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







- Featuring *TRIPLESHIELD*™ 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 nonflush 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.

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) 1)	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

¹⁾ Object: Grounded steel plate

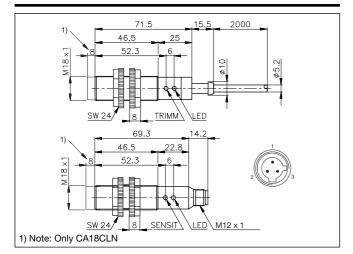
Specifications

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)	$0.9 \times S_n \le S_r \le 1.1 \times S_n$
Usable operation dist. (S _u)	$0.8 \times S_r \le S_n \le 1.2 \times S_r$
Repeat accuracy (R)	≤ 5%
Hysteresis (H)	4 to 20% of sensing distance
Rated operational volt. (U _B)	20 to 250 VAC (ripple incl.)
Ripple	≤ 10%
Rated operational current (I _e) Continuous Short-time	≤ 500 mA < 2.5 A (max. 20 ms)
Min. load current	≤ 10 mA
Voltage drop (U _d)	≤ 10 VAC (at loads ≥ 20 mA)
Protection	Transients
Power ON delay	≤ 100 ms
Freq. of operating cycles (f)	10 Hz

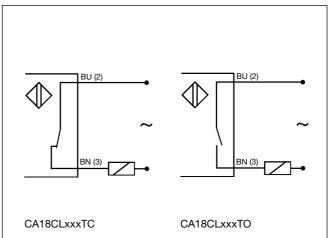
Indication for output ON	LED, yellow
Environment	
Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Temperature	
Operating temperature	-25° to +80°C (-13° to +176°F)
Storage temperature	-40° to +85°C (-40° to +185°F)
Housing material	
Body	Grey, thermoplastic polyester
Front	Grey, polyester
Cable end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



Dimensions



Wiring Diagrams



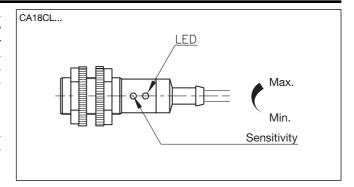
Adjustment Guide

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*TM 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.

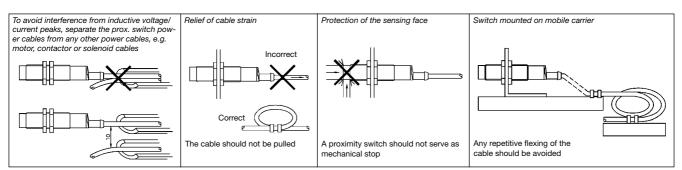
Ceramic & Glass Industry

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 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 boxInstallation & Adjustment Guide

Accessories

• Plugs CON.6A-..series.

For further information refer to "Accessories".