

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

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- Sensing distance: 4 to 22 mm
- Flush and non-flush types
- Long and short body
- Rated operational voltage: 10 - 40 VDC
- Output: DC 200 mA, NPN or PNP
- Make switching function
- LED-indication
- Protection: reverse polarity, short circuit, transients
- Cable and plug versions

5 years warranty

Product Description

A family of Extended range inductive proximity switches in industrial standard nickel-plated brass housings. M12, M18 and M30 types. They are able to handle applica-

tions where high sensing range is requested. Output are open collector NPN or PNP transistors. Available with cable and M12 plug.

Ordering Key

IA12ASF04NOM1

Type	IA
Housing style	12
Housing size	ASF
Housing material	04
Housing length	NOM
Detection principle	1
Sensing distance	
Output type	
Output configuration	
Connection type	

Type Selection

Housing diameter	Connection	Body style	Rated operating distance S_n	Ordering no. NPN Make switching	Ordering no. PNP Make switching
M12	Cable	Short	4 mm ¹⁾	IA 12 DSF 04 NO	IA 12 DSF 04 PO
M12	Plug	Short	4 mm ¹⁾	IA 12 ASF 04 NOM1	IA 12 ASF 04 POM1
M12	Cable	Short	8 mm ²⁾	IA 12 DSN 08 NO	IA 12 DSN 08 PO
M12	Plug	Short	8 mm ²⁾	IA 12 ASN 08 NOM1	IA 12 ASN 08 POM1
M18	Cable	Short	8 mm ¹⁾	IA 18 DSF 08 NO	IA 18 DSF 08 PO
M18	Plug	Short	8 mm ¹⁾	IA 18 ASF 08 NOM1	IA 18 ASF 08 POM1
M18	Cable	Short	14 mm ²⁾	IA 18 DSN 14 NO	IA 18 DSN 14 PO
M18	Plug	Short	14 mm ²⁾	IA 18 ASN 14 NOM1	IA 18 ASN 14 POM1
M30	Cable	Short	15 mm ¹⁾	IA 30 DSF 15 NO	IA 30 DSF 15 PO
M30	Plug	Short	15 mm ¹⁾	IA 30 ASF 15 NOM1	IA 30 ASF 15 POM1
M30	Cable	Short	22 mm ²⁾	IA 30 DSN 22 NO	IA 30 DSN 22 PO
M30	Plug	Short	22 mm ²⁾	IA 30 ASN 22 NOM1	IA 30 ASN 22 POM1

¹⁾ For flush mounting in metal

²⁾ For non-flush mounting in metal

Specifications

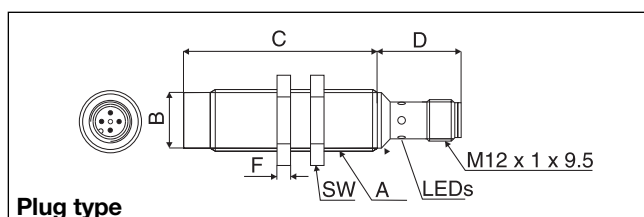
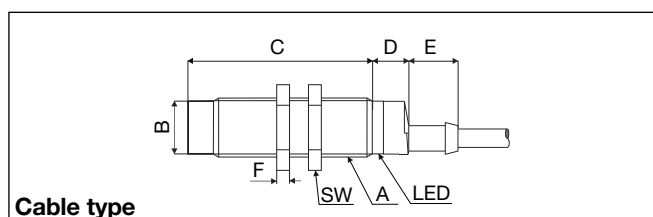
Rated operational voltage (U_B)	10 to 40 VDC (ripple incl.)	Protection	Reverse polarity, short-circuit, transients
Ripple	≤ 10%	Transient voltage	1 kV/0.5 J
Output current (I_o)	≤ 200 mA @ 50°C (≤ 150 mA @ 50-70°C)	Power ON delay (t_r)	50 ms
No load supply current (I_o)	IA 12 ≤ 10 mA IA 18 ≤ 10 mA IA 30 ≤ 10 mA	Operating frequency (f)	IA12 ..F 04 ≥ 1500 Hz IA12 DSN 08 ≥ 800 Hz IA18 ..F 08 ≥ 1400 Hz IA18 DSN 14 ≥ 700 Hz IA30 ..F 15 ≥ 700 Hz IA30 DSN 22 ≥ 500 Hz
Voltage drop (U_d)	Max. 2.5 VDC @ 200 mA		

Specifications (cont.)

