2018 GENERAL INSTALLATION GUIDE KLX EN

From 3g SAL/L	Upgrade possible	Worlwide remote control	WiFi and MODBUS	Self Clean	Sea water

1. UNIT DESCRIPTION

Water treatment system and a controller for swimming pools.
Water treatment: The salt water electrolysis produces chlorine from a base of salt water of low salinity. The electrolysis cell attains a production of sodium hypochlorite (liquid chlorine) from 3g salt per liter. The chlorine combats and eliminates bacteria, virus, pathogenic agents and oxidizes organic matter present in the water. The used sodium hypochlorite reconverts into salt after a few hours.

ELECTRONIC BOX

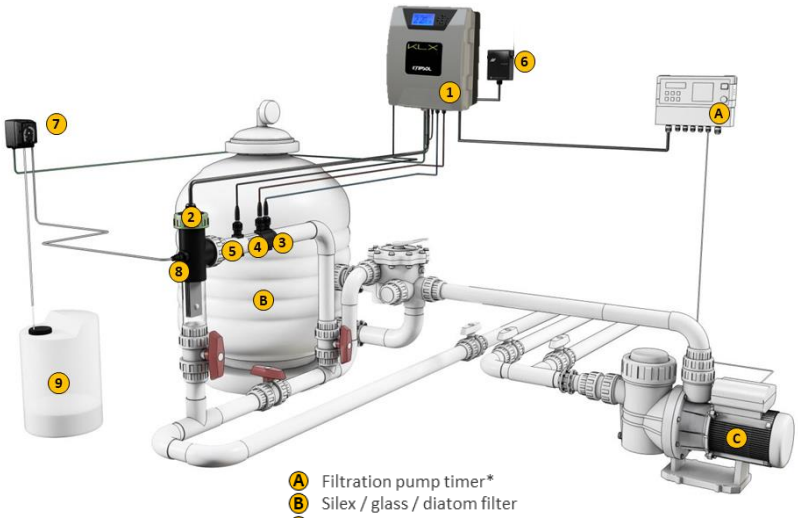
- A Main connection 230 V
- B Cell connection
- C Options connection
- D pH and Rx connection
- E ON/OFF switch

Weight: 5,8 kg

CELL

- A Electrolysis cell
- B Cell connector
- C Cell housing
- D Flow/gas detector (internal)

2. UNIT INSTALLATION



- A Filtration pump timer*
- B Silex / glass / diatom filter
- C Recirculación pump

- 1 Electronic box
- 2 Electrolysis cell (always vertical position)
- 3 pH probe (optional)
- 4 Rx probe (optional)
- 5 Temperature probe (optional)
- 6 WiFi module (optional)
- 7 Acid dosim pump (optional)
- 8 Acid injector (optional)
- 9 Hydrochloric acid container (not supplied)

Electrical consumption

It's recommended to use a time delay circuit breaker of 25 A for KLX devices. In case of sharing the power supply with other devices please consult a technician in order to dimension a correct installation.

Product	Maximum consumption	Gr Cl2/h
KLX 8	80 W	8
KLX 16	130 W	16
KLX 22	145 W	22
KLX 33	165 W	33
KLX 50	210 W	50

*** Filtration control by external timer**

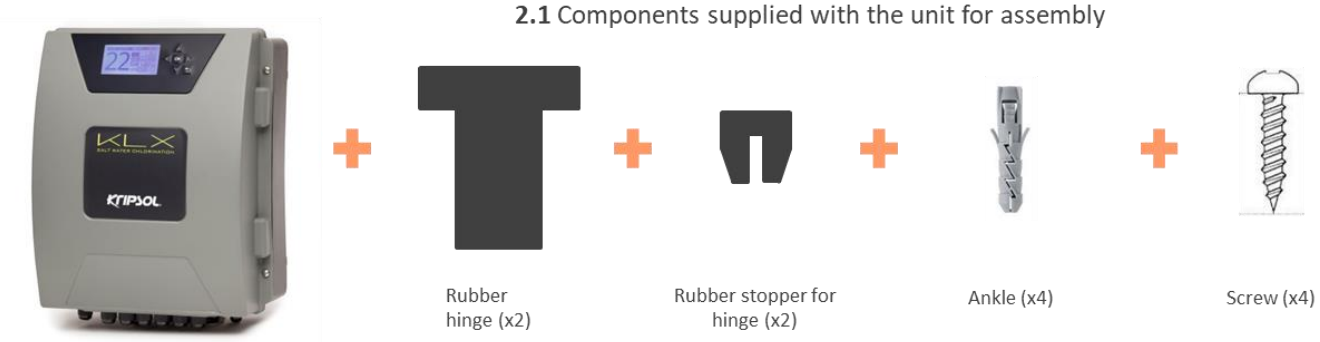
Filtration mode: "Manual / ON"

