

Proximity Inductive Sensors Increased Operating Distance, Nickel-Plated Brass Housing - Types ICB, M18

CARLO GAVAZZI



- Sensing distance: 12 to 20 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 **ICB18S30F12NOM1**

| | |
|----------------------|-----|
| Type | ICB |
| Housing style | 18 |
| Housing material | S |
| Housing size | 30 |
| Housing length | F |
| Thread length | 12 |
| Detection principle | N |
| Sensing distance | O |
| Output type | M |
| Output configuration | 1 |
| 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 | 12 mm ¹⁾ | ICB18S30F12NO | ICB18S30F12PO | ICB18S30F12NC | ICB18S30F12PC |
| Cable | Short | 20 mm ²⁾ | ICB18S30N20NO | ICB18S30N20PO | ICB18S30N20NC | ICB18S30N20PC |
| Plug | Short | 12 mm ¹⁾ | ICB18S30F12NOM1 | ICB18S30F12POM1 | ICB18S30F12NCM1 | ICB18S30F12PCM1 |
| Plug | Short | 20 mm ²⁾ | ICB18S30N20NOM1 | ICB18S30N20POM1 | ICB18S30N20NCM1 | ICB18S30N20PCM1 |
| Cable | Long | 12 mm ¹⁾ | ICB18L50F12NO | ICB18L50F12PO | ICB18L50F12NC | ICB18L50F12PC |
| Cable | Long | 20 mm ²⁾ | ICB18L50N20NO | ICB18L50N20PO | ICB18L50N20NC | ICB18L50N20PC |
| Plug | Long | 12 mm ¹⁾ | ICB18L50F12NOM1 | ICB18L50F12POM1 | ICB18L50F12NCM1 | ICB18L50F12PCM1 |
| Plug | Long | 20mm ²⁾ | ICB18L50N20NOM1 | ICB18L50N20POM1 | ICB18L50N20NCM1 | ICB18L50N20PCM1 |

¹⁾ For quasi-flush mounting in metal

²⁾ For non-flush mounting in metal

Specifications

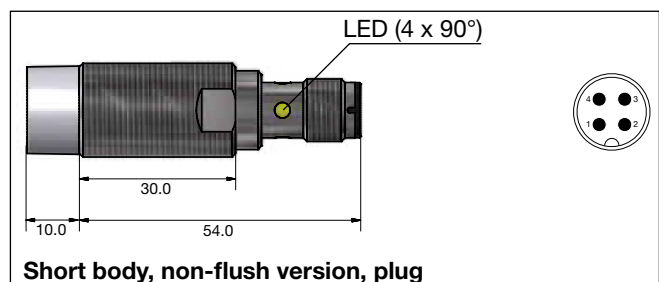
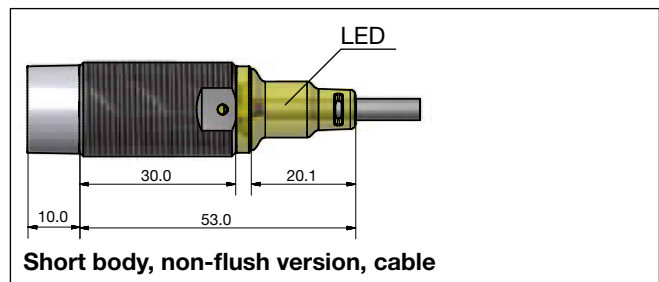
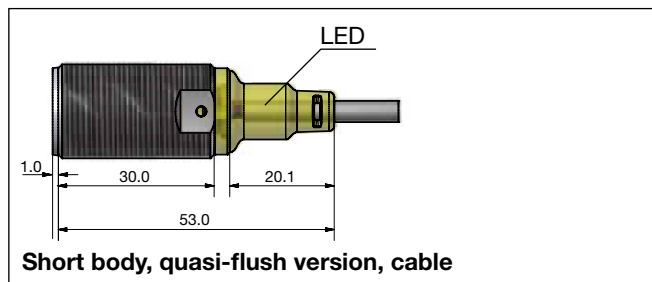
| | | | |
|---|--|---|---|
| Rated operational voltage (U _b) | 10 to 36 VDC (ripple incl.) | Indication for output ON | Activated LED, yellow NO version Target present NC version Target not present |
| Ripple | ≤ 10% | Indication for short circuit/ overload | LED blinking (f = 2 Hz) |
| Output current (I _a) | ≤ 200 mA @ 50°C (≤ 150 mA @ 50-70°C) | Assured operating sensing distance (S _a) | 0 ≤ S _a ≤ 0.81 × S _n |
| OFF-state current (I _o) | ≤ 50 μA | Effective operating distance (S _r) | 0.9 × S _n ≤ S _r ≤ 1.1 × S _n |
| No load supply current (I _o) | ≤ 15 mA | Usable operating distance (S _u) | 0.9 × S _r ≤ S _u ≤ 1.1 × 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 _o) | ≤ 20 ms | | |
| Operating frequency (f) | ≤ 1500 Hz | | |

