

# Proximity Inductive Sensors

## Standard range, Nickel-Plated Brass Housing

### Types ICB, M30

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- Sensing distance: 10 to 15 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

**ICB30SF10NOM1**

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

## 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	10 mm <sup>1)</sup>	ICB 30 SF 10 NO	ICB 30 SF 10 PO	ICB 30 SF 10 NC	ICB 30 SF 10 PC
Cable	Short	15 mm <sup>2)</sup>	ICB 30 SN 15 NO	ICB 30 SN 15 PO	ICB 30 SN 15 NC	ICB 30 SN 15 PC
Plug	Short	10 mm <sup>1)</sup>	ICB 30 SF 10 NOM1	ICB 30 SF 10 POM1	ICB 30 SF 10 NCM1	ICB 30 SF 10 PCM1
Plug	Short	15 mm <sup>2)</sup>	ICB 30 SN 15 NOM1	ICB 30 SN 15 POM1	ICB 30 SN 15 NCM1	ICB 30 SN 15 PCM1
Cable	Long	10 mm <sup>1)</sup>	ICB 30 LF 10 NO	ICB 30 LF 10 PO	ICB 30 LF 10 NC	ICB 30 LF 10 PC
Cable	Long	15 mm <sup>2)</sup>	ICB 30 LN 15 NO	ICB 30 LN 15 PO	ICB 30 LN 15 NC	ICB 30 LN 15 PC
Plug	Long	10 mm <sup>1)</sup>	ICB 30 LF 10 NOM1	ICB 30 LF 10 POM1	ICB 30 LF 10 NCM1	ICB 30 LF 10 PCM1
Plug	Long	15 mm <sup>2)</sup>	ICB 30 LN 15 NOM1	ICB 30 LN 15 POM1	ICB 30 LN 15 NCM1	ICB 30 LN 15 PCM1

