

Proximity Inductive Sensors Increased Operating Distance, Nickel-Plated Brass Housing - Types ICB, M12

CARLO GAVAZZI



- Sensing distance: 6 to 10 mm
- Quasi-flush or non-flush mountable
- 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, short-circuit and overload
- Protection: reverse polarity, short circuit, transients
- Cable or M12 plug versions
- According to IEC 60947-5-2
- Setup indicator
- 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 very long operating distance is requested.

Output is open collector NPN or PNP transistors. Less machine downtime thanks to lower risk of mechanical damage.

Ordering Key **ICB12S30F06NOM1**

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

Type Selection

| Connec- tion | 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 | 6 mm ¹⁾ | ICB12S30F06NO | ICB12S30F06PO | ICB12S30F06NC | ICB12S30F06PC |
| Cable | Short | 10 mm ²⁾ | ICB12S30N10NO | ICB12S30N10PO | ICB12S30N10NC | ICB12S30N10PC |
| Plug | Short | 6 mm ¹⁾ | ICB12S30F06NOM1 | ICB12S30F06POM1 | ICB12S30F06NCM1 | ICB12S30F06PCM1 |
| Plug | Short | 10 mm ²⁾ | ICB12S30N10NOM1 | ICB12S30N10POM1 | ICB12S30N10NCM1 | ICB12S30N10PCM1 |
| Cable | Long | 6 mm ¹⁾ | ICB12L50F06NO | ICB12L50F06PO | ICB12L50F06NC | ICB12L50F06PC |
| Cable | Long | 10 mm ²⁾ | ICB12L50N10NO | ICB12L50N10PO | ICB12L50N10NC | ICB12L50N10PC |
| Plug | Long | 6 mm ¹⁾ | ICB12L50F06NOM1 | ICB12L50F06POM1 | ICB12L50F06NCM1 | ICB12L50F06PCM1 |
| Plug | Long | 10 mm ²⁾ | ICB12L50N10NOM1 | ICB12L50N10POM1 | ICB12L50N10NCM1 | ICB12L50N10PCM1 |

¹⁾ For quasi-flush mounting in metal

²⁾ For non-flush mounting in metal

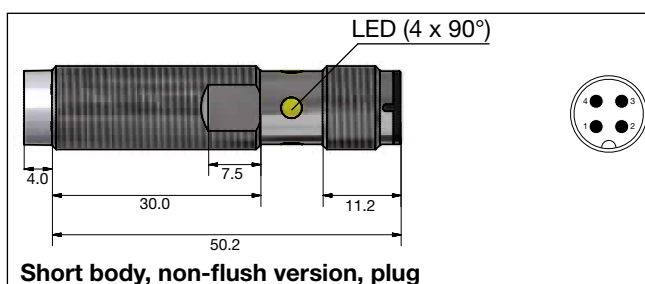
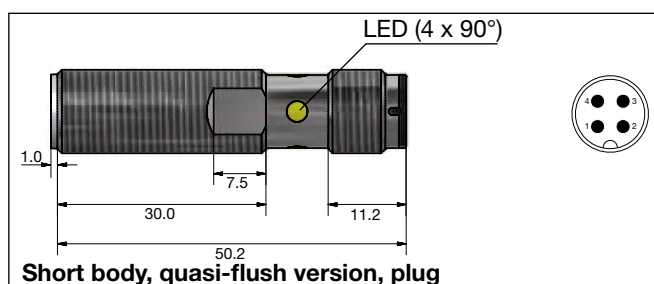
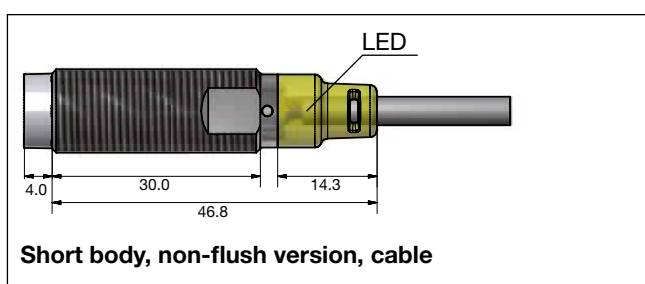
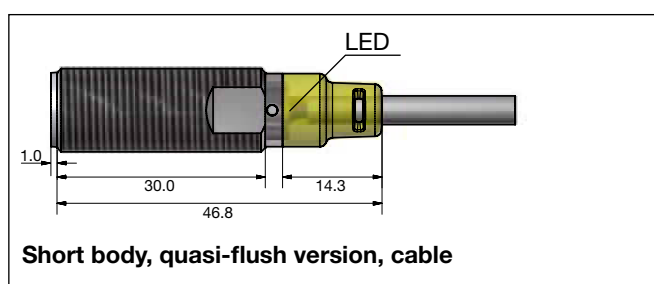
Specifications

