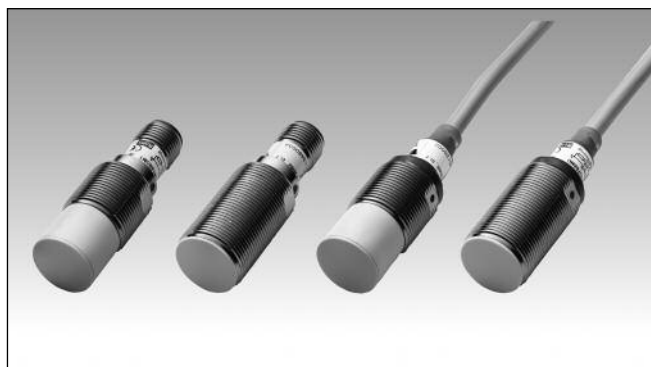


Proximity Inductive Sensors

Extended Range, Nickel-Plated Brass Housing

Types ICB, M18

CARLO GAVAZZI



- Sensing distance: 8 to 14 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
- 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

high sensing range is requested. Output is open collector NPN or PNP transistors.

Ordering Key

ICB18SF08NOM1

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

Type Selection

Con- nection	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	8 mm ¹⁾	ICB 18 SF 08 NO	ICB 18 SF 08 PO	ICB 18 SF 08 NC	ICB 18 SF 08 PC
Cable	Short	14 mm ²⁾	ICB 18 SN 14 NO	ICB 18 SN 14 PO	ICB 18 SN 14 NC	ICB 18 SN 14 PC
Plug	Short	8 mm ¹⁾	ICB 18 SF 08 NOM1	ICB 18 SF 08 POM1	ICB 18 SF 08 NCM1	ICB 18 SF 08 PCM1
Plug	Short	14 mm ²⁾	ICB 18 SN 14 NOM1	ICB 18 SN 14 POM1	ICB 18 SN 14 NCM1	ICB 18 SN 14 PCM1
Cable	Long	8 mm ¹⁾	ICB 18 LF 08 NO	ICB 18 LF 08 PO	ICB 18 LF 08 NC	ICB 18 LF 08 PC
Cable	Long	14 mm ²⁾	ICB 18 LN 14 NO	ICB 18 LN 14 PO	ICB 18 LN 14 NC	ICB 18 LN 14 PC
Plug	Long	8 mm ¹⁾	ICB 18 LF 08 NOM1	ICB 18 LF 08 POM1	ICB 18 LF 08 NCM1	ICB 18 LF 08 PCM1
Plug	Long	14 mm ²⁾	ICB 18 LN 14 NOM1	ICB 18 LN 14 POM1	ICB 18 LN 14 NCM1	ICB 18 LN 14 PCM1

¹⁾ For 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 short circuit/ overload	LED blinking
Ripple	$\leq 10\%$	Assured operating sensing distance (S_a)	$0 \leq S_a \leq 0.81 \times S_n$
Output current (I_o)	≤ 200 mA @ 50°C (≤ 150 mA @ 50-70°C)	Effective operating distance (S_r)	$0.9 \times S_n \leq S_r \leq 1.1 \times S_n$
OFF-state current (I_i)	≤ 50 μ A	Usable operating distance (S_u)	$0.9 \times S_r \leq S_u \leq 1.1 \times S_r$
No load supply current (I_o)	≤ 15 mA	Repeat accuracy (R)	$\leq 10\%$
Voltage drop (U_d)	Max. 2.5 VDC @ 200 mA	Differential travel (H) (Hysteresis)	1 to 20% of sensing dist.
Protection	Reverse polarity, short-circuit, transients	Shock and vibration	IEC 60947-5-2/7.4
Dielectric impulse voltage withstand	1 kV/0.5 J	Ambient temperature Operating Storage	-25° to +70°C (-13° to +158°F) -30° to +80°C (-22° to +176°F)
Power ON delay (t_o)	300 ms	Housing material Body Front	Nickel-plated brass Grey thermoplastic polyester
Operating frequency (f)	≤ 1500 Hz		
Indication for output ON NO version NC version	Activated LED, yellow Target present Target not present		

