

Proximity Sensors Inductive Stainless Steel Housing Types IA, M12, M18 and M30, NAMUR

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



Product Description

Proximity switch in M12, M18 and M30 stainless steel housing. Made in accordance with Euronorm EN 50 227 and EN 60 947-5-2. For thermo-plastic housing refer to type IA 12C.... Amplifier relay SD.... is available.

Ordering Key

IA 12 ESF 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 ESF 02 UC
M12	Short	Plug	2 mm ¹⁾	IA 12 ESF 02 UC M1
M12	Long	Cable	2 mm ¹⁾	IA 12 ELF 02 UC
M12	Long	Plug	2 mm ¹⁾	IA 12 ELF 02 UC M1
M12	Short	Cable	4 mm ²⁾	IA 12 ESN 04 UC
M12	Short	Plug	4 mm ²⁾	IA 12 ESN 04 UC M1
M12	Long	Cable	4 mm ²⁾	IA 12 ELN 04 UC
M12	Long	Plug	4 mm ²⁾	IA 12 ELN 04 UC M1
M18	Short	Cable	5 mm ¹⁾	IA 18 ESF 05 UC
M18	Short	Plug	5 mm ¹⁾	IA 18 ESF 05 UC M1
M18	Long	Cable	5 mm ¹⁾	IA 18 ELF 05 UC
M18	Long	Plug	5 mm ¹⁾	IA 18 ELF 05 UC M1
M18	Short	Cable	8 mm ²⁾	IA 18 ESN 08 UC
M18	Short	Plug	8 mm ²⁾	IA 18 ESN 08 UC M1
M18	Long	Cable	8 mm ²⁾	IA 18 ELN 08 UC
M18	Long	Plug	8 mm ²⁾	IA 18 ELN 08 UC M1
M30	Short	Cable	10 mm ¹⁾	IA 30 ESF 10 UC
M30	Short	Plug	10 mm ¹⁾	IA 30 ESF 10 UC M1
M30	Long	Cable	10 mm ¹⁾	IA 30 ELF 10 UC
M30	Long	Plug	10 mm ¹⁾	IA 30 ELF 10 UC M1
M30	Short	Cable	15 mm ²⁾	IA 30 ESN 15 UC
M30	Short	Plug	15 mm ²⁾	IA 30 ESN 15 UC M1
M30	Long	Cable	15 mm ²⁾	IA 30 ELN 15 UC
M30	Long	Plug	15 mm ²⁾	IA 30 ELN 15 UC M1

¹⁾ For flush mounting in metal

²⁾ For non-flush mounting in metal



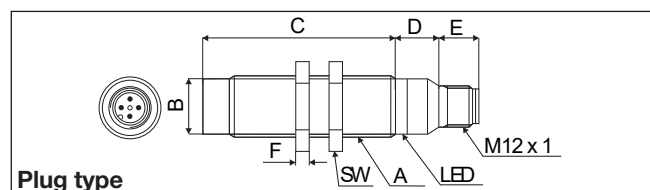
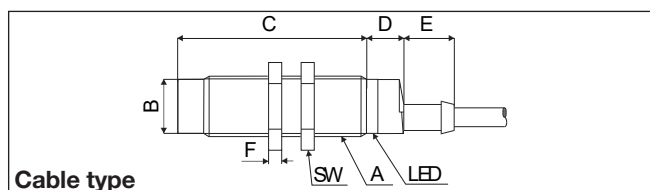
Specifications

Rated operational volt. (U _e) (U _B)	8.2 VDC	Hysteresis (H) (Differential travel)	1 to 15% of sensing distance	
	7 to 9 VDC (6 to 35 VDC, all specifications not observed in extended supply range)		Effective operating dist. (S _r) 0.9 x S _n ≤ S _r ≤ 1.1 x S _n	
Self-inductance		Usable operating dist. (S)		0.9 x S _r ≤ S _u ≤ 1.1 x S _r
Self-capacitance		Ambient temperature		Operating -25° to +70°C (-13° to +158°F) Storage -30° to +80°C (-22° to +176°F)
No-load supply current (I _o)		Degree of protection		IP 67 (Nema 1, 3, 4, 6, 13)
Protection		Housing material		Body Stainless Steel (1.4301) Front Grey thermoplastic polyester Back Black thermoplastic polyester
Transient voltage		Connection		Cable 2 m, 2 x 0.5 mm ² , grey PVC, oil proof M12 x 1 CONx series
EMC		Plug		Cables for plug (-1)
Power ON delay		Weight (cable excluded)		IA 12xx 20 g IA 18xxF05 26 g IA 18xxN08 30 g IA 30xxF10 75 g IA 30xxN15 80 g
Frequency of operating cycles (f)		Tightening torque		IA 12 7.5 Nm IA 18 27.5 Nm IA 30 100 Nm
Indication not activated		Approvals		UL
Assured operating dist. (S _a)		CE-marking		Yes
Repeat accuracy (R)				

