

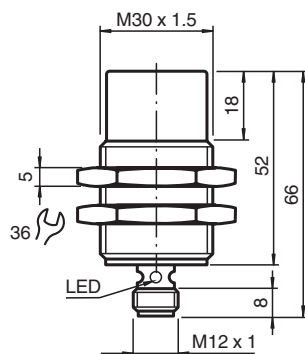


## Inductive sensor NBN25-30GM50-E0-V1-M

- 25 mm non-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 open (NO) |
| Output type                  |       | NPN                |
| Rated operating distance     | $s_n$ | 25 mm              |
| Installation                 |       | non-flush          |
| Output polarity              |       | DC                 |
| Assured operating distance   | $s_a$ | 0 ... 20.25 mm     |
| Reduction factor $r_{Al}$    |       | 0.5                |
| Reduction factor $r_{Cu}$    |       | 0.45               |
| Reduction factor $r_{304}$   |       | 0.7                |
| Reduction factor $r_{Brass}$ |       | 0.5                |
| Output type                  |       | 3-wire             |

#### Nominal ratings

|                         |  |       |
|-------------------------|--|-------|
| Installation conditions |  |       |
| A                       |  | 28 mm |
| B                       |  | 40 mm |

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

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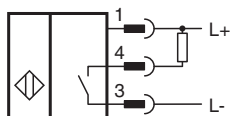
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**PEPPERL+FUCHS**

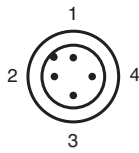
## Technical Data

|                                                 |           |                                                                                             |
|-------------------------------------------------|-----------|---------------------------------------------------------------------------------------------|
| C                                               |           | 75 mm                                                                                       |
| F                                               |           | 120 mm                                                                                      |
| Operating voltage                               | $U_B$     | 5 ... 60 V                                                                                  |
| Switching frequency                             | $f$       | 0 ... 200 Hz                                                                                |
| Hysteresis                                      | H         | typ. 5%                                                                                     |
| Reverse polarity protection                     |           | reverse polarity protected                                                                  |
| Short-circuit protection                        |           | pulsing                                                                                     |
| Inductive overvoltage protection                |           | yes                                                                                         |
| Surge suppression                               |           | yes                                                                                         |
| Voltage drop                                    | $U_d$     | $\leq 2$ 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. 6 $\mu$ A at 25 °C                                                        |
| No-load supply current                          | $I_0$     | $\leq 7$ mA                                                                                 |
| Time delay before availability                  | $t_v$     | $\leq 220$ ms                                                                               |
| Switching state indicator                       |           | Multihole-LED, yellow                                                                       |
| <b>Functional safety related parameters</b>     |           |                                                                                             |
| MTTF <sub>d</sub>                               |           | 830.5 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>               |           |                                                                                             |
| EAC conformity                                  |           | TR CU 020/2011                                                                              |
| 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                                                                                      |
| <b>Ambient conditions</b>                       |           |                                                                                             |
| Ambient temperature                             |           | -40 ... 85 °C (-40 ... 185 °F)                                                              |
| Storage temperature                             |           | -40 ... 85 °C (-40 ... 185 °F)                                                              |
| <b>Mechanical specifications</b>                |           |                                                                                             |
| Connection type                                 |           | Connector plug M12 x 1 , 3-pin                                                              |
| Housing material                                |           | brass, nickel-plated                                                                        |
| Sensing face                                    |           | PBT                                                                                         |
| Degree of protection                            |           | IP68 / IP69K                                                                                |
| Mass                                            |           | 94 g                                                                                        |

## Connection



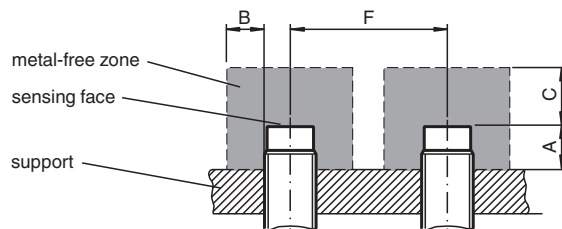
## Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

## Installation



## Mounting

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 3a 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

|                                                                                     |                    |                                       |
|-------------------------------------------------------------------------------------|--------------------|---------------------------------------|
|  | <b>BF 30</b>       | Mounting flange, 30 mm                |
|  | <b>V1-G-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable |
|  | <b>V1-W-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable |