

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
1 relay 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	DPDT	CLD2EA1CM24	CLD2EA1C115	CLD2EA1C230
11-p circular plug		CLP2EA1CM24	CLP2EA1C115	CLP2EA1C230

Specifications

Rated operational voltage (U_B)		Ranges S (Standard sensitivity) Ranges H (High sensitivity)	5 KΩ to 100 KΩ, C _F = 2.2 nF* 50 KΩ to 500 KΩ, C _F = 1.0 nF*	
Pin 2 & 10	230			
	115			
Supply class 2	24			
Rated insulation voltage				
Rated impulse withstand voltage		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 μs) (line/neutral)		
Rated operational power		5 VA 5 VA / 5 W		
Delay on operate (t_V)		< 300 mS		
Outputs		250 VAC (rms) (cont./elec.)		
Relay Rating (AgCdO)		μ (micro gap) 8 A / 250 VAC (2500 VA) 1 A / 250 VDC (250 W) or 10 A 25 VDC (250 W)		
Resistive loads	AC1 DC1	0,4 A 250 VAC 0,4 A / 30 VDC		
Small induc. Loads	AC15 DC13	≥ 30 x 10 ⁶ operations @ 18'000 imp/h > 250'000 operations		
Mechanical life (typical)				
Electrical life (typical)	AC1			
Level probe supply		Max. 5 VAC		
Level probe current		Max. 2 mA		
Sensitivity		250Ω to 500KΩ Factory settings standard range "S" 100KΩ Ranges L (Low sensitivity) 250 Ω to 5 KΩ, C _F = 4.7 nF*		
		Ranges S (Standard sensitivity) Ranges H (High sensitivity)		
		5 KΩ to 100 KΩ, C _F = 2.2 nF* 50 KΩ to 500 KΩ, C _F = 1.0 nF*		
		Dielectric voltage		
		>2.0 KVAC (rms) (contacts / electronics)		
		Rated impulse withstand volt.		
		4 kV (1.2/50 μS) (contacts / electronics) (IEC 664)		
		Operating frequency (f)		
		Relay output 0.5 HZ		
		Response time		
		OFF-ON (t _{on}) 1 s ON-OFF (t _{off}) 1 s		
		Environment		
		Overvoltage category III (IEC 60664) Degree of protection IP 20 /IEC 60529, 60947-1) Pollution degree 2 (IEC 60664/60664A, 60947-1)		
		Temperature		
		Operating -20° to +50°C (-4° to + 122°F) Storage -50° to +85°C (-58° to +185°F)		
		Housing material		CLP CLD NORYL PPO, light grey ABS VO, light grey
		Weight		
		AC supply 200 g AC/DC supply 125 g		
		UL Approvals		cULus UL508, UL325, CSA-C22.2 No.247
		CE marking		
		Yes		

* C_F = maximum Cable Capacitance



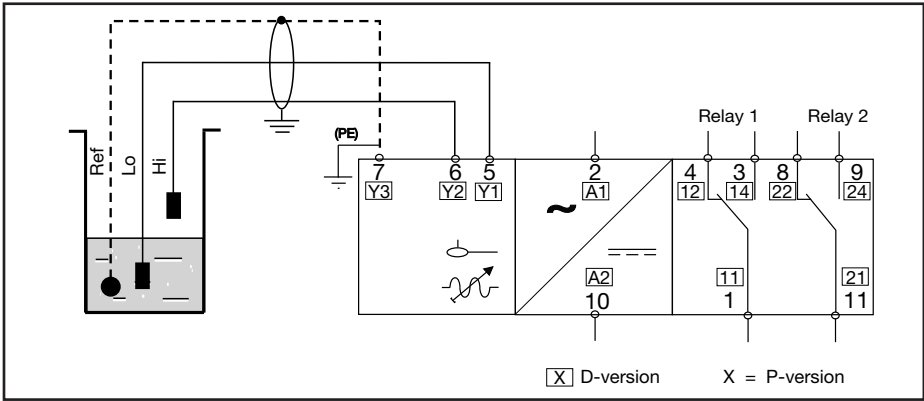
Mode of Operation

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).

