

# Inductive sensor

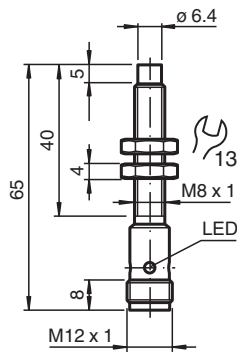
## NBN3-8GM40-A0-V1



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



### Dimensions



### Technical Data

#### General specifications

|                              |       |                                                                           |
|------------------------------|-------|---------------------------------------------------------------------------|
| Switching function           |       | complementary                                                             |
| 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                  |       | 4-wire                                                                    |

#### Nominal ratings

|                             |       |                            |
|-----------------------------|-------|----------------------------|
| Operating voltage           | $U_B$ | 5 ... 30 V                 |
| Switching frequency         | $f$   | 0 ... 4500 Hz              |
| Hysteresis                  | $H$   | typ. 5%                    |
| Reverse polarity protection |       | reverse polarity protected |
| Short-circuit protection    |       | pulsing                    |
| Voltage drop                | $U_d$ | $\leq 1.5$ V               |

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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

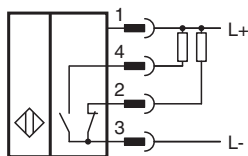
Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

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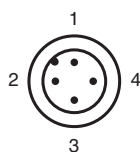
Technical Data

|                                                 |       |                                                              |
|-------------------------------------------------|-------|--------------------------------------------------------------|
| Operating current                               | $I_L$ | 0 ... 100 mA                                                 |
| Off-state current                               | $I_r$ | 0 ... 0.2 mA                                                 |
| No-load supply current                          | $I_0$ | ≤ 10 mA                                                      |
| Time delay before availability                  | $t_v$ | ≤ 100 ms                                                     |
| Switching state indicator                       |       | Multihole-LED, yellow                                        |
| <b>Functional safety related parameters</b>     |       |                                                              |
| MTTF <sub>d</sub>                               |       | 960 a                                                        |
| Mission Time (T <sub>M</sub> )                  |       | 20 a                                                         |
| Diagnostic Coverage (DC)                        |       | 0 %                                                          |
| <b>Compliance with standards and directives</b> |       |                                                              |
| Standard conformity                             |       |                                                              |
| Standards                                       |       | EN IEC 60947-5-2                                             |
| <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 ≤36 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                                               |
| Housing material                                |       | brass, nickel-plated                                         |
| Sensing face                                    |       | LCP                                                          |
| Degree of protection                            |       | IP65 / IP66 / IP67                                           |
| Connector                                       |       |                                                              |
| Threading                                       |       | M12 x 1                                                      |
| Number of pins                                  |       | 4                                                            |
| Dimensions                                      |       |                                                              |
| Length                                          |       | 65 mm                                                        |
| Diameter                                        |       | 8 mm                                                         |
| <b>General information</b>                      |       |                                                              |
| Scope of delivery                               |       | 2 hex nuts included                                          |

Connection



Connection Assignment



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## Connection Assignment

Wire colors in accordance with EN 60947-5-2

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