

**DESCRIPTION**

Included in this pamphlet is an explanation for the following communication options:

- Agrónic PC programming Option.
- SMS message sending and receiving Option.
- Agrónic Monocable Option.
- Agrónic Radio Option.
- Microsis Option.

**Agrónic PC programming option:**

When this option is activated, the Agrónic 4000 can be connected to the "Agrónic PC" program.

The unit can be managed through a personal computer by means of a PC program.

It can be linked via cable (RS232, RS485, Ethernet), by means of a telephonic modem (conventional, GSM, GPRS) or by radio (Wi-Fi, WiMAX).

Punctual information of the controller (history, incidences, situation of the irrigation, etc.) can be obtained from the PC, giving the opportunity of acting on the Agrónic, modifying parameters, programs, ranks, etc., from any place using the PC.

There can be up to three PC's connected to the Agrónic at the same time.

**SMS message sending and receiving option.**

When this option is activated, and a GSM/GPRS modem connection, "SMS messages" displaying alarms and events can be sent to two mobile phones, and one of them can be sent two reports per day related to the irrigation taken place. It can also receive orders such as start or stop a program, set at "Stop", modify the manual factor of a program, give the value of a virtual sensor such as the evapotranspiration, etc.

Once a program has been started up or shut down, an SMS can be sent to other equipment (A-4000/A-2500/A-2000/...) to synchronize actions among them. The text message is prepared by the user. There is maximum number of 6 for these types of messages.

**Agrónic Monocable Option:**

When this option is activated, the Agrónic Monocable 120 external modules can be connected to the Agrónic 4000. The connection is made through a serial port (RS232 or RS485) and the ModBus protocol.

- Agrónic Monocable 120: up to 120 modules, it is possible up to 8 latch solenoid outputs, and up to 10 digital sensors and 1 analog sensor at every one.

**Agrónic Radio Option:**

When this option is activated, the Agrónic Radio 868-16, Agrónic Radio 2.4 and Agrónic Radio 433 external modules can be connected to the Agrónic 4000. The connection is made through a serial port (RS232 or RS485) and the ModBus protocol.

- Agrónic Radio 868-16: up to 64 modules, it is possible up to 16 latch solenoid outputs, and up to 16 digital sensors, and 2 analog sensors for each one of them. It is broadcast on a free 868 MHz band.
- Agrónic Radio 2.4: up to 120 modules, it is possible up to 16 latch solenoid outputs, and up to 16 digital sensors, and 2 analog sensors for each one of them. It is broadcast on a free 2.4 GHz band.
- Agrónic Radio 433: up to 60 modules, it is possible up to 16 latch solenoid outputs, and up to 16 digital sensors, and 2 analog sensors for each one of them. It is broadcast on a free 433 MHz band.

**Microsis Option:**

When this option is activated, the Agrónic 4000 can be connected to up to 4 Microsis. Each Microsis can read up to 8 analog sensors. The connection is made through a serial port (RS232 or RS485).

**INSTALLER'S CONFIGURATION**

This programming operation is only done by the installer the first time the equipment has been started up. It will only be modified when having to make variations or extensions to the facilities or equipment.

Upon entering in this section the following menu is displayed:

<b>Communica.</b> :1	Events	:2	Various	:3
Options	:4	Language	:5	Anal. Out.
				:6

The communications can be configured by accessing section 1, where the following menu will come up:

Ag.Rad868	:1	Ag.Rad2.4	:2	Ag.Rad433	:3
Agr.Mon.	:4	ModBus	:5	Ports	:6

Com. PSEP	:7	GPRS	:8	Microsis	:9
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### 1. Agrónic Radio 868-16:

- Agrónic Radio 868 or 868-16: 0/1. Responding "1" indicates that the model connected to the equipment is 868-16 (with 16 outputs). Responding "0" indicates that it is model 868 (8 outputs), this model is no longer manufactured.
- Channel: 1 to 6. Radio channel to be used in the communication with the modules.
- Module attempts: 5 to 50. Number of communication attempts before displaying error with the MAR.
- ModBus Address: 001 to 007 or 100 to 107. The address must match the one configured in the EAR. If there are several EAM or EAR connected to the same port, then they must have different addresses.
- Suspend Agrónic Radio: YES/NO. Responding YES puts the Agrónic Radio system in low consumption, stopping communication with the modules. It is recommended that the Agrónic Radio be suspended during periods when irrigating is not going to be performed, therefore considerably lengthening the life of the batteries.
- Protocol: 0 to 6. Communication frequency of the MAR with the EAR (0=8", 1=2", 2=3", 3=7", 4=4", 5=5", 6=6").
- Network code: 00 to 99. This code must match the value configured in the modules.

