



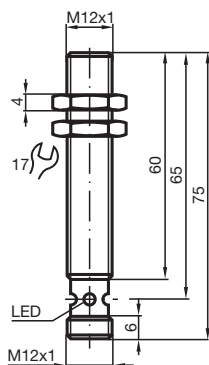
## Inductive sensor NCB4-12GM60-B3B-V1

- 4 mm flush
- Cylindrical
- A/B slave with extended addressing possibility for up to 62 slaves
- NO/NC selectable
- On/Off delay (disconnectable)

AS-Interface



### Dimensions



### Technical Data

#### General specifications

|                               |       |                                           |
|-------------------------------|-------|-------------------------------------------|
| Switching function            |       | Normally open/closed (NO/NC) programmable |
| Output type                   |       | AS-Interface                              |
| Rated operating distance      | $s_n$ | 4 mm                                      |
| Installation                  |       | flush                                     |
| Assured operating distance    | $s_a$ | 0 ... 3.24 mm                             |
| Actual operating distance     | $s_r$ | 3.6 ... 4.4 mm typ. 4 mm                  |
| Reduction factor $r_{AI}$     |       | 0.23                                      |
| Reduction factor $r_{Cu}$     |       | 0.21                                      |
| Reduction factor $r_{304}$    |       | 0.7                                       |
| Slave type                    |       | A/B slave                                 |
| AS-Interface specification    |       | V3.0                                      |
| Required master specification |       | $\geq$ V2.1                               |

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

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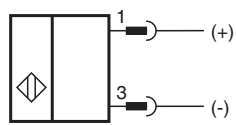
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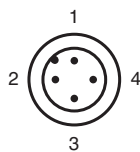
Technical Data

|                                          |                |                                                              |
|------------------------------------------|----------------|--------------------------------------------------------------|
| Output type                              |                | 2-wire                                                       |
| Nominal ratings                          |                |                                                              |
| Operating voltage                        | U <sub>B</sub> | 26.5 ... 31.9 V via AS-i bus system                          |
| Switching frequency                      | f              | 0 ... 500 Hz                                                 |
| Hysteresis                               | H              | 1 ... 15 typ. 5 %                                            |
| Reverse polarity protection              |                | reverse polarity protected                                   |
| No-load supply current                   | I <sub>0</sub> | ≤ 25 mA                                                      |
| Time delay before availability           | t <sub>v</sub> | ≤ 1000 ms                                                    |
| Switching state indicator                |                | dual-LED, yellow                                             |
| Error indicator                          |                | dual-LED, red                                                |
| Functional safety related parameters     |                |                                                              |
| MTTF <sub>d</sub>                        |                | 2140 a                                                       |
| Mission Time (T <sub>M</sub> )           |                | 20 a                                                         |
| Diagnostic Coverage (DC)                 |                | 0 %                                                          |
| Compliance with standards and directives |                |                                                              |
| Standard conformity                      |                |                                                              |
| Standards                                |                | EN 60947-5-2:2007<br>IEC 60947-5-2:2007                      |
| Approvals and certificates               |                |                                                              |
| UL approval                              |                | cULus Listed, General Purpose                                |
| CSA approval                             |                | cCSAus Listed, General Purpose                               |
| CCC approval                             |                | CCC approval / marking not required for products rated ≤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                         |                | Stainless steel 1.4305 / AISI 303                            |
| Sensing face                             |                | PBT                                                          |
| Degree of protection                     |                | IP67                                                         |

Connection



Connection Assignment



Release date: 2020-03-23 Date of issue: 2020-03-30 Filename: 226328\_eng.pdf

## Additional Information

### Programming Instructions

Adress 00    preset, alterable  
                   via Busmaster  
                   or programming units

IO-Code    0  
 ID-Code    A  
 ID1-Code   7  
 ID2-Code   E

### Data bit

| Bit | Function        |
|-----|-----------------|
| D0  | Switching state |
| D1  | not used        |
| D2  | not used        |
| D3  | not used        |

### Parameter bit

| Bit | Function                                   |
|-----|--------------------------------------------|
| P0  | ON / Off delay<br>activated* / deactivated |
| P1  | Switching element function<br>NO* / NC     |
| P2  | not used                                   |
| P3  | not used                                   |

\*Standard setting

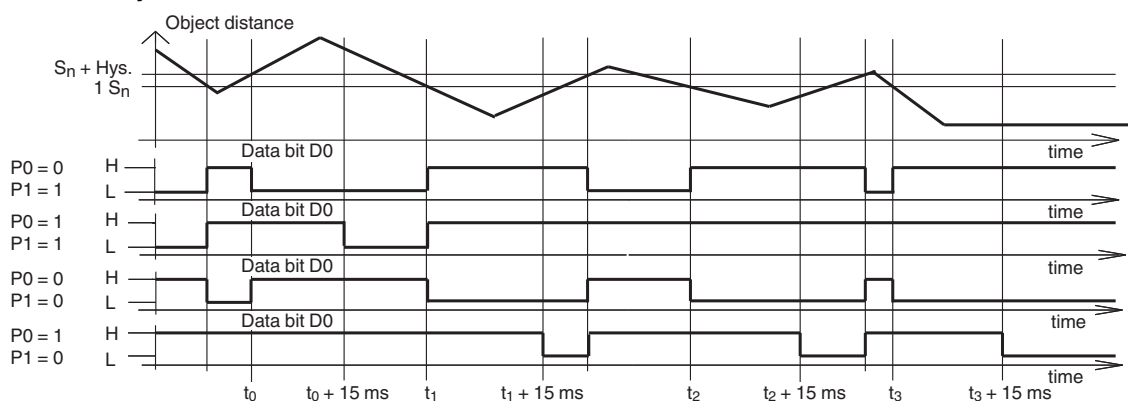
## Accessories

|                                                                                     |                               |                                                |
|-------------------------------------------------------------------------------------|-------------------------------|------------------------------------------------|
|  | <b>BF 12</b>                  | Mounting flange, 12 mm                         |
|  | <b>EXG-12</b>                 | Quick mounting bracket with dead stop          |
|  | <b>V1-G-BK0,3M-PUR-U-V1-G</b> | Connection cable, M12 to M12, PUR cable, 4-pin |
|  | <b>V1-G-BK1M-PUR-U-V1-G</b>   | Connection cable, M12 to M12, PUR cable, 4-pin |

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## Characteristic Curve

### On/off delay:



The on/off delay is preset and switched on (P0=1). On delay approx. 15 ms, when P0=1 and NO function (P1=1). Off delay approx. 15 ms, when P0=1 and NC function (P1=0).