

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



- 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

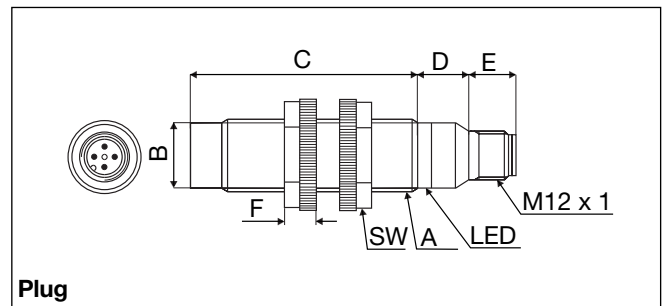
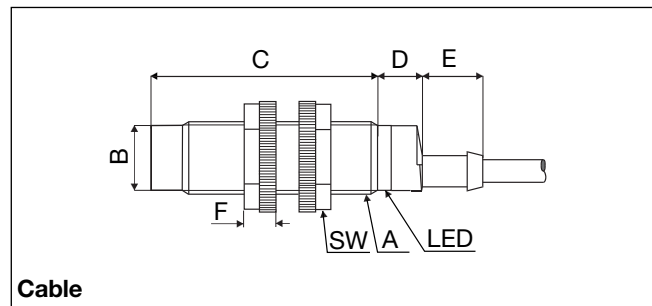
Specifications

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)	Hysteresis (H) (Differential travel)	1 to 15% of sensing distance
Self-inductance	$\leq 500 \mu\text{H}$	Effective operating dist. (S_r)	$0.9 \times S_n \leq S_r \leq 1.1 \times S_n$
Self-capacitance	$\leq 120 \text{ nF}$	Usable operating dist. (S)	$0.9 \times S_r \leq S_u \leq 1.1 \times S_r$
No-load supply current (I_o)	Activated: $\leq 1 \text{ mA}$ Not activated: $\geq 2.2 \text{ mA}$ Max. 9.35 mA	Ambient temperature Operating Storage	-25° to +70°C (-13° to +158°F) -30° to +80°C (-22° to +176°F)
Protection	Reverse polarity	Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Transient voltage	$\leq 1 \text{ kV}/0.5 \text{ J}$	Housing material Body Back	Grey thermoplastic polyester Black polyester
EMC	Approved according to EN 50 080, EN 50 081	Connection Cable Plug Cables for plug (-1)	2 m, 2 x 0.5 mm ² , grey PVC, oil proof M12 x 1 CONH1A serie
Power ON delay	$< 10 \text{ ms}$	Weight (cable excluded)	IA 12xx 10 g IA 18xxF05 18 g IA 18xxN08 20 g IA 30xxF10 50 g IA 30xxN15 70 g
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	Tightening torque	IA 12 1.8 Nm IA 18 2.6 Nm IA 30 7.5 Nm
Indication not activated	LED, yellow	Approvals	UL
Assured operating dist. (S_a)	$0 \leq S_a \leq 0.81 S_n$	CE-marking	Yes
Repeat accuracy (R)	$\leq 5\%$		

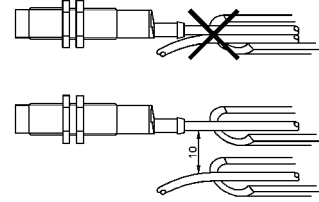
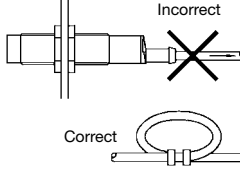
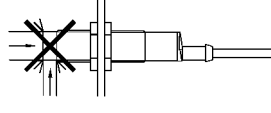
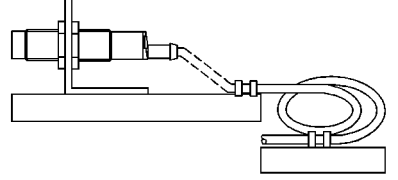
Dimensions

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

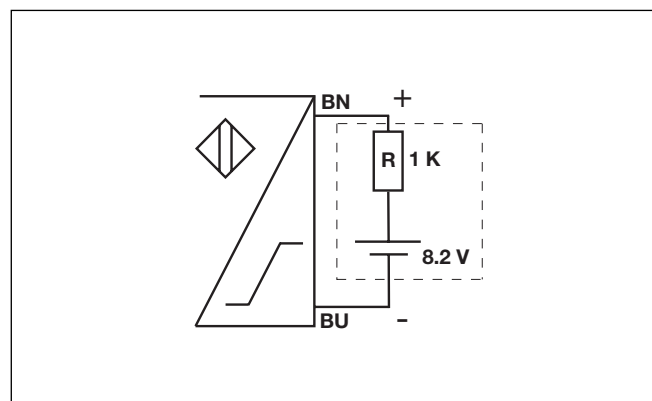
Dimensions (cont.)



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  Incorrect Correct 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
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Wiring Diagram



NAMUR, Amplifier Relays

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

Refer to Technical information.