

Capacitive Level Detector For Plastic & Rubber Thermoplastic Polyester Housing Types CA, M18, M30, DC, Teach-in

TRIPLESHIELD™

CARLO GAVAZZI



- Primary designed for plastic and rubber applications
- For liquid and dry bulk material detection
- Featuring **TRIPLESHIELD™** Sensor Protection
- Teach-in of sensing distance via push-button or COM-input
- Automatic detection of NPN or PNP load
- Selectable make or break switching by means of Teach-in function
- Protection: Short-circuit, transients and reverse polarity
- Humidity compensation
- Alarm output for unsafe operation or heavy dirt build-up on sensing surface
- 5 years of warranty

Product Description

Capacitive level detector with specialized and optimized features for level detection in plastic and rubber applications. The adjustment is easy to change by means of the single-step teach-in function. The sensing face (flush

mounted) can withstand temperatures up to 120°C. 3-wire DC output with selectable make (NO) or break (NC) switching and NPN Alarm. Grey polyester housing with 2 m PVC cable or M12 plug.

Ordering Key

CA18CLL12BPM1

Capacitive proximity switch
 Housing diameter (mm) _____
 Housing material _____
 Housing length _____
 Detection principle _____
 Rated operating dist. (mm) _____
 Output type _____
 Output configuration _____
 Connection type _____

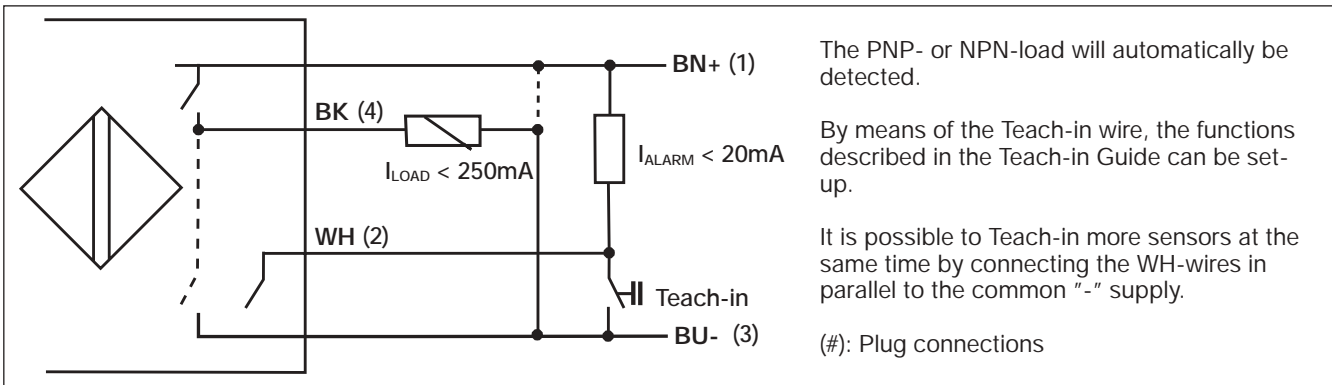
Type Selection

| Housing diameter | Ordering no. Cable | Ordering no. Plug |
|------------------|--------------------|-------------------|
| M18 | CA18CLL12BP | CA18CLL12BPM1 |
| M 30 | CA30CLL30BP | CA30CLL30BPM1 |

