



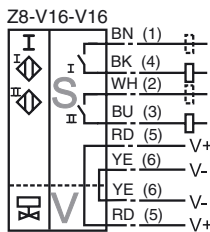
**Model Number**

NBN3-F31-Z8-V16-V16

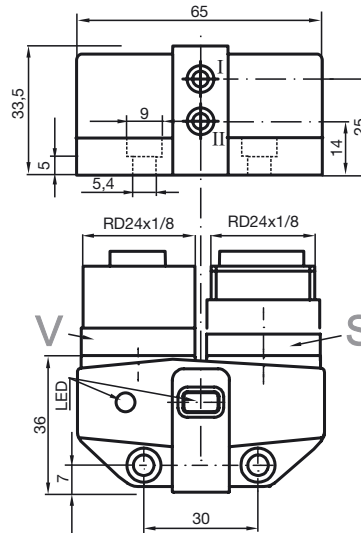
**Features**

- Direct mounting on standard actuators
- Compact and stable housing
- Fixed setting
- Satisfies machinery directive

**Connection**



**Dimensions**



**Technical Data**

**General specifications**

|                             |                     |
|-----------------------------|---------------------|
| Switching element function  | Dual (NO)           |
| Rated operating distance    | $s_n$ 3 mm          |
| Installation                | flush mountable     |
| Output polarity             | DC                  |
| Assured operating distance  | $s_a$ 0 ... 2.43 mm |
| Reduction factor $r_{AI}$   | 0.5                 |
| Reduction factor $r_{Cu}$   | 0.4                 |
| Reduction factor $r_{304}$  | 1                   |
| Reduction factor $r_{S137}$ | 1.1                 |

**Nominal ratings**

|                                   |                              |
|-----------------------------------|------------------------------|
| Operating voltage                 | $U_B$ 6 ... 60 V             |
| Switching frequency               | $f$ 0 ... 500 Hz             |
| Hysteresis                        | $H$ typ. 5 %                 |
| Reverse polarity protected        | tolerant                     |
| Short-circuit protection          | no                           |
| Voltage drop                      | $U_d$ $\leq$ 6 V             |
| Operating current                 | $I_L$ 4 ... 100 mA           |
| Lowest operating current          | $I_m$ 4 mA                   |
| Off-state current                 | $I_r$ 0 ... 1 mA typ. 0.7 mA |
| Indication of the switching state | LED, yellow                  |
| Valve status indication           | LED, yellow                  |

**Limit data**

|                                     |        |
|-------------------------------------|--------|
| Tightening torque, fastening screws | 0.4 Nm |
|-------------------------------------|--------|

**Functional safety related parameters**

|                                |       |
|--------------------------------|-------|
| MTTF <sub>d</sub>              | 590 a |
| Mission Time (T <sub>M</sub> ) | 20 a  |
| Diagnostic Coverage (DC)       | 0 %   |

**Ambient conditions**

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 70 °C (-13 ... 158 °F) |
|---------------------|--------------------------------|

**Mechanical specifications**

|                          |               |
|--------------------------|---------------|
| Connection (system side) | V16-connector |
| Connection (valve side)  | V16-connector |
| Housing material         | PBT           |
| Sensing face             | PBT           |
| Protection degree        | IP67          |

**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 |

Release date: 2012-02-27 13:53 Date of issue: 2012-02-27 087239\_eng.xml