

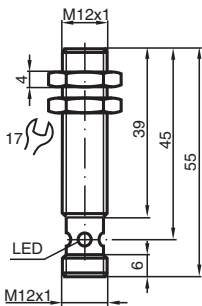


## Inductive sensor NCB4-12GM40-Z4-V1

- 4 mm flush
- 2-wire DC
- Increased operating distance



### Dimensions



### Technical Data

| General specifications      |       |                             |
|-----------------------------|-------|-----------------------------|
| Switching function          |       | Normally open (NO)          |
| Output type                 |       | Two-wire                    |
| Rated operating distance    | $s_n$ | 4 mm                        |
| Installation                |       | flush                       |
| Output polarity             |       | DC                          |
| Assured operating distance  | $s_a$ | 0 ... 3.24 mm               |
| Reduction factor $r_{AI}$   |       | 0.49                        |
| Reduction factor $r_{Cu}$   |       | 0.47                        |
| Reduction factor $r_{304}$  |       | 0.76                        |
| Output type                 |       | 2-wire                      |
| Nominal ratings             |       |                             |
| Operating voltage           | $U_B$ | 3.5 ... 30 V                |
| Switching frequency         | $f$   | 0 ... 1000 Hz               |
| Hysteresis                  | $H$   | typ. 5 %                    |
| Reverse polarity protection |       | reverse polarity-conductive |
| Short-circuit protection    |       | pulsing                     |

Release date: 2024-10-31 Date of issue: 2024-10-31 Filename: 121009\_eng.pdf

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

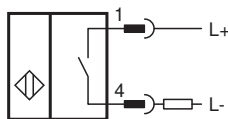
Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**PEPPERL+FUCHS**

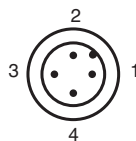
Technical Data

|                                          |       |                                                                           |
|------------------------------------------|-------|---------------------------------------------------------------------------|
| Voltage drop                             | $U_d$ | $\leq 3.5\text{ V}$                                                       |
| Temperature drift                        |       | $\pm 15\%$                                                                |
| Operating current                        | $I_L$ | 2 ... 100 mA                                                              |
| Off-state current                        | $I_r$ | 0.4 ... 0.6 mA typ. 0.5 mA                                                |
| Switching state indicator                |       | LED, yellow                                                               |
| Stability alarm indicator                |       | LED, red                                                                  |
| Stability control-switch point           |       | 0,8 s <sub>r</sub> ... 0,9 s <sub>r</sub>                                 |
| Functional safety related parameters     |       |                                                                           |
| MTTF <sub>d</sub>                        |       | 1883 a                                                                    |
| Mission Time (T <sub>M</sub> )           |       | 20 a                                                                      |
| Diagnostic Coverage (DC)                 |       | 0 %                                                                       |
| Compliance with standards and directives |       |                                                                           |
| Standard conformity                      |       |                                                                           |
| Standards                                |       | EN IEC 60947-5-2                                                          |
| Approvals and certificates               |       |                                                                           |
| UL approval                              |       | cULus Listed, General Purpose                                             |
| CCC approval                             |       | CCC approval / marking not required for products rated $\leq 36\text{ V}$ |
| Ambient conditions                       |       |                                                                           |
| Ambient temperature                      |       | -25 ... 70 °C (-13 ... 158 °F)                                            |
| Storage temperature                      |       | -40 ... 85 °C (-40 ... 185 °F)                                            |
| Mechanical specifications                |       |                                                                           |
| Connection type                          |       | Connector plug                                                            |
| Housing material                         |       | brass, nickel-plated                                                      |
| Sensing face                             |       | PBT                                                                       |
| Degree of protection                     |       | IP67                                                                      |
| Connector                                |       |                                                                           |
| Threading                                |       | M12 x 1                                                                   |
| Number of pins                           |       | 4                                                                         |
| Mass                                     |       | 29 g                                                                      |
| Dimensions                               |       |                                                                           |
| Length                                   |       | 35 mm                                                                     |
| Diameter                                 |       | 12 mm                                                                     |

Connection



Connection Assignment



Release date: 2024-10-31 Date of issue: 2024-10-31 Filename: 121009\_eng.pdf

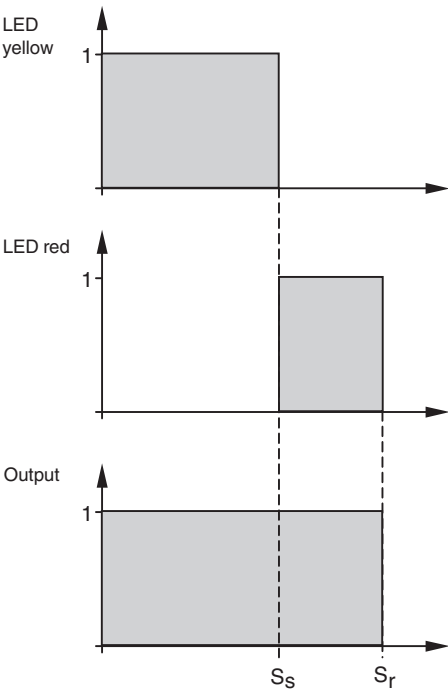
Connection Assignment

Wire colors in accordance with EN 60947-5-2

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

Operation

Correlation between output signal/LED-function  
and stable operating distance  $s_s$ /effective  
operating distance  $s_r$ : ( $s_s$  typ. 80 % of  $s_r$ )



Release date: 2024-10-31 Date of issue: 2024-10-31 Filename: 121009\_eng.pdf