

Conductive Sensors 2-point level controller Type CL with potentiometer

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- Conductive level controller
- Sensitivity adjustment from 250 Ω to 500 K Ω
- For filling or emptying applications
- Low-voltage AC electrodes
- Easy installation on DIN rails or with 11 pin circular plug
- Rated operational voltage:
24 VAC/DC, 115 VAC or 230 VAC
- Output 2 x 8A/250 VAC DPDT relay
- LED indication for: Output ON and Power ON



Product Description

μ -Processor based level controller for liquids with a wide sensitivity range (like sewage water, chemicals, salt water etc.).

Max./min. control of charging/discharging. The sensitivity is adjustable by means of the potentiometer and the rotary switch.
2 x 8A DPDT relay output.

Ordering Key

CLD2EA1CM24

Conductive level
DIN rail or plug mounting
No of inputs
Charge/discharge
Adjustment potentiometer
Output
Relay DPDT
Power supply

Type Selection

Mounting	Relay	Ordering no. Supply: 24 VAC/DC	Ordering no. Supply: 115 VAC	Ordering no. Supply: 230 VAC
DIN-rail 11-p circular plug	DPDT	CLD2EA1CM24 CLP2EA1CM24	CLD2EA1C115 CLP2EA1C115	CLD2EA1C230 CLP2EA1C230

Specifications

Rated operational voltage (U_B) Pin 2 & 10 Supply class 2 Rated insulation voltage Rated impulse withstand voltage	230 115 24	195 to 265 VAC, 45 to 65 Hz 98 to 132 VAC, 45 to 65 Hz 19.2 to 28.8 VAC/DC <2.0 kVAC (rms) 4 kV (1.2/50 μ s) (line/neutral)	Ranges H (High sensitivity)	50 K Ω to 500 K Ω , $C_F^* = 1.0$ nF
Rated operational power AC supply AC/DC supply		5 VA 5 VA / 5 W	Dielectric voltage	>2.0 KVAC (rms) (contacts / electronics)
Delay on operate (t_V)		< 300 mS	Rated impulse withstand volt.	4 kV (1.2/50 μ s) (contacts / electronics) (IEC 664)
Outputs Rated insulation voltage		250 VAC (rms) (cont./elec.)	Operating frequency (f) Relay output	0.5 HZ
Relay Rating (AgCdO) Resistive loads Small induc. Loads Mechanical life (typical) Electrical life (typical)	AC1 DC1 AC15 DC13 AC1	μ (micro gap) 8 A / 250 VAC (2500 VA) 1 A / 250 VDC (250 W) or 10 A / 25 VDC (250 W) 0,4 A / 250 VAC 0,4 A / 30 VDC $\geq 30 \times 10^6$ operations @ 18'000 imp/h > 250'000 operations	Response time OFF-ON (t_{on}) ON-OFF (t_{off})	1 s 1 s
Level probe supply		Max. 5 VAC	Environment Overvoltage category Degree of protection Pollution degree	III (IEC 60664) IP 20 (IEC 60529, 60947-1) 2 (IEC 60664/60664A, 60947-1)
Level probe current		Max. 2 mA	Temperature Operating Storage	-20° to +50°C (-4° to + 122°F) -50° to +85°C (-58° to +185°F)
Sensitivity Ranges L (Low sensitivity) Ranges S (Standard sensitivity)		250 Ω to 500K Ω Factory settings standard range "S" 100K Ω 250 Ω to 5 K Ω , $C_F^* = 4.7$ nF 5 K Ω to 100 K Ω , $C_F^* = 2.2$ nF	Housing material CLP CLD	NORYL PPO, light grey ABS VO, light grey
			Screw type	M3
			Tightening torque min/max	0.4Nm/0.8Nm
			Weight AC supply AC/DC supply	200 g 125 g
			UL Approvals	cURus
			CE marking	Yes

