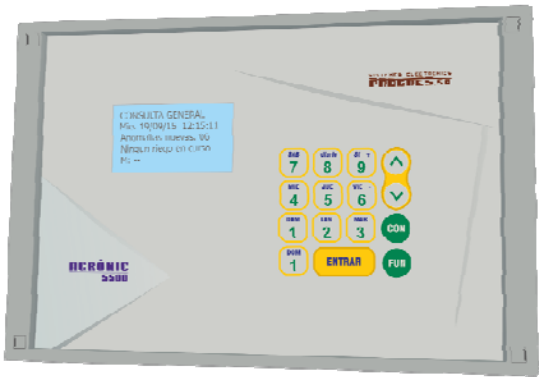
NOVELTY 2016

AGRÓNIC 5500



AGRÓNIC 5500 REPLACES AGRÓNIC 5000

An equipment for the control of irrigation and fertilization process for both hydroponic and soil crops.

Suitable when EC and pH for injection water have to be regulated, although it can also fertilize by units or perform irrigation with water alone.

It can read all kinds of analog and digital sensors, and irrigation or rain meters.

It can start and stop programs by means of sensors and determining factors, modify irrigation and fertilization and send warnings to mobile phones. For example, modifying irrigation according to solar radiation, making the crop to manage its own irrigation using soil moisture sensors, sending warnings if the temperature is very low, etc.

In greenhouses it can control the environmental temperature and humidity using nebulization.

It can apply phytosanitary treatments on each irrigation program.

It can mix two waters with different salinity to obtain a particular EC.

It can carry out the filter cleaning and manage the diesel engines, either motor-pumps or generators.

It has a detailed register of all the anomalies and the updates carried out, as well as the history, with records each 10 minutes, for each sector and sensor.

Connection to the “Agrónic PC” PC program and to the “Agrónic App” mobile application.

Connection by radio to the AgroBee modules which allow having valves, meters and analog and digital sensors at distances up to 800 meters, or greater with repeaters.

IRRIGATION

It manages the irrigation of 30 sectors governed by 16 independent programs.

Each program includes the starting conditions, the irrigation units on time or volume of up to 9 sectors that can be grouped one by one up to 9 at once, the fertilization by conductivity or uniform in time or volume units, procedure for the regulation of the pH, procedure to mix the incoming water and the F5 treatment units. On the start conditions it has three time schedules to start the program, by determining factors, by sensors and sequential of another, filtered by days of the week or frequency of days and an active time schedule. A program can perform pulsated irrigation on several activations separated by some time. The irrigation units are independent by program and can be on time (hh:mm, mm'ss") or on volume (m3, m3/ha) units. The volume watered by a program is divided proportionally on the watering history and on the "totals" of the sectors that water at the same time according to its planned flow.

FERTILIZATION

It controls the injection of up to 4 fertilizers, an acid, a fertilizer for treatment and a mixer.

It can apply the fertilizer independently of each program by conductivity regulation (EC) or by uniform application; on the former we use a proportion from between the 4 fertilizers and an EC procedure to keep, on the second one, the amount of each fertilizer that will be divided uniformly in the irrigation.

Pre-irrigation and post-irrigation independent for each program.

PUMPING

It has from 1 to 2 irrigation general outputs, or pumps, with assignation from the sectors which would activate them, and independent timers for activation and deactivation. Temporization for the input and output of each of the sectors.

Optionally, a diesel engine or generator set control with inputs for start, stop, contact and pre-warming. Start and stop control of the electric pump. Malfunction detection.

MIX

It controls the mix of the two waters to achieve an input water conductivity referenced in each of the irrigation programs.

FILTER CLEANING

It allows cleaning up to 9 filters, choosing the washing time. Programmable pause between filters.

The start of the washing sequence can be set by differential pressure and/or by time and volume of the water flow. It can only be performed at the start or during the irrigation.

The stop the irrigation sectors, or lack of it, and the fertilizers can be configured while cleaning the filters.

SPRAYING

It manages the spraying of up to 4 groups with a maximum of 8 valves per group to cool and/or moisten through temperature and/or moist sensors or also through a digital sensor.

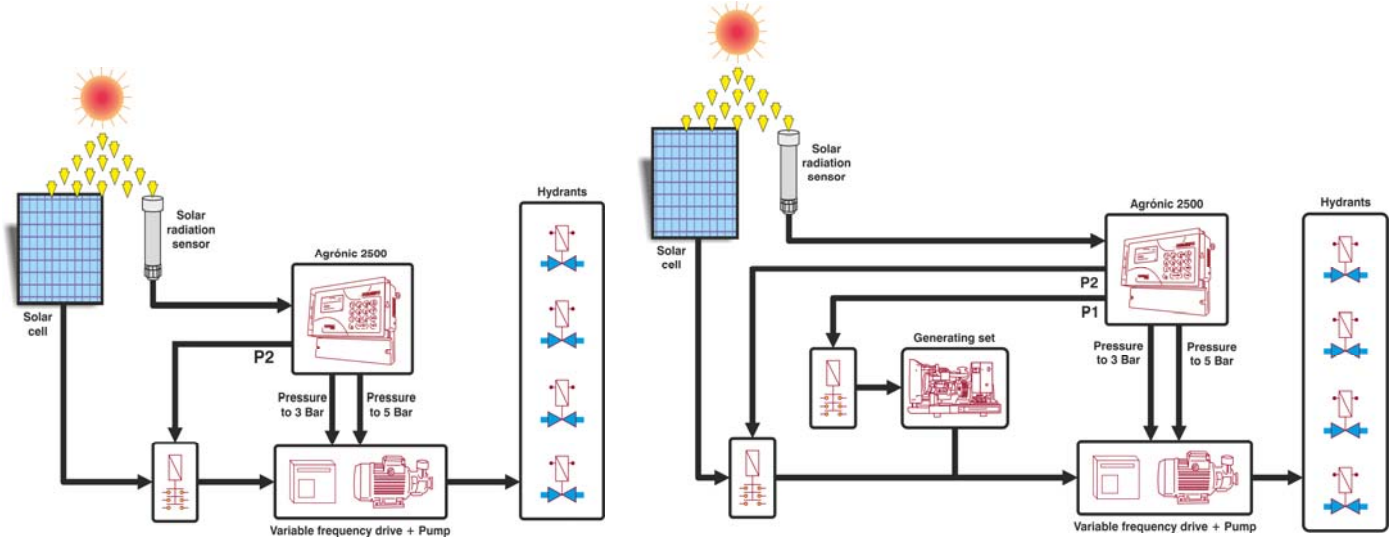
DETERMINING FACTORS

The set has a total of 50 determining factors totally configurable to perform duties that would consider the condition or the values of the digital or analogical sensors or the meters, and also the errors produced in the regulation of the EC, of the pH or the mix. The duties are so diverse as to be able to carry out definitive, temporary or conditional stops, applied to a particular program or to all of them, to start and/or stop a irrigation process, to modify the frequency of the irrigation cycles, to produce a warning, to adjust the irrigation or the fertilizing units at the start of the irrigation program according to an instant value of a sensor of to the integrated value from the previous irrigation process, etc. Also, each determining factor can be configured to generate an anomaly to send it in a SMS message to two personal phones and in a SMS to another machine.

As examples, we can highlight its use to end irrigation processes due to pipe break, to delay the irrigation due to lack or excess of wind, to modify the volume of each irrigation process in relation to the value of the water content in the soil, the solar radiation received by the plant from the previous irrigation process or the evapotranspiration, to send a warning the proprietary due to and attempt at theft, etc.

SOLAR IRRIGATION

Optionally, irrigation management on installations with solar panels connected directly to a variable frequency drive to activate a irrigation pump. It also allows having hybrid installations with energy from the power grid or from a power generator set. This operation has different priorities for irrigation at different pressures. The radiation sensor conditions the irrigation until there is enough energy to generate the working pressure.



MANUAL

Using the manual commands it is possible to start, to stop, to live out of service or to put on hold at certain times the irrigation programs; out of service or general Stop; to start or to stop the filter cleaning; ending of alarms and breakdowns, to put on manual or automatic the sectors or the spraying; to calibrate the EC and pH sensors; to modify virtual sensors or direct activation of the outputs.

VISUALIZATION

Complete visualization by means of a 128x64 pixel LCD graphic display, with automatic LED backlight.

Water tight keyboard by capacitive action of 15 keys with acoustic pulse indicator.

It includes Spanish, English, French, Italian, Portuguese and Catalan languages.

READINGS

The set keeps in an undeletable memory the accumulated events, the history and the event records with the anomalies of the last few days.

- General totals and by sector of the irrigation and fertilization units in time and volume from an initial date.
- Accumulated events by meter of watered, fertilized or rain volume from an initial date.
- Anomalies with date and time of the event and the instructions related.
- Records of each of the detailed events produced by the set.
- Independent history by irrigation sector, with the units on time and irrigation and fertilizer volume applied each day.
- History of each analog sensor with the mean, maximum and minimum value in fractions of 10 minutes.
- History of each meter sensor with the irrigation, fertilization or rain value plus the leakage in fraction of 10 minutes.

EXTERNAL MODULES

Optionally, it allows linkage to AgroBee radio modules, increasing the expansion possibilities and the use of new functions. It is a system based on the ZigBee protocol on 868/915 MHz free band. It allows locating remotely the irrigation valves, the digital and analog sensors and the meters, easily, through the different modules of the range.

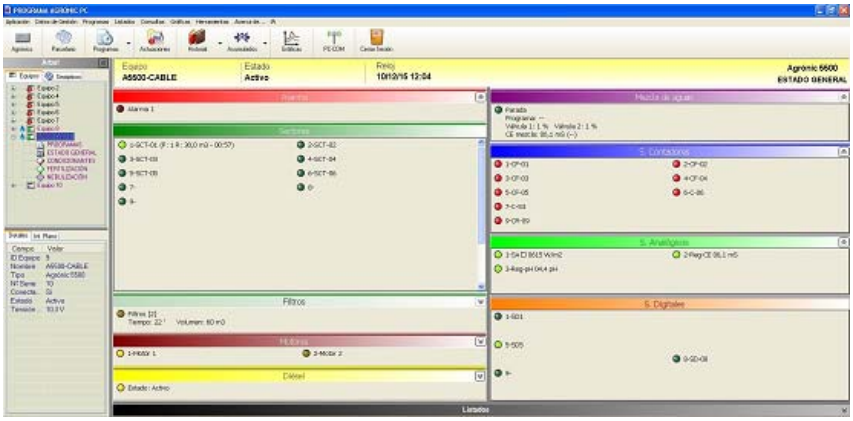
SMS MESSAGES

An option which offers the possibility of receiving from the Agrónic 5500, SMS messages with alarms, incidents and chosen actions, as well as sending commands through user mobile phone to start, stop or modify a program, put it on “Stop”, etc.

It also sends SMS messages to other programmers related to an event or determining factor.

MANAGMENT THROUGH THE PC

Optionally, through the AGRONIC PC, it is possible to manage the set through a personal computer.

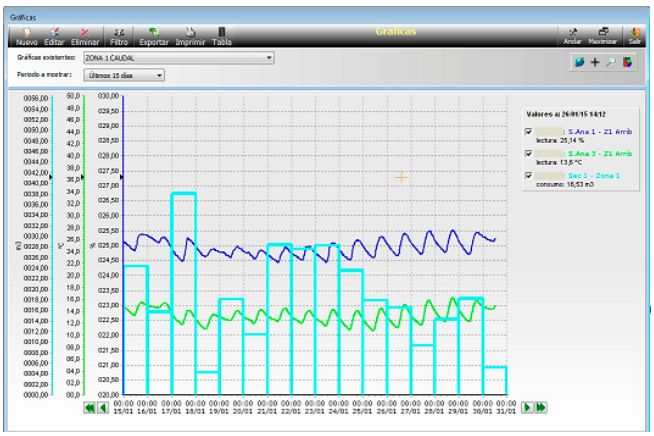


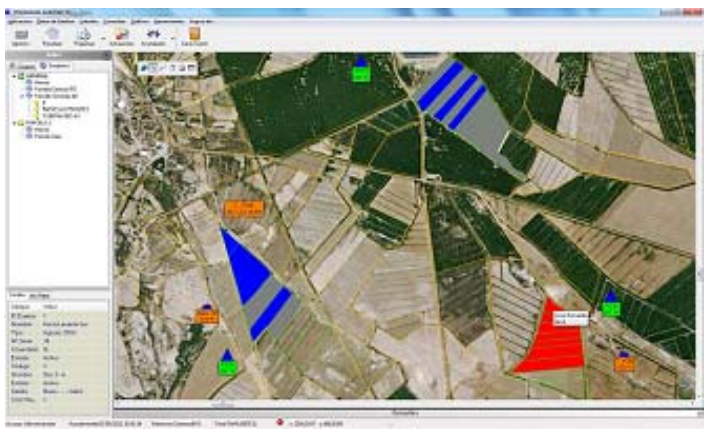
The connection possibilities are via cable (USB, RS485), by telephonic modem (GSM/GPRS) or by radio (Radiolink, Wifi).

- Cable: local or medium range management.
- Modem: long range or even different countries. It needs a network, charge by use, includes the SMS.
- Wifi: connection to local network at short range and by Internet to long range.
- Radio: distances of 1km to 20km. It shares the radio channel with other sets for grouping in allotment dispersion.

From the AGRÓNIC PC it is possible to obtain detailed information about the programmer (history, incidents, irrigation conditions, etc.) being able to act in order to modify parameters, programs, ranges, etc., from any place through a PC. The connection can be permanent and grouped alongside others controllers (Agrónic 7000, 2500, 4000, BIT).

The Agrónic 5500 manages the communications with three users; the data modified by a user is automatically updated on the other two. The connection of these three to the set can be simultaneous or permanent, depending on the link used. It can be used, for example, to interact with the proprietary, the allotment manager and the installer.





Characteristics summary:

- 16 irrigation programs of up to 9 sectors each.
- 30 sectors.
- 16 digital sensors.
- 30 analog sensors.
- 10 meter sensors (digital, by frequency or analog).
- 50 determining factors.
- 4 fertilizers (fertilization by EC or uniform).
- 1 acid or base.
- 1 phytosanitary treatment (fertilizer 5).
- Cleaning of up to 9 filters in a group.
- 4 sprays by temperature and/or humidity.
- Mix of two waters of different salinity.
- Automatic start and stop of diesel engine.

Models and options:

- Models for 10 and 20 outputs.
- Models for 6 and 12 analog inputs.
- All models have 4 fix outputs for fertilizer and 1 for acid not included in the 10 or 20 outputs.
- All models have 10 digital inputs.
- 12 Vdc power supply and outputs for 12 Vdc or 24 Vac. We have external power supply to transform from 220 Vac to 12 Vdc for supply and of 220 Vac at 24 Vac of 50VA for the outputs. Power and outputs protection with resettable thermal fuses
- Version with built in box and transparent door.
- Version with box to build in cupboard or desk.
- Diesel option for automatic start of motor-pump or generator set.
- Double tension option for generator sets.
- Link to AGRONIC PC program option.
- SMS message option (includes GSM/GPRS modem).
- USB link option.
- Wi-Fi link option.
- Radio-link option.
- AgroBee system link option.

GUARANTY

The products manufactured by PROGRÉS enjoy a two year guaranty against any manufacture defect.

Any compensation for direct or indirect damages caused by the use of the sets is excluded.

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