

Conductive Sensors 2-point level controller Type CL with potentiometer

CARLO GAVAZZI



- Conductive level controller
- Sensitivity adjustment from 250 Ω to 500 KΩ
- 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) | 5 KΩ to 100 KΩ, C _F = 2.2 nF* |
| Pin 2 & 10 | 230 | 195 to 265 VAC, 45 to 65 Hz | Ranges H (High sensitivity) | 50 KΩ to 500 KΩ, C _F = 1.0 nF* |
| | 115 | 98 to 132 VAC, 45 to 65 Hz | Dielectric voltage | >2.0 KVAC (rms) (contacts / electronics) |
| Supply class 2 | 24 | 19.2 to 28.8 VAC/DC | Rated impulse withstand volt. | 4 kV (1.2/50 μs) (contacts / electronics) (IEC 664) |
| Rated insulation voltage | | <2.0 kVAC (rms) | Operating frequency (f) | Relay output |
| Rated impulse withstand voltage | | 4 kV (1.2/50 μs) (line/neutral) | Response time | OFF-ON (t _{on}) |
| Rated operational power | | | ON-OFF (t _{off}) | 1 s |
| AC supply | | 5 VA | Environment | |
| AC/DC supply | | 5 VA / 5 W | Overvoltage category | III (IEC 60664) |
| Delay on operate (t_v) | | < 300 mS | Degree of protection | IP 20 / IEC 60529, 60947-1 |
| Outputs | | | Pollution degree | 2 (IEC 60664/60664A, 60947-1) |
| Rated insulation voltage | | 250 VAC (rms) (cont./elec.) | Temperature | |
| Relay Rating (AgCdO) | | | Operating | -20° to +50°C (-4° to + 122°F) |
| Resistive loads | AC1 | μ (micro gap) | Storage | -50° to +85°C (-58° to +185°F) |
| | DC1 | 8 A / 250 VAC (250 VA) | Housing material | |
| | | 1 A / 250 VDC (250 W) | CLP | NORYL PPO, light grey |
| | | or 10 A 25 VDC (250 W) | CLD | ABS VO, light grey |
| Small induc. Loads | AC15 | 0,4 A 250 VAC | Weight | |
| | DC13 | 0,4 A / 30 VDC | AC supply | 200 g |
| Mechanical life (typical) | | ≥ 30 x 10 ⁶ operations | AC/DC supply | 125 g |
| | | @ 18'000 imp/h | UL Approvals | cULus |
| Electrical life (typical) | AC1 | > 250'000 operations | | UL508, UL325, CSA-C22.2 No.247 |
| Level probe supply | | Max. 5 VAC | CE marking | Yes |
| 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* | | |

*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

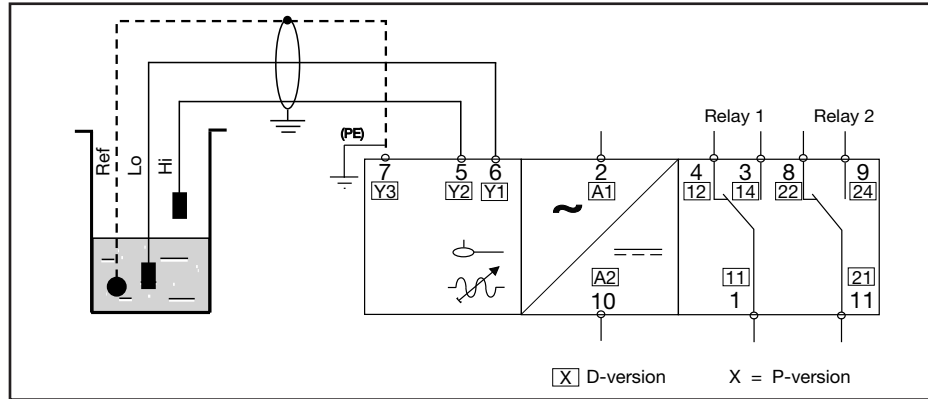
The diagram shows the level control connected as max. and min. control. The relays react to the low alternating current created when the

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).