*** Filtration control by internal timer**

Filtration mode: See section - Filtration

2.1. UNIT ASSEMBLY

2.1 Components supplied with the unit for assembly



2.2 Open top enclosure.

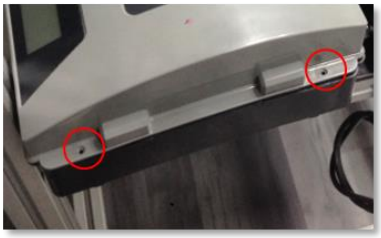
2.3 Pass the 2 hinges through the desired side (depending on your installation).

2.4 Screw the bottom enclosure to the wall with the 4 ankles and the 4 screws.

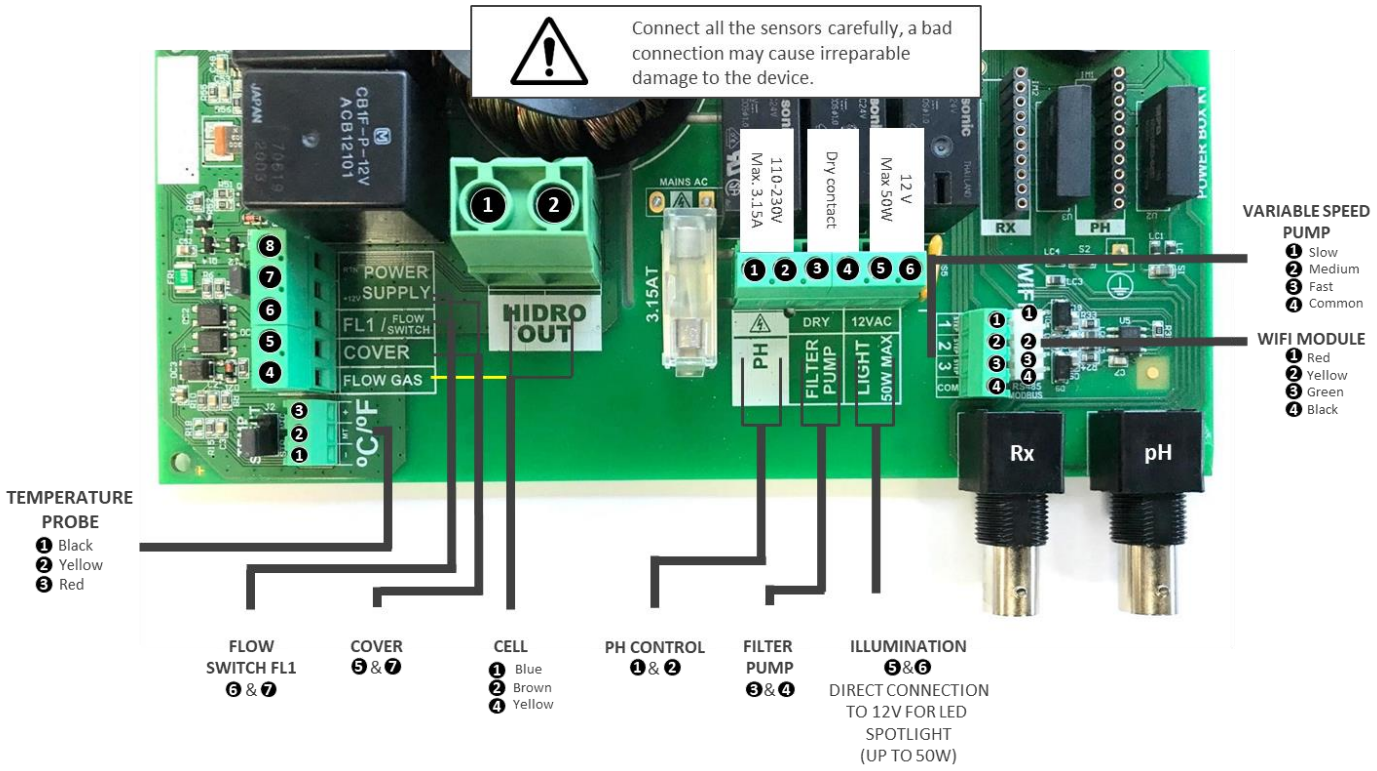
2.5 Insert the 2 hinges in the 2 inserts on the top enclosure.

