

CONDUCTIVITY LEVEL CONTROL FOR LIQUIDS CL1001-CL1002 SERIES



TECHNICAL CHARACTERISTICS

Supply voltage type CL1001/O	24-110-220V 50-60Hz
Supply voltage type CL1001/U	24-110/220V 50-60Hz
Supply voltage type CL1002/U	24-110-220V 50-60Hz
Voltage limits	± 15%
Voltage between the electrodes	12Vac
Absorption	3.5VA
Relay output with 1 pole changeover	5 A a 220 Vac
Relay output with 2 pole changeover	5 A a 220 Vac
Temperature limits	- 20 + 60°C
IP rating	IP40
Sensitivity adjustment	2÷40 KOhm (On request higher)
LED	relay ON-OFF

WORKING PRINCIPLE

The CL 1001 - CL 1002 level controls work on the resistivity of liquids and sense the level via the electrodes placed in the conductive liquids. The presence of liquid between the electrode (or electrodes) and the metal surface of the container (or earth electrode) causes the functioning of the electronic circuit in the control unit and the subsequent commutation of the output relay.

It is also possible to sense solids as long as the conductivity of the material is within the range of the unit which in its standard form reaches 40 KOhm.

Other models which can sense materials with a resistivity up to 1 MOhm are available on request. The low alternating voltage and current applied to the electrodes and the isolation level between them guarantees a safe operation.

They are used as level controls in tanks, heaters deep wells and other containers and as alarm units for overfilling, presence or absence in any position and the checking of ice accumulation.

The unit is supplied in single voltage form with an octal base and is interchangeable with most of the units available on the market. It can also be supplied in a multivoltage version with undecal base.

Type CL1001/O: Single voltage level control with power supply at 24Vac, or 110Vac, or 220Vac supplied with octal base. It is the most economic type of this series.

Type CL1001/U: Multi voltage level control either at 110Vac, or 220Vac, by changing the wiring diagram. It is supplied with undecal base it is also available at 24Vac single voltage.

Type CL1002/U: Single voltage level control available with power supply at 24Vac or 110Vac or 220Vac, it is supplied with undecal base and relay output with 2 pole changeover 5A at 220Vac.

R5 ANTI-WAVE DELAY: On request it is possible to delay for 5 sec. (non-adjustment) so the wave created by the liquid does not cause commutation.

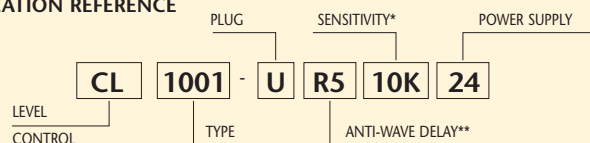
RANGE OF SENSITIVITY: All type are supplied with sensitivity adjustment and are also available with special sensitivity, see table below.

SPECIAL SENSITIVITY

REFERENCE FOR ORDERING

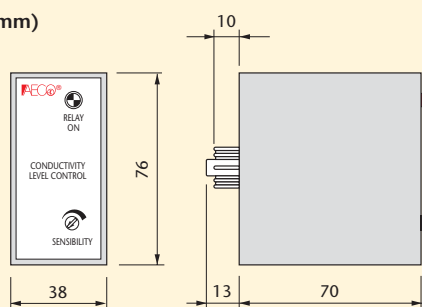
200 ohm ÷ 10 Kohm	10 K
2 Kohm ÷ 40 Kohm	40 K (standard)
10 Kohm ÷ 200 Kohm	200 k
10 Kohm ÷ 500 Kohm	500 k
10 Kohm ÷ 1000 Kohm	1000 K

IDENTIFICATION REFERENCE



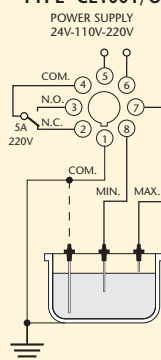
* Specify only if different from the standard ** Specify only if requested.

DIMENSIONS (mm)

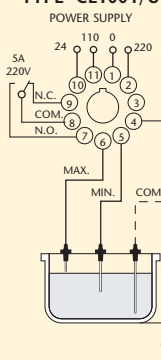


WIRING DIAGRAMS

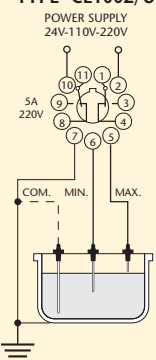
TYPE CL1001/O



TYPE CL1001/U



TYPE CL1002/U



ONE LEVEL CONTROL

Use a reference probe or the tank earthing and a level probe. (To be connected to the terminal that corresponds to the max. level).

When the liquid leaves the probe level max. the relay switches in order to permit the tank to be filled. (Use output contact N.C. of relay).

TWO LEVEL CONTROL (Filling)

Use a reference probe or the tank earthing, min. level probe and max. level probe. Tank filling begins the liquid leaves the minimum probe and switches off when the max. probe is reached. (Use output contact N.C. of relay).

TWO LEVEL CONTROL (To empty)

Use a reference probe or the tank earthing, min. level probe and max. level probe. The emptying begins when the liquid reaches the max. probe and switches off when the liquid abandons the min. probe. (Use output contact N.O. of relay).

ELECTRODE HOLDER FOR CONDUCTIVITY LEVEL CONTROL



SPECIFICATIONS

These units are supplied with electrodes which are suitable for the sensing of conductive liquids, to be used with level controls CL1001 and CL1002.

They consist of a stainless steel electrode support or plastic material and a separate electrode which can be supplied with different length according to the different requirements.

ONE POLE DETECTOR TYPE CL/1N

This one pole detector is used for level controls of wells or tanks.

It consists of a stainless steel electrode AISI316, a polycarbonate electrode holder and a cable gland. The sealing ring placed on the lower part and gland prevents the liquid from entering into contact with the cable connection causing subsequent oxidation.

ONE POLE DETECTOR TYPE CL-A

This one pole detector is used for level controls in boilers, autoclaves in all conditions where there are pressure (12 kg/cmq) and high temperatures (max. 200°C).

It consists of a stainless steel holder AISI 316 with a rubber cap of protection, insulating material of teflon and stainless steel electrode support AISI 316.

TWO POLE DETECTOR TYPE CLK-A

The electrode holder is provided with a three pole connector for the electrical connection, two poles are connected to the electrode and the third, earth pole, is connected to the thread stainless steel holder. Using this method if the tank is in metallic material it is not necessary to install a earthing probe simplifying the wiring diagrams. It consists of a stainless steel holder AISI 316, provided with connector, supported by a teflon coated element and electrode holder AISI 316.

Max. working pressure: 12 kgs cmq and max. temperature at 100°C limited by the presence of the connector in plastic material which guarantees an IP65 rating with output cable of dia. ≥6mm.

THREE POLE DETECTOR TYPE CL3-A

The electrode holder is thermosetting plastic material with terminal block cover and three nickelled brass holders with M6 plug for electrode 6 mm dia.



(these are not included).

It is supplied with adapter to be used with standard electrode 4 mm dia. It is suitable for temperature up to 130°C and non-pressure application.

On request a metallic bracket is available for flange fixing to electrode holder (type FCL3).

ELECTRODES

They are supplied with five different lenght: 100, 300, 500, 700, 1000 mm, 4 mm dia., stainless steel AISI 316. They can be used together with CL-A, CLK-A and CL3-A with special adapter.

When ordering add "E" to the length required (e.i. E-100 = 100 mm length).

DIMENSIONS (mm)

