

PlantCare Product Overview

Irrigation Controller

Soil Moisture Sensors

Moisture Monitoring Systems

Frost Alarm Systems

Remote Monitoring & Control

Wireless Communication

Planning and Analysis Software



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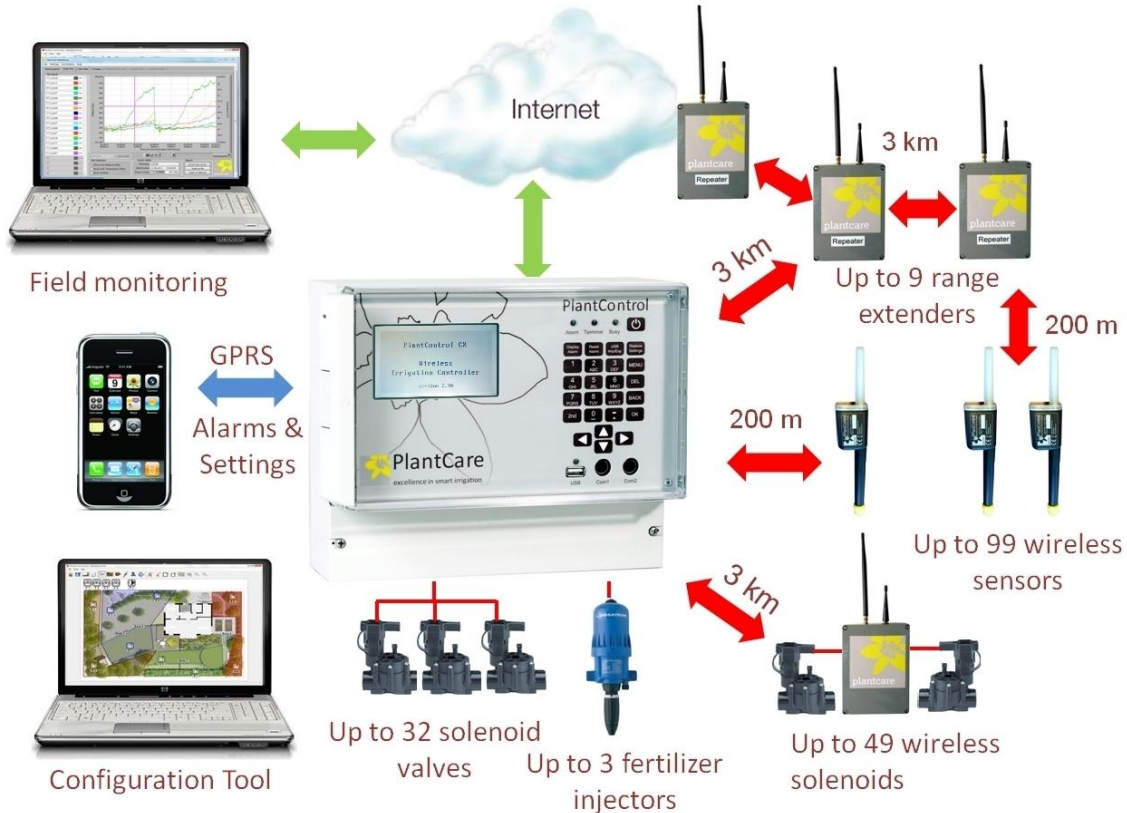
PlantCare
excellence in smart irrigation

PlantControl CX

Sensor-controlled, wireless irrigation computer with DRA-Technology

Smart & self-learning irrigation computer

PlantControl CX is the world's first self-learning irrigation computer that intelligently evaluates the measurements from up to 60 wireless-linked soil moisture sensors. It not only calculates the correct time to water but also the plants' actual water requirements and automatically adjusts run times according to their growth stages and seasonal temperature fluctuations.



How it works

A PlantControl CX computer irrigates completely automatically. The control system is based on PlantCare's own soil moisture sensor which has been developed and patented worldwide. This totally maintenance-free sensor, which is already in successful use at renowned scientific institutes and companies, measures soil moisture content and soil temperature at regular intervals and transmits these measurements wireless to the control centre.

