Proximity Inductive Sensors Extended Range, Nickel-Plated Brass Housing Types ICB, M12





- Sensing distance: 4 to 8 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

Ordering Key

- According to IEC 60947-5-2
- Laser engraved on front cap, permanently legible
- CSA certified for Hazardous Locations



Housing style

Housing size

Housing length

Thread length

Connection

Housing material

Detection principle Sensing distance Output type.

Output configuration

Type





ICB12S30F04NOM1

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.

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	4 mm ¹⁾	ICB12S30F04N0	ICB12S30F04P0	ICB12S30F04NC	ICB12S30F04PC
Cable	Short	8 mm ²⁾	ICB12S30N08N0	ICB12S30N08P0	ICB12S30N08NC	ICB12S30N08PC
Plug	Short	4 mm 1)	ICB12S30F04N0M1	ICB12S30F04P0M1	ICB12S30F04NCM1	ICB12S30F04PCM1
Plug	Short	8 mm ²⁾	ICB12S30N08N0M1	ICB12S30N08POM1	ICB12S30N08NCM1	ICB12S30N08PCM1
Cable	Long	4 mm 1)	ICB12L50F04N0	ICB12L50F04P0	ICB12L50F04NC	ICB12L50F04PC
Cable	Long	8 mm ²⁾	ICB12L50N08N0	ICB12L50N08P0	ICB12L50N08NC	ICB12L50N08PC
Plug	Long	4 mm 1)	ICB12L50F04N0M1	ICB12L50F04P0M1	ICB12L50F04NCM1	ICB12L50F04PCM1
Plug	Long	8 mm ²⁾	ICB12L50N08N0M1	ICB12L50N08P0M1	ICB12L50N08NCM1	ICB12L50N08PCM1

¹⁾ For flush mounting in metal

Specifications

Rated operational voltage (U _b)	10 to 36 VDC (ripple incl.)
Ripple	≤ 10%
Output current (I _e)	≤ 200 mA @ 50°C (≤ 150 mA @ 50-70°C)
OFF-state current (I _r)	≤ 50 µA
No load supply current (I₀)	≤ 15 mA
Voltage drop (U _d)	Max. 2.5 VDC @ 200 mA
Protection	Reverse polarity, short-circuit, transients
Voltage transient	1 kV/0.5 J
Power ON delay (t _v)	≤ 20 ms
Operating frequency (f)	≤ 2000 Hz
Indication for output ON NO version NC version	Activated LED, yellow Target present Target not present

Indication for short circuit/ overload	LED blinking (f = 2 Hz)	
Assured operating sensing distance (S _a)	$0 \leq S_a \leq 0.81 \ x \ S_n$	
Effective operating distance (S _r)	$0.9 \times S_n \le S_r \le 1.1 \times S_n$	
Usable operating distance (S _u)	$0.9 \times S_r \le S_u \le 1.1 \times S_r$	
Repeat accuracy (R)	≤ 10%	
Differential travel (H) (Hysteresis)	1 to 20% of sensing dist.	
Ambient temperature Operating Storage	-25° to +70°C (-13° to +158°F) -30° to +80°C (-22° to +176°F)	
Shock and vibration	IEC 60947-5-2/7.4	

²⁾ For non-flush mounting in metal



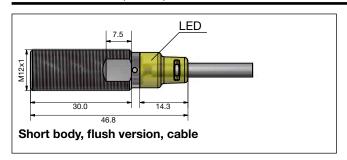
Specifications (cont.)

Housing materia	I	
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 protect	tion	IP 67
Weight (cable/nu	ts included)	
Cable		Max. 120 g
Plug		Max. 30 g
Dimensions		See diagrams below
Tightening torqu	е	10 Nm
Approvals	c UL us	(UL508)
	c CSA us	As Process Control
Note: The termina	al connector	Equipment for Hazardous Locations.
(versionM1) wa		- Class I, Division 2,
evaluated. The su		Groups A, B, C and D.
the terminal conn		- T5, Enclosure Type 4.
		Ambient temperature
be determined in	ine end-use	Ambient temperature

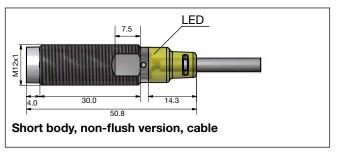
Approvals (cont.)	CCC is not required for products with a maximum operating voltage of ≤ 36 V
EMC protection IEC 61000-4-2 (ESD)	According to IEC 60947-5-2 8 KV air discharge, 4 KV contact discharge 3 V/m
	÷
IEC 61000-4-4	2 kV
IEC 61000-4-6	3 V
IEC 61000-4-8	30 A/m
MTTF _d	750 years @ 50°C (122°F)

