

# Proximity Sensors Capacitive Thermoplastic Polyester Housing Type CA, M18, AC

TRIPLESCHILD™

CARLO GAVAZZI



- Featuring **TRIPLESCHILD™** sensor protection
- Rated operational voltage: 20-250 VAC
- Adjustable sensing distance 3-8 mm or 3-12 mm
- Output: SCR
- Make or break switching function
- LED indication
- High noise immunity
- Flush and non-flush types
- Plug and cable versions
- DC versions in the same housing

## Product Description

Capacitive proximity switches with either sensing distance 8 mm flush mounted in metal or sensing distance 12 mm non-flush mounted. 2-wire AC output with make (NO) or break (NC) switching. Grey M18 polyester housing with 2 m PVC cable or M12 plug. Ideal for use in level and plastic machinery applications.

## Ordering Key

**CA18CLN12TOM6**

Capacitive proximity switch   
 Housing style   
 Housing size   
 Housing material   
 Housing length   
 Detection principle   
 Sensing distance   
 Output type   
 Output configuration   
 Connection type

## Type Selection

Housing diameter	Rated operating dist. ( $S_n$ ) <sup>1)</sup>	Mounting	Ordering no. SCR/cable Make switching	Ordering no. SCR/plug Make switching	Ordering no. SCR/cable Break switching	Ordering no. SCR/plug Break switching
M18	8 mm	Flush (built-in)	CA18CLF08TO	CA18CLF08TOM6	CA18CLF08TC	CA18CLF08TCM6
M18	12 mm	Non-flush	CA18CLN12TO	CA18CLN12TOM6	CA18CLN12TC	CA18CLN12TCM6

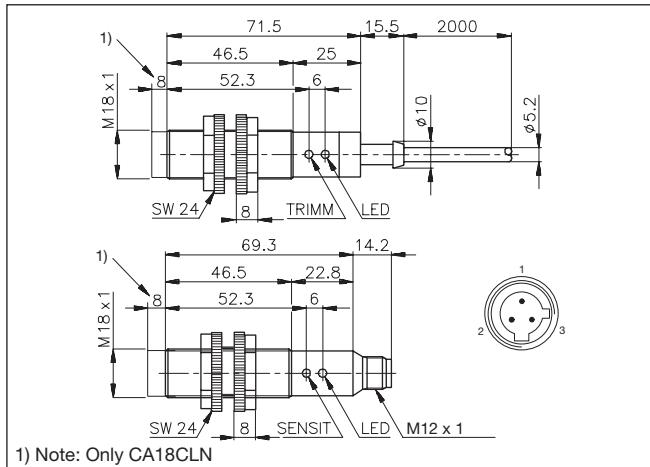
<sup>1)</sup> Object: Grounded steel plate

## Specifications

Rated operating dist. ( $S_n$ )	CA18CLF08	3 to 8 mm factory set at 8 mm
	CA18CLN12	3 to 12 mm factory set at 12 mm
Sensitivity		Adj. 270° turn pot. meter
Effective operation dist. ( $S_r$ )		$0.9 \times S_n \leq S_r \leq 1.1 \times S_n$
Usable operation dist. ( $S_u$ )		$0.8 \times S_r \leq S_u \leq 1.2 \times S_r$
Repeat accuracy (R)		$\leq 5\%$
Hysteresis (H)		4 to 20% of sensing distance
Rated operational volt. ( $U_B$ )		20 to 250 VAC (ripple incl.)
Ripple		$\leq 10\%$
Rated operational current ( $I_e$ )		
Continuous		$\leq 500 \text{ mA}$
Short-time		$< 2.5 \text{ A}$ (max. 20 ms)
Min. load current		10 mA
Voltage drop ( $U_d$ )		$\leq 10 \text{ VAC}$ (at loads $\geq 20 \text{ mA}$ )
Protection		Transients
Power ON delay		$\leq 100 \text{ ms}$
Freq. of operating cycles (f)		10 Hz

