PH&EC CONTROLLER

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1. INTRODUCTION.

Congratulations on your purchase of the "pH & Ec controller". With this driver you do not have worry about filling your water tank, adjust the values of Ec and Ph, and perform irrigation tasks; the "pH & Ec controller" system will do it for you.

This driver is able to set the values of Ec and pH optimum in the water and automatically activate the pump irrigation once these values are established and fill the water tank.

The "pH & Ec controller" has two pumps that inject fertilizers and a pump that regulates the Ph. Also it has incorporated an irrigation controller to automatically activate the pump irrigation in two different ways, continuously or by schedule (up to four times a day).

If we acquired the "optional" elements (max-min probes and alarm, solenoid valve and flow sensor), we have the option to control:

– The filling of water in the tank through the upper and lower sensors, in addition to an alarm probe that disables the system in case of emptying the tank.

– Enable the fill solenoid valve or reverse osmosis system.

The flow sensor will activate the driver if there is movement of water through the collector and it will disable the system if it detects lack of water in the system.

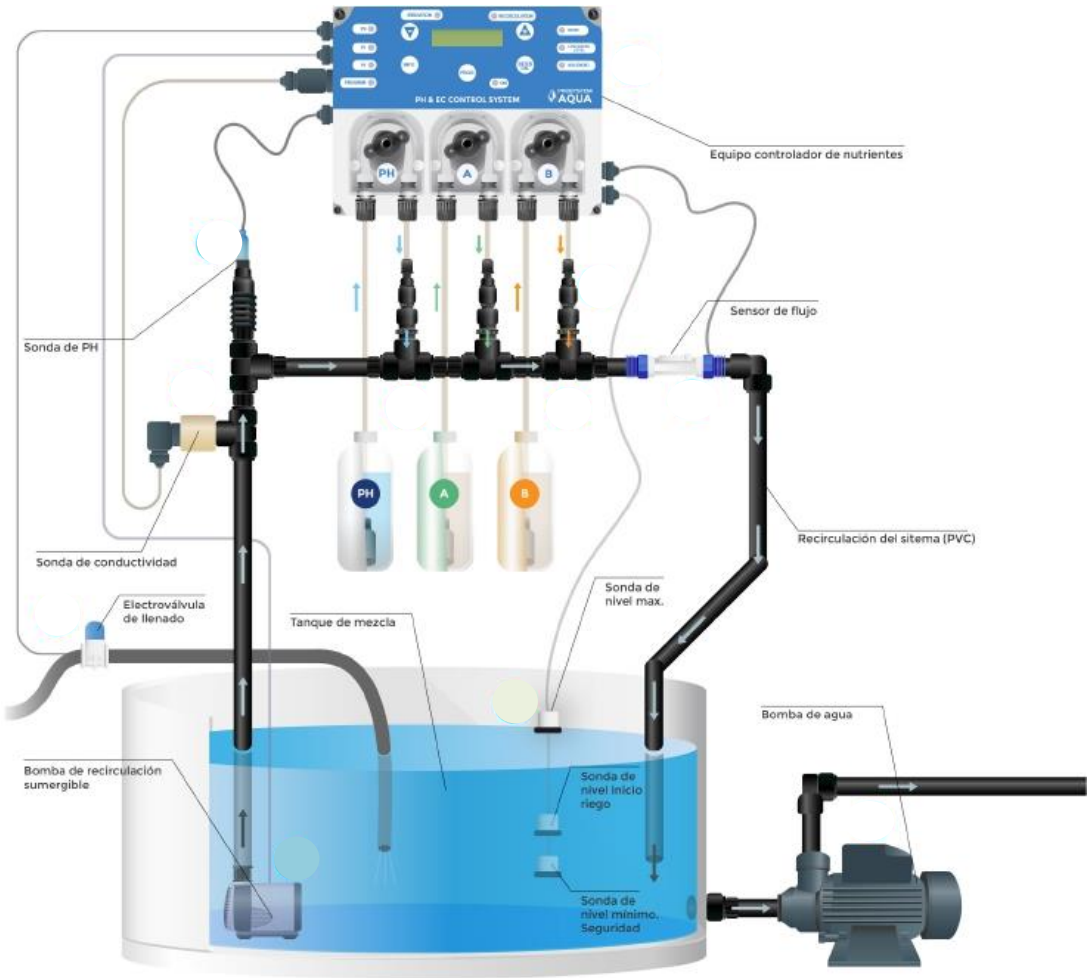
2. PACKAGE CONTENTS:

1- (1) Instruction Manual
2 (1) pH & Ec controller: incorporates 2 fertilizer pumps and 1 ph pump.
3 (1) Eq probe. Connected to the controller.
4 (1) pH probe.
5-(1) plastic composite collector:
- 5 x Te 1/2 "
- 4 x 1/2 buttress "
- 1 x PH probe holder
- 2 x hose16m-1/2”
- 1 x roll of teflon
- 3 x reduction 3/8” – 1/2”

6-(3) Injectors
7-(3) suction filter bottle
8- (3) Rolls of 10m pipe P. E.

