

Proximity Inductive Sensors Extended Range, Nickel-Plated Brass Housing Types ICB, M18



- Sensing distance: 8 to 14 mm
- Flush and non-flush types
- Short and long body versions
- Rated operational voltage (U_b): 10 - 36 VDC
- Output: DC 200 mA, NPN or PNP
- Normally open, Normally closed
- LED indication for output ON
- Protection: reverse polarity, short circuit, transients
- Cable and M12 plug versions
- According to IEC 60947-5-2

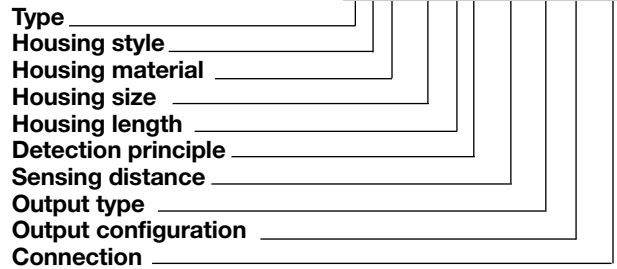
Product Description

A family of inductive proximity switches in industrial standard nickel-plated brass housings. They are able to handle applications where

high sensing range is requested. Output is open collector NPN or PNP transistors.

Ordering Key

ICB18SF08NOM1



Type Selection

| Conne- ction | Body style | Rated operating distance S_n | Ordering no. NPN Normally open | Ordering no. PNP Normally open | Ordering no. NPN Normally closed | Ordering no. PNP Normally closed |
|-----------------|---------------|--------------------------------------|--------------------------------------|--------------------------------------|--|--|
| Cable | Short | 8 mm ¹⁾ | ICB 18 SF 08 NO | ICB 18 SF 08 PO | ICB 18 SF 08 NC | ICB 18 SF 08 PC |
| Cable | Short | 14 mm ²⁾ | ICB 18 SN 14 NO | ICB 18 SN 14 PO | ICB 18 SN 14 NC | ICB 18 SN 14 PC |
| Plug | Short | 8 mm ¹⁾ | ICB 18 SF 08 NOM1 | ICB 18 SF 08 POM1 | ICB 18 SF 08 NCM1 | ICB 18 SF 08 PCM1 |
| Plug | Short | 14 mm ²⁾ | ICB 18 SN 14 NOM1 | ICB 18 SN 14 POM1 | ICB 18 SN 14 NCM1 | ICB 18 SN 14 PCM1 |
| Cable | Long | 8 mm ¹⁾ | ICB 18 LF 08 NO | ICB 18 LF 08 PO | ICB 18 LF 08 NC | ICB 18 LF 08 PC |
| Cable | Long | 14 mm ²⁾ | ICB 18 LN 14 NO | ICB 18 LN 14 PO | ICB 18 LN 14 NC | ICB 18 LN 14 PC |
| Plug | Long | 8 mm ¹⁾ | ICB 18 LF 08 NOM1 | ICB 18 LF 08 POM1 | ICB 18 LF 08 NCM1 | ICB 18 LF 08 PCM1 |
| Plug | Long | 14 mm ²⁾ | ICB 18 LN 14 NOM1 | ICB 18 LN 14 POM1 | ICB 18 LN 14 NCM1 | ICB 18 LN 14 PCM1 |