2.6 Insert the 2 stoppers.

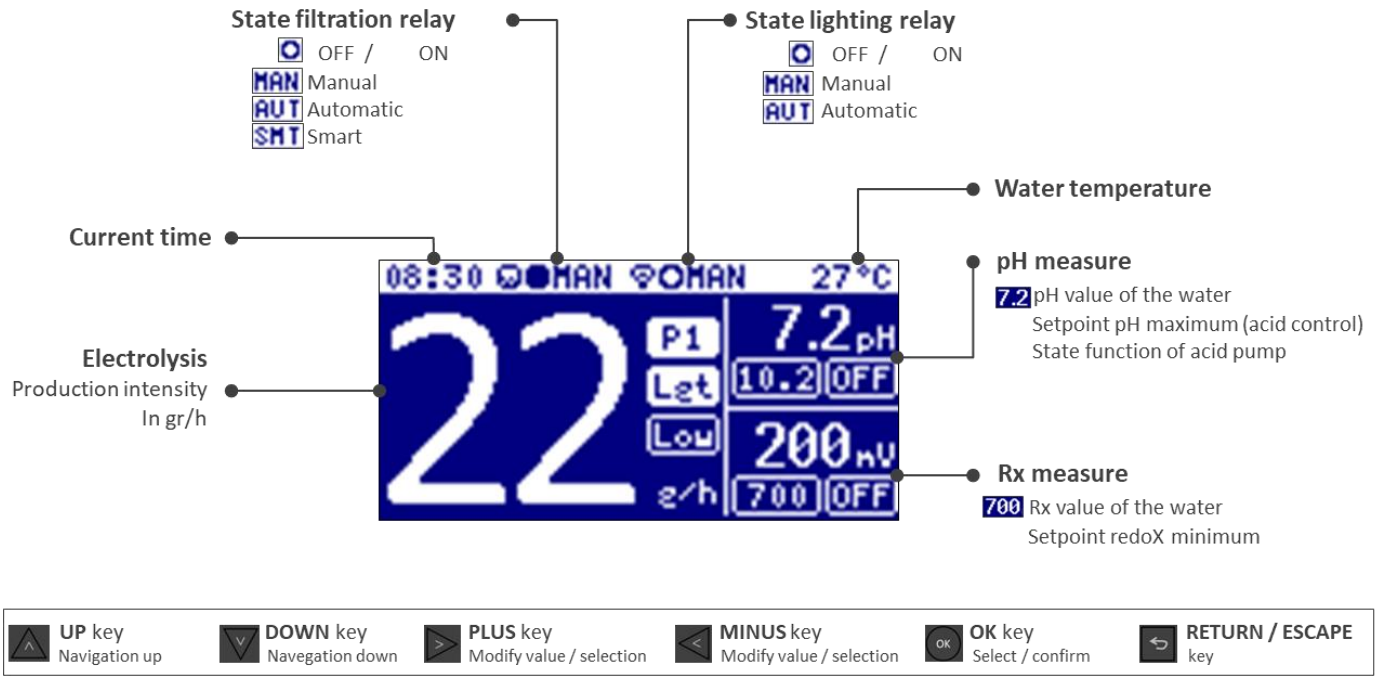
2.7 Close top enclosure with 4 screws.



