**Proximity Sensors Capacitive Polypropylene Housing**

**Type CA, M18, DC**

[Image of a proximity sensor]

**Product Description**
Capacitive proximity switches with either sensing distance 8 mm flush mounted in metal or sensing distance 12 mm non-flush mounted. 4-wire DC output with both make (NO) and break (NC) switching.

**Ordering Key**

<table>
<thead>
<tr>
<th>Type</th>
<th>Housing style</th>
<th>Housing size</th>
<th>Housing material</th>
<th>Housing length</th>
<th>Detection principle</th>
<th>Sensing distance</th>
<th>Output type</th>
<th>Output configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA18HLF08NA</td>
<td>Make &amp; break switching</td>
<td>M18</td>
<td>Black polypropylene</td>
<td>3 to 8 mm factory set at 8 mm</td>
<td>Adj. 270° turn pot. meter</td>
<td>3 to 8 mm factory set at 8 mm</td>
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<td></td>
</tr>
<tr>
<td>CA18HLN12NA</td>
<td>Make &amp; break switching</td>
<td>M18</td>
<td>Black polypropylene</td>
<td>3 to 12 mm factory set at 12 mm</td>
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<td></td>
</tr>
</tbody>
</table>

**Specifications**

<table>
<thead>
<tr>
<th>Rated operating dist. (Sn)</th>
<th>3 to 8 mm factory set at 8 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective operation dist. (Sr)</td>
<td>0.9 x Sn ≤ Sr ≤ 1.1 x Sn</td>
</tr>
<tr>
<td>Usable operation dist. (SU)</td>
<td>0.8 x Sn ≤ SU ≤ 1.2 x Sn</td>
</tr>
<tr>
<td>Repeat accuracy (R)</td>
<td>≤ 5%</td>
</tr>
<tr>
<td>Hysteresis (H)</td>
<td>4 to 20% of sensing distance</td>
</tr>
<tr>
<td>Rated operational volt. (UB)</td>
<td>10 to 40 VDC (ripple included)</td>
</tr>
<tr>
<td>Ripple</td>
<td>≤ 10%</td>
</tr>
<tr>
<td>Rated operational current (Ie)</td>
<td>Continuous ≤ 200 mA</td>
</tr>
<tr>
<td>No-load supply current (Io)</td>
<td>≤ 10 mA</td>
</tr>
<tr>
<td>Voltage drop (Us)</td>
<td>≤ 2.5 VDC at max. load</td>
</tr>
<tr>
<td>Protection</td>
<td>Reverse polarity, short-circuit, transients</td>
</tr>
</tbody>
</table>

- **Frequency of operating cycles (f)**: 30 Hz
- **Indication for output ON**: LED, yellow
- **Environment**: Degree of protection IP 67 (Nema 1, 3, 4, 6, 13)
- **Temperature**: Operating temperature -25° to +80°C (-13° to +176°F) Storage temperature -40° to +85°C (-40° to +185°F)
- **Housing material**: Body, front, nuts Black polypropylene
- **Connection**: Cable Black, 2 m, 4 x 0.34 mm² Polypropylene
- **Weight**: 110 g
- **CE-marking**: Yes

Specifications are subject to change without notice (03.01.03)
**Dimensions**

![Dimensions Diagram](image)

1) Note: Only CA18H1N

**Wiring Diagrams**

![Wiring Diagrams](image)

**Adjustment Guide**

The environments in which capacitive sensors are installed can often be unstable regarding temperature, humidity, object distance and industrial (noise) interference. Because of this, Carlo Gavazzi offers as standard features in all TRIP-LESHIELD™ capacitive sensors a user-friendly sensitivity adjustment instead of having a fixed sensing range, extended sensing range to accommodate mechanically demanding areas, temperature stability to ensure minimum need for adjusting sensitivity if temperature varies and high immunity to electromagnetic interference (EMI).

**Note:**
Sensors are factory set (default) to maximum rated sensing range.

**Installation Hints**

Capacitive sensors have the unique ability to detect almost all materials, either in liquid or solid form. Capacitive sensors can detect metallic as well as non-metallic objects, however, their traditional use is for non-metallic materials such as:

- **Chemical Industry**
  Cleansers, fertilisers, liquid soaps, corrosives and petrochemicals.
- **Semi-conductor Industry**
- **Food & Beverage**

- **Packaging Industry**
  Package inspection for level or contents, dry goods, fruits and vegetables, dairy products.

Materials are detected due to their dielectric constant. The bigger the size of an object, the higher the density of material, the better or easier it is to detect the object. Nominal sensing distance for a capacitive sensor is referenced to a grounded metal plate (ST37). For additional information regarding dielectric ratings of materials please refer to Technical Information.

**Delivery Contents**

- Capacitive switch: CA18HL...
- Screwdriver
- 2 nuts
- **Packaging:** Cardboard box
- Installation & Adjustment Guide

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