| | | | |
|-------------------------------------|--|---|---|
| Rated operational voltage (U_b) | 10 to 36 VDC (ripple incl.) | Indication for output ON | Activated LED, yellow NO version Target present NC version Target not present |
| Ripple | ≤ 10% | Indication for short circuit/ overload | LED blinking (f = 2 Hz) |
| Output current (I_a) | ≤ 200 mA @ 50°C (≤ 150 mA @ 50-70°C) | Assured operating sensing distance (S_a) | $0 \leq S_a \leq 0.81 \times S_n$ |
| OFF-state current (I_o) | ≤ 50 μA | Effective operating distance (S_r) | $0.9 \times S_n \leq S_r \leq 1.1 \times S_n$ |
| No load supply current (I_o) | ≤ 15 mA | Usable operating distance (S_u) | $0.9 \times S_r \leq S_u \leq 1.1 \times S_r$ |
| Voltage drop (U_d) | Max. 2.5 VDC @ 200 mA | Repeat accuracy (R) | ≤ 10% |
| Protection | Reverse polarity, short-circuit, transients | Differential travel (H) (Hysteresis) | 1 to 20% of sensing dist. |
| Voltage transient | 1 kV/0.5 J | | |
| Power ON delay (t_v) | ≤ 20 ms | | |
| Operating frequency (f) | ≤ 2000 Hz | | |

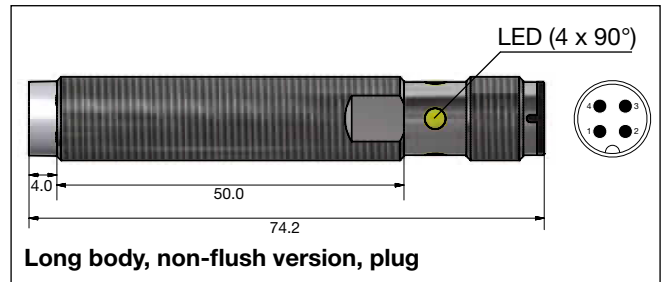
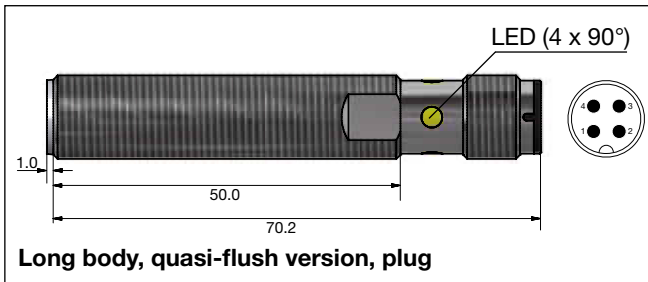
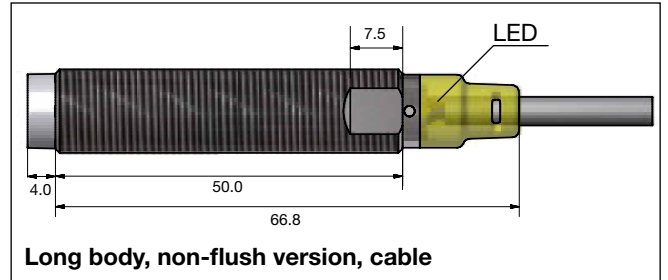
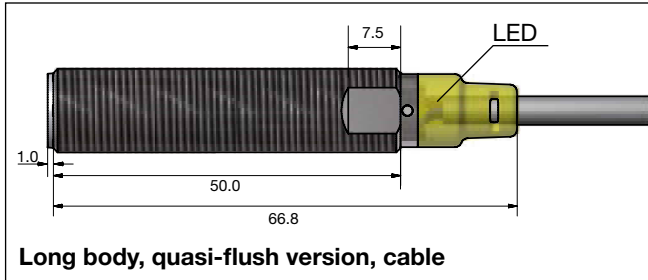
Specifications (cont.)

