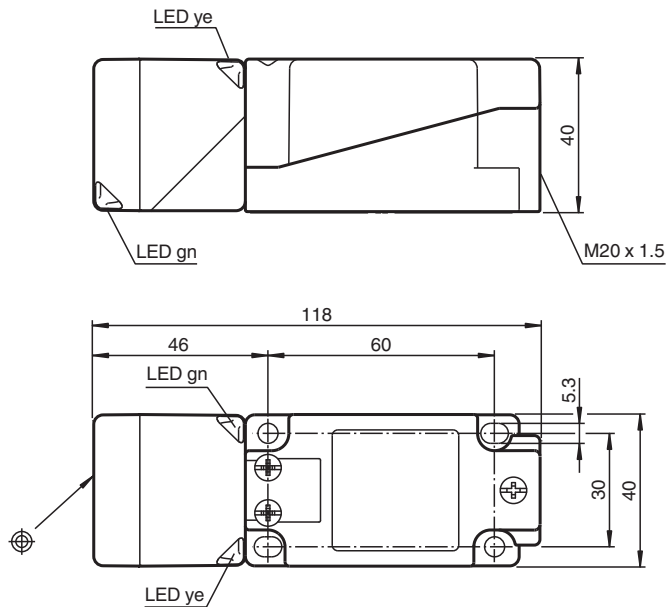
NBN40-U1K-E2-3G-3D



- 40 mm non-flush
- Sensor head bidirectional and rotatable
- 3-wire DC
- 4 LEDs indicator for 360° visibility
- ATEX/IECEX Zone 2/22



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 typ. 40 mm |
| Reduction factor r_{Al} | | 0.31 |
| Reduction factor r_{Cu} | | 0.3 |
| Reduction factor r_{304} | | 0.74 |
| Reduction factor r_{Brass} | | 0.39 |
| Output type | | 3-wire |

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Technical Data

| Nominal ratings | | |
|--|-------|--|
| Operating voltage | U_B | 10 ... 30 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 |
| Voltage drop at I_L | | |
| Voltage drop $I_L = 1$ mA, switching element on | U_d | 0.5 ... 2.3 V typ. 0.9 V |
| Voltage drop $I_L = 10$ mA, switching element on | U_d | 0.8 ... 2.2 V typ. 1.4 V |
| Voltage drop $I_L = 20$ mA, switching element on | U_d | 0.9 ... 2.3 V typ. 1.5 V |
| Voltage drop $I_L = 50$ mA, switching element on | U_d | 0.9 ... 2.5 V typ. 1.6 V |
| Voltage drop $I_L = 100$ mA, switching element on | U_d | 1 ... 2.6 V typ. 1.8 V |
| Voltage drop $I_L = 200$ mA, switching element on | U_d | 1.2 ... 2.8 V typ. 2 V |
| Operating current | I_L | 0 ... 200 mA |
| Off-state current | I_r | 0 ... 0.5 mA typ. 0.01 mA |
| Off-state current $T_U = 40$ °C, switching element off | | ≤ 100 μ A |
| No-load supply current | I_0 | ≤ 20 mA |
| Time delay before availability | t_v | 80 ms |
| Operating voltage indicator | | LED, green |
| Switching state indicator | | LED, yellow |
| Functional safety related parameters | | |
| MTTF _d | | 1358 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 | | |
| IECEX approval | | |
| Equipment protection level Gc (ec) | | IECEX TUR 21.0019X |
| Equipment protection level Dc (tc) | | IECEX TUR 21.0020X |
| ATEX approval | | |
| Equipment protection level Gc (ec) | | TÜV 20 ATEX 8525 X |
| Equipment protection level Dc (tc) | | TÜV 20 ATEX 8526 X |
| UL approval | | cULus Listed, General Purpose |
| CCC approval | | |
| Hazardous Location | | 2024322315005962 2024322315005982 |
| Marine approval | | DNVGL TAA0000160 |
| Ambient conditions | | |
| Ambient temperature | | -25 ... 85 °C (-13 ... 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 , stripped insulation length: 7 mm |
| Minimum core cross-section | | min. 0.5 mm ² (incl. wire-end ferrules when using flexible conductors) |

Technical Data

| | |
|----------------------------|--|
| Maximum core cross-section | max. 2.5 mm ² (incl. wire-end ferrules when using flexible conductors) |
| Connection (system side) | screw terminals , M20 x 1.5 cable gland , usable thread length 9.1 mm , screw-in depth max. 9.1 mm |
| Housing material | PA |
| Sensing face | PA |
| 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) |
| General information | |
| Use in the hazardous area | see instruction manuals |

Connection Assignment