Dimensions

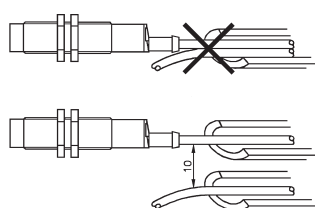
Type	A	B Ø mm	C mm	D mm	E mm	F mm	SW mm
IA 12 ESF 02 UC	M12 x 1 x 30	10.7	30	11	5.0	4	17
IA 12 ELF 02 UC	M12 x 1 x 50	10.7	50	11	5.0	4	17
IA 12 ESF 02 UC M1	M12 x 1 x 30	10.7	30	12.6	11.9	4	17
IA 12 ELF 02 UC M1	M12 x 1 x 50	10.7	50	12.6	11.9	4	17
IA 12 ESN 04 UC	M12 x 1 x 30	10.7	34	11	5.0	4	17
IA 12 ELN 04 UC	M12 x 1 x 50	10.7	54	11	5.0	4	17
IA 12 ESN 04 UC M1	M12 x 1 x 30	10.7	34	12.6	11.9	4	17
IA 12 ELN 04 UC M1	M12 x 1 x 50	10.7	54	12.6	11.9	4	17
IA 18 ESF 05 UC	M18 x 1 x 30	16.7	30	11.6	15.4	4	24
IA 18 ELF 05 UC	M18 x 1 x 50	16.7	50	11.6	15.4	4	24
IA 18 ESF 05 UC M1	M18 x 1 x 30	16.7	30	13.1	11.9	4	24
IA 18 ELF 05 UC M1	M18 x 1 x 50	16.7	50	13.1	11.9	4	24
IA 18 ESN 08 UC	M18 x 1 x 30	16.7	38	11.6	15.4	4	24
IA 18 ELN 08 UC	M18 x 1 x 50	16.7	58	11.6	15.4	4	24
IA 18 ESN 08 UC M1	M18 x 1 x 30	16.7	38	13.1	11.9	4	24
IA 18 ELN 08 UC M1	M18 x 1 x 50	16.7	58	13.1	11.9	4	24
IA 30 ESF 10 UC	M30 x 1.5 x 30	28	30	13.6	15.4	5	36
IA 30 ELF 10 UC	M30 x 1.5 x 50	28	50	13.6	15.4	5	36
IA 30 ESF 10 UC M1	M30 x 1.5 x 30	28	30	13.6	11.9	5	36
IA 30 ELF 10 UC M1	M30 x 1.5 x 50	28	50	13.6	11.9	5	36
IA 30 ESN 15 UC	M30 x 1.5 x 30	28	42	13.6	15.4	5	36
IA 30 ELN 15 UC	M30 x 1.5 x 50	28	62	13.6	15.4	5	36
IA 30 ESN 15 UC M1	M30 x 1.5 x 30	28	42	13.6	11.9	5	36
IA 30 ELN 15 UC M1	M30 x 1.5 x 50	28	62	13.6	11.9	5	36

Dimensions (cont.)

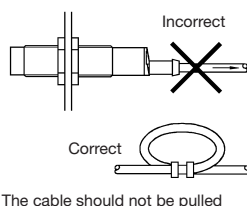


Installation Hints

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

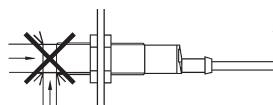


Relief of cable strain



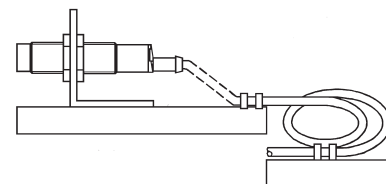
The cable should not be pulled

Protection of the sensing face



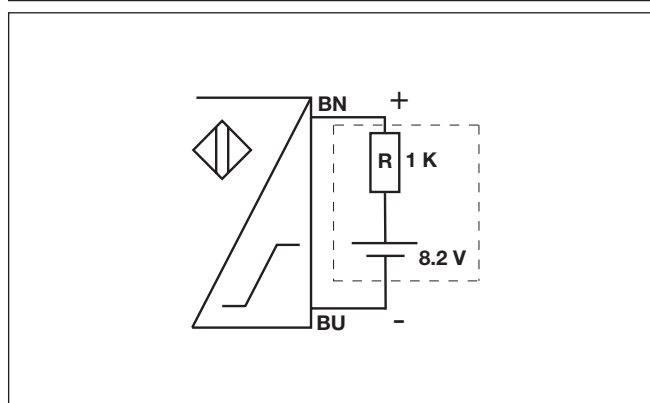
A proximity switch should not serve as mechanical stop

Switch mounted on mobile carrier

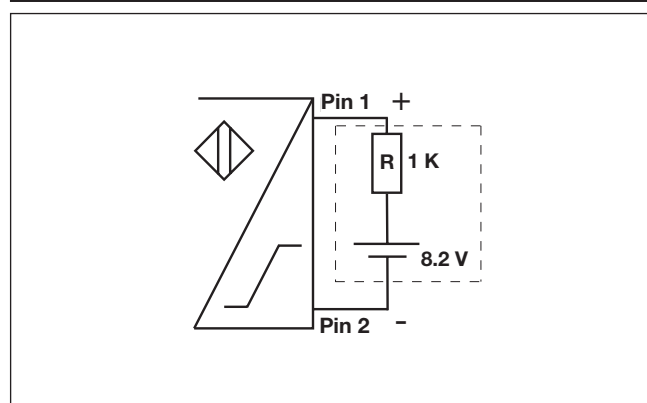


Any repetitive flexing of the cable should be avoided

Wiring Diagram, cable type



Wiring Diagram, plug type



Power Supplies

- > SD 110/210
- > SD 170/270

Refer to Technical information.