

Proximity Inductive Sensors Nickel-Plated Brass Housing Types IA, M12, M18 and M30

5 years warranty

CARLO GAVAZZI



- Sensing distance: 2 to 15 mm
- Flush and non-flush types
- Long and short housing
- Rated operational voltage: 10 - 40 VDC
- Output: DC 200 mA, NPN or PNP
- Make and break switching function
- Output indication: by yellow LED
- Protection: reverse polarity, short circuit, transients
- Cable and plug versions



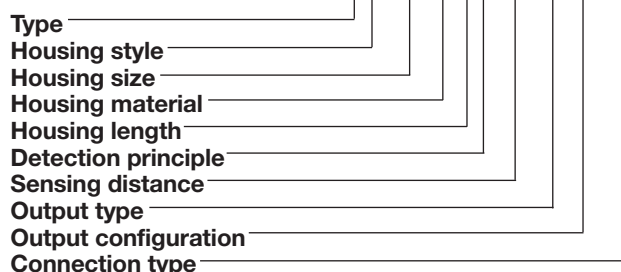
Product Description

A family of inexpensive proximity inductive switches in industrial standard nickel-plated brass housings (M12, M18 and M30 types). Output indication: by yellow lead.

Outputs are open collector NPN or PNP transistors. Available with cable and M12 plug.

Ordering Key

IA12ASF02NOM1



Type Selection

Housing diameter	Connection	Housing style	Rated operating distance S _n	Ordering no. NPN Make switching	Ordering no. PNP Make switching	Ordering no. NPN Break switching	Ordering no. PNP Break switching
M12	Cable	Short	2 mm ¹⁾	IA 12 DSF 02 NO	IA 12 DSF 02 PO	IA 12 DSF 02 NC	IA 12 DSF 02 PC
M12	Plug	Short	2 mm ¹⁾	IA 12 ASF 02 NOM1	IA 12 ASF 02 POM1	IA 12 ASF 02 NCM1	IA 12 ASF 02 PCM1
M12	Cable	Long	2 mm ¹⁾	IA 12 DLF 02 NO	IA 12 DLF 02 PO	IA 12 DLF 02 NC	IA 12 DLF 02 PC
M12	Plug	Long	2 mm ¹⁾	IA 12 ALF 02 NOM1	IA 12 ALF 02 POM1	IA 12 ALF 02 NCM1	IA 12 ALF 02 PCM1
M12	Cable	Short	4 mm ²⁾	IA 12 DSN 04 NO	IA 12 DSN 04 PO	IA 12 DSN 04 NC	IA 12 DSN 04 PC
M12	Plug	Short	4 mm ²⁾	IA 12 ASN 04 NOM1	IA 12 ASN 04 POM1	IA 12 ASN 04 NCM1	IA 12 ASN 04 PCM1
M18	Cable	Short	5 mm ¹⁾	IA 18 DSF 05 NO	IA 18 DSF 05 PO	IA 18 DSF 05 NC	IA 18 DSF 05 PC
M18	Plug	Short	5 mm ¹⁾	IA 18 ASF 05 NOM1	IA 18 ASF 05 POM1	IA 18 ASF 05 NCM1	IA 18 ASF 05 PCM1
M18	Cable	Long	5 mm ¹⁾		IA 18 DLF 05 PO		IA 18 DLF 05 PC
M18	Plug	Long	5 mm ¹⁾		IA 18 ALF 05 POM1		IA 18 ALF 05 PCM1
M18	Cable	Short	8 mm ²⁾	IA 18 DSN 08 NO	IA 18 DSN 08 PO	IA 18 DSN 08 NC	IA 18 DSN 08 PC
M18	Plug	Short	8 mm ²⁾	IA 18 ASN 08 NOM1	IA 18 ASN 08 POM1	IA 18 ASN 08 NCM1	IA 18 ASN 08 PCM1
M30	Cable	Short	10 mm ¹⁾	IA 30 DSF 10 NO	IA 30 DSF 10 PO	IA 30 DSF 10 NC	IA 30 DSF 10 PC
M30	Plug	Short	10 mm ¹⁾	IA 30 ASF 10 NOM1	IA 30 ASF 10 POM1	IA 30 ASF 10 NCM1	IA 30 ASF 10 PC M1
M30	Cable	Long	10 mm ¹⁾		IA 30 DLF 10 PO		IA 30 DLF 10 PC
M30	Plug	Long	10 mm ¹⁾		IA 30 ALF 10 POM1		
M30	Cable	Short	15 mm ²⁾	IA 30 DSN 15 NO	IA 30 DSN 15 PO	IA 30 DSN 15 NC	IA 30 DSN 15 PC
M30	Plug	Short	15 mm ²⁾	IA 30 ASN 15 NOM1	IA 30 ASN 15 POM1	IA 30 ASN 15 NCM1	IA 30 ASN 15 PCM1