Specifications (cont.)

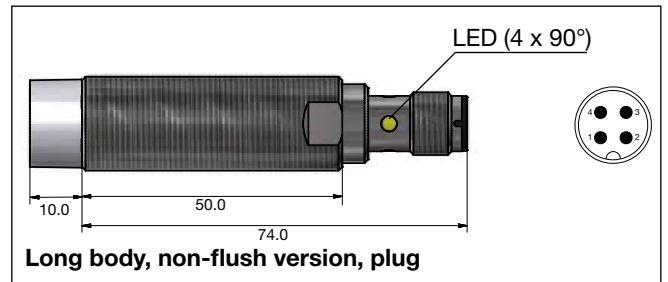
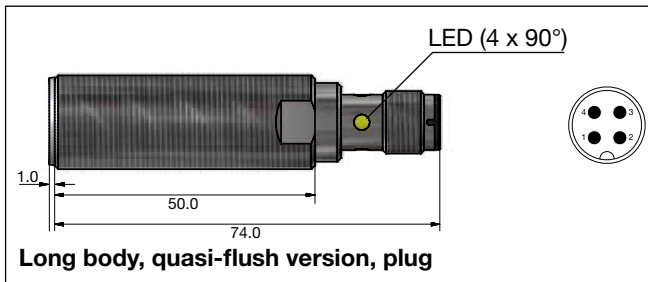
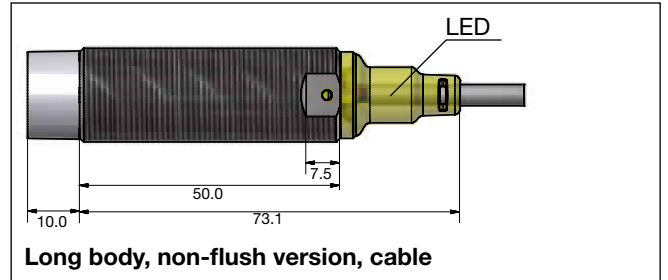
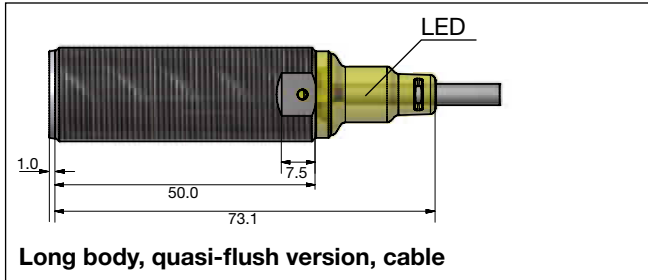
| | |
|--|--|
| Ambient temperature | |
| Operating | -25° to +70°C (-13° to +158°F) |
| Storage | -30° to +80°C (-22° to +176°F) |
| Shock and vibration | IEC 60947-5-2/7.4 |
| Housing material | |
| Body | Nickel-plated brass |
| Front | Grey thermoplastic polyester |
| Connection | |
| Cable | Ø4.1 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) | |
| Cable | Max. 150 g |
| Plug | Max. 80 g |
| Dimensions | See diagrams below |
| Tightening torque | |
| Distance from sensing face from 0 mm to 9 mm | 15 Nm |
| > 9 mm | 25 Nm |
| Setup function | |
| NO version | |
| LED flashing (f=0.67 Hz) | $0.8 S_n < S_r \leq S_n$ |
| LED lights continuously | $0 \leq S_r \leq 0.8 S_n (*)$ |
| NC version | |
| LED flashing (f=0.67 Hz) | $0.8 S_n < S_r \leq S_n$ |
| LED OFF | $0 \leq S_r \leq 0.8 S_n (*)$ |
| | (*): safer installation |

| | |
|-------------------------|--|
| Approvals | cULus (UL508) |
| | cCSAus As Process Control Equipment for Hazardous Locations. |
| | - 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. |
| | Ambient temperature Ta: -25° to +60°C |
| | CCC is not required for products with a maximum operating voltage of ≤ 36 V |
| EMC protection | According to IEC 60947-5-2 |
| | IEC 61000-4-2 (ESD) 8 KV air discharge, 4 KV contact discharge |
| | IEC 61000-4-3 3 V/m |
| | IEC 61000-4-4 2 kV |
| | IEC 61000-4-6 3 V |
| | IEC 61000-4-8 30 A/m |
| MTTF_d | 850 years @ 50°C (122°F) |

Dimensions (mm)

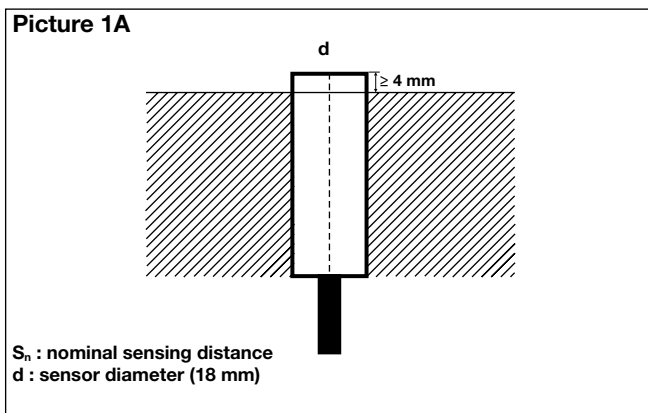


Dimensions (mm) (cont.)

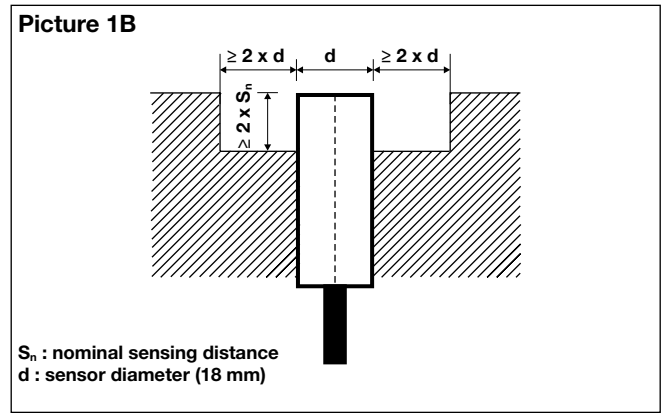


Installation

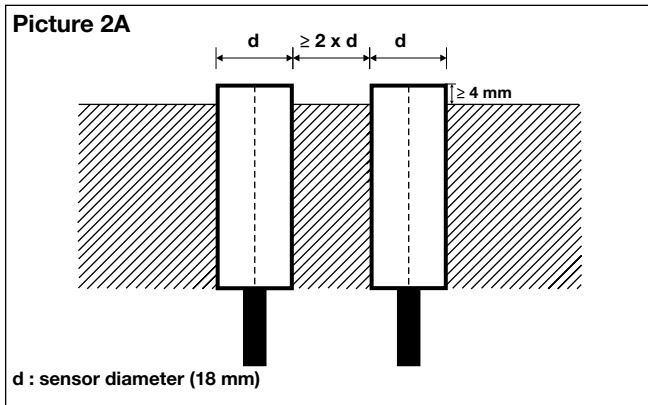
Quasi-flush mountable proximity switches, when installed in damping material, must be according to Picture 1A.



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.

