Conductive Sensors
2-point level controller
Type CL with potentiometer

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.

Type Selection

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<tbody>
<tr>
<td>DIN-rail</td>
<td>DPDT</td>
<td>CLD2EA1CM24</td>
<td>CLD2EA1C115</td>
<td>CLD2EA1C230</td>
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<tr>
<td>11-p circular plug</td>
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<td>CLP2EA1CM24</td>
<td>CLP2EA1C115</td>
<td>CLP2EA1C230</td>
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Specifications

Rated operational voltage (U<sub>A</sub>)
- Pin 2 & 10: 24 195 to 265 VAC, 45 to 65 Hz
- 115: 98 to 132 VAC, 45 to 65 Hz
- Supply class 2: 24 19.2 to 28.8 VAC/DC
- Rated insulation voltage: <2.0 kVAC (rms)
- Rated impulse withstand voltage: 4 kV (1.2/50 µs) (line/neutral)

Rated operational power
- AC supply: 5 VA
- AC/DC supply: 5 VA / 5 W
- Delay on operate (t<sub>B</sub>): < 300 ms

Outputs
- Rated insulation voltage: 250 VAC (rms) (cont./elec.)

Relay Rating (AgCdO)
- Resistive loads: AC1 8 A / 250 VAC (2500 VA)
- DC1 1 A / 250 VDC (250 W)
- Small induc. loads: AC15 0.4 A / 250 VAC
- DC13 0.4 A / 30 VDC
- Mechanical life (typical): ≥ 30 x 10<sup>6</sup> operations @ 18'000 imp/h
- Electrical life (typical): > 250'000 operations

Level probe supply
- Max.: 5 VAC

Level probe current
- Max.: 2 mA

Sensitivity
- Ranges L (Low sensitivity): 2500 to 500KΩ
- Factory settings standard range “S” 100KΩ
- Ranges S (Standard sensitivity): 250 Ω to 5 KΩ, C<sub>r</sub>* = 4.7 nF
- 5 KΩ to 100 KΩ, C<sub>r</sub>* = 2.2 nF

Specifications are subject to change without notice (14.12.2015)
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 500 k. 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.

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Filling
Power supply ON

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<td>S</td>
<td>S</td>
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<tr>
<td>L</td>
<td>L</td>
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<tr>
<td>Y3</td>
<td>Y3</td>
</tr>
<tr>
<td>Y1</td>
<td>Y2</td>
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Relay ON [11-14] (1-3)

Emptying
Power supply ON

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<td>S</td>
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<td>L</td>
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<tr>
<td>Y3</td>
<td>Y3</td>
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<tr>
<td>Y1</td>
<td>Y2</td>
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Relay ON [11-14] (1-3)

[D-version] (P-version)
Wiring Diagram

**Din-rail version**

```
Y2 A1 11 12 14
```

**Plug version**

```
HI LO REF
5 6 7
4 8
3 9
2 1 11 10
```

**Dimension Drawings**

**Din-rail version**

![Dimension Drawing]

**Plug version**

![Dimension Drawing]

**Accessories**

- 11 pole circular socket ZPD11
- Retaining spring HF

**Delivery Contents**

- Amplifier
- Packaging: Carton box
- Manual