

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

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



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 **ICB18S30F08NOM1**

| | |
|----------------------|-------|
| Type | _____ |
| Housing style | _____ |
| Housing material | _____ |
| Housing size | _____ |
| Housing length | _____ |
| Thread length | _____ |
| Detection principle | _____ |
| Sensing distance | _____ |
| Output type | _____ |
| Output configuration | _____ |
| Connection | _____ |

Type Selection

| Connection | 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⁾ | ICB18S30F08NO | ICB18S30F08PO | ICB18S30F08NC | ICB18S30F08PC |
| Cable | Short | 14 mm ²⁾ | ICB18S30N14NO | ICB18S30N14PO | ICB18S30N14NC | ICB18S30N14PC |
| Plug | Short | 8 mm ¹⁾ | ICB18S30F08NOM1 | ICB18S30F08POM1 | ICB18S30F08NCM1 | ICB18S30F08PCM1 |
| Plug | Short | 14 mm ²⁾ | ICB18S30N14NOM1 | ICB18S30N14POM1 | ICB18S30N14NCM1 | ICB18S30N14PCM1 |
| Cable | Long | 8 mm ¹⁾ | ICB18L50F08NO | ICB18L50F08PO | ICB18L50F08NC | ICB18L50F08PC |
| Cable | Long | 14 mm ²⁾ | ICB18L50N14NO | ICB18L50N14PO | ICB18L50N14NC | ICB18L50N14PC |
| Plug | Long | 8 mm ¹⁾ | ICB18L50F08NOM1 | ICB18L50F08POM1 | ICB18L50F08NCM1 | ICB18L50F08PCM1 |
| Plug | Long | 14 mm ²⁾ | ICB18L50N14NOM1 | ICB18L50N14POM1 | ICB18L50N14NCM1 | ICB18L50N14PCM1 |

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.) | Indication for short circuit/ overload | LED blinking ($f = 2$ Hz) |
| Ripple | $\leq 10\%$ | Assured operating sensing distance (S_a) | $0 \leq S_a \leq 0.81 \times S_n$ |
| Output current (I_o) | ≤ 200 mA @ 50°C ≤ 150 mA @ 50-70°C) | Effective operating distance (S_r) | $0.9 \times S_n \leq S_r \leq 1.1 \times S_n$ |
| OFF-state current (I_r) | ≤ 50 μ A | Usable operating distance (S_u) | $0.9 \times S_r \leq S_u \leq 1.1 \times S_r$ |
| No load supply current (I_s) | ≤ 15 mA | Repeat accuracy (R) | $\leq 10\%$ |
| Voltage drop (U_d) | Max. 2.5 VDC @ 200 mA | Differential travel (H) (Hysteresis) | 1 to 20% of sensing dist. |
| Protection | Reverse polarity, short-circuit, transients | Ambient temperature | Operating: -25° to +70°C (-13° to +158°F) Storage: -30° to +80°C (-22° to +176°F) |
| Voltage transient | 1 kV/0.5 J | Shock and vibration | IEC 60947-5-2/7.4 |
| Power ON delay (t_v) | ≤ 20 ms | Housing material | Body: Nickel-plated brass Front: Grey thermoplastic polyester |
| Operating frequency (f) | ≤ 1500 Hz | | |
| Indication for output ON | Activated LED, yellow | | |
| NO version | Target present | | |
| NC version | Target not present | | |

