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 applicatioins**
- **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

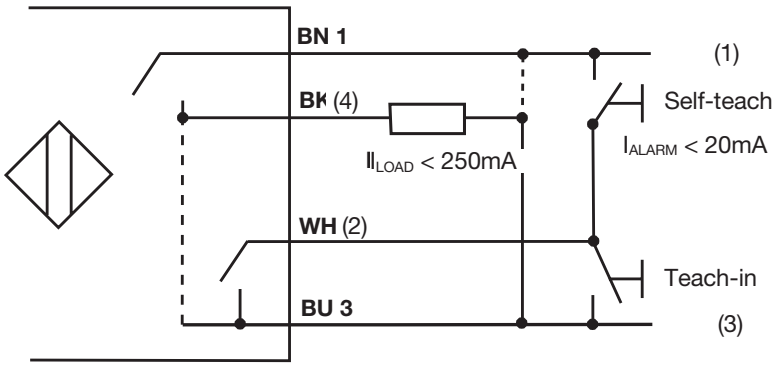
Housing diameter	Ordering no. Cable	Ordering no. Plug
M18	**CA18CLL12BP**	**CA18CLL12BPM1**
M 30	**CA30CLL30BP**	**CA30CLL30BPM1**

Specifications

Sensitivity	Adjustable (Teach-in)
Repeat accuracy (R)	≤ 5%
Hysteresis (H)	5 - 10%
Rated operational volt. (U_B)	10 to 40 VDC (ripple incl.)
Ripple	≤ 10%
Rated operational current (I_e)	≤ 250 mA (continuous)
No-load supply current (I_o)	≤ 12 mA
Voltage drop (U_d)	≤ 2.5 VDC @ max. load
Protection	Short-circuit, reverse polarity, transients
***TRIPLESHIELD*™ protection-EMC**	
IEC 1000-4-2/EN 61000-4-2	30 kV
IEC 1000-4-3/EN 61000-4-3	> 15 V/m
IEC 1000-4-4/EN 61000-4-4	3 kV
IEC 1000-4-6/EN 61000-4-6	> 10 V_{rms}
Frequency of operating cycles (f)	5 Hz
Indication	
For output ON	LED, yellow
For safe/unsafe	LED, green

Environment	
Degree of protection	IP 68
Operating temperature	-20° to +85°C (-4° to +185°F)
Max. temperature on sensing face	120°C (248°F)
Storage temperature	-40° to +85°C (-40° to +185°F)
Housing material	
Body	Grey, thermoplastic polyester
Cable end	Polyester, softened
Nuts	Black, PA12 Grilamid
Connection	
Cable	Grey, 2 m, 4 x 0.25 mm² Oil proof, PVC
Plug (M1)	M12 x 1
Cable for plug (M1)	CON.1A-series
Weight	
Cable version - M18 / M30	110 g/160 g
Plug version - M18 / M 30	30 g/70 g
Approvals	UL, CSA
CE-marking	Yes

Wiring Diagram



The PNP- or NPN-load will be automatically detected.

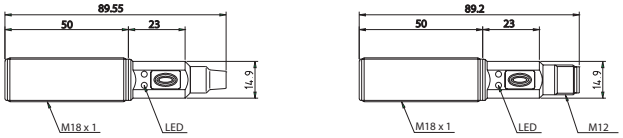
By means of the teach-in wire, the functions described in the Teach-in Guide can be set up.

It is possible to “teach-in” several sensors at the same time by connecting the WH-wires in parallel to the common ”-” supply.