Irrigation starts automatically as soon as the measured dryness level exceeds the pre-set value and the irrigation time window has been reached. After irrigation, the PlantControl CX determines whether the pre-set target soil moisture level has been reached or not. If necessary, the run time is increased or reduced in order to hit the target moisture in the next irrigation run (DRA-Technology, Dynamic Run-Time Adjustment). This worldwide unique technology ensures optimum water supply for the plants, prevents under- or overwatering and protects precious water resources.

Under control at all times

PlantCare's unique communication concept means that the remote monitoring and control of an irrigation system is always guaranteed. DataViewer, PlantCare's special evaluation software, also provides a fast and ideal visual overview as well as an analysis of the irrigation data. Corrections can be made remotely without the need for time-consuming, on-the-spot analyses.

Area of use

- Agriculture irrigation
- Residential, commercial, sports fields irrigation
- Agriculture research



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PlantControl CX

Sensor-controlled, wireless irrigation computer with DRA-Technology

Smart & environmentally-friendly

- Plants thrive thanks to their stress-free, sensor-controlled irrigation. They are less disease-prone and more pest-resistant.
- Watering only takes place when the soil has reached a specific level of dryness, in other words neither too early nor too late. This ensures a sustainable approach to the use of water.
- With PlantCare DRA-Technology (Dynamic Run-Time Adjustment) irrigation run times are adjusted continuously, thus preventing under- or overwatering. Manual adjustment of the run times due to seasonal temperature fluctuations is no longer necessary.
- Any leaching of fertilizer or other chemicals into the groundwater is consistently prevented, since overwatering is avoided.
- If any of the valves, etc. malfunction, an SMS alarm message is automatically sent to the relevant offices.

General Features

- Up to 32 stations (24V AC or 9V impulse)
- Up to 60 wireless sensors can be connected.
- Weatherproof IP67 housing
- Signal range up to 200 meters, dependent on the type of terrain. This range can be increased up to 30 km using optional range extenders.
- Measurement of soil moisture levels and soil temperature at freely selectable intervals.
- Speedily reaction to changes in moisture levels.
- Value measured is unaffected by salt or fertilizer content.
- Configure using the large LCD Display or via PlantCare Communicator Software.
- A USB-interface allows to load the irrigation configuration planed on a PC and readout the irrigation data via a USB stick.
- Various optional functions such as remote data retrieval, remote control as well as SMS-Alarm function are available
- Language setting German/English

Easy configuration with PlantCare Communicator Software

The configuration of a PlantControl CX with the PlantCare Communicator software is easy and convenient. This software allows the definition of irrigation zones and placement of sensors, valves and pumps with one click. The area to be irrigated can be entered as a plan or picture. The configuration data can be downloaded onto a USB stick and then transferred to the PlantControl CX.

Measuring method

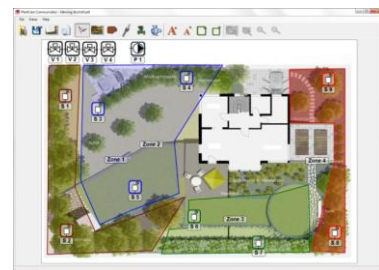
PlantCare's worldwide patented sensor technology is based on the microthermic measurement of soil moisture. A specially developed felt material in moisture balance with the soil acts as the interface between the surrounding soil and the sensor. To measure the moisture level, the sensor is briefly heated and the cooling-down time, which varies depending on soil moisture, is determined. The sensor's cooling-down time thus provides a reliable statement of the soil's moisture content.