¹⁾ For flush mounting in metal

²⁾ For non-flush mounting in metal

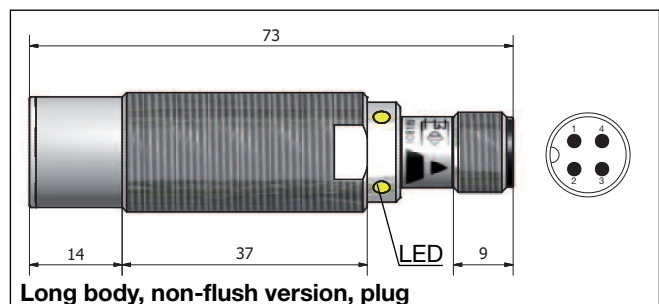
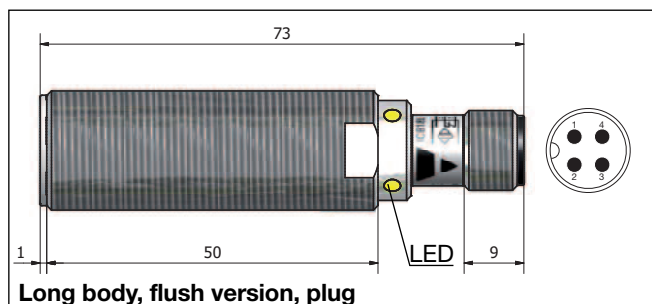
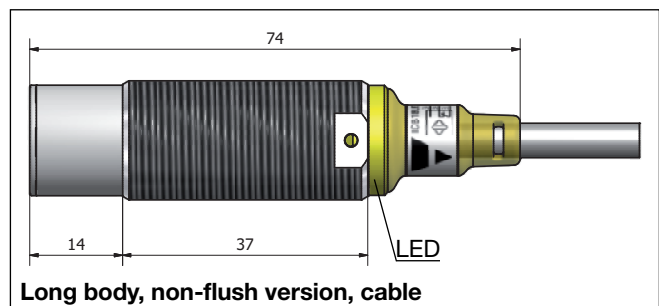
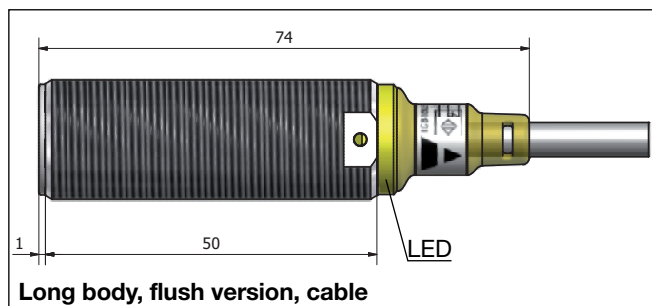
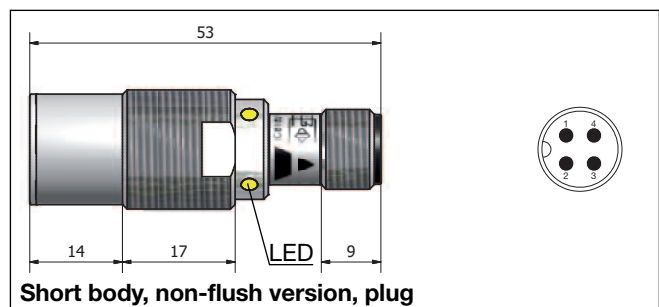
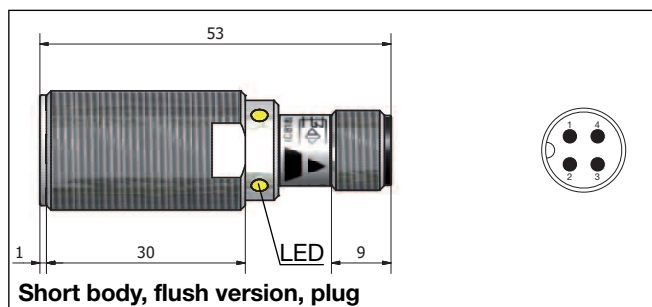
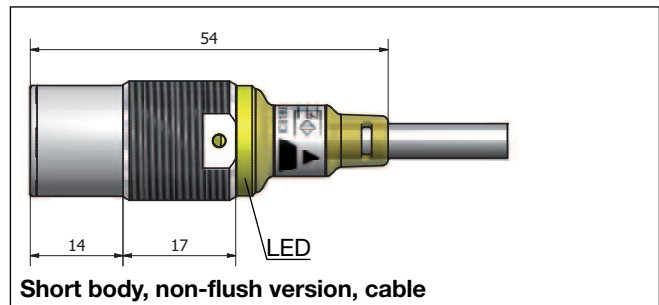
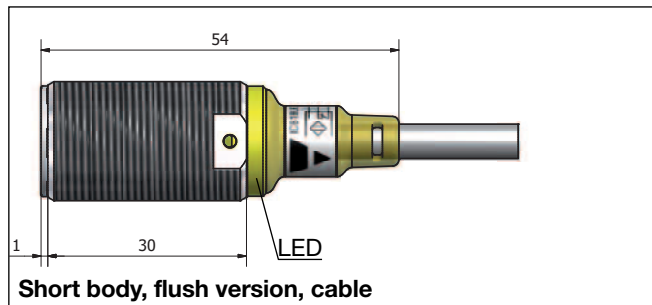
Specifications