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

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

## Specifications

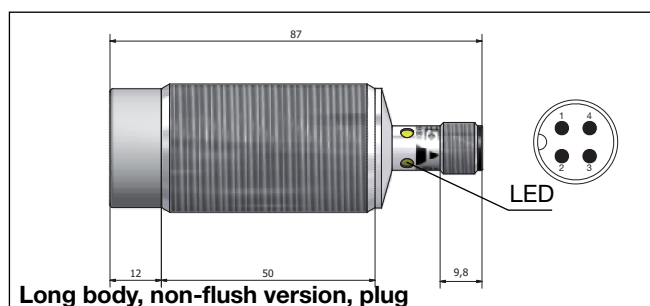
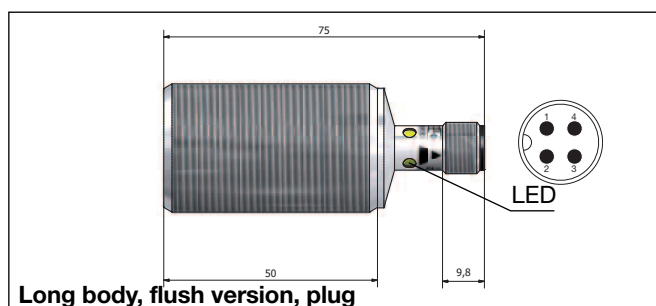
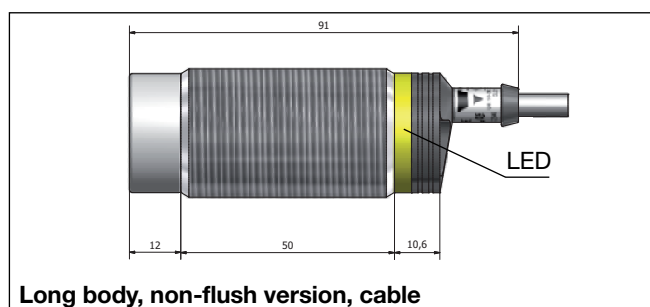
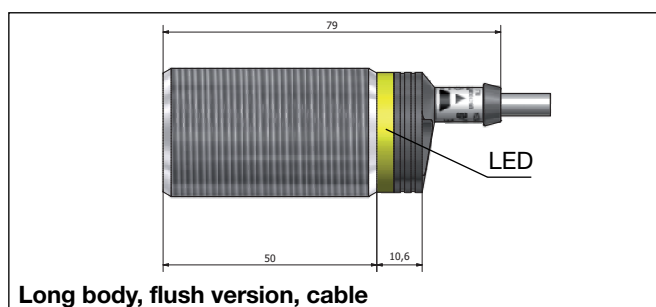
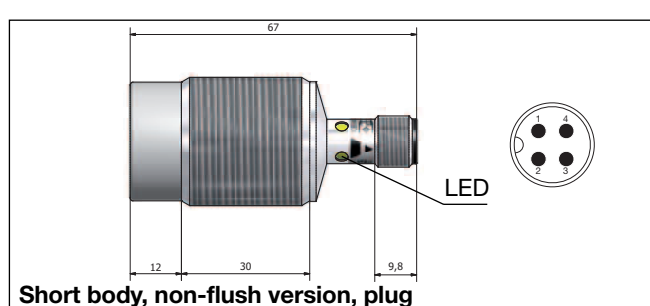
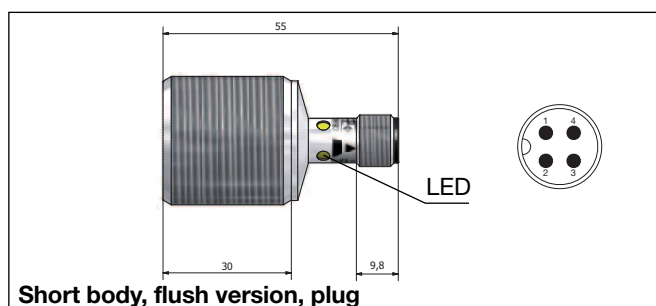
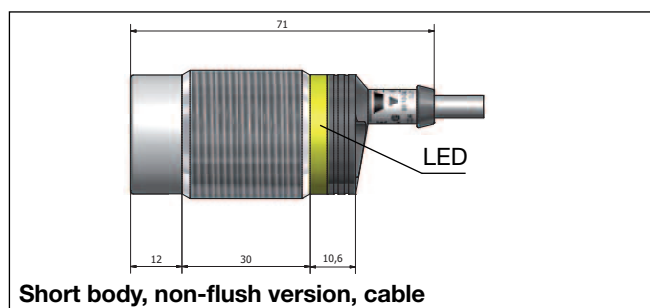
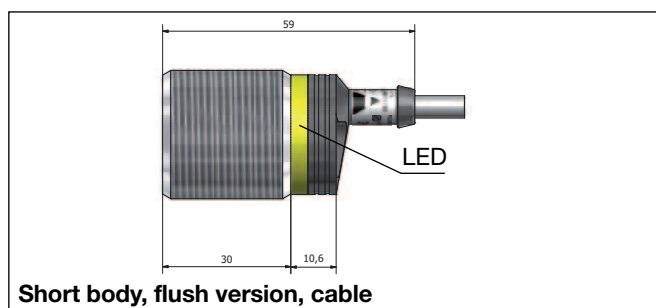
Rated operational voltage ( $U_b$ )	10 to 36 VDC (ripple incl.)	Assured operating sensing distance ( $S_a$ )	$0 \leq S_a \leq 0.81 \times S_n$
Ripple	$\leq 10\%$	Effective operating distance ( $S_r$ )	$0.9 \times S_n \leq S_r \leq 1.1 \times S_n$
Output current ( $I_o$ )	$\leq 200$ mA @ 50°C ( $\leq 150$ mA @ 50-70°C)	Usable operating distance ( $S_u$ )	$0.85 \times S_r \leq S_u \leq 1.1 \times S_r$
OFF-state current ( $I_i$ )	$\leq 50$ $\mu$ A	Repeat accuracy (R)	$\leq 5\%$
No load supply current ( $I_o$ )	$\leq 15$ mA	Differential travel (H) (Hysteresis)	1 to 20% of sensing dist.
Voltage drop ( $U_d$ )	Max. 2.5 VDC @ 200 mA	Ambient temperature Operating Storage	-25° to +70°C (-13° to +158°F) -30° to +80°C (-22° to +176°F)
Protection	Reverse polarity, short-circuit, transients	Housing material Body Front	Nickel-plated brass Grey thermoplastic polyester
Dielectric impulse voltage withstand	1 kV/0.5 J		
Power ON delay ( $t_o$ )	300 ms		
Operating frequency (f)	$\leq 1000$ Hz		
Indication for output ON	LED, yellow		

## Specifications (cont.)

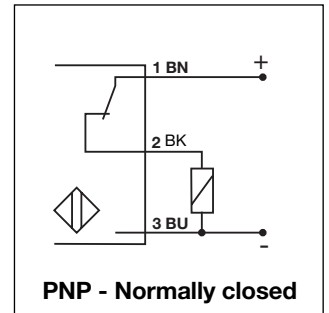
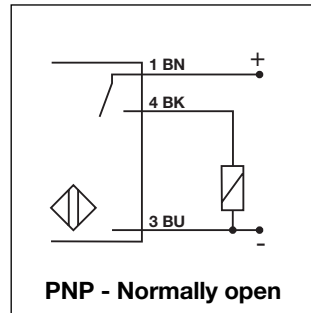
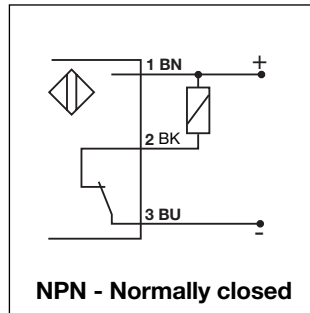
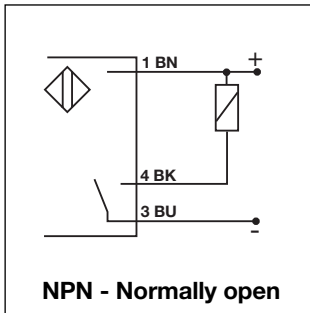
<b>Connection</b> Cable	2 m, 3 x 0.3 mm <sup>2</sup> , grey PVC, oil proof M12 x 1
Plug	
<b>Degree of protection</b>	IP 67
<b>Weight</b> (cable/nuts included)	
ICB30 S	Max. 185 g
ICB30 L	Max. 195 g
<b>Dimensions</b>	See diagrams below
<b>Tightening torque</b>	50 Nm

