



# Priva Connex<sup>t</sup>

The process computer for  
optimum cultivation and  
maximum yield





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## Accurate coordination of all your cultivation processes

**Maximum yield and maximum production compared to an optimum quality of your crop; that is what you are trying to achieve. For this, all the processes in your horticulture business must be perfectly coordinated. Automation plays a crucial role in this.**

Whatever crop you grow, it is important that you have control over all technical processes that are relevant in cultivation. Wouldn't it be great if you were able to manage all your systems and installations using one central, reliable system? Priva Connex is the process computer that enables you to easily create the ideal conditions for your crop. Priva Connex gives you the right insights, is always up to date and is remotely accessible at any time of the day.

### The process computer for sustainable growth

Priva Connex is the most advanced process computer for horticulture. Whether you have 12 or 250 acres, Priva Connex supports you in the central management and coordination of all processes in the field of climate, light, irrigation, water, and energy management.

The computer automatically anticipates conditions and events that affect your cultivation, inside and outside your greenhouse. By linking all processes together, you create the most stable climate, bringing about an optimal crop result. Natural resources such as energy and water are used as efficiently as possible. This enables you to achieve sustainable growth at maximum return.

Priva Connex controls - among other things - windows, energy screens, lighting, heating systems, air humidification, air treatment, boilers, CHPs, buffer tanks, disinfection equipment, and fertilizer dosing systems. Sophisticated control technology ensures the ideal interaction between these systems.





## You determine your cultivation goals, **the computer does the rest**

When the Connex is set up according to your needs, you can be confident that all systems are controlled accurately and in line with your plan. The intelligent controls ensure optimal growth conditions for your crop, with minimal use of water, energy, and nutrients. This saves you valuable time. Time you can spend on your crop and business operations instead of on coordinating technical processes.

### **Suitable for any type of cultivation**

Priva Connex is suitable for any type of crop and desired cultivation strategy. Whether it is vegetables, ornamentals or soft fruit. You determine which objectives you want to achieve with your crop and which controls are important in this respect. The smart sensors and control technology then continuously analyze the measurement data from your greenhouse, such as temperature, CO<sub>2</sub>, light, and humidity. Priva Connex controls your systems based on these data.

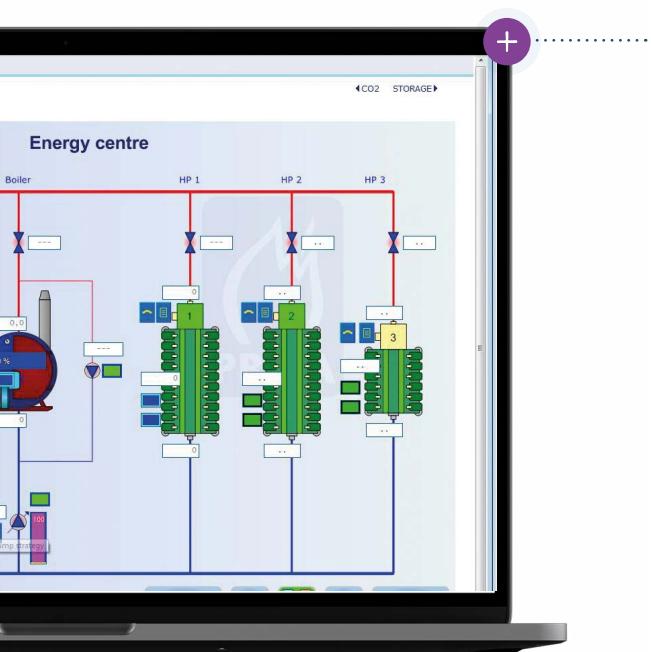
### **Installation and commissioning**

When you invest in a new process computer, you want to be sure that your system is easy to use. Priva Connex is designed to easily replace older systems and to easily connect future systems. This way, you can be sure that you are making a future-proof investment. The software is continuously updated, making sure that you always have a secure and stable system with the latest functionalities. Our global network of certified partners supports you with installation, service, and updates.



## User-friendly operation: always connected to your greenhouse

Priva Connex is completely self-managing and is operational 24/7. That is a reassuring thought. Nevertheless, wherever you are, you always want to stay connected to your greenhouse. With Priva Office Direct and Priva Connex Operator you always have insight into the status of your systems. You can log on to Priva Office Direct via a PC or smartphone. Priva Office Direct is the comprehensive software application that allows you to manage and analyze all the controls and settings of your greenhouse in detail. Connex Operator is the practical application for a tablet or smartphone. This provides you with insight into your processes and enables you to make the most essential changes to your systems, always and everywhere.



### Priva Office Direct

This advanced control platform offers you every possibility for optimizing your crop and the climate.