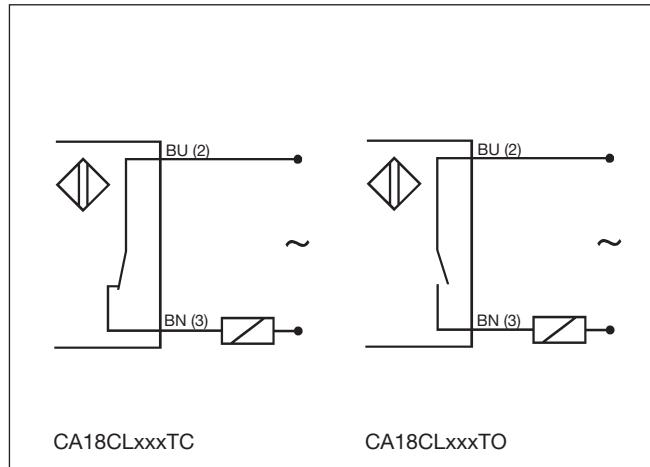
Indication for output ON	LED, yellow
Environment	
Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Temperature	
Operating temperature	-25° to +80°C (-13° to +176°F)
Storage temperature	-40° to +85°C (-40° to +185°F)
Housing material	
Body	Grey, thermoplastic polyester
Front	Grey, polyester
Cable end	Polyester
Nuts	Black, reinforced nylon
Connection	
Cable	Grey, 2 m, 2 x 0.5 mm <sup>2</sup>
Plug (M6)	Oil proof PVC
Cable for plug (M6)	M12 x 1, double keyed CON.6A-series
Weight	
Cable version	110 g
Plug version	30 g
Approvals	UL, CSA
CE-marking	Yes

## Dimensions



1) Note: Only CA18CLN

## Wiring Diagrams



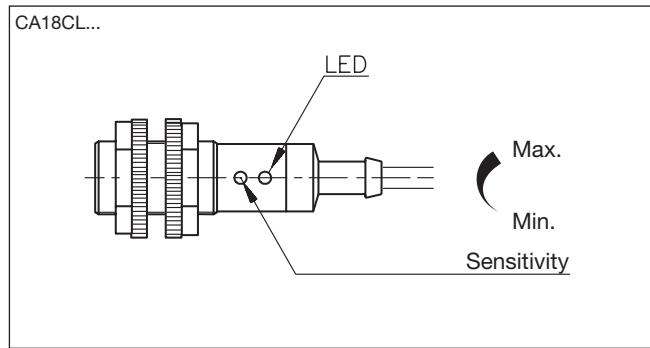
## Adjustment Guide

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 **TRIPLESCHILD™** 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:-**

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



## Installation Hints

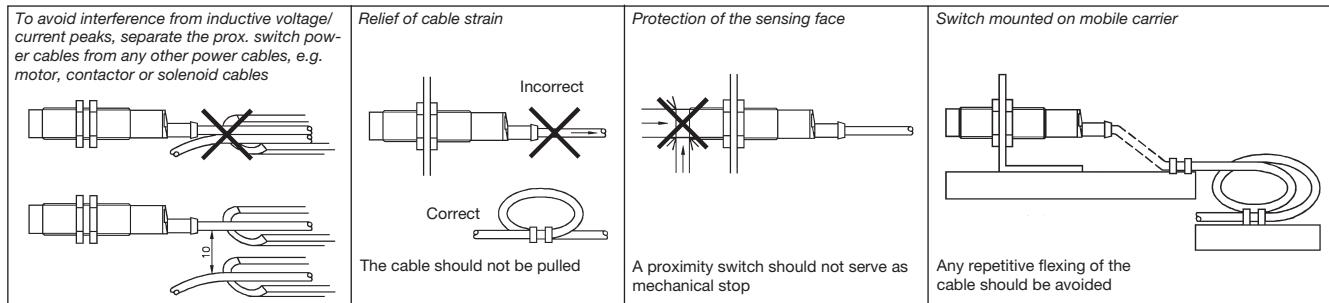
Capacitive sensors have the unique ability to detect almost all materials, either in liquid or solid form. Capacitive sensors can detect metallic as well as non-metallic objects, however, their traditional use is for non-metallic materials such as:

- Plastic Industry

Resins, regrinds or moulded products.

- **Chemical Industry**  
Cleansers, fertilisers, liquid soaps, corrosives and petrochemicals.
- **Wood Industry**  
Saw dust, paper products, door and window frames.
- **Ceramic & Glass Industry**  
Raw material, clay or finished products, bottles.
- **Packaging Industry** Package inspection for level or contents, dry goods, fruits and vegetables, dairy products.

stance 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: CA18CL...
- Screw driver
- 2 nuts
- **Packaging:** Cardboard box
- Installation & Adjustment Guide

## Accessories

- Plugs CON.6A-..series.