

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

**TRIPLESHIELD™**

**CARLO GAVAZZI**



- Featuring **TRIPLESHIELD™** sensor protection
- Adjustable sensing distance 3-8 mm or 3-12 mm
- Rated operational voltage: 20-250 VAC
- 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**

Type	_____
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 <sub>n</sub> ) <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

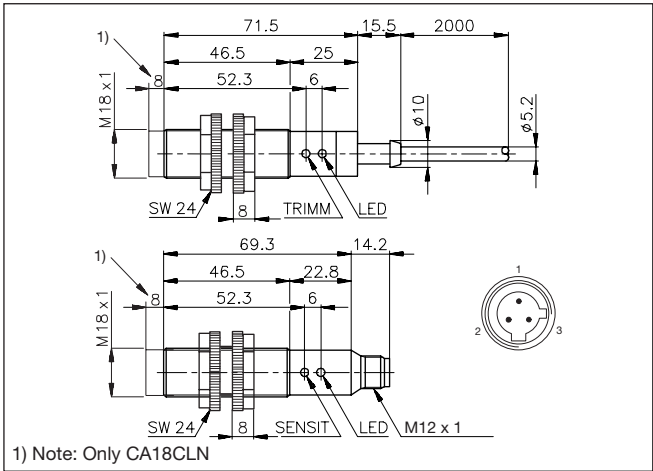
<sup>1)</sup> Object: Grounded steel plate

## Specifications

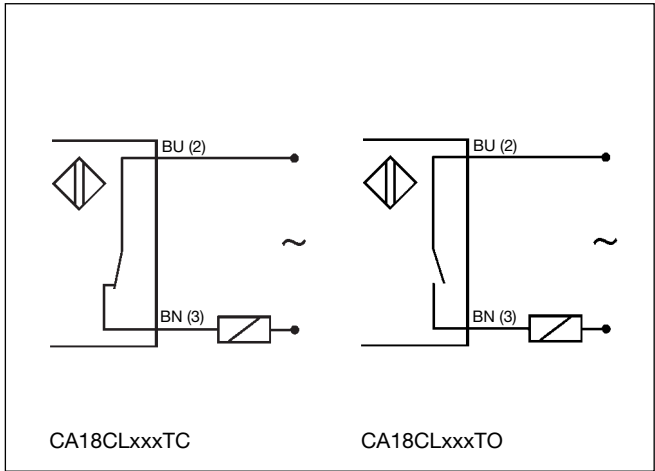
<b>Rated operating dist. (S<sub>n</sub>)</b> CA18CLF08	3 to 8 mm factory set at 8 mm	<b>Frequency of operating cycles (f)</b>	10 Hz
CA18CLN12	3 to 12 mm factory set at 12 mm	<b>Indication for output ON</b>	LED, yellow
<b>Sensitivity</b>	Adj. 270° turn pot. meter	<b>Environment</b> Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
<b>Effectiv operation dist. (S<sub>r</sub>)</b>	0.9 x S <sub>n</sub> ≤ S <sub>r</sub> ≤ 1.1 x S <sub>n</sub>	<b>Temperature</b> Operating temperature	-25° to +80°C (-13° to +176°F)
<b>Usable operation dist. (S<sub>u</sub>)</b>	0.8 x S <sub>r</sub> ≤ S <sub>u</sub> ≤ 1.2 x S <sub>r</sub>	Storage temperature	-40° to +85°C (-40° to +185°F)
<b>Repeat accuracy (R)</b>	≤ 5%	<b>Housing material</b> Body	Grey, thermoplastic polyester
<b>Hysteresis (H)</b>	4 to 20% of sensing distance	Front	Grey, polyester
<b>Rated operational volt. (U<sub>B</sub>)</b>	20 to 250 VAC (ripple included)	Cable end	Polyester
<b>Ripple</b>	≤ 10%	Nuts	Black, reinforced nylon
<b>Rated operational current (I<sub>o</sub>)</b> Continuous	≤ 500 mA	<b>Connection</b> Cable	Grey, 2 m, 2 x 0.5 mm <sup>2</sup> Oil proof PVC
Short-time	< 2.5 A (max. 20 ms)	Plug (M6)	M12 x 1, double keyed
<b>Min. load current</b>	≤ 10 mA	Cable for plug (M6)	CON.6A-series
<b>Voltage drop (U<sub>d</sub>)</b>	≤ 10 VAC (at loads ≥ 20 mA)	<b>Weight</b> Cable version	110 g
<b>Protection</b>	Reverse polarity, short-circuit, transients	Plug version	30 g
<b>Power ON delay</b>	≤ 100 ms	<b>Approvals</b> CE-marking	UL, CSA Yes



Dimensions



Wiring Diagrams

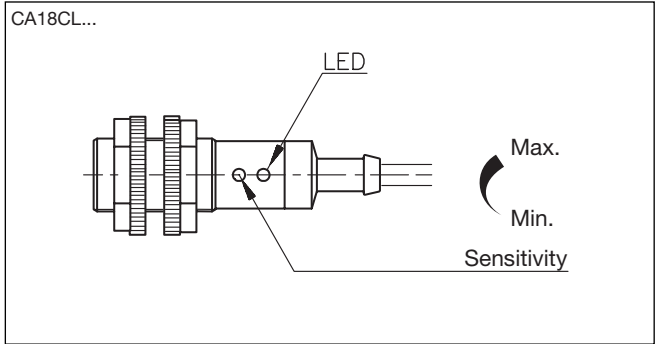


Adjustment Guide

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 *TRIP-LESHIELD™* capacitive sensors a user-friendly sensitivity adjustment instead of having a fixed sensing range, extended sensing range to accom-

modate 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:

- **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.
- 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 capaci-

tive 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.

For further information refer to "Accessories".