Optional:
– 3 x probes level
– 1 x flow sensor
– 1 x solenoid filling.

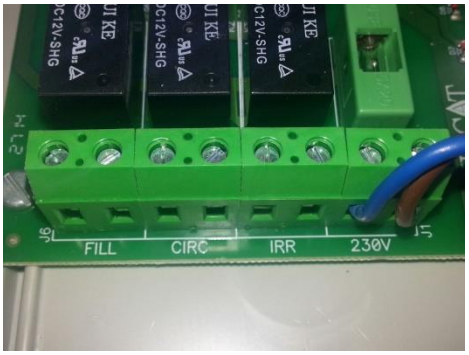
3. INSTALLATION DIAGRAM:



4. CONNECTION DIAGRAM: CIRCULATION PUMP AND IRRIGATION PUMP.

Inside the "pH & Ec controller" driver, we have a green strip to the left of the box where it says CIRC - IRR – FILL.

– In "CIRC": Connect the recirculation pump.
– In "IRRI": Connect the irrigation pump
– In "FILL" Connect the solenoid or reverse osmosis system (optional).



5. CONNECTION DIAGRAM "OPTIONAL".

Maximum and minimum probes.

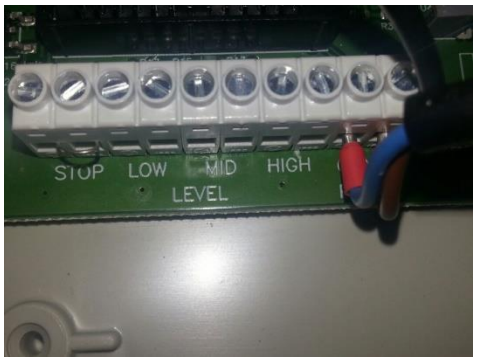
Inside the "pH & Ec controller" driver, you will find at the bottom a gray power strip with the following:

HIGH -Connect maximum probe, to achieve the maximum water level.

MID - Connect minimum probe, to achieve the minimum water level.

LOW - Connect alarm probe to disable the controller if the water level reaches the probe.

STOP - To connect the flow sensor. This item will activate the driver if it detects movement of water through the collector or disable the driver in case of no water flow in the collector because of pump breakage or seals, preventing overdoses of product in the tank.



6. OPERATION.

Once you have installed and programmed the controller, as well as calibration of the probes and the tank is filled with water, the "pH & Ec Controller" system will work as following and automatically.

If we've chosen the "CONTINUOUS" option.

The system will operate the circulation pump. After a few minutes, it activates the EC pumps to inject fertilizers and to reach the programmed set point. After reaching the desired set point, the controller will have to wait ten minutes before operating the pH pump that mixes the product.

Once this time has elapsed (10 minutes), the pH pump is activated to reach the programmed set point.

After controlling the Ec and pH, within minutes, the pump of continuous irrigation starts and it can be disabled only manually.

At all times the system will maintain the values of Ec and pH of the water as it will be running recirculation and performing continuous measurements of these values and correct them, if necessary.

If we have activated the "SCHEDULE" option:

In this option, the "pH & Ec controller" will first activate the circulation pump at the preset time each cycle.

