

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

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- 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 <sup>1)</sup>	ICB18S30F12NO	ICB18S30F12PO	ICB18S30F12NC	ICB18S30F12PC
Cable	Short	20 mm <sup>2)</sup>	ICB18S30N20NO	ICB18S30N20PO	ICB18S30N20NC	ICB18S30N20PC
Plug	Short	12 mm <sup>1)</sup>	ICB18S30F12NOM1	ICB18S30F12POM1	ICB18S30F12NCM1	ICB18S30F12PCM1
Plug	Short	20 mm <sup>2)</sup>	ICB18S30N20NOM1	ICB18S30N20POM1	ICB18S30N20NCM1	ICB18S30N20PCM1
Cable	Long	12 mm <sup>1)</sup>	ICB18L50F12NO	ICB18L50F12PO	ICB18L50F12NC	ICB18L50F12PC
Cable	Long	20 mm <sup>2)</sup>	ICB18L50N20NO	ICB18L50N20PO	ICB18L50N20NC	ICB18L50N20PC
Plug	Long	12 mm <sup>1)</sup>	ICB18L50F12NOM1	ICB18L50F12POM1	ICB18L50F12NCM1	ICB18L50F12PCM1
Plug	Long	20mm <sup>2)</sup>	ICB18L50N20NOM1	ICB18L50N20POM1	ICB18L50N20NCM1	ICB18L50N20PCM1

<sup>1)</sup> For quasi-flush mounting in metal

<sup>2)</sup> For non-flush mounting in metal

## Specifications

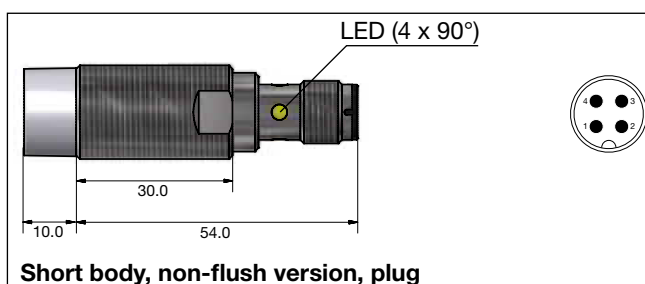
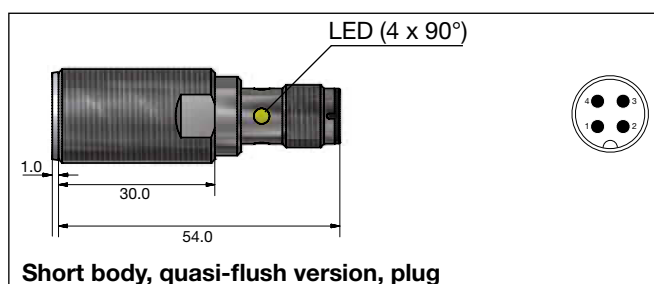
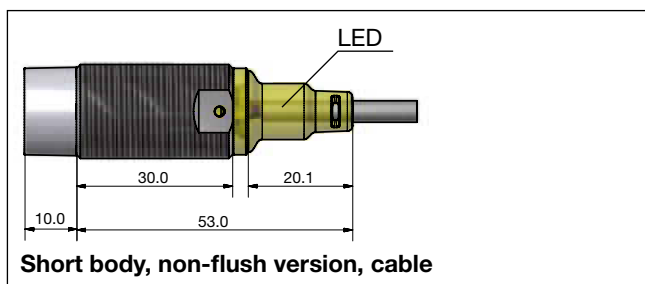
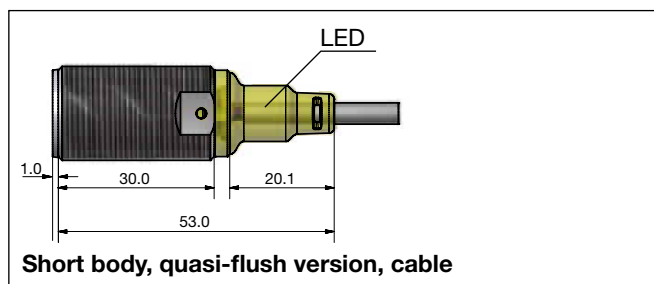
Rated operational voltage ( $U_b$ )	10 to 36 VDC (ripple incl.)	Indication for output ON	Activated LED, yellow
Ripple	≤ 10%	NO version	Target present
Output current ( $I_a$ )	≤ 200 mA @ 50°C (≤ 150 mA @ 50-70°C)	NC version	Target not present
OFF-state current ( $I_o$ )	≤ 50 μA	Indication for short circuit/ overload	LED blinking (f = 2 Hz)
No load supply current ( $I_o$ )	≤ 15 mA	Assured operating sensing distance ( $S_a$ )	$0 \leq S_a \leq 0.81 \times S_n$
Voltage drop ( $U_d$ )	Max. 2.5 VDC @ 200 mA	Effective operating distance ( $S_r$ )	$0.9 \times S_n \leq S_r \leq 1.1 \times S_n$
Protection	Reverse polarity, short-circuit, transients	Usable operating distance ( $S_u$ )	$0.9 \times S_r \leq S_u \leq 1.1 \times S_r$
Voltage transient	1 kV/0.5 J	Repeat accuracy (R)	≤ 10%
Power ON delay ( $t_o$ )	≤ 20 ms	Differential travel (H)	(Hysteresis)
Operating frequency (f)	≤ 1500 Hz		1 to 20% of sensing dist.



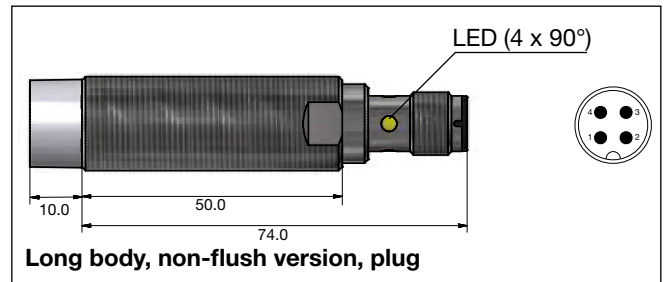
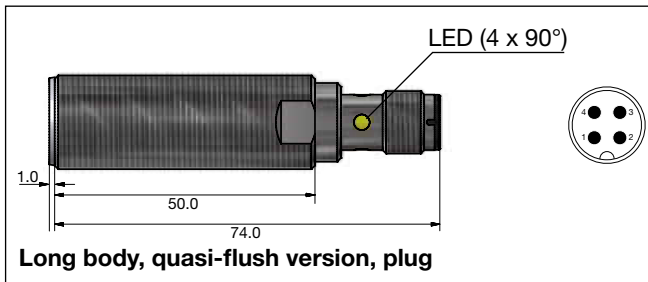
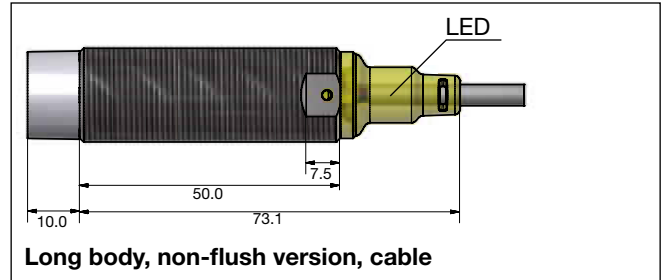
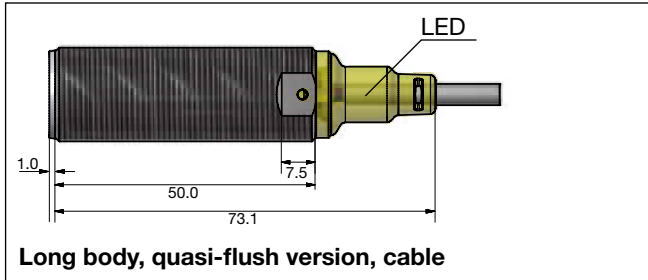
## Specifications (cont.)

<b>Ambient temperature</b> Operating Storage	-25° to +70°C (-13° to +158°F) -30° to +80°C (-22° to +176°F)	<b>Approvals</b>  <b>cULus</b>  <b>cCSAus</b>	(UL508)  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
<b>Shock and vibration</b>	IEC 60947-5-2/7.4		
<b>Housing material</b> Body Front	Nickel-plated brass Grey thermoplastic polyester	<b>Note:</b> The terminal connector (version ...M1) was not evaluated. The suitability of the terminal connector should be determined in the end-use application.	According to IEC 60947-5-2 8 KV air discharge, 4 KV contact discharge 3 V/m 2 kV 3 V 30 A/m
<b>Connection</b> Cable  Plug	Ø4.1 x 2 m, 3 x 0.25 mm <sup>2</sup> , grey PVC, oil proof M12 x 1		
<b>Degree of protection</b>	IP 67	<b>EMC protection</b> IEC 61000-4-2 (ESD)	850 years @ 50°C (122°F)
<b>Weight</b> (cable/nuts included) Cable Plug	Max. 150 g Max. 80 g	IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-6 IEC 61000-4-8	
<b>Dimensions</b>	See diagrams below	<b>MTTF<sub>d</sub></b>	
<b>Tightening torque</b> Distance from sensing face from 0 mm to 9 mm > 9 mm	15 Nm 25 Nm		
<b>Setup function</b> NO version LED flashing (f=0.67 Hz) LED lights continuously NC version LED flashing (f=0.67 Hz) LED OFF	0.8 S <sub>n</sub> < S <sub>r</sub> ≤ S <sub>n</sub> 0 ≤ S <sub>r</sub> ≤ 0.8 S <sub>n</sub> (*)  0.8 S <sub>n</sub> < S <sub>r</sub> ≤ S <sub>n</sub> 0 ≤ S <sub>r</sub> ≤ 0.8 S <sub>n</sub> (*) (*): safer installation		

## Dimensions (mm)

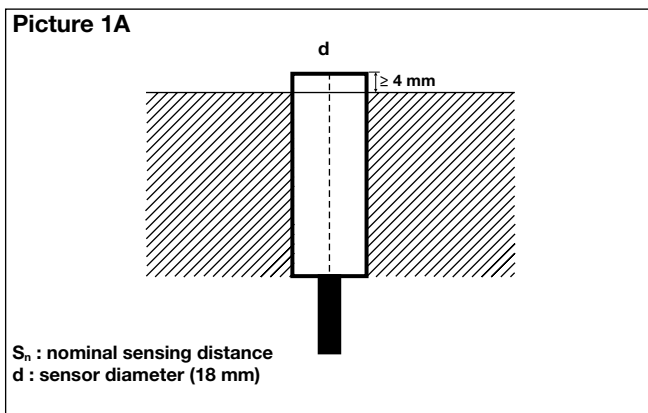


## Dimensions (mm) (cont.)

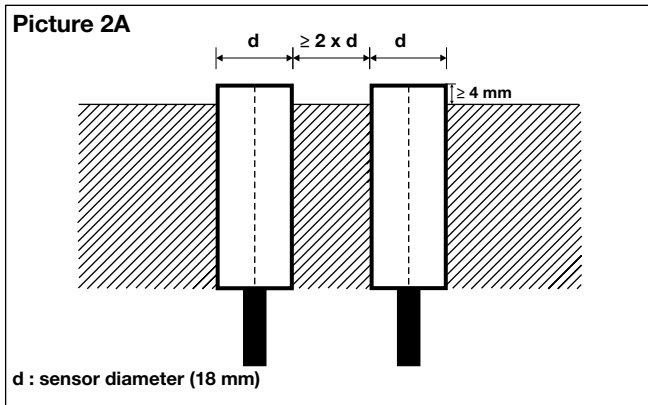


## Installation

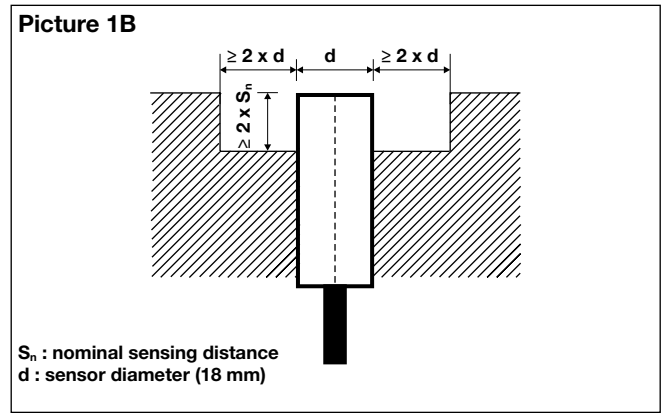
Quasi-flush mountable proximity switches, when installed in damping material, must be according to Picture 1A.



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



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



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

