

# Complete solutions for optimal growing conditions



**GREENHOUSE HORTICULTURE**

**TUNNEL AND FOIL GREENHOUSES**

**INDOOR & VERTICAL FARMING**





# Optimal conditions for your crops

**Do you want to improve crop growth?**

**Use less energy and water? More insight in your greenhouse conditions? And more control over cultivation performance? With our complete product lines and automation systems, we help growers worldwide to optimize their enterprise. Hotraco Horti not only develops demand-driven solutions, but also continuously creates innovative, problem-solving, and technical solutions. This enables us to develop a suitable system for every horticultural company, for every application, and for every climate condition.**

At Hotraco, technology has been in the service of performance, for over 45 years. We are convinced that with our skilled and service-oriented employees, we can provide a solution that perfectly meets your needs and your situation.

Hotraco Horti provides:

- Control and monitoring of greenhouse processes
- Ventilation control
- Climate control
- Irrigation- and water regulation
- Management

We know that saving on energy, water and labor costs is essential for achieving a profitable business. We like to think along with you, and we share our knowledge and experience. In this way we help our partners move forward in a sustainable way.

✓ **Complete solutions that meet your needs**

✓ **Easy to use**

✓ **We are 24/7 at your service**

# Customized solutions

## For each type of cultivation

Hotraco Horti offers complete automation systems customized to your needs. Our systems control, monitor and optimize all your greenhouse processes and are applicable in all types of cultivation systems.

### GREENHOUSE HORTICULTURE



### TUNNEL AND FOIL GREENHOUSES



### INDOOR & VERTICAL FARMING



Our systems can be controlled remotely via computer, tablet, or smartphone. A complete overview at any time and from anywhere!



Automation solutions



More than 45 years of knowledge and innovation



24/7 personal service



Easy-to-use solutions



Global network



Committed and reliable partner

### All processes perfectly adjusted to your crops

Creating the right conditions for your crops is crucial for an optimal harvest. The key to an optimal harvest starts with an efficient production process. Having the processes in your greenhouse under control means you can make the right decisions and keep a grip on your crops at any time.

With our automation systems you have perfect insight, overview, and 24/7 control.



Fresh produce



Flowers & ornamentals



Soft fruit



Medicinal crops

# Complete automation and control for your greenhouse

**Hotraco Horti knows how important creating optimal cultivation conditions is. In the past, things like temperature, humidity and irrigation were set manually and by feel, but nowadays we can support you with automated complete solutions. This allows you to effectively analyze, manage and optimize to achieve the perfect balance.**



All-in-one automation system

## **ORION Multi Connect (MC)**

- Independent all-in-one automation system that controls, monitors and optimizes greenhouse processes.
- Unique communication interface between the greenhouse computer and motor driven installations.
- Multifunctional system that enables you to control everything concerning screen installations, ventilation, fans, and air treatment units.
- Compatible with all renowned climate computers and motors.



Climate and irrigation computer

## **ORION-GC**

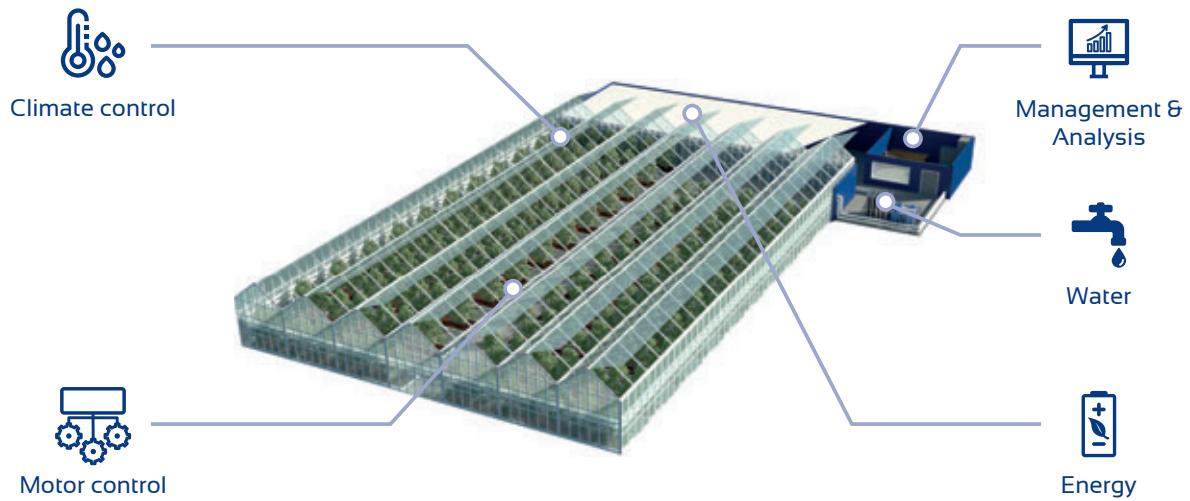
- Multifunctional and easy-to-use computer for climate control and irrigation.
- One ORION-GC can individually control the climate of up to eight compartments.
- Simple installation (plug & play).
- A clear overview anytime and from anywhere with the user-friendly app for smartphones.