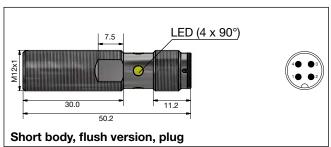
Dimensions (mm)

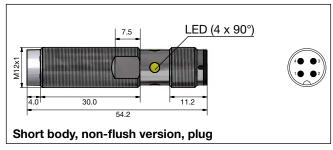
application.

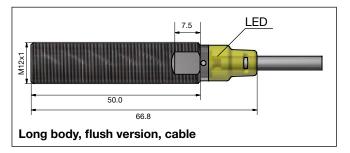


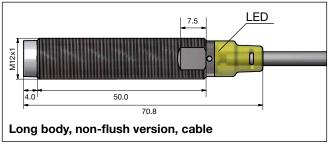
Ta: -25° to +60°C





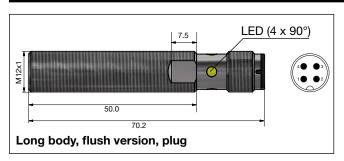


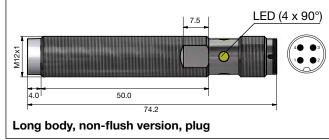






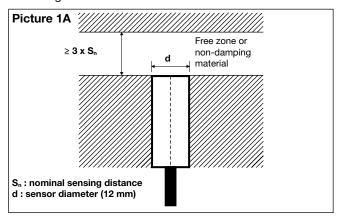
Dimensions (mm) (cont.)



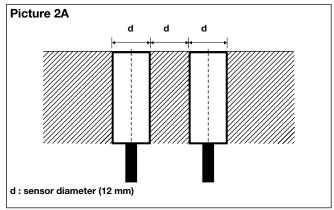


Installation

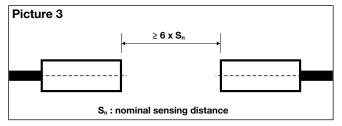
Flush sensor, when installed in damping material, must be according to Picture 1A.



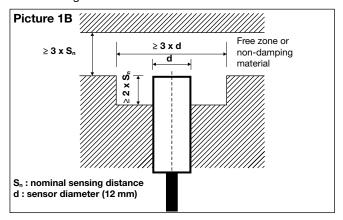
Flush sensors, when installed together in damping material, must be according to Picture 2A.



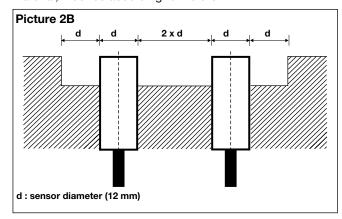
For sensors installed opposite each other, a minimum space of $6 \times S_n$ (the nominal sensing distance) must be observed (See Picture 3).



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

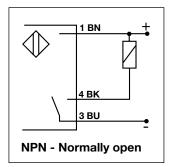


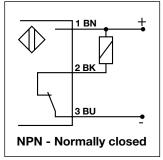
Non-flush sensors, when installed together in damping material, must be according to Picture 2B.

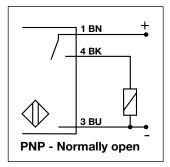


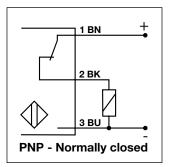


Wiring Diagram





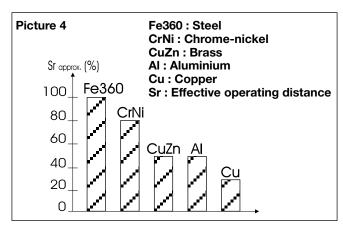




Reduction Factors

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.



Accessories for Plug Versions

3-wire angled connector, 2 m cable	CONM13NF-A2
3-wire angled connector, 5 m cable	CONM13NF-A5
3-wire angled connector, 10 m cable	CONM13NF-A10
3-wire straight connector, 2m cable	CONM13NF-S2
3-wire straight connector, 5m cable	CONM13NF-S5
For any additional information or different options, please refer to the "General Accessories" datasheets.	

Delivery Contents

- Inductive proximity switch ICB.2 nuts NPB
- Packaging: plastic bag