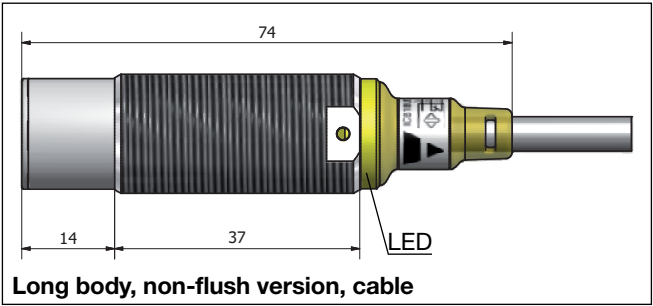
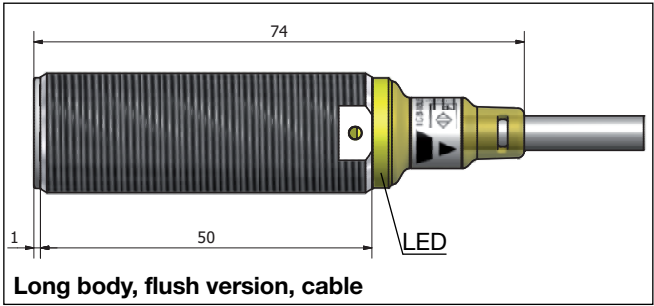
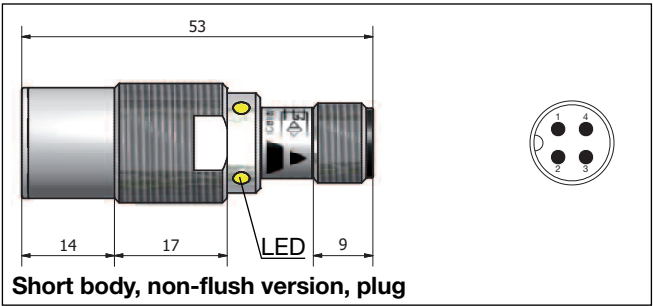
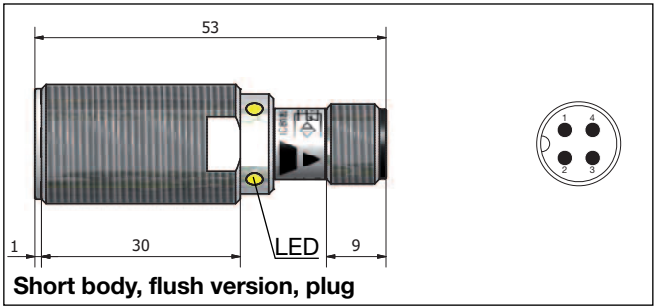
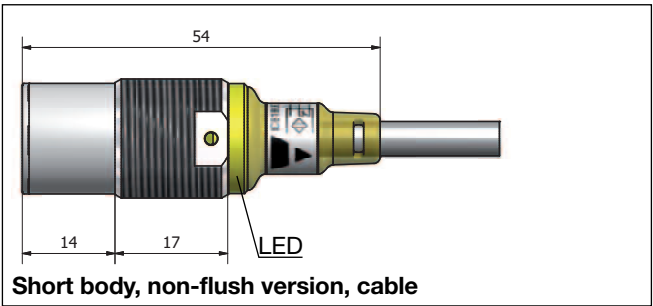
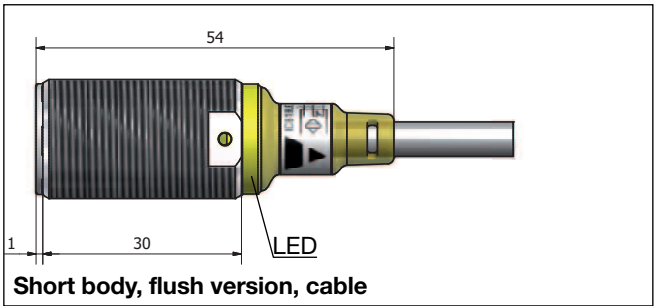


Specifications (cont.)

