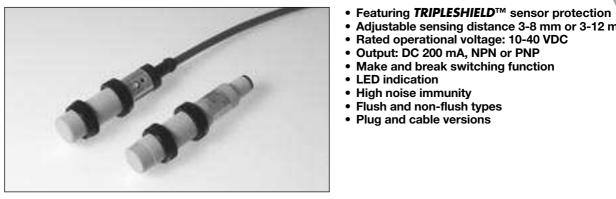
Proximity Sensors Capacitive Thermoplastic Polyester Housing Type CA, M18, DC







Product Description

Capacitive proximity switches with either sensing distance 8 mm flush mounted in metal or sensing distance 12 mm nonflush mounted. 4-wire DC output with both make (NO) and break (NC) switching. Grey M18 polyester housing with 2 m PVC cable or M12 plug. Ideal for use in level and plastic machinery applications.

• Rated operational voltage: 10-40 VDC • Output: DC 200 mA, NPN or PNP

Adjustable sensing distance 3-8 mm or 3-12 mm

- Make and break switching function
- LED indication
- · High noise immunity
- Flush and non-flush types
- Plug and cable versions

Ordering Key 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. Transistor NPN/cable Make & break switching	Ordering no. Transistor NPN/plug Make & break switching	Ordering no. Transistor PNP/cable Make & break switching	Ordering no. Transistor PNP/plug Make & break switching
M18	8 mm	Flush (built-in)	CA18CLF08NA	CA18CLF08NAM1	CA18CLF08PA	CA18CLF08PAM1
M18	12 mm	Non-flush	CA18CLN12NA	CA18CLN12NAM1	CA18CLN12PA	CA18CLN12PAM1

¹⁾ Object: Grounded steel plate

CA18CLN12NAM1

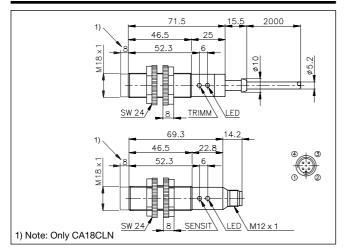
Specifications

Rated operating dist. (S _n)	0.4.4.0
CA18CLF08	3 to 8 mm
CA18CLN12	factory set at 8 mm 3 to 12 mm
GATOGENTZ	factory set at 12 mm
<u> </u>	,
Sensitivity	Adj. 270° turn pot. meter
Effective operation dist. (S _r)	$0.9 \ x \ S_n \leq S_r \leq 1.1 \ x \ S_n$
Usable operation dist. (S_u)	$0.8 \ x \ S_r \leq S_n \leq 1.2 \ x \ S_r$
Repeat accuracy (R)	≤5%
Hysteresis (H)	4 to 20% of sensing distance
Rated operational volt. (U_B)	10 to 40 VDC (ripple included)
Ripple	≤ 10%
Rated operational current (I _e)	
Continuous	≤ 200 mA
No-load supply current (I _o)	≤ 10 mA
Voltage drop (U _d)	\leq 2.5 VDC at max. load
Protection	Reverse polarity,
	short-circuit, transients
Frequency of operating	
cycles (f)	30 Hz

Indication for output ON	LED, yellow		
Environment			
Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)		
Temperature			
	25° to 190°C (12° to 1176°E)		
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, 4 x 0.34 mm ²		
	Oil proof PVC		
Plug (M1)	M12 x 1		
Cable for plug (M1)	CON.1A-series		
Weight			
Cable version	110 g		
Plug version	30 g		
Approvals	UL, CSA		
CE-marking	Yes		
-			



Dimensions



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-

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.

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.

Chemical Industry

trochemicals.

Wood Industry

• Ceramic & Glass

ed products, bottles.

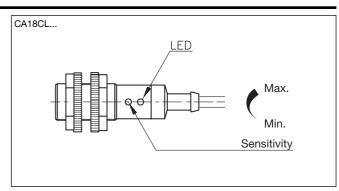
Industry

Saw dust, paper products,

door and window frames.

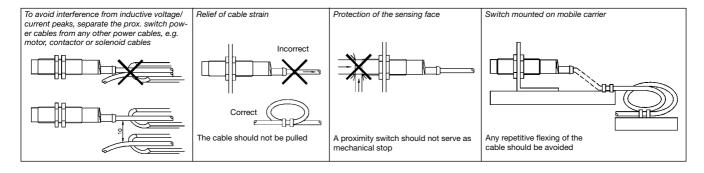
Raw material, clay or finish-

٠

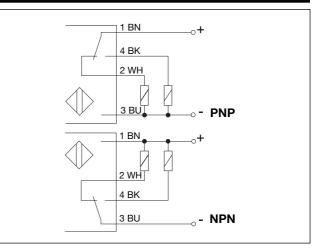


- Packaging Industry Cleansers, fertilisers, liquid Package inspection for lesoaps, corrosives and pevel or contents, dry goods, fruits and vegetables, dairy products.
 - Materials are detected due to their dielectric constant. The bigger the size of an object, the higher the density of material, the 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.



Wiring Diagrams





Delivery Contents

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

Accessories

• Plugs CON.1A-..series.

For further information refer to "Accessories".