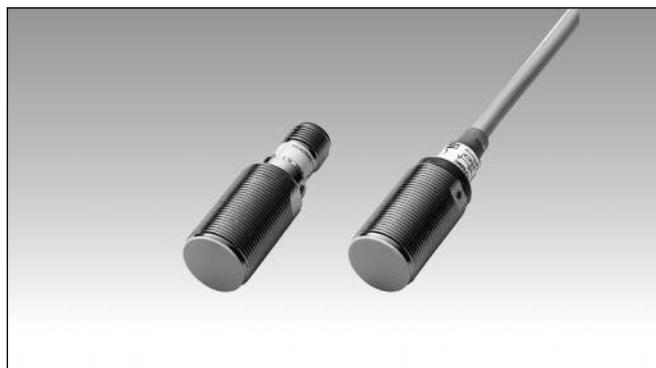


Proximity Inductive Sensors

Standard range, Nickel-Plated Brass Housing

Types ICB, M18

CARLO GAVAZZI



- Sensing distance: 5 mm
- 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
- Higher resistance to magnetic field
- 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

ICB18SF05NOM1

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	5 mm	ICB 18 SF 05 NO	ICB 18 SF 05 PO	ICB 18 SF 05 NC	ICB 18 SF 05 PC
Plug	Short	5 mm	ICB 18 SF 05 NOM1	ICB 18 SF 05 POM1	ICB 18 SF 05 NCM1	ICB 18 SF 05 PCM1
Cable	Long	5 mm	ICB 18 LF 05 NO	ICB 18 LF 05 PO	ICB 18 LF 05 NC	ICB 18 LF 05 PC
Plug	Long	5 mm	ICB 18 LF 05 NOM1	ICB 18 LF 05 POM1	ICB 18 LF 05 NCM1	ICB 18 LF 05 PCM1