See the Agrónic Radio 868-16 manual for more information about these parameters.

The communication with this model is done by using the ModBus protocol, and is connected to the serial port that is assigned to the ModBus.

### 2. Agrónic Radio 2.4:

- Channel: 1 to 7. Radio channel to be used in the communication with the modules.
- Module attempts: 5 to 50. Number of communication attempts before displaying error with the MAR.
- ModBus address: 001 to 007 or 100 to 107. The address must match the one configured in the EAR. If there are several EAM or EAR connected to the same port, then they must have different addresses.
- Suspend Agrónic Radio: YES/NO. Responding YES puts the Agrónic Radio system in low consumption, stopping communication with the modules. It is recommended that the Agrónic Radio be suspended during periods when irrigating is not going to be performed, therefore considerably lengthening the life of the batteries.
- Network code: 00 to 99. This code must match the value configured in the modules.

See the Agrónic Radio 2.4 manual for more information about these parameters.

The communication with this model is done by using the ModBus protocol, and is connected to the serial port that is assigned to the ModBus.

### 3. Agrónic Radio 433:

- Channel: 1 to 99. Radio channel to be used in the communication with the modules.
- Module attempts: 5 to 50. Number of communication attempts before displaying error with the MAR.
- ModBus address: 001 to 007 or 100 to 107. The address must match the one configured in the EAR. If there are several EAM or EAR connected to the same port, then they must have different addresses.
- Suspend Agrónic Radio: YES/NO. Responding YES puts the Agrónic Radio system in low consumption, stopping communication with the modules. It is recommended that the Agrónic Radio be suspended during periods when irrigating is not going to be performed, therefore considerably lengthening the life of the batteries.
- Network code: 00 to 99. This code must match the value configured in the modules.

See the Agrónic Radio 433 manual for more information about these parameters.

The communication with this model is done by using the ModBus protocol, and is connected to the serial port that is assigned to the ModBus.

### 4. Agrónic Monocable:

- Agrónic Monocable 120: YES/NO. By responding YES indicates that the model connected to the equipment is the 120 (up to 120 MAM of 8 outputs), no indicates that it is model 64 (up to 64 MM of 1 output). This model is no longer manufactured.
- Module attempts: 10 to 60. Number of communication attempts before displaying error with the MAM.
- ModBus Address: 001 to 007 or 100 to 107. The address must match the one configured in the EAR. If there are several EAM or EAR connected to the same port, then they must have different addresses.
- Total groups: 1 to 12. The EAM always communicates with 10 MAM groups. In this parameter, the total groups of ten connected to the EAM are entered. For example, if the MAM with the largest number on the line is 36, then there is a total of 4 groups (group 1: from 1 to 10, 2: from 11 to 20, 3: from 21 to 30 and 4: from 31 to 40).
- Initial waiting time.
- Vdc anomaly cut-off delay.
- Vdc action cut-off delay.
- Vdc action cut-off.

See the Agrónic Monocable 120 manual for more information about these parameters.

The communication with this model is done by using the ModBus protocol, and is connected to the serial port that is assigned to the ModBus.

## 5. ModBus:

The ModBus protocol is used to communicate with External Modules (radio and monocable).

- Serial port: 0 to 2. Indicates the serial port through which communication is made with the ModBus protocol. It may be ports 1 (RS232) and 2 (RS485). If it is left at 0, no port is assigned and no communication will take place.
- Length of timeout: 50 to 9999. Time, in milliseconds, that will be waited for a response before reattempting communication.
- Number of reattempts: 0 to 9. Number of times that the same frame will be resent in case of error.
- Time between sending data: 0 to 255. The time, in milliseconds, waited between sending data. If communicating by radio modem, it may be required that a certain time is set. Set at 0 for cable.

## 6. Ports:

Configuring the series port and Ethernet port on the Agrónic.

Port 1:	1	Port 2:	2		
Port 3:	3	Port 4:	4	Ethernet:	5

Serial port (from 1 to 4):

- Transmission Speed: 0 to 4. 0-1200 bps, 1-2400 bps, 2-4800 bps, 3-9600 bps, 4-19200 bps.
- Parity: 0 to 2. 0-none, 1-even, 2-odd.

Ethernet port:

If the Agrónic is connected to the PC via an Ethernet network (local area network, Wi-Fi, Wi-MAX), it must be configured to the IP address the Agrónic will use on the network. There are two ways of assigning this address:

- Dynamic IP: a specific address is not assigned. Instead, each time the Agrónic connects, an address will be assigned automatically. To do this, it has to be within a computer network that has a DHCP server.
- Fixed IP: one address is assigned, which is always the same.

The Ethernet parameters must be assigned by the network administrator where the Agrónic is connected.

## 7. PSEP Communication:

PSEP protocol is used to communicate with a PC program. With this protocol, data is only sent to the PC when a change occurs. To prevent the data that changes most frequently (consultations) from constantly being sent, there are the following parameters:

- PSEP. Time between sendings: Cadence A: 0 to 999". Time in seconds when the requests being displayed by the PC program are sent.
- PSEP. Time between sendings: Cadence B: 0 a 999". Time in seconds when the requests

not being displayed by the PC program are sent.

- PSEP. Time between sendings: Totals Cadence: 0 to 9999". Time in seconds when the totals are sent since it was last sent. If left at 0, data is only sent when the totals are requested on the PC.
- PSEP RTU. Disconnection waiting: 0 a 999". In communication via cable, radio modem or modem, it is the time without receiving data from the PC to disconnect. If there are many units connected to a PC port, this time can be required to be increased
- PSEP. Irrigation flow meter. Differential: 00.0 to 25.00. A differential of m3/h is configured for each irrigation counter. The flow reading is not sent if it does not surpass this differential.
- PSEP. Fertilizer flow meter. Differential: 00.0 to 25.0. A differential of liters/h is configured for each fertilizer counter. The flow reading is not sent if it does not surpass this differential.
- PSEP. Sensor. Differential: A differential is configured for each analog sensor. The sensor reading is not sent if it does not surpass this differential.

If the communication to the PC is done with GPRS, where you must pay for information to be sent, these parameters will be truly useful in avoiding sending unnecessary data.

## 8. GPRS:

If the connection between the Agrónic and the PC is done using a GPRS modem, the following parameters must be entered:

- Operator: the APN of the most common operators of Spain and Portugal are configured in the Agrónic. The APN change automatically by entering the operator's number. At 0 it does not change. The configured operators are: 1-Movistar, 2-Orange, 3-Vodafone, 4-Tuenti, 5-Simyo, 6-Yoigo, 7-Vodafone portugal, 8-Tmn portugal.
- APN: Internet access point for the GPRS modem.
- User: name of the user to access the Internet.
- Password: Internet access code.

The APN, user and password parameters are provided by the phone company the GRPS connection has been contracted from. To change them, use the up and down arrows. The "MODE" key can change between capitals, lower-case and symbols. Use the "NO" key to erase.

## 9. Microsis:

- Serial port: 0 to 2. This indicates the series port that is connected to the Microsis. It can be 1 (RS232) or 2 (RS485). If left at 0, no port is assigned. If assigning port 1, there can only be one Microsis connected.

## PARAMETERS

In order to install the equipment, it is necessary to enter the "Parameters" section to adapt the equipment to the particular needs of each facility. To do this, press the "Function" key, choose the (4) function and then press "Enter".

Programs : 1	Readings : 2	Erasure : 3
<b>Parameters: 4</b>	Manual : 5	Clock : 6

In the "Parameters" menu, go to section 8 - Communications.

PARAMETERS	Fertiliz. : 1	Cleaning : 2
Generals : 3	Sensors : 4	Flows : 5

PARAMETERS	Sectors : 6	Programs : 7
Communic. : 8	Various : 9	

By entering section 8, the communications parameters are accessed and the following menu comes up:

COMMUNICATION	PC :1	Conf. SMS :2
Ag.Rad868 :3	Ag.Rad2.4 :4	Ag.Rad433 :5

COMMUNICATION	Ag.Mon. :6	Mod.Exp. :7
Microlsis :8		

### 1. Communication with the PC program.

The Agrónic 4000 can be connected to up to three different users at the same time. Each user has their own configuration, and the connections can be via ports or other systems. This means, for example, you can have a PC next to the equipment connected with a cable, and also one from home connected via modem.

CONF. PC Communication		
User 1: 1	User 2: 2	User 3: 3

The configuration is repeated for each user.

CONF. PC Communication	
Type of com.: 1	PSEP cable

Indicated next to the type of communication is the physical media and protocol used to connect with the user's PC. The possibilities are:

- **0:** no communication.
- **1:** PSEP cable. Direct communication via cable or radio modem. Uses port RS232 or RS485. PSEP Protocol.
- **2:** PSEP modem. Communication via telephone. Uses port RS232 and a GSM modem. PSEP Protocol.
- **3:** PSEP GPRS socket. Communication via Internet. Uses port RS232 and a GPRS modem. PSEP Protocol.

- **4:** PSEP Ethernet. Communication via local Ethernet network. Uses the Ethernet port extension. PSEP Protocol.

Type 2 does not permit the connection of several users at the same time.

In all of types the first question is:

- Access level from the PC: 0 to 2. It indicates which workings can be done from the PC to the Agrónic. 0: total access (modifying parameters and programs), 1 programming (only modifying programs), 2 consultation (only consulting)

Parameters vary according to the type of communication.

#### PSEP Cable (1):

- Serial port: 0 to 4. Indicates the serial port through which the equipment will communicate with the PC. Can be ports 1, 3 (RS232) and 2, 4 (RS485). If left at 0, no port will be assigned and no communication will take place.

#### PSEP Modem (2):

- Serial port: 0 to 4. Indicates the serial port through which the equipment will communicate with the PC. Can be ports 1, 3 (RS232) and 2, 4 (RS485). If left at 0, no port will be assigned and no communication will take place.
- Modem configuration: initial configuration of the modem. Normally ATEØVØSØ=2 (only type 2). To change the text, use the up and down arrows. The "MODE" key can change between capitals, lower-case and symbols. Use the "NO" key to erase.

#### PSEP GPRS socket (3):

- Activated: YES / NO. Setting this at NO disconnects the Internet and interrupts PC communication.
- Serial port: 0 to 4. Indicates the serial port through which the equipment will communicate with the PC. Can be ports 1, 3 (RS232) and 2, 4 (RS485). If left at 0, no port will be assigned and no communication will take place.
- Connection timetable: from 00:00 to 00:00. Times the equipment will be connected to the PC program. For non-stop connections, leave this value at 0.
- TCP target port: 0 to 65535. Port on the PC where the Agrónic must be connected.
- IP target address: 000.000.000.000 The PC's IP address.
- DNS name: The PC's IP address in text format. To use the text instead of the numeric address, the entire numeric address must be left at 0.

#### PSEP Ethernet (4):

- TCP target port: 0 to 65535. Port on the PC where the Agrónic 4000 must be connected.
- IP target address: 000.000.000.000. The PC's IP address.

## 2. Messages SMS

The SMS messages option is used to send SMS messages to mobile phones, activity of the day reports or messages about any event or anomaly. In addition to this, text messages with working orders can be sent from the mobile telephone to the Agrónic. An SMS message can also be sent to start or stop a program using text entered by the user.

Alarms and events can be sent to two different telephones. Reports are always sent to telephone 1.

Reports contain the number of times each program has started since the beginning of the day to the time of the message.

The SMS messages configured by the user can allow orders to be sent to other equipment as to when a program is started or stopped, but conditional or temporary stops are not taken into account. The program, action, target telephone and text message are configured. Up to six SMS messages of this type can be configured.

The configuration parameters are:

- **Serial port:** 0 to 4. Indicates the serial port through which the equipment will communicate with the modem GSM. Can be ports 1, 3 (RS232) and 2, 4 (RS485). If left at 0, no port will be assigned and no communication will take place.
- **SMS limit per day:** from 1 to 255. Maximum number of SMS messages that can be sent per day. If this number is surpassed, an anomaly is registered and blocks any SMS from being sent. When sending has been blocked, the next question is whether you want to reactivate SMS sending. It can also be reactivated by sending an SMS.
- **Assigned telephone 1:** telephone number with country code where SMS reports and alarms are to be sent.
- **Assigned telephone 2:** telephone number with country code where SMS alarms are to be sent.
- **Time report 1:** 00:00 time when the first report of the day is sent. If left at 0, no report is sent.
- **Time report 2:** 00:00 time when the second report of the day is sent. If left at 0, no report is sent.
- **SMS to other device. Program number:** 0 to 35. Number of the program with which SMS sending will begin.
- **SMS to other device. Action:** 0 to 1. If the message is sent to activate the program (0) or stop it (1).
- **SMS to other device. Target telephone:** number of the telephone of the receiving equipment with the country code.
- **SMS to other device. Text:** message text with a 19-character maximum. Use the up and down arrows and numbers to enter the text. Use the "NO" key to erase.

Events and anomalies that you want to receive in your mobile phone are configured in "Installer's configuration – Events".

