

Function

The level control is built up in modern microprocessor technology and consists of:

- electronic control unit
- mini liquid level switch
- magnetic valve (optionally)

The waterproof miniature liquid level switch (IP67) does not cause any electrolyte formation in water. The sensor cable may be extended up to 100m whereas it is not necessary to adjust the electronics. The microprocessor controls the operate lag and the drop-out delay for the magnetic valve thus not causing a direct switching process with undulations; additionally short switching intervals are avoided. The liquid level switch is operated with safe extra-low voltage. The control unit itself has been produced according to the prevailing VDE regulations.

Technical specifications

Control	Dimensions:	140mm x 125mm x 80mm
	Operating voltage:	230V/50Hz
	Control power consumption:	ca. 1.5VA
	Breaking capacity:	max. 1.1kW (AC3)
	Turn-on delay:	16s
	Turn-off delay:	16s
Protection type:	IP 40	
Mini liquid level switch	Dimensions:	ø25mm x 56mm
	Cable length:	5m
	Operating voltage:	12V
	Protection type:	IP 67
Magnetic valve	Nominal width:	G½"
	Operating voltage:	230V/50Hz
	Nominal pressure:	0.5...10bar
	Electr. connection:	device plug according to DIN 43650
	Protection type:	IP 65 (with device plug)

Installation

The control unit has to be installed humidity protected, corresponding to its protection type. The power supply of the device has to be carried out via an all-pole main switch having a contact opening of at least 3mm.

Before opening the housing it is absolutely necessary to switch the device to zero potential.

The flow direction (arrow direction) as indicated on the magnetic valve is strictly to be observed!

The mini liquid level switch is fixed on the slide angle. Next the fixation bar is vertically fixed at the skimmer wall, roughly at the level of the required water level.

By moving the slide angle in the bar, the water level can be chosen.

The slide angle is fixed by fastening the grub screw. All parts easily fit into one another making use of force unnecessary.

Upon delivery the floater has been fixed on the guide so that the switch on point is down.

This is the normal case for water refilling in the swimming pool. If the floater is fixed, twisted by 180°, onto the guide, the switch on point is top and the switching function contrariwise (see switch symbols at the floater).

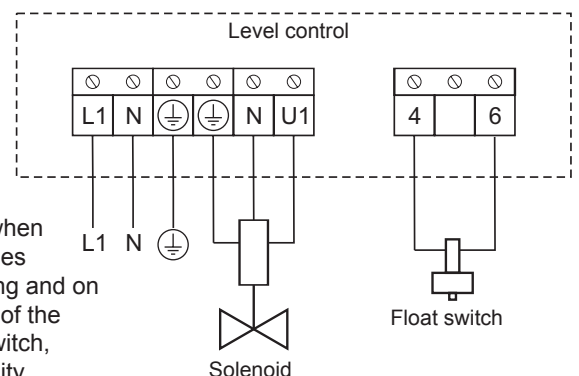
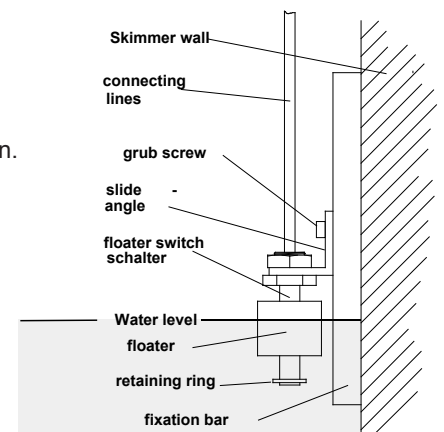
Electrical connection

The electrical connection may only be carried out by an accredited electrical specialist! The following connecting diagram and the corresponding prevailing safety regulations must be observed. The supplier of the electric device should provide an earth leakage circuit breaker with $I_{FN} \leq 30\text{mA}$.

The electric cable of the float switch can be extended up to a length of 100m by use of a shielded cable (2x0.75mm²). The shielding is to be connected with clamp 4. Please note, that it is absolutely necessary to carry out the connections water-proof. The connecting cable of the float switch must not be wired together with other live wires.

On finishing the installation the power supply may be switched on and you can carry out a functional check. Near the lower retaining ring the floater closes the float switch and opens it again approximately 5mm above.

The green diode on the board inside the control unit flashes immediately when the water level (floater top) has reached, however, the magnetic valve closes only some seconds later. This time delay works in the same way on opening and on closing and prevents frequent switching processes caused by undulations of the water in the swimming pool. If the diode glows slightly with opened float switch, should cable extensions be checked for creeping current caused by humidity. The magnetic valve is closed in case of interruptions (damage) of the sensor cable, whereas a short-circuit (e.g. due to humidity) of the sensor cable causes an opening of the magnetic valve!



Level control Item no. 11250

Time monitoring / failure indicator

A red pilot light is placed in the front lid of the control unit. This pilot light serves the purpose of indicating failure. If this pilot light flashes there is a failure and the magnetic valve for the refilling of water is switched off. After having settled the cause of the defect, the failure indicator can be switched off by first switching off the level control with the rocker switch in the front lid and another switching on after some seconds. The cause of the defect may be found in the area of the level sensor. A foreign body floating on the water could have blocked the floating body of the mini liquid level switch.

The time monitoring (overflow protection) will become active, if the magnetic valve has been uninterruptedly opened for a longer period of time (safety time). A decode switch is placed on the control board that is used to select the safety time. On exceeding this safety time period the magnetic valve will be switched off.

The following time periods are available:

- safety time period of 30 minutes
- safety time period of 60 minutes
- safety time period of 90 minutes
- safety time period of 120 minutes
- no safety time period => time monitoring is switched off

The decode switch for the programming of the safety time is located on the right side of the circuit board.

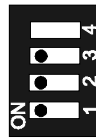
Safety time 30 minutes:

switch 1 and 2 OFF (move switching elements to the right)
switch 3 ON (move switching element to the left)



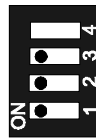
Safety time 60 minutes:

switch 1 OFF (move switching element to the left)
switch 2 and 3 ON (move switching element to the left)



Safety time 90 minutes:

switch 1 and 3 ON (move switching elements to the left)
switch 2 OFF (move switching element to the right)



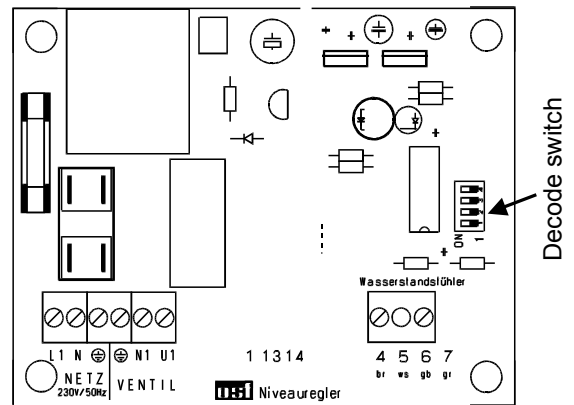
Safety time 120 minutes:

switch 1, 2 and 3 ON (move switching elements to the left)



No safety time

switch 3 OFF (move switching element to the right)
switches 1 and 2 do not have any function



On delivery switch 3 are in ON position. This means a time monitoring of 30 minutes.

Switch 4 may be used for internal test purposes only and must not be displaced in no case.

Follow these stated water limit values:

Chlorine content:	max 3 mg/l (ppm)
Chloride content:	max 250 mg /l
pH-value:	7,2 - 7,8
Alkalinity:	60-120 mg/l (ppm)
Calcium hardness:	200-1000 mg/l (ppm)