

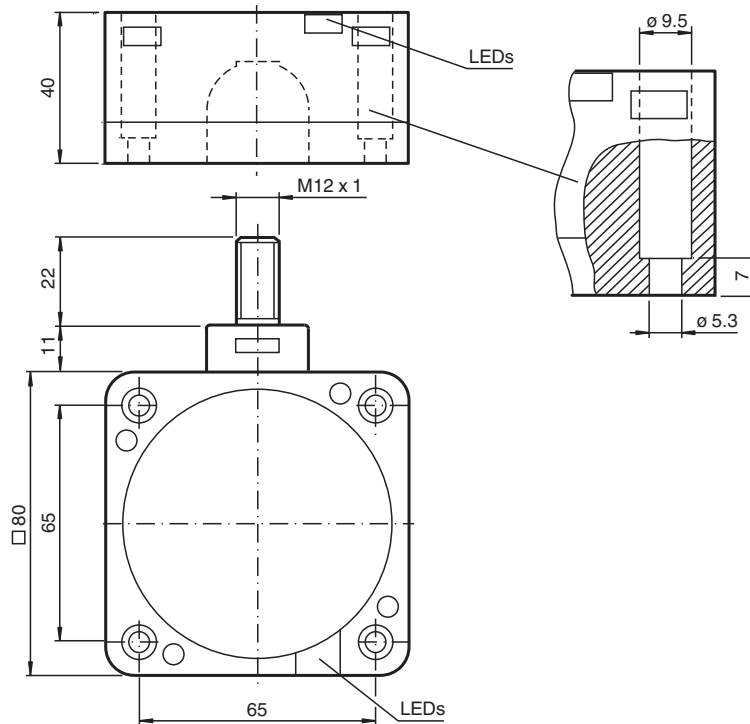


# Inductive sensor NRN75-FP-A2-C-P3-V1

- 75 mm non-flush
- Reduction factor = 1
- Weld Immune
- Short-term interference suppression magnetic fields



## Dimensions



## Technical Data

### General specifications

|                            |       |               |
|----------------------------|-------|---------------|
| Switching function         |       | complementary |
| Output type                |       | PNP           |
| Rated operating distance   | $s_n$ | 75 mm         |
| Installation               |       | non-flush     |
| Output polarity            |       | DC            |
| Assured operating distance | $s_a$ | 0 ... 55 mm   |
| Reduction factor $r_{Al}$  |       | 1             |
| Reduction factor $r_{Cu}$  |       | 1             |
| Reduction factor $r_{304}$ |       | 1             |

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

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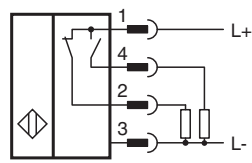
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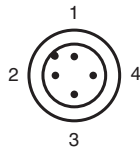
## Technical Data

|                                                 |           |                                                                                                                           |
|-------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------|
| Reduction factor $r_{S137}$                     |           | 1                                                                                                                         |
| Output type                                     |           | 4-wire                                                                                                                    |
| <b>Nominal ratings</b>                          |           |                                                                                                                           |
| Operating voltage                               | $U_B$     | 10 ... 30 V DC                                                                                                            |
| Switching frequency                             | $f$       | 0 ... 1 Hz                                                                                                                |
| Hysteresis                                      | $H$       | typ. 3 %                                                                                                                  |
| Reverse polarity protection                     |           | reverse polarity protected                                                                                                |
| Short-circuit protection                        |           | pulsing                                                                                                                   |
| Voltage drop                                    | $U_d$     | $\leq 3$ V                                                                                                                |
| Temperature drift                               |           | $\pm 10$ % at 0 ... 50 °C (32 ... 122 °F)<br>$\pm 20$ % 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                                                                                                              |
| No-load supply current                          | $I_0$     | $\leq 20$ mA                                                                                                              |
| Time delay before availability                  | $t_v$     | $\leq 300$ ms                                                                                                             |
| Constant magnetic field                         | $B$       | 5 mT                                                                                                                      |
| Alternating magnetic field                      | $B$       | 5 mT                                                                                                                      |
| Tuning-out                                      |           | typ. 75 ms                                                                                                                |
| Operating voltage indicator                     |           | LED, green                                                                                                                |
| Switching state indicator                       |           | LED, yellow                                                                                                               |
| <b>Functional safety related parameters</b>     |           |                                                                                                                           |
| MTTF <sub>d</sub>                               |           | 824 a                                                                                                                     |
| Mission Time ( $T_M$ )                          |           | 20 a                                                                                                                      |
| Diagnostic Coverage (DC)                        |           | 0 %                                                                                                                       |
| <b>Compliance with standards and directives</b> |           |                                                                                                                           |
| Standard conformity                             |           |                                                                                                                           |
| Standards                                       |           | EN IEC 60947-5-2                                                                                                          |
| <b>Approvals and certificates</b>               |           |                                                                                                                           |
| UL approval                                     |           | cULus 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                                 |           | Connector plug M12 x 1 , 4-pin                                                                                            |
| Housing material                                |           | PBT/metal                                                                                                                 |
| Sensing face                                    |           | PBT, PTFE coated                                                                                                          |
| Housing base                                    |           | PBT                                                                                                                       |
| Degree of protection                            |           | IP68                                                                                                                      |
| Dimensions                                      |           |                                                                                                                           |
| Height                                          |           | 40 mm                                                                                                                     |
| Width                                           |           | 80 mm                                                                                                                     |
| Length                                          |           | 80 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 also suitable for mounting on metal. The stated switching distance is achieved with a metal base plate, min. dimensions 225 mm x 225 mm.

When mounted on a non-metallic base plate the switching distance is reduced by approx. 10 %.

