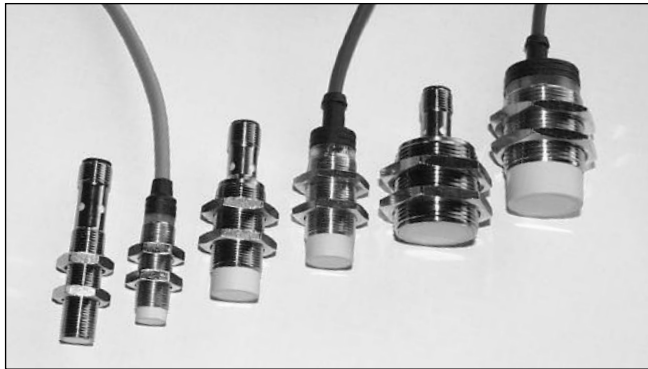


# Proximity Sensors Inductive Extended Range, Nickel Plated Brass Housing Types IA, DC, M12, M18 and M30, 2-wire

CARLO GAVAZZI



- Sensing distance: 4 to 22 mm
- Flush and non-flush types
- Power supply: 10 to 40 VDC
- Output: Transistor
- Make or break switching
- Protection: Reverse polarity, short-circuit and transients
- 2 m cable or plug M12
- Diameter: M12, M18, M30

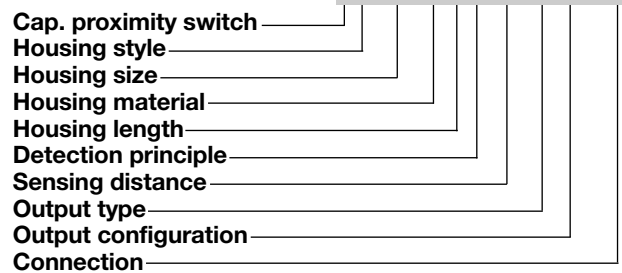


## Product Description

Proximity switch M12, M18 and M30 in nickel-plated brass housings. Made in accordance with Euronorm EN 60 947-5-2.

## Ordering Key

**IA12ASF04DOM1**



## Type Selection

Housing diameter	Body style	Connection	Rated operating dist. (S <sub>n</sub> )	Ordering no. 2 wire DC Normally open	Ordering no. 2 wire DC Normally closed
M12	Short	Cable	4 mm <sup>1)</sup>	IA 12 DSF 04 DO	IA 12 DSF 04 DC
M12	Short	Plug	4 mm <sup>1)</sup>	IA 12 ASF 04 DO M1	IA 12 ASF 04 DC M1
M12	Short	Cable	8 mm <sup>2)</sup>	IA 12 DSN 08 DO	IA 12 DSN 08 DC
M12	Short	Plug	8 mm <sup>2)</sup>	IA 12 ASN 08 DO M1	IA 12 ASN 08 DC M1
M18	Short	Cable	8 mm <sup>1)</sup>	IA 18 DSF 08 DO	IA 18 DSF 08 DC
M18	Short	Plug	8 mm <sup>1)</sup>	IA 18 ASF 08 DO M1	IA 18 ASF 08 DC M1
M18	Short	Cable	14 mm <sup>2)</sup>	IA 18 DSN 14 DO	IA 18 DSN 14 DC
M18	Short	Plug	14 mm <sup>2)</sup>	IA 18 ASN 14 DO M1	IA 18 ASN 14 DC M1
M30	Short	Cable	15 mm <sup>1)</sup>	IA 30 DSF 15 DO	IA 30 DSF 15 DC
M30	Short	Plug	15 mm <sup>1)</sup>	IA 30 ASF 15 DO M1	IA 30 ASF 15 DC M1
M30	Short	Cable	22 mm <sup>2)</sup>	IA 30 DSN 22 DO	IA 30 DSN 22 DC
M30	Short	Plug	22 mm <sup>2)</sup>	IA 30 ASN 22 DO M1	IA 30 ASN 22 DC M1

