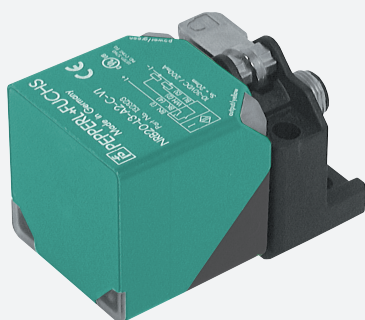
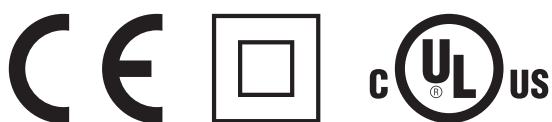


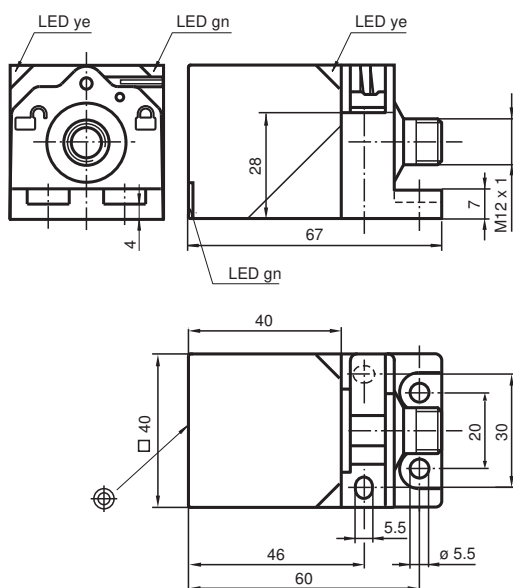


## Inductive sensor NRB20-L3-A2-V1

- 20 mm flush
- Reduction factor = 1
- Magnetic field resistant
- Quick mounting bracket
- 4-way LED indicator



### Dimensions



### Technical Data

#### General specifications

|                             |               |                         |
|-----------------------------|---------------|-------------------------|
| Switching function          | complementary |                         |
| Output type                 | PNP           |                         |
| Rated operating distance    | $s_n$         | 20 mm                   |
| Installation                | flush         |                         |
| Output polarity             | DC            |                         |
| Assured operating distance  | $s_a$         | 0 ... 16.2 mm           |
| Actual operating distance   | $s_r$         | 18 ... 22 mm typ. 20 mm |
| Reduction factor $r_{Al}$   | 1             |                         |
| Reduction factor $r_{Cu}$   | 1             |                         |
| Reduction factor $r_{304}$  | 1             |                         |
| Reduction factor $r_{St37}$ | 1             |                         |
| Output type                 | 4-wire        |                         |

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

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**PEPPERL+FUCHS**

## Technical Data

### Nominal ratings

|                                |       |                            |
|--------------------------------|-------|----------------------------|
| Operating voltage              | $U_B$ | 10 ... 30 V DC             |
| Switching frequency            | $f$   | 0 ... 440 Hz               |
| Hysteresis                     | $H$   | 3 ... 15 %                 |
| Reverse polarity protection    |       | reverse polarity protected |
| Short-circuit protection       |       | pulsing                    |
| Voltage drop                   | $U_d$ | $\leq 2.5$ V               |
| Operating current              | $I_L$ | 0 ... 200 mA               |
| Off-state current              | $I_r$ | 0 ... 0.5 mA typ. 0.01 mA  |
| No-load supply current         | $I_0$ | $\leq 25$ mA               |
| Time delay before availability | $t_v$ | 15 ms                      |
| Constant magnetic field        | $B$   | 200 mT                     |
| Alternating magnetic field     | $B$   | 200 mT                     |
| Operating voltage indicator    |       | LED, green                 |
| Switching state indicator      |       | LED, yellow                |

### Functional safety related parameters

|                          |        |
|--------------------------|--------|
| MTTF <sub>d</sub>        | 1123 a |
| Mission Time ( $T_M$ )   | 20 a   |
| Diagnostic Coverage (DC) | 0 %    |

### Compliance with standards and directives

|                     |                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------|
| 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 |

### Approvals and certificates

|                                 |                                                                    |
|---------------------------------|--------------------------------------------------------------------|
| Protection class                | II                                                                 |
| Rated insulation voltage        | $U_i$ 60 V                                                         |
| Rated impulse withstand voltage | $U_{imp}$ 800 V                                                    |
| UL approval                     | cULus Listed, General Purpose                                      |
| CCC approval                    | CCC approval / marking not required for products rated $\leq 36$ V |

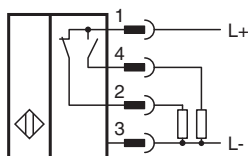
### Ambient conditions

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 70 °C (-13 ... 158 °F) |
| Storage temperature | -40 ... 85 °C (-40 ... 185 °F) |

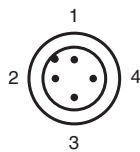
### Mechanical specifications

|                      |                                                 |
|----------------------|-------------------------------------------------|
| Connection type      | Connector plug M12 x 1 , 4-pin                  |
| Housing material     | GD-ZnAl4Cu1, coated<br>mounting flange PA6-GF35 |
| Sensing face         | PA 6 Grivory GVN-35H                            |
| Degree of protection | IP67                                            |
| Mass                 | 180 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) |

Accessories

|                                                                                     |                    |                                          |
|-------------------------------------------------------------------------------------|--------------------|------------------------------------------|
|    | <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    |
|   | <b>MHW 01</b>      | Modular mounting bracket                 |
|  | <b>MH 02-L</b>     | Mounting aid                             |
|  | <b>MH 04-2681F</b> | Mounting aid for VariKont, +U1+ and +U9* |

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