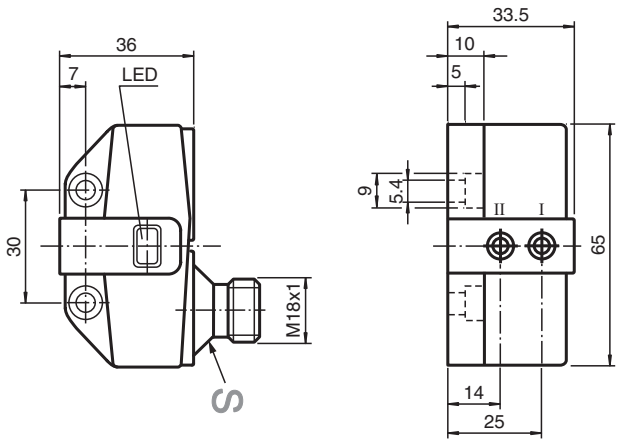


# Inductive sensor

## NBN3-F31-U8-V18

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

## Dimensions




## Technical Data

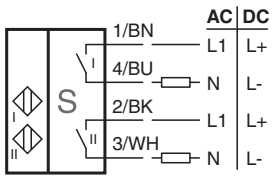
| | | |
|---|---|---|
| **General specifications** | | |
| Switching function | | 2 x normally open (NO) |
| Rated operating distance | $s_n$ | 3 mm |
| Installation | | flush mountable |
| Output polarity | | AC/DC |
| Assured operating distance | $s_a$ | 0 ... 2.43 mm |
| Reduction factor $r_{Al}$ | | 0.45 |
| Reduction factor $r_{Cu}$ | | 0.38 |
| Reduction factor $r_{304}$ | | 1 |
| Reduction factor $r_{St37}$ | | 1.04 |
| Output type | | 4-wire |
| **Nominal ratings** | | |
| Operating voltage | $U_B$ | 20 ... 253 V AC/DC |
| Switching frequency | f | 25 Hz |
| Hysteresis | H | typ. 3 % |
| Reverse polarity protection | | yes |
| Short-circuit protection | | yes |

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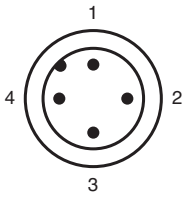
## Technical Data

| | | |
|---|---|---|
| Voltage drop | $U_d$ | ≤ 8 V |
| Operating current | $I_L$ | 4 ... 400 mA |
| Off-state current | $I_r$ | ≤ 1.7 mA |
| Operating voltage indicator | | LED, green |
| Switching state indicator | | LED, yellow |
| **Functional safety related parameters** | | |
| $MTTF_d$ | | 529 a |
| Mission Time ($T_M$) | | 20 a |
| Diagnostic Coverage (DC) | | 0 % |
| **Compliance with standards and directives** | | |
| Standard conformity | | |
| Standards | | EN IEC 60947-5-2 |
| **Approvals and certificates** | | |
| Protection class | | II |
| Rated insulation voltage | $U_i$ | 253 V |
| Rated impulse withstand voltage | $U_{imp}$ | 4 kV |
| UL approval | | cULus Listed<br>Load Type: General Purpose<br>Enclosure Type Rating: Type 1 |
| CSA approval | | cCSAus Listed, General Purpose |
| **Ambient conditions** | | |
| Ambient temperature | | -25 ... 70 °C (-13 ... 158 °F) |
| **Mechanical specifications** | | |
| Connection type | | Connector plug M18 x 1 , 4-pin |
| Housing material | | PBT |
| Sensing face | | PBT |
| Degree of protection | | IP67 |
| Tightening torque, fastening screws | | ≤ 5 Nm |
| Dimensions | | |
| Height | | 33.5 mm |
| Width | | 65 mm |
| Length | | 36 mm |

## 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) |

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