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

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

## Specifications

<b>Rated operational volt.</b> (U <sub>e</sub> ) (U <sub>B</sub> )	12 to 36 VDC 10 to 40 VDC (ripple included)	<b>Transient voltage</b>	≤ 1 kV/0.5 J
<b>Ripple</b>	≤ 10%	<b>EMC</b>	Approved according to EN 50 080, EN 50 081
<b>Rated operational current</b> (I <sub>e</sub> ) Continuous	≤ 5-100 mA	<b>Power ON delay</b>	< 50 ms
<b>No-load supply current</b> (I)	≤ 0.8 mA	<b>Frequency of operating cycles</b> (f)	<b>IA12xSF</b> 1000 Hz <b>IA12xSN</b> 800 Hz <b>IA18xSF</b> 500 Hz <b>IA18xSN</b> 400 Hz <b>IA30xSF</b> 400 Hz <b>IA30xSN</b> 200 Hz
<b>Voltage drop</b> (U <sub>d</sub> )	≤ 3 VDC at max. load		
<b>Protection</b>	Reverse polarity, short-circuit, transients		

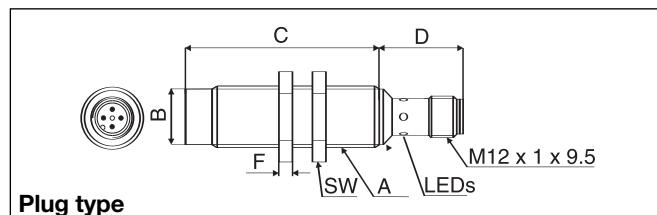
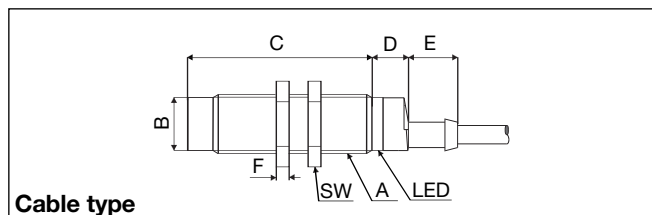


## Specifications (cont.)

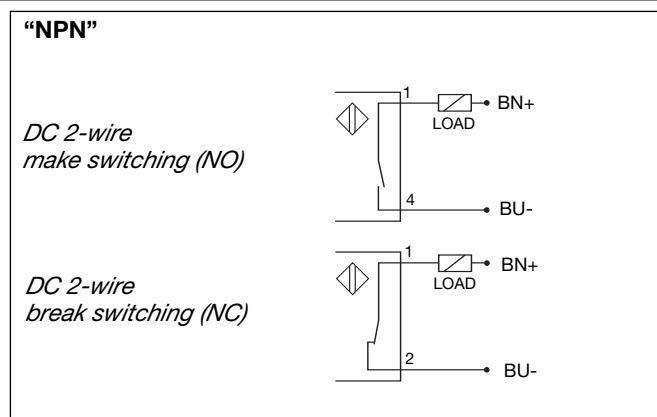
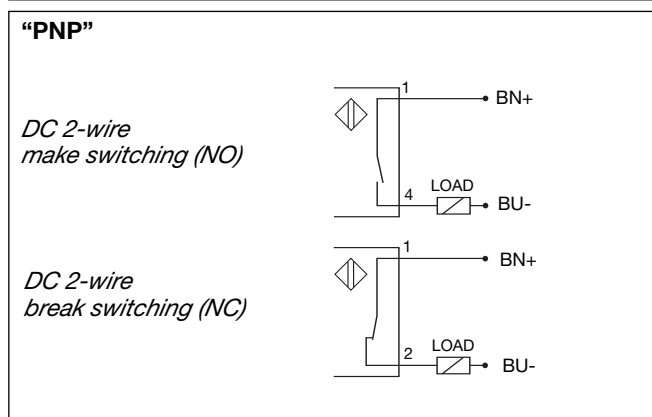
<b>Indication</b>	LED, yellow	<b>Connection</b>	
<b>Repeat accuracy (R)</b>	≤ 10%	Cable	2 m, 2 x 0.5 mm <sup>2</sup> , grey PVC, oil proof
<b>Hysteresis (H) (Differential travel)</b>	1 to 20% of sensing distance	Plug	M12 x 1
<b>Assured operating dist. (S<sub>a</sub>)</b>	0 ≤ S <sub>a</sub> ≤ 0.77 S <sub>n</sub>	Cables for plug (-1)	CONH1A serie
<b>Effective operating dist. (S<sub>r</sub>)</b>	0.9 x S <sub>n</sub> ≤ S <sub>r</sub> ≤ 1.1 x S <sub>n</sub>	<b>Weight</b> (cable excluded)	<b>IA 12xxx</b> 20 g
<b>Usable operating dist. (S)</b>	0.85 x S <sub>r</sub> ≤ S <sub>u</sub> ≤ 1.15 x S <sub>r</sub>		<b>IA 18xxF</b> 26 g
<b>Ambient temperature</b>			<b>IA 18xxN</b> 30 g
Operating	-25° to +70°C (-13° to +158°F)		<b>IA 30xxF</b> 50 g
Storage	-30° to +80°C (-22° to +176°F)		<b>IA 30xxN</b> 80 g
<b>Degree of protection</b>	IP 67 (Nema 1, 3, 4, 6, 13)	<b>Tightening torque</b>	<b>IA 12 (x)</b> 7 Nm
<b>Housing material</b>			15 Nm
Body	In nickel-plated brass		<b>IA 18</b> 27.5 Nm
Front	Grey thermoplastic polyester		<b>IA 30</b> 50 Nm
Back	Black polyester (cable)	<b>Approvals</b>	CSA, UL
	In nickel-plated brass (plug)	<b>CE-marking</b>	Yes