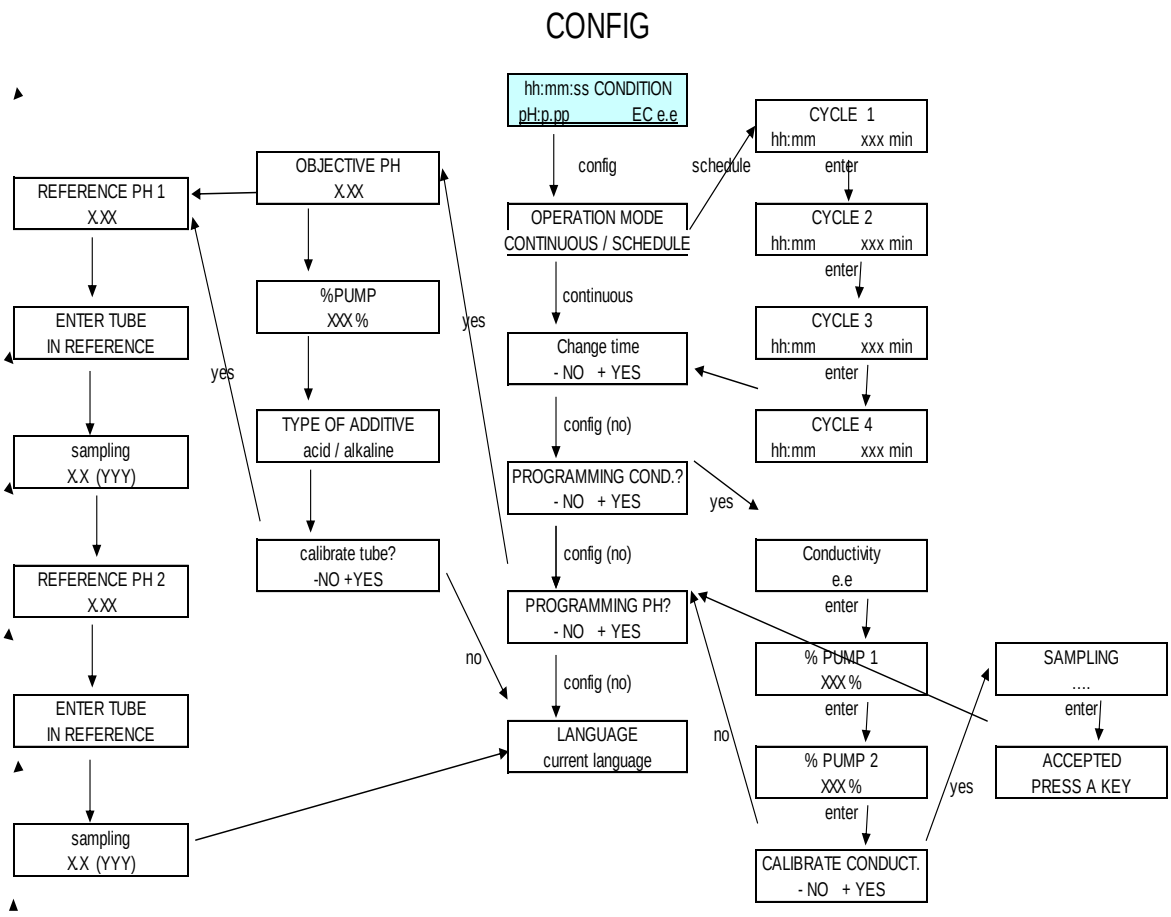
After 10 minutes, with the circulation pump running,it activates the EC pumps to inject fertilizers. Once it has reached the value of Ec, the system will wait another 10 minutes to mix the fertilizers. After this time, it activates the pH pump to reach the programmed set point.

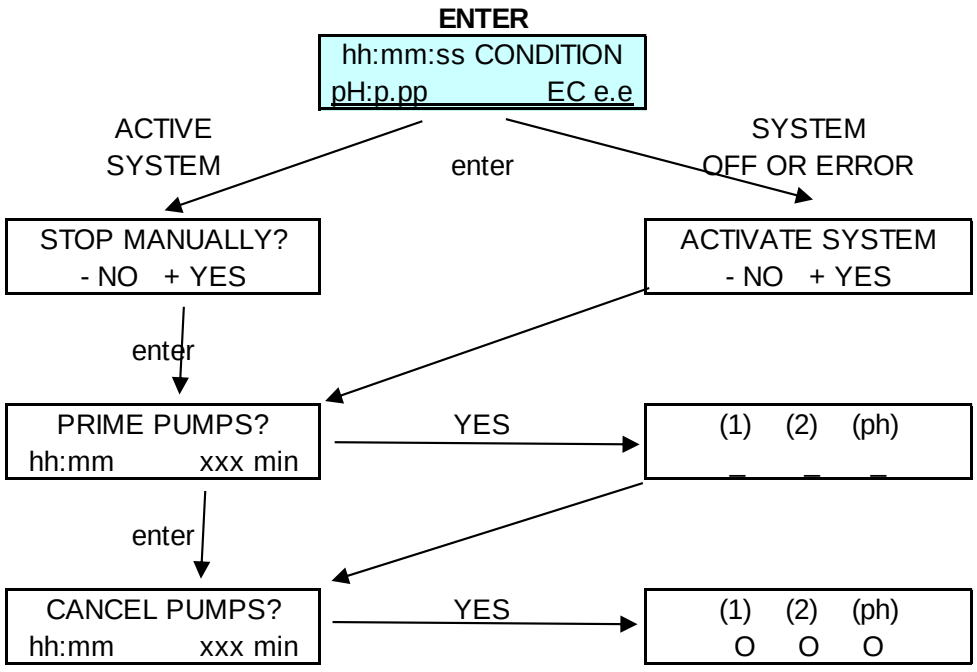
Once the values of Ec and pH are recognized and after a few minutes, it will activate the pump irrigation the time we have scheduled in each cycle.

