# The Guide

## Identify the products suited to your configuration

LA FRENCH FAB

FRENCH COMPANY

Anjou Automation

**Innovation is part of our culture**

# History

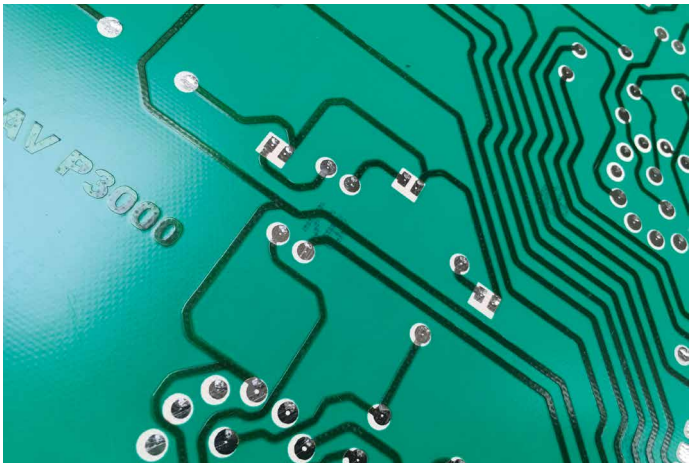

Anjou Automation

Anjou Automation was founded in 1982;
it designs and manufactures control and automation equipment for sectors such as agro-industry, the environment and the automotive industry.

Based on techniques using digital electronics and industrial computing, the company has developed innovative ranges of standard products, perfectly suited to users' needs, and remains available to deliver customised, made-to-measure products.

Anjou Automation is now a recognised global player for its climate controllers, greenhouse irrigation systems, weather sensors and its entire Mechanisation range.

aria



ARIA puts technology at the service of controlling growing conditions. Its climate-control systems for glass and plastic greenhouses, as well as its irrigation and fertilisation management systems, can be customised to meet a wide range of requirements.

From sensors to interfaces, including PLCs and supervision, ARIA masters the entire design, development and production chain for both electronics and software, thus guaranteeing sustainable, bespoke, high-end service.

GROUPE NADIA
FÉDÉRATEUR DE SAVOIR-FAIRE

# Optimise your greenhouse with our product selection guide

For greenhouse operators, choosing the right control system is essential to maximise productivity while minimising energy costs and losses. Our product selection guide is a valuable tool for identifying the control solutions perfectly suited to your specific needs.

With a range of systems available — from temperature and humidity controllers to light and ventilation controls — our guide helps you navigate the options with ease. It lets you compare performance, technical specifications and compatibility with your existing installation.

With recommendations based on real-world use cases and local climatic conditions, our product selection guide guarantees tailored support. By choosing the right technology, you will gain greater control of your environment, with healthier crops and improved profitability.

**Why use our guide?**

- **SAVE TIME:** Quickly compare products and their specifications.
- **ACCURACY:** Receive tailored recommendations for your crop type and region.
- **PROFITABILITY:** Identify the climate control system that will cut your energy costs while boosting the quality of your crops.

Our guide is far more than a simple product list: it is a practical decision-making tool to help you optimise the management of your agricultural greenhouse.

## Contents



# Climate controllers

## A scalable range to support you in all your needs!

Anjou Automation offers a wide range of climate controllers covering all your needs. From managing a cold tunnel with 2 side vents to controlling a heated hydroponic tomato-growing greenhouse with fertilisation management and Open Buffer.


### MIKRO

**The MIKRO combines a power cabinet and a basic, entry-level climate controller.**

The MIKRO is available in 1- or 2-motor versions and includes:
- Magneto-thermal circuit breaker to protect the geared motor and reversing contactor.
- A display for temperature and for configuring the opening setpoint.
- A NTC temperature sensor.

Product available in three-phase, single-phase or single/three-phase versions.


### LIGOCLIM

**Modular-format climate controller for integration into a cabinet or enclosure.**

The LIGOCLIM features:
- 8 relay outputs for climate management.
- 4 analogue inputs and 4 discrete (binary) inputs for sensors.
- 1 RS-485 network port for weather network integration.
- Custom configuration within the limits of the available inputs/outputs.


## POLYCLIM 2000

**Controller with standard, predefined features**

The Polyclim 2000 range comprises 4 versions with predefined functions (ventilation or shading) and features the following characteristics:

- Management of a climate zone • Predefined functions depending on the model.
- Supplied with a temperature sensor or a Watt/Lux sensor.
- Built-in manual controls.
- Not compatible with monitoring.


## POLYCLIM NG

**The Polyclim NG is a single-unit controller equipped with 12 relay outputs at 24 VAC, customisable to your project's configuration.**

It benefits from the latest developments such as:

- Management of a climate zone – multiple zones via custom configuration.
- Standard models to simplify selection, with the option to add extra features.
- Built-in manual controls.
- Remote phone access available and compatible with monitoring.


## KAIROS

**Kairos is the multizone climate controller from the Anjou Automation range.**

Thanks to its system of input/output boards (I/O boards), you have:

- Manages 1 to 6 climate zones depending on the number of outputs per zone.
- Functions configurable per project.
- Flush-mount or enclosure version.
- Remote phone access available and compatible with monitoring.

# Climate controllers

## OPTAGROW


The latest addition to the Anjou Automation range, the Optagrow is built on a new motherboard developed specifically for our greenhouse applications.

This is a comprehensive controller that allows you to manage the climate, irrigation, fertilisation as well as your boilers and Open Buffer.

- Control of 1 to 12 climate zones
- Management of 14 to 192 irrigation solenoid valves
- Control of 1 to 4 fertilisation stations
- Management of 1 to 4 boilers, 1 to 8 conveyors and 1 Open Buffer
- Modular configuration tailored to the project
- Compatible with the sentinelle ARTIC
- 2 touchscreen sizes: 10" & 15.6"
- Built-in 4G modem for remote access from phone, tablet and computer
- 'Favourites' tab for quick access to your main menus
- Modbus communication ports to communicate with BMS (Building Management System) and/or Modbus devices
- Charting tools directly on-screen & on phone

## MAESTRA

Part of the ARIA Historique range, the MAESTRA combines the precision, expertise and customisation of ARIA software combined with the computing power, robustness and reliability of the electronic boards ANJOU AUTOMATION

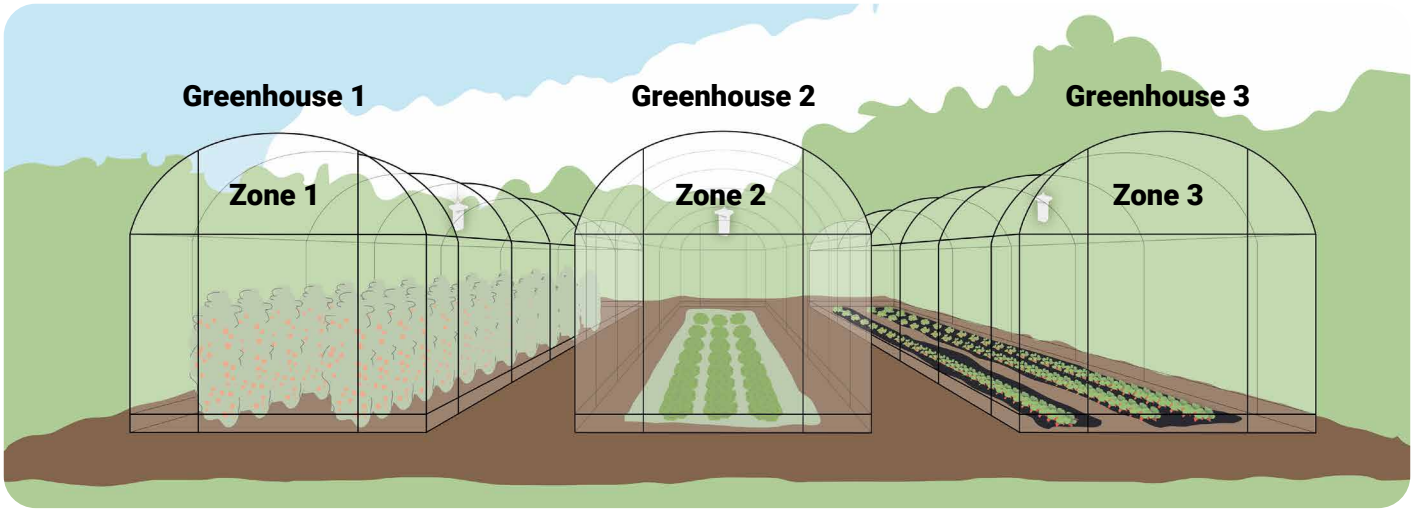
- Customised software tailored to your project.
- Compatible with Cortex ARIA monitoring
- Adjustment of the number of input/ output boards (I/O boards) according to the project's resources
- Option to add a 10" or 15.6" touch screen
- All requests are subject to a technical assessment and a personalised quotation