| | | | |
|---|--|--|--|
| Rated operational voltage (U_b) | 10 to 36 VDC (ripple incl.) | Assured operating sensing distance (S_a) | $0 \leq S_a \leq 0.81 \times S_n$ |
| Ripple | $\leq 10\%$ | Effective operating distance (S_r) | $0.9 \times S_n \leq S_r \leq 1.1 \times S_n$ |
| Output current (I_e) | ≤ 200 mA @ 50°C (≤ 150 mA @ 50-70°C) | Usable operating distance (S_u) | $0.9 \times S_r \leq S_u \leq 1.1 \times S_r$ |
| OFF-state current (I_r) | ≤ 50 μ A | Repeat accuracy (R) | $\leq 10\%$ |
| No load supply current (I_o) | ≤ 15 mA | Differential travel (H) (Hysteresis) | 1 to 20% of sensing dist. |
| Voltage drop (U_d) | Max. 2.5 VDC @ 200 mA | Ambient temperature | Operating: -25° to +70°C (-13° to +158°F) Storage: -30° to +80°C (-22° to +176°F) |
| Protection | Reverse polarity, short-circuit, transients | Housing material | Body: Nickel-plated brass Front: Grey thermoplastic polyester |
| Dielectric impulse voltage withstand | 1 kV/0.5 J | | |
| Power ON delay (t_o) | 300 ms | | |
| Operating frequency (f) | ≤ 1500 Hz | | |
| Indication for output ON | LED, yellow | | |

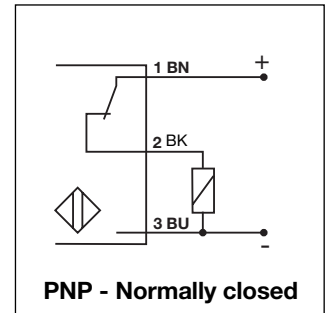
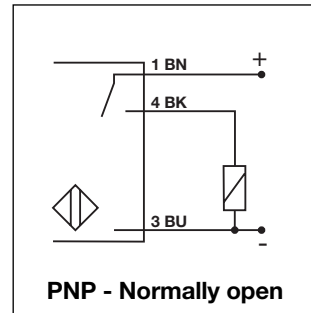
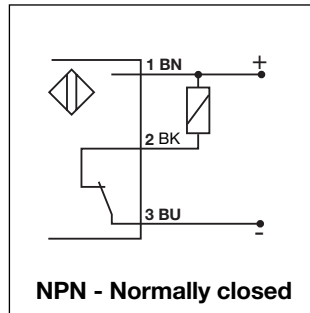
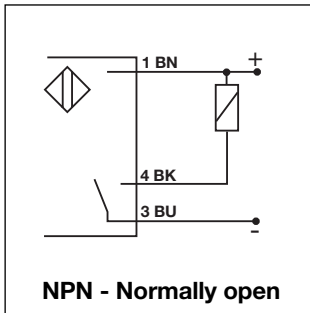
Specifications (cont.)

| | | | |
|-------------------------------------|--|-----------------------|---|
| Connection | | Approvals | UL |
| Cable | 2 m, 3 x 0.3 mm ² , grey PVC, oil proof M12 x 1 | CE-marking | Yes |
| Plug | | EMC protection | According to IEC 60947-5-2 |
| Degree of protection | IP 67 | IEC 6100-4-2 (ESD) | 8 KV air discharge, 4 KV contact discharge |
| Weight (cable/nuts included) | | IEC 6100-4-3 | 3 V/m |
| Cable | Max. 150 g | IEC 6100-4-4 | 2 kV |
| Plug | Max. 70 g | IEC 6100-4-6 | 3 V |
| Dimensions | See diagrams below | IEC 6100-4-8 | 30 A/m |
| Tightening torque | 20.0 Nm | | |

Dimensions

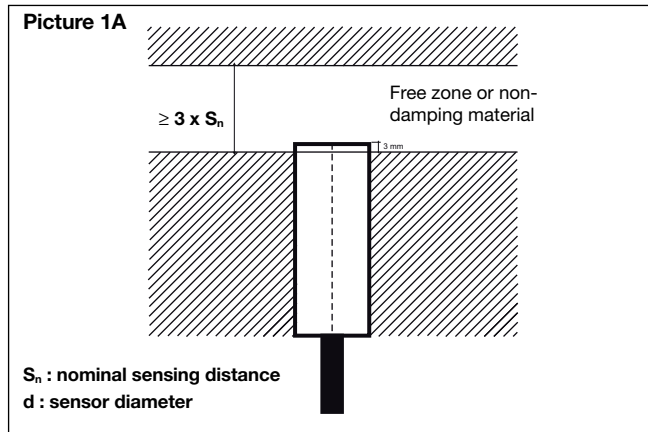


Wiring Diagrams

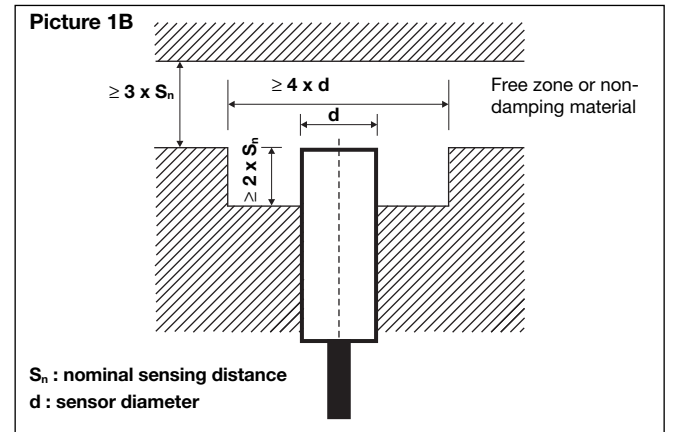


Installation

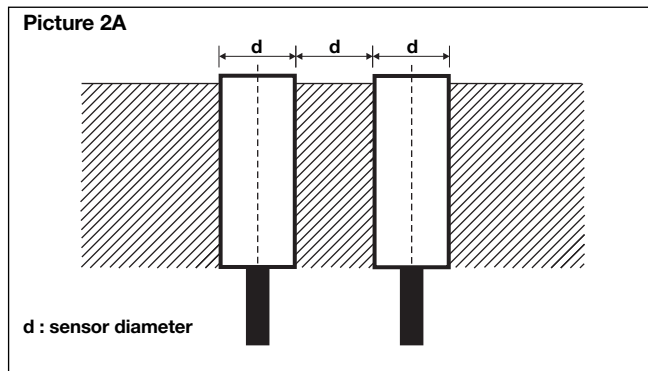
Flush sensor, when installed in damping material, must be according to Picture 1A.



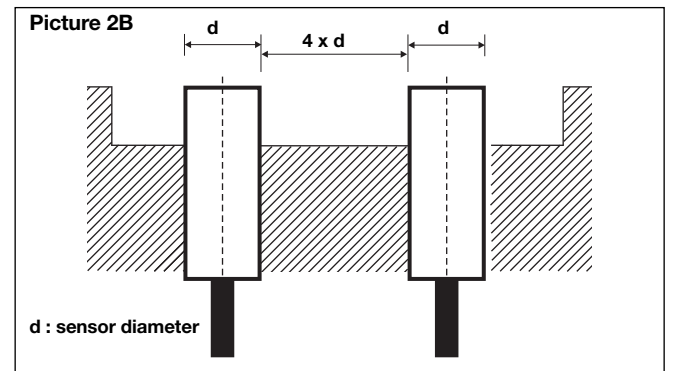
Non-flush sensor, when installed in damping material, must be according to Picture 1B.



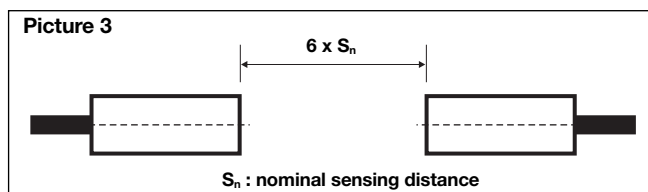
Flush sensors, when installed together in damping material, must be according to Picture 2A.



Non-flush sensors, when installed together in damping material, must be according to Picture 2B.



For sensors installed opposite each other, a minimum space of $6 \times S_n$ (the nominal sensing distance) must be observed (See Picture 3).





Reduction factors

The rated operating distance is reduced by the use of metals and alloys other than Fe360.

The most important reduction factors for inductive proximity sensors are shown in Picture 4.

Delivery Contents

- Inductive proximity switch ICB.
- 2 nuts NPB
- Packaging: plastic bag

