

Proximity Sensors Capacitive Thermoplastic Polyester Housing Type CB, Ø18, DC

TRIPLESHIELD™

CARLO GAVAZZI



- Capacitive level sensor for solid, fluid or granulated substances
- Featuring **TRIPLESHIELD™** sensor protection
- Rated operational voltage: 10-40 VDC
- Adjustable sensing distance 3-12 mm
- Output: DC 200 mA, NPN or PNP
- Make and break switching function
- LED indication
- High noise immunity
- Non-flush types
- Cable versions

Product Description

Capacitive proximity switches with sensing distance 12 mm non-flush mounted. 2-wire AC output with make (NO) or 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

CB18CLN12NA

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

Type Selection

Housing diameter	Rated operating dist. (S _n) ¹⁾	Mounting	Ordering no. Transistor NPN/cable Make & Break switching	Ordering no. Transistor PNP/cable Make & Break switching
M18	12 mm	Non-flush	CB18CLN12NA	CB18CLN12PA

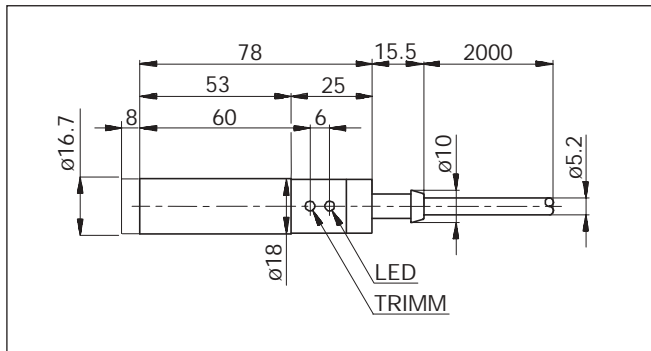
¹⁾ Object: Grounded steel plate

Specifications

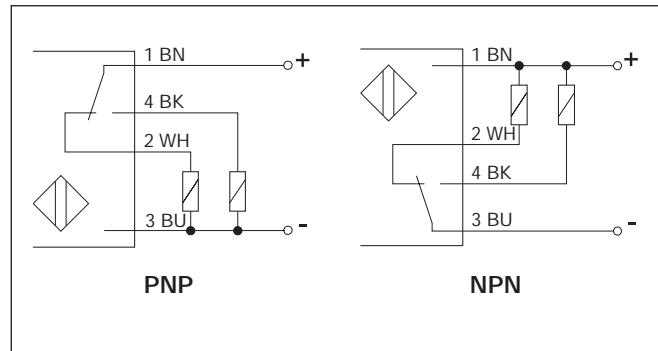
Rated operating dist. (S_n) CB18CLN12	3 to 12 mm factory set at 12 mm	Protection	Reverse polarity, short-circuit, transients
Sensitivity	Adj. 270° turn pot. meter	Environment Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Effective operation dist. (S_r)	0.9 x S _n ≤ S _r ≤ 1.1 x S _n	Temperature Operating temperature Storage temperature	-25° to +80°C (-13° to +176°F) -40° to +85°C (-40° to +185°F)
Usable operation dist. (S_u)	0.8 x S _r ≤ S _u ≤ 1.2 x S _r	Housing material Body Front Cable end	Grey, thermoplastic polyester Grey, polyester Polyester
Repeat accuracy (R)	≤ 5%	Connection Cable	Grey, 2 m, 2 x 0.5 mm ² Oil proof PVC
Hysteresis (H)	4 to 20% of sensing distance	Weight Cable version	110 g
Rated operational volt. (U_B)	10 to 40 VDC (ripple incl.)	Approvals	UL, CSA
Ripple	≤ 10%	CE-marking	Yes
Rated operational current (I_e) Continuous	≤ 200 mA		
No load supply current (I_o)	≤ 10 mA		
Voltage drop (U_d)	≤ 2.5 VDC at max. load		
Protection	Transients		
Power ON delay	≤ 100 ms		
Freq. of operating cycles (f)	30 Hz		
Indication for output ON	LED, yellow		



Dimensions



Wiring Diagrams

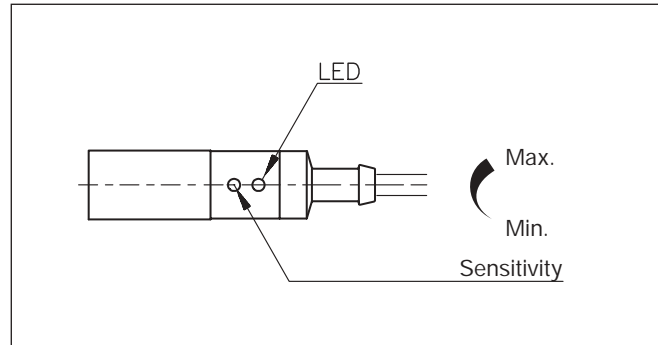


Adjustment Guide

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: 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>
---	---	---	--