



Model Number

NBN4-12GM35-A2-V1-M1

Features

- 4 mm non-flush
- Increased operating distance
- Extended temperature range
-40 ... +85 °C
- With increased sealing, protection class
IP68 / IP69K
- E1-Type approval

Accessories

BF 12

Mounting flange, 12 mm

V1-G

Female connector, M12, 4-pin, field attachable

V1-W

Female connector, M12, 4-pin, field attachable

V1-G-2M-PUR

Female cordset, M12, 4-pin, PUR cable

V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

Technical Data

General specifications

| | | |
|------------------------------|-------|-----------------------------------------------------------------------------|
| Switching function | | complementary |
| Output type | | PNP |
| Rated operating distance | s_n | 4 mm |
| Installation | | non-flush |
| Output polarity | | DC |
| Assured operating distance | s_a | 0 ... 3.24 mm |
| Actuating element | | mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 12 mm x 12 mm x 1 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 | | 4-wire |

Nominal ratings

| | | |
|--------------------------------|-------|--------------------------------------|
| Operating voltage | U_B | 7 ... 30 V |
| Switching frequency | f | 0 ... 1200 Hz |
| Hysteresis | H | typ. 5% |
| Reverse polarity protection | | reverse polarity protected |
| Short-circuit protection | | pulsing |
| Voltage drop | U_d | ≤ 2 V |
| Operating current | I_L | 0 ... 200 mA |
| Off-state current | I_r | 0 ... 0.5 mA typ. 4 μ A at 25 °C |
| No-load supply current | I_0 | ≤ 10 mA |
| Time delay before availability | t_v | ≤ 100 ms |
| Switching state indicator | | Multihole-LED, yellow |

Functional safety related parameters

| | |
|--------------------------------|--------|
| MTTF _d | 1484 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 | Connector M12 x 1, 4-pin |
| Housing material | brass, nickel-plated |
| Sensing face | PBT |
| Degree of protection | IP68 / IP69K |
| Mass | 15 g |

General information

| | |
|-------------------|------------------------------------------|
| Scope of delivery | 2 self locking nuts in scope of delivery |
|-------------------|------------------------------------------|

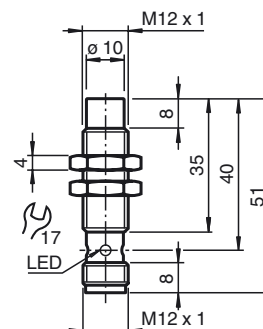
Compliance with standards and directives

| | |
|---------------------|---------------------------------------------------------------------------------------------------------------|
| Standard conformity | |
| Standards | EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012 EN 12895: 2015 |

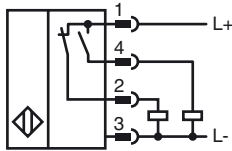
Approvals and certificates

| | |
|------------------|--------------------------------------------------------------------|
| UL approval | cULus Listed, General Purpose, Class 2 Power Source |
| CCC approval | CCC approval / marking not required for products rated ≤ 36 V |
| E1 Type approval | 10R-04 |

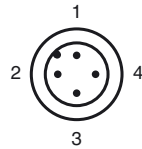
Dimensions



Electrical Connection



Pinout



Wire colors in accordance with EN 60947-5-2

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

Installation Hint

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

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

EN 61000-4-2: CD: 8 kV / AD: 15 kV
Severity level IV IV

EN 61000-4-3: 36 V/m (80...2500 MHz)
Severity level IV

EN 61000-4-4: 2 kV
Severity level III

EN 61000-4-6: 30 V (0.01...80 MHz)
Severity level III

EN 55011: Class A