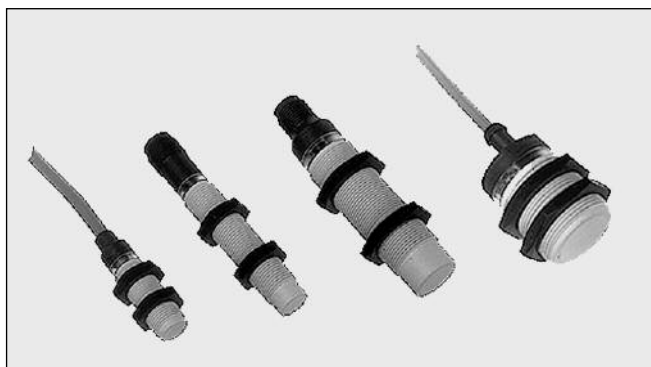


# Proximity Sensors Inductive Thermoplastic Polyester Housing Types IA, M12, M18 and M30, NAMUR

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- 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



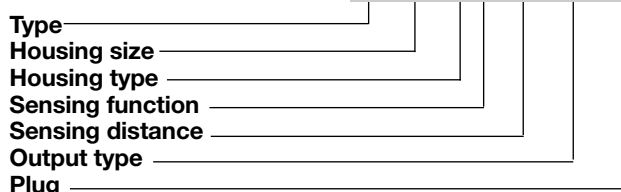
## Product Description

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 Selection

| Housing diameter | Body style | Connection | Rated operating distance (S <sub>n</sub> ) | Ordering no. NAMUR |
|------------------|------------|------------|--|--------------------|
| M12              | Short      | Cable      | 2 mm <sup>1)</sup>                         | IA 12 CSF 02 UC    |
| M12              | Short      | Plug       | 2 mm <sup>1)</sup>                         | IA 12 CSF 02 UC M1 |
| M12              | Long       | Cable      | 2 mm <sup>1)</sup>                         | IA 12 CLF 02 UC    |
| M12              | Long       | Plug       | 2 mm <sup>1)</sup>                         | IA 12 CLF 02 UC M1 |
| M12              | Short      | Cable      | 4 mm <sup>2)</sup>                         | IA 12 CSN 04 UC    |
| M12              | Short      | Plug       | 4 mm <sup>2)</sup>                         | IA 12 CSN 04 UC M1 |
| M12              | Long       | Cable      | 4 mm <sup>2)</sup>                         | IA 12 CLN 04 UC    |
| M12              | Long       | Plug       | 4 mm <sup>2)</sup>                         | IA 12 CLN 04 UC M1 |
| M18              | Short      | Cable      | 5 mm <sup>1)</sup>                         | IA 18 CSF 05 UC    |
| M18              | Short      | Plug       | 5 mm <sup>1)</sup>                         | IA 18 CSF 05 UC M1 |
| M18              | Long       | Cable      | 5 mm <sup>1)</sup>                         | IA 18 CLF 05 UC    |
| M18              | Long       | Plug       | 5 mm <sup>1)</sup>                         | IA 18 CLF 05 UC M1 |
| M18              | Short      | Cable      | 8 mm <sup>2)</sup>                         | IA 18 CSN 08 UC    |
| M18              | Short      | Plug       | 8 mm <sup>2)</sup>                         | IA 18 CSN 08 UC M1 |
| M18              | Long       | Cable      | 8 mm <sup>2)</sup>                         | IA 18 CLN 08 UC    |
| M18              | Long       | Plug       | 8 mm <sup>2)</sup>                         | IA 18 CLN 08 UC M1 |
| M30              | Short      | Cable      | 10 mm <sup>1)</sup>                        | IA 30 CSF 10 UC    |
| M30              | Short      | Plug       | 10 mm <sup>1)</sup>                        | IA 30 CSF 10 UC M1 |
| M30              | Long       | Cable      | 10 mm <sup>1)</sup>                        | IA 30 CLF 10 UC    |
| M30              | Long       | Plug       | 10 mm <sup>1)</sup>                        | IA 30 CLF 10 UC M1 |
| M30              | Short      | Cable      | 15 mm <sup>2)</sup>                        | IA 30 CSN 15 UC    |
| M30              | Short      | Plug       | 15 mm <sup>2)</sup>                        | IA 30 CSN 15 UC M1 |
| M30              | Long       | Cable      | 15 mm <sup>2)</sup>                        | IA 30 CLN 15 UC    |
| M30              | Long       | Plug       | 15 mm <sup>2)</sup>                        | IA 30 CLN 15 UC M1 |

<sup>1)</sup> For flush mounting in metal

<sup>2)</sup> For non-flush mounting in metal



## Specifications

|  |  |   |  |
|--|--|---|--|
| Rated operational volt. ( $U_e$ )<br>( $U_B$ ) | 8.2 VDC<br>7 to 9 VDC<br>(6 to 35 VDC, all specifications not observed in extended supply range)                         | Hysteresis (H)<br>(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 ( $I_0$ )               | Activated: $\leq 1 \text{ mA}$<br>Not activated: $\geq 2.2 \text{ mA}$<br>Max. 9.35 mA                                   | Ambient temperature                     | Operating<br>Storage   |
| 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<br>Back   |
| EMC  | Approved according to<br>EN 50 080, EN 50 081  | Connection                              | Grey thermoplastic polyester<br>Black polyester  |
| Power ON delay                                 | $< 10 \text{ ms}$  | Cable                                   | 2 m, 2 x 0.5 mm <sup>2</sup> ,<br>grey PVC, oil proof                                    |
| Frequency of operating<br>cycles (f)           | IA12xxF02 1.400 Hz<br>IA12xxN04 1.200 Hz<br>IA18xxF05 500 Hz<br>IA18xxN08 200 Hz<br>IA30xxF10 300 Hz<br>IA30xxN15 100 Hz | Plug                                    | M12 x 1  |
| Indication not activated                       | LED, yellow  | Cables for plug (-1)                    | CONH1A serie   |
| Assured operating dist. ( $S_a$ )              | $0 \leq S_a \leq 0.81 S_n$   | Weight (cable excluded)                 | IA 12xx 10 g<br>IA 18xxF05 18 g<br>IA 18xxN08 20 g<br>IA 30xxF10 50 g<br>IA 30xxN15 70 g |
| Repeat accuracy (R)                            | $\leq 5\%$   | Tightening torque                       | IA 12 1.8 Nm<br>IA 18 2.6 Nm<br>IA 30 7.5 Nm   |
|  |  | Approvals                               | UL   |
|  |  | CE-marking                              | Yes  |

## Dimensions

| Type               | A              | B<br>Ø mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | SW<br>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       |