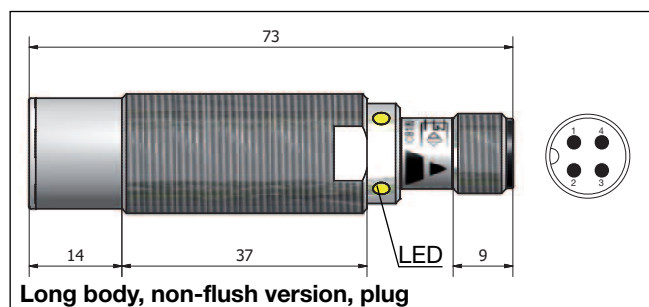
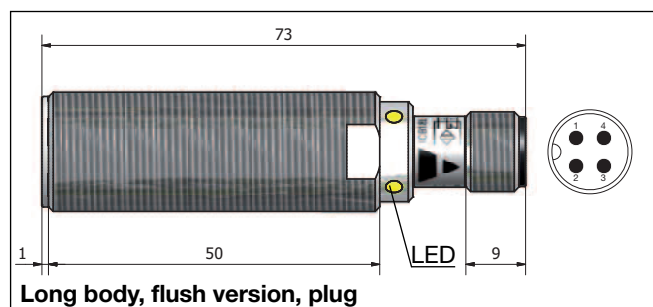
Connection	
Cable	2 m, 3 x 0.3 mm ² , grey PVC, oil proof M12 x 1
Plug	
Degree of protection	IP 67
Weight (cable/nuts included)	
Cable	Max. 150 g
Plug	Max. 70 g
Dimensions	See diagrams below
Tightening torque	
Non-flush version	25 Nm
Flush version	
From 1 to 3 mm	15 Nm
> 3 mm	25 Nm
Approvals	
UL (cRUus), CSA:	As Industrial Control Equipment - Proximity Switches. Types 1, 4, 4X or 12. Max ambient temperature 40°C.

Approvals (cont.)	
cCSAus	As Process Control Equipment for Hazardous Locations. - Class I, Division 2, Groups A, B, C and D. - Class I, Zone 1, AEx/Ex d IIB+H2, T5, Enclosure Type 4. Ambient temperature Ta: -25° to +60°C. Note: AEx for USA, Ex for Canada
CE-marking	Yes
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

Dimensions

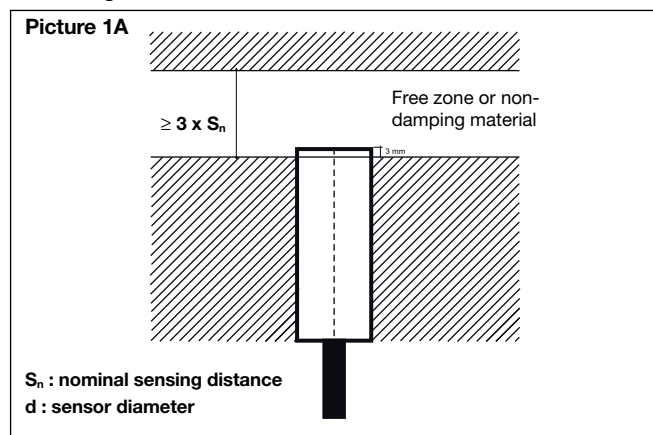


Dimensions (cont.)

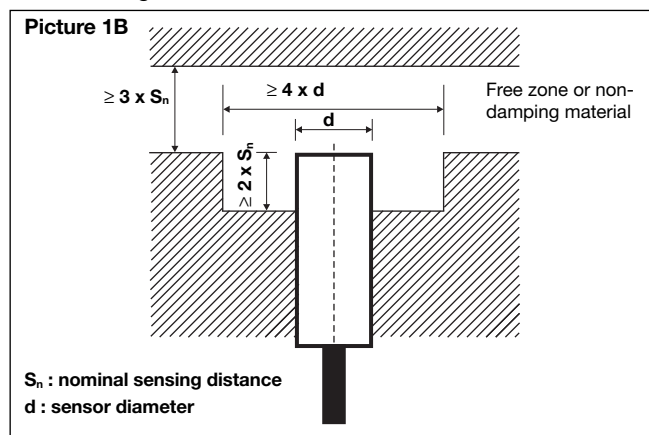


Installation

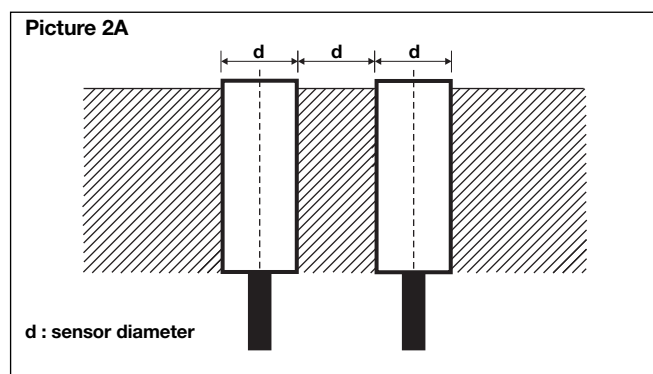
Flush sensor, when installed in damping material, must be according to Picture 1A.