### 3. Communication with Agrónic Radio 868-16

This indicates if communication with the Agrónic Radio is activated or not.

Agrónic Radio communication :  
Activate: Y.

For each of the radio modules it must be specified if communication with it is desired or not.

EAR configuration. Active MAR  
01:Y. 02:Y. 03:NO 04:NO 05:NO

### 4. Communication with Agrónic Radio 2.4

This indicates if communication with the Agrónic Radio 2.4 is activated or not.

Communication Agrónic Radio 2.4 :  
Activate: Y.

### 5. Communication with Agrónic Radio 433

This indicates if communication with the Agrónic Radio 433 is activated or not.

Communication Agrónic Radio 433 :  
Activate: Y.

### 6. Communication with Agrónic Monocable

This indicates if communication with the Agrónic Monocable is activated or not.

Agrónic Monocable communication :  
Activate: Y.

### 7. Communication with Expansion Modules

This indicates which Expansion Modules are connected to the Agrónic.

Expansion Modules communication :  
Communicate with module 01 ? Y.

It is necessary to install the internal modem in the Agrónic 4000 in order to communicate with the expansion modules by two wires of 24 volts of alternating current.

### 8. Communication with Microslis

Which Microslis to communicate with is indicated here.

Microslis communication :  
Communicate with Microslis 1 : Y.

## READINGS

The function of READINGS is to display the status of communication with external modules. This is accessed by pressing the "Function" key, choosing the function number (2) and then pressing "Enter".

Programs : 1	<b>Readings : 2</b>	Erasure : 3
Parameters: 4	Manual : 5	Clock : 6

The following menu will come up in the "Readings" section:

READINGS	Totals	:1	Anomalies	:2	
New anom.	:3	History	:4	Sensors	:5

READINGS	<b>Communica. :6</b>	Versions	:7
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By entering section 6, the communication reading area is accessed, and the following menu will come up:

READ. COM.	Ag.Rad868	:1	Ag.Rad2.4	:2	
Ag.Rad433	:3	Agr.Mon.	:4	Progr. PC	:5

READ. COM.	GSM/GPRS	:6	Ethernet	:7
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### 1. Agrónic Radio 868-16 readings

The first screen displays the communication status with the EAR, the channel being used, the communication protocol, the program version and if there are any errors in the EAR. The possible errors are:

- Collision: the EAR has detected communication using a network code different than its own. Another Agrónic Radio may be nearby.
- Emitter: There is an error in the radio emitter.
- Internal memory: Internal circuit error.

Agr.Rad.	Channel: 1	Protocol: 1
1.01	Active: yes	Communicating: yes

The following screens display the status of Communication with each of the MAR:

MAR01	Active: yes	Com.: 1111111111111111
rssI EAR: 50	rssI MAR: 50	bat.: 3.6V

The status of the last 16 receptions is shown on the screen. The level of radio reception (rssI) in the EAR and the MAR (communication is critical when it is below 35). The battery level (should be change when it is below 3.3V).

### 2. Agrónic Radio 2.4 readings

It displays the status of communications with the Agrónic Radio Modules 2.4 connected to the equipment.

The first screen displays the communication status with the EAR, the channel being used, the program version and if there are any errors in the EAR. The possible errors are:

- Collision: the EAR has detected communication using a network code different than its own. Another Agrónic Radio may be nearby.
- Emitter: There is an error in the radio emitter.
- Internal memory: Internal circuit error.
- Clock: Internal circuit error.

Agr.Radio 2.4	Channel: 1
1.00	Active: yes Communicating: yes

The following screens display the status of Communication with each of the MAR:

MAR001	Active: yes	Com.: 1111111111111111
rssI EAR: 50	rssI MAR: 50	bat.: 4.1V

The status of the last 16 receptions is shown on the screen. The level of radio reception (rssI) in the EAR and the MAR (communication is critical when it is below 42). The battery level (should be change when it is below 3.4V).

### 3. Agrónic Radio 433 readings

It displays the status of communications with the Agrónic Radio Modules 433 connected to the equipment.

The first screen displays the communication status with the EAR, the channel being used, the program version and if there are any errors in the EAR. The possible errors are:

- Collision: the EAR has detected communication using a network code different than its own. Another Agrónic Radio may be nearby.
- Emitter: There is an error in the radio emitter.
- Internal memory: Internal circuit error.
- Clock: Internal circuit error.

