



Model Number

NBB4-12GM50-E3-M-150MM-3DT04

Features

- 4 mm 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
- 3-pin Deutsch connector (DT04)

Accessories

BF 12

Mounting flange, 12 mm

EXG-12

Quick mounting bracket with dead stop

Technical Data

General specifications

| | | |
|------------------------------|-------|-----------------------------------------------------------------------------|
| Switching function | | Normally closed (NC) |
| Output type | | PNP |
| Rated operating distance | s_n | 4 mm |
| Installation | | 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} | | 0.45 |
| Reduction factor r_{Cu} | | 0.35 |
| Reduction factor r_{304} | | 0.75 |
| Reduction factor r_{Brass} | | 0.45 |
| Output type | | 3-wire |

Nominal ratings

| | | |
|----------------------------------|-----------|----------------------------------------|
| Operating voltage | U_B | 5 ... 60 V |
| Switching frequency | f | 0 ... 2500 Hz |
| Hysteresis | H | typ. 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. 0.1 μ A at 25 °C |
| No-load supply current | I_0 | ≤ 7 mA |
| Time delay before availability | t_v | ≤ 200 ms |
| Switching state indicator | | LED, yellow |

Functional safety related parameters

| | |
|--------------------------|----------|
| MTTF _d | 1000.5 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 connector Deutsch DT04 , 3-pin with PUR cable 125 mm |
| Core cross-section | 3 x 0.75 mm ² |
| Housing material | brass, nickel-plated |
| Sensing face | PBT |
| Degree of protection | IP68 / IP69K |
| Connector | |
| Connection assembly | Deutsch connector DT04-3P-CE02 Deutsch wedge W3P Deutsch contact 1060-16-0622 |

| | |
|--------|------------------|
| Cable | |
| Length | L L = 125 mm |
| Note | molded Connector |

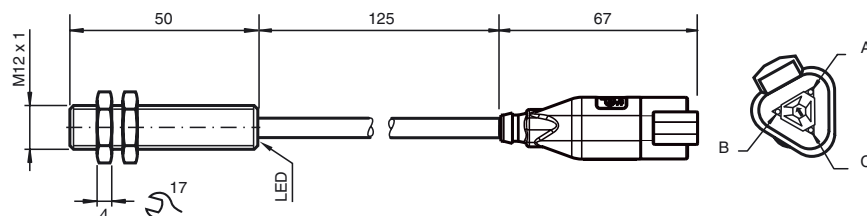
Compliance with standards and directives

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

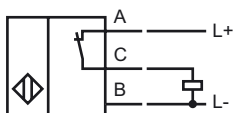
Approvals and certificates

| | |
|------------------|--------|
| E1 Type approval | 10R-04 |
|------------------|--------|

Dimensions



Electrical Connection



Wire colors

| | | |
|---|--|----|
| A | | BN |
| B | | BU |
| C | | BK |

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 |