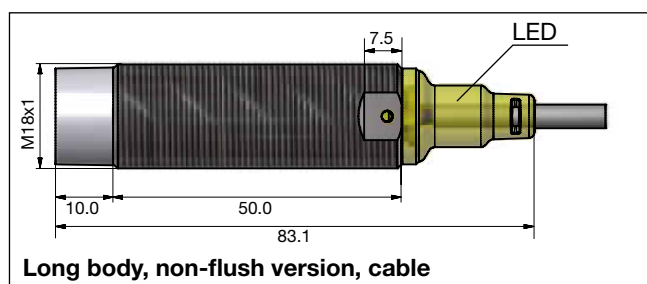
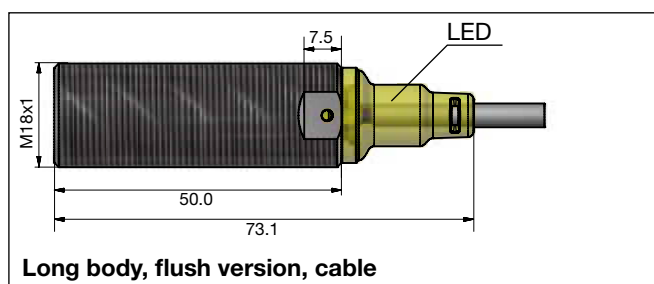
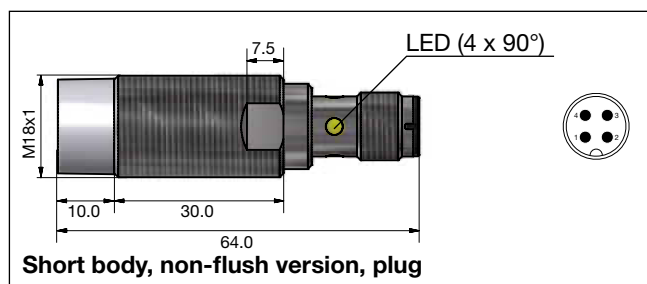
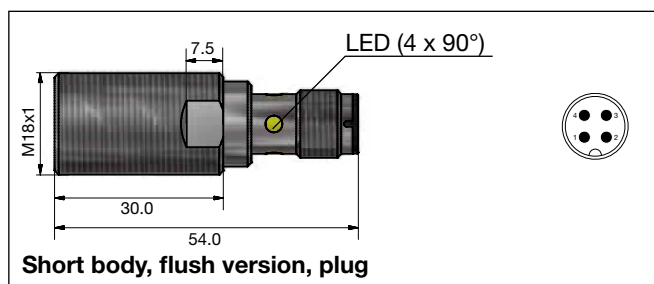
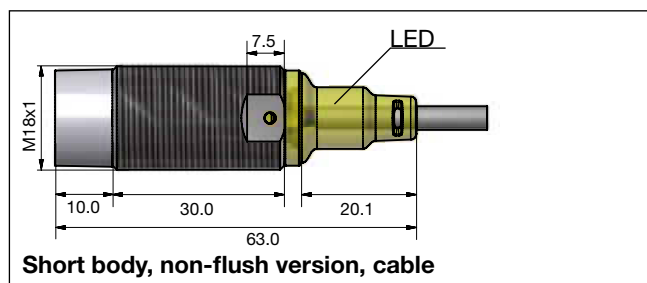
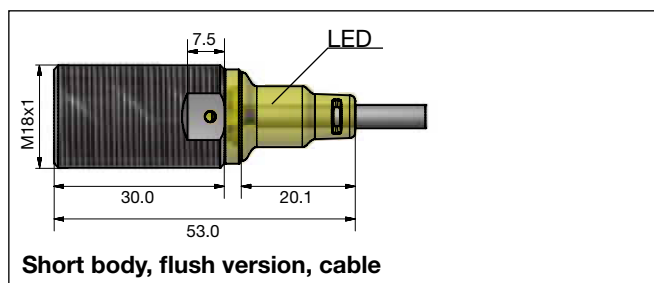
Specifications (cont.)

| | |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connection | |
| Cable | Ø4.1 x 2 m, 3 x 0.25 mm ² , grey PVC, oil proof |
| Plug | M12 x 1 |
| Degree of protection | IP 67 |
| Weight (cable/nuts included) | |
| Cable | Max. 150 g |
| Plug | Max. 70 g |
| Dimensions | See diagrams below |
| Tightening torque | |
| Non-flush version | 25 Nm |
| Flush version | |
| From 0 to 7 mm | 20 Nm |
| > 7 mm | 25 Nm |
| Approvals | <p>cULus (UL508)</p> <p>cCSAus As Process Control Equipment for Hazardous Locations.</p> <ul style="list-style-type: none"> - Class I, Division 2, Groups A, B, C and D. - T5 up to 150mA, T4A for a load current > 150mA and up to 200 mA, Enclosure Type 4. |

Note: The terminal connector (version ...M1) was not evaluated. The suitability of the terminal connector should be determined in the end-use application.

| | |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Approvals (cont.) | <p>Ambient temperature</p> <p>Ta: -25° to +60°C</p> <p>CCC is not required for products with a maximum operating voltage of ≤ 36 V</p> |
| EMC protection | <p>IEC 61000-4-2 (ESD)</p> <p>IEC 61000-4-3</p> <p>IEC 61000-4-4</p> <p>IEC 61000-4-6</p> <p>IEC 61000-4-8</p> |
| MTTF_d | 850 years @ 50°C (122°F) |
| | <p>According to IEC 60947-5-2</p> <p>8 KV air discharge,</p> <p>4 KV contact discharge</p> <p>3 V/m</p> <p>2 kV</p> <p>3 V</p> <p>30 A/m</p> |

Dimensions (mm)



Dimensions (mm) (cont.)



Installation

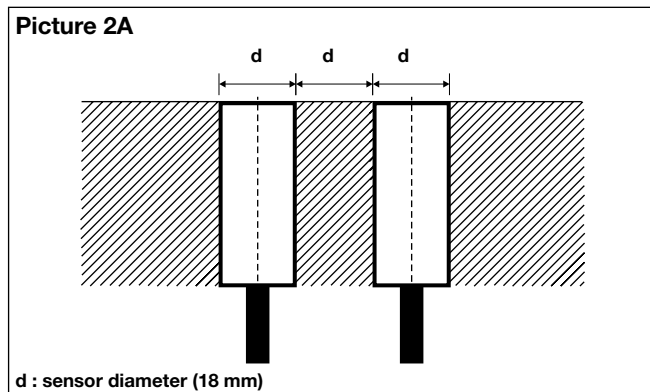
Flush sensor, when installed in damping material, must be according to Picture 1A.



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).