With Priva Office Direct, you can:

- Select the controls from the Connex control library and adapt them to your business situation and preferences;
- Align dashboards and graphs to your wishes: you only see what you need;
- Monitor and adjust all linked processes. Alarm screens appear prominently on screen, and you can add notes to them which automatically appear if the failure recurs;
- Display all processes on a map. This provides extra insights with which you can optimize processes per department.

One of the special aspects of Priva Office Direct is the ease with which you can set the greenhouse temperature, for example. With a single mouse movement, you can drag the points within a graph to the desired temperature curve and the settings are automatically adjusted for all connected ventilation and heating controllers.



## Priva Connected

Priva Connected is a service package that gives you access to multiple online applications and services to operate your crop production facility remotely. Whether on site or at home, you can manage your operations by using your smartphone, tablet or laptop. Priva Connected includes several applications such as Priva Operator and Priva Notification Center as well as services like the Priva Helpdesk and the Priva Academy. To ensure that you always have a future-proof solution with the latest software, you will receive continuous software updates automatically for online applications.

The Connexx software update is part of the Priva Connected service package as well. This update should be installed by your Priva partner.

## Priva Operator

With Priva Operator, you can monitor and manage your crop remotely. The online application that makes operating your Priva process computer easy and convenient. View settings and measurements of your crop production facility in real time and adjust a strategy or setting directly to your liking.

## Priva Notification Center

With Priva Notification Center you are always aware of all current and historical alarms in your greenhouse. It alerts you when an alarm is activated and gives you detailed information, wherever you are. In addition, you can switch directly to Priva Operator and change settings to solve the issue.

The screenshot displays the Priva Operator software's user interface. On the left is a sidebar menu with links to various system components: Dashboard, Ventilatie, Verwarming, Doek, CO2-dosering, Luchtbehandeling, PAR-regeling, Belichting, Temperatuurbalans, Luchtcirculatie, Bevochtiging, Koelen, Gewasbehandeling, M&V-koeeling, Etmaalttemperatuur, Wasrobot, and Algemeen. The main area is titled 'Visueel Afd 1 & 2' and shows 'Kas 1'. It displays real-time data for temperature (BT: 11.5°C, VentT: 21°C, KasT: 20.1°C), wind speed (WS: 2.3 m/s, VentW: 19.7°C), relative humidity (WR: noord, RV: 66%), light levels (LS30: 0%, Scherm: 0%), and radiation (Straalstraling: 397 W/m²). The background image shows the interior of a large greenhouse with rows of plants.

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# Control climate and save on water and energy

Energy is one of the largest cost items of a horticultural business. Retailers and governments are also setting increasing demands around sustainable production.

Priva Connexx contains control modules that integrate multiple systems. Our years of knowledge and experience in horticultural automation is incorporated in these control modules. The control modules calculate and anticipate various conditions and determine which adjustments are required. With this you can save considerably on energy, water, and CO<sub>2</sub>.

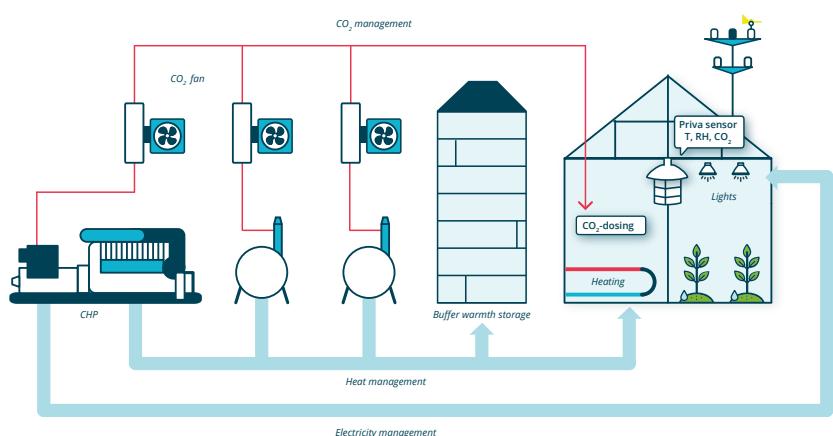
## Some examples:

