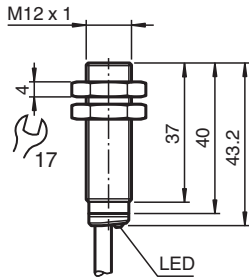


Inductive sensor NBB4-12GM40-E2

- 4 mm flush
- Increased operating distance
- Extended temperature range
-40 ... +85 °C
- Extended operating voltage range
- Flexible use with versatile mounting opportunities



Dimensions



Technical Data

General specifications

| | | |
|------------------------------|-------|---|
| Switching function | | Normally open (NO) |
| 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} | | 0.4 |
| Reduction factor r_{Cu} | | 0.35 |
| Reduction factor r_{304} | | 0.79 |
| Reduction factor r_{Brass} | | 0.49 |
| Output type | | 3-wire |

Nominal ratings

| | | |
|--------------------------------|-------|----------------------------|
| Operating voltage | U_B | 6 ... 36 V |
| Switching frequency | f | 0 ... 2550 Hz |
| Hysteresis | H | typ. 5 % |
| Reverse polarity protection | | reverse polarity protected |
| Short-circuit protection | | pulsing |
| Voltage drop | U_d | ≤ 1 V |
| Operating current | I_L | 0 ... 200 mA |
| Off-state current | I_r | max. 20 μ A |
| No-load supply current | I_0 | ≤ 10 mA |
| Time delay before availability | t_v | ≤ 10 ms |
| Switching state indicator | | LED, yellow |

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Technical Data

Functional safety related parameters

| | |
|--------------------------------|--------|
| MTTF _d | 1607 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Conformity

| | |
|-----------------|------------------------|
| PWIS conformity | VDMA 24364-C1/T100°C-W |
|-----------------|------------------------|

Compliance with standards and directives

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

Approvals and certificates

| | |
|---------------------------------|--|
| Protection class | II |
| Rated insulation voltage | U _i 36 V |
| Rated impulse withstand voltage | U _{imp} 500 V |
| UL approval | cULus Listed, General Purpose, Class 2 Power Source |
| CCC approval | CCC approval / marking not required for products rated ≤36 V |
| Marine approval | DNVGL TAA00003AK |

Ambient conditions

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

Mechanical specifications

| | |
|----------------------|-----------------------------|
| Connection type | cable |
| Housing material | brass , white bronze coated |
| Sensing face | PBT , green |
| Degree of protection | IP65 / IP66 / IP67 / IP68 |

Cable

| | |
|--------------------|-----------------------|
| Wire end ferrules | yes |
| Cable diameter | 4.3 mm ± 0.15 mm |
| Bending radius | > 10 x cable diameter |
| Material | PVC |
| Color | black |
| Number of cores | 3 |
| Core cross section | 0.34 mm ² |
| Length | L 2 m |
| Mass | 83 g |

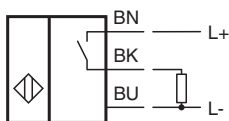
Dimensions

| | |
|-------------------|----------------|
| Length | 43 mm |
| Diameter | 12 mm |
| Mounting | with nuts, M12 |
| Tightening torque | ≤ 10 Nm |