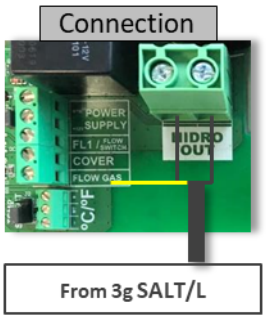
3. ELECTRONIC BOX INTERNAL CONNECTIONS

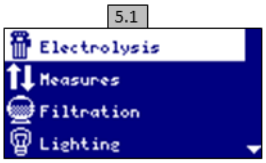


4. MAIN SCREEN



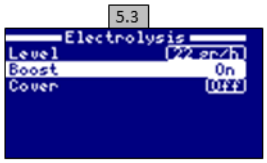
5. ELECTROLYSIS



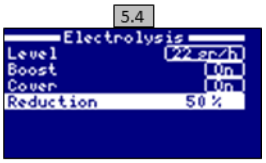


5.1 Electrolysis :
Programming of electrolysis functions.

5.2 Level :
Desired production of chlorine (gr/h).

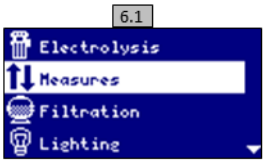


5.3 Boost :
Filtration during 24h at max intensity. Automatic return to programmed filtration mode. During the boost period the Rx control can be desactivated.

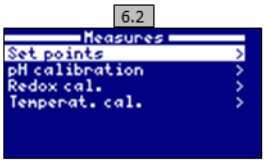


5.4 Cover :
Reduction of chlorine production to cover activation.
See section Cover.

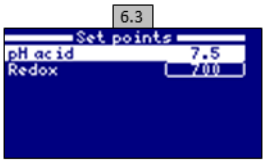
6. MEASURES / Setpoints



6.1 Measures:
Adjustements of setpoints and measuring probes.



6.2 Setpoints for each measurement.

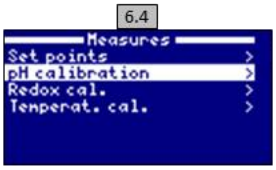


6.3 Setpoints settings: ideal setpoints for each of the parameters.

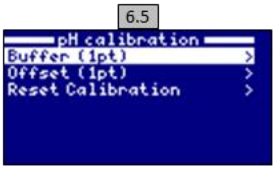
Default values:

- **pH : 7.3 – 7.5**
- **Rx : 600 - 800**

6.1. MEASURES – pH calibration



6.4 Calibration of pH probe :
Recommended every month during usage season.

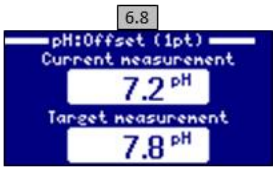


6.5 Calibration with buffers (buffer solutions pH7 / pH10 / neutral) : Follow the instructions in 7 steps that appear in the display.

6.6 Example first step of the calibration with buffers.
Go on with the 7 next steps.

Measure and control oh the pH of the water

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

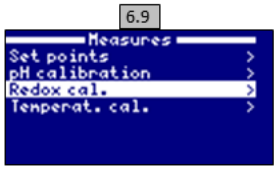


6.8 Without removing the probe from the water, use the plus / minus keys to adjust the reading so it matches with your reference value (photometer or other mesurement).

6.2. MEASURES – Rx calibration

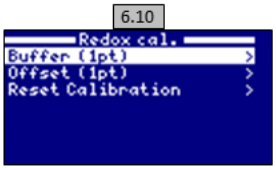
The Rx value advises us of the oxidation/reduction potential and is used to determine the level of water sterilization. The parameters or setpoints are the minimum/
maximum accepted Rx levels before the titanium cell is connected/disconnected. Adjusting the ideal redoX level (setpoint) is the last step 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 Rx 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 Rx set-point every 2-3 month and/or if the water parameters change (pH/temperature/conductivity).

6.9



6.9 Calibration of Rx probe : Recommended every 2 months during usage season.

6.10



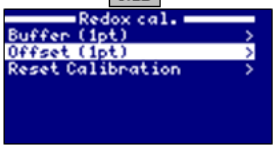
6.10 Calibration with buffer (buffer solution 465 mV) : Follow the instructions in 4 steps that appear in the display.

6.11

6.11 Example first step of the calibration with buffer.
Go on with the 4 next steps.

Measure and control oh the Rx as check value of the free chlorine

6.12



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

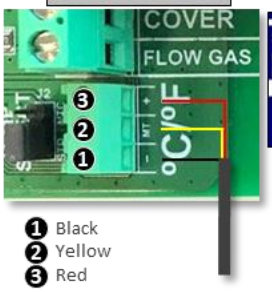
6.13

6.13 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 mesurement).