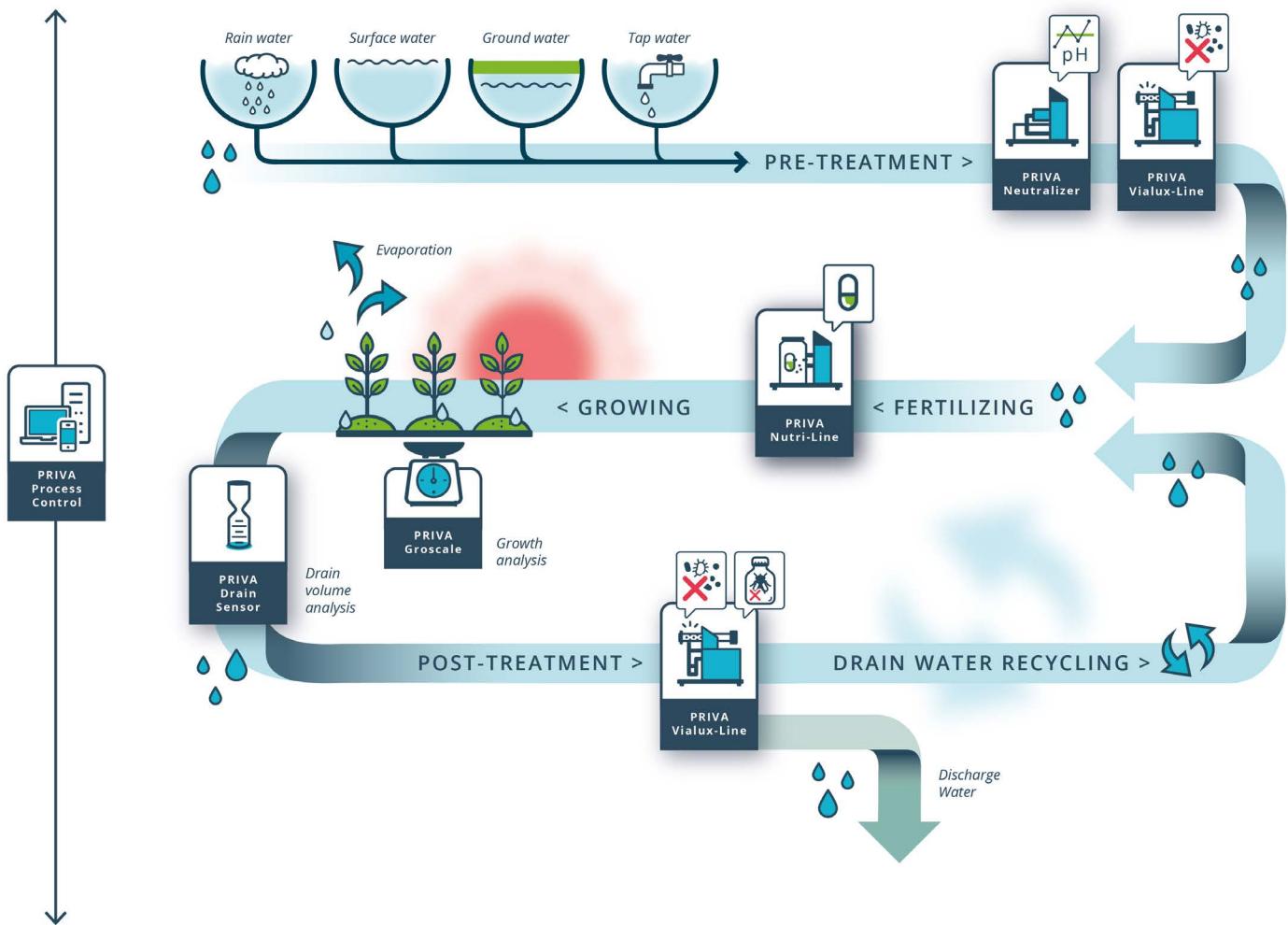
- As soon as energy screens are closed or opened, the heating demand is adjusted accordingly. This prevents temperature variations.
- When the lighting is switched on, the lamps will also partially heat the greenhouse. The heating responds to prevent a temperature increase.
- The ventilation is a key factor in the exchange of CO<sub>2</sub>-enriched air with outside air. This is taken into account in the CO<sub>2</sub> dosage.
- The CO<sub>2</sub> supply is adjusted to the light level in the greenhouse.
- As soon as the lighting is switched on, the crop starts evaporating more. This information is taken into account in the irrigation strategy.



## Energy management

Priva Connexx's energy management software continuously analyzes the power requirements, expected power requirements and available power supply for your greenhouse. By coordinating these processes as well as possible, you make optimum use of precious energy.





### Optimal use/reuse of water

The right composition of water at the right time contributes to a healthy crop. Water use therefore influences the financial health of your business in various ways. In an environment in which the healthy growth of your crop and your business are central, it is important to regulate the various water flows in the best possible manner, while at the same time administering the right quantities of fertilizers. Priva Connex can control automated fertilizer dosing systems, with which you can efficiently dose high-quality irrigation water. Supplemented with UV disinfection, you can safely recirculate water and meet the highest food safety requirements and regulations on the discharge of irrigation water.