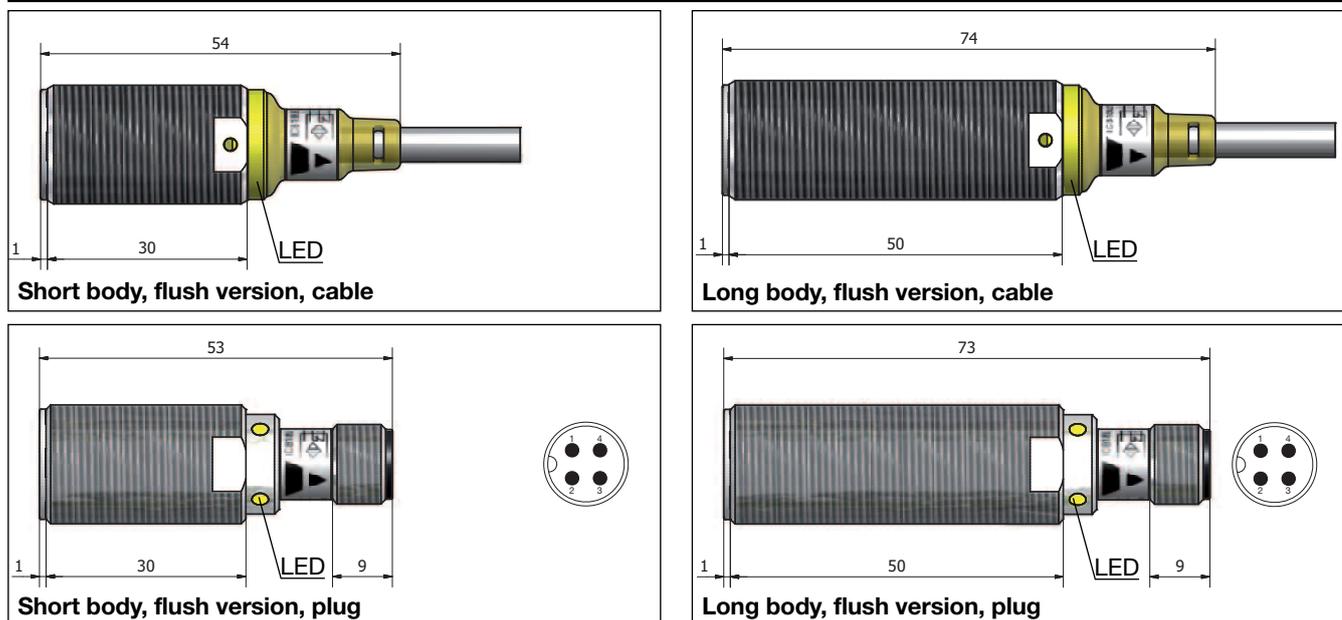
Specifications

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	Ambient temperature	Operating Storage
Dielectric impulse voltage withstand	1 kV/0.5 J		-25° to +70°C (-13° to +158°F) -30° to +80°C (-22° to +176°F)
Power ON delay (t_v)	300 ms	Shock and vibration	IEC 60947-5-2/7.4
Operating frequency (f)	≤ 1500 Hz	Housing material	Body Front
Indication for output ON	Activated LED, yellow		Nickel-plated brass Grey thermoplastic polyester
NO version	Target present		
NC version	Target not present		

Specifications (cont.)

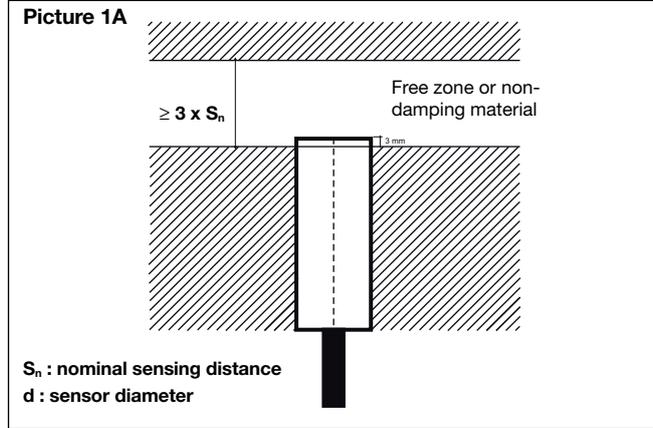
Connection Cable	2 m, 3 x 0.25 mm ² , grey PVC, oil proof	Approvals (cont.) cCSAus	As Process Control Equipment for Hazardous Locations. - Class I, Division 2, Groups A, B, C and D. - T5 up to 150 mA, T4A for a load current > 150 mA and up to 200 mA, Enclosure Type 4. Ambient temperature Ta: -25° to +60°C. CCC is not required for products with a maximum operating voltage of ≤ 36 V
Plug	M12 x 1		
Degree of protection	IP 67	Note: The terminal connector (version ...M1) was not evaluated. The suitability of the terminal connector should be determined in the end-use application.	
Weight (cable/nuts included) Cable Plug	Max. 150 g Max. 70 g		
Dimensions	See diagrams below	CE-marking	Yes
Tightening torque Non-flush version Flush version From 1 to 3 mm > 3 mm	25 Nm 15 Nm 25 Nm	EMC protection IEC 61000-4-2 (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
Approvals UL (cULus), CSA	As Industrial Control Equipment - Proximity Switches. Types 1, 4, 4X or 12. Max ambient temperature 40°C.	IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-6 IEC 61000-4-8	

