



Inductive sensor

NBB20-U4-E2

- Sensor head bidirectional and rotatable
- 20 mm flush
- 3-wire DC
- 4 LEDs indicator for 360° visibility



Dimensions



Technical Data

General specifications

| | | |
|----------------------------|-------|-------------------------|
| Switching function | | Normally open (NO) |
| Output type | | PNP |
| Rated operating distance | s_n | 20 mm |
| Installation | | flush |
| Output polarity | | DC |
| Assured operating distance | s_a | 0 ... 16.2 mm |
| Actual operating distance | s_r | 18 ... 22 mm typ. 20 mm |
| Reduction factor r_{Al} | | 0.33 |
| Reduction factor r_{Cu} | | 0.31 |

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

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Technical Data

| | | |
|--|-------|---|
| Reduction factor r_{304} | | 0.74 |
| Reduction factor r_{Brass} | | 0.41 |
| Output type | | 3-wire |
| Nominal ratings | | |
| Operating voltage | U_B | 10 ... 30 V DC |
| Switching frequency | f | 0 ... 440 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 | ≤ 10 mA |
| Time delay before availability | t_v | ≤ 50 ms |
| Operating voltage indicator | | LED, green |
| Switching state indicator | | LED, yellow |
| Functional safety related parameters | | |
| MTTF _d | | 1289 a |
| Mission Time (T_M) | | 20 a |
| Diagnostic Coverage (DC) | | 0 % |
| Compliance with standards and directives | | |
| Standard conformity | | |
| Standards | | EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012 |
| Approvals and certificates | | |
| UL approval | | cULus Listed, General Purpose |
| CCC approval | | CCC approval / marking not required for products rated ≤ 36 V |
| Ambient conditions | | |
| Ambient temperature | | -25 ... 85 °C (-13 ... 185 °F) |
| Mechanical specifications | | |
| Connection type | | screw terminals |
| Core cross section | | max. 2.5 mm ² |
| Housing material | | PA/metal with epoxy powder coating |
| Sensing face | | PA |
| Housing base | | metal |
| Degree of protection | | IP68 / IP69K |
| Mass | | 225 g |
| Note | | Tightening torque: 1.8 Nm (housing) |

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Connection



Accessories

| | | |
|---|---------------------------|---|
|  | <p>MHW 01</p> | <p>Modular mounting bracket</p> |
|  | <p>MH 04-2681F</p> | <p>Mounting aid for VariKont, +U1+ and +U9*</p> |

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