## Dimensions

Type	A	B Ø mm	C mm	D mm	E mm	F mm	SW mm
IA 12 DSF 04 D.	M 12 x 1 x 38	10.7	38	11	5.0	4	17
IA 12 ASF 04 D. M1	M 12 x 1 x 38	10.7	38	25.2		4	17
IA 12 DSN 08 D.	M 12 x 1 x 38	10.7	42	11	5.0	4	17
IA 12 ASN 08 D. M1	M 12 x 1 x 38	10.7	42	25.2		4	17
IA 18 DSF 08 D.	M 18 x 1 x 30	16.7	30	11.6	15.4	4	24
IA 18 ASF 08 D. M1	M 18 x 1 x 30	16.7	30	25.0		4	24
IA 18 DSN 14 D.	M 18 x 1 x 30	16.7	38	11.6	15.4	4	24
IA 18 ASN 14 D. M1	M 18 x 1 x 30	16.7	38	25.0		4	24
IA 30 DSF 15 D.	M 30 x 1.5 x 30	28	30	13.6	15.4	5	36
IA 30 ASF 15 D. M1	M 30 x 1.5 x 30	28	30	25.0		5	36
IA 30 DSN 22 D.	M 30 x 1.5 x 30	28	42	13.6	15.4	5	36
IA 30 ASN 22 D. M1	M 30 x 1.5 x 30	28	42	25.0		5	36



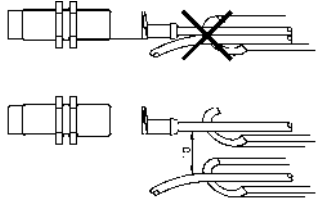
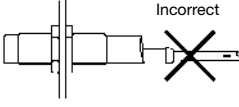
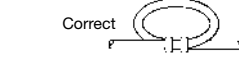
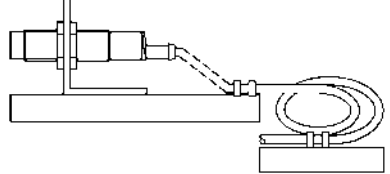
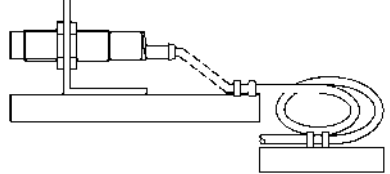
## Wiring Diagrams



## Power Supplies

Power supplies VDC: > SS 130/140.

## Installation Hints

<p><i>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</i></p> 	<p><i>Relief of cable strain</i></p> <p>Incorrect</p>  <p>Correct</p>  <p>The cable should not be pulled</p>	<p><i>Protection of the sensing face</i></p>  <p>A proximity switch should not serve as mechanical stop</p>	<p><i>Switch mounted on mobile carrier</i></p>  <p>Any repetitive flexing of the cable should be avoided</p>
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