Scope of supply

- PlantControl CX irrigation controller incl. 8-Station 24V AC module, GPRS Modem, internal transformer

Accessories

- 8-station 24V AC or 9V impulse extension module extendable up to 32 stations
- Multi-functional switching module (fertilizer control, facility management, floating contact)
- PlantCare wireless soil moisture sensors incl. batteries in various length
- Solar cell
- Range extender for increasing the radio range
- External antenna for enhanced signal reception (for PlantControl CX or GPRS terminal)
- PlantCare DataViewer software for the display and analysis of the irrigation data
- PlantCare Communicator Software for easy programming on a PC
- Replacement tip with felt for sensor
- Frost alarm function incl. two wireless temperature sensors
- Remote data retrieval function
- Remote control function
- SMS-Alarm function
- Internet connection function



Easy planning with
PlantCare Communicator

PlantControl CX

Sensor-controlled, wireless irrigation computer with DRA-Technology

General technical specifications

- Extendable up to 32 stations with 8-station valve modules (24V AC or 9V impulse with solar cell)
- Each station can be programmed individually
- Up to 60 wireless sensors can be connected
- Irrigation days freely selectable / up to 12 start times per day
- Various irrigation modes can be selected per valve: sensor-controlled with constant run time / dynamic run time adjustment (PlantCare DRA-Technology) / timer watering
- Selectable dry level for irrigation start and target moisture level after irrigation
- Moisture measurement in: relative % or hPa (for hPa 6 standard soils to choose from)
- Easy programming on a PC with PlantCare Communicator Software
- Irrigation data analysis with PlantCare DataViewer Software
- Signal range up to 200 meters, dependent on the type of terrain. Can be extended up to 30 kilometers using optional range extenders.
- Licence-free transmission frequency: 868 MHz or 915 MHz, interchangeable
- Weatherproof IP67 housing
- Frost resistant
- Operating temperature: -20° C to +50° C

Technical specifications PlantControl CX

- Large LCD-Display / USB interface
- Up to 100.000 data sets can be recorded
- Power supply: 8 AA rechargeable batteries (inclusive), in combination with mains (110/230V) or solar cell 12W
- Dimensions: 29 x 23 x 15 cm

Technical specifications soil moisture sensor

- Can be used in all soil types
- Power supply: 2 AA 1.5 V batteries
- Battery life span approx. 1 year depending on measuring cycle
- Dimensions: 4 x 4 x 29 cm (shortest version)
- Available length:
 - Stick version: 18/35/60/100 cm
 - Cable version: 60/250 cm (other length available on request)

Measurement data

- Moisture display:
 - In relative %-units or
 - hPa suction pressure for 6 standard soils
- Measuring range soil moisture (at a soil temperature between 2° C to +37° C*):
 - Relative %-units: 0 - 100%
 - hPa: 0 – 400 hPa high sensitivity / > 400 - 800 hPa lower sensitivity
- Measuring range soil temperature: -20° C to +50° C
- Measuring accuracy:
 - Soil moisture: +/- 3%
 - Soil temperature: +/- 0.3° C
- Reading accuracy:
 - Soil moisture in relative %: 1%
 - Soil moisture in hPa: 1hPa
 - Soil temperature: 0.1 °C

* Sensors for soil moisture measurements at soil temperature range between 2° C to +50° C on request