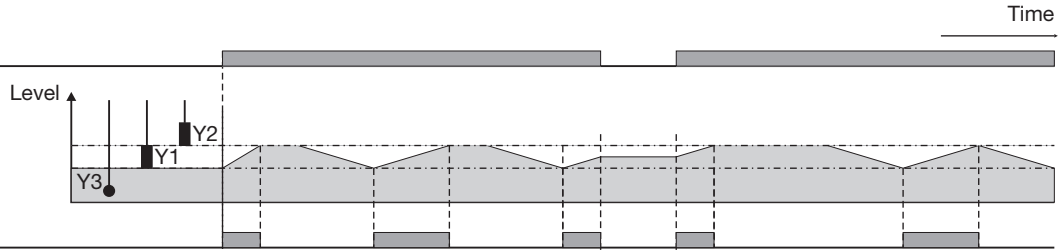
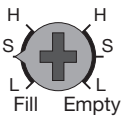
NB!

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



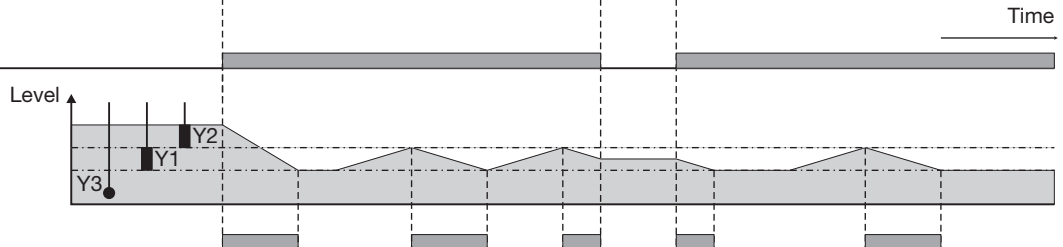
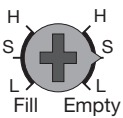
Filling

Power supply ON



Emptying

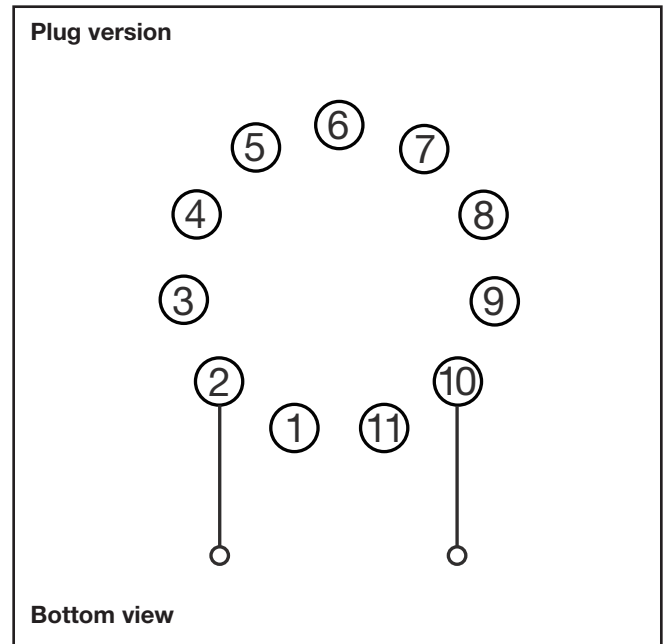
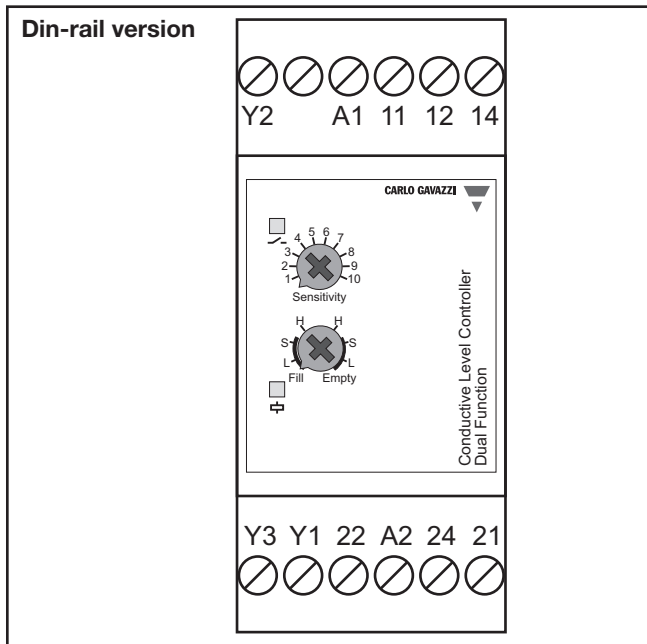
Power supply ON



