Management Computers >

> Agronic 4000

Automation

DESCRIPTION:

Application

- Irrigation e fertigation control unit
- Applications in open fields, fruit farming and
- vineyards, tunnels and glasshouses
- EC management, pH reading

Specifics

- LCD display - 2 lines x 40 characters - backlit
- Waterproof soft-touch keyboard, alphanumeric 23 keys
- Language: italian (others on request)
- Box version for free installation

Hardware Features

- Outputs: 16/24/32/48/64/80/96
- Digital inputs: 12 (expandable)
- Analog inputs: 40 (12 in the base box) not included
- 220/24 V AC transformer not included in the specific model
- Free installation box dimensions: 295 x 250 x 130

Materials

- Free installation box: PC/ABS
- Front panel: aluminium
- Box support: stainless steel

MODELS CHART

Model	Supply	Solenoid type output tension
220/24 AC	220 V 50 Hz AC	24 V AC
12 V DC	12 V DC	12 V DC
Latch 2•	220 V 50 Hz AC	Bistable 12 V DC 2 wires
•On demand		

Model	Stations						
	16	24	32	48	64	80	96
	Code	Code	Code	Code	Code	Code	Code
220/24 AC	0PG1154	0PG1100	0PG1102	0PG1106	0PG1110	0PG1114	0PG1118
12 V DC	0PG1153	0PG1155	0PG1101	0PG1105	0PG1109	0PG1113	0PG1117

Irrigation specifications

- It can control up to 99 irrigation sectors, managed by 35 sequential programs, with 12 sub-programs in each sequence (total 420) and possibility to link programs to execute sequences of 24, 36 or more sub-programs
- Possibility to open up to 20 sectors simultaneously using 2 programs
- Each program can start its timed functions, when another program ends, when a sensor reaches a certain value (° C, soil moisture, etc.), through a contact, from a mobile phone via SMS
- Irrigation can be managed based on the days of the week, the frequency of irrigation (irrigate every day, every 2 days, every 3 days, etc.) or irrigate every day with different methods
- It is possible to define the period of the year in which the program must work
- When starting the program via sensors, a period of activity can be defined and the time margin between starts can be chosen
- The irrigation and fertigation parameters can be changed by manual intervention or through sensors that will have an influence according to the values of the previous irrigation or as rain, evapotranspiration, integration of solar radiation, etc.
- When irrigation is in progress, a program can be temporarily interrupted by a sensor (wind, temperature, level, etc.)
- Grouping of programs up to 9 groups so that only one program of each group can water simultaneously
- Complete control of instantaneous flow from four water meters, with programming of the flow foreseen in each sector and percentage of tolerance for both excess and short
- Each sector can be connected to a digital flow sensor to detect the lack of irrigation

Fertigation specifications

- Possibility to configure from 0 to 8 fertilizers
- Independent pre and post irrigation values for each program
- The time or volume of application of each fertilizer can be programmed independently for each subprogram
- The use of agitators can be configured, with premixing and intermittent or continuous mixing
- Fertilizers can be applied in three different ways:
  1) In series: one type of fertilizer after another, with only one injector. In proportional fertigation, independent proportions for each fertilizer
  2) In parallel: several fertilizers are injected at the same time, with an injector for each of them - in proportional fertilization, independent proportions for each type
- of fertilizer and subprogram
  3) Uniform: injection of each fertilizer to be distributed evenly between pre and post irrigation
- Any traces of residual fertilizer can be cleaned automatically, with water, at the end of fertigation
- Reading of the instantaneous flow of fertilizers, as in irrigation
- With the "pH control" option, the level of acid to be injected can be controlled with an independent reference value for each sub-program - with an alarm for excess or deficiency in the pH reading and electrical conductivity (Ec).
- It is possible to choose the pH control also during the pre and post irrigation phase

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Automation

Master valve / pump specifications

- Agronic 4000 has 4 general irrigation outputs, commonly referred to as motors, which can be assigned to pressurization systems, with independent timed activation and deactivation
- The output n ° 1, by means of the "Pressure regulation" option, can provide a 0-20 or 4-20 mA analog output to connect it to a frequency converter and maintain a constant pressure in the irrigation line for each sector
- Optional control of a diesel engine or generator, with outputs for start, stop, contact and preheat
- Start and stop of the electric pumps

Filtration specifications

Management of up to four independent filter groups, with the following specifications:
- The number of filters to be used in each group is at the operator's discretion
- Two cleaning times for each filter group
- Pause time between filters during washing
- Cleaning can be initiated by the difference in pressure and / or time or volume of water
- Stop irrigation during cleaning
- Continuous cleaning cycle control

Counter specifications

- Each irrigation output can be assigned to one of the 4 connectable volumetric meters to be able to irrigate in liters or m³
- In the management of total volumes, the volume of irrigation and fertilizer is divided in proportion to the nominal flow assigned to each sector
- The fertilizer is programmed in liters, deciliters or centiliters with 8 available counters

Determining factors

There are 4 determining factors that can influence each of the irrigation programs and they can be performed in the following way:
- Start irrigation with solar radiation, humidity, soil moisture, temperature, etc.
- Stop irrigation with wind, temperature, etc.
- Change the irrigation values for irradiation, rain, etc.
- Change fertilization values for radiation, rain, etc.