¹⁾ For flush mounting in metal

²⁾ For non-flush mounting in metal

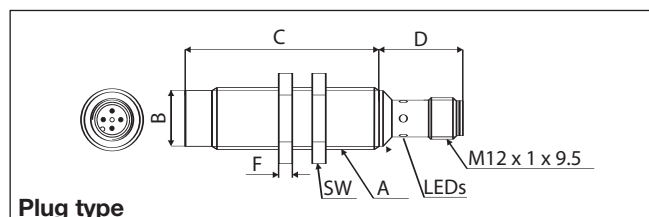
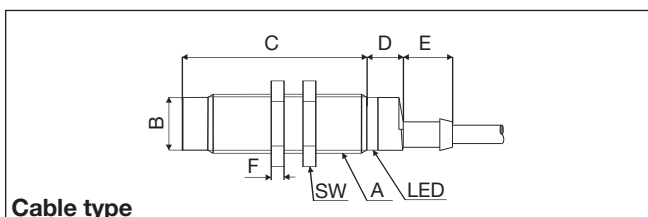
Specifications

Rated operational voltage (U_B)	10 to 40 VDC (ripple incl.)	Ambient temperature	
Ripple	≤ 10%	Operating	-25° to +70°C (-13° to +158°F)
Output current (I_e)	≤ 200 mA @ 50°C (≤ 150 mA @ 50-70°C)	Storage	-30° to +80°C (-22° to +176°F)
No load supply current (I_o)	IA 12 ≤ 10 mA IA 18 ≤ 10 mA IA 30 ≤ 10 mA	Housing material	
Voltage drop (U_d)	Max. 2.5 VDC @ 200 mA	Body	Nickel-plated brass
Protection	Reverse polarity, short-circuit, transients	Front	Grey thermoplastic polyester
Voltage transient	1 kV/0.5 J	Backpart	
Power ON delay (t_v)	50 ms	Plug	NPB
Operating frequency (f)	IA12 ..F 02 ≤ 2000 Hz IA12 DSN 04 ≤ 2000 Hz IA18 ..F 05 ≤ 1500 Hz IA18 DSN 08 ≤ 1500 Hz IA30 ..F 10 ≤ 700 Hz IA30 DSN 15 ≤ 700 Hz	Cable	PBTP (black polyester)
Indication for output ON	LED, yellow	Nuts	NPB
Operating sensing distance (S_a)	0 ≤ S _a ≤ 0.81 x S _n	Connection	
Effective operating distance (S_r)	0.9 x S _n ≤ S _r ≤ 1.1 x S _n	Cable	2 m, 3 x 0.3 mm ² , grey PVC, oil proof
Usable operating distance (S_u)	0.9 x S _r ≤ S _u ≤ 1.1 x S _r	Plug	M12 x 1
Repeated accuracy (R)	≤ 5%	Cables for plug (-1)	CONH1A/CONH1O series
Differential travel (H) (Hysteresis)	1 to 20% of sensing dist.	Degree of protection	IP 67
		Weight	
			IA 12 .S. 100 g IA 12 .L. 105 g IA 18 .S. 120 g IA 18 .L. 130 g IA 30 .S. 185 g IA 30 .L. 195 g
		Tightening torque	IA 12 7.0 Nm (x) 15.0 Nm (y) IA 18 27.5 Nm IA 30 50.0 Nm
		Approvals	UL, CSA
		CE-marking	Yes