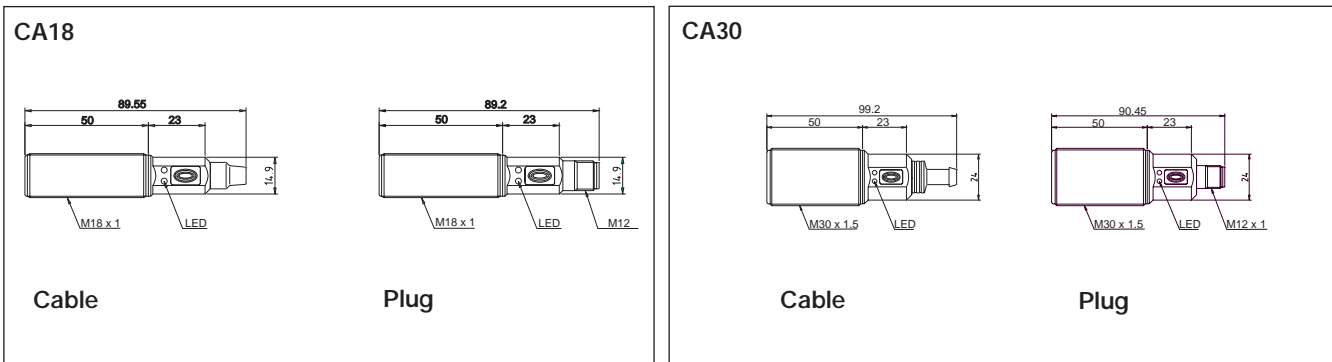
Specifications

| | | | | |
|--|---|---------------------------|----------------------------------|-------------------------------------|
| Sensitivity | Adjustable (Teach-in) | Environment | Degree of protection | IP 68 |
| Repeat accuracy (R) | ≤ 5% | | Operating temperature | -20° to +85°C (-4° to +185°F) |
| Hysteresis (H) | 5 - 10% | | Max. temperature on sensing face | 120°C (248°F) |
| Rated operational volt. (U_B) | 10 to 40 VDC (ripple incl.) | | Storage temperature | -40° to +85°C (-40° to +185°F) |
| Ripple | ≤ 10% | Housing material | Body | Grey, thermoplastic polyester |
| Rated operational current (I_o) | ≤ 250 mA (continuous) | | Cable end | Polyester, softened |
| No-load supply current (I_o) | ≤ 12 mA | | Nuts | Black, PA12 Grilamid |
| Voltage drop (U_d) | ≤ 2.5 VDC @ max. load | Connection | Cable | Grey, 2 m, 4 x 0.25 mm ² |
| Protection | Short-circuit, reverse polarity, transients | | Plug (M1) | Oil proof, PVC |
| TRIPLESHIELD™ protection-EMC | | | Cable for plug (M1) | M12 x 1 |
| IEC 1000-4-2/EN 61000-4-2 | 30 kV | | | CON.1A-series |
| IEC 1000-4-3/EN 61000-4-3 | > 15 V/m | Weight | | |
| IEC 1000-4-4/EN 61000-4-4 | 3 kV | Cable version - M18 / M30 | | 110 g/160 g |
| IEC 1000-4-6/EN 61000-4-6 | > 10 V _{rms} | Plug version - M18 / M 30 | | 30 g/70 g |
| Frequency of operating cycles (f) | 5 Hz | Approvals | | UL, CSA |
| Indication | | CE-marking | | Yes |
| For output ON | LED, yellow | | | |
| For safe/unsafe | LED, green | | | |

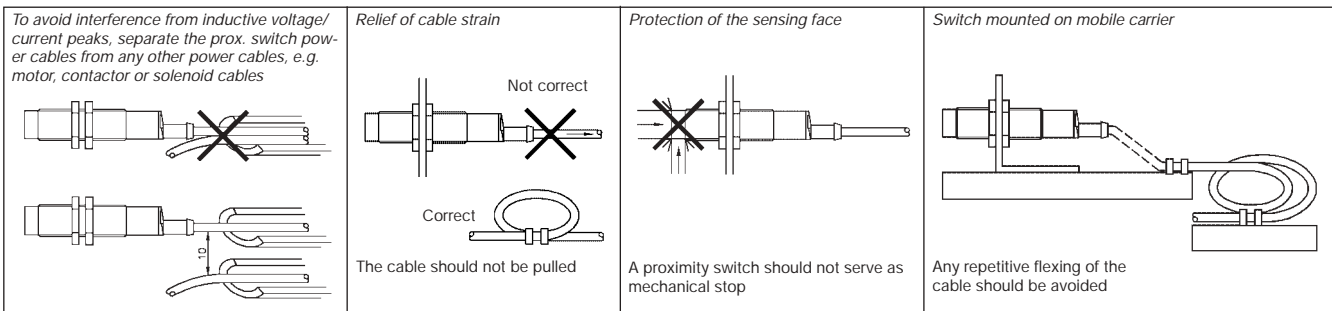
Wiring Diagram



Dimensions



Installation Hints



Delivery Contents

- Capacitive switch: CA..CLL..BP.
- **Packaging:** Cardboard box
- Installation & Adjustment Guide (MAN CAP ENG/GER)

