

Fertirrigation

AGRÓNIC 2500

One of the most complete controllers for fertirrigation.

Fully configurable, with multiple possibilities of use.





Description

Complete controller for irrigation and fertilization control, fully configurable and with multiples possibilities of use, communication and expansion.

Equipped for the control of irrigation, fertilization, pumping and cleaning of filters, with fault detection and detailed chronological record of events and accumulated history.

Fully scalable from the basic model, with great ease of use, to add the total options to reach a high performance model.

Models with 9, 18 and 27 configurable outputs, plus 6 and 11 digital inputs on the base, in addition to various versions and options.

All controllers allows the control of 30 irrigation sectors, 2 pumps, 4 fertilizers and agitators, 1 general fertilizer, 9 filters and 1 general filter.

In addition, with the **Plus version** it allows you to configure and read 20 digital sensors, 40 analog sensors, 10 counter sensors and operate with read extensions up to 6 analog sensors in the base + SDI-12 protocol or through the Agrobée-L radio system.

Programming by time and volume, both in irrigation and fertilization and in cleaning filters, with the possibility of independent actions in each program.

Through climate, plant and soil sensors, the start and stop conditions, or the irrigation and fertilizer units can be influenced.

Remote management of the controller through Agrónic APP, Agrónic Web and Agrónic PC.

Available in Spanish, English, French, Italian, Portuguese and Catalan.

There are two types of format, wall box or to be embedded in cabinets or desks.



Plus Version

The controller is available in two versions, the Basic and the Plus.

The Plus version offers a notable increase in performance in relation to the Basic version:



Programs



Fertilization



Determining factors



Manual orders



Sensors



Readings



Pivot control



Solar irrigation

The controller can come from the factory with the option activated or it can be activated at any time due to new requirements in the installation.



Irrigation

It manages the control of 30 irrigation sectors sorted by 50 programs.

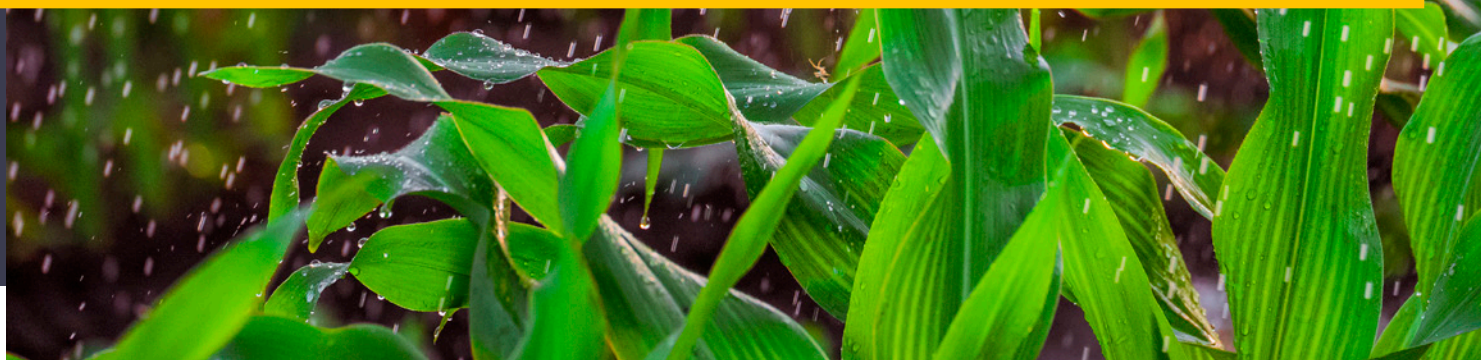
Each program can:

- Simultaneously activate 1 to 4 irrigation sectors. Simultaneous action of sectors can be limited.
- Starts by days of the week, at the end of another program or by a digital input when closing a contact.
- Irrigation units in time (hh:mm), in volume (m3).
- Proportional distribution of each counter pulse in the accumulated and historical, according to the expected flow of the sectors related to the counter that irrigates at the same time.

In the Plus version the benefits are extended:

- Irrigate by frequency of days (every day, day in day out, etc.).
- Irrigate with several activations separated by a time in hours and minutes, thus performing a pulsed irrigation.

- Start when a sensor reaches a certain value (with safety time between starts).
- Active schedule to limit the application of irrigation within the schedule; useful at the beginning of sensor irrigation.
- Active period to limit the operation of each program to specific dates.
- Irrigation units in time (mm:ss), (hh:mm/ha), in hectare volume (m3/ha) independent per program, calculating the units to be applied at each start.
- By means of sensors, modification of the irrigation and fertilization units of a program, or all at once, depending on the values of the previous irrigation or by means of a virtual sensor (manual order).
- Temporary suspension of a program due to sensor values.
- Control of the instantaneous flow of the irrigation counters, with programming of the expected flow in each sector and percentage of tolerance for both excess and default.