Carefree control

## **Power units**

- Complete, compact, and reliable units.
- Universal and clear design.
- Easy to use and multiple control options.
- Motor control becomes a piece of cake.



### Control panels

- Engineering, production and supply of switch and control panels from our own panel building department.
- Both standard and project-based.

### Distributors

- Designing, manufacturing, and installing distributors in accordance with the highest possible quality requirements.
- Extensively tested, provided with an inspection report, and using only high-quality, durable materials.

### Greenhouse fans

- Uniform greenhouse climate.
- Energy efficient.
- High quality.
- Reduced noise production.

### Clima-Scan+

- Insight into both incidental and structural differences between measuring points.
- Optimal efficiency through a homogeneous greenhouse climate.
- Insight through visualization software Clima-Graphics.
- A system from which you will literally reap the benefits.



Tailor-made solutions



Uniform greenhouse climate



Wireless sensor system

# Orion MC

## All-in-one automation system

**The ORION-MC (Multi Connect) is a highly reliable, versatile communication interface between the greenhouse computer and motor-driven greenhouse systems and valves, such as windows, screen systems, fans and air handling units.**

### The reliable link

The ORION-MC allows climate computers and installations to work together flawlessly in serving a favorable greenhouse climate, efficient use of energy and maximum crop performance. Communication between greenhouse computers and motor-driven greenhouse systems is rarely direct. In most cases, a translation is required to convert a control instruction from the computer into an instruction for the IO unit (such as the HIMC or CAN-IO) that controls the installation in question. The ORION-MC takes care of this translation.

### Versatile communication interface

The ORION-MC is a universal, high-performance interface that communicates with the IO units via CAN-local. This offers maximum freedom of choice regarding climate computers and motors. The ORION-MC controls very accurately and requires little cabling. Moreover, the universal design of the Multi Connect offers a lot of room for control options and future expansions. It is truly a multi-talent that allows you to control screen installations, ventilation, fans, and air handling units.

### Motor groups and controls

The ORION-MC allows you to create motor groups to control a variety of installations in multiple compartments. You can assign several motors to each motor group. Specific controls can be assigned to each group.

### Software modules

A number of software modules have been developed, which, if desired can be installed on the ORION-MC:

- CANopen (windows & screens)
- VENT-SM-MC (windows & fans)
- Belimo-SM-MC (ventilation valves)
- LBK-SM-MC (air handling units)
- Ventilation groups-SM-MC (ventilation groups)
- Watchdog (Modbus)



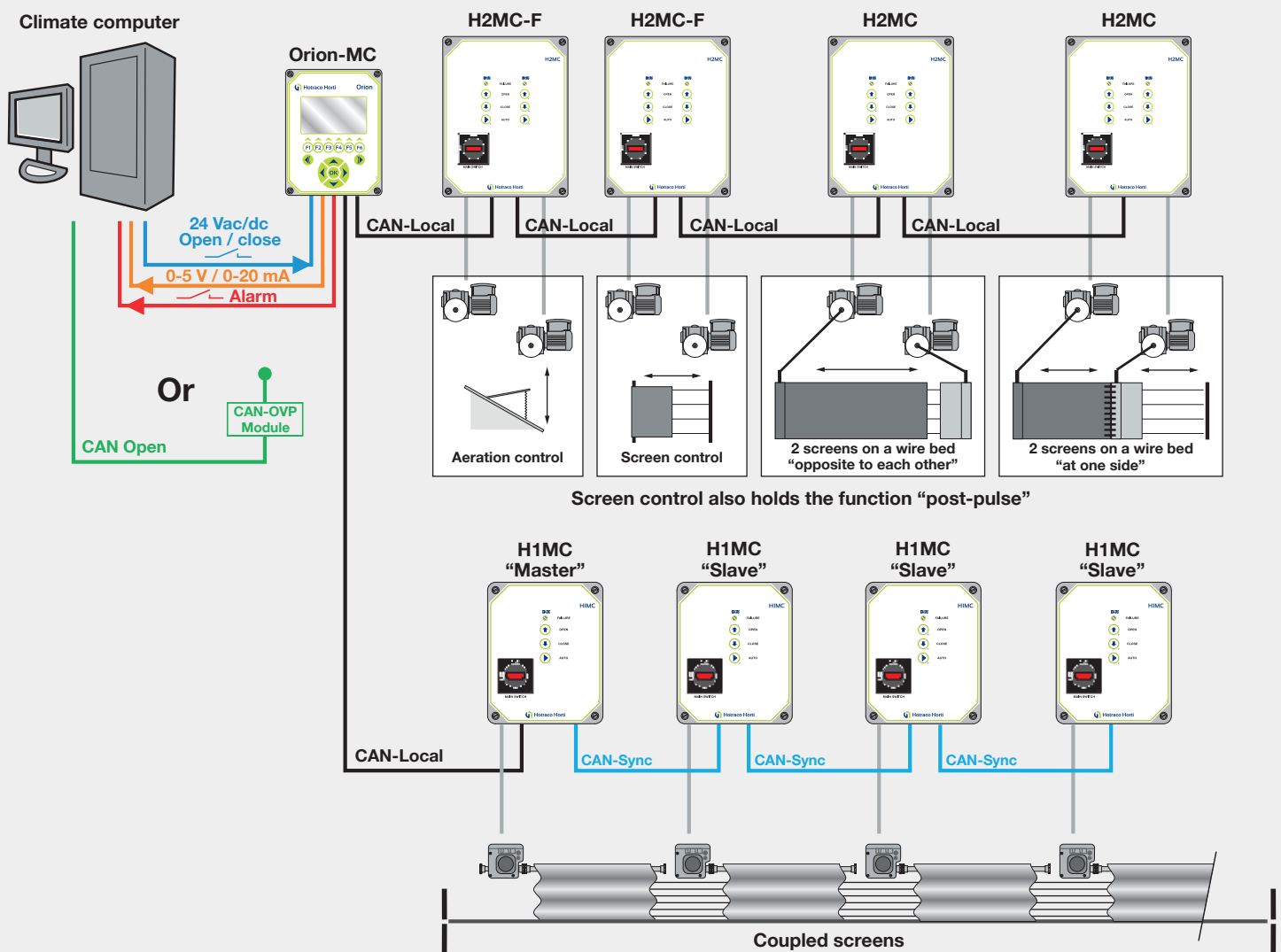
System independent



Multi-purpose



- ✓ Maximized freedom of choice
- ✓ Versatile system
- ✓ Reliable link



Control options

# Orion-GC

## Climate and irrigation computer

**The ORION-GC is an extremely versatile, functional, and easy-to-use computer for climate control and irrigation in horticultural greenhouses. Reliability, extensive functionality, and attractive pricing explain the success of this computer within the horticultural sector.**

### More growth, less concerns

With one single ORION-GC you can control up to eight greenhouses or compartments individually. The computer controls the greenhouse climate based on room temperature, relative humidity, CO<sub>2</sub>, water temperature and meteorological data. Soon after its introduction, the ORION-GC became a favorite of growers, greenhouse builders and installers. The precise, steady climate control helps keep crops healthy and perform better, while leaving the grower with virtually no worries. This gives growers more time for other matters. Setpoint changes can be made from either the central computer or laptop, or from the smartphone app.

### Irrigation module

The optional irrigation module makes the ORION-GC even more versatile. It ensures that crops always receive the desired amounts of water and nutrients at the right time. With this module, you can control up to 8 irrigation groups fully automatically and individually. These irrigation groups can be defined independently of the greenhouse compartments and can even be located outside the greenhouse (outdoor cultivation, container field). An irrigation group includes up to 24 valves, of which 1, 2 or 3 can be operational simultaneously. In addition, the ORION-GC has 4 timer controls and 8 external start options.

### Rainbow+

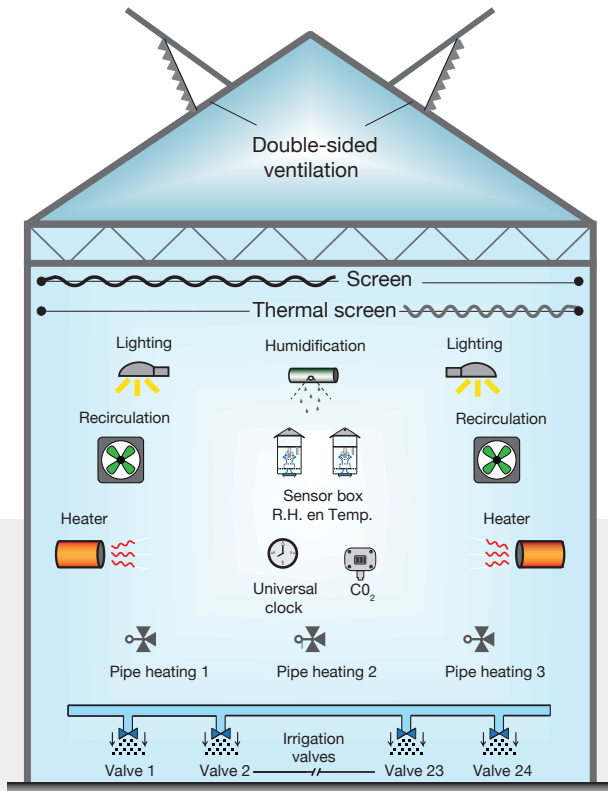
The Rainbow+ PC management program is part of the Orion-GC system and visualizes all relevant greenhouse data graphically and clearly in graphs and diagrams on your PC. The well-organized dashboard with clear symbols shows the main setpoints and measured values at a glance. Important parameters can be followed in graphs. The Orion-GC is easy to operate using a central computer, laptop, or smartphone.



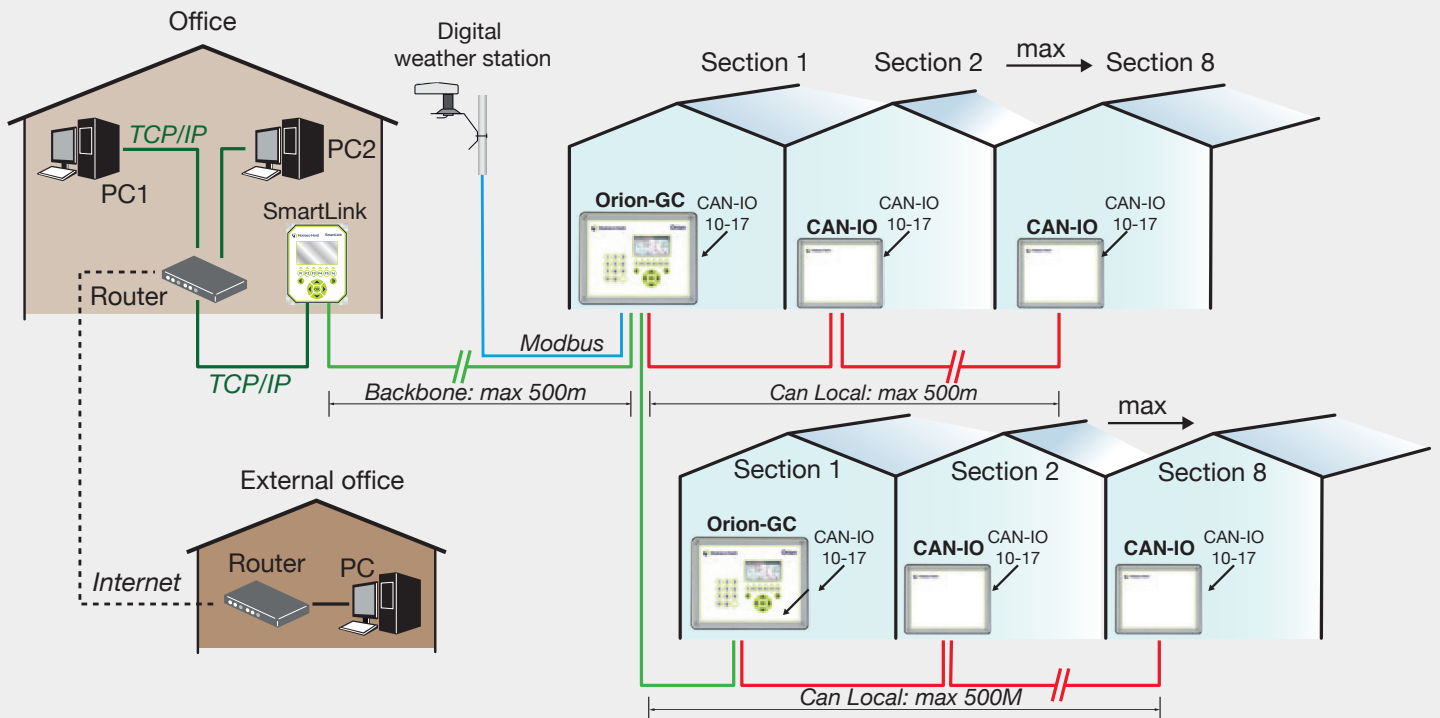
Accurate climate control



Remote control



- ✓ Extensive functionality
- ✓ Highly reliable
- ✓ Easy to use



Control options

# Control panels and distributors

**A Hotraco Horti control panel offers you a complete overview at a glance. In fact, it is often the beating heart of the company. Our knowledge, expertise and innovations within this specific field guarantee operational reliability, durability, safety, and mobility.**

## **Own production facility**

The engineers of our panel construction department can supply all necessary switch and control panels for the horticultural sector in our Dekra-certified workshop. Our workshop has the most modern CNC machines, automatic cutting machines and certified employees, which enables us to design and manufacture reliable control and switch panels with great accuracy. Both in series and customized.

## **Fast and flexible anticipation**

Because we develop, manufacture, and install control panels for a wide range of companies, we

are able to implement the experience of different disciplines across the Hotraco companies in our designs.

## **Reliable and dependable**

Without a properly functioning distributor, safety at your company is not guaranteed. We supply reliable distributors built under license, using only high-quality and durable materials. We supply flexible sheet metal or plastic systems up to 5,000 amperes.



**A customized solution**

## Power units

With our power units, you have complete and compact units for the carefree operation of your motor-driven systems. They are characterized by their universal applicability regarding the control of pumps, valves, heating networks, motors for ventilation, screening, and hoist heating. Our power units can be summarized in three words: reliable, affordable, and simple.



Link between computer and peripherals

## Greenhouse fans

The importance of good ventilation and circulation in a greenhouse is often underestimated. However, it is an important, but also a complex matter that involves many factors. Circulating air creates a uniform greenhouse climate, which is crucial for uniform crop growth. This simplifies operations and increases production.



Uniform greenhouse climate

## Clima-Scan+

Clima-Scan+ is indispensable for growers who aim for a homogeneous greenhouse climate. Clima-Scan+ provides insight into both incidental and structural differences between measuring points. In addition, it shows how the climate responds to certain control actions, such as heating, ventilation, or screening. Based on this, you can take targeted measures to even out fluctuations and achieve a more homogeneous climate. The system is available with a wide range of climate and soil sensors. They transmit the data wirelessly to a central data station, which presents the data clearly on your monitor via the Clima-Graphics+ software.



More sustainable and healthier cultivation

# Hotraco Horti

Part of Hotraco Group

**Hotraco Group is a group of innovative, technical companies, with a focus on system development and system integration. This mainly involves control technology-oriented solutions. We operate internationally, with more than 235 employees on all continents. The various companies focus on creating an environment that is optimal for living, working, storing, and growing. For people, animals, and crops.**

A combination of knowledge of various sectors and our problem-solving abilities ensures that we always search for and find the best possible solution. Hotraco Horti develops, produces, and supplies simple and high-quality systems for the horticultural sector.





 **Hotraco Group**  
the system creators

 **Hotraco Horti**  
the system creators

HORTICULTURE

 **Hotraco Agri**  
the system creators

LIVESTOCK

 **Mooij Agro**  
the system creators

CROP STORAGE

 **ULDERHOF**  
ventilation & welfare



**Hotraco Horti**  
the system creators

Stationsstraat 142  
5963 AC Hegelsom - The Netherlands

Tel. +31 (0)77 327 50 50  
[sales@hotraco-horti.com](mailto:sales@hotraco-horti.com)  
[www.hotraco-horti.com](http://www.hotraco-horti.com)

Certified dealer UK:

**DUKE**   
ELECTRICAL SERVICES

Pollards Nursery, Lake Lane  
PO22 0AD Barnham - United Kingdom

Tel. +44 (0)7463 897 897  
[giles@dukeelectrical.co.uk](mailto:giles@dukeelectrical.co.uk)  
[www.dukeelectrical.co.uk](http://www.dukeelectrical.co.uk)

