



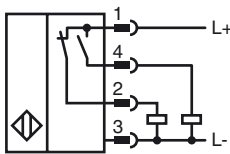
**Model Number**

NCN20-F35-A2-250-10M-V1

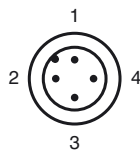
**Features**

- Comfort series
- 20 mm flush mountable
- Extended temperature range of sensor component 0 ... 250 °C (0 ... 482 °F)
- 10 m cable between sensor and amplifier with metal case
- Appropriate for conveyor chains
- Minimum bending radius of 30 cm for movable laying

**Connection**



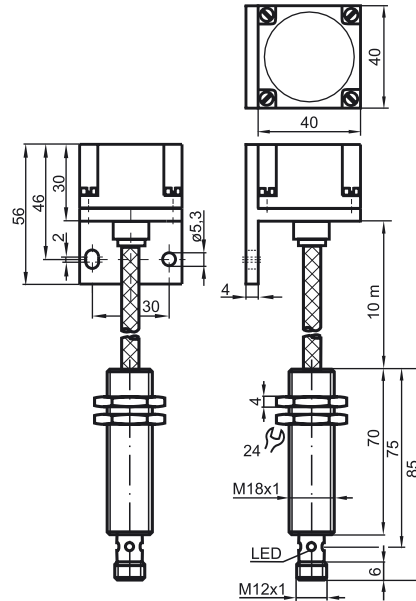
**Pinout**



Wire colors in accordance with EN 60947-5-2

|   |    |         |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue)  |
| 4 | BK | (black) |

**Dimensions**



**Technical Data**

**General specifications**

|                            |       |                 |
|----------------------------|-------|-----------------|
| Switching element function | PNP   | NO/NC           |
| Rated operating distance   | $s_n$ | 20 mm           |
| Installation               |       | flush mountable |
| Output polarity            |       | DC              |
| Assured operating distance | $s_a$ | 0 ... 16.2 mm   |
| Reduction factor $r_{Al}$  |       | 0.5             |
| Reduction factor $r_{Cu}$  |       | 0.5             |
| Reduction factor $r_{304}$ |       | 0.6 ... 1       |
| Mounting angle             |       | Al              |
| Amplifier housing          |       | Stainless steel |

**Nominal ratings**

|                                |       |                            |
|--------------------------------|-------|----------------------------|
| Operating voltage              | $U_B$ | 10 ... 30 V                |
| Switching frequency            | $f$   | 0 ... 20 Hz                |
| Hysteresis                     | $H$   | 0.3 ... 5 typ. 2 %         |
| Reverse polarity protection    |       | reverse polarity protected |
| Short-circuit protection       |       | pulsing                    |
| Voltage drop                   | $U_d$ | $\leq 3$ V                 |
| Operating current              | $I_L$ | 0 ... 200 mA               |
| No-load supply current         | $I_0$ | $\leq 25$ mA               |
| Time delay before availability | $t_v$ | $\leq 20$ ms               |
| Switching state indication     |       | Multihole-LED, yellow      |

**Functional safety related parameters**

|                                |        |
|--------------------------------|--------|
| MTTF <sub>d</sub>              | 7515 a |
| Mission Time (T <sub>M</sub> ) | 20 a   |
| Diagnostic Coverage (DC)       | 0 %    |

**Ambient conditions**

|                     |                              |
|---------------------|------------------------------|
| Ambient temperature | 0 ... 250 °C (32 ... 482 °F) |
|---------------------|------------------------------|

**Mechanical specifications**

|                    |   |
|--------------------|---|
| Connection type    | Device connector M12 x 1 , 4-pin          |
| Cable version      | PFA cable, with armour of stainless steel |
| Core cross-section | 3 x 0.34 , screened                       |
| Housing material   | PTFE / Al / 1.4305 / AISI 303             |
| Sensing face       | PTFE                                      |
| Protection degree  | amplifier IP67<br>sensor IP40             |

**Note**

- amplifier 0 °C ... 70 °C  
 -  $r_{1,4305}$  dep. on thickness of measurement plate d:  
 $r_{1,4305} = 1$  for  $d < 1$  mm  
 Additional accessory: Protective cover SH-F35 is available for use in areas where there is moisture and as a means of mechanical protection.

**Compliance with standards and directives**

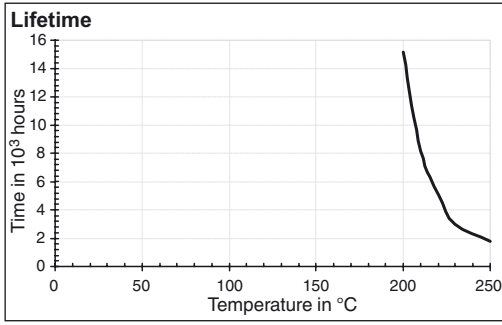
|                     |   |
|---------------------|---|
| Standard conformity |   |
| Standards           | EN 60947-5-2:2007<br>IEC 60947-5-2:2007 |

**Approvals and certificates**

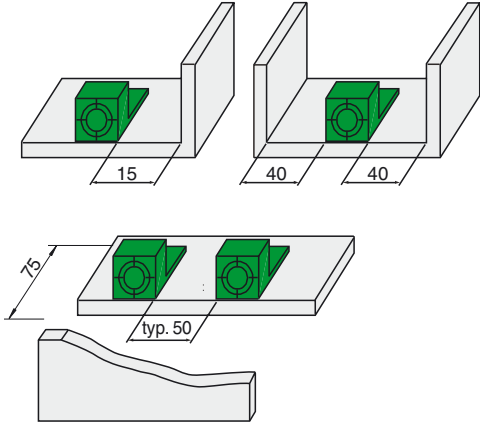
|              |  |
|--------------|--|
| UL approval  | cULus Listed, General Purpose, Class 2 Power Source  |
| CSA approval | cCSAus Listed, General Purpose   |
| CCC approval | Products with a maximum operating voltage of $\leq 36$ V do not bear a CCC marking because they do not require approval. |

Release date: 2013-01-29 08:02 Date of issue: 2013-01-29 187851\_eng.xml

Supplementary information



Installation:



Accessories:

Protective Cover SH-F35