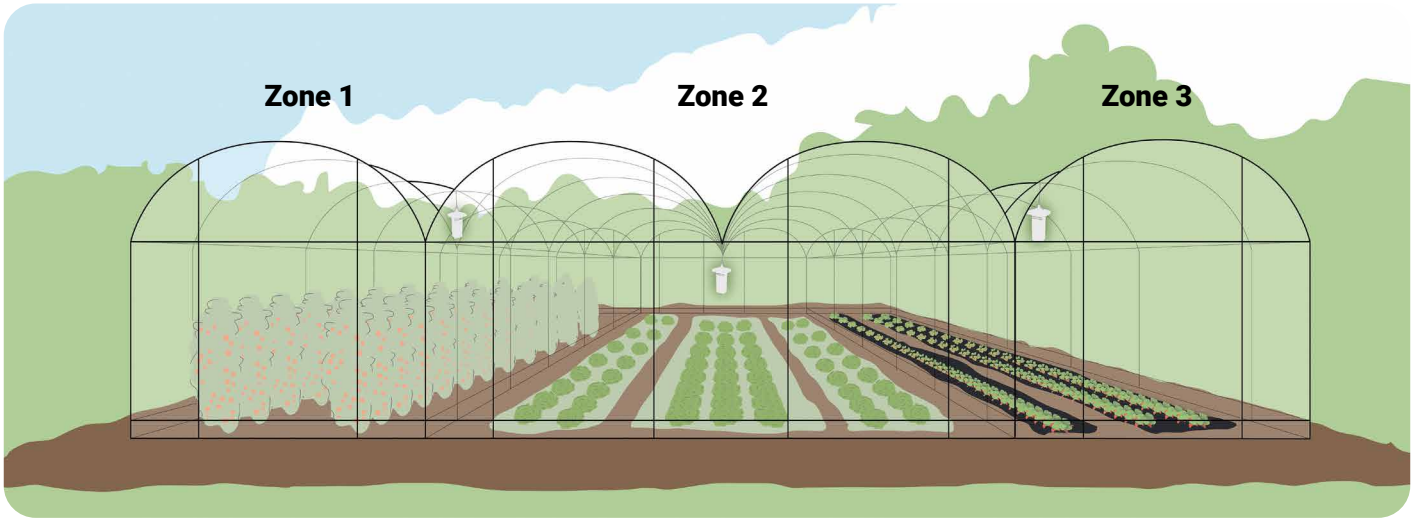
## Glossary

**Climate zone:** Greenhouse or part of a greenhouse where the climate control is homogeneous. Identical climate setpoints and a single temperature sensor shared across the entire climate zone.

# How to choose your climate controller?

## 1. How many climate zone(s) do I need to control?



# 2. Which functions should we manage in our climate zones?

**Affects the number of outputs**

## Glossary

**Features:** Actuators controlled by the climate controller. We do not take into account the physical number of actuators. Example: a bitunnel with a ridge vent oriented East on each greenhouse bay is equivalent to a 1-sided ventilation because the two geared motors are controlled identically.

AVAILABLE FEATURES

| Functions | Description | Number of outputs |
|---|---|---|
| **1-sided ventilation (single-slope)** | Proportional control based on ambient temperature<br>Weather safeguards (wind, rain)<br>External influences (wind, wind vane, outdoor temperature, sunlight)<br>24-hour temperature integration | **2** |
| **2-sided ventilation (double-slope)** | | **4** |
| **Shading/thermal screen** | Shade mode based on sunlight (W/m²)<br>Thermal mode based on ambient temperature<br>External influences (outdoor temperature) | **2** |
| **On/off heating** | Thermostatic control based on ambient temperature<br>Option to control a circulation pump based on water temperature, independently of the unit heater. | **1** |
| **3-way valve + circulator for heating** | Proportional control based on ambient temperature and water circuit temperature<br>External influences (wind, outside temperature, sunlight)<br>Control of the circulation pump based on the water circuit temperature.<br>24-hour temperature integration | **3** |
| **Dehumidification** | Control of ambient humidity<br>Affects ventilation, heating and shading | **-** |
| **Inflation** | Control of turbine operation using a setpoint-and-differential method<br>External influence (wind speed) | **1** |
| **Fogging** | Proportional control based on ambient temperature and/or humidity<br>Affects ventilation | **1** |
| **Air mixers** | Thermostatic control based on ambient temperature and/or ambient humidity<br>Can be combined with the heating operation | **1** |
| **Cooling** | Control of a pump and 1 to 3 extractor fan groups based on ambient temperature<br>Affects ventilation | **2 to 4** |
| **CO2** | Setpoint-and-differential control of CO2 injection<br>Affects ventilation | **1** |
| **Clock** | Start-up based on hourly start times or depending on connected sensors (adjustable thresholds).<br>Applications: photosynthetic lighting, irrigation, etc. | **1** |
| **Alarm** | Triggered by exceeding a high or low threshold (temperature, humidity) or by a controller fault (network, sensors disconnected, etc.). Normally-closed output at power-up | **1** |

# 3. How are functions distributed by zone?

In a multi-zone project, the number of outputs per zone is calculated based on a megazone that groups together all the functionalities present across the different zones.

| Zone 1 | |
|---|---|
| Ridge vent x2 | 4 |
| Shading | 2 |
| On/off heating | 1 |
| | |
| **Total relay outputs** | 7 |

| Zone 2 | |
|---|---|
| Ridge vent x1 | 2 |
| Shading | 2 |
| On/off heating | 1 |
| 3-way valve heating | 3 |
| **Total relay outputs** | 8 |

| Zone 3 | |
|---|---|
| Ridge vent x2 | 4 |
| On/off heating | 1 |
| 3-way valve heating | 3 |
| | |
| **Total relay outputs** | 8 |

| Zone 4 | |
|---|---|
| Ridge vent x2 | 4 |
| Shading | 2 |
| On/off heating | 1 |
| 3-way valve heating | 3 |
| **Total relay outputs** | 10 |

# 4. Polyclim NG & Kairos: Uniformity of climate zones

Climate zones are homogeneous in terms of number of outputs. Compared with the example shown, the megazone is therefore:

| Megazone | |
|---|---|
| Ridge vent x2 | 4 |
| Shading | 2 |
| On/off heating | 1 |
| 3-way valve heating | 3 |
| Air mixer | 1 |
| TOTAL relay outputs per zone | 11 |

## Glossary

**Megazone:** Set of all functions available within the various climate zones. On Polyclim NG and Kairos, the zones are identical in the software. It is this megazone that indicates the number of outputs required per climate zone.

Compared with the example shown, the recommended controller would therefore be a Kairos 4-zone / 16-output controller.

# 5. Optagrow

Each climate zone can have a different number of outputs. Compared with the example shown, the Optagrow configuration would therefore be:

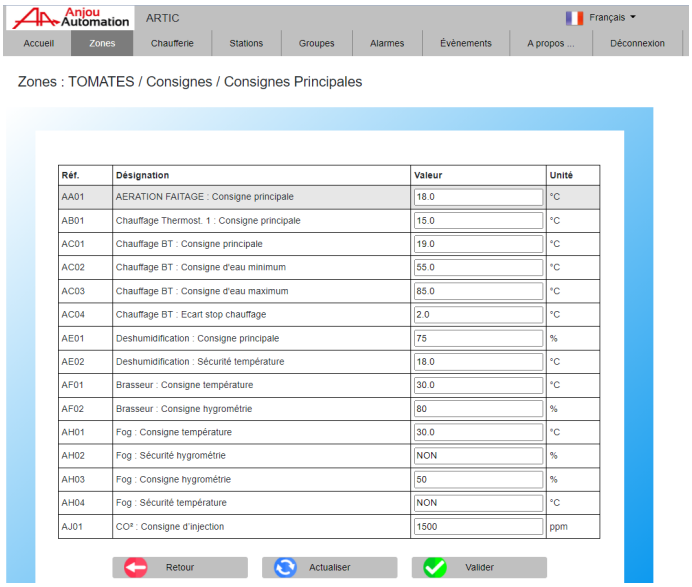
- 1 x Optagrow 10" / 15.6"
- 3 extensions (1 zone / 8 relay outputs)
- 1 extension (1 zone / 16 relay outputs)

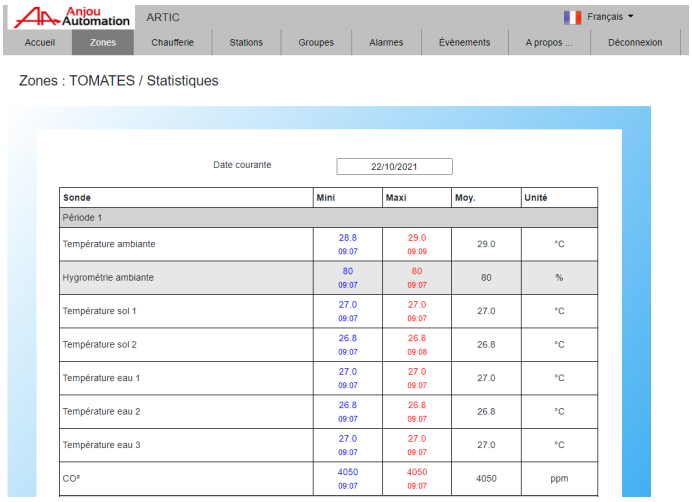
# 6. Display support for your climate controller

| FUNCTIONS | CONTROLLER DISPLAY | EMBEDDED WEB INTERFACE | MONITORING |
|---|---|---|---|
| **Real-time data from sensors / probes** | X | X | X |
| **Setpoint display / editing** | X | X | X |
| **Alarm display and acknowledgement** | X | X | X |
| **Statistics display** | Min / Max / Average per day | Min / Max / Average per day | Tables / charts |
| **Event and alarm archiving** | 1 month | 1 month | Unlimited |
| **Parameter import / export** | - | X | X |
| **Remote access (PC, smartphone, tablet)** | - | X (subject to conditions) | X (subject to conditions) |
| **Data extraction** | - | - | X |
| **Custom window creation** | - | - | X |

# 7. Embedded web interface

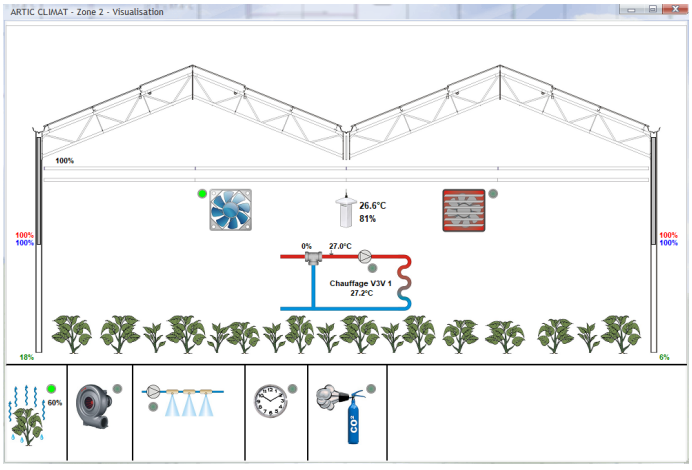
The embedded web interface allows remote access to your climate controller from phone, tablet and PC via a web browser. This lets you modify your setpoints and view your sensors in real time. 1 embedded web interface per controller. Requires an on-site Internet connection or a built-in 4G modem (optional).




# 8. Monitoring software

The Supervision software gives you a centralized view of all your Anjou climate controllers on a single software interface. You can modify your setpoints, view your sensors in real time, export data for analysis and display all your information graphically.




# 9. Comparison table

| | | MIKRO | LIGOCLIM | POLYCLIM 2000 |
|---|---|---|---|---|
| | |  |  |  |
| SPECIFICATIONS | Number of climate zones | 1 or 2 motors | 1 | 1 |
| | Remote access available via phone | NO | NO | NO |
| | Compatible with Anjou monitoring | NO | NO | NO |
| | Option to connect a humidity sensor | NO | YES | NO |
| | Option for Ferti-Irrigation management | NO | NO | NO |
| | Boiler management | NO | NO | NO |
| | Customisable configuration | NO | YES<br>Up to 8 relay outputs<br>4 analogue inputs<br>4 discrete (binary) inputs | NO |

| PRODUCTS | | | |
|---|---|---|---|
| **POLYCLIM NG** | **KAIROS** | **OPTAGROW** | **MAESTRA** |
|  |  |  |  |
| **1 to 4 depending on your configuration** | **1 to 6 depending on your configuration** | **1 to 12 depending on your configuration** | **Customisable per project Contact us** |
| **YES** | **YES** | **YES** | **YES** |
| **YES** | **YES** | **YES** | **NO** |
| **YES** | **YES** | **YES** | **YES** |
| **NO** | **NO** | **YES** | **YES** |
| **NO** | **1 boiler and 1 conveyor** | **4 boilers and 8 conveyors 1 Open Buffer - 13 layers** | **Customisable per project Contact us** |
| **YES Up to 12 relay outputs 8 analogue inputs 4 discrete (binary) inputs** | **YES** | **YES** | **YES** |

# Irrigation schedulers

## Automate your irrigation cycles and control your watering schedules.

With a scalable product range, Anjou Automation lets you manage your irrigation cycles using precise scheduled times and/or sensor data.


## Ligoprog

**Modular irrigation scheduler for 8 irrigation channels**

Modular irrigation scheduler including:
- Management of 1 to 8 solenoid valves
- Start based on fixed times, cycles, two analogue sensors, a Watt/Lux sensor and a calendar.
- Independent timing per solenoid valve
- Up to 8 irrigation solenoid valves simultaneously


## Polyprog 12

**Standalone irrigation scheduler for 48 irrigation solenoid valves**

Complete irrigation scheduler including:
- Management of 12 to 48 solenoid valves
- Start based on fixed times, cycles, six analogue sensors, a Watt/Lux sensor and a calendar.
- Independent timing per solenoid valve
- Up to 12 solenoid valves simultaneously
- Accessible from phone and tablet

# Ferti-Irrigation controllers

## Accurately dose your solutions to deliver the nutrients your crops need

Take immediate control of your crop fertilisation with precise management of the conductivity and acidity of your solutions.


### Ligoferti

**Modular scheduler for a fertilisation station**

Modular scheduler enabling:
- Management of a fertilisation station with 3 fertilisers and 1 acid
- EC / PH control
- EC / PH alarm management
- Start of the fertilisation station via the two available contact inputs


### Nero

**Controller enabling the management of one or more fertilisation stations and the scheduling of irrigation for up to 94 solenoid valves**

Ferti-irrigation controller comprising :
- Management of 1 to 4 fertilisation stations
- Control of fertiliser and acid injection with different set points on up to 40 irrigation groups.
- Management of 14 to 94 solenoid valves
- Start on fixed times, cycles, analogue sensors, Watt/Lux sensor and calendar.
- Independent timing per solenoid valve
- Up to 16 irrigation solenoid valves simultaneously
- Drainage / premix management
- Accessible from phone and tablet

# Ferti-Irrigation controller

## OPTAGROW


Optagrow can be used only in its Ferti-Irrigation configuration, depending on the project.

- Management of 14 to 192 solenoid valves
- Management of 1 to 4 fertilisation stations
- Drainage / premix management
- 4 irrigation periods per group
- Sequence of irrigation valves available at the valve
- Volume control via pulse (impulse) flow meter or 4-20 mA
- Overview of each group's programming in a dedicated window

# How to choose your Ferti-Irrigation controller?

## 1. What is needed: Irrigation, fertilisation, or both?

Not using fertilisation and only want to control your irrigation solenoid valves?

LIGOPROG

OR

POLYPROG 12

OR


NERO

OR

OPTAGROW

---

Do you want to control a fertilisation frame and already have irrigation schedulers?

LIGOFERTI

OR


NERO

OR

OPTAGROW

---

Would you like to control a fertilisation frame and your irrigation solenoid valves?

LIGOFERTI

+

LIGOPROG

OR

POLYPROG 12

OR


NERO

OR

OPTAGROW

# 2. Size your project

## A. Number of irrigation solenoid valves (if applicable)

**FROM 1 TO 8**

LIGOPROG

OR

POLYPROG 12

OR

NERO

OR

OPTAGROW

**FROM 8 TO 48**

POLYPROG 12

OR

NERO

OR

OPTAGROW

**> 48**

NERO

OR

OPTAGROW

### Information

Several schedulers can be combined to provide the required number of irrigation solenoid valves.

## B. Total number of fertiliser/acid injection lines or dosing pumps?

**FROM 1 TO 4**

LIGOFERTI

OR

NERO

OR

OPTAGROW

**FROM 4 TO 8**

NERO

OR

OPTAGROW

# 3. Which options might the customer want?

## A. Control and/or irrigation based on water volume?

Requires a pulse (impulse) flow meter, only supported by:


NERO

OR

OPTAGROW

---

## B. Desire for remote access to the scheduler via phone, tablet and PC

POLYPROG 12

OR


NERO

OR

OPTAGROW

---

## C. Request to duplicate the EC / PH sensors (measurement & control)


NERO

OR

OPTAGROW

# 4. Comparison table

| SPECIFICATIONS | LIGOPROG |
|---|---|
| |  |
| Drainage / premix management | |
| Controlled function(s) | Irrigation |
| Maximum number of solenoid valves | 8 |
| Maximum number of injection lines | |
| Maximum number of irrigation stations | 1 |
| Remote access via phone, tablet and computer | NO |
| EC / PH sensors | NO |
| Volume reading | NO |

| PRODUCTS | | | |
|---|---|---|---|
| POLYPROG | LIGOFERTI | NERO | OPTAGROW |
|  |  |  |  |
| | NO | YES | YES |
| Irrigation | Fertilisation | Fertilisation & irrigation | Fertilisation & irrigation |
| 48 | | 94 | 192 |
| | 4 | 8 | 8 |
| 3 | 1 | 4 | 4 |
| YES | NO | YES | YES |
| NO | YES (1) | YES (2) | YES (2) |
| NO | NO | YES | YES |

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