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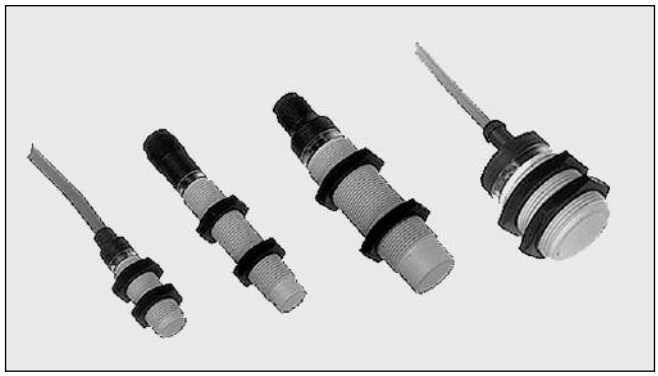
Proximity Sensors Inductive Thermoplastic Polyester Housing Types IA, M12, M18 and M30, NAMUR

CARLO GAVAZZI



- Euronorm thermoplastic polyester housing, cylindrical
- Short or long versions
- Diameter: M12, M18, M30
- Sensing distance: 2 to 15 mm
- Output: NAMUR EN 50 227
- Protection: Reverse polarity
- LED-indication
- 2 m cable or M12 plug

Product Description

Proximity switch in M12, M18 and M30 polyester housings. Made in accordance with euronorms EN 50 227 and EN 60 947-5-2. For metal versions refer to type IA 12 E... Amplifier relay SD..... is available.

Ordering Key

IA 12 CSF 02 UC M1

- Type
- Housing size
- Housing type
- Sensing function
- Sensing distance
- Output type
- Plug

Type Selection

Housing diameter	Body style	Connection	Rated operating distance (S_n)	Ordering no. NAMUR
M12	Short	Cable	2 mm [1]	**IA 12 CSF 02 UC**
M12	Short	Plug	2 mm [1]	**IA 12 CSF 02 UC M1**
M12	Long	Cable	2 mm [1]	**IA 12 CLF 02 UC**
M12	Long	Plug	2 mm [1]	**IA 12 CLF 02 UC M1**
M12	Short	Cable	4 mm [2]	**IA 12 CSN 04 UC**
M12	Short	Plug	4 mm [2]	**IA 12 CSN 04 UC M1**
M12	Long	Cable	4 mm [2]	**IA 12 CLN 04 UC**
M12	Long	Plug	4 mm [2]	**IA 12 CLN 04 UC M1**
M18	Short	Cable	5 mm [1]	**IA 18 CSF 05 UC**
M18	Short	Plug	5 mm [1]	**IA 18 CSF 05 UC M1**
M18	Long	Cable	5 mm [1]	**IA 18 CLF 05 UC**
M18	Long	Plug	5 mm [1]	**IA 18 CLF 05 UC M1**
M18	Short	Cable	8 mm [2]	**IA 18 CSN 08 UC**
M18	Short	Plug	8 mm [2]	**IA 18 CSN 08 UC M1**
M18	Long	Cable	8 mm [2]	**IA 18 CLN 08 UC**
M18	Long	Plug	8 mm [2]	**IA 18 CLN 08 UC M1**
M30	Short	Cable	10 mm [1]	**IA 30 CSF 10 UC**
M30	Short	Plug	10 mm [1]	**IA 30 CSF 10 UC M1**
M30	Long	Cable	10 mm [1]	**IA 30 CLF 10 UC**
M30	Long	Plug	10 mm [1]	**IA 30 CLF 10 UC M1**
M30	Short	Cable	15 mm [2]	**IA 30 CSN 15 UC**
M30	Short	Plug	15 mm [2]	**IA 30 CSN 15 UC M1**
M30	Long	Cable	15 mm [2]	**IA 30 CLN 15 UC**
M30	Long	Plug	15 mm [2]	**IA 30 CLN 15 UC M1**

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

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Specifications

Rated operational volt. (U_e) (U_B)	8.2 VDC 7 to 9 VDC (6 to 35 VDC, all specifications not observed in extended supply range)
Self-inductance	≤ 500 µH
Self-capacitance	≤ 120 nF
No-load supply current (I_o)	Activated: ≤1 mA Not activated: ≥ 2.2 mA Max. 9.35 mA
Protection	Reverse polarity
Transient voltage	≤ 1 kV/0.5 J
EMC	Approved according to EN 50 080, EN 50 081
Power ON delay	< 10 ms
Frequency of operating cycles (f)	**IA12xxF02** 1.400 Hz **IA12xxN04** 1.200 Hz **IA18xxF05** 500 Hz **IA18xxN08** 200 Hz **IA30xxF10** 300 Hz **IA30xxN15** 100 Hz
Indication not activated	LED, yellow
Assured operating dist. (S_a)	$0 \le S_a \le 0.81\ S_n$
Repeat accuracy (R)	≤ 5%

Hysteresis (H) (Differential travel)	1 to 15% of sensing distance
Effective operating dist. (S_r)	$0.9 \times S_n \le S_r \le 1.1 \times S_n$
Usable operating dist. (S)	$0.9 \times S_r \le S_u \le 1.1 \times S_r$
Ambient temperature Operating Storage	 -25° to +70°C (-13° to +158°F) -30° to +80°C (-22° to +176°F)
Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Housing material Body Back	 Grey thermoplastic polyester Black polyester
Connection Cable Plug Cables for plug (-1)	 2 m, 2 x 0.5 mm², grey PVC, oil proof M12 x 1 CONH1A serie
Weight (cable excluded)	**IA 12xx** 10 g **IA 18xxF05** 18 g **IA 18xxN08** 20 g **IA 30xxF10** 50 g **IA 30xxN15** 70 g
Tightening torque	**IA 12** 1.8 Nm **IA 18** 2.6 Nm **IA 30** 7.5 Nm
Approvals	UL
CE-marking	Yes