General information

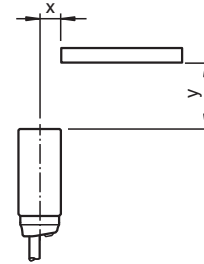
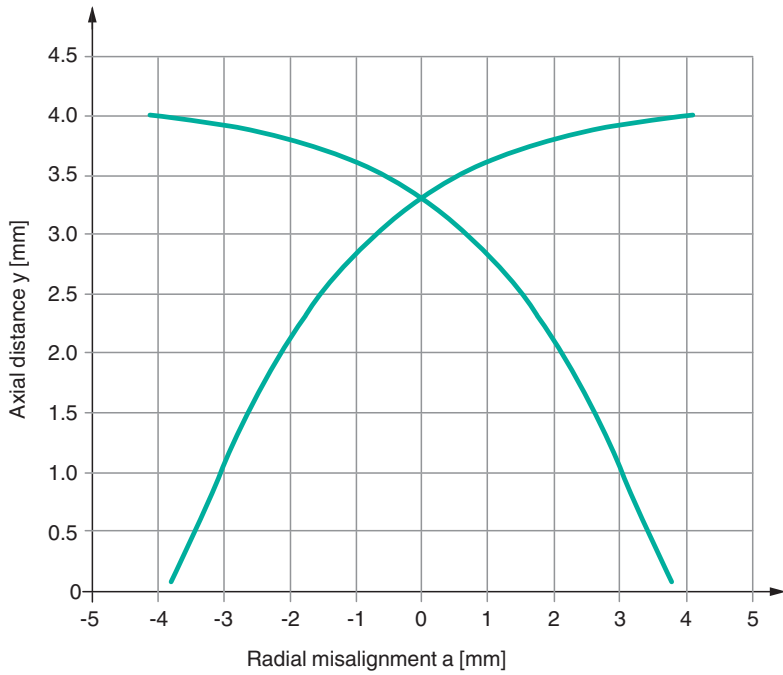
| | |
|-------------------|--|
| Scope of delivery | 2 self locking nuts in scope of delivery |
|-------------------|--|

Connection Assignment

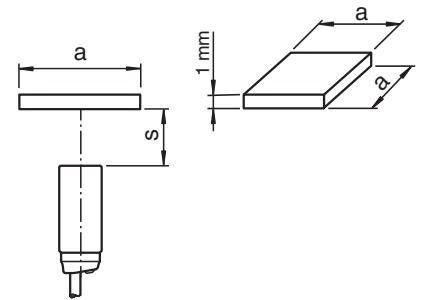
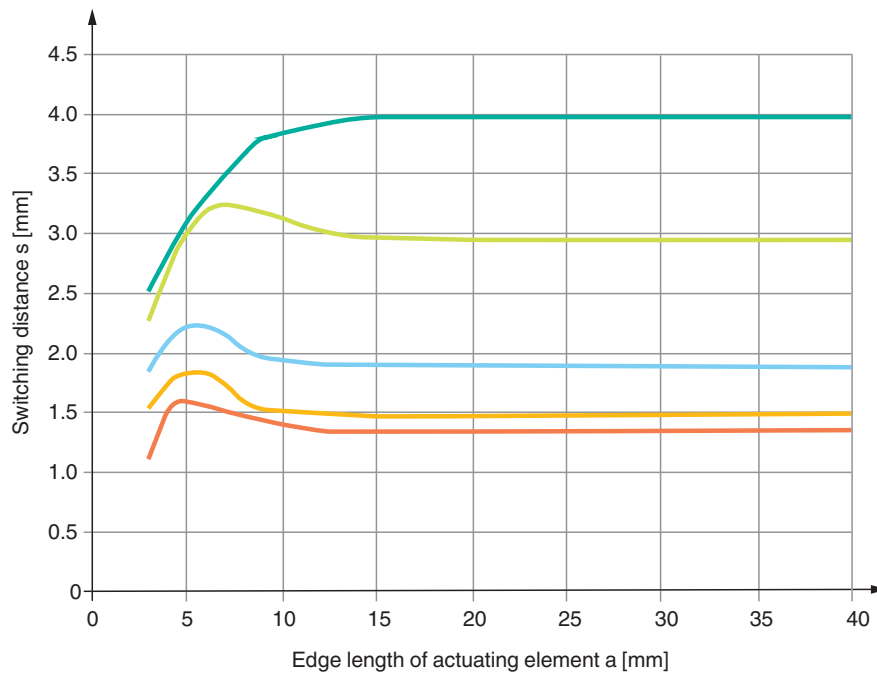


Characteristic Curve

Actuation by radial approach (standard target)



Switching distance depending on the actuating element



- Steel
- Stainless steel
- Brass
- Aluminum
- Copper

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