Fertilization

Configurable from 0 to 4 fertilizers, in independent tanks. Pre-irrigation and post-irrigation values for each program. Fertilization units in time (hh:mm), in volume (L) and, optionally, per hectare volume (L/ha). Configurable the use or not of the agitators, with pre-agitation and intermittent agitation or followed.

Fertilizers can be applied in three different ways:

- **In serial:** one type of fertilizer after another, with a single injector pump.
- **Parallel:** combine several fertilizers at once, with an injector pump for each.
- **Uniform (only in Plus version):** it performs the application of fertilizers with a uniform distribution of each of them between pre and post irrigation.

In volume fertilization, optionally detection of lack of pulses or water leakage. Proportional distribution of each counter pulse in the accumulated and historical according to the expected flow of the sectors that fertilize at the same time. Fertilization in parallel.

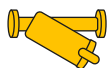


Pumping

The controller has 1 to 2 general outputs to assing 2 pumps. From sectors parameters you choose the pumps to be used.

It allows to choose the time of activation and deactivation of the pumps with respect to the sectors, to avoid water hammers.

With the “Diesel engine control” option, **control a diesel engine or a generator set** with outputs for start, stop, contact and preheat. Start and stop control of the electric pump. Failure detection.



Filter cleaning

Manages the cleaning of up to 9 filters.

The washing starts by pressure difference and by time limit or volume of water circulation.

It allows you to choose the washing time of the filters, if you want a break between them, if you want an initial pause before starting the cleaning, and if, when you start cleaning the filters, you want to stop or not the sectors and fertilizers.



Determining factors

With the Plus version, the controller has a total of 30 determining factors with which it performs direct actions affecting independent programs (5 in each program) or the entire controller, taking into account the information of the digital, analog or counter sensors.

These conditions can alert by means of a registration, an anomaly, an SMS message or a notification.

Determining factors

Information of

Digital sensors
Analog sensors
Counter sensors
Flow error
Communication

Types of determining factors

Definitive stop
Temporary stop
Conditional stop
Start
Start / Stop
Notice of registration
Irrigation modification
Fertilization modification
End by rain
Pressure switch filters
Diesel pressure switch
Fertilizer stop

Programs



Manual

By manual orders the controller can:

- Start, stop or leave out of service a program
- Suspend a program for a few hours
- Leave the controller out of service or in general Stop
- Start of stop filter cleaning
- End alarms and breakdowns
- Set the sectors to manual, stop or automatic
- Modify the virtual sensors
- Activate outputs
- Delete accumulated
- Leave conditioners out of service



Readings

The controller memorizes the accumulated memory and, with the Plus version, the history and event logs with the anomalies of the last days in non-erasable memory.

- Accumulated general and by sector of the irrigation and fertilization units in time and volume from an initial date.
- Anomalies with the date and time of the incident and related indications.

In addition, with the Plus version:

- Record of each of the detailed events produced by the controller.
- Historical independent by sector of irrigation, with the units in time and volume of irrigation and fertilizer applied by each day.
- History of each analog sensor with the average, maximum and minimum value in fractions of 10 minutes.
- History of each counter sensor with the value of irrigation or fertilization plus that of leakage in fractions of 10 minutes.



Solar Irrigation

Use solar energy to carry out irrigation. It drives motors using solar panels connected to a solar radiation sensor and a frequency inverter.

It combines solar energy and the power of the electric grid or a diesel engine in hybrid installations to ensure irrigation on cloudy days or after daylight hours.

Solar irrigation also allows for irrigation at different pressures, prioritizing higher pressure sectors.



Pivot control

Remote management of up to 4 pivots both circular and linear. Its benefits are:

- GPS position reading.
- Speed and direction control.
- Deactivation of the gun and the eave according to position.
- Control over diesel engines or solar irrigation.
- Control of the physical goals in sectoral pivot.
- Manual action such as start, stop, dry pass, etc.
- Sectorization and configuration up to 8 irrigable areas per pivot.
- Programming by time or by passes.
- Modification of rainfall by area.
- Information about alarms, misalignment, skating and pivot position.
- Irrigation modification depending on the sensors (climate, plant, soil).
- Remote management through the Agrónic PC, Agrónic Web or, soon, Agronic APP.

External modules

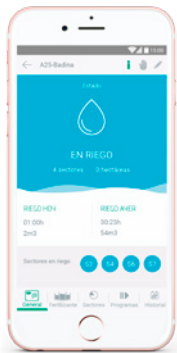
With the “Agrobee-L link” option, the device links with **Agrobee-L radio modules**, expanding the possibilities and the user of new features.