These determining factors help to adapt fertigation immediately to climate changes

Analog / Digital Inputs

- Agronic 4000 has 12 digital inputs, expandable to 48, which can be managed as temporary, conditional, stop, irrigation pulse meter, fertilizer, general malfunction, intrusion alarm, rain gauge, start of irrigation programs, diesel oil pressure gauge or engine stop
- Up to 40 sensors (analog inputs) can be connected to extensions, external modules, to read, condition the irrigation, fertilization of different sectors - it is possible to make a history of the first 14 sensors

Expansion modules

Agronic 4000 has the ability to connect with external modules of different types:
- Agrónic Radio 433: up to 60 modules, modules up to 16 bistable solenoid outputs,
- 16 digital sensors and 2 analog sensors for each of them
- Agronic 64 and 120 single cable: up to 120 modules, modules up to 8 bistable solenoid outputs, 10 digital sensors and 1 analog sensor each
- Expansion modules: up to 16 modules with 5 relay outputs, 2 digital inputs and 2 analog sensors each

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SISTEMES ELECTRONICS PROGRÉS, S.A.

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Options	Code	Description
Option for management and control of fertilizer parameters. It allows to check water pH value, adapting the fertilizer injection ratio. Water pH reading. Probes and interfaces not included. Activation by code	FER501	pH control/Ec reading
Option for external sensors management	FER507	Programm conditioning
Option for external inverter management by 0-20 or 4-20 mA command for keeping a steady line pressure. Can be combined exclusively to the first output of pumps command	FER973	Pressure regulation of in line water
Specific option for managing pump systems powered by a generetor. 12 V start command, 220V AC power supply	FER961	Dual-voltage for generator
Specific option for managing diesel motorpump systems. On/off control, general contact and pre-heating	FER2500	Diesel engine
Internal expansion board, 4-20 mA analog input and output	FER521	In/Out analog main board - 6 in/5 out 4-20 mA
Internal expansion board, 4-20 mA analog input and output - first installation	FER527	Option + 6 analog in/out x A-4000
Internal expansion board, 4-20 mA analog input and output - upgrade in the field	FER528	Added option + 6 in/5 out (5 x 4/20 mA + 1 x 0/20 V)
Internal expansion board, 4-20 mA analog input and output - upgrade in the field	FER529	Added option + 6 analog in/out x A-4000
Module for managing the Agronic single-cable system	FER967	Single-cable option
Module for managing the Agronic radio system	FER525	Agronic Radio option
Modules for connection expansion to insert options or communication	FER522	RS 232 double port option
	FER964	RS485 second port + connection
Update kit for Agronic 4000 from version 2 to version 3	FER523	Update from version 2 to version 3
Transmitter box for pH and Ec probes. It allows interface between probes and Agronic. pH control - Ec reading interface required	FER400	pH/Ec probe box
	FER401	pH probe box
	FER402	EC probe box

Communication - Hardware			Code	Description
Local communication via cable	RS232 max 15 mt	Agronic single-cable, Agronic radio and Agronic PC connection	FER503	Collegamento RS232
	RS485 max 1500 mt		FER504	Collegamento RS485
	USB 2.0 max 15 mt		FER514	Collegamento USB
Remote communication	GPRS (SIM) Modem	Agronic APP, Agronic Web and Agronic PC connection	FER310	GPRS modem option
	GSM (SIM) Modem	SMS sending option	FER508	GSM modem + 220 V AC 12V DC antenna
	max 10 km RADIO	Agronic PC connection	FER2505	PC radio communication
			FER2506	Agronic radio modem

Communication - Software	Code	Description
Access to the system by Agronic App and/or Agronic Web. GPRS modem or Wi-Fi module requested. Activation by unblock code	FER194	WEB platoform (including Agronic APP and Agronic WEB)

Power supplies	Code	Description
Optional standard power supply for 12 V DC outputs from 220 V AC mains	FER2512	Transformer 220V - 12 V DC 2A
Optional standard power supply for 24 V AC outputs from 220 V AC mains	FERC974	TRANSFORMER 220V - 24 V AC 50 VA
Control board x Agronic w/transformer	EQEA024	Transformer 230/24 V AC 100 V A x Agronic

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