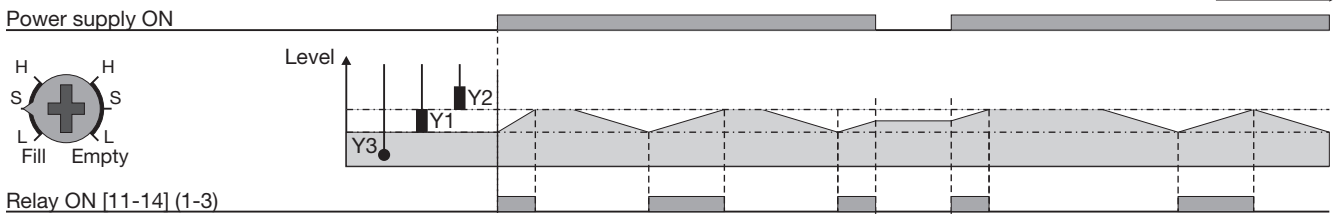
Example 1
The diagram shows the level control connected as max. and min. control. The relays react to the low alternating current created when the

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).

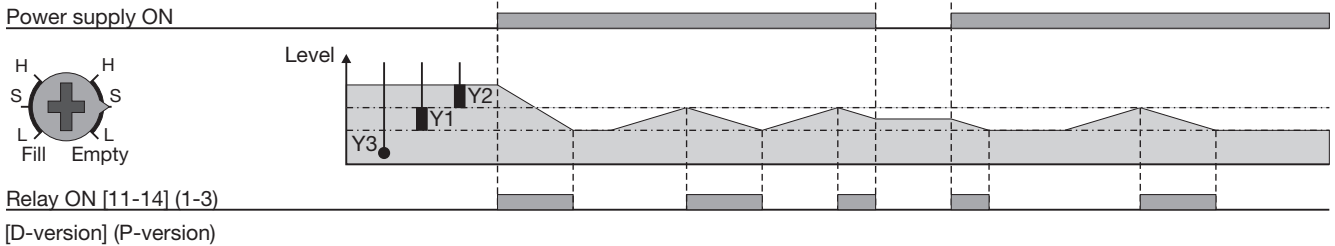
NB!
If only one level detection is required - interconnect the two inputs Y1 and Y2.



