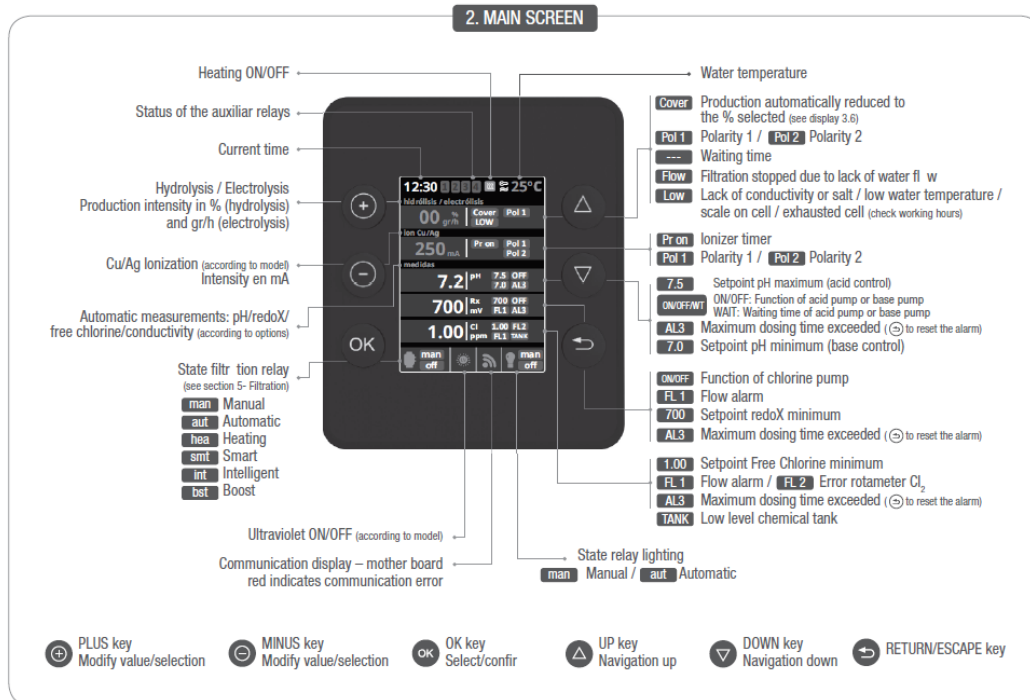


# Trouble shooting



1. **Electronic Box**
  - 1.0 - Software update for devices (2015 and higher)
  - 1.1 - Communications error/ Display error
  - 1.2 - Device doesn't start
  - 1.3 - Password
  - 1.4 - FL2 alarm
  - 1.5 - The equipment restarts frequently (2015)
  - 1.6 - Device doesn't generate despite showing a polarity (2016)
  - 1.7 - The equipment doesn't turn on the cell (2014 and 2015)
  - 1.8 - Burned cable in industrial equipment
  - 1.9.0 - Connect WI-FI module to network
  - 1.9.0.1 - SW update for 2016 WIFI modules in 2015 devices
  - 1.9.1 - Inserting or replacing PH and REDOX chips
  - 1.9.2 - Set up a variable speed pump
  - 1.9.3 - Backwash-Valve setup (Besgo or Pneumatic)
  - 1.9.4 - Set up a Level Tank sensor
  - 1.9.5 - How to install an Amperometric Probe
  - 1.9.6 - Testing the polarity change
  - 1.9.7 - Showing the salt content
  - 1.9.8 - Installation's diagram for lighting
  - 1.9.9 - Installation's diagram for filtration pumps
  - 1.10 - Software update for devices (2015 and higher)
  - 1.11 - Error "Resolution Incomplete" in HDMI modul
  - 1.12 - Checking the SW version of the screen and the power module
2. **Electrolysis/Hidrólisis Cell**
  - 2.1 - Display shows LOW
  - 2.2 - Excess chlorine in pool's water
  - 2.3 - Titanium cell is encrusted
  - 2.4 - The equipment doesn't reach the maximum production
  - 2.5 - The FLOW message appears on the screen
  - 2.6 - FL1 message appears in units with Paddle and Gas flow sensors
  - 2.7 - Device does not reduce the production with closed cover
3. **PH measurement**
  - 3.1 - The control's measurement of pH is different from pH value displayed in the equipment
  - 3.2 - Calibration's errors by calibrating the pH
  - 3.3 - Wrong PH value
    - 3.3.1 - Unusually high pH and Redox values
  - 3.4 - Dosing pump (peristaltic pump) speed control
4. **Dosing PH**
  - 4.1 - How to solve AL3 alarm
  - 4.2 - Dosing pump doesn't start, despite the settings should activate the dosage.
  - 4.3 - The dosing pump starts, but pH is not corrected
  - 4.4 - The device emptied the acid tank
  - 4.5 - Customer wants to generate basis instead of acid because water has a low PH
  - 4.6 - Microdos vs Aqua Pumps
  - 4.7 - The Shock function does not work 24 hours a day
  - 4.8 - Proportional dosing mode (from 2018 models up)
5. **Redox measurement**
  - 5.1 - The redox potential doesn't match the control's measurement.
  - 5.2 - Errors calibrating the Redox.
  - 5.3 - The production exceeds the set Redox value.
6. **Temperature measurement**
  - 6.1 - Wrong temperature displayed
  - 6.2 - The temperature value is not displayed
7. **Other**
  - 7.1 - Oxidation of metal parts of the swimming pool

**1.0 - Software update for devices (2015 and higher)**

**2014 Devices**

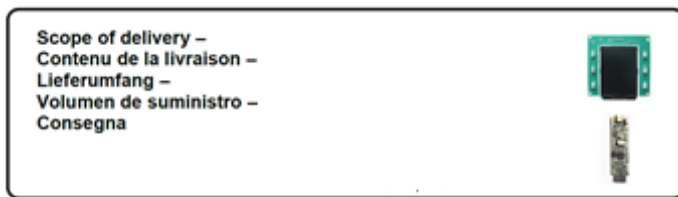
Devices with serial number less than 38672 must go to Sugar Valley

**2015 Devices (2015 SW-Stick)**

This is only valid for 2015 devices, from serial number 38672 to 47425 (SW-Version **2.XX**)

**Devices from 2016 (SW-Stick 2017)**

Devices with serial number greater than 47425 (SW-Version **3.XX**)



This document describes how to install the last SW version. After the SW update, you have to replace the display with the one attached in the set.

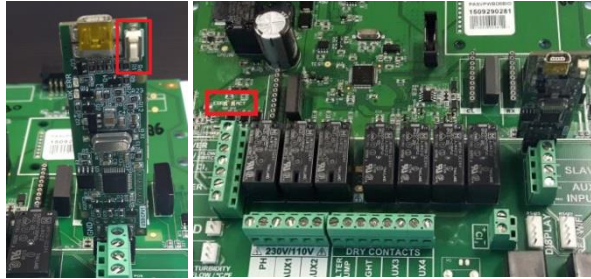
**Step 1:** Check if the SW update stick (WSP) is the package.



**Step 2:** Set the WSP in the socket. The WSP LEDs will blink alternatively. This means the WSP is ready to start.



**Step 3:** Press the key. The OK LED will blink slowly while the update goes forward. When the update is already finished, the LED will blink two times.



**Step 4:** Switch off the device, put out the WSP from socket and switch on the device again. Check the SW version.

**Configuration -> System info -> Power module Versión X.XX )**

**1.1- Communications error/ Display error**

1. Switch off the electronic box.
2. Pull out the Display.
3. Take off both front covers. The big one has 2 bolts below and 2 tabs on top. The main board is now visible:



4. Check the Glass X2 component. If this X2 is damaged or not correct welded, get the box serviced.



5. Check if the connector has the pins ok, (not broken or bent)



6. Change the cable to the socket labelled as DISPLAY (or EXTERN). They are below on the right side.



7. Switch on the box and test. If the display works fine now, you have a problem in the main board. Send the box to Sugar Valley to be repaired.
8. If the new display doesn't work, then is the main board defective. Send the box to Sugar Valley to be repaired.

### 1.2 - Device doesn't start

If your device doesn't start:

1. Check if it is plugged and getting 220V power.
2. Check if the switch is ON.

### 1.3 - Password

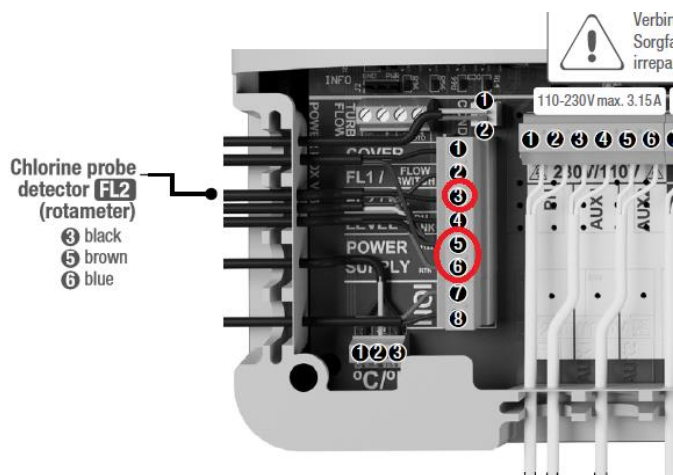
If you want to configure a password to access the device, go to the Configuration Menu:

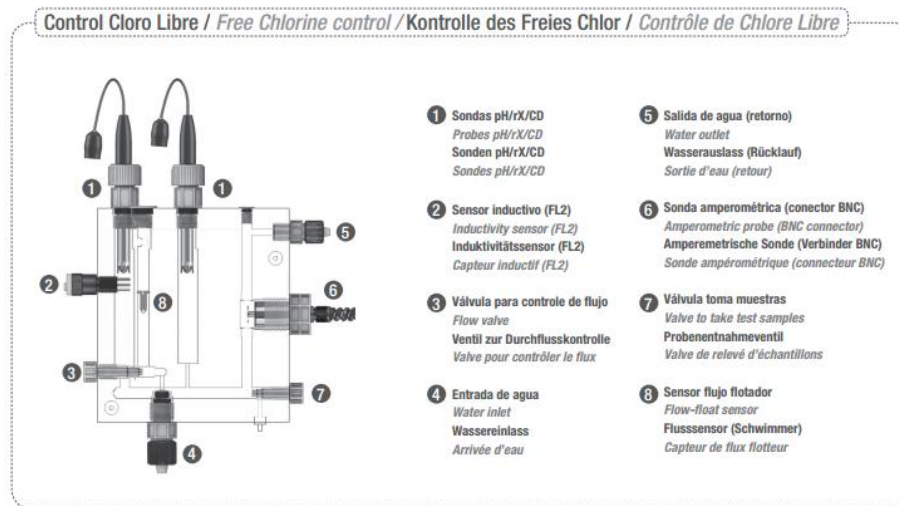
**Main menu -> System settings -> Password -> Protección (on/off)**

If the customer forgot the password, please enter with the supervisor password and change it to a new one.

### 1.4 - FL2 alarm

If FL2 is displayed on screen it means that there's a flow lack through the chlorine probe detector/ampereometric probes.





Please make sure that the flow is stable and continuous inside the probe. The flow-float sensor (8) has to reach at the right level of flow (80-100l/h).

Please check the connection wire: remember that there are 3 cables that connect the probe with the system. Their order is (top-down): black, brown and blue.

**1.5 - The equipment restarts frequently (2015)**

If you have 2015 equipment, with SW version 2.12 and the cell has been partially used, in some cases the device restarts frequently. To solve this trouble we are providing a chip stick to update the software equipment to version 2.31. If no stick is provided, you can send the equipment to the factory for updating.

**1.6 – Device doesn't generate despite showing a polarity (2016)**

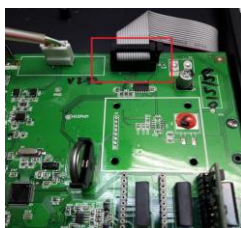
First of all check the settings, filtration ON, production level, Setpoints, and so on.

If the relais (pH, AUX1 or AUX2) don't work, we recommend to measure the power income, it should be 220/230 V. If all this is OK, contact Sugar Valley to get the device serviced.

**1.7 - The equipment doesn't turn on the cell (2014 and 2015)**

Please check the configuration, as in case 14.

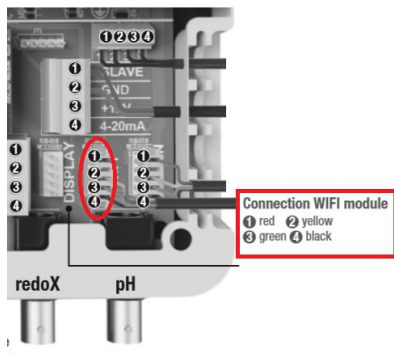
If everything is correctly installed please check the connection wire (white cable as in photo). If everything is correct, open the equipment and check the contacts of the white flat cable. For your safe please switch off the differential switch.



**1.8 - Burned cable in industrial equipment**

Please check the cable connection order (joint, washer and spring washer) and make sure to tighten it. Please repeat it regularly (1/2 months) in order to assure long term good operation.

**1.9.0 - Connect WI-FI module to network**



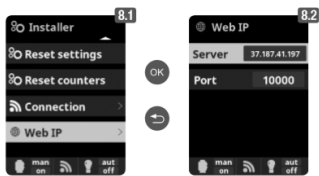
Connection WIFI module  
 1 red 2 yellow  
 3 green 4 black

Main -> System Settings -> Service Menu -> Installer -> Web IP -> Server and Port

Server: 37.187.41.197

Port: 10000

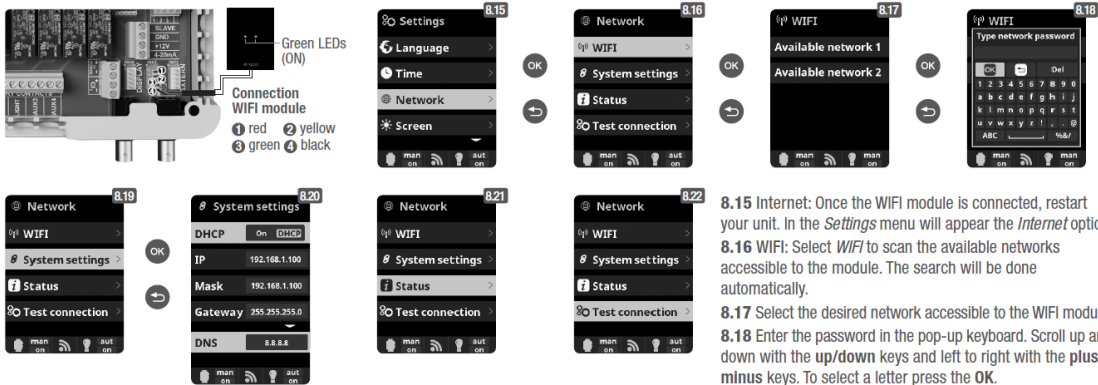
**8. WEB IP**



8.2 Server control and connection port in case there is WIFI Module connected to the system. For the proper functioning of the system, do not change the default values unless you receive a notice from your provider.

Main -> System Settings -> Service Menu -> Installer -> Web IP -> Server and Port-> WI-FI, Enter AP and System settings

**8.1 WIFI SETTINGS**



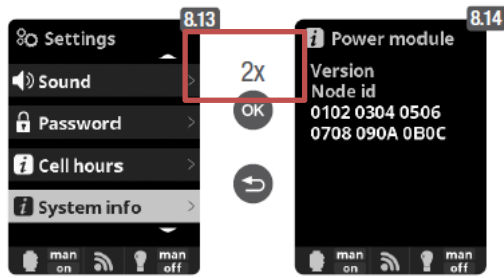
Once the WIFI module is connected to the network with both lights ON, enter in [www.vistapool.es](http://www.vistapool.es). Access the *Register* option and enter all the data requested. The unit ID node can be found on your device (see section 8. *System Settings* - screens 8.13 & 8.14). Upon completion of the process, you will have total control of your pool, will be able change parameters such as setpoints, filtration hours and turn ON/OFF any auxiliary relays.

- 8.15 Internet: Once the WIFI module is connected, restart your unit. In the *Settings* menu will appear the *Internet* option.
- 8.16 WIFI: Select *WIFI* to scan the available networks accessible to the module. The search will be done automatically.
- 8.17 Select the desired network accessible to the WIFI module.
- 8.18 Enter the password in the pop-up keyboard. Scroll up and down with the up/down keys and left to right with the plus/minus keys. To select a letter press the OK.
- 8.19 Configuration: For a more detailed configuration enter this menu or contact your installer.
- 8.21 Status: Check the status of your connection.
- 8.22 Test connection: Check that your connection has been successfully established.

Once the WIFI module is connected to the network with both lights ON, enter in [www.vistapool.es](http://www.vistapool.es) . Access the *Register* option and enter all the data requested.

The unit ID node can be found on your device (see section 8. *System Settings* - screens 8.13 & 8.14). Upon completion of the process, you will have total control of your pool, will be able change parameters such as setpoints, filtration hours and turn ON/OFF any auxiliary relays. To register your pool in the net, you'll need the ID NODE. Please check in the menu as follows:

Main -> System Settings -> System info -> Power module -> Node id



**8.12 Cell hours:** The system memorizes the operation times of the different modules.

**8.14 System info:** Information about the available software version of the TFT display and the power module. It also shows the ID node which is necessary for the configuration of the WIFI connection of the system.

By some Routers or Gateways are some LAN ports barred and the communication is not possible. Please check it with the LAN manager or ISP provider from customer.

**WIFI NETWORK REQUIREMENTS AND RECOMMENDATIONS**

**DHCP AUTOMATIC IP ASSIGNMENT**

The DSL router has to be configured to enable this service for new connections. The WIFI module uses this protocol to automatically obtain an IP address from the router. If you have experienced problems with your WIFI Module configuration and the box does not automatically connect to the router, check if DHCP is enabled. To do so, enter the router web address with a web browser (it is usually 192.168.1.1 or 192.168.0.1) and gain access to the control panel by setting the user and password required by the router. Enter the DHCP option and enable it. Finally save and apply the configuration change to let the router work with the new configuration.

**WIFI ENCRYPTION**

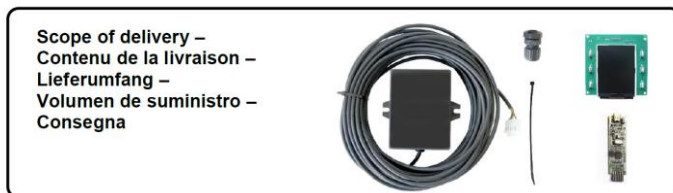
Swimming pool water filtering is a very delicate operation, and its control must have a certain degree of protection against unwanted access and even malicious intrusions. Therefore it is strongly recommended to use a strong encryption protocol when installing a swimming pool connection using the WIFI network. Several tests and documents have shown that WEP encryption have some security flaws and therefore should be replaced it with WPA encryption protocol. Nevertheless, many homes and companies still uses WEP encryption. If you have WEP as encryption protocol, change it by connecting to the router control panel, as explained in the previous section. Then enter "Wireless settings" and change the WEP encryption to WPA. You can always use the same password as in the WEP encryption. Always remember to erase and create again your wireless network connection on your PC.

**1.9.0.1 - SW update for 2016 WIFI modules in 2015 devices**

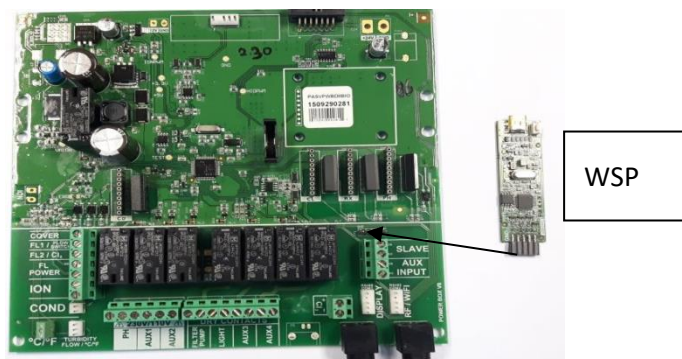
**2015 Devices (2015 SW-Stick)**

**This is only valid for 2015 devices, from serial number 38672 to 47425 (SW-Version 2.XX)**

This document describes how to install the last SW version in 2015 devices in order to use the 2016 WIFI modules (RS2WI). After the SW update, you have to replace the display with the one attached in the set.



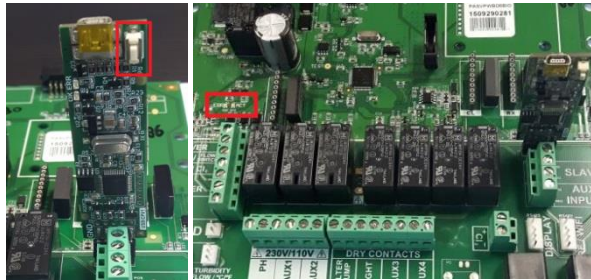
**Step 1:** Check if the SW update stick (WSP) is the package.



**Step 2:** Set the WSP in the socket. The WSP LEDs will blink alternatively. This means the WSP is ready to start.



**Step 3:** Press the key. The OK LED will blink slowly while the update goes forward. When the update is already finished, the LED will blink two times.



**Step 4:** Switch off the device, put out the WSP from socket and switch on the device again. Check the SW version(>= 2.31)

**Configuration -> System info -> Power module**

**You can install now the 2016 WIFI module.**

**1.9.1 - Inserting or replacing PH and REDOX chips**

1. Switch off the box.
2. Take out the cover. It has 2 bolts on the bottom side and 2 plastic tabs on the top. So, the main card is accessible.



3. Put the chips in the sockets (PH and/or Redox RX), always with dry hands and the LED-Lamps on the left side.



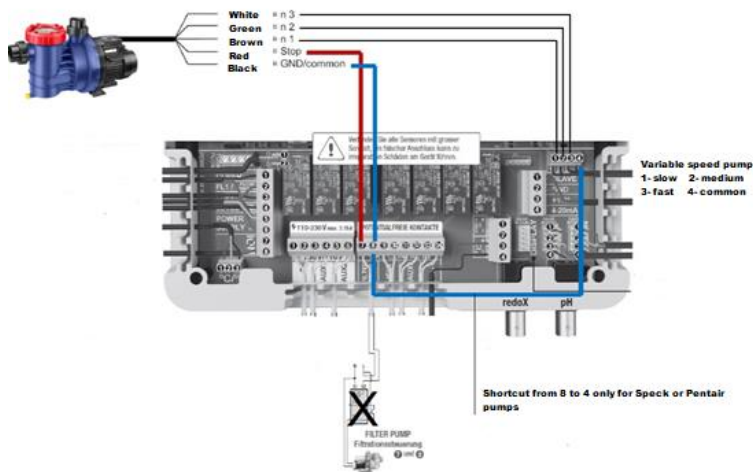




4. Put the cover and switch on the box.

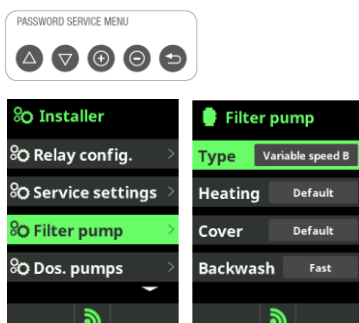
### 1.9.2 - Set up a variable speed pump

Setup-Diagram:



#### Parameter

Main menu -> System settings -> Service menu (Password) -> Pump type



Values:

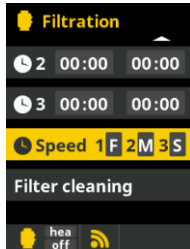
Standard

Variable speed A: for Hayward Pumps

Variable speed B: for Speck or Pentair pumps

**Main menu -> Filtration -> Speed**

Choosing pump speed (Fast/Medium/Slow)



**1.9.3 - Backwash-Valve setup (Besgo or Pneumatic)**

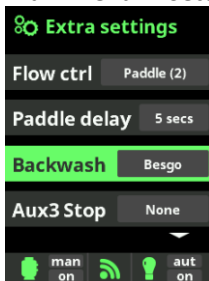


Be sure that the equipment has this feature enabled. Go to the menu item Extra Settings and check if the option Backwash appears listed.

**Main Menu -> Settings -> Service menu -> Installer -> Extra settings -> Backwash**

If it is not listed, you must send the equipment to Sugar Valley to activate that function. If the option appears, select the desired valve type.

**Main Menu -> Settings -> Service menu -> Installer -> Extra settings -> Backwash**



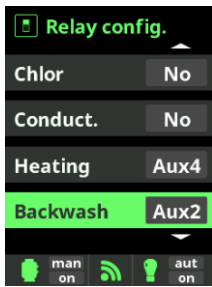
None/Besgo/Pneumatic

We have to choose between Besgo or pneumatic.

To set up a Backwash valve, we have to assign a free power relays, AUX2 for instance.

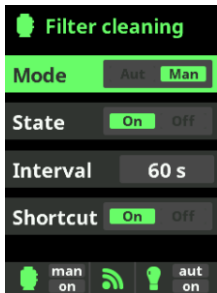
**Main Menu -> Settings -> Service menu -> Installer -> Relay config. -> Backwash**

➔ AUX2



Now is time to configure the way of cleaning the filter, if it is manual or automatic, the cleaning time in seconds, and the periodicity.

**Main Menu -> Filtration -> Filter cleaning -> Mode**

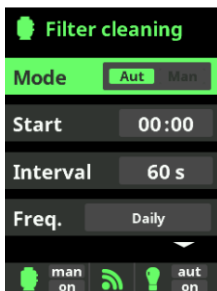


**Manual**

Interval in seconds

Shortcut: on/off

By the manual mode, the user starts the cleaning manually and it lasts until the specified interval is reached. We have the possibility to have a direct access to this function from the home screen. To turn it on, press and hold for a few seconds the "+" key.



**Automatic**

Start: Activation time

Interval in seconds

Frequency: Daily/ N days



Shortcut: on/off

By the automatic mode, the equipment starts the cleaning at the specified time/frequency and it lasts until the specified interval is reached. We have the possibility to have a direct access to this function from the home screen. To turn it on, press and hold for a few seconds the "+" key.

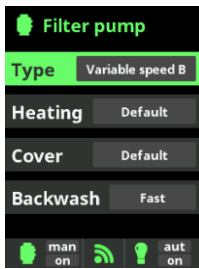
In case of having a variable speed pump, we can configure the speed at which the pump will perform the cleaning.

**Main Menu -> Settings -> Service Menu -> Installer -> Filter pump -> Backwash**

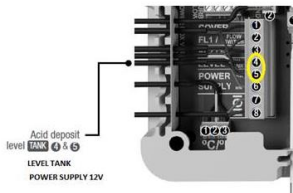
➔ Slow/Medium/Fast

➔

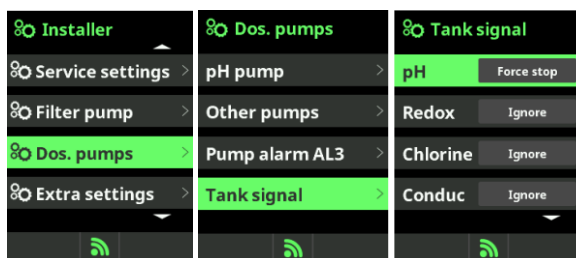
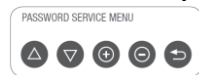
Sugar Valley recommends that you always use the fast speed.



**1.9.4 - Set up a Level Tank sensor**



Main menu -> System settings -> Service menu (Password) -> Dos. Pumps -> Tank Signal



Choose between **Ignore/Inform/Force Stop**.

The device will react that way.

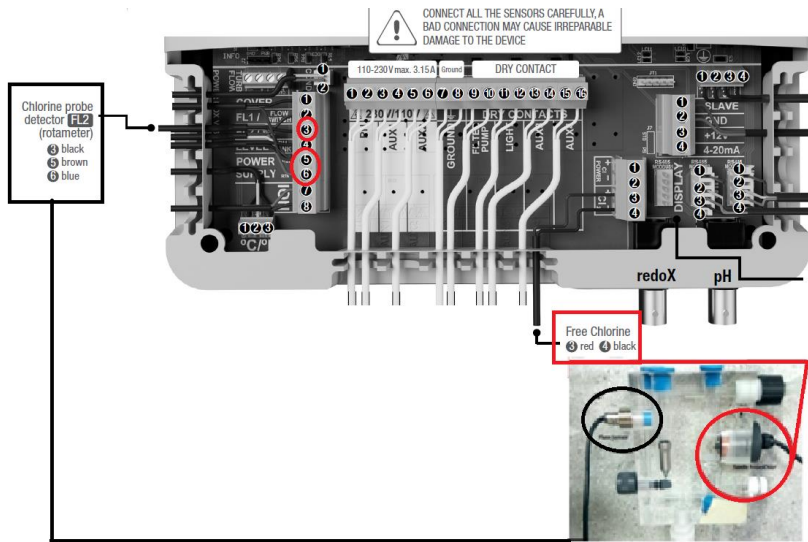
**1.9.5 – How to install an Amperometric Probe**

Flow sensor cable

- Black connected to **FL2/CL2**
- Brown connected to **POWER SUPPLY 12V**
- Blue connected to **POWER SUPPLY RTN**

Probe sensor cable

- Red connected to **CL2 (+)**
- Black connected to **CL2 (-)**



Put the free Chlorine Chip into the free chlorine socket:



Look out, the LEDs of the chip must be on the left side!!

After That set the setpoint value and calibrate the probe:

**4. MEASURES / Setpoints**

**4.1** Main menu

**4.2** Measures

**4.3** Set points

**4.1** Measures: Adjustment of setpoints and measuring probes.  
**4.2** Setpoints for each measurement.  
**4.3** Setpoints settings: Ideal setpoints for each of the parameters.  
 The default values are:  
 pH: 7.3-7.5; redoX: 600-800; Free Chlorine: 0.5-2 ppm;  
 Conductivity: 1500-2500 for Hydrolysis and 7000-10000 for Electrolysis.

**4.3 MEASURES / Free Chlorine calibration**

**Optional Free Chlorine control**

Metering and control in ppm of the free chlorine of the water.

Free Chlorine probe  
③ red ④ black

Chlorine probe detector  
FL2 (rotameter)  
① black  
② brown  
③ blue

In case of using a Variable Speed Pump, calibrate the probe using the most common filtration speed.

4.14 Calibration of the Free Chlorine probe: Recommended every month during usage season.

4.15 Calibration with buffer (photometer DPD1): Follow the instructions in 6 steps that appear in the display.

4.16 Step 1 of 6 - Calibrate CI at 0 ppm (offset): Close the water flow through the probe and wait until the reading is less than 0,10 ppm. Wait between 5 to 60 min. Press OK when the reading is close to 0.

The option Reset Cal clears the calibrations made previously.

4.17 Step 3 of 6 - Calibrate CI: Open the water flow until achieving 80-100 liters/hour. Wait until obtaining a stable reading of ppm. Wait between 5 to 20 min. Press OK when the reading is stable.

4.18 Step 5 of 6 - Establish the real ppm values with the plus/minus keys according to your analysis result of DPD1 (free chlorine).

4.19 Step 6 of 6 - If this screen is not shown repeat the calibration process.

4.20 and 4.21 Manual calibration: Open de water fl w and set the fl wmeter (rotameter) at the right level of fl w (80-100l/h). Wait some minutes until the current level is stable. With the plus/minus keys, insert manually the water chlorine level (use a manual DPD1 test kit). Press OK when the DPD1 value is correct on display (target measurement).

**1.9.6 – Testing the polarity change**

If the electronic box has the standard Wait Time of 300 minutes to change from one polarity to the other, please lower it to 5 minutes. Wait until the box complete the old cycle and then the new period will be active.

0. In Extraregs set up the Production to “ON” (Option 1).
1. Remove the Cell.
2. You have to measure the tension with a tester between following pins :



3. You should be in the polarity 1 or 2. Get the tension between the pins:



4. Wait for polarity change and get the tension again:

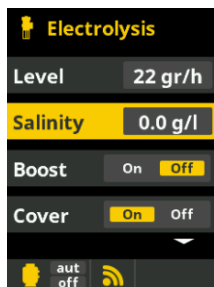


5. Look at the electrical charge in both polarities. If the value by polarity 1 was positive, the value in polarity 2 must be negative.
6. In case of both charges have the same sign the box is defective. Send the box to Sugar Valley to get it serviced.

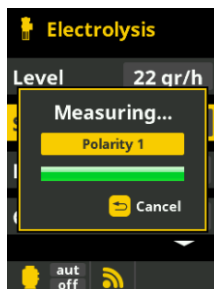
### 1.9.7 – Showing the salt content

The device can show the salinity content in the pool **only** if that function were programmed in factory. If you don't have the option Salt content in your menu, you cannot have it.

In **Main menu -> Elektrolysis -> Salinity** you have the measured salt content.



Press OK and the device will determine the salt content for both polarities:

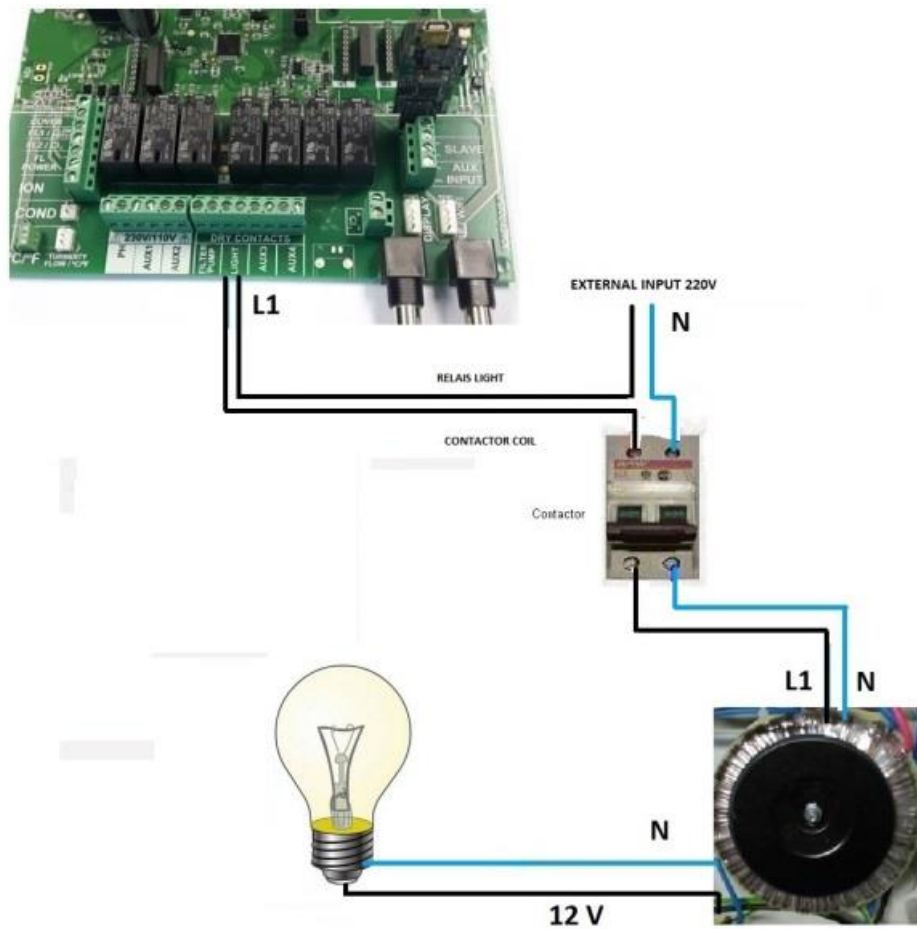


You can now write the correct value:



Please, consider the salt content given by the device as an estimation. That value depends on temperature, alkalinity and other factors as well.

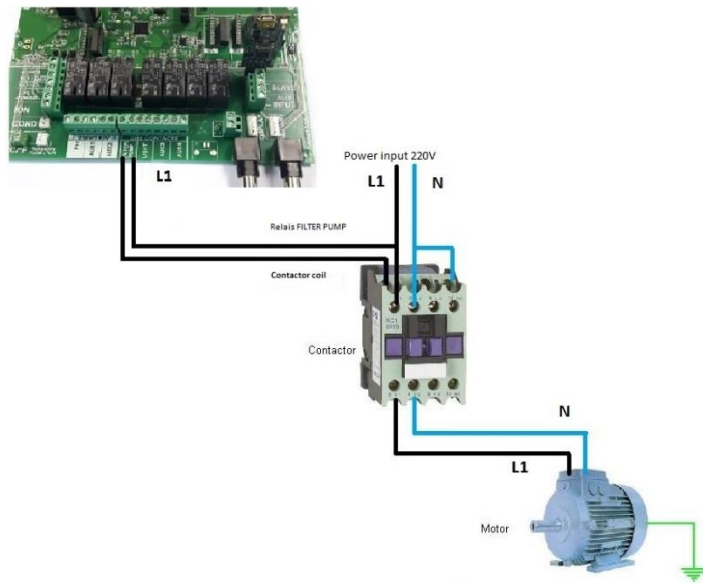
**1.9.8 - Installation's Diagram for Lighting**



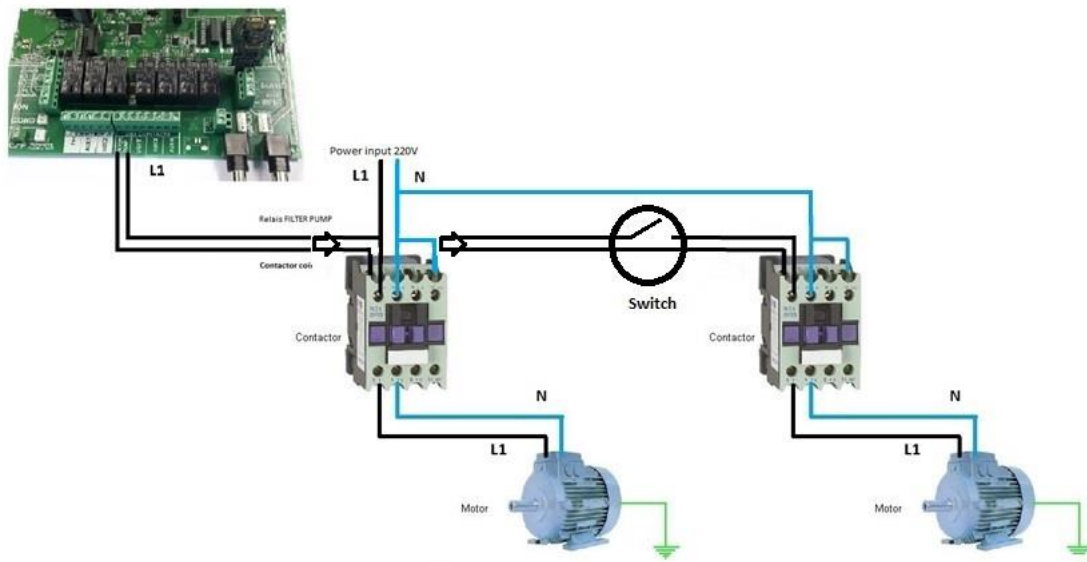
**1.9.9 - Installation's Diagram for Filtration Pumps**

1 Pump:





2 Pumps:



**1.10 – Software update for devices (2015 and higher)**

**2014 Devices**

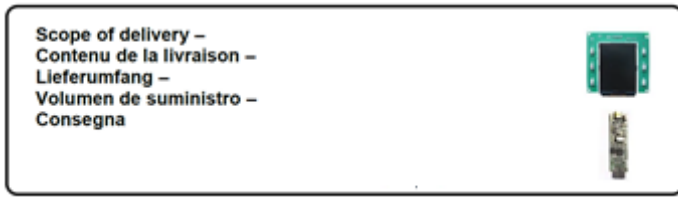
Devices with serial number less than 38672 must go to Sugar Valley

**2015 Devices (2015 SW-Stick)**

This is only valid for 2015 devices, from serial number 38672 to 47425 (SW-Version 2.XX)

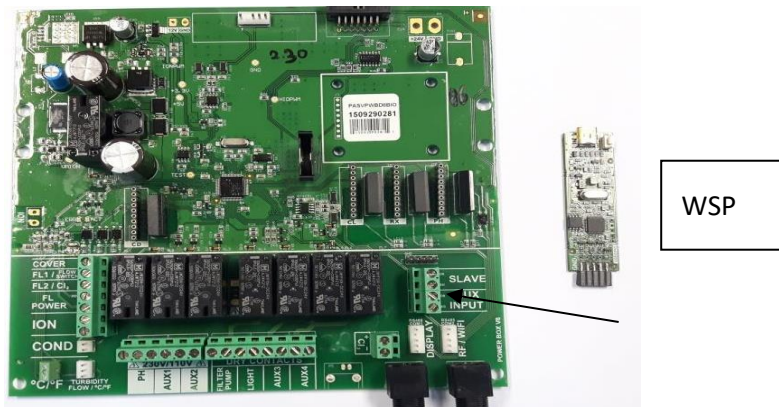
**Devices from 2016 (SW-Stick 2017)**

Devices with serial number greater than 47425 (SW-Version 3.XX)



This document describes how to install the last SW version. After the SW update, you have to replace the display with the one attached in the set.

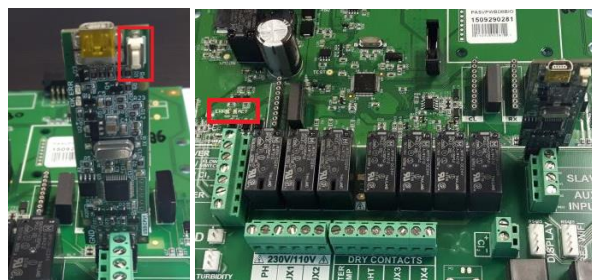
**Step 1:** Check if the SW update stick (WSP) is the package.



**Step 2:** Set the WSP in the socket. The WSP LEDs will blink alternatively. This means the WSP is ready to start.



**Step 3:** Press the key. The OK LED will blink slowly while the update goes forward. When the update is already finished, the LED will blink two times.



**Step 4:** Switch off the device, put out the WSP from socket and switch on the device again. Check the SW version.

**Configuration -> System info -> Power module Versión X.XX ).**

### 1.11- Error “Resolution Incomplete” in HDMI modul.

There are only 3 reasons why this error can be shown and the 3 refer to the HDMI installation: the installation can't be the customer's WIFI LAN.

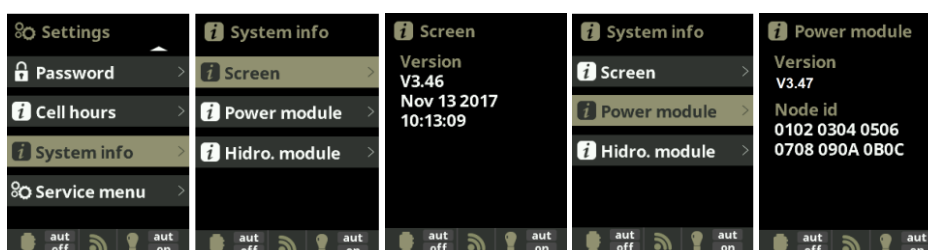
1. LAN-Setup wrong or incorrectly configured.
2. Incorrect ID NODE.
3. The HDMI LAN and the WIFI LAN are not the same.

### 1.12 - Checking the SW version of the screen and the power module

To consult the Software version of the power module and the screen, we will go to the configuration menu.

**Main menu -> Configuration -> System info**

System info: Information on the software version of the TFT screen and the power module. The required node ID is also indicated for configuring the WIFI connection.



### 2.1 - Display shows LOW

It may occur that LOW is shown on the display:

1. Please use an **external salt measurer** and make sure that the average is: 2gr/l for hydrolysis and/or 5 gr/l for electrolysis.
2. Please check the titanium cell and make sure there are no incrustations or calcifications. If so, please clean the cell according to following the instructions:
  - a. Remove the cell from its support (after turning off the filtration system and closing off the necessary valves).
  - b. Place the cell for no more than 10 minutes in 15% hydrochloric acid (1,5 l of acid for each 8,5 l of water).
  - c. Once the incrustations have softened remove with a hose to complete cleaning the cell.
3. Check **titanium cell is not worn out** (remember that the cell is guaranteed for 5.000 hours, approx. 2-3 years of summer usage).
4. Please remember that **temperature influences the cell**: due to the low water temperature in winter (or in cold waters) the conductivity is minor and the cell will automatically readjust its intensity.

### 2.2 - Excess chlorine in pool's water

- 1 – Please reduce the cell production intensity.
- 2 – If you have a redox option, please check the set-point.

3 – If your system has redox option, please check the cell status: they may be encrusted or calcified or need to be recalibrated. In this case they have to be cleaned, changed or recalibrated.

4 – If you manually add chlorine and it occurred an overdosing, please wait till the chlorine value sinks to the desired one.

### 2.3 - Titanium cell is encrusted

- Very hard waters with a high pH and total alkalinity: balance water adjusting pH and total alkalinity.
- Check to ensure the system automatically changes polarity every 300 minutes approximately.
- Consult with our technical service to consider accelerating the polarity change (auto-cleaning). WARNING: Accelerating the polarity change decreases the cell life (5.000 hours) proportionally. This option is recommended only for specialized technicians.

### 2.4 - The equipment doesn't reach the maximum production

1 - Analyse the concentration of salt in the water and if it is too low, add salt.

2 – The cell is dirty or encrusted. Clean the plates of the cell as described in the "Maintenance" chapter. Take advantage of the occasion to clean the flow switch.

3 - Check the electrolytic cell is worn out and, if necessary, replace it with a new (Please note that the cell has a service life of 5,000 hours).

### 2.5 - The FLOW message appears on the screen




1 - Check that the gas flow sensor (in the cell) and, if there is one, the flow switch (paddle) is well connected (FL1).




### 11. FLOW SWITCH

**Optional Flow switch**

Mechanic security fl w switch. Stops the hydrolysis/electrolysis and the dosing pumps if there is no water fl w.





Flow switch **FL1** 2 & 5

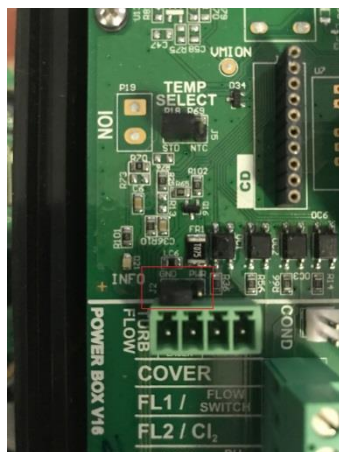
It is possible to add an external fl w switch to the system. Connect as shown in the image and contact your installer for activation. The titanium cell includes a gas fl w sensor, you can combine both for better control.

- 2 - Clean the gas flow sensor from the top of the cell.
- 3 - Clean the flow switch.
- 4 - Check for air in the pipes.
- 5 - Check the water flow direction with the flow switch.
- 6 - Check that the detector reaches the water level flow in the pipe.

**2.6 - FL1 message appears in units with Paddle and Gas flow sensors**

**1. Checking Flow Jumper**

Please check the FLOW jumper, the correct position is as follows:

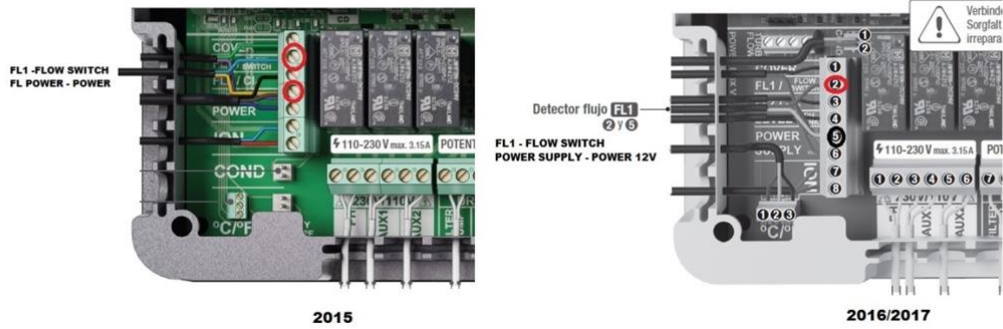


They are 3 pins (GND/no name/PWR), the jumper must cover the first 2 pins and leave PWR free.

**2. Checking source of FL1 message**

If the unit both flow sensors have (paddle and gas), we can test the origin of the message. Go to **Extra Settings** Menu and check the Flow control parameter.

We recommend the values 2 or 3.



5. EXTRA SETTINGS



**5.2 Gas (0)** - The FL1 alarm is only activated by cell's gas sensor (external flow switch annulled).  
**Siempre ON (1)** - The FL1 alarm is never activated (invalidates cell's gas sensor and external flow switch);  
**Paddle (2)** - The FL1 alarm is activated by external flow switch (gas sensor annulled).  
**Paddle or gas (3)** - When both cell's gas sensor and external flow switch are connected, and either of them detects lack of flow, The FL1 alarm is activated. To connect the external flow switch use the FL1 terminal (see *Electronic Box Electrical Connections*).  
**Paddle + Gas (4)** - When both cell's gas sensor and external flow switch are connected, and both of them detects lack of flow, The FL1 alarm is activated. To connect the external flow switch use the FL1 terminal (see *Electronic Box Electrical Connections*).  
**Relay control through flow detection** - Manage the FL1 alarm deactivation in case of lack of flow. Recommended option for flocculant dosification or similar.

Set the value to 2 (only Paddle) and test if the message disappears. Starts the production after that change, then the gas sensor of the cell is defective or wrong mounted (check RCA connector).

Set the value to 0 (only Gas) and test if the message disappears. Starts the production after that change, the paddle sensor has a problem.

Set the value to 1 (always ON, no flow sensors at all) and test if the FL1 message disappears. Starts the production after that change?.

**2.7 – Device does not reduce the production with closed cover**

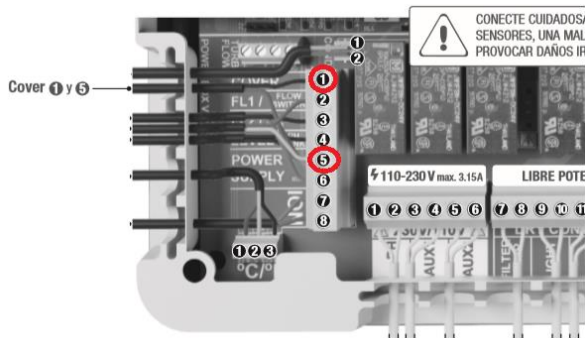
**1. Check J2 jumper**

The correct position of the jumper is the following:



There are 3 pins in the jumper connector (GND / no name / PWR). The jumper must be connected on the first two pins. The PWR pin must be free.

**2. Check the connection of the wires in the terminal**



3. Set the Cover parameter to ON and the desired Reduction percentage.

10. COVER

Cover 1 & 5

10.1

10.2

10.1 Cover: Connection of automatic cover.  
 10.2 Reduction of chlorine production in percent, when the pool cover is closed. With the cover closed is not necessary for the system to run at 100%. With this parameter the system regulates the optimum amount of chlorine generation.

**2.8 – The free chlorine level doesn't reach 0.8 ppm**

- 1 – Please check the filtration time: if it's too short, we recommend setting a longer filtration time.
- 2 – The cell's operation time has been set too low, please adjust the hydrolysis and electrolysis intensity.
- 3 – Please check levels of sodium bromide or common salt in the pool (6 gr NaCl/l or 2 gr NaCl/l). Please compensate if too low.
- 4 - Check level of isocyanuric acid in pool (30-50 ppm), only if using common salt). For too high level: please do a filter *backwash* cleaning, remembering to add fresh water after the process. Check also the salt levels. For adding new water: always through the skimmers so that the new water passes through the system before entering the pool. Remember to add the necessary salt (6 gr or 2 gr) per added litre of water.
- 5 - Check if reactive agents in test kit are expired.
- 6 – In case of an unexpected number of swimmers, please activate the shock chlorination through Boost function: filtration during 24h at max intensity.
- 7 – Calibrate the free chlor probe.
- 8 – If the water pH is above 7,8 it must be adjusted to an approx. value of 7,2.

**3.1 - The control's measurement of pH is different from pH value displayed in the equipment**

- 1 - Wrong calibration or made long time ago. Perform a new calibration.
- 2 - Wrong calibration values entered by mistake. Repeat the calibration.

**3.2 - Calibration's errors by calibrating the pH**

- 1 - Electrode is dirty or defective. Clean the electrode with an electrode cleaner and rinse with distilled water. In case it doesn't help, replace it with a new one.
- 2 - There is humidity into the connector. Dry it or change it.
- 3 - If the measuring amplifier is faulty, change module (chip) pH / Redox.

**3.3 – Wrong PH value**

First of all you have to analyse **pool water** to check if any variable is out of the required level (alkalinity and isocyanuric above all).

In order to be sure the PH probe is working properly, than disconnect from the appropriate BNC and enter the PH calibration menu as follows:

The BNC connector should not be rusty. Check that.

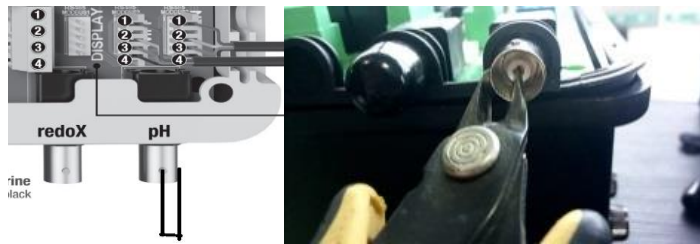


**Main -> Measures -> PH Calibration -> Buffer (2 pt)**

Once you entered the MENU just build a bridge between the connector's centre and the border, the value must around 7.







If the given value with the bridge is around 7 (6.8 – 7.2), then the problem affects the probe (fig. 3).

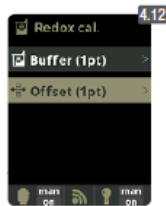
If the given value (with bridge) is not close to 7 (6.8 - 7.2) you have to disconnect the PH chip and exchange it. The problem affects the chip.

If a Redox probe is installed, than you can test the PH chip in redox chip or try to substitute it with a new one. The redox and PH chips are identical; therefore they can be switched as a test.

**3.3.1 - Unusually high pH and Redox values**

If, in spite of changing the PH probe and the chip, the measured PH value is maintained at 14 or the Redox value at values above 1,000, we must go to the Manual Calibration.

Once inside the Manual Calibration, we will manually match the desired value with the value currently measured with the adjustment buttons.



**4.12** Manual calibration: Allows to adjust the probes at 1 point (without buffers) – only recommended to adjust small deviation in the readings.

**4.13** Without removing the probe from the water, use the plus/minus keys to adjust the reading so it matches with your reference value (photometer or other measurement).

Save the manual calibration and restart the computer.

Recalibrate the probes with patterns.

**3.4 - Dosing pump (peristaltic pump) speed control**

If your equipment has a PH pump please **check its speed** on the device. We recommend minimum speed, especially for small pools (always adjust the speed in order that you have a small flow, but at least 10%).

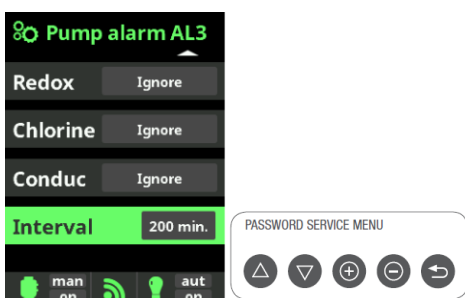


**4.1 - How to solve AL3 alarm**



AL3 shows that the **maximum dosing time (standard 200 min.)** is accomplished and the acid dosing pump stops in order to avoid the acidification of the water. Please check the time and its functions from **setting menu**.

**Main -> System Settings -> Service Menu -> Installer -> Dos. pumps -> Pump alarm 3 -> Interval**



To delete the message and to restart the function press ESC (*backspace*).

If the pH regulation has not been able to adjust the pH of the pool to the nominal value in the maximum programmed dosing times, check the following:

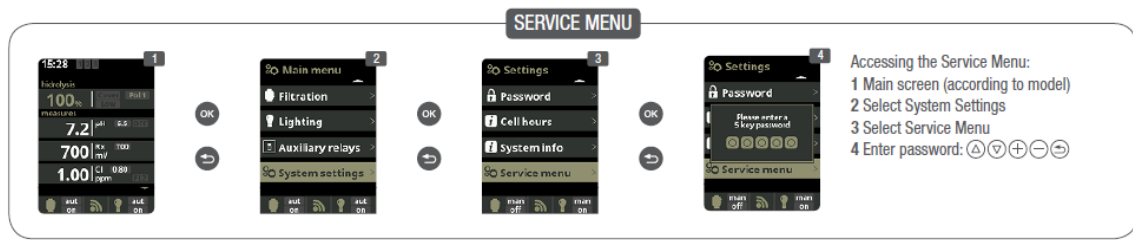
- 1 -The pH dosing pump is not connected (the pump switch is at 0-OFF). Connect the pH dosing pump (switch to 1-ON).
- 2 - The pH Minus / pH Plus tank is empty. Place a can full of pH Minus / pH Plus product. To quickly fill the empty dosing tube, you can momentarily turn the pump switch to position 2. As soon as the tube is full, turn the switch to 1.
- 3 - There may be leakage in the dosing tube. Repair the dosing tube. If you have spilled pH Minus / pH Plus you should be careful, as it can be abrasive. Wear protective gloves and safety glasses.
- 4 - The dosing power of the pH dosing pump is too low. Turn the red knob of the dosing pump to increase the dosing power. To do this, set the pump switch to 0 and make sure it cannot be connected (if necessary, disconnect it from the equipment). Remove the transparent cover of the pump and adjust the red wheel with a flat screwdriver. Before starting the pump (switch to 1), set the transparent cover at his place.



- 5 - If it is not any of the above, check the pH probe.

In some devices of 2014, the AL3 alarm appears although the values are correct and correspond to the instructions. In these cases, proceed as follows:

1. In the Service Menu, set parameter (10) to 0 to also activate the base dosing.
2. At the relay configuration point, set the secondary PH relay to NO to cancel the base dosing.



Main menu -> Settings -> Service menu -> Installer -> Service settings -> 10 - pH Setpoint mode -> (0)

10 pH setpoint mode RW Val: 1 0000	0-1-2	1	0 - Acid and base are activated – controls 2 relays: relay pH and relay AUX 1. 1 - Only controls Acid: Relay pH. 2 - Only controls Base: Relay pH.
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**1. RELAY CONFIGURATION**

1.1 The 7 available relays can be hooked up to various predefined external devices being controlled by the unit.

1.2 The predefined functions are:\*

pH: Acid pH-pump.  
Filter: Filtration pump.  
Light: Pool lights.  
AUX 1: Base pH-pump / UV light.  
AUX 2: Auxiliary disinfection dosing pump (as backup for the electrolysis cell) / Backwash valve / Conductivity.  
AUX 4: Heat pump or other heating device.

\* Recommended relay settings.

Nota: "NO" will deactivate the predefined parameters and leave the relay available to be controlled by the different timers described under user menu "Auxiliary Relays". If you select an auxiliary relay (example AUX 1), it will activate the predefined external device on the corresponding relay

3. Set the PH- value to 6 and PH+ value to 7.2.

**4. MEASURES / Setpoints**

4.1 Main menu

4.2 Measures

4.3 Set points

4.1 Measures: Adjustment of setpoints and measuring probes.  
4.2 Setpoints for each measurement.  
4.3 Setpoints settings: Ideal setpoints for each of the parameters. The default values are:  
pH: 7.3-7.5; redox: 600-800; Free Chlorine: 0.5-2 ppm;  
Conductivity: 1500-2500 for Hydrolysis and 7000-10000 for Electrolysis.

**4.2 - Dosing pump doesn't start, despite the settings should activate the dosage.**

- 1 – The dosage relay could be defective. In the menu ' settings relays ' assign another relay to the PH function. If all this not help, the equipment must be repaired or replaced.
- 2 - The dosing pump could be defective or damaged. Check dosing pump and, if necessary, replace it.

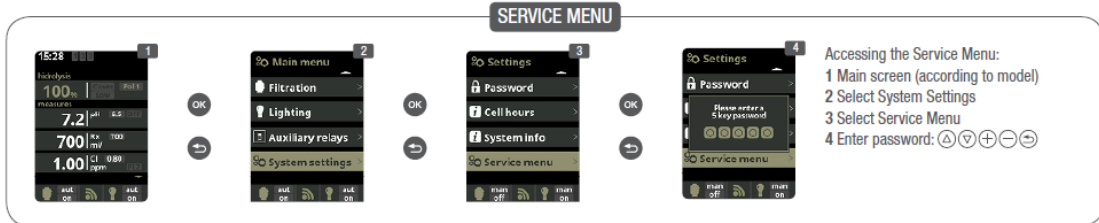
**4.3 - The dosing pump starts, but pH is not corrected**

- 1 – PH-/PH+ Drum can be empty. Place a full PH-/PH+ one, to quickly fill the vacuum dosing tube. You can momentarily put the pump switch in position 2. As soon as the tube is full, put the pump switch to 1 again.
- 2 - The PH-/PH+ system of dosage is not waterproof and is leaking. Check the entire circuit of dosage and make sure that it is tight.

3 - pH probe may be worn. See alarm AL3.

**4.4 – The device emptied the acid tank**

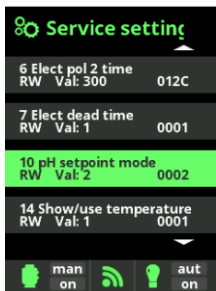
1. The PH probe or the chip can be defective. Look at the point AL3.
2. Check the value of the parameter 10 in the Service Menu, set it to **1**.



10 pH setpoint mode RW Val: 1 0000	0-1-2	1	0 - Acid and base are activated – controls 2 relays: relay pH and relay AUX 1. 1 - Only controls Acid: Relay pH. 2 - Only controls Base: Relay pH.
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**4.5 - Customer wants to generate basis instead of acid because water has a low PH**

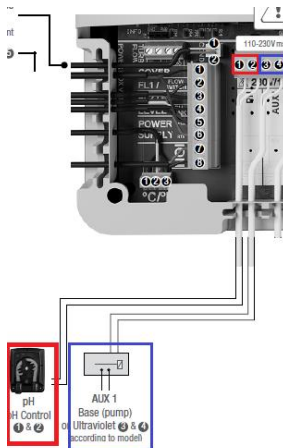
1. Insert the value '2' in the parameter 10.
- Main -> System settings -> Service menu -> Service settings -> 10 pH set-point mode -> (2)



10 pH setpoint mode RW Val: 2 0002	0-1-2	1	0 - Acid and base are activated – controls 2 relays: relay pH and relay AUX 1. 1 - Only controls Acid: Relay pH. 2 - Only controls Base: Relay pH.
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The possible values for the parameter are:

- (0) there are 2 pumps, acid (PH connection) and basis (AUX1 connection by default)
- (1) Acid pump
- (2) Basis pump



**4.6 - Microdos vs Aqua Pumps**

To distinguish between a peristaltic pump from Microdos and one from Aqua, you should look at the following points.

The Microdos pump has a small window to easily adjust the dosing speed. The Aqua pump does not have it and the lid must be unscrewed to perform this function.



Looking from below, the Aqua pump has a 3 state switch:



The Microdos pump has a 2 state switch:



**4.7 - The Shock function does not work 24 hours a day.**

In some old equipment the option Shock did not work 24 hours. We can perform the same function leaving the Production in ON for 24 continuous hours.

Go to the **Filtration** option in the **Main Menu** and select the **Manual** mode.

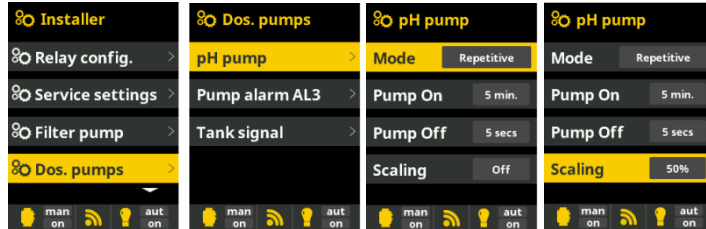


Then in the option **Measurements / Setpoints** set the Redox setpoint to 1000 mA.



After 24 hours, you can return to the original values of the Redox setpoint and the Filtering Mode.

**4.8 - Proportional dosing mode (from 2018 models up)**

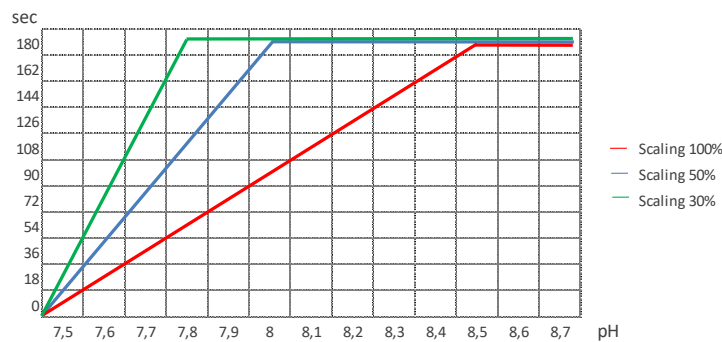


- **Pump ON** (in seconds) value and the scaling percentage are taken into account to determine the proportional dosing of the pump. Pump OFF is not modified.
- The system, based on those two parameters, calculates dosing time segments depending on the difference between the set point and actual value.
- Once the actual value is reaching the set point, dosing times are automatically reduced.

**Example :**

	Scaling 100%	Scaling 50%	Scaling 30%
<b>Pump ON</b>	180 sec	180 sec	180 sec
<b>Set point pH</b>	7.5	7.5	7.5
<b>End of section pH value = Set point pH + (Scaling / 100)</b>	8.5	8.0	7,8
<b>Number of time segments = Scaling / 10</b>	10	5	3
Time segment 1 (from 7.5 to 7.6) = Pump ON / (Scaling / Number of time segments)	18	36	60
Time segment 2 (from 7.6 to 7.7) = Time segment 1 x 2	36	72	120
Time segment 3 (from 7.7 to 7.8) = Time segment 1 x 3	54	108	180

**Illustration of proportional dosing mode**



**5.1 - The redox potential doesn't match the control's measurement.**



Wrong calibration or made long time ago. Perform a new calibration.


**4.2 MEASURES / redoX Calibration**

The redoX value advises us of the oxidation/reduction potential and is used to determine the level of water sterilization. The parameters or setpoints are the minimum/maximum accepted redoX levels before the titanium cell is connected/disconnected. Adjusting the ideal redoX level (setpoint) is the last step in the system start up sequence. To find the optimum redoX levels for your pool follow these steps:

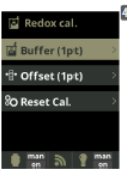
1. Connect the pool filtration system (the salt in the pool must be adequately dissolved).
2. Add chlorine to the pool till a level of 1-1,5 ppm is achieved (approx. 1-1,5 gr/m3 of water). pH levels should be between 7,2 - 7,5.
3. After 30 min. test the free chlorine levels in the pool (manual test kit DPD1) if the free chlorine level is between 0,8 - 1,0 ppm. Look at the redoX screen and memorize this level as the setpoint to CONNECT/DISCONNECT the electrolysis/hydrolysis cell.
4. The next day check free chlorine levels (manual test kit DPD1) and redoX. Raise/lower setpoint if necessary.
5. Remember to check the redoX set-point every 2-3 month and/or if the water parameters change (pH/temperature/conductivity).

**Optional redoX control**  
Metering and control of the redoX as check value of the free chlorine.







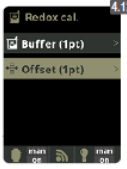
**4.9** Calibration of the redoX probe: Recommended every 2 months during usage season.




**4.10** Calibration with buffer (buffer solution 465 mV): Follow the instructions in 4 steps that appear in the display (screen 4.11 corresponds to step 1).  
The option Reset Cal clears the calibrations made previously.



**4.11** Manual calibration: Allows to adjust the probes at 1 point (without buffers) – only recommended to adjust small deviation in the readings.



**4.12** Manual calibration: Allows to adjust the probes at 1 point (without buffers) – only recommended to adjust small deviation in the readings.



**4.13** Without removing the probe from the water, use the plus/minus keys to adjust the reading so it matches with your reference value (photometer or other measurement).

**5.2 - Errors calibrating the Redox.**

- 1 - Wrong calibration values entered by mistake. Repeat the calibration.
- 2 - The electrode is dirty or encrusted. Clean the plates of the electrode as described in the "Maintenance" chapter. Take advantage of the occasion to clean the flow switch. If it is not possible to calibrate the cell, you must replace it with a new one.
- 2 – There is humidity into the connector. Dry it or change it.
- 3 - If the measuring amplifier is faulty, change module (chip) pH / Redox.

**5.3 - The production exceeds the set Redox value:**

If your equipment reaches the set Redox/Chlorine value, but the cell production doesn't stop, please enter the Installer's main menu and check in system settings: make sure that the value 4 (hydrolysis/ electrolysis mode) is set on 1. Please, remember to press OK twice to save your desired changes.

**Main -> System Settings -> Service Menu -> Service Settings -> (4) Electrolysis mode RW: 1**

4 Hydrolisis mode RW Val: 0 000A	0-1-2	1	Configures stops/starts of the electrolysis/hydrolysis cell and auxiliary disinfection pump on Relay AUX 2 according to redoX reading. 0 - Without redoX/CL <sub>2</sub> (electrolysis/hydrolysis cell is always ON) - Auxiliary disinfection pump is controlled by redoX/free chlorine CL <sub>2</sub> . 1 - With redoX/CL <sub>2</sub> (redoX/free Cl set point stops/starts electrolysis/hydrolysis cell) - Auxiliary disinfection dosing pump is activated if redoX falls more than 2% lower than set point. 2 - With redoX/CL <sub>2</sub> (redoX set point stops/starts electrolysis/hydrolysis cell) - Auxiliary free chlorine dosing pumps are controlled via time delays of parameters 8 and 9.
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8 Redox/Cl relay wait time RW Val: 0 0000	0...999	Minutes	1	Corresponds to auxiliary disinfection dosing pump if parameter 4 is set to value 2. Time delay of auxiliary disinfection pump on Relay AUX 2.
9 Redox/Cl relay work time RW Val: 0 0000	0...999	Minutes	60	Corresponds to auxiliary disinfection dosing pump if parameter 4 is set to value 2. Maximum dosing time of auxiliary disinfection pump on Relay AUX 2.

1 – Reduce the cell’s chlorine production intensity

2 – If your system is provided with Redox control option, please check the redox nominal value or the redox value set as free chlorine value.

3 – If your system has redox option, please check the probe status: it may be encrusted or calcified or need to be recalibrated. In this case they have to be clean, change or recalibrate.

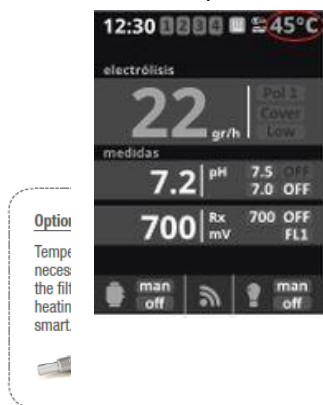
4 – If you manually add chlorine and it occurred an overdosing, please wait till the chlorine value lower to the desired one.

**6.1 - Wrong temperature displayed.**

1 - Calibration is wrong or made long ago. Perform a new calibration.

2 - The temperature sensor could be damaged. Change the temperature probe.

3 - Humidity into the connector. Dry them or change them.



14 Show/use temperature RW Val: 0 0001	0-1		1	0 - Temperature is not shown. 1 - Temperature is shown in display if the temperature probe is connected.
15 Heating RW Val: 0 0001	0-1		1	0 - The Temperature probe does not control the heating relay. The relay AUX4 can be used as "auxiliary relay". 1 - The Temperature probe controls the heating relay. 2 - Maximum and minimum temperature controls the heating connected to Relay AUX 4, allowing the cooling and heating of the pool.

**7.1 - Oxidation of metal parts of the swimming pool**

1 – Pool’s or rusty elements grounding are not done correctly. A technician should check the grounding.

2 - Rusty elements are not made sufficiently stainless. Replace such elements (min. index 304, 316 recommended)