The controller performs this function whenever you need to perform an irrigation cycle.

We can program up to 4 cycles / day.

7. PROGRAMMING.





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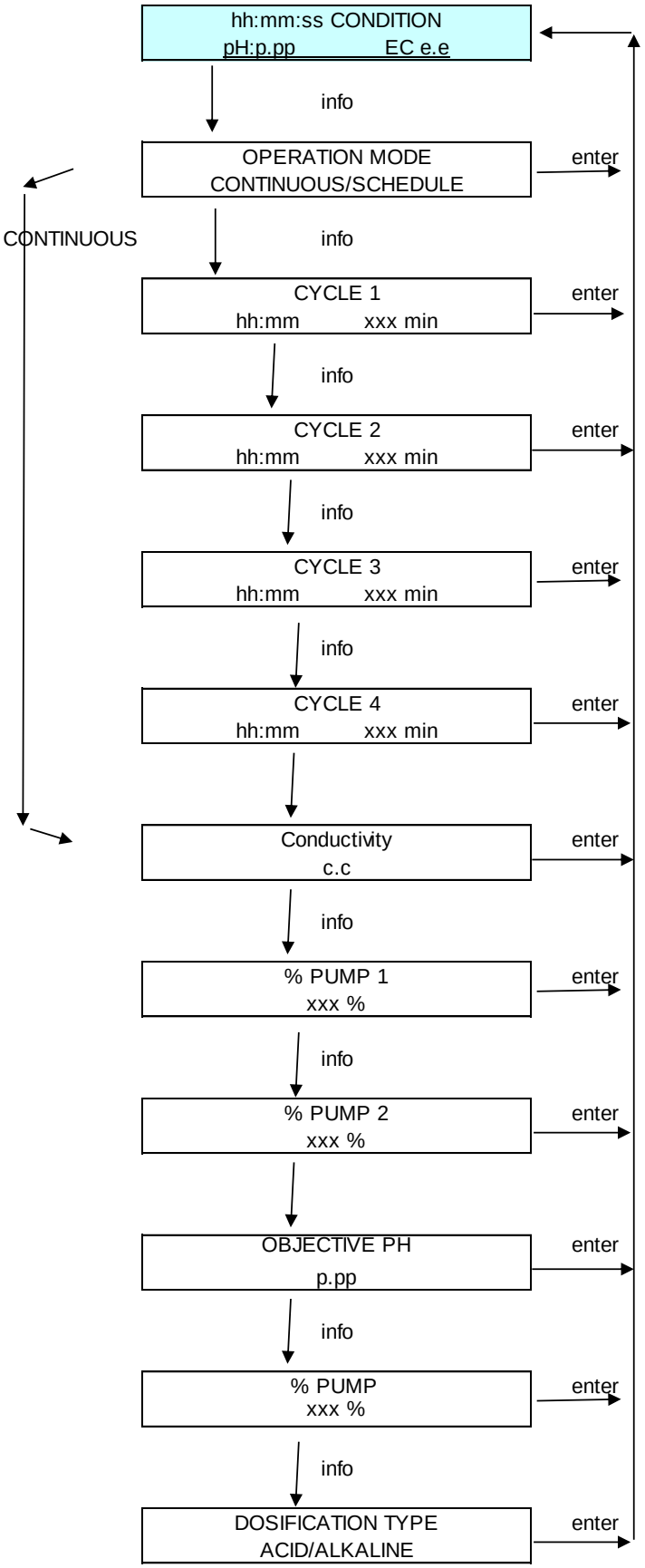
hh:mm:ss CONDITION
pH:p.pp EC e.e
info
OPERATION MODE
CONTINUOUS/SCHEDULE
enter
CONTINUOUS
info
CYCLE 1
hh:mm xxx min
enter
info
CYCLE 2
hh:mm xxx min
enter
info
CYCLE 3
hh:mm xxx min
enter
info
CYCLE 4
hh:mm xxx min
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Conductivity
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info
% PUMP 1
xxx %
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info
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OBJECTIVE PH
p.pp
enter
info
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info
DOSIFICATION TYPE
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