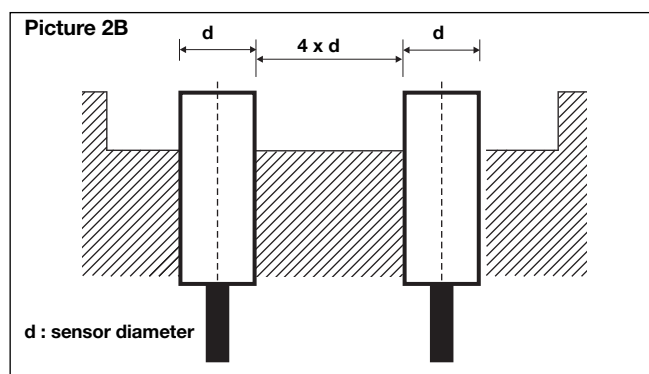
Non-flush sensor, when installed in damping material, must be according to Picture 1B.



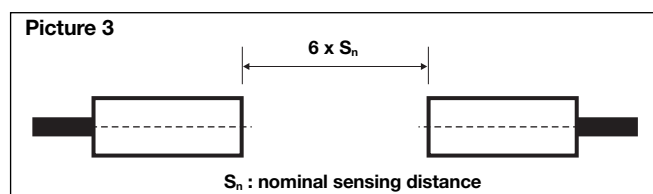
Flush sensors, when installed together in damping material, must be according to Picture 2A.



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

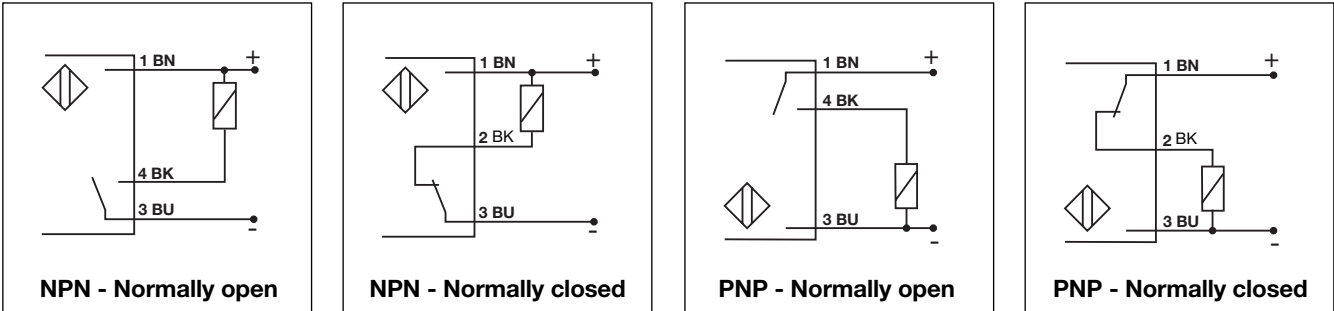


For sensors installed opposite each other, a minimum space of $6 \times S_n$ (the nominal sensing distance) must be observed (See Picture 3).





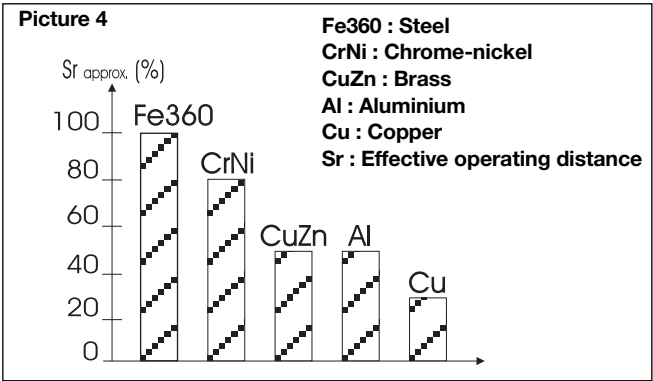
Wiring Diagrams



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 stright connector, 2m cable	CONM13NF-S2
3-wire stright 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