

# Proximity Sensors Inductive Thermoplastic Polyester Housing Types DJ, Ø 6.5 and EI, M 12, M 18, M 30, Namur

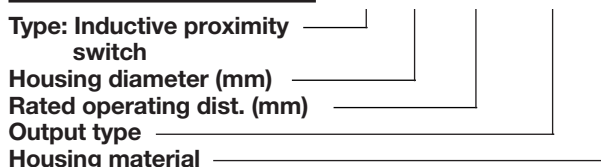


- Thermoplastic polyester housing, cylindrical
- Diameter: Ø 6.5, M 12, M 18, M 30
- Sensing distance: 0.5 to 15 mm
- Output: Namur (DIN 19 234)
- 2 m cable

## Product Description

Proximity switch in Ø 6.5, M 12, M 18 and M 30 housings. Made in accordance with Namur DIN 19 234. Polyester housing. Amplifier relay SD ... available.

## Ordering Key **EI 12 02 NAC P**



## Type Selection

| Housing diameter | Rated operating dist. (S <sub>n</sub> ) | Ordering no. Namur |
|------------------|---|--------------------|
| Ø 6.5 mm         | 1 mm <sup>1)</sup>                      | DJ 1               |
| M 12             | 2 mm <sup>1)</sup>                      | EI 1202 NACP       |
| M 12             | 4 mm <sup>2)</sup>                      | EI 1204 NACP       |
| M 18             | 5 mm <sup>1)</sup>                      | EI 1805 NACP       |
| M 18             | 8 mm <sup>2)</sup>                      | EI 1808 NACP       |
| M 30             | 10 mm <sup>1)</sup>                     | EI 3010 NACP       |
| M 30             | 15 mm <sup>2)</sup>                     | EI 3015 NACP       |

<sup>1)</sup> For flush mounting in metal  
<sup>2)</sup> For non-flush mounting in metal

## Specifications

|  |  |   |   |
|--|--|---|---|
| Rated operational volt. (U <sub>e</sub> )<br>(U <sub>B</sub> ) | 8.2 VDC<br>7 to 9 VDC<br>(6 to 35 VDC, all specifications not observed in extended supply range)                           | Assured operating dist. (S <sub>a</sub> )   | EI 0 ≤ S <sub>a</sub> ≤ 0.81 S <sub>n</sub><br>DJ 1 0 ≤ S <sub>a</sub> ≤ 0.64 S <sub>n</sub>  |
| Self-inductance  | ≤ 300 µH (DJ1 ≤ 100 µH)  | Repeat accuracy (R)                         | DJ 1 ≤ 5%<br>EI 12 ≤ 10%<br>EI 18 ≤ 5%<br>EI 30 ≤ 5%  |
| Self-capacitance   | ≤ 120 nF (DJ1 ≤ 33 nF)   | Hysteresis (H)<br>(Differential travel)     | Dependent on amplifier relay  |
| No-load supply current (I <sub>o</sub> )                       | Activated: ≤ 1 mA<br>Not activated: ≥ 3 mA<br>Max.: 9.35 mA  | Effective operating dist. (S <sub>r</sub> ) | EI 0.9 × S <sub>n</sub> ≤ S <sub>r</sub> ≤ 1.1 × S <sub>n</sub><br>DJ1 0.8 × S <sub>r</sub> ≤ S <sub>u</sub> ≤ 1.2 × S <sub>r</sub> |
| Protection   | None   | Usable operating dist. (S <sub>a</sub> )    | EI 0.9 × S <sub>r</sub> ≤ S <sub>u</sub> ≤ 1.1 × S <sub>r</sub><br>DJ1 0.8 × S <sub>n</sub> ≤ S <sub>r</sub> ≤ 1.2 × S <sub>n</sub> |
| Transient voltage  | ≤ 1 kV/0.5 J (prepared)  |   |   |
| Frequency of operating cycles (f)                              | DJ 1 2500 Hz<br>EI 1202 1500 Hz<br>EI 1204 1000 Hz<br>EI 1805 500 Hz<br>EI 1808 200 Hz<br>EI 3010 500 Hz<br>EI 3015 200 Hz |   |   |