Dimensions

Type	A	B Ø mm	C mm	D mm	E mm	F mm	SW mm
IA 12 CSF 02 UC	M12 x 1 x 30	10.7	30	11	5.0	8	17
IA 12 CLF 02 UC	M12 x 1 x 50	10.7	50	11	5.0	8	17
IA 12 CSF 02 UC M1	M12 x 1 x 30	10.7	30	12.6	11.9	8	17
IA 12 CLF 02 UC M1	M12 x 1 x 50	10.7	50	12.6	11.9	8	17
IA 12 CSN 04 UC	M12 x 1 x 30	10.7	34	11	5.0	8	17
IA 12 CLN 04 UC	M12 x 1 x 50	10.7	54	11	5.0	8	17
IA 12 CSN 04 UC M1	M12 x 1 x 30	10.7	34	12.6	11.9	8	17
IA 12 CLN 04 UC M1	M12 x 1 x 50	10.7	54	12.6	11.9	8	17
IA 18 CSF 05 UC	M18 x 1 x 30	16.7	30	11.6	15.4	8	24
IA 18 CLF 05 UC	M18 x 1 x 50	16.7	50	11.6	15.4	8	24
IA 18 CSF 05 UC M1	M18 x 1 x 30	16.7	30	13.1	11.9	8	24
IA 18 CLF 05 UC M1	M18 x 1 x 50	16.7	50	13.1	11.9	8	24
IA 18 CSN 08 UC	M18 x 1 x 30	16.7	38	11.6	15.4	8	24
IA 18 CLN 08 UC	M18 x 1 x 50	16.7	58	11.6	15.4	8	24
IA 18 CSN 08 UC M1	M18 x 1 x 30	16.7	38	13.1	11.9	8	24
IA 18 CLN 08 UC M1	M18 x 1 x 50	16.7	58	13.1	11.9	8	24
IA 30 CSF 10 UC	M30 x 1.5 x 30	28	30	13.6	15.4	10	36
IA 30 CLF 10 UC	M30 x 1.5 x 50	28	50	13.6	15.4	10	36
IA 30 CSF 10 UC M1	M30 x 1.5 x 30	28	30	13.6	11.9	10	36
IA 30 CLF 10 UC M1	M30 x 1.5 x 50	28	50	13.6	11.9	10	36
IA 30 CSN 15 UC	M30 x 1.5 x 30	28	42	13.6	15.4	10	36
IA 30 CLN 15 UC	M30 x 1.5 x 50	28	62	13.6	15.4	10	36
IA 30 CSN 15 UC M1	M30 x 1.5 x 30	28	42	13.6	11.9	10	36
IA 30 CLN 15 UC M1	M30 x 1.5 x 50	28	62	13.6	11.9	10	36

Specifications are subject to change without notice (20.05.05)

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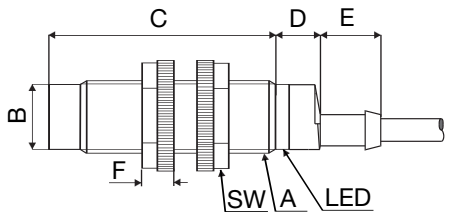
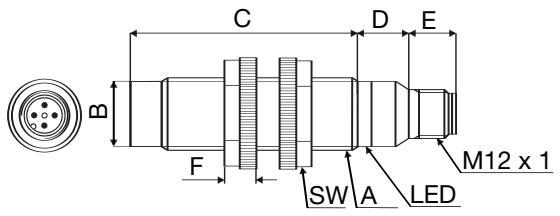
Dimensions (cont.)



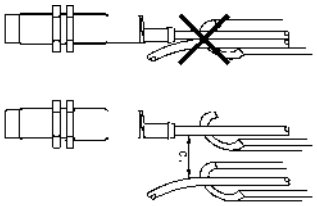
Cable



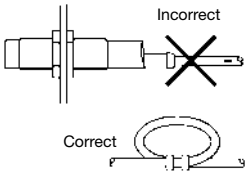
Plug

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

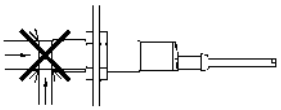


Relief of cable strain



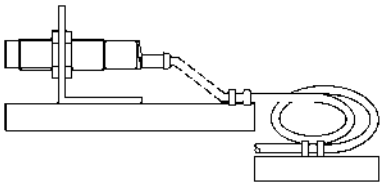
The cable should not be pulled

Protection of the sensing face



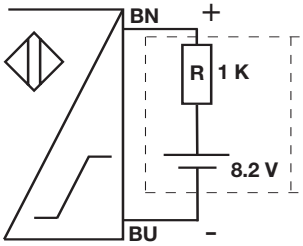
A proximity switch should not serve as mechanical stop

Switch mounted on mobile carrier



Any repetitive flexing of the cable should be avoided

Wiring Diagram



NAMUR, Amplifier Relays

> SD 110/210.
> SD 170/270.

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