

Proximity Sensors Capacitive, ATEX Thermoplastic Polyester Housing Type CB, Ø32, 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 2-20 mm
- Output: SCR with or without fixed ON-delay of 30 sec.
- Make or break switching function
- LED indication
- High noise immunity
- Non-flush types
- Cable versions
- ATEX II 3DX T65°C



Product Description

ATEX approved Capacitive proximity switches with sensing distance 20 mm non-flush mounted.
2-wire AC output with make (NO) and break (NC) switching. Grey Ø32 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, conveyorbelts, plastic & rubber, etc.

Ordering Key

CB32CLN20TOFTAX

Capacitive proximity switch	_____
Housing style	_____
Housing size	_____
Housing material	_____
Housing length	_____
Detection principle	_____
Sensing distance	_____
Output type	_____
Output configuration	_____
Timer type	_____
ATEX	_____

Type Selection

Housing diameter	Rated operating dist. (S _n) ¹⁾	Mounting	ON-delay	Ordering no. SCR/cable Make switching	Ordering no. SCR/cable Break switching	Ordering no. SCR/cable Make switching, ATEX	Ordering no. SCR/cable Break switching, ATEX
Ø32	20 mm	Non-flush	NO	CB32CLN20TO	CB32CLN20TC	CB32CLN20TOAX	CB32CLN20TCAX
Ø32	20 mm	Non-flush	YES	CB32CLN20TOFT	CB32CLN20TCFT	CB32CLN20TOFTAX	CB32CLN20TCFTAX

¹⁾ Object: Grounded steel plate

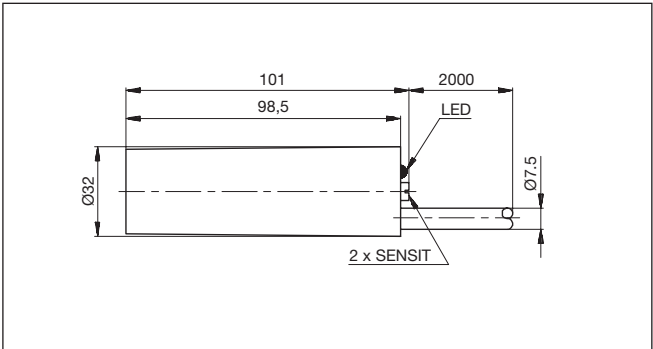
Specifications

Rated operating dist. (S_n) CB32CLN20	2 to 20 mm factory set at 12 mm	Environment Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Sensitivity Adj. multiturn	Pot. meter	Temperature Operating temperature	-20° to +70°C (-4° to +158°F)
Effective operation dist. (S_r)	0.9 x S _n ≤ S _r ≤ 1.1 x S _n	Operating temperature (AX)	-20° to +40°C (-4° to +104°F)
Usable operation dist. (S_u)	0.8 x S _r ≤ S _n ≤ 1.2 x S _r	Storage temperature	-40° to +85°C (-40° to +185°F)
Repeat accuracy (R)	≤ 5%	Housing material Body	PBT
Hysteresis (H)	4 to 20% of sensing distance	Front	PBT
Rated operational volt. (U_B)	20 to 250 VAC (ripple incl.)	Connection Cable	Black, 2 m, 2 x 1.5 mm ² , Ø8 Oil proof PVC
Ripple	≤ 10%	Weight Cable version	270 g
Rated operational current (I_e) Continuous	I _e ≤ 500 mA	Approvals AX versions only	ATEX zone 22 dust* ⊕ E _h II 3 DX T65°C IP67
Short-time	< 2.5 A (max. 20 ms)	CE-marking	Yes
Min. load current	10 mA		
Voltage drop (U_d)	≤ 10 VAC (at loads ≥ 20 mA)		
Protection	Transients		
Power ON delay	≤ 100 ms		
Frequency of operating cycles (f)	10 Hz		
Delay on operate (t_v)	30 sec		
Indication for output ON	LED, yellow		

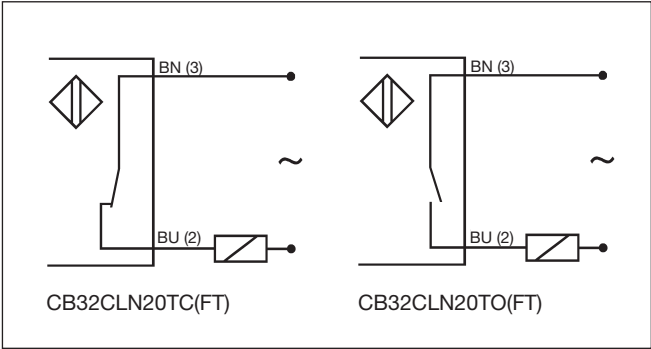
- * • The cable must not be exposed to a pulling force.
• As the sensor surface exceed the allowed area the mounting fixture must be grounded.



Dimensions



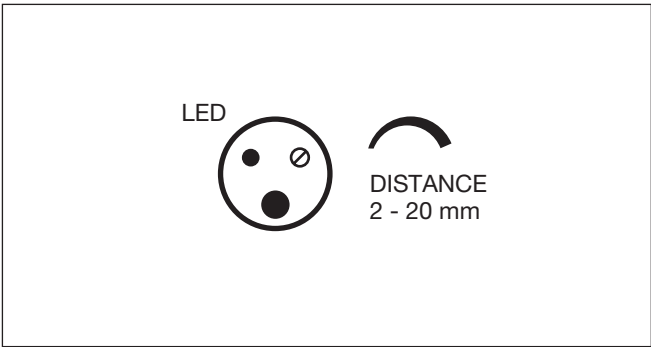
Wiring Diagrams



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 **TRIPLESIELD™** capacitive sensors a user-friendly sen-

sitivity 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 electro-magnetic interference (EMI).



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: CB32CL...
- Screw driver
- **Packaging:** Plastic bag
- Installation & Adjustment Guide

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