* C_F = maximum Cable Capacitance



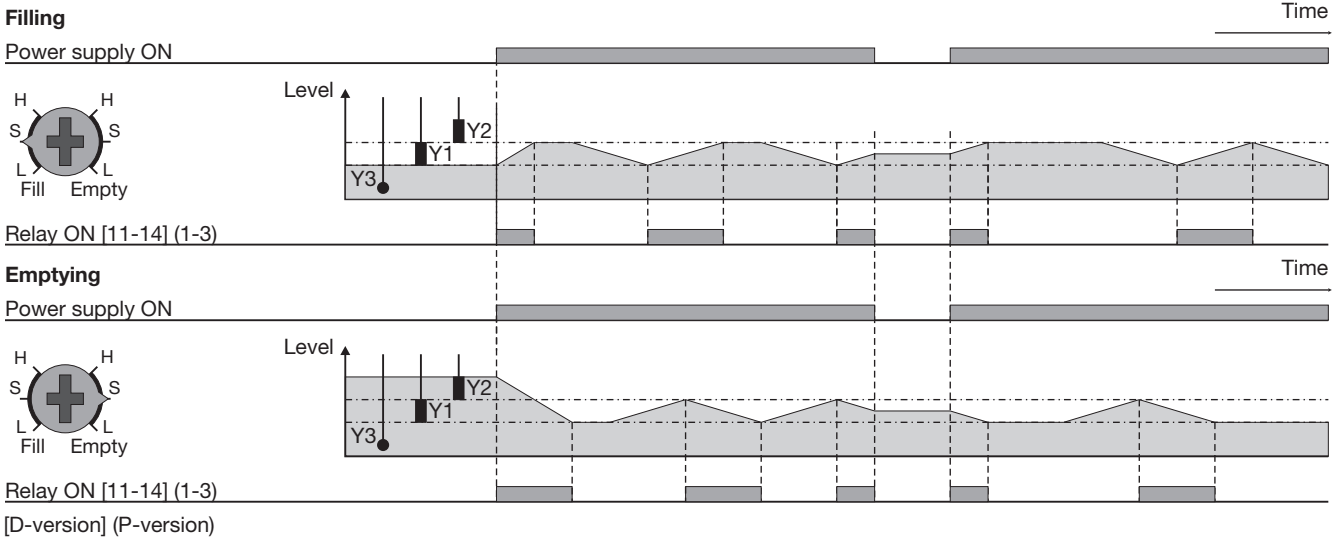
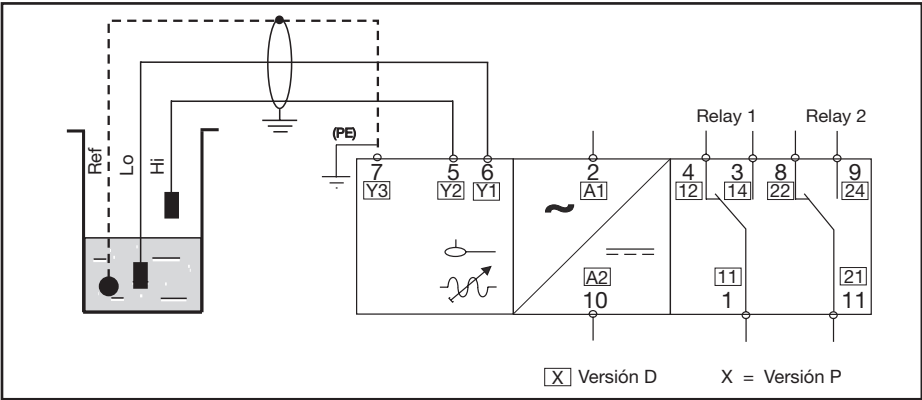
Mode of Operation

Connection cable
2, 3, or 4 conductor PVC cable, normally screened. Cable length: max. 100 m. The resistance between the cores and the ground must be at least 500k. Normally, it is recommended to use a screened cable between probe and controller, e.g. where the cable is placed in parallel to the load cables (mains). The screen has to be connected to Y3 (reference).

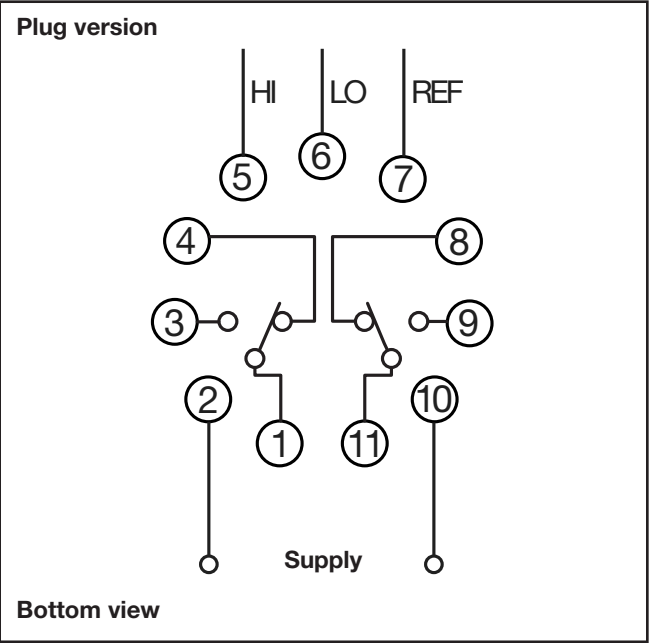
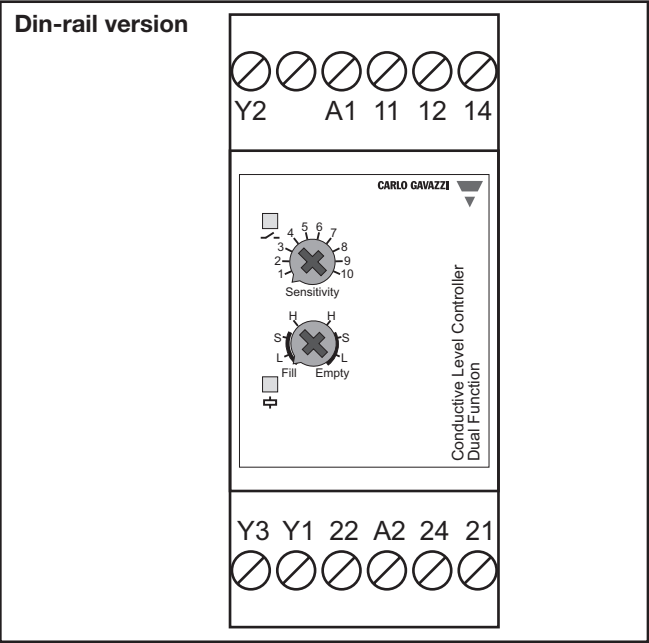
Example 1
The diagram shows the level control connected as max. and min. control. The relays react to the low alternating current created when the

