

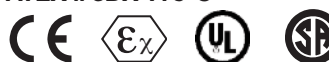
Proximity Sensors Capacitive, ATEX Thermoplastic Polyester Housing Type CB, Ø18, AC

TRIPLESIELD™

CARLO GAVAZZI



- Capacitive level sensor for solid, fluid or granulated substances
- Featuring **TRIPLESIELD™** sensor protection
- Rated operational voltage: 20-250 VAC
- Adjustable sensing distance 3-12 mm
- Output: SCR with fixed delay of 30 sec.
- Make or break switching function
- LED indication
- High noise immunity
- Non-flush types
- Cable versions
- Fixed output ON-delay of 30 sec.
- ATEX II 3DX T75°C



Product Description

ATEX approved Capacitive proximity switches with sensing distance 12 mm non-flush mounted. 2-wire AC output with make (NO) and break (NC) switching. Grey Ø18 polyester housing with 2 m PVC cable. Ideal for detecting grain or solids as level indicator in tanks, silos or containers. Typical segments: agriculture, food & Beverage, conveyor-belts, plastic & rubber, etc.

Ordering Key **CB18CLN12TOFTAX**

Capacitive proximity switch	CB
Housing style	18
Housing size	CL
Housing material	N
Housing length	12
Detection principle	T
Sensing distance	O
Output type	F
Output configuration	A
Timer type	
ATEX	X

Type Selection

Housing diameter	Rated operating dist. (S _n) ¹⁾	Mounting	ATEX zone	Ordering no. SCR/cable Make switching	Ordering no. SCR/cable Break switching
M18	12 mm	Non-flush		CB18CLN12TOFT	CB18CLN12TCFT
M18	12 mm	Non-flush	22	CB18CLN12TOFTAX	CB18CLN12TCFTAX

¹⁾ Object: Grounded steel plate

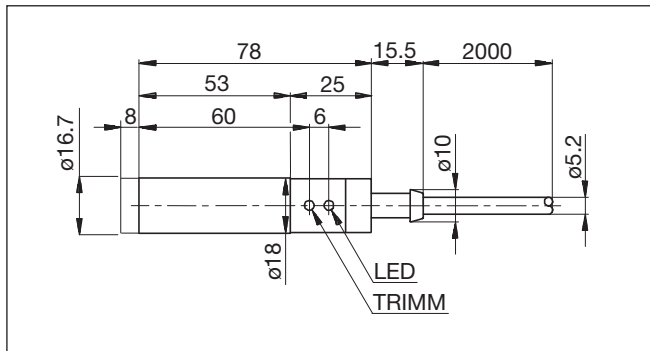
Specifications

Rated operating dist. (S_n) CB18CLN12	3 to 12 mm factory set at 12 mm	Environment Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Sensitivity	Adj. 270° turn pot. meter	Temperature Operating temperature Storage temperature	-25° to +80°C (-13° to +176°F) -40° to +85°C (-40° to +185°F)
Effective operation dist. (S_r)	0.9 x S _n ≤ S _r ≤ 1.1 x S _n	Housing material Body Front Cable end	Grey, thermoplastic polyester Grey, polyester Polyester
Usable operation dist. (S_u)	0.8 x S _r ≤ S _u ≤ 1.2 x S _r	Connection Cable	Grey, 2 m, 2 x 0.5 mm ² Oil proof PVC
Repeat accuracy (R)	≤ 5%	Weight Cable version	110 g
Hysteresis (H)	4 to 20% of sensing distance	Approvals AX versions only	UL, CSA ATEX zone 22 dust* Ex II 3 DX T75°C IP67
Rated operational volt. (U_B)	20 to 250 VAC (ripple incl.)	CE-marking	Yes
Ripple	≤ 10%		
Rated operational current (I_e) Continuous Short-time	-25° < to 65°C 65° < to 80°C I _e ≤ 500 mA I _e ≤ 350 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		
Indication for output ON	LED, yellow		

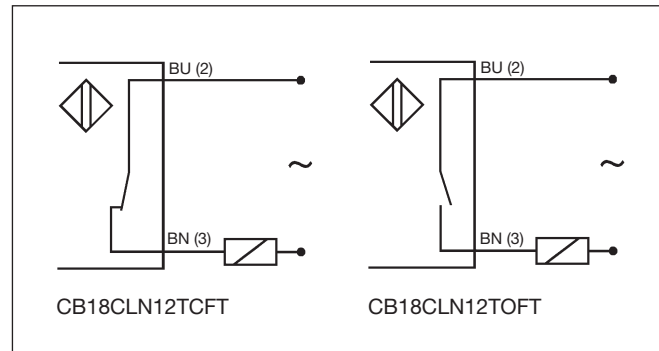
- * • The cable must not be exposed to a pulling force.
• Sensor housing must be protected against mechanical shock



Dimensions



Wiring Diagrams

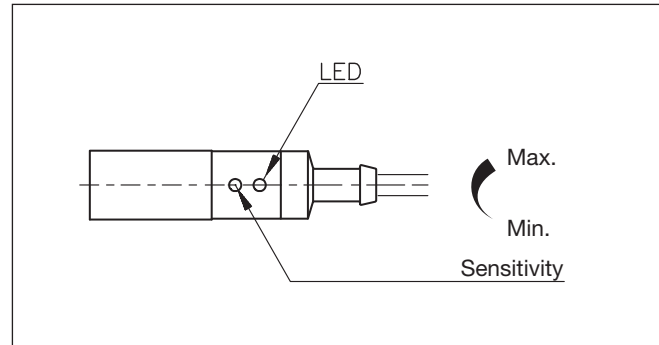


Adjustment Guide

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.
- **Agriculture**
Feed, solids or grain.

- **Wood Industry**
Saw dust, paper products, door and window frames.

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: CB18CL...
- Screw driver
- **Packaging:** Cardboard box
- Installation & Adjustment Guide

<p>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</p>	<p>Relief of cable strain</p> <p>The cable should not be pulled</p>	<p>Protection of the sensing face</p> <p>A proximity switch should not serve as mechanical stop</p>	<p>Switch mounted on mobile carrier</p> <p>Any repetitive flexing of the cable should be avoided</p>
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