

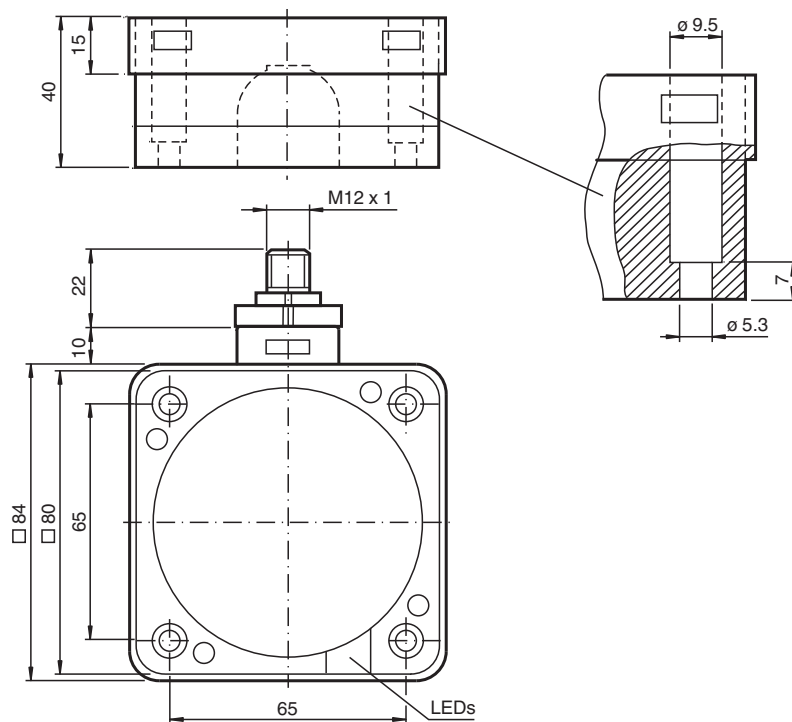


Inductive sensor NRB50-FP-E2-P3-V1

- 50 mm flush
- Reduction factor = 1
- Interference suppression magnetic fields



Dimensions



Technical Data

General specifications

| | | |
|----------------------------|-------|--------------------|
| Switching function | | Normally open (NO) |
| Output type | | PNP |
| Rated operating distance | s_n | 50 mm |
| Installation | | flush |
| Output polarity | | DC |
| Assured operating distance | s_a | 0 ... 40.5 mm |
| Reduction factor r_{Al} | | 1 |
| Reduction factor r_{Cu} | | 1 |
| Reduction factor r_{304} | | 1 |

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

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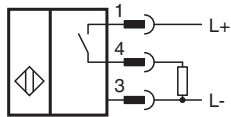
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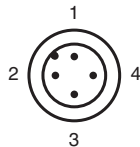
Technical Data

| | | |
|---|-----------|---|
| Reduction factor r_{S137} | | 1 |
| Output type | | 3-wire |
| Nominal ratings | | |
| Operating voltage | U_B | 10 ... 30 V DC |
| Switching frequency | f | 0 ... 80 Hz |
| Hysteresis | H | typ. 3 % |
| Reverse polarity protection | | reverse polarity protected |
| Short-circuit protection | | pulsing |
| Voltage drop | U_d | ≤ 3 V |
| Temperature drift | | ± 10 % at 0 ... 50 °C (32 ... 122 °F) ± 20 % at -25 ... 0 °C (-13 ... 32 °F) and 50 ... 70 °C (122 ... 158 °F) |
| Rated insulation voltage | U_{BIS} | 50 V |
| Operating current | I_L | 0 ... 200 mA |
| Off-state current | I_r | 0 ... 0.5 mA typ. 0.1 μ A at 25 °C |
| No-load supply current | I_0 | ≤ 20 mA |
| Time delay before availability | t_v | ≤ 300 ms |
| Constant magnetic field | B | 5 mT |
| Alternating magnetic field | B | 5 mT |
| Operating voltage indicator | | LED, green |
| Switching state indicator | | LED, yellow |
| Functional safety related parameters | | |
| MTTF _d | | 944 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 |
| CCC approval | | CCC approval / marking not required for products rated ≤ 36 V |
| Ambient conditions | | |
| Ambient temperature | | -25 ... 70 °C (-13 ... 158 °F) |
| Storage temperature | | -25 ... 85 °C (-13 ... 185 °F) |
| Mechanical specifications | | |
| Connection type | | Connector plug M12 x 1 , 4-pin |
| Housing material | | PBT/metal |
| Sensing face | | PBT |
| Housing base | | metal |
| Degree of protection | | IP68 |
| Dimensions | | |
| Height | | 40 mm |
| Width | | 84 mm |
| Length | | 84 mm |

Connection



Connection Assignment



Wire colors in accordance with EN 60947-5-2

| | | |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue) |
| 4 | BK | (black) |

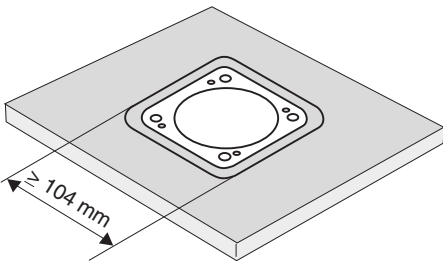
Mounting

These sensors are particularly suitable for embedded installation in floor conveyor systems. The installation of the switch in a metal base plate provides it with considerable protection against mechanical damage.

Care should be taken to ensure that the cut out in the base plate is at least 104 mm x 104 mm and that the sensor is positioned centrally within this cut out.

The active surface of the sensor must not be recessed with respect to the front face of the base plate.

The high switching distance guarantees safe detection and thus control of the floor conveyor system.



Caution!
After removal of the metal screen the proximity switch can no longer be mounted as an embedded installation.

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