Agr.Radio 433	Channel: 1
1.00	Active: yes Communicating: yes

The following screens display the status of Communication with each of the MAR:

MAR001	Active: yes	Com.: 1111111111111111
rssI EAR: 50	rssI MAR: 50	bat.: 4.1V

The status of the last 16 receptions is shown on the screen. The level of radio reception (rssI) in the EAR and the MAR (communication is critical when it is below 35). The battery level (should be change when it is below 3.4 V).

#### 4. Agrónic Monocable readings

It displays the status of communications with the Agrónic Monocable Modules connected to the equipment.

The first screen displays the communication status with the EAM, the program version and if there are any errors in the EAM. The possible errors are:

- Low level voltage: There are less than 18 V being powered to the input.
- Communication failure: Internal error.
- Synchronization failure: Lines may be crossed.
- Power cut: "Test" input on the EAM disconnected (see EAM manual).
- Internal memory: Internal circuit error.
- Clock: Internal circuit error.

Agr.Mon. Active: yes Communicating: yes  
1.00

The following screens display the status of Communication with each of the MAM:

Communication with MAM:  
1: Y. 2: Y. 3: Y. 4: Y. 5: Y. 6:NO

#### 5. PC program readings

Displays the status of communications with the three possible users who can be connected to the PC.

User 1: Without communic.

User 2: With communic.

User 3: Without config.

The status of communication may be:

- *With communication*: There is a connection to the PC and there are no communication problems.
- *Without communication*: There is no connection to the PC program.
- *Without configuration*: all the parameters needed to establish communications with the PC have not been configured.
- *Port error*: an error has been detected in the serial or Ethernet port used to communicate with the PC.
- *Modem error*: an error has been detected in the GSM/GPRS modem used to communicate with the PC. Check the register for more information about the problem.

#### 6. GSM / GPRS modem readings

In this section some of the parameters on the GSM/GPRS modem can be requested.

Modem GSM/GPRS verifications:  
RSSI level:.....1 Modem status:.....2

Modem GSM/GPRS verifications:

IP address: .....3 Soft version:.....4

#### RSSI Level

Requests the modem coverage level.

0 to 10: level too low.

11 to 31: level OK.

99: not detected.

#### Modem status

Requests the modem status. The response may be:

- *Modem does not respond*: the modem does not respond to the request. Modem not properly connected or is not powered.
- *Without network connection*: no coverage from any phone company has been found.
- *Connected to network*: There is phone coverage.
- *GPRS connected*: the modem is connected to the Internet but is not connected to the PC.
- *SOCKET connected*: the modem is connected to the PC.
- *Modem error*: some type of error has been found in the connection to the PC program. Check the record for more information.

Only for internal GSM/GPRS modems.

#### IP Address

Requests the IP address of the modem it has been assigned to when connected to the Internet. Only for internal GSM/GPRS modems with GPRS connection.

#### Software version

Requests the software version installed in the modem. Only for internal GSM/GPRS modems.

#### 7. Ethernet connection readings

Displays the status of the Ethernet connection and the IP address assigned to it.

Status: Connected  
IP address: 192.168.000.055

The status communications may have are:

- *Without Ethernet*: the Ethernet extension on the Agrónic has not been detected.
- *Error*: an error has occurred when connecting to the Ethernet port.
- *Without connection*: the equipment is not connected to the Ethernet network. If it operates with a dynamic IP, it may be that no IP address from the DHCP server has been secured.
- *Connected*: the equipment has correctly connected to the Ethernet. In this case the assigned IP address will also be displayed.

## ORDERS SENDINGS FROM A GSM TELEPHONE

When the Agrónic 4000 has the “SMS messages” option activated and is connected to a GSM modem, orders can be sent from a digital mobile telephone, or from other equipment with a GSM modem.

The Agrónic accepts orders of any phone number. It can be restricted by entering a passcode and only the SMS containing this passcode will be accepted or from phones that are configured in the Agrónic, with no need to put the code.

The format the SMS message to be sent to the Agrónic 4000 must have, is the next:

- Unit series number (4 digits)
- Blank space “Esp”
- Access code, only if it is configured (4 digits: entered by the user at “Parameters – Various”)
- Blank space
- Operation code “OP1, 2 ..”(separated by a blank space between them)

### SMS OPERATIONS

SMS OPERATIONS										
	Serial No.	code	OP1	OP2	OP3	OP4	OP5	OP6	OP7	OP8
<b>Out of Service</b>	12345	0000	FS	YES or NO						
<b>“FS”</b>	<i>Example:</i>	Set to out of service: 12345 FS YES								
<b>Stop</b>	12345	0000	ST	YES or NO						
<b>“ST”</b>	<i>Example:</i>	Remove Stop: 12345 ST NO								
<b>Start Program</b>	12345	0000	MP	00	00	00	+ -00%			
<b>“MP”</b>	<i>Example:</i>	Start program 5, sub-program 2: 12345 MP 5 2 Start program 5, sub-program 2, manual factor -5%: 12345 MP 5 2 -5								
<b>Manual Factor</b>	12345	0000	FM	00	+ -00%	+ -00%	+ -00%			
<b>“FM”</b>	<i>Example:</i>	Manual Factor of the program 1 at +23%: 12345 FM 1 23 Manual Factor of the program 3 at -12%, prog. 4 a +10%: 12345 FM 3 -12 10								
<b>Stop Program</b>	12345	0000	PP	00						
<b>“PP”</b>	<i>Example:</i>	Stop program 5: 12345 PP 5								
<b>Deactivate any alarm, Stop or out of service</b>	12345	0000	AL							
<b>“AL”</b>	<i>Example:</i>	12345 AL								
<b>Start filter cleaning</b>	12345	0000	ML	00						
<b>“ML”</b>	<i>Example:</i>	Start the filter cleaning of the group 2: 12345 ML 2								
<b>Virtual inputs</b>	12345	0000	VE	0000	0000	0000	...	0000		
<b>“VE”</b>	<i>Example:</i>	Value of the virtual inputs 1 and 2: 12345 VE 20.0 450 (the format has to be the one configured on the sensor)								

<b>Sending report</b>		12345	0000	EI					
<b>"EI"</b>	<i>Example:</i>	Request to send a report of the day: 12345 EI 4 (on the report there is the number of starts of each program for that day)							
<b>Analog sensor Reading</b>		12345	0000	LS					
<b>"LS"</b>	<i>Example:</i>	Request readings of the analog sensors 1 to 10: 12345 LS							
<b>Activate or deactivate the SMS sending</b>		12345	0000	SM	YES or NO				
<b>"SM"</b>	<i>Example:</i>	Deactivate the SMS sending: 12345 SM NO							
<b>PC communication</b>		12345	0000	COM	User No. 1 to 3	Communic. type 0 to 4 0. No connection 1. Cable 2. GSM modem 3. GPRS 4. Ethernet	Access level 0 to 2 0. Total 1. Programs 2. Consultation	TCP port 1 1 0000	IP address 000.000.000.000 or "name.domain"
<b>"COM"</b>	<i>Example:</i>	User 1, communication with modem GPRS, total access, port TCP 2332, address IP 211.211.211.211 12345 COM 1 3 0 1 1 2332 211.211.211.211							
<b>Change APN</b>		12345	0000	APN	APN	User	Password		
<b>"APN"</b>	<i>Example:</i>	The APN of Movistar: 12345 APN movistar.es movistar movistar							
<b>Consultation of PC configuration</b>		12345	0000	CCOM					
<b>"CCOM"</b>	<i>Example:</i>	12345 CCOM ---> US:1 TC:3 NA:0 AC:1 PS:1 TCP:2332 IP:225.252.124.100							
<b>Consultation of APN configuration</b>		12345	0000	CAPN					
<b>"CAPN"</b>	<i>Example:</i>	12345 CAPN ---> APN: movistar.es User: movistar Pass: movistar							

Once the message has been received and executed by the Agrónic 4000, it will send a message with the following text "Received SMS. Command executed" to the phone which sent.

The value of sensor virtual inputs has to be entered in the same format that has been configured at the input. For example, at the most common case of the evapotranspiration, it is "0.00".

The code "SM NO" cancels any SMS sending for that day. When the next day starts, it will be reactivated.