Accessories

- Plugs CON.1A.. series.

For further information please refer to "Accessories."

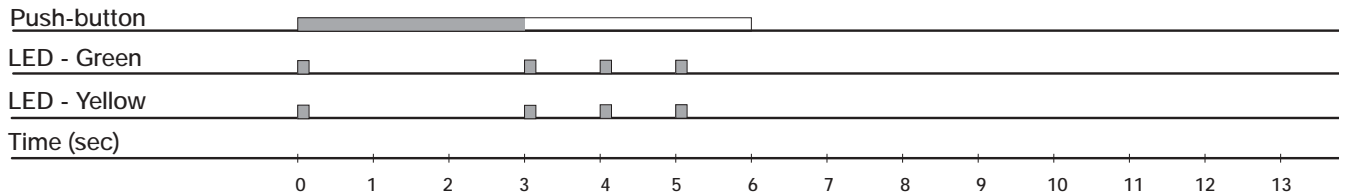


Teach-in Guide

Adjustment - wall

No target present - tank empty

Press push-button >3 seconds until LED's are flashing one time per second. The surroundings will be calibrated when the push-button is released during the following 3 seconds



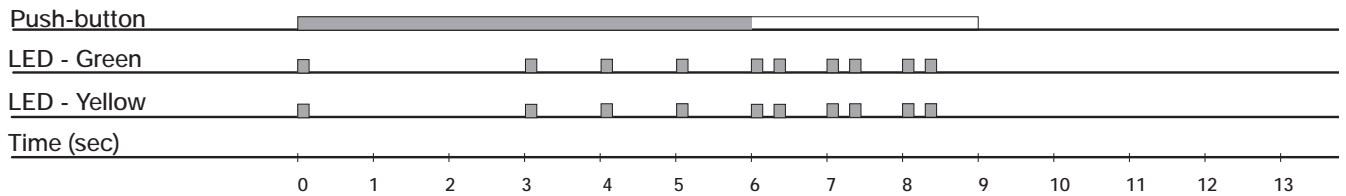
The sensor will calculate a switch-point by itself. No further calibration is needed.

Adjustment - object

Target present - tank full

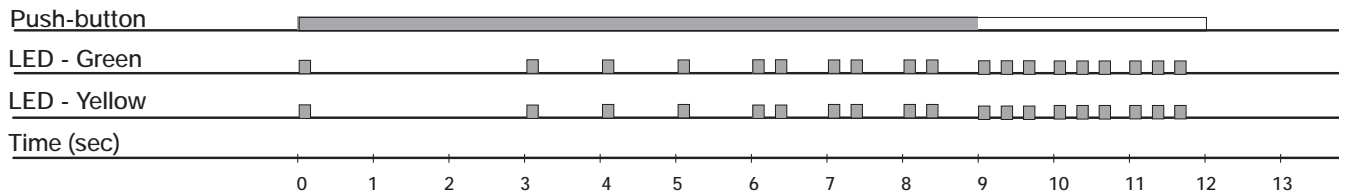
The self-calculated switch-point can be changed by means of the Teach-in function for "Target present".

Press push-button >6 seconds until LED's are flashing two times per second. The object will be calibrated when the push-button is released during the following 3 seconds



Adjustment - NO - NC

Press push-button >9 sec. until LED's are flashing three times per second. The status of NO-NC will toggle when the push-button is released during the following 3 seconds



Releasing the push-button after 12 sec. returns the sensor to factory settings.