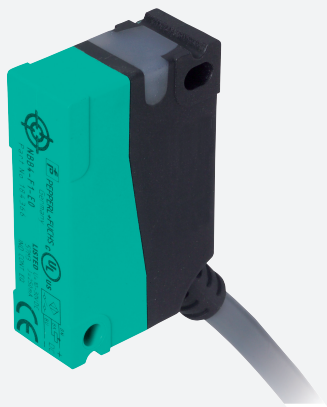


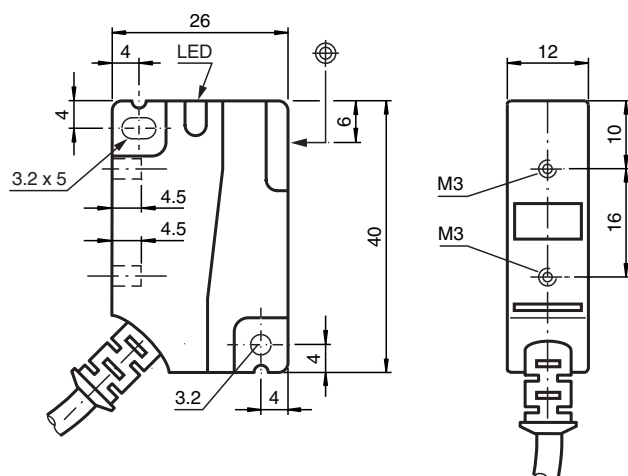


## Inductive sensor NBB4-F1-A2 5M

- 4 mm flush
- 4-wire DC



### Dimensions



### Technical Data

#### General specifications

|                            |       |               |
|----------------------------|-------|---------------|
| Switching function         |       | complementary |
| Output type                |       | PNP           |
| Rated operating distance   | $S_n$ | 4 mm          |
| Installation               |       | flush         |
| Output polarity            |       | DC            |
| Assured operating distance | $S_a$ | 0 ... 3.24 mm |
| Reduction factor $r_{Al}$  |       | 0.3           |
| Reduction factor $r_{Cu}$  |       | 0.2           |
| Reduction factor $r_{304}$ |       | 0.7           |

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

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**PEPPERL+FUCHS**

## Technical Data

|                                                 |                  |                                                                                             |
|-------------------------------------------------|------------------|---------------------------------------------------------------------------------------------|
| Reduction factor $r_{\text{Brass}}$             |                  | 0.55                                                                                        |
| Output type                                     |                  | 4-wire                                                                                      |
| <b>Nominal ratings</b>                          |                  |                                                                                             |
| Operating voltage                               | $U_B$            | 10 ... 30 V                                                                                 |
| Switching frequency                             | $f$              | 0 ... 1400 Hz                                                                               |
| Hysteresis                                      | $H$              | typ. 5%                                                                                     |
| Reverse polarity protection                     |                  | reverse polarity protected                                                                  |
| Short-circuit protection                        |                  | pulsing                                                                                     |
| Voltage drop                                    | $U_d$            | $\leq 2.5$ V                                                                                |
| Rated insulation voltage                        | $U_{\text{BIS}}$ | 60 V                                                                                        |
| Operating current                               | $I_L$            | 0 ... 250 mA                                                                                |
| Off-state current                               | $I_r$            | $< 0.5$ mA                                                                                  |
| No-load supply current                          | $I_0$            | $\leq 15$ mA                                                                                |
| Switching state indicator                       |                  | LED, yellow                                                                                 |
| <b>Functional safety related parameters</b>     |                  |                                                                                             |
| MTTF <sub>d</sub>                               |                  | 1640 a                                                                                      |
| Mission Time ( $T_M$ )                          |                  | 20 a                                                                                        |
| Diagnostic Coverage (DC)                        |                  | 0 %                                                                                         |
| <b>Compliance with standards and directives</b> |                  |                                                                                             |
| Standard conformity                             |                  |                                                                                             |
| Standards                                       |                  | EN 60947-5-2:2007<br>EN 60947-5-2/A1:2012<br>IEC 60947-5-2:2007<br>IEC 60947-5-2 AMD 1:2012 |
| <b>Approvals and certificates</b>               |                  |                                                                                             |
| UL approval                                     |                  | cULus Listed, General Purpose                                                               |
| CSA approval                                    |                  | cCSAus Listed, General Purpose                                                              |
| CCC approval                                    |                  | CCC approval / marking not required for products rated $\leq 36$ V                          |
| <b>Ambient conditions</b>                       |                  |                                                                                             |
| Ambient temperature                             |                  | -25 ... 70 °C (-13 ... 158 °F)                                                              |
| <b>Mechanical specifications</b>                |                  |                                                                                             |
| Connection type                                 |                  | cable PVC , 5 m                                                                             |
| Core cross-section                              |                  | 0.5 mm <sup>2</sup>                                                                         |
| Housing material                                |                  | PA, green                                                                                   |
| Sensing face                                    |                  | PA                                                                                          |
| Degree of protection                            |                  | IP67                                                                                        |
| <b>Cable</b>                                    |                  |                                                                                             |
| Cable diameter                                  |                  | 5.2 mm $\pm$ 0.2 mm                                                                         |
| Tightening torque, fastening screws             |                  | Threading M3 max: 1.1 Nm                                                                    |

## Connection