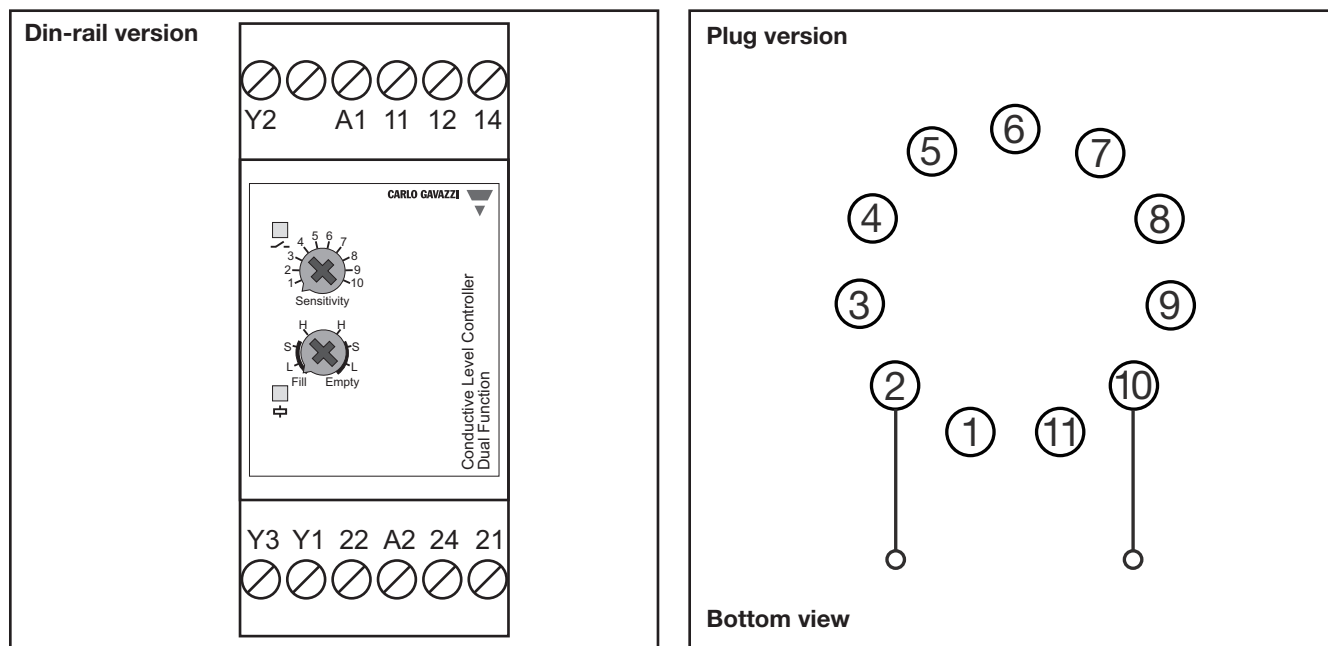
Filling



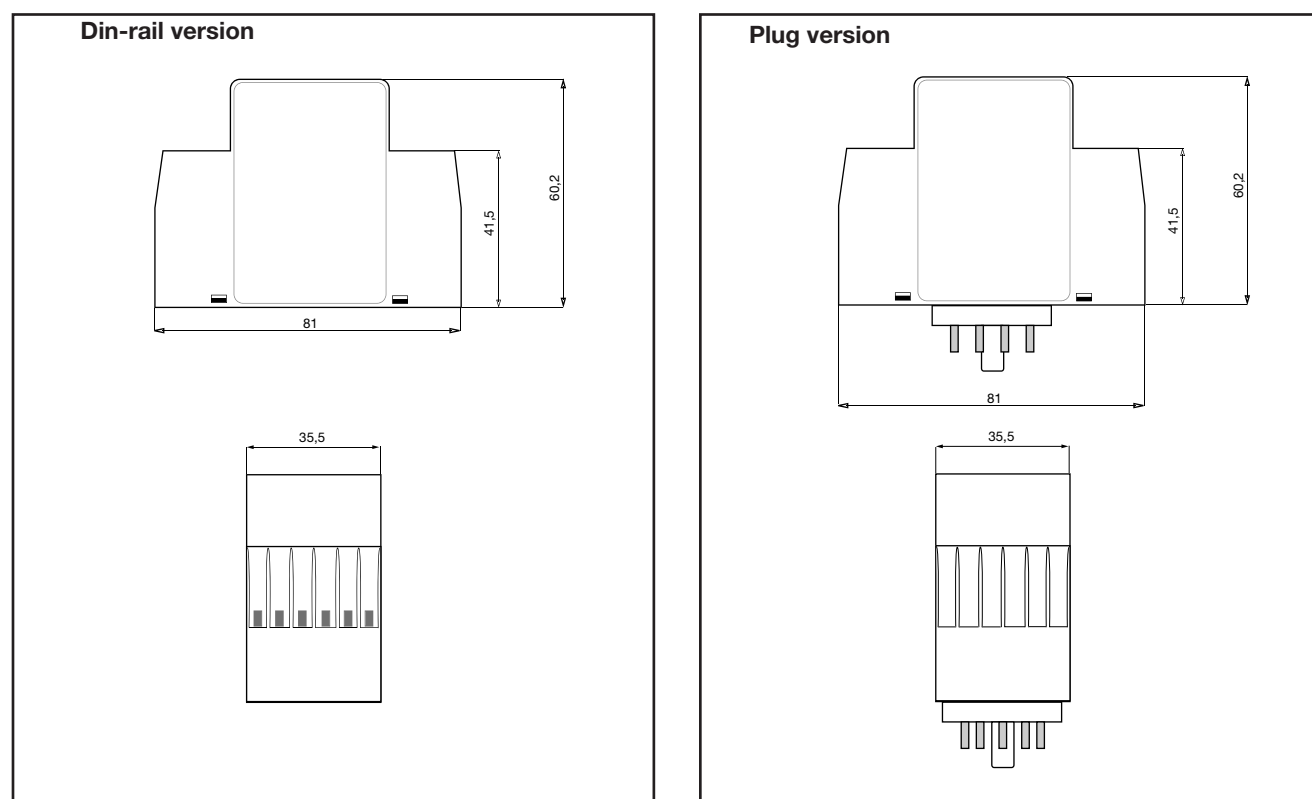
Emptying



Wiring Diagram



Dimension Drawings



Accessories

- 11 pole circular socket ZPD11
- Retaining spring HF

Delivery Contents

- Amplifier
- Packaging: Carton box
- Manual