

# Proximity Sensors Capacitive Thermoplastic Polyester Housing Type CB, Ø32, AC

**TRIPLESHIELD™**

**CARLO GAVAZZI**



- Capacitive level sensor for solid, fluid or granulated substances
- Featuring **TRIPLESHIELD™** 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

## Product Description

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, conveyor-belts, plastic & rubber, etc.

## Ordering Key

**CB32CLN20TOFT**

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

## Type Selection

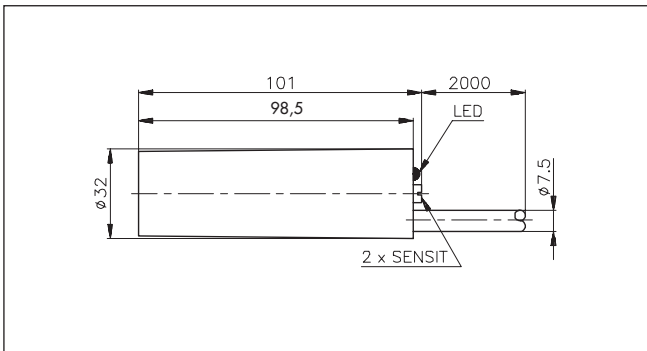
Housing diameter	Rated operating dist. (S <sub>n</sub> ) <sup>1)</sup>	Mounting	ON-delay	Ordering no. SCR/cable Make switching	Ordering no. SCR/cable Break switching
Ø32	20 mm	Non-flush	NO	CB32CLN20TO	CB32CLN20TC
Ø32	20 mm	Non-flush	YES	CB32CLN20TOFT	CB32CLN20TCFT

<sup>1)</sup> Object: Grounded steel plate

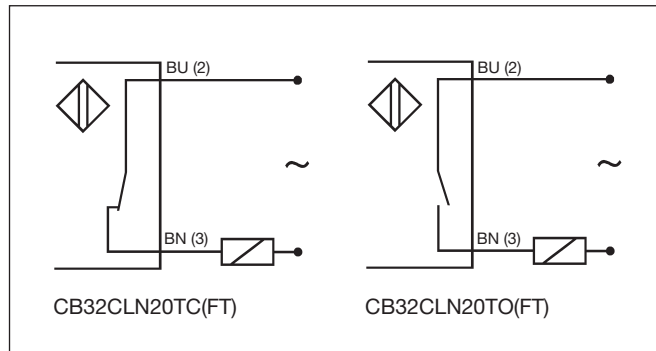
## Specifications

<b>Rated operating dist. (S<sub>n</sub>)</b> CB32CLN20	2 to 20 mm factory set at 12 mm	<b>Environment</b> Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
<b>Sensitivity Adj. multiturn</b>	Pot. meter	<b>Temperature</b> Operating temperature Storage temperature	-20° to +70°C (-4° to +158°F) -40° to +85°C (-40° to +185°F)
<b>Effective operation dist. (S<sub>r</sub>)</b>	0.9 x S <sub>n</sub> ≤ S <sub>r</sub> ≤ 1.1 x S <sub>n</sub>	<b>Housing material</b> Body Front	PBT PBT
<b>Usable operation dist. (S<sub>u</sub>)</b>	0.8 x S <sub>r</sub> ≤ S <sub>u</sub> ≤ 1.2 x S <sub>r</sub>	<b>Connection</b> Cable	Black, 2 m, 2 x 1.5 mm <sup>2</sup> , Ø8 Oil proof PVC
<b>Repeat accuracy (R)</b>	≤ 5%	<b>Weight</b> Cable version	270 g
<b>Hysteresis (H)</b>	4 to 20% of sensing distance	<b>Approvals</b>	UL, CSA
<b>Rated operational volt. (U<sub>B</sub>)</b>	20 to 250 VAC (ripple incl.)	<b>CE-marking</b>	Yes
<b>Ripple</b>	≤ 10%		
<b>Rated operational current (I<sub>e</sub>)</b> Continuous Short-time	I <sub>e</sub> ≤ 500 mA < 2.5 A (max. 20 ms)		
<b>Min. load current</b>	≤ 10 mA		
<b>Voltage drop (U<sub>d</sub>)</b>	≤ 10 VAC (at loads ≥ 20 mA)		
<b>Protection</b>	Transients		
<b>Power ON delay</b>	≤ 100 ms		
<b>Indication for output ON</b>	LED, yellow		

## Dimensions



## Wiring Diagrams



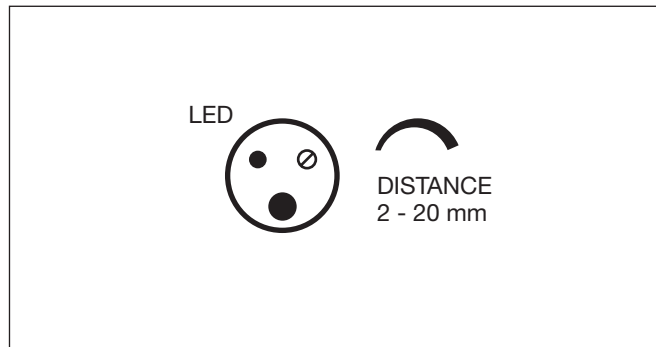
## Adjustment Guide

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: CB32CL...
- Screw driver
- **Packaging:** Plastic bag
- 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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