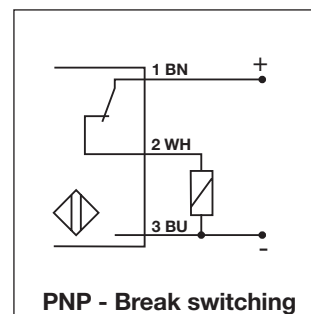
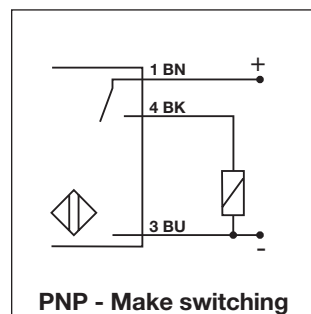
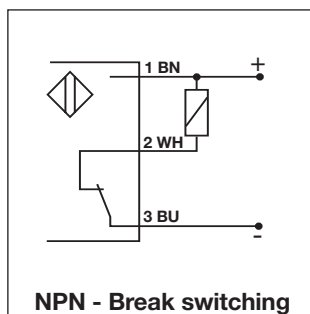
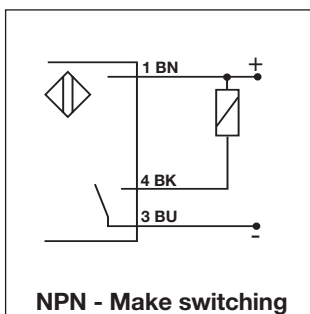
Dimensions

Type	A	B mm	C mm	D mm	E mm	F mm	SW mm
IA 12 DSF 02 xx	M12 x 1 x 30	10.7	30	11	5.0	4	17
IA 12 ASF 02 xx M1	M12 x 1 x 30	10.7	30	25.2		4	17
IA 12 DLF 02 xx	M12 x 1 x 50	10.7	50	11	5.0	4	17
IA 12 ALF 02 xx M1	M12 x 1 x 50	10.7	50	25.2		4	17
IA 12 DSN 04 xx	M12 x 1 x 30	10.7	34	11	5.0	4	17
IA 12 ASN 04 xx M1	M12 x 1 x 30	10.7	34	25.2		4	17
IA 18 DSF 05 xx	M18 x 1 x 30	16.7	30	11.6	15.4	4	24
IA 18 ASF 05 xx M1	M18 x 1 x 30	16.7	30	25.0		4	24
IA 18 DLF 05 xx	M18 x 1 x 50	16.7	50	11.6	15.4	4	24
IA 18 ALF 05 xx M1	M18 x 1 x 50	16.7	50	25.0		4	24
IA 18 DSN 08 xx	M18 x 1 x 30	16.7	38	11.6	15.4	4	24
IA 18 ASN 08 xx M1	M18 x 1 x 30	16.7	38	25.0		4	24
IA 30 DSF 10 xx	M30 x 1.5 x 30	28	30	13.6	15.4	5	36
IA 30 ASF 10 xx M1	M30 x 1.5 x 30	28	30	25.0		5	36
IA 30 DLF 10 xx	M30 x 1.5 x 50	28	50	13.6	15.4	5	36
IA 30 ALF 10 xx M1	M30 x 1.5 x 50	28	50	25.0		5	36
IA 30 DSN 15 xx	M30 x 1.5 x 30	28	42	13.6	15.4	5	36
IA 30 ASN 15 xx M1	M30 x 1.5 x 30	28	42	25.0		5	36

Dimensions (cont.)

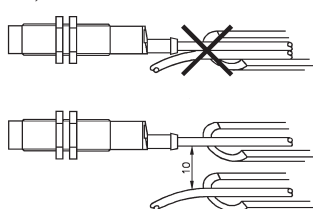


Wiring Diagrams

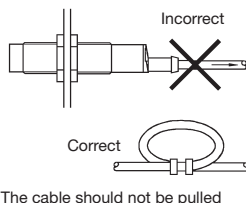


Installation Hints

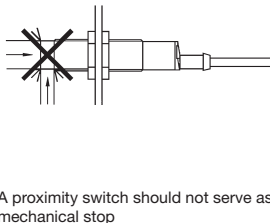
To avoid interference from inductive voltage/current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables



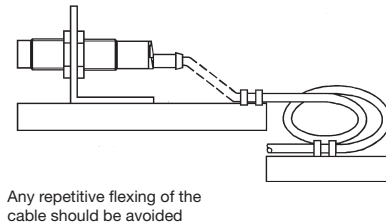
Relief of cable strain



Protection of the sensing face



Switch mounted on mobile carrier



Delivery Contents

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

Accessories

M12 connector

CONH10-A2
CONH10-A5
CONH10-S2
CONH10-S5

(90°, 2 m cable)
(90°, 5 m cable)
(straight, 2 m cable)
(straight, 5 m cable)



Detection Diagrams

