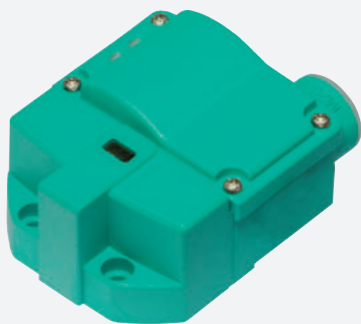




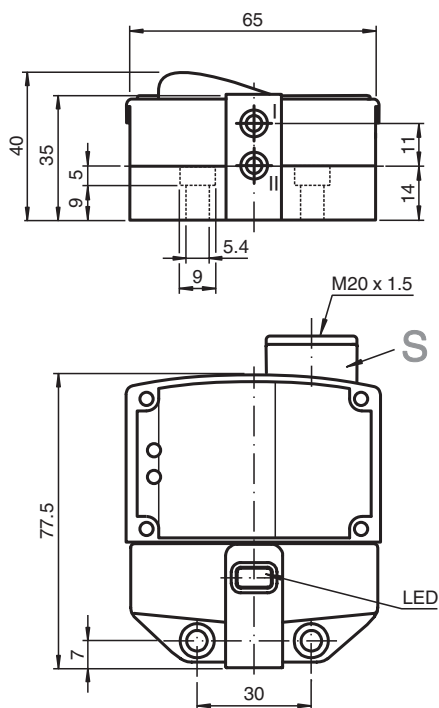
## Inductive sensor

### NBN3-F31K-Z8

- Direct mounting on standard actuators
- Fixed setting



## Dimensions



## Technical Data

### General specifications

|                            |       |                          |
|----------------------------|-------|--------------------------|
| Switching function         |       | 2 x normally open (NO)   |
| Output type                |       | Two-wire                 |
| Rated operating distance   | $s_n$ | 3 mm                     |
| Installation               |       | flush mountable          |
| Output polarity            |       | DC                       |
| Assured operating distance | $s_a$ | 0 ... 2.43 mm            |
| Actual operating distance  | $s_r$ | 2.7 ... 3.3 mm typ. 3 mm |
| Reduction factor $r_{AI}$  |       | 0.5                      |
| Reduction factor $r_{Cu}$  |       | 0.4                      |

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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

**PEPPERL+FUCHS**

## Technical Data

|                                                 |       |                                                     |
|-------------------------------------------------|-------|-----------------------------------------------------|
| Reduction factor $r_{304}$                      |       | 1                                                   |
| Reduction factor $r_{317}$                      |       | 1.1                                                 |
| Output type                                     |       | 4-wire                                              |
| <b>Nominal ratings</b>                          |       |                                                     |
| Operating voltage                               | $U_B$ | 6 ... 60 V DC                                       |
| Switching frequency                             | $f$   | 0 ... 500 Hz                                        |
| Hysteresis                                      | $H$   | typ. 5 %                                            |
| Reverse polarity protection                     |       | reverse polarity tolerant                           |
| Short-circuit protection                        |       | pulsing                                             |
| Voltage drop                                    | $U_d$ | $\leq 5.5$ V                                        |
| Operating current                               | $I_L$ | 4 ... 100 mA                                        |
| Lowest operating current                        | $I_m$ | 4 mA                                                |
| Off-state current                               | $I_r$ | 0.5 ... 0.9 mA typ. 0.65 mA                         |
| Time delay before availability                  | $t_v$ | $\leq 40$ ms                                        |
| Switching state indicator                       |       | LED, yellow                                         |
| <b>Limit data</b>                               |       |                                                     |
| Tightening torque, fastening screws             |       | 0.4 Nm                                              |
| <b>Functional safety related parameters</b>     |       |                                                     |
| MTTF <sub>d</sub>                               |       | 570 a                                               |
| Mission Time ( $T_M$ )                          |       | 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                                    |       | Certified by China Compulsory Certification (CCC)   |
| <b>Ambient conditions</b>                       |       |                                                     |
| Ambient temperature                             |       | -25 ... 70 °C (-13 ... 158 °F)                      |
| <b>Mechanical specifications</b>                |       |                                                     |
| Connection (system side)                        |       | Cage tension spring terminals                       |
| Core cross section (system side)                |       | 1.5/2.5 mm <sup>2</sup> flexible/rigid              |
| Housing material                                |       | PBT                                                 |
| Sensing face                                    |       | PBT                                                 |
| Degree of protection                            |       | IP67                                                |
| Mass                                            |       | 174 g                                               |
| Tightening torque, fastening screws             |       | $\leq 5$ Nm                                         |
| Tightening torque, housing screws               |       | 1 Nm                                                |
| Tightening torque, cable gland                  |       | M20 x 1.5 ; max. 7 Nm                               |
| <b>Dimensions</b>                               |       |                                                     |
| Height                                          |       | 35 mm                                               |
| Width                                           |       | 65 mm                                               |
| Length                                          |       | 77.5 mm                                             |

## Connection