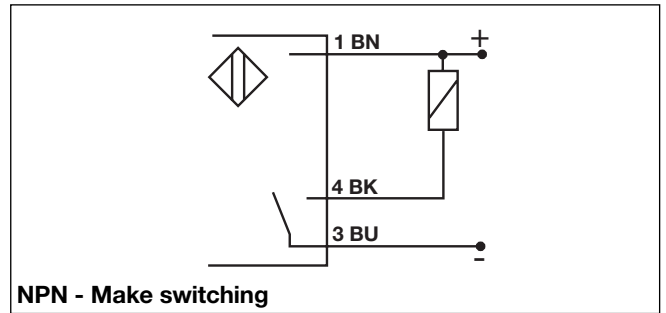
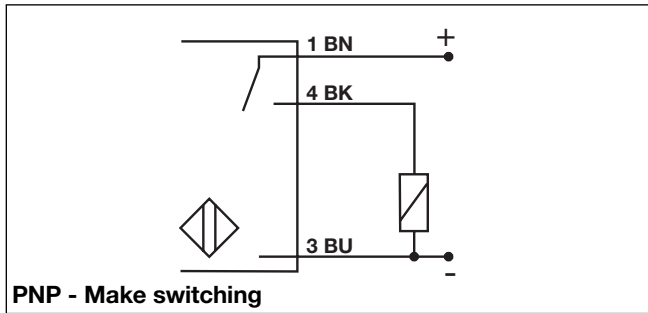
Indication for output ON	LED, yellow	Connection	
Assured operating sensing distance (S_a)	$0 \leq S_a \leq 0.81 \times S_n$	Cable	2 m, 3 x 0.3 mm ² , grey PVC, oil proof
Effective operating distance (S_r)	$0.9 \times S_n \leq S_r \leq 1.1 \times S_n$	Plug	M12 x 1
Usable operating distance (S_u)	$0.85 \times S_r \leq S_u \leq 1.15 \times S_r$	Cables for plug (-1)	CONH1A/CONH1O series
Repeat accuracy (R)	≤ 5%	Degree of protection	IP 67
Differential travel (H) (Hysteresis)	1 to 20% of sensing dist.	Weight (cable/nuts included)	IA 12 .S. 100 g IA 18 .S. 120 g IA 30 .S. 185 g
Ambient temperature		Tightening torque	IA 12 7.0 Nm (x) 15.0 Nm (y) IA 18 27.5 Nm IA 30 50.0 Nm
Operating	-25° to +70°C (-13° to +158°F)	Approvals	UL, CSA
Storage	-30° to +80°C (-22° to +176°F)	CE-marking	Yes
Housing material			
Body	Nickel-plated brass		
Front	Grey thermoplastic polyester		
Backpart			
Plug	NPB		
Cable	PBTP (black polyester)		
Nuts	NPB		

Dimensions

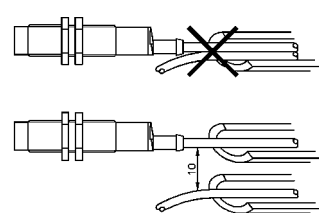
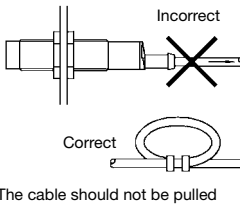
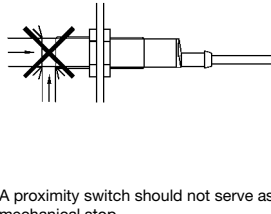
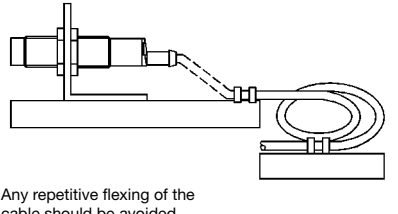
Type	A	B Ø mm	C mm	D mm	E mm	F mm	SW mm
IA 12 DSF 04 .O	M12 x 1 x 30	10.7	30	11	5.0	4	17
IA 12 ASF 04 .O M1	M12 x 1 x 30	10.7	30	25.2		4	17
IA 12 DSN 08 .O	M12 x 1 x 30	10.7	34	11	5.0	4	17
IA 12 ASN 08 .O M1	M12 x 1 x 30	10.7	34	25.2		4	17
IA 18 DSF 08 .O	M18 x 1 x 30	16.7	30	11.6	15.4	4	24
IA 18 ASF 08 .O M1	M18 x 1 x 30	16.7	30	25.0		4	24
IA 18 DSN 14 .O	M18 x 1 x 30	16.7	38	11.6	15.4	4	24
IA 18 ASN 14 .O M1	M18 x 1 x 30	16.7	38	25.0		4	24
IA 30 DSF 15 .O	M30 x 1.5 x 30	28	30	13.6	15.4	5	36
IA 30 ASF 15 .O M1	M30 x 1.5 x 30	28	30	25.0		5	36
IA 30 DSN 22 .O	M30 x 1.5 x 30	28	42	13.6	15.4	5	36
IA 30 ASN 22 .O M1	M30 x 1.5 x 30	28	42	25.0		5	36



Wiring Diagrams



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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Delivery Contents

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

Accessories

M 12 connector

- | | |
|-----------|-----------------------|
| CONH10-A2 | (90°, 2 m cable) |
| CONH10-A5 | (90°, 5 m cable) |
| CONH10-S2 | (straight, 2 m cable) |
| CONH10-S5 | (straight, 5 m cable) |