



# CL

## 1 or 2 level electrodes conductivity level switch



### Technical data

Power supply:	24 VAC/DC (CL-A)
Power consumption:	2VA / 1,8W max
Electrode voltage:	5 VAC max
Electrode current:	0,1 mA max
Sensitivity:	0-500Ω / 0-250 KΩ (Sens trimmer)
Minimum conductivity:	4 μS
Storage temperature:	from -30 to +80°C
Working temperature:	from -20 to +60°C
Relative humidity:	from 0 to 85%, no condensate
Output:	2 SPDT relays
Contact rating:	7A @ 250 VAC (resistive load) 3A @ 230 VAC (single-phase motor)
Relay switching delay:	Delay trimmer
Visual signalling:	Green LED → Power supply Red LED → Level threshold
Protection:	IP20
Installation:	35 mm DIN rail
Dimensions:	90(H) x 35(L) x 60(P) mm

**CE** mark according to *Directive 89/336/CEE*, complies with the following harmonised regulations: *EN50081-1, EN 50082-2, EN55022, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11* and *Low Voltage Directive 73/23/CEE* and subsequent modifications.

### Overview

CL sense liquid level detecting conductivity between two electrodes installed in a tank to control and a common reference electrode.

When liquid reaches electrodes, a current flows between them causing instrument intervention. The voltage between electrodes is alternate, to avoid electrolysis phenominal in liquid and electrodes corrosion.

### Working mode

While instrument is not powered, use a small tool to change switch position from CL-2 (2 independent level electrodes) to CL-1 mode (1 level electrode or 2 electrodes differential for filling/emptying).

### Operation and calibration

When liquid doesn't touch the electrode, relays are de-energized and so the red LEDs on front are off. When liquid reaches electrode, relays energize and red LEDs turn on.

To calibrate sensibility, move SENS trimmer counter-clockwise to minimum and add liquid until it reach the electrode. Then slowly turn the trimmer clockwise until liquid is detected. In order to have a sensibility margin, turn again the trimmer clockwise for 10 -15% rotation.

For a correct installation in the cabinet board, the instrument must be about 1cm far from other instruments.

### Delay adjustment and foam presence

It is possible to adjust switching delay time when fluid level change. **Increasing delay avoid unwanted level change detection due to surface waving or foam presence.**

Rotating DELAY trimmer counter-clockwise until you reach lowest point, delay is :

- From N.O. to N.C. : 0,3 sec (level increase)
- From N.C. to N.O. : 1,5 sec (level decrease)

Rotating DELAY trimmer clockwise until you reach highest point, delay is :

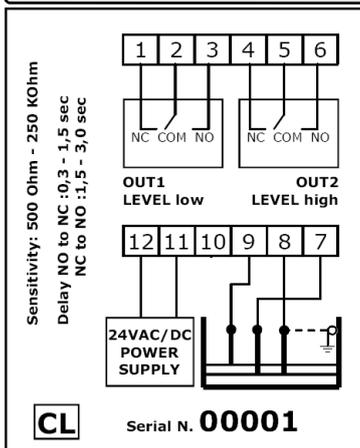
- From N.O. to N.C. : 1,5 sec (level increase)
- From N.C. to N.O. : 3,0 sec (level decrease)

Intermediate trimmer position change delay time in linear mode between minimum and maximum.

### Warranty

The warranty is valid for 12 months from purchase, and expires if instrument is improperly used or not correctly installed on system.

### Electrical connections and applications



CL level switch is capable of checking conductivity between one or two level electrodes connected at terminal (7) and (9) and a common reference electrode or the tank metal body, connected at terminal (8).

In CL-2 mode output OUT1 is linked at electrode connected at terminal (7), while OUT2 is linked at electrode connected at terminal (9).

In CL-1 mode can operate with a single level electrode connected at terminal (9) or manage a pump/valve for maintaining liquid level between a low level (7) and high level (9). In both case connect reference electrode or tank metal body to terminal (8). When liquid touch electrode or pump is working, both OUT1 and OUT2 are activated at the same time.



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