**PARAMETER  
SCREENS**

**FUNCTION** →

Programs : 1 Readings: 2 Erasure: 3  
Parameters: 4 Manual: 5 Clock: 6

PARAMETERS Fertiliza.: 1 Cleaning: 2  
Generals: 3 Sensors: 4 Flows: 5

PARAMETERS Sectors: 6 Programs: 7  
Communica.: 8 Various: 9

COMMUNICATION PC: 1 Conf. SMS: 2  
Ag.Rad868: 3 Ag.Rad2.4: 4 Ag.Rad433: 5

COMMUNICATION Ag.Mon:6 Mod.Exp:7  
Microsis: 8

Communication PC parameters 1

User [1] [2] [3]  
Type of communication: 0 to 4

[0] no communication  
[1] PSEP cable (direct or radio modem)  
Access level from the PC: 0 to 2  
Serial port: 0 to 4 (1-3:RS232)(2-4:RS485)  
[2] PSEP Modem (by GSM call)  
Access level from the PC: 0 to 2  
Serial port: 0 to 4  
Modem configuration: ATEØVØSØ=2  
[3] PSEP GPRS socket  
Access level from the PC: 0 to 2  
Activated: YES/NO  
Serial port: 0 to 4  
Connection timetable: 08:00 to 19:30  
TCP port target: 0 to 65535  
IP address target: 000.000.000.000  
DNS name: name.com  
[4] PSEP Ethernet  
Access level from the PC: 0 to 2  
TCP target port: 0 to 65535  
IP target address: 000.000.000.000

SMS communication parameters 2

Serial port: 0 to 4  
SMS limit per day: 1 to 255  
Assigned telephone 1: 34999123123  
Assigned telephone 2: 00000000000  
Time report 1: 21:30  
Time report 2: 00:00  
SMS to other device. Program number: 0 to 35  
SMS to other device. Action: 0/1  
SMS to other device. Target telephone: 00000000000  
SMS to other device. Text: abcdefghi123456789

Ag. Radio 868 communication parameters 3

Activate: YES/NO  
EAR configuration. Active MAR  
01:Y. 02:Y. 03:NO 04:NO 05:NO

Ag. Radio 2.4 communication parameters 4

Activate: YES/NO

Ag. Radio 433 communication parameters 5

Activate: YES/NO

Ag. Monocable communication parameters 6

Activate: YES/NO

Expansion modules communication parameters 7

Communicate with module xx?: YES/NO

Microsis communication parameters 8

Communicate with Microsis X: YES/NO

**INSTALLER'S  
PARAMETERS  
SCREENS**

**FUNCTION** →

Programs : 1 Readings: 2 Erasure: 3  
Parameters: 4 Manual: 5 Clock: 6

**Installer's configuration**

Communica. : 1 Events: 2 Various :3  
Options : 4 Language : 5 Anal. Out.:6

Ag.Rad868: 1 Ag.Rad2.4: 2 Ag.Rad433:3  
Agr. Mon.: 4 ModBus : 5 Ports : 6

Com. PSEP : 7 GPRS : 8 Microlsis : 9

Agrónic Radio 868-16 communication 1

Agrónic Radio 868 or 868-16: 0/1  
Channel: 1 to 6  
Module attempts: 5 to 50  
ModBus address: 001 to 007 or 100 to 107  
Suspend Agrónic Radio: YES/NO  
Protocol: 0 to 6  
Network code: 00 to 99

Agrónic Radio 2.4 communication 2

Channel: 1 to 7  
Module attempts: 5 to 50  
ModBus address: 001 to 007 or 100 to 107  
Suspend Agrónic Radio: YES/NO  
Network code: 00 to 99

Agrónic Radio 433 communication 3

Channel: 1 to 99  
Module attempts: 5 to 50  
ModBus address: 001 to 007 or 100 to 107  
Suspend Agrónic Radio: SI/NO  
Network code: 00 to 99

Agrónic Monocable communication 4

Agrónic Monocable 64 or 120: 0/1  
Module attempts: 10 to 60  
ModBus address: 001 to 007 or 100 to 107  
Total groups: 1 to 12  
Initial waiting time  
Vdc anomaly cut-off delay  
Vdc action cut-off delay  
Vdc action cut-off

ModBus communication 5

Serial port: 0 to 2  
Length of timeout: 50 to 9999  
Number of reattempts: 0 to 9  
Time between sending data: 0 to 255

Ports communication 6

Port 1 to 4  
Transmission speed : 0 to 4  
Parity: 0 to 2  
Ethernet port:  
Dynamic IP : YES/NO  
Gateway  
Subnetwork mask  
IP address

PSEP communication 7

Time between sendings: Cadence A: 005"  
Time between sendings: Cadence B: 060"  
Time between sendings: Totals cadence: 0300"  
Disconnection waiting: 030"  
Flow, irrigation meter X: Differential: 00.00 m3  
Flow, fertilizer meter X: Differential: 00.00 L  
Sensor X, Differential: 000 units

GPRS communication 8

Operator: 2-Orange  
APN: internet  
User: orange  
Password: orange

Microlsis communication 9

Serial port: 0 to 2

**SISTEMES ELECTRÒNICS**  
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