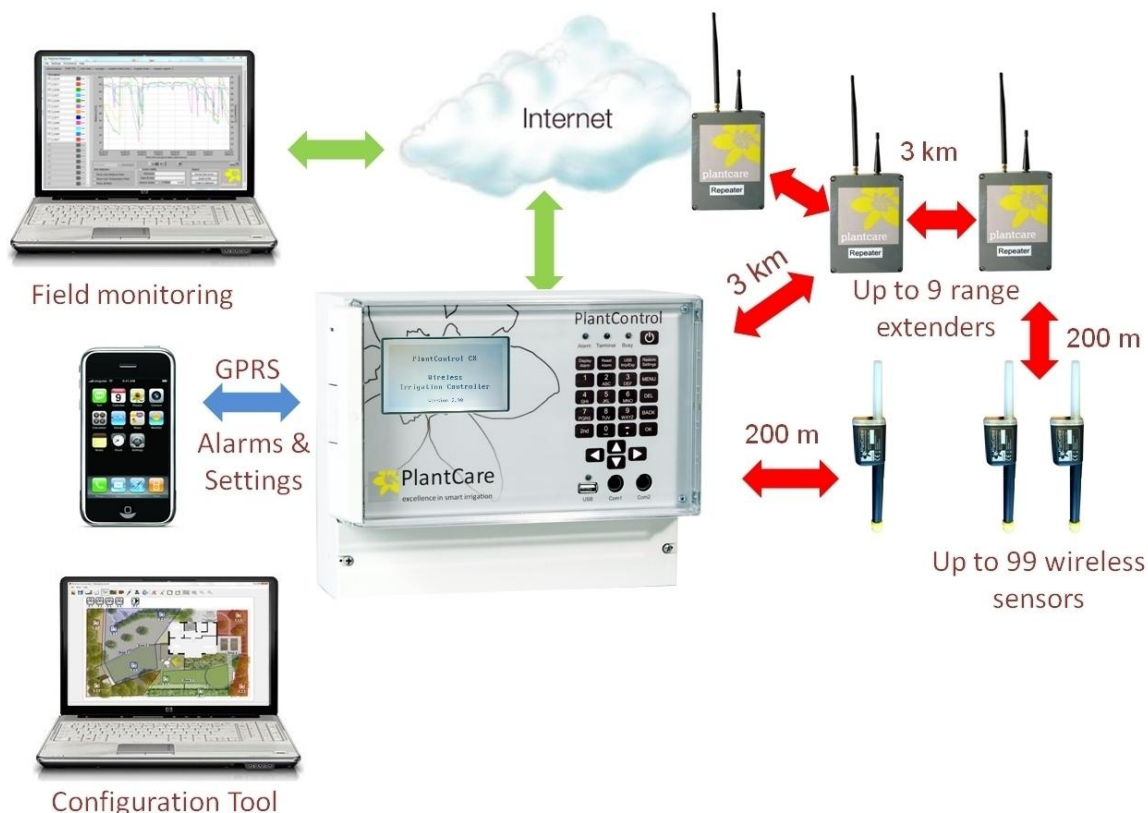


PlantControl D Wireless Data Logger

Soil moisture and soil temperature monitoring system for larger surface areas.

PlantControl D Wireless Data Logger Soil Moisture Sensor

In combination with PlantCare's wireless soil moisture sensors, the PlantControl D is used for the wireless reception and recording of soil moisture levels and soil temperature in the scientific sector, for agricultural applications as well as garden and landscaping construction.



Area of use

- Agricultural research
- Irrigation monitoring of expensive plantings

Features

- Up to 99 wireless sensors can be connected.
- Weatherproof IP67 housing
- Signal range up to 200 meters, dependent on the type of terrain. This range can be increased up to 30 km using optional range extenders.
- Measurement of soil moisture levels and soil temperature at freely selectable intervals.
- Speedily reaction to changes in moisture levels.
- Reliable results even at minimum depths (from 5 cm).
- Value measured is unaffected by salt or fertilizer content.
- Precise recording of measurements through built-in quartz clock.
- A USB-interface allows to readout the measurement data as well as a logbook to a USB stick.
- Communication module with GPRS terminal for remote data retrieval (optional).
- Language setting German/English

Scope of supply

- PlantControl D Data Logger, internal transformer
- PlantCare DataViewer software for the display and analysis of the measured data

Accessories

- PlantCare Wireless soil moisture sensors incl. batteries
- Solar cell
- Range extenders for increasing the radio range
- Remote data retrieval function (incl. GPRS Modem)
- SMS-Alarm function (requires remote data retrieval function)
- External antenna for enhanced signal reception (for PlantControl D or GPRS terminal)
- Extension cable 5m for external antenna
- Replacement tip with felt for sensor

PlantControl D Wireless Data Logger

Soil moisture and soil temperature monitoring system for larger surface areas.

Measuring method

PlantