



Model Number

NBN12-18GK50-E1-M

Features

- 12 mm non-flush
- Extended temperature range
-40 ... +85 °C
- E1-Type approval
- Increased noise immunity 100 V/m
- With increased sealing, protection
class
IP68 / IP69K
- Highly shock and vibration resistant

Accessories

BF 18

Mounting flange, 18 mm

Technical Data

General specifications

| | |
|------------------------------|----------------------|
| Switching function | Normally closed (NC) |
| Output type | NPN |
| Rated operating distance | s_n 12 mm |
| Installation | non-flush |
| Output polarity | DC |
| Assured operating distance | s_a 0 ... 9.72 mm |
| Reduction factor r_{Al} | 0.5 |
| Reduction factor r_{Cu} | 0.45 |
| Reduction factor r_{304} | 0.7 |
| Reduction factor r_{Brass} | 0.5 |
| Output type | 3-wire |

Nominal ratings

| | | |
|----------------------------------|-----------|--------------------------------------|
| Operating voltage | U_B | 5 ... 60 V |
| Switching frequency | f | 0 ... 1500 Hz |
| Hysteresis | H | type 5 % |
| Reverse polarity protection | | reverse polarity protected |
| Short-circuit protection | | pulsing |
| Inductive overvoltage protection | | yes |
| Surge suppression | | yes |
| Voltage drop | U_d | ≤ 2 V |
| Rated insulation voltage | U_{BIS} | 60 V |
| Operating current | I_L | 0 ... 200 mA |
| Off-state current | I_r | 0 ... 0.5 mA typ. 6 μ A at 25 °C |
| No-load supply current | I_0 | ≤ 7 mA |
| Time delay before availability | t_v | ≤ 220 ms |
| Switching state indicator | | LED, yellow |

Functional safety related parameters

| | |
|--------------------------------|-------|
| MTTF _d | 846 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -40 ... 85 °C (-40 ... 185 °F) |
| Storage temperature | -40 ... 85 °C (-40 ... 185 °F) |

Mechanical specifications

| | |
|----------------------|--------------------------|
| Connection type | cable PUR , 2 m |
| Core cross-section | 3 x 0.75 mm ² |
| Housing material | PBT |
| Sensing face | PBT |
| Degree of protection | IP68 / IP69K |
| Mass | 120 g |

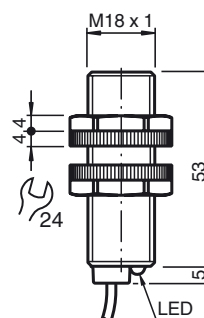
Compliance with standards and directives

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

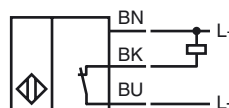
Approvals and certificates

| | |
|------------------|--|
| UL approval | cULus Listed, General Purpose, Class 2 Power Source |
| CSA approval | cCSAus Listed, General Purpose, Class 2 Power Source |
| CCC approval | Certified by China Compulsory Certification (CCC) |
| E1 Type approval | 10R-04 |

Dimensions



Electrical Connection



Installation Hint

Interference immunity in accordance with
 DIN ISO 11452-2: 100 V/m
 Frequency band 20 MHz up to 2 GHz

Mains-borne interference in accordance with ISO 7637-2: Pulse

| | | | | | | | |
|-------------------|-----|-----|-----|-----|-----|-----|-----|
| | 1 | 2a | 2b | 3a | 3b | 4 | 5 |
| Severity level | III | III | III | III | III | III | III |
| Failure criterion | C | A | C | A | A | A | B |

| | |
|----------------|------------------------|
| EN 61000-4-2: | CD: 8 kV / AD: 15 kV |
| Severity level | IV IV |
| EN 61000-4-3: | 30 V/m (80...2500 MHz) |
| Severity level | IV |
| EN 61000-4-4: | 2 kV |
| Severity level | III |
| EN 61000-4-6: | 10 V (0.01...80 MHz) |
| Severity level | III |
| EN 55011: | Class A |

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