Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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

TRIPLESHIELD™

CARLO GAVAZZI

- 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 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

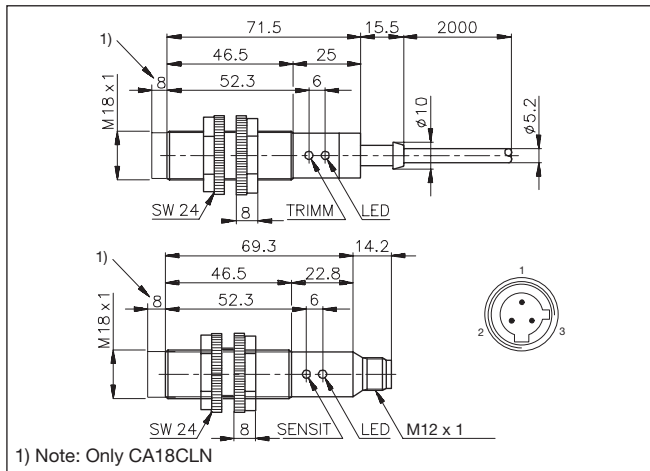|	
Capacitive proximity switch	
Housing style	
Housing size	
Housing material	
Housing length	
Detection principle	
Sensing distance	
Output type	
Output configuration	
Connection type	

Type Selection

Housing diameter	Rated operating dist. (S_n) [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)	$0.9 \times S_n \leq S_r \leq 1.1 \times S_n$
Usable operation dist. (S_u)	$0.8 \times S_r \leq S_n \leq 1.2 \times S_r$
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	≤ 500 mA
Short-time	< 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 mm² 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

CARLO GAVAZZI

Dimensions

1) Note: Only CA18CLN

Wiring Diagrams

CA18CLxxxTC   CA18CLxxxTO
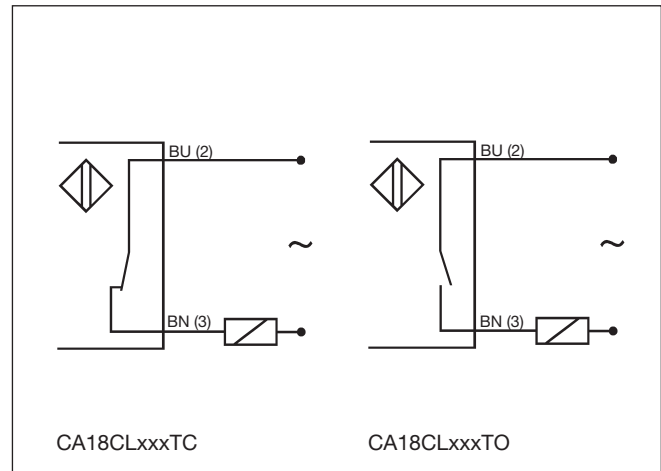
Adjustment Guide

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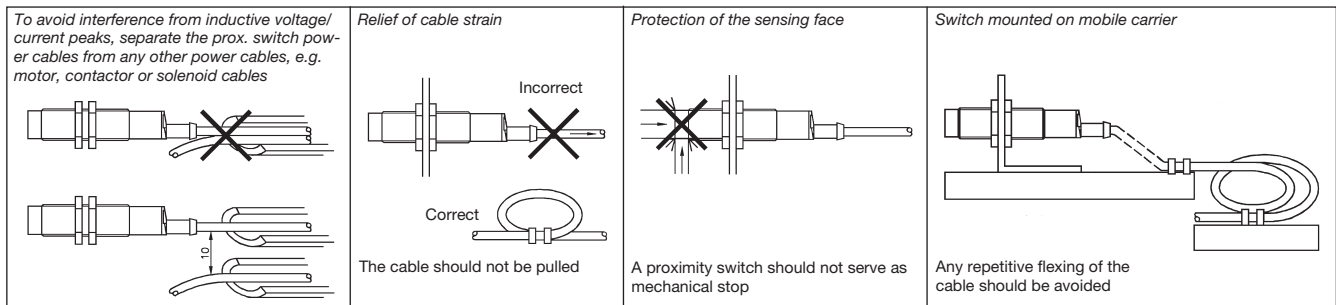

CA18CL...
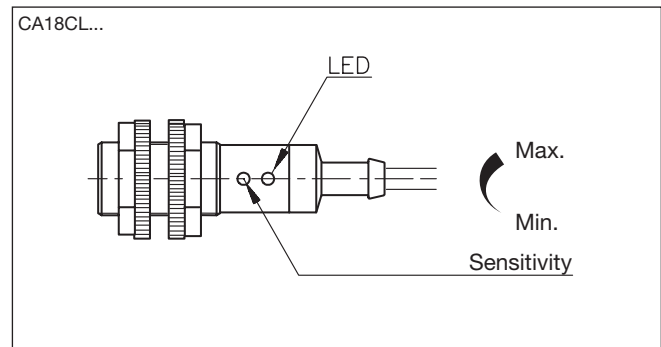
Installation Hints

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.

To avoid interference from inductive voltage/current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables	*Relief of cable strain*	*Protection of the sensing face*	*Switch mounted on mobile carrier*
	Incorrect / Correct / The cable should not be pulled	A proximity switch should not serve as mechanical stop	Any repetitive flexing of the cable should be avoided

CARLO GAVAZZI

Delivery Contents

• Capacitive switch: CA18CL...
• Screw driver
• 2 nuts
• **Packaging:** Cardboard box
• Installation & Adjustment Guide

Accessories

• Plugs CON.6A-..series.