electrodes are in contact with the liquid. The reference (Ref) must be connected to the container or if the container consists of a non-conductive material, to an additional electrode. (To be connected to pin Y3). (In the diagram this electrode is shown by the dotted line).

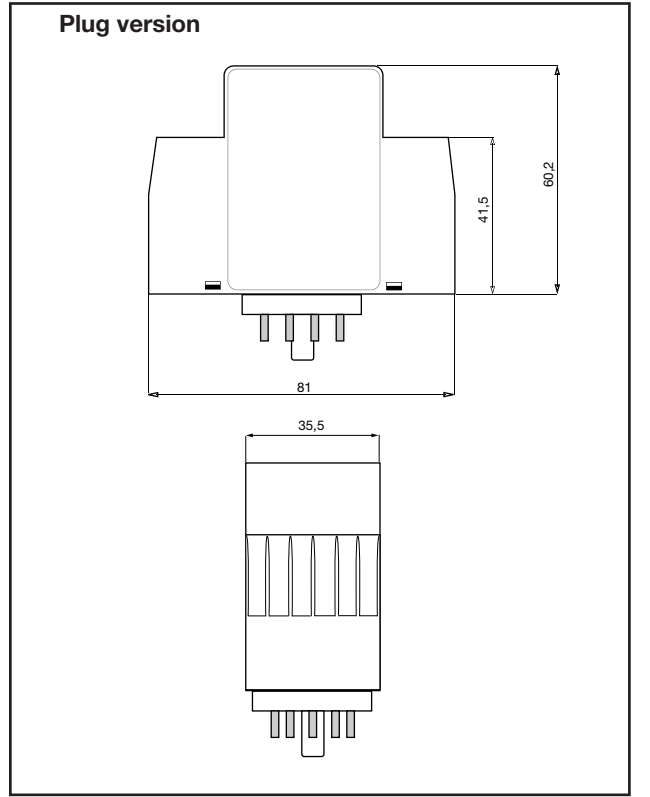
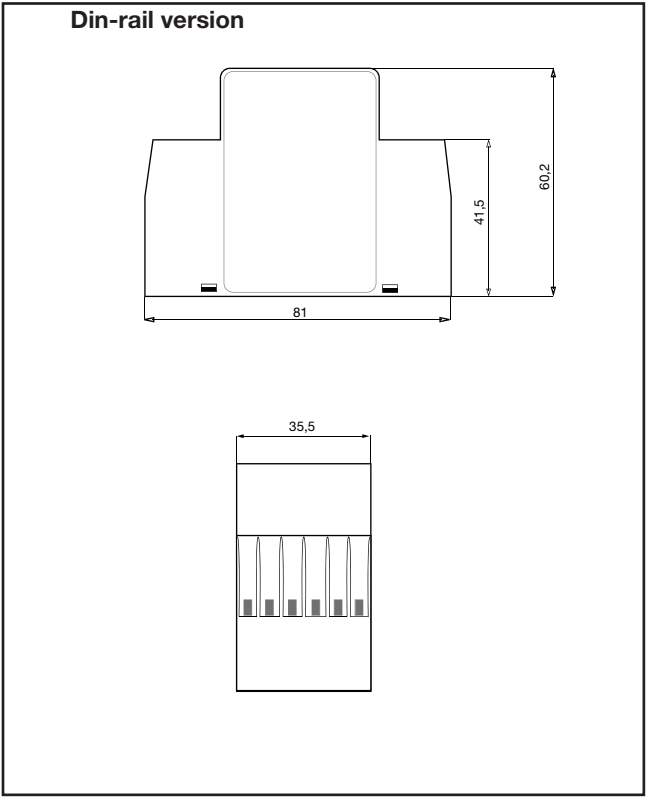
NB!
If only one level detection is required - interconnect the two inputs Y1 and Y2.



Wiring Diagram



Dimension Drawings



Accessories

- 11 pole circular socket ZPD11
- Retaining spring HF

Delivery Contents

- Amplifier
- Packaging: Carton box
- Manual