



### Model Number

NBN4-F29-E2-C

### Features

- 4 mm non-flush
- For use in direct- and alternating-field welding systems

## Technical Data

### General specifications

|                            |       |               |
|----------------------------|-------|---------------|
| Switching element function | PNP   | NO            |
| Rated operating distance   | $s_n$ | 4 mm          |
| Installation               |       | non-flush     |
| Output polarity            |       | DC            |
| Assured operating distance | $s_a$ | 0 ... 3.24 mm |
| Reduction factor $r_{Al}$  |       | 0.4           |
| Reduction factor $r_{Cu}$  |       | 0.3           |
| Reduction factor $r_{304}$ |       | 0.7           |

### Nominal ratings

|                                |       |                                        |
|--------------------------------|-------|----------------------------------------|
| Operating voltage              | $U_B$ | 4.75 ... 30 V DC                       |
| Switching frequency            | $f$   | 0 ... 1000 Hz                          |
| Hysteresis                     | $H$   | typ. 5 %                               |
| Reverse polarity protection    |       | reverse polarity protected             |
| Short-circuit protection       |       | pulsing                                |
| Voltage drop                   | $U_d$ | $\leq 3$ V                             |
| Operating current              | $I_L$ | 0 ... 100 mA                           |
| Off-state current              | $I_r$ | 0 ... 0.5 mA typ. 0.1 $\mu$ A at 25 °C |
| No-load supply current         | $I_0$ | $\leq 10$ mA                           |
| Time delay before availability | $t_v$ | $\leq 5$ ms                            |
| Constant magnetic field        | $B$   | 200 mT                                 |
| Alternating magnetic field     | $B$   | 200 mT                                 |
| Switching state indicator      |       | LED, yellow                            |

### Functional safety related parameters

|                          |        |
|--------------------------|--------|
| MTTF <sub>d</sub>        | 1680 a |
| Mission Time ( $T_M$ )   | 20 a   |
| Diagnostic Coverage (DC) | 0 %    |

### Ambient conditions

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 70 °C (-13 ... 158 °F) |
| Storage temperature | -40 ... 85 °C (-40 ... 185 °F) |

### Mechanical specifications

|                      |                      |
|----------------------|----------------------|
| Connection type      | cable PVC, 2 m       |
| Core cross-section   | 0.14 mm <sup>2</sup> |
| Housing material     | PPS                  |
| Sensing face         | PPS                  |
| Degree of protection | IP67                 |

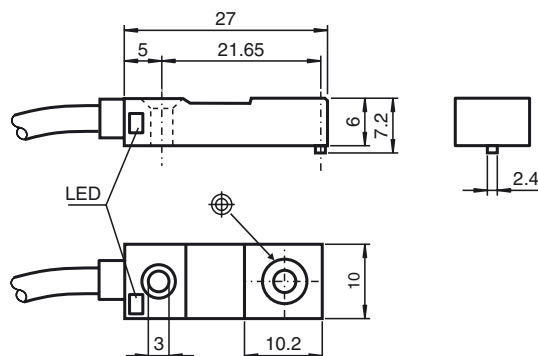
### Compliance with standards and directives

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

## Dimensions



## Electrical Connection