(#): Plug connections

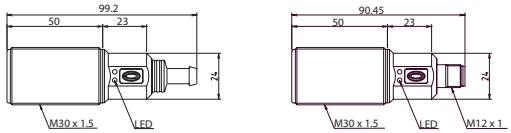
Dimensions

CA18



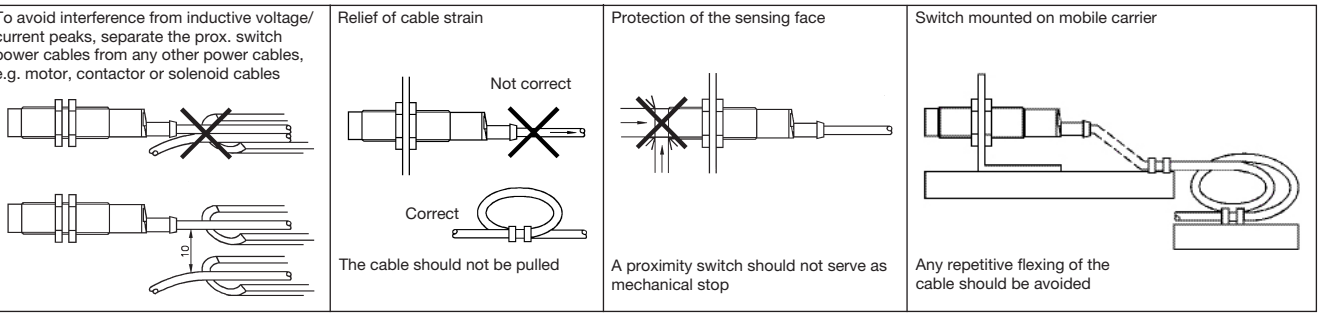
Cable **Plug**

CA30



Cable **Plug**

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.

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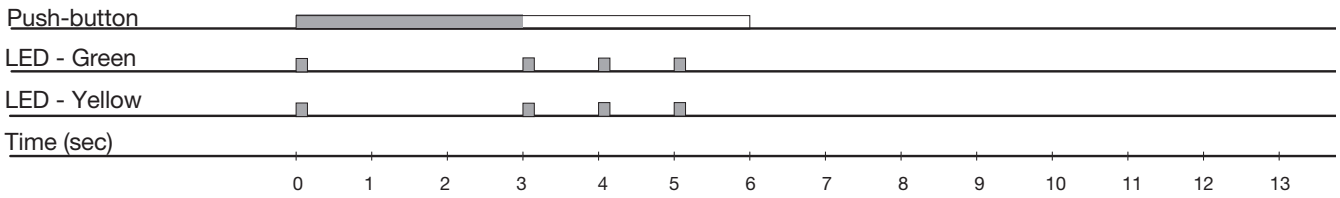
Teach-in Guide

Adjustment - wall
No target present - tank empty

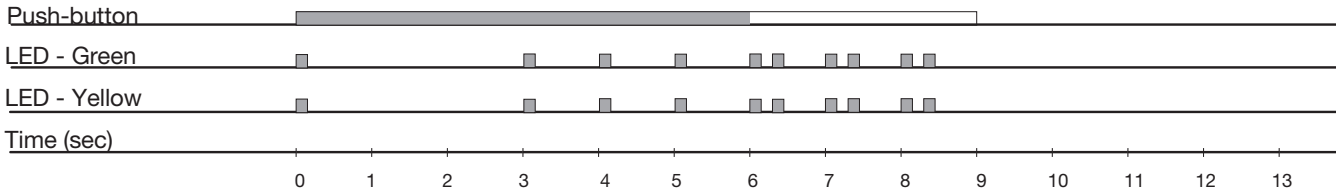
Press push-button >3 seconds until LEDs are flashing once per second. The surroundings will be calibrated when the push-button is released during the following 3 seconds



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

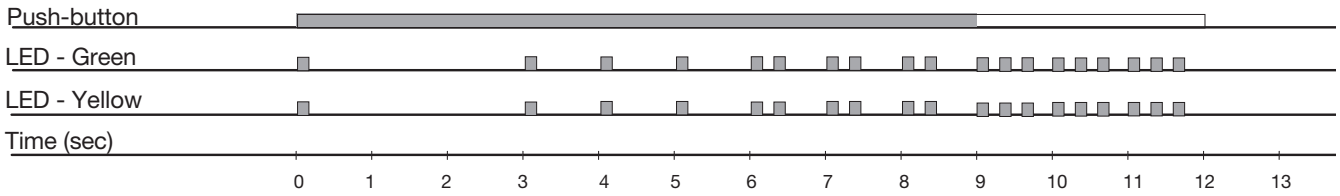
Adjustment - object
Target present - tank full

The self-calculated switch-point can be changed by means of the Teach-in function for ”Target present”.
Press push-button >6 seconds until LEDs are flashing twice 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 LEDs 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. will reset the sensor to factory settings.

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