

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	CA
Housing style	18
Housing size	CL
Housing material	N
Housing length	12
Detection principle	T
Sensing distance	O
Output type	M
Output configuration	6
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

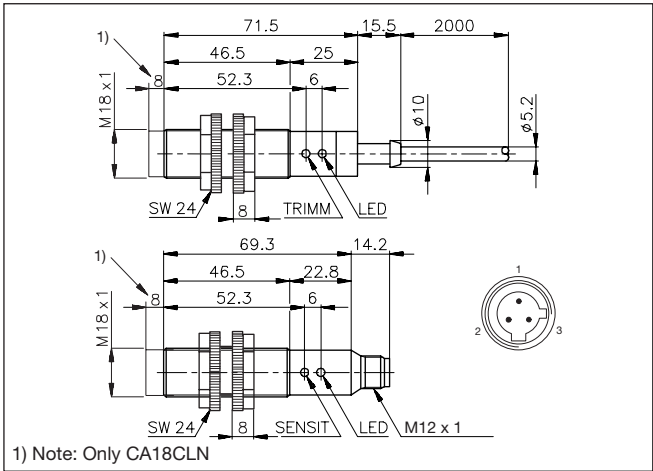
Specifications

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

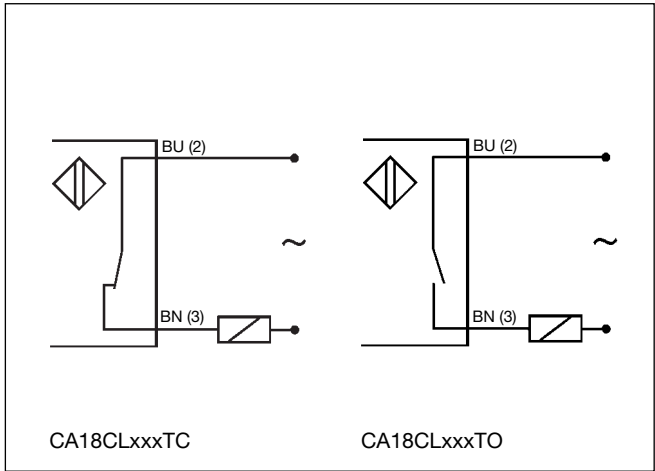
Specifications are subject to change without notice (25.06.99)



Dimensions



Wiring Diagrams

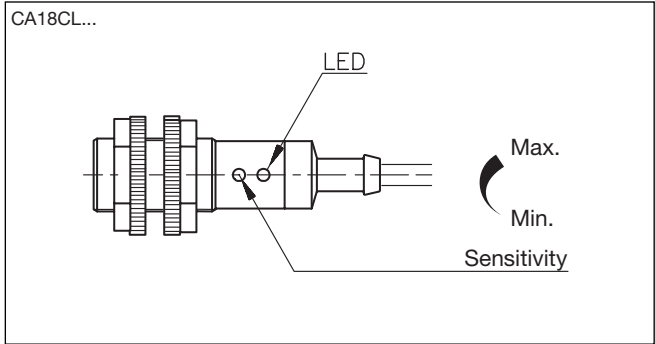


Adjustment Guide

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".