

# Level Monitor Type NS43V

## Switchgear-mount Housing

### NS43V



### Function

The NS level monitor is an electronic device for monitoring levels of conductive liquids.

The monitoring of the levels is effected vis electrodes, which are dipped or set free according to liquid level.

All conductive liquids can be monitored, preferably, however, water, also of different degree of hardness.

To adapt the relay to the conductivity of the liquid and to the capacitance of (long) cables, the switching limit can be adjusted app. 5 k $\Omega$  ... 250 k $\Omega$ . Thus it also is possible to tell between the liquid and foam over the liquid.

The NS unit protects aggregates and plants against dry running, overflow, leakage damages and unnecessary loss of liquids.

It controls and monitors levels of liquids in waste-water, pools, fish farms and wherever a certain level should be maintained or dosed.

Depending on the application and the set program, it controls the level between 2 or 3 electrodes by means of opening or closing dose or drain of a container.

The top and the lowest electrode protect from overflow or running dry.

An electrolytic corrosion of the electrodes as well as detonating gas production is excluded due to a AC current measuring path.

The universal supply voltage AC/DC 24-240 V allows to connect the relay to any common mains. The isolation between electronics (= electrodes) and supply voltage avoids malfunctions caused by potential spreading, also at DC-supplys.

- Monitoring of up to 4 levels
- 4 relays with change-over contacts (co)
- Sensitivity adjustable 5...250 k $\Omega$
- Switching delay of relays adjustable 0...10 s
- Switching-delay of alarms (on/off) adjustable 0...10 s
- Basic programs (selectable with DIP-switches) for various applications
- Universal supply voltage AC/DC 24-240 V
- Terminals pluggable
- Housing for DIN-rail or wall-mount,
- mounting height 55 mm, 70 mm wide

Order-number: **V223313**

### Technical Data

Supply voltage Us

AC/DC 24-240V, <3W, <6VA  
AC 20-264 V, DC 20,4-297 V,

Electrode connection  
max. voltage/current  
Sensitivity  
max. cable-length/capacity  
Hysteresis  
Switching delay

Niveauelektroden E1, E2, E3, E4, Bezug E0  
<3Veff / <100  $\mu$ A  
adjustable 5 k $\Omega$ ...250 k $\Omega$   $\pm$  25%  
5 k $\Omega$ /ca. 500m/100 nF, 250 k $\Omega$ /ca. 50m/10nF  
approx. 15% + 5 k $\Omega$   
adjustable 0,1...10 s

Relay output

Type 2 see "general technical informations"  
4 x 1 changeover-contact

Test conditions  
Rated ambient temperature

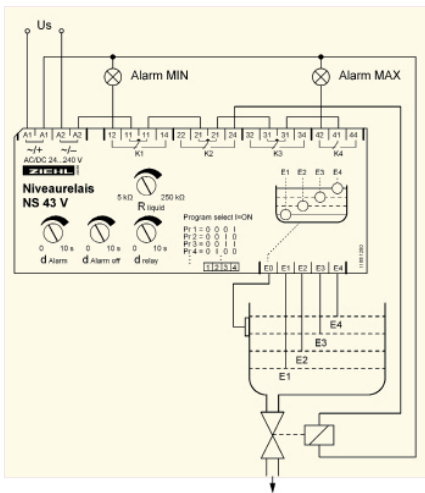
see "general technical informations"  
-20...+55°C

Dimensions h x b x d

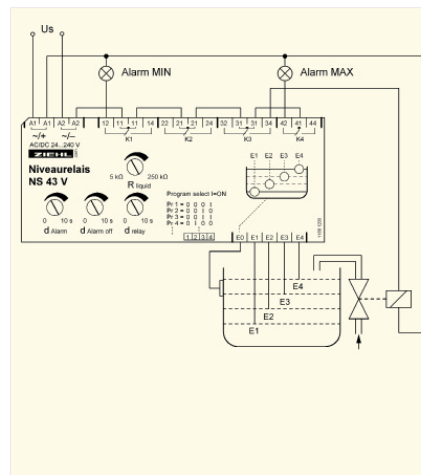
Design V6: 90 x 105 x 58 [mm], mounting height 55 mm

Protection housing / terminals  
Weight  
Attachment

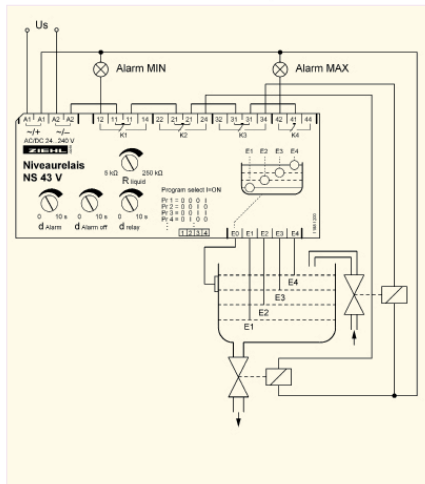
IP 30 / IP 20 (terminals pluggable)  
approx. 250 g  
On 35 mm DIN-rail or screws M4



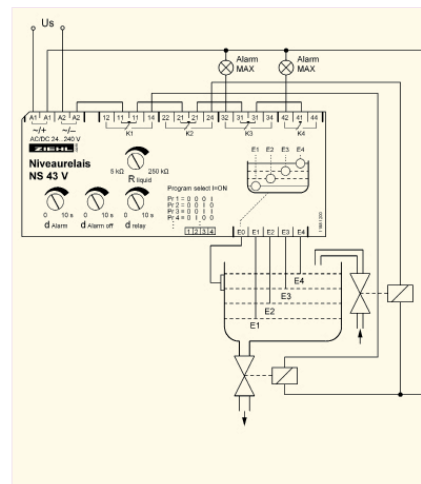
**Program 1**  
Control of dose or drain with 2 electrodes with 2 more electrodes to protect from overflow and running dry. The level swings between the 2 middle electrodes. Standard-program for levelling a liquid in a container.



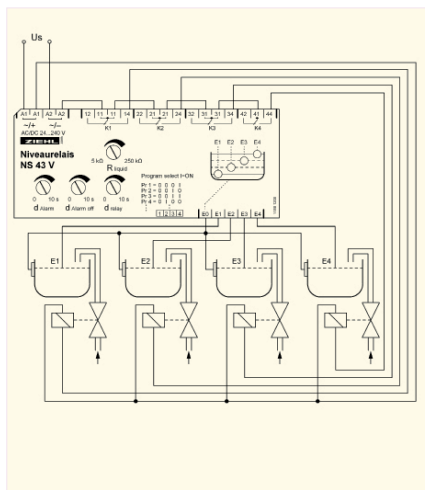
Example for dose-control



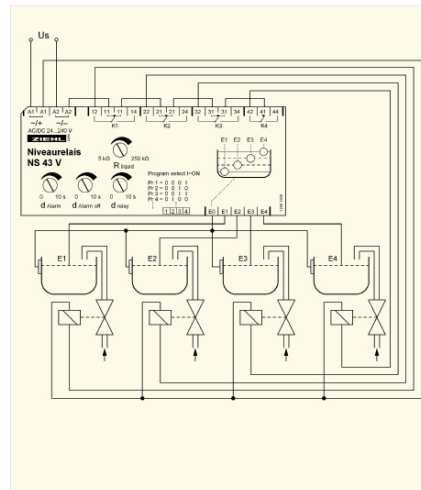
**Program 2**  
Control of dose and drain between 2 electrodes with 2 more electrodes to protect from overflow and running dry. Depending on if speed of dose or drain is higher, the level swings around the upper or the lower of the 2 middle electrodes.



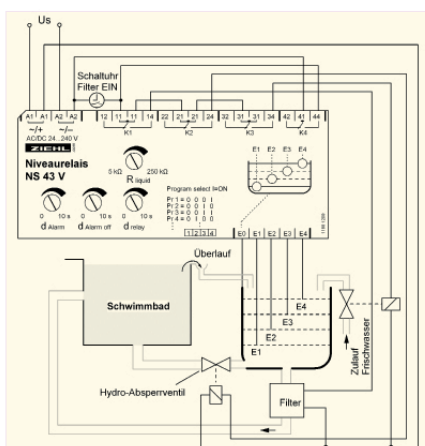
**Program 3**  
Control of dose and drain between 3 electrodes with 2 more electrodes to protect from overflow. The level swings between electrodes E1 and E3. Dose and drain are switched on at E2 and off at E3 respectively E1. Application e.g. in fish-farming.



**Program 4**  
Monitoring of 4 single levels with 4 electrodes. Relay OFF when relevant electrode is dipped. Program for controlling or monitoring of levels in 4 containers or for monitoring of up to 4 levels in 1 container.



**Program 5**  
Monitoring of 4 single levels with 4 electrodes. Relay ON when relevant electrode is dipped. Program for controlling or monitoring of levels in 4 containers or for monitoring of up to 4 levels in 1 container. E.G. monitoring of break of a pipe at 4 different points.



**Program 6**  
Pool control for overflow bassin with switching of hydro-lock valve, dosing of fresh water, emergency filter-on and protection from running dry.

Order-number:  
AC/DC 24-240 V  
V223313