

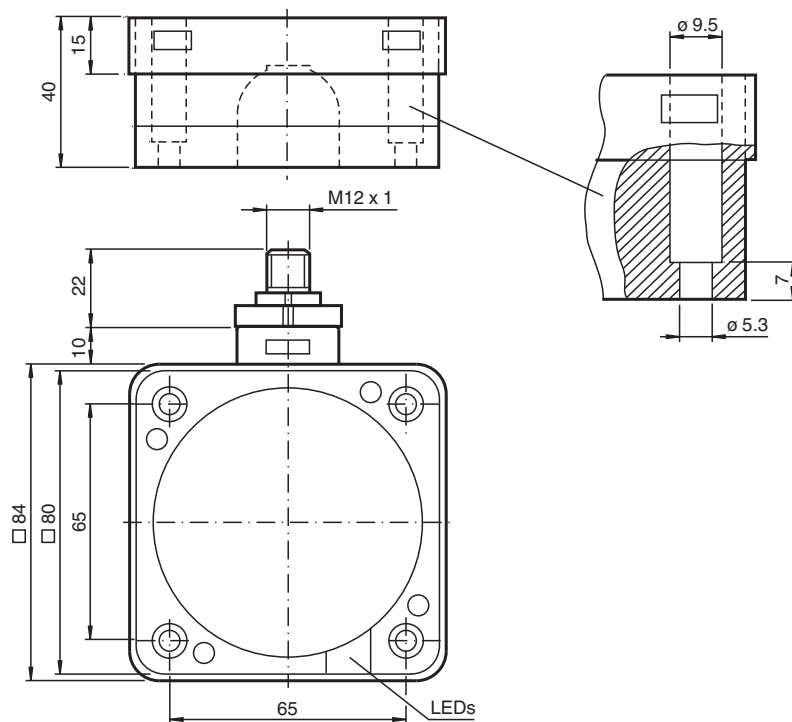


## Inductive sensor NCB50-FP-E2-C-P3-V1

- 50 mm flush
- 3-wire DC
- Weld Immune
- Optimum use at a distance >50 cm



### 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 $r_{Al}$  |       | 0.38               |
| Reduction factor $r_{Cu}$  |       | 0.35               |
| Reduction factor $r_{304}$ |       | 0.83               |

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

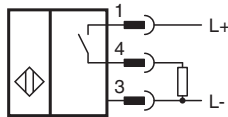
Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

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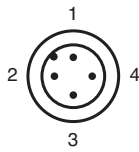
# Technical Data

|                                                 |       |                                 |
|-------------------------------------------------|-------|---------------------------------|
| Output type                                     |       | 3-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                      |
| 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                  | $t_v$ | $\leq 1$ s                      |
| Tuning-out                                      |       | $\geq 50$ ms                    |
| Operating voltage indicator                     |       | LED, green                      |
| Switching state indicator                       |       | LED, yellow                     |
| <b>Functional safety related parameters</b>     |       |                                 |
| MTTF <sub>d</sub>                               |       | 940 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   |
| <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, active surface PTFE coated |
| Housing base                                    |       | metal                           |
| Degree of protection                            |       | IP68                            |
| Dimensions                                      |       |                                 |
| Height                                          |       | 40 mm                           |
| Width                                           |       | 84 mm                           |
| Length                                          |       | 84 mm                           |

# Connection



## Connection Assignment



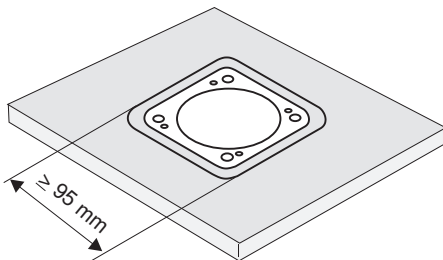
Wire colors in accordance with EN 60947-5-2

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

## Mounting

These sensors are especially designed for embeddable mounting in conveyor floors. Due to its precise location in metal base plates the sensor is afforded a high degree of mechanical protection. No clearance is required between the sensor and the base plate, avoiding the need for protective guarding to prevent possible foot injury.

The large sensing range ensures positive detection, and thus provides consistent control and monitoring of the conveyor.



### Warning!

Once the metal screening has been removed, the sensor can no longer be embeddable mounted.