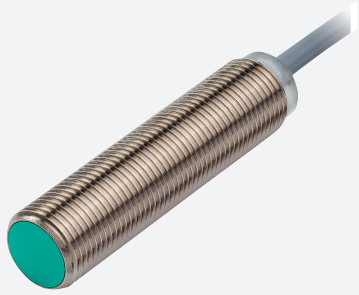


Inductive sensor

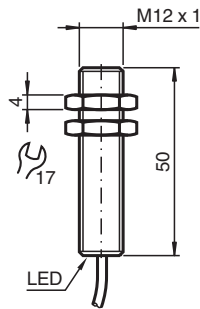
NBB4-12GM50-E1-M



- 4 mm flush
- Extended temperature range
-40 ... +85 °C
- E1-Type approval
- Increased noise immunity 100 V/m
- With increased sealing, protection class
IP68 / IP69K
- Highly shock and vibration resistant



Dimensions



Technical Data

| General specifications | | |
|------------------------------|-------|---|
| Switching function | | Normally closed (NC) |
| Output type | | NPN |
| Rated operating distance | s_n | 4 mm |
| Installation | | flush |
| Output polarity | | DC |
| Assured operating distance | s_a | 0 ... 3.24 mm |
| Actuating element | | mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 12 mm x 12 mm x 1 mm |
| Reduction factor r_{Al} | | 0.45 |
| Reduction factor r_{Cu} | | 0.35 |
| Reduction factor r_{304} | | 0.75 |
| Reduction factor r_{Brass} | | 0.45 |
| Output type | | 3-wire |
| Nominal ratings | | |
| Operating voltage | U_B | 5 ... 60 V |
| Switching frequency | f | 0 ... 2500 Hz |

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

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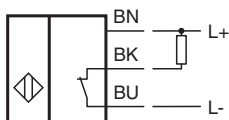
Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PF PEPPERL+FUCHS

Technical Data

| | | |
|---|-----------|--|
| Hysteresis | H | typ. 5 % |
| Reverse polarity protection | | reverse polarity protected |
| Short-circuit protection | | pulsing |
| Inductive overvoltage protection | | yes |
| Surge suppression | | yes |
| Voltage drop | U_d | $\leq 2 \text{ V}$ |
| Rated insulation voltage | U_{BIS} | 60 V |
| Operating current | I_L | 0 ... 200 mA |
| Off-state current | I_r | 0 ... 0.5 mA typ. 0.1 μA at 25 °C |
| No-load supply current | I_0 | $\leq 7 \text{ mA}$ |
| Time delay before availability | t_v | $\leq 200 \text{ ms}$ |
| Switching state indicator | | LED, yellow |
| Functional safety related parameters | | |
| MTTF _d | | 1175 a |
| Mission Time (T _M) | | 20 a |
| Diagnostic Coverage (DC) | | 0 % |
| Compliance with standards and directives | | |
| Standard conformity | | |
| Standards | | EN 60947-5-2:2007 IEC 60947-5-2:2007 |
| Approvals and certificates | | |
| UL approval | | cULus Listed, General Purpose, Class 2 Power Source |
| CSA approval | | cCSAus Listed, General Purpose, Class 2 Power Source |
| CCC approval | | Certified by China Compulsory Certification (CCC) |
| E1 Type approval | | 10R-04 |
| Ambient conditions | | |
| Ambient temperature | | -40 ... 85 °C (-40 ... 185 °F) |
| Storage temperature | | -40 ... 85 °C (-40 ... 185 °F) |
| Mechanical specifications | | |
| Connection type | | cable PUR , 2 m |
| Core cross section | | 3 x 0.75 mm ² |
| Housing material | | brass, nickel-plated |
| Sensing face | | PBT |
| Degree of protection | | IP68 / IP69K |
| Mass | | 120 g |

Connection




Technical Features

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 III
 Failure criterion C A C A A A B

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

Accessories

| | | |
|---|---------------------|-------------------------------|
|  | <p>BF 12</p> | <p>Mounting flange, 12 mm</p> |
|---|---------------------|-------------------------------|

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