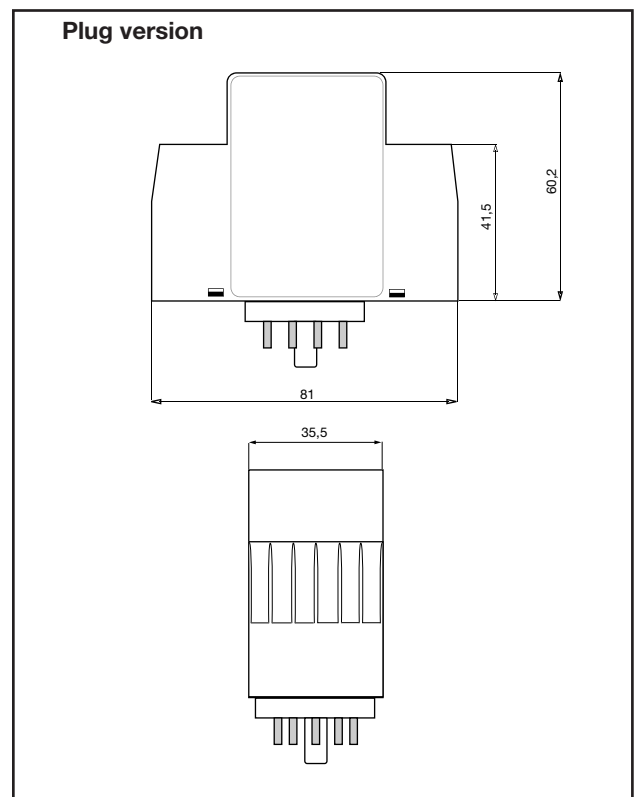
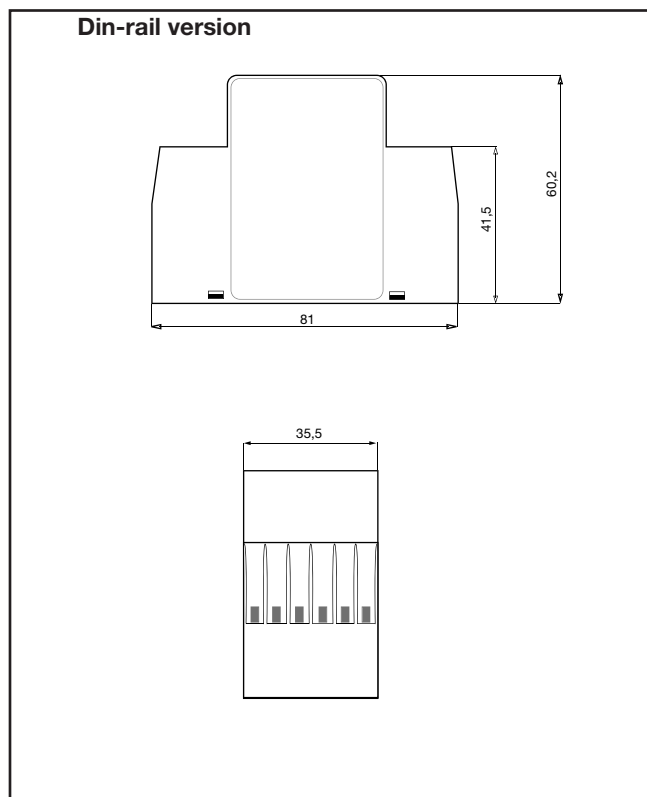
Relay ON [11-14] (1-3)

[D-version] (P-version)

Wiring Diagram



Dimension Drawings



Accessories

- 11 pole circular socket ZPD11
- Retaining spring HF

Delivery Contents

- Amplifier
- Packaging: Carton box
- Manual