The different modules in the range **activate valves and other irrigation elements**, as well as the reading of **digital, analog and counter sensors**.

The Agrobee-L radio modules work with LoRa radio modulation, which operate in the 868 MHz / 433 MHz / 915 MHz free bands, obtaining coverage radii of up to 2500 m between two points (depending on the orography).



Agrónic APP



Mobile application that allows you to manage the irrigation and fertilization of the parcels from any place where an Agrónic controller is installed.

It allows you to consult and edit the controller, know the status of the parcels in a list or on a map,

act manually on irrigation programs or sectors, consult graphs of the sensors and sectors, and much more.

Any event generated in the controller can send a **warning to the mobile** by means of a “Notification” or an “Alarm”.

Agrónic PC

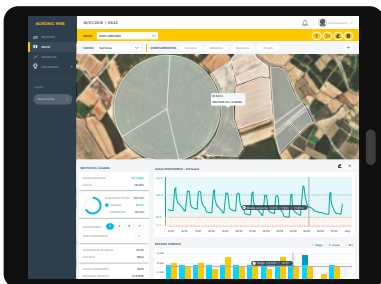
Program for Windows, which allows you to configure, program and consult all the features of the controller in real time, in a more intuitive and easy way.

It has consultation, editing and configuration of programs, sectors, external modules, fertilizers, filters, sensors and determining factors.

Synoptics can be created to have a global view of the parcels, and graphs for wider monitoring.



Agrónic Web



High performance tool that allows analyzing and optimizing the irrigation and fertilization of the parcels where and Agrónic controller is installed, through the browser of the computer of tablet.

The Agrónic Web collects information on the status of sensors (soil, plant, climate and consumption) connected to controllers, and data from APIs, and processes them to visualize them through graphs and records.

It has consultation, editing and configuration of programs, sectors, pivots, external modules, fertilizers, sensors and determining factors.

You can create facility maps and check the status of sectors, external modules and sensors and act on all of them.

Through multi-user management, the main user can create sub-users to give them different permissions (consult, edition and configuration) on all their controllers.

Options

Options to extend the controller's features.



GPRS link / SMS Messages

Option to connect via GPRS, and/or receive SMS messages from the controller



WiFi link

Option to connect via WiFi router.



Cloud

(Agrónic APP + Agrónic Web)
License to connect the controller to the cloud.



PC + Cloud

(Agrónic PC + Agrónic APP + Agrónic Web) License to connect up to 3 PCs/ Servers to the computer



USB link

Option to connect via cable.



Radio link 433 MHZ

Option to connect to Agrónic PC via radio.



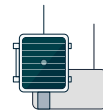
RS485 link

Serial port with RS485 + USB link box.



AgroBee-L link

Option to link external modules AgroBee-L 868 MHz, 915 MHz y 433MHz.



AgroBee-L link + GPRS modem

Option to link external AgroBee-L modules with GPRS modem included in the same board.



2 analog inputs

Connector for 2 analog inputs 4-20 mA o 0-20 v.



SDI-12 extension and 4 analog inputs

Board to incorporate 8 sensors with SDI-12 protocol + 4 different 4-20 analog sensors



5 digital inputs

Connector for 5 digital inputs



Pivot control

Option to control the position, direction of movement, speed, start, stop, etc. up to a maximum of 4 pivots.



Diesel engine control

Option for the automatic start of a motor pump or a generator set.

Summary of benefits

Models

- 9 or 18 digital outputs expandable to 27.
- Relay or 2/3 wire latch outputs.
- 12 Vdc power supply.
- Outputs for 12 Vdc or 24 Vac.
- Double voltage

Functionalities

- 30 sectors.
- 50 irrigation programs.
- 20 digital sensors.
- 40 analog sensors.
- 10 counter sensors.
- 30 determining factors.
- 4 fertilizers (serial, parallel or uniform application).
- 9 cleaning filters in a group.
- Automatic start and stop of diesel engine.



Warranty

The Agrónic 2500 complies with the CE marking directives.

The products manufactured by Progrés enjoy a guarantee of two years against any manufacturing defect.

Compensation for direct and indirect damage caused by the use of the controller is excluded from the guarantee.

Sistemes Electrònics Progrés, S.A.

Since 1985, we have been dedicated to the design and manufacture of electronic equipment for agricultural fertirrigation such as drip irrigation, spraying, and hydroponics and other water controls such as remote management in irrigation communities, parks, and gardens, and also for environmental control in greenhouses and on farms.

Our range of irrigation controllers is one of the most complete in existence and some of our models have been pioneers worldwide.

Because it is configurable, our systems can be adapted to the particular needs of each installation.

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