

Inductive sensor

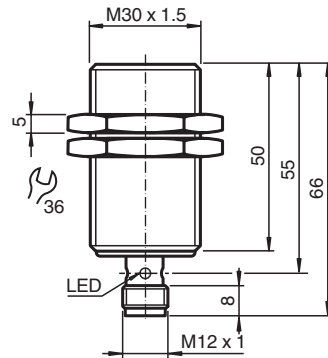
NBB15-30GM50-E2-V1-M1



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



Dimensions



Technical Data

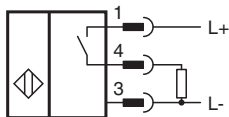
| General specifications | | |
|------------------------------|-------|---|
| Switching function | | Normally open (NO) |
| Output type | | PNP |
| Rated operating distance | s_n | 15 mm |
| Installation | | flush |
| Output polarity | | DC |
| Assured operating distance | s_a | 0 ... 12.15 mm |
| Actuating element | | mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 45 mm x 45 mm x 1 mm |
| Reduction factor r_{Al} | | 0.45 |
| Reduction factor r_{Cu} | | 0.4 |
| Reduction factor r_{304} | | 0.7 |
| Reduction factor r_{Brass} | | 0.5 |
| Output type | | 3-wire |
| Nominal ratings | | |
| Operating voltage | U_B | 7 ... 30 V |
| Switching frequency | f | 0 ... 500 Hz |
| Hysteresis | H | typ. 5% |

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Technical Data

| | | |
|---|-------|--|
| Reverse polarity protection | | reverse polarity protected |
| Short-circuit protection | | pulsing |
| Voltage drop | U_d | $\leq 2 \text{ V}$ |
| Operating current | I_L | 0 ... 200 mA |
| Off-state current | I_r | 0 ... 0.5 mA typ. 4 μA at 25 °C |
| No-load supply current | I_0 | $\leq 10 \text{ mA}$ |
| Time delay before availability | t_v | $\leq 100 \text{ ms}$ |
| Switching state indicator | | LED, yellow |
| Functional safety related parameters | | |
| MTTF _d | | 1494 a |
| Mission Time (T _M) | | 20 a |
| Diagnostic Coverage (DC) | | 0 % |
| Compliance with standards and directives | | |
| Standard conformity | | |
| Standards | | EN IEC 60947-5-2 |
| Approvals and certificates | | |
| UL approval | | cULus Listed, General Purpose, Class 2 Power Source |
| CCC approval | | CCC approval / marking not required for products rated $\leq 36 \text{ V}$ |
| E1 Type approval | | 10R-04 |
| Ambient conditions | | |
| Ambient temperature | | -40 ... 85 °C (-40 ... 185 °F) |
| Storage temperature | | -40 ... 85 °C (-40 ... 185 °F) |
| Mechanical specifications | | |
| Connection type | | Connector plug |
| Housing material | | brass, nickel-plated |
| Sensing face | | PBT |
| Degree of protection | | IP68 / IP69K |
| Connector | | |
| Threading | | M12 x 1 |
| Number of pins | | 3 |
| Mass | | 115 g |
| Dimensions | | |
| Length | | 66 mm |
| Diameter | | 30 mm |
| General information | | |
| Scope of delivery | | 2 self locking nuts in scope of delivery |

Connection



Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

Technical Features

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 |