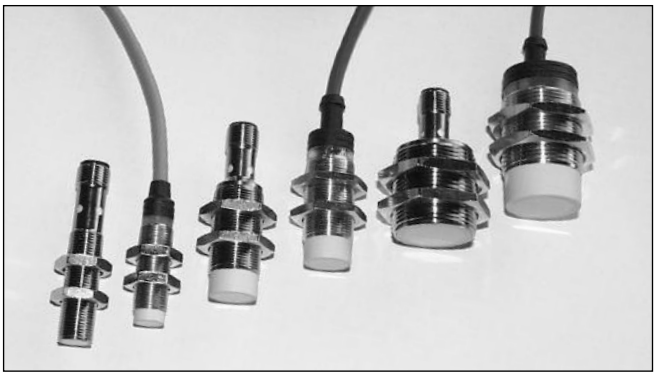
Proximity Sensors Inductive
Extended Range, Nickel Plated Brass Housing
Types IA, DC, M12, M18 and M30, 2-wire



- **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

- **Cap. proximity switch**
- **Housing style**
- **Housing size**
- **Housing material**
- **Housing length**
- **Detection principle**
- **Sensing distance**
- **Output type**
- **Output configuration**
- **Connection**

Type Selection

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

[1] For flush mounting in metal
[2] For non-flush mounting in metal

Specifications

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

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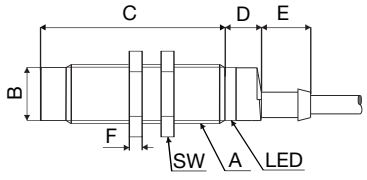
Specifications (cont.)

Indication	LED, yellow
Repeat accuracy (R)	≤ 10%
Hysteresis (H) (Differential travel)	1 to 20% of sensing distance
Assured operating dist. (S_a)	$0 \le S_a \le 0.77\ S_n$
Effective operating dist. (S_r)	$0.9 \times S_n \le S_r \le 1.1 \times S_n$
Usable operating dist. (S)	$0.85 \times S_r \le S_u \le 1.15 \times S_r$
Ambient temperature	
Operating	-25° to +70°C (-13° to +158°F)
Storage	-30° to +80°C (-22° to +176°F)
Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Housing material	
Body	In nickel-plated brass
Front	Grey thermoplastic polyester
Back	Black polyester (cable) In nickel-plated brass (plug)

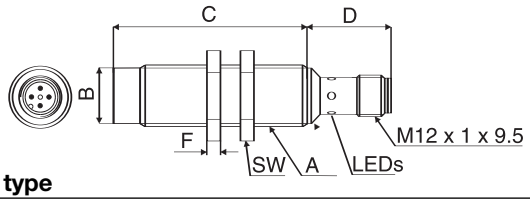
Connection		
Cable	2 m, 2 x 0.5 mm², grey PVC, oil proof	
Plug	M12 x 1	
Cables for plug (-1)	CONH1A serie	
Weight (cable excluded)	**IA 12xxx**	20 g
	IA 18xxF	26 g
	IA 18xxN	30 g
	IA 30xxF	50 g
	IA 30xxN	80 g
Tightening torque	**IA 12 (x)**	7 Nm
		15 Nm
	IA 18	27.5 Nm
	IA 30	50 Nm
Approvals	CSA, UL	
CE-marking	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



Cable type

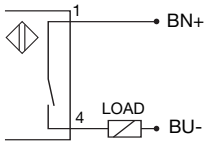


Plug type

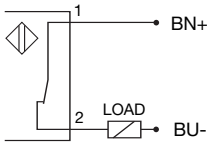
Wiring Diagrams

"PNP"

DC 2-wire make switching (NO)

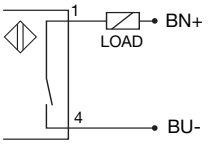


DC 2-wire break switching (NC)

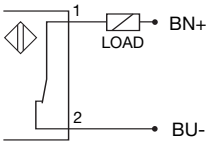


"NPN"

DC 2-wire make switching (NO)



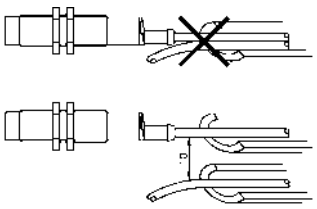
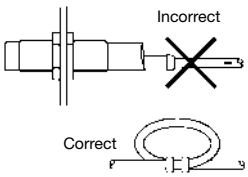
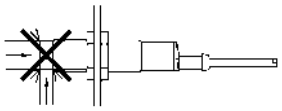
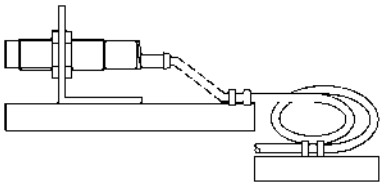
DC 2-wire break switching (NC)



Power Supplies

Power supplies VDC: > SS 130/140.

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*
			
	The cable should not be pulled	A proximity switch should not serve as mechanical stop	Any repetitive flexing of the cable should be avoided