# Extensive controls library

It is evident that you want to create the optimum cultivation conditions for your crop and your business. Priva Connexx offers the most extensive library of control modules for horticulture. These control modules are based on advanced computer models and years of experience, research and development.

Priva has a suitable process computer with the right controls for every location in the world, for every type of greenhouse and for every crop. You can fully customize your Priva Connexx to your needs, with the control modules that suit your situation. This means that Priva Connexx can be deployed flexibly in cultivation systems ranging from simple to extremely complex.

Priva Connexx contains several special control modules, in which different control systems or processes are combined in a single strategy. These are the PAR strategy, the 24-Hour Cycle control, and the Moisture Balance Module. These modules perfectly align different control systems, so that your systems are used as smartly as possible to achieve the desired goals.

## PAR strategy

For the cultivation of certain flowers and plants, the correct lighting is essential for the growth and quality of the crop. The PAR strategy offers a perfect solution in this context. The PAR strategy continuously monitors the lighting and screen controls and automatically adjusts them for optimal results.

## 24-Hours temperature strategy

The 24-hours temperature strategy ensures that a desired average temperature is achieved during a 24-hour cycle, based on the light intensity, if desired. This allows you to influence the growth rate of the crop. The 24-hours temperature strategy continuously monitors the temperature measurement and automatically controls the ventilation and heating for optimum results.

## Moisture Balance Module

Another example of a precision control is the Moisture Balance Module. Many fruit-bearing crops, such as berries, must be given just the right amount of water to prevent damage to the fruit. Accurate moisture sensors or scales measure the evaporation, the water consumption by the plant and the moisture level of the substrate. Based on these data, the water supply is precisely tailored to the needs of the plant.

Operation	Greenhouse	Water room	Energy room	General
<b>PRIVA OFFICE</b> 	> Climate compartments > Crop protection program > Air treatment > Ventilation > Screens > Air recirculation > Humidification > Crop temperature > PAR strategy > 24-hours temperature > Heating > Cooling > Optima greenhouse > Lighting > CO <sub>2</sub> dosing > Starting program > Moisture measurement > Moisture balance > Irrigation valves > Ebb/flood system	> Water management > Water pre-treatment > AB tank fill control > Nutrient dosing channels > Water recirculation > Water post-treatment > Vialux disinfection > Tank management	> Heat management > Transport line > Boiler > Combined heat/power generator > Heat exchanger > Heat storage tank > Cold or warm aquifer > Heat pump > CO <sub>2</sub> management > CO <sub>2</sub> producer > Electricity management > Electricity consumers > Optima greenhouse energy management	> Meteorological measurements > Send/receive data between different process controllers > Flex modules > Universal servo > Universal input > Universal influences > Wash robot/roof cleaner
<b>PRIVA OPERATOR</b> 				
<b>SERVICES</b> 				

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## Link with labor registration and management information

If you link your Priva Connex to the management information system Priva FS Performance, you also have a complete overview of your business operations. By linking your climate data to data on labor, production, and crop, you will gain even more insight into your cultivation and your business operations. This provides usable management information with which you can coordinate your processes even better.



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## Safe and reliable

Everything revolves around your crop. We understand the importance of a highly reliable process computer. With Priva Connex you have complete control over all your systems and processes. You will never face any surprises because you can see at any time whether everything is working as you have set it up. Should a fault occur, all systems will automatically be placed in safe mode and you will receive a notification. In the event of a power outage, all data are immediately stored. When you then restart the system, the most recent measurements and settings are automatically restored. You can always count on a reliable and safe system with robust hardware that has been specially developed to withstand the conditions in a greenhouse.





## About Priva

**Priva is a high-tech company** that develops hardware, software and data services in the field of sustainable climate control, energy saving, and optimal reuse of water.

**Our innovative solutions** are used in a wide range of sectors such as greenhouses and polytunnels, vertical farming and indoor growing environments, offices, public buildings, retail, hotels, health care, and museums. Worldwide, we have a customer base of 10,000 companies and 450 international installation partners. We supply sustainable solutions and services in more than 100 countries.

**With our activities** in horticulture, building automation, and indoor growing, we want to help shape the cities of the future. We create an optimal environment in which people and plants experience the best way to grow. A place where people can enjoy a healthy working and living environment and have access to safe and nutritious food.

**Using our horticultural expertise**, we help entrepreneurs grow a profitable crop in a sustainable way. We enable them to organize their business processes more efficiently and make conscious decisions about water, labor, and energy. This goes hand in hand with helping growers to manage the cultivation process in a greenhouse in a way that creates more continuity in the business. With over 60 years of experience in greenhouse horticulture, we do this by offering total solutions for controlling and managing any form of horticultural activity anywhere in the world.



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