



### Model Number

**NBN20-30GM50-EI-V1**

### Features

- 20 mm non-flush
- Extended temperature range  
-40 ... +85 °C
- Digital current output

### Accessories

#### BF 30

Mounting flange, 30 mm

#### V1-G

Female connector, M12, 4-pin, field attachable

#### V1-W

Female connector, M12, 4-pin, field attachable

#### V1-G-2M-PVC

Female cordset, M12, 4-pin, PVC cable

#### V1-W-2M-PVC

Female cordset, M12, 4-pin, PVC cable

## Technical Data

### General specifications

|                              |   |
|------------------------------|---|
| Output type                  | Digital current output  |
| Rated operating distance     | $s_n$ 20 mm   |
| Installation                 | non-flush   |
| Output polarity              | DC  |
| Assured operating distance   | $s_a$ 0 ... 16.2 mm   |
| Actuating element            | mild steel, e. g. 1.0037, SR235JR (formerly St37-2)<br>12 mm x 12 mm x 1 mm |
| Reduction factor $r_{Al}$    | 0.45  |
| Reduction factor $r_{Cu}$    | 0.4   |
| Reduction factor $r_{304}$   | 0.7   |
| Reduction factor $r_{Brass}$ | 0.45  |
| Output type                  | 3-wire  |

### Nominal ratings

|                                |                            |
|--------------------------------|----------------------------|
| Operating voltage              | $U_B$ 9 ... 30 V DC        |
| Switching frequency            | $f$ 0 ... 1000 Hz          |
| Hysteresis                     | $H$ 2 ... 15 %             |
| Reverse polarity protection    | reverse polarity protected |
| Short-circuit protection       | yes                        |
| Temperature drift              | ≤ 10 %                     |
| Time delay before availability | $t_v$ ≤ 5 ms               |
| Load resistor                  | 100 ... 250 Ohm            |
| Switching state indicator      | LED, yellow                |

### Functional safety related parameters

|                          |        |
|--------------------------|--------|
| MTTF <sub>d</sub>        | 1672 a |
| Mission Time ( $T_M$ )   | 20 a   |
| Diagnostic Coverage (DC) | 0 %    |

### Digital output

|             |   |
|-------------|---|
| Output type | object detected: 10 mA ± 1 mA<br>object not detected: 5 mA ± 1 mA |
|-------------|---|

### Ambient conditions

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

### Mechanical specifications

|                      |                               |
|----------------------|-------------------------------|
| Connection type      | Connector plug M12 x 1, 4-pin |
| Housing material     | brass, nickel-plated          |
| Sensing face         | PBT                           |
| Degree of protection | IP68 / IP69K                  |

### General information

|                   |  |
|-------------------|--|
| Scope of delivery | 2 self locking nuts in scope of delivery |
|-------------------|--|

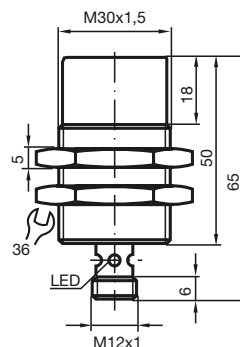
### Compliance with standards and directives

|                     |   |
|---------------------|---|
| 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 |

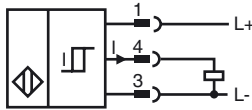
### Approvals and certificates

|             |   |
|-------------|---|
| UL approval | cULus Listed, General Purpose, Class 2 Power Source |
|-------------|---|

## Dimensions



Electrical Connection



Characteristic Curves

