

# Inductive sensor

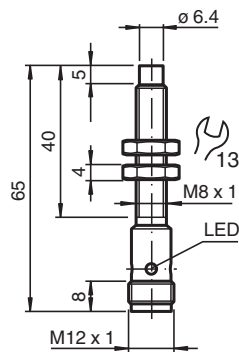
## NBN3-8GM40-E0-V1



- 3 mm non-flush
- Increased operating distance
- Extended temperature range  
-40 ... +85 °C



### Dimensions



### Technical Data

| General specifications       |       |                                                                           |
|------------------------------|-------|---------------------------------------------------------------------------|
| Switching function           |       | Normally open (NO)                                                        |
| Output type                  |       | NPN                                                                       |
| Rated operating distance     | $s_n$ | 3 mm                                                                      |
| Installation                 |       | non-flush                                                                 |
| Output polarity              |       | DC                                                                        |
| Assured operating distance   | $s_a$ | 0 ... 2.43 mm                                                             |
| Actuating element            |       | mild steel, e. g. 1.0037, SR235JR (formerly St37-2)<br>8 mm x 8 mm x 1 mm |
| Reduction factor $r_{Al}$    |       | 0.5                                                                       |
| Reduction factor $r_{Cu}$    |       | 0.45                                                                      |
| Reduction factor $r_{304}$   |       | 0.75                                                                      |
| Reduction factor $r_{Brass}$ |       | 0.55                                                                      |
| Output type                  |       | 3-wire                                                                    |
| Nominal ratings              |       |                                                                           |
| Operating voltage            | $U_B$ | 5 ... 30 V                                                                |
| Switching frequency          | $f$   | 0 ... 4500 Hz                                                             |

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

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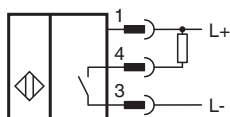
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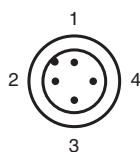
## Technical Data

|                                                 |       |                                                                                             |
|-------------------------------------------------|-------|---------------------------------------------------------------------------------------------|
| Hysteresis                                      | H     | typ. 5%                                                                                     |
| Reverse polarity protection                     |       | reverse polarity protected                                                                  |
| Short-circuit protection                        |       | pulsing                                                                                     |
| Voltage drop                                    | $U_d$ | $\leq 1.5 \text{ V}$                                                                        |
| Operating current                               | $I_L$ | 0 ... 100 mA                                                                                |
| Off-state current                               | $I_r$ | 0 ... 0.2 mA                                                                                |
| No-load supply current                          | $I_0$ | $\leq 10 \text{ mA}$                                                                        |
| Time delay before availability                  | $t_v$ | $\leq 100 \text{ ms}$                                                                       |
| Switching state indicator                       |       | Multihole-LED, yellow                                                                       |
| <b>Functional safety related parameters</b>     |       |                                                                                             |
| MTTF <sub>d</sub>                               |       | 960 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>               |       |                                                                                             |
| UL approval                                     |       | cULus Listed, General Purpose, Class 2 Power Source                                         |
| CCC approval                                    |       | CCC approval / marking not required for products rated $\leq 36 \text{ V}$                  |
| <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 , 4-pin                                                              |
| Housing material                                |       | brass, nickel-plated                                                                        |
| Sensing face                                    |       | LCP                                                                                         |
| Degree of protection                            |       | IP67                                                                                        |
| <b>General information</b>                      |       |                                                                                             |
| Scope of delivery                               |       | 2 hex nuts included                                                                         |

## 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>BF 8</b>        | Mounting flange, 8 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 |

Release date: 2020-03-24 Date of issue: 2020-03-30 Filename: 304615-0124\_eng.pdf