6.3. MEASURES – Temperature calibration

Temperature probe necessary to activate the smart filtration mode.

Connection

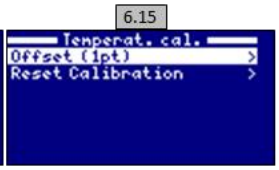


1 Black
2 Yellow
3 Red

6.14

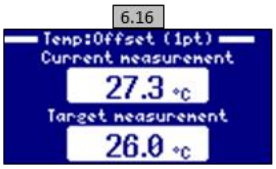
6.14 Temperature calibration.

6.15



6.15 Manual calibration : Allows to adjust the probes at 1 point

6.16



6.16 Use the plus / minus to fix the difference between the measured value of the probe and the actual temperature. Set to the actual temperature of the probe and press OK.

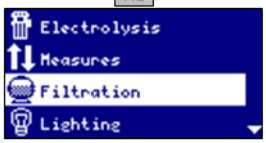
7. FILTRATION – Manual mode

Connection

Dry contact

Setup and connection of a **Variable Speed Pump**, see section - Filtration / Variable Speed Pump.

7.1



7.1 Filtration:
Configuration control of the filter pump. To set, select Filtration and confirm by pressing OK. The mode selection is done in Mode line with the plus/minus keys.

7.2

7.2 Manual:
Manually turns ON/OFF the filtration process. No timing or additional functions. The State line indicates whether the filtration pump is ON.
See section Filter Cleaning below.

7.1. FILTRATION – Automatic mode

7.3

7.3 Automatic (or with timer):
In this mode the filtration is switched in accordance with a timer that allow to adjust the start and end of the filtration. Timers always operate daily, in cycles of 24 hours.
To set the ON/OFF times (up to 3 possible time programmable), select with the **up/down** keys in the timer line you want to change (1-3).
The **plus/minus** keys opens the selected start time field. Set the time with **plus/minus** keys. Scroll with the up key to the minute field and set it up with plus/minus keys. To confirm press **OK** and to cancel press **return/scape.** To set the OFF timer, proceed accordingly.
See section Filter Cleaning below.

7.2. FILTRATION – Smart mode

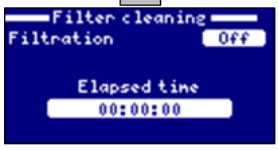
7.4

7.3 Smart*: This mode uses, as a basis, the automatic or timer mode, with its 3 intervals of filtration, but adjusting the filtration time in function of the water temperature. For that reason 2 parameters of temperature are provided: The maximum temperature, from which on the filtration times will be the ones from the timer setting. The minimum temperature: below this value the filtration time will be reduced to 5 minutes, which is the minimum working time. Between these 2 temperatures the filtration times will climb linearly. Use the plus/minus keys to set the desired minimum and maximum temperatures.
There is an option to activate the antifreeze mode in which the filtration will start if the water temperature is below 2° C.
To set the ON/OFF times (up to 3 possible time programmable), follow the instructions of the Automatic Mode.
See section Filter Cleaning below.

* **Note**: Mode only visible if the option to use temperature probe and/or heating is activated in the "Installer Menu".

7.3. FILTRATION – Filter cleaning

7.5

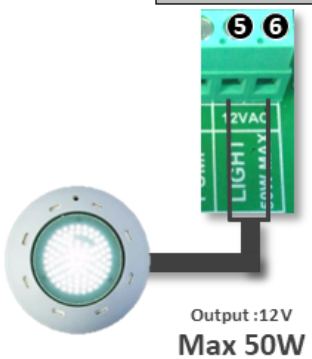


7.5 Filter cleaning mode (and pool cleaning by succetion): From this menu (accessible from any Filtration mode) It can be easily performed a backwashing cleaning of the sand filter. Activating this menu from any filtration mode (Manual, Automatic, Smart), will disconnect electrolysis/hydrolysis cell. Then proceed as follows:

- Put the filter pump OFF with plus/minus keys.
- Place the filtration pump valve in backwashing cleaning position.
- Put back ON in the filtration pump. Control the time that lasted the backwash cleaning on the clock display. Make sure it has made adequate and complete backwash of your filter.
- When finished the backwashing cleaning, again turn OFF the filtration pump and put back the valve in the filtering position. If you wish, now you can perform a rinse cycle.
- Proceed as backwashing cleaning, this time placing the filtration pump valve in the rinsing position.
- When leaving the Filter Cleaning menu, the system will be back to the previous programmed mode.

8. ILLUMINATION

Connection



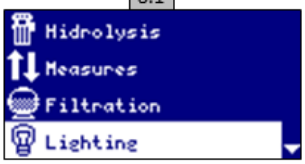
Output :12V

Max 50W

Direct connection to 12V for led spotlight (Up to 50W)

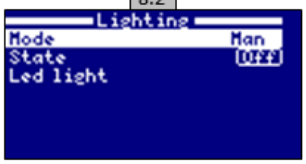
No need to use an electrical panel or independent transformer.

8.1



8.1 Lighting

8.2



8.2 Manual mode ON / OFF.

8.3

8.3 Automatic Mode: Shuts lights ON/OFF according to a timer. The timers can be configured with a frequency: Daily; Every 2 days; Every 3 days; Every 4 days; Every 5 days; Weekly; Every 2 weeks; Every 3 weeks; Every 4 weeks.

8.4

8.4 LED spotlight: In case of having installed led lights in your pool, use this menu to set the lighting.

8.5

8.5 Color selection: From this menu you can change the color of the lights in your pool.The Next Program option will program the color change manually, and Pulse lenght option will select the frequency needed to the color changes

Do not connect:
Halogen spotlight
Focus with consumption greater than 50W.

9. PH PUMP RELAY

Connection

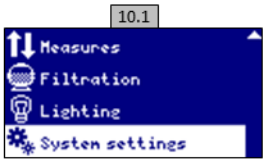
110-230V
Max. 3.15A

Acide dosim pump:

- The pump starts up according to the set point configured in the menu Measures - Setpoints - acid pH (set point <pH value of the water).
- In the standard menu, the maximum dosing time is 200 min to avoid acidification of the water (AL3).
- It can dosify acid or base (please contact your supplier).

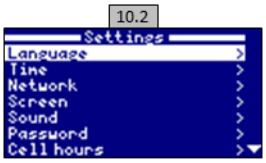
10. CONFIGURATION

10.1



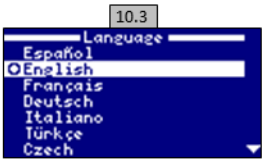
10.1 System settings.

10.2



10.2 Setting of preferred language.

10.3



10.3 Choose your preferred language.

10.4

10.4 Setting of day and current time.

10.5

10.5 Configure current day and time.

10.6

10.6 Setting of screen configuration.

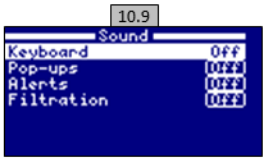
10.7

10.7 Setting of the intensity of the display lighting (0-100%) and programming its ON/OFF time.

10.8

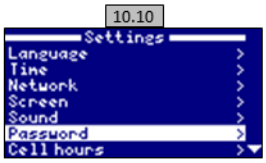
10.8 Sound setting.

10.9



10.9 Sound: Programming of the system to emit sound for the functions: **Keyboard** (keys); **Notices** (pop-up message); **Alarms** (working alarm); **Filtration** (start of the filtration).

10.10

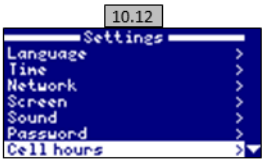


10.10 Password setting.

10.11

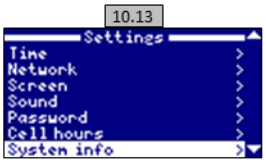
10.11 Password: Allows to protect the access to the user´s menu by activating a password. To enter your password press a combination of 5 keys and the system will memorize. If you forget the password, there is a "master password". Ask your installer/provider.

10.12



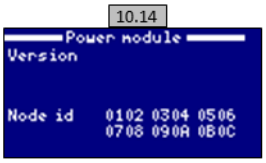
10.12 Cell hours: The system memorizes the operation times of the different modules.

10.13



10.13 System info.

10.14



10.14 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.

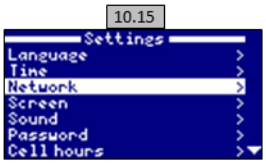
10.1. WIFI CONFIGURATION

Connection

WIFI MODULE

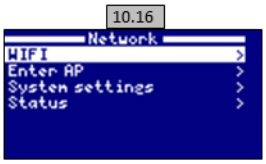
1. Red
2. Yellow
3. Green
4. Black

10.15



10.15 Internet: Once the WIFI module is connected, restart your unit. In the Settings menu will appear the Internet option.

10.16



8.16 WIFI: Select WIFI to scan the available networks accessible to the module. The search will be done Automatically.

10.17

8.17 Select the desired network accessible to the WIFI module. 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.

Once the WIFI module is connected to the network with both lights ON, enter in **www.kripsolpool.com.** 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 or filtration hour.

10.18

8.18 Select AP : Write manually the name and the password of the network selected.

10.19

8.19 Configuration: For a more detailed configuration enter this menu or contact your installer.

10.20

8.20 Status: Check the status of your connection.

10.2. WIFI INSTALLATION

10.21

10.21 Open top enclosure of WiFi modul.

10.22

10.22 Cut the flange.

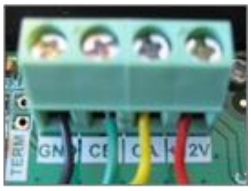
10.23

10.23 Disconnect the cables.

10.24

10.24 Pass the cable through the cable gland from inside to out.

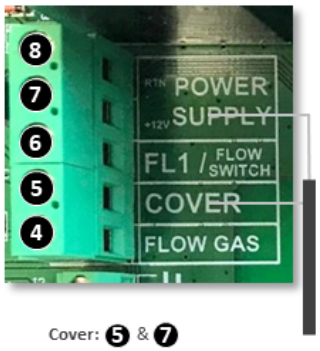
10.25



10.25 Connect cables in the WiFi modul.

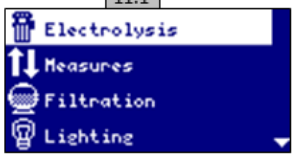
11. COVER

Connection



Cover: 5 & 7

11.1



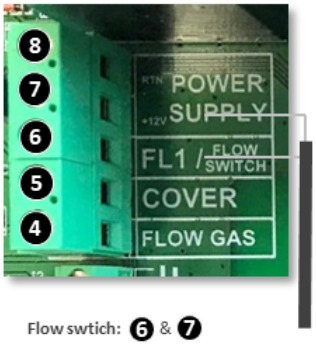
11.1 Cover: Connection of automatic cover.

11.2

11.2 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, regulates the optimum amount of chlorine generation.

12. FLOW SWITCH

Connection



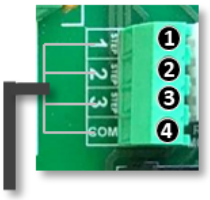
Flow swtich: 6 & 7

Mechanic security flow switch. It stops the electrolysis and the dosing pumps if there is no water flow.

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

13. VARIABLE SPEED PUMP

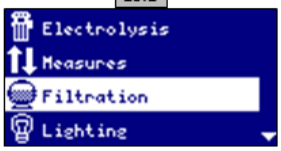
Connection



VARIABLE SPEED PUMP

1. Slow
2. Medium
3. Fast
4. Common

13.1



13.1 Variable Speed Pump: to install a Variable Speed Pump contact your installer.

13.2

13.3

13.2 – 13.4 After connecting the pump, you can individually assign each filtration period a different speed
F: fast, M: medium and S: slow.

13.4

13.5

13.5 Filter cleaning: to clean the filter with a Variable Speed Pump, you should use the fastest speed.

14. DESCRIPTION OF MESSAGES ALARMS

P1/P2	Operating cell polarity. The cell changes polarity automatically to clean itself.
Lgt	Lighting is on.
Cov	Cover detector indicates that it is closed. Production will reduce automatically to the value configured in the electrolysis menu.
F1	Lack of water flow in the installation. Monitor the flow switches and check that the pressure is correct.
Low	Production of the device is not reaching the desired level. This can be due to various factors - Lack of salt - Scaled-up cell - Consumed cell (check the hours counter) - Low water temperature
AL3	Maximum time exceeded for acid dosing. Check pH readings, calibration and verify that the acid tank is not empty. To reset the alarm press the 'Back' key.