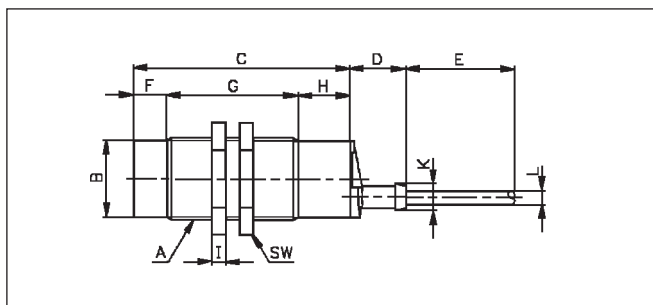


## Specifications (cont.)

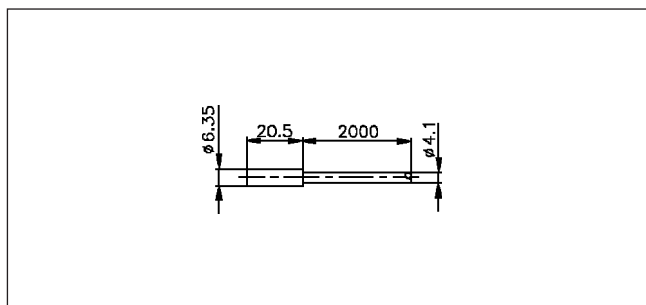
|                             |           |                                |                                |                     |                               |
|-----------------------------|-----------|--------------------------------|--------------------------------|---------------------|-------------------------------|
| <b>Ambient temperature</b>  |           | <b>DJ</b>                      | <b>Cable</b>                   | <b>DJ</b>           | 2 m, 2 x 0.25 mm <sup>2</sup> |
| Operating                   |           | -25° to +70°C (-13° to +158°F) |                                | <b>EI 12</b>        | 2 m, 2 x 0.25 mm <sup>2</sup> |
|                             |           | <b>EI</b>                      |                                | <b>EI 18</b>        | 2 m, 2 x 0.50 mm <sup>2</sup> |
| Storage                     |           | -25° to +70°C (-13° to +158°F) |                                | <b>EI 30</b>        | 2 m, 2 x 0.50 mm <sup>2</sup> |
|                             |           | <b>DJ</b>                      |                                | grey PVC, oil proof |                               |
|                             |           | -30° to +80°C (-22° to +176°F) | <b>Weight (cable included)</b> | <b>DJ 1</b>         | 50 g                          |
|                             |           | <b>EI</b>                      |                                | <b>EI 12</b>        | 60 g                          |
|                             |           | -30° to +80°C (-22° to +176°F) |                                | <b>EI 18</b>        | 110 g                         |
|                             |           |                                |                                | <b>EI 30</b>        | 180 g                         |
| <b>Degree of protection</b> | IP 67     | (Nema 1, 3, 4, 6, 13)          | <b>Tightening torque</b>       | <b>EI 12</b>        | 1.8 Nm                        |
|                             |           |                                |                                | <b>EI 18</b>        | 2.6 Nm                        |
| <b>Housing material</b>     |           |                                |                                | <b>EI 30</b>        | 7.5 Nm                        |
| Body                        | <b>DJ</b> | grey ABS                       |                                |                     |                               |
|                             | <b>EI</b> | blue thermoplastic polyester   |                                |                     |                               |
| Back                        | <b>DJ</b> | moulding                       |                                |                     |                               |
|                             | <b>EI</b> | black thermo-plastic polyester |                                |                     |                               |

## Dimensions

| Type           | A          | B<br>Ø mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | G<br>mm | H<br>mm | I<br>mm | SW<br>mm | K<br>Ø mm | L<br>Ø mm |
|----------------|------------|-----------|---------|---------|---------|---------|---------|---------|---------|----------|-----------|-----------|
| <b>EI 1202</b> | M 12 x 1   | 10.7      | 59      | 10      | 2000    | 1       | 39      | 19      | 4       | 17       | 6.3       | 4         |
| <b>EI 1204</b> | M 12 x 1   | 10.7      | 59      | 10      | 2000    | 4       | 36      | 19      | 4       | 17       | 6.3       | 4         |
| <b>EI 1805</b> | M 18 x 1   | 16.75     | 79      | 20.5    | 2000    | 1       | 59      | 19      | 4       | 24       | 10        | 5.2       |
| <b>EI 1808</b> | M 18 x 1   | 16.75     | 79      | 20.5    | 2000    | 8       | 52      | 19      | 4       | 24       | 10        | 5.2       |
| <b>EI 3010</b> | M 30 x 1.5 | 28        | 79      | 20.5    | 2000    | 1       | 59      | 19      | 5       | 36       | 10        | 5.2       |
| <b>EI 3015</b> | M 30 x 1.5 | 28        | 79      | 20.5    | 2000    | 12      | 48      | 19      | 5       | 36       | 10        | 5.2       |



EI .... NACP



DJ 05

## Wiring Diagrams

Refer to "Wiring Diagrams", Technical information.

## Installation Hints

Refer to "Installation Hints", Technical information.

## Namur, Amplifier Relays

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

Refer to Technical Information.