



### Model Number

**NBB1,5-6,5S40-E2-V3**

### Features

- 1.5 mm flush
- Stainless steel version
- Extended temperature range

### Accessories

#### BF 6,5

Mounting flange, 6.5 mm

#### V3-GM

Female connector, M8, 3-pin, field attachable

#### V3-WM

Female connector, M8, 3-pin, field attachable

#### V3-GM-2M-PUR

Cable socket, M8, 3-pin, PUR cable

#### V3-WM-2M-PUR

Cable socket, M8, 3-pin, PUR cable

## Technical Data

### General specifications

|                              |       |   |    |
|------------------------------|-------|---|----|
| Switching element function   |       | PNP   | NO |
| Rated operating distance     | $s_n$ | 1.5 mm  |    |
| Installation                 |       | flush   |    |
| Output polarity              |       | DC  |    |
| Assured operating distance   | $s_a$ | 0 ... 1.215 mm  |    |
| Actuating element            |       | mild steel, e. g. 1.0037, SR235JR (formerly St37-2)<br>8 mm x 8 mm x 1 mm |    |
| Reduction factor $r_{Al}$    |       | 0.4   |    |
| Reduction factor $r_{Cu}$    |       | 0.2   |    |
| Reduction factor $r_{304}$   |       | 0.8   |    |
| Reduction factor $r_{Brass}$ |       | 0.4   |    |

### Nominal ratings

|                                  |       |                            |  |
|----------------------------------|-------|----------------------------|--|
| Operating voltage                | $U_B$ | 10 ... 30 V                |  |
| Switching frequency              | $f$   | 0 ... 1500 Hz              |  |
| Hysteresis                       | $H$   | 0.01 ... 0.33 mm           |  |
| Reverse polarity protection      |       | reverse polarity protected |  |
| Short-circuit protection         |       | yes                        |  |
| Overload resistance              |       | yes                        |  |
| Wire breakage protection         |       | yes                        |  |
| Inductive overvoltage protection |       | yes                        |  |
| Surge suppression                |       | yes                        |  |
| Ripple                           |       | 10 %                       |  |
| Voltage drop                     | $U_d$ | $\leq 2.5$ V               |  |
| Repeat accuracy                  | $R$   | 0.08 mm                    |  |
| Operating current                | $I_L$ | 0 ... 200 mA               |  |
| Off-state current                | $I_r$ | 0.01 mA                    |  |
| No-load supply current           | $I_0$ | $\leq 7$ mA                |  |
| Switching state indicator        |       | LED, yellow                |  |

### Functional safety related parameters

|                                |        |
|--------------------------------|--------|
| MTTF <sub>d</sub>              | 2090 a |
| Mission Time (T <sub>M</sub> ) | 20 a   |
| Diagnostic Coverage (DC)       | 0 %    |

### Ambient conditions

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

### Mechanical specifications

|                      |                                   |
|----------------------|-----------------------------------|
| Connection type      | connector (M8 x 1), 3-pin         |
| Housing material     | Stainless steel 1.4305 / AISI 303 |
| Sensing face         | PBT                               |
| Degree of protection | IP67                              |
| Mass                 | 6 g                               |

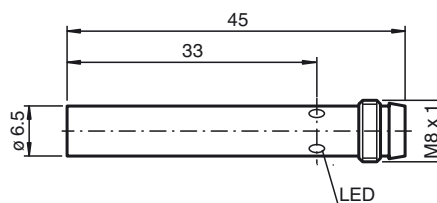
### Compliance with standards and directives

|                     |   |
|---------------------|---|
| Standard conformity |   |
| Standards           | EN 60947-5-2:2007<br>IEC 60947-5-2:2007 |

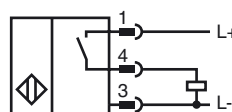
### Approvals and certificates

|              |  |
|--------------|--|
| CCC approval | CCC approval / marking not required for products rated $\leq 36$ V |
|--------------|--|

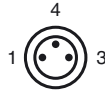
## Dimensions



## Electrical Connection



## Pinout



Wire colors in accordance with EN 60947-5-2

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