Dimensions

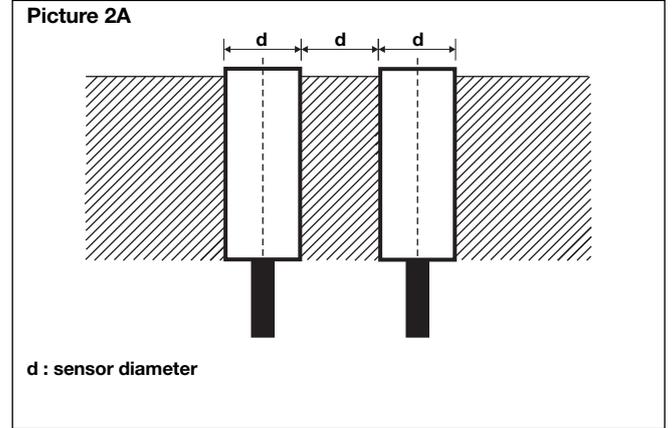


Installation

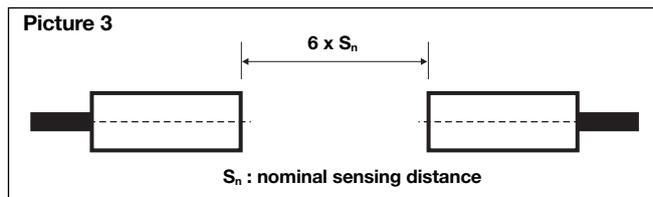
Flush sensor, when installed in damping material, must be according to Picture 1A.



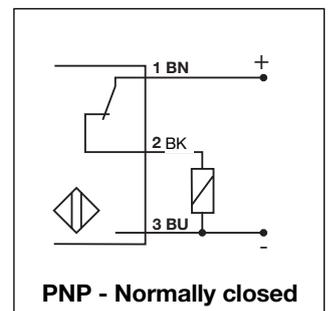
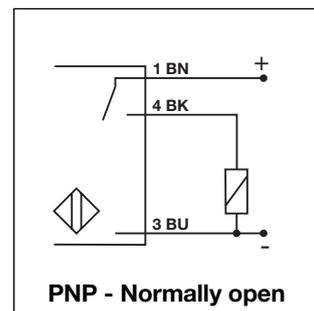
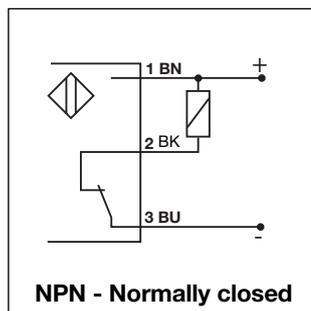
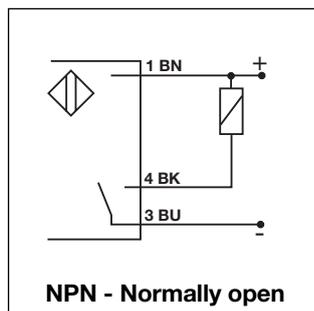
Flush sensors, when installed together in damping material, must be according to Picture 2A.



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



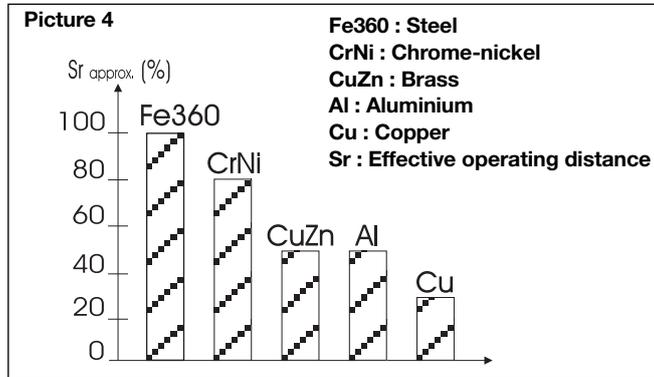
Wiring Diagrams



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.



Delivery Contents

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

Accessories for Plug Versions

	PVC	PUR
3-wire angled connector, 2 m cable	CONB13NF-A2	CONB13NF-A2P
3-wire angled connector, 5 m cable	CONB13NF-A5	CONB13NF-A5P
3-wire angled connector, 10 m cable	CONB13NF-A10	CONB13NF-A10P
3-wire angled connector, 15 m cable	CONB13NF-A15	CONB13NF-A15P
3-wire straight connector, 2m cable	CONB13NF-S2	CONB13NF-S2P
3-wire straight connector, 5m cable	CONB13NF-S5	CONB13NF-S5P
3-wire straight connector, 10m cable	CONB13NF-S10	CONB13NF-S10P
3-wire straight connector, 15m cable	CONB13NF-S15	CONB13NF-S15P

For any additional information or different options, please refer to the "General Accessories - Connector Cables -Type CONB1..." datasheets.