<b>Approvals</b>	UL
<b>CE-marking</b>	Yes
<b>EMC protection</b> IEC 6100-4-2 (ESD)	According to IEC 60947-5-2 8 KV air discharge, 4 KV contact discharge 3 V/m 2 kV 3 V 30 A/m
IEC 6100-4-3	
IEC 6100-4-4	
IEC 6100-4-6	
IEC 6100-4-8	

## Dimensions

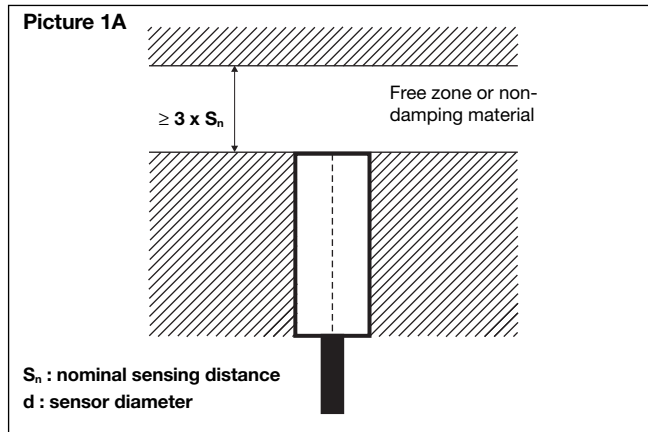


## Wiring Diagrams

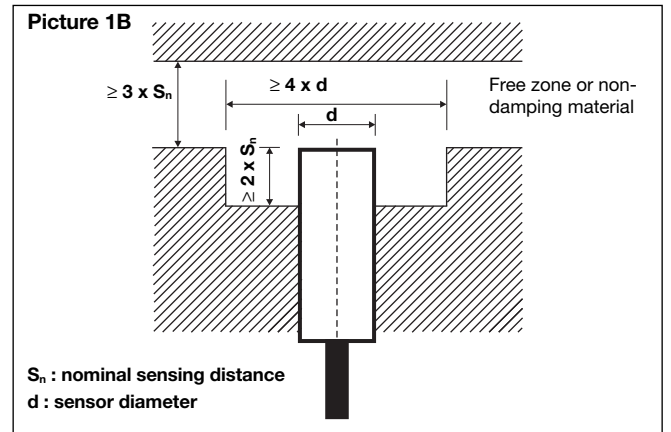


## Installation

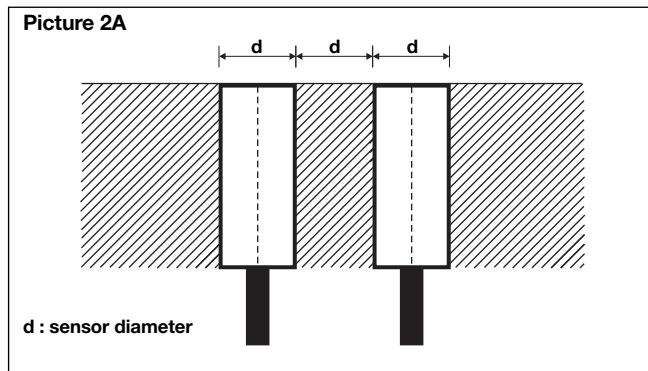
Flush sensor, when installed in damping material, must be according to Picture 1A.



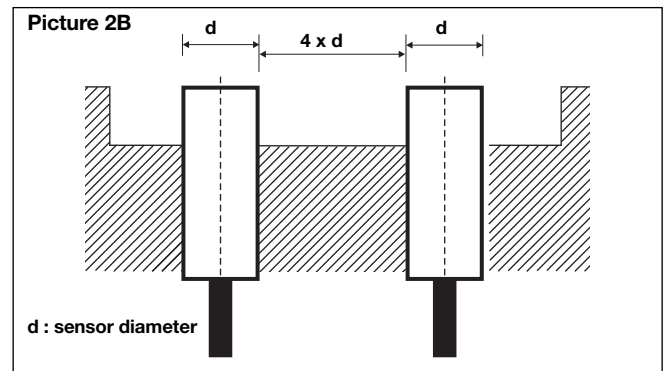
Non-flush sensor, when installed in damping material, must be according to Picture 1B.



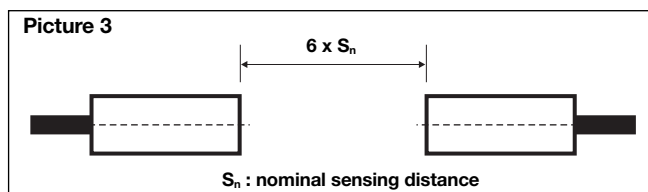
Flush sensors, when installed together in damping material, must be according to Picture 2A.



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