| | | | | |
|--|--|--|---------------|--|
| Ambient temperature | | Approvals | cULus | (UL508) |
| Operating | -25° to +70°C (-13° to +158°F) | Note: The terminal connector (version ...M1) was not evaluated. The suitability of the terminal connector should be determined in the end-use application. | cCSAus | As Process Control Equipment for Hazardous Locations. - Class I, Division 2, Groups A, B, C and D. - T5, Enclosure Type 4. Ambient temperature Ta: -25° to +60°C CCC is not required for products with a maximum operating voltage of ≤ 36 V |
| Storage | -30° to +80°C (-22° to +176°F) | | | |
| Shock and vibration | IEC 60947-5-2/7.4 | | | |
| Housing material | | | | |
| Body | Nickel-plated brass | | | |
| Front | Grey thermoplastic polyester | | | |
| 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) | | EMC protection | | |
| Cable | Max. 85 g | IEC 61000-4-2 (ESD) | | According to IEC 60947-5-2 |
| Plug | Max. 45 g | IEC 61000-4-3 | | 8 KV air discharge, |
| Dimensions | See diagrams below | IEC 61000-4-4 | | 4 KV contact discharge |
| Tightening torque | | IEC 61000-4-6 | | 3 V/m |
| Distance from sensing face from 2 mm to 7 mm | 4 Nm | IEC 61000-4-8 | | 2 kV |
| > 7 mm | 10 Nm | | | 3 V |
| Setup function | | | | 30 A/m |
| NO version | | MTTF_d | | 750 years @ 50°C (122°F) |
| LED flashing (f=0.67 Hz) | 0.8 S _n < S _r ≤ S _n | | | |
| LED lights continuously | 0 ≤ S _r ≤ 0.8 S _n (*) | | | |
| NC version | | | | |
| LED flashing (f=0.67 Hz) | 0.8 S _n < S _r ≤ S _n | | | |
| LED OFF | 0 ≤ S _r ≤ 0.8 S _n (*) | | | |
| | (*): safer installation | | | |

Dimensions (mm)

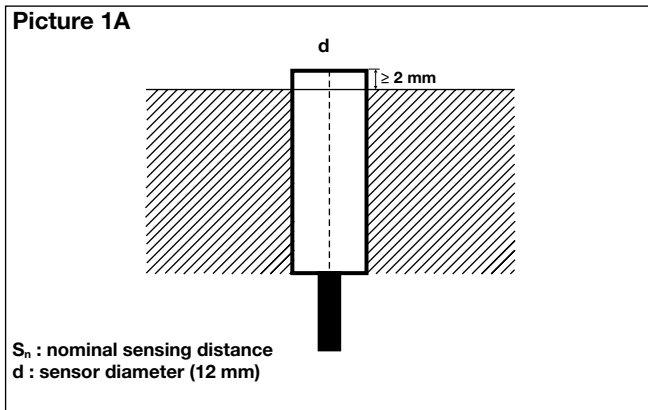


Dimensions (mm) (cont.)

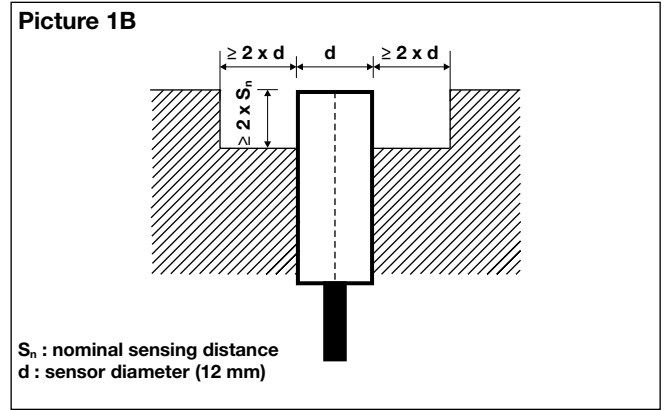


Installation

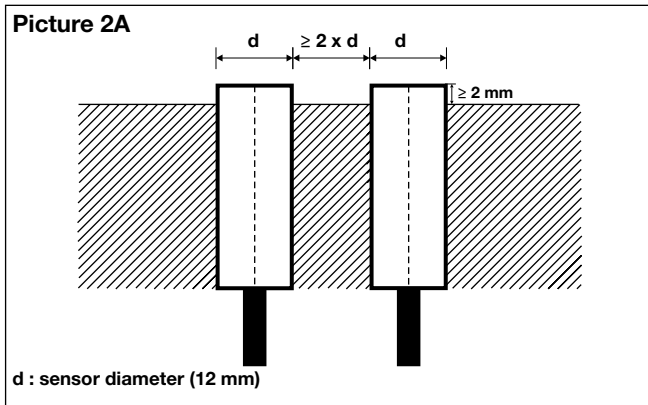
Quasi-flush mountable proximity switches, when installed in damping material, must be according to Picture 1A.



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



Quasi-flush mountable proximity switches, when installed together in damping material, must be according to Picture 2A.



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

