Proximity Sensors Capacitive, ATEX
Thermoplastic Polyester Housing
Type CB, Ø18, AC

Product Description
ATEX approved Capacitive proximity switches with sensing distance 12 mm non-flush mounted.
2-wire AC output with make (NO) and break (NC) switching. Grey Ø18 polyester housing with 2 m PVC cable. Ideal for detecting grain or solids as level indicator in tanks, silos or containers. Typical segments: agriculture, food & Beverage, conveyor-belts, plastic & rubber, etc.

Specifications

<table>
<thead>
<tr>
<th>Rated operating dist. (S₀)</th>
<th>Sensitivity</th>
<th>Effective operation dist. (Sₑ)</th>
<th>Usable operation dist. (Sᵤ)</th>
<th>Repeat accuracy (R)</th>
<th>Hysteresis (H)</th>
<th>Rated operational volt. (Uₒ)</th>
<th>Ripple</th>
<th>Rated operational current (Iₒ)</th>
<th>Min. load current</th>
<th>Voltage drop (U₃)</th>
<th>Protection</th>
<th>Power ON delay</th>
<th>Indication for output ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB18CLN12</td>
<td>Adj. 270° turn pot. meter</td>
<td>0.9 x Sₑ ≤ Sₑ ≤ 1.1 x Sₑ</td>
<td>0.8 x Sᵤ ≤ Sᵤ ≤ 1.2 x Sᵤ</td>
<td>≤ 5%</td>
<td>4 to 20% of sensing distance</td>
<td>20 to 250 VAC (ripple incl.)</td>
<td>≤ 10%</td>
<td>≤ 500 mA</td>
<td>10 mA</td>
<td>≤ 10 VAC</td>
<td>Transients</td>
<td>≤ 100 ms</td>
<td>LED, yellow</td>
</tr>
</tbody>
</table>

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: Grey, thermoplastic polyester
Front: Grey, polyester
Cable end: Polyester

Connection

Cable: Grey, 2 m, 2 x 0.5 mm² Oil proof PVC

Weight

Cable version: 110 g

Approvals

UL, CSA
ATEX zone 22 dust

CE-marking

Yes

* The cable must not be exposed to a pulling force.
* Sensor housing must be protected against mechanical shock

Specifications are subject to change without notice (25.09.2008)
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Delivery Contents

- Capacitive switch: CB18CL...
- Screw driver
- Packaging: Cardboard box
- Installation & Adjustment Guide


c.1

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.


c.2

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:

- **Plastic Industry**
  Resins, regrinds or moulded products.

- **Agriculture**
  Feed, solids or grain.

- **Wood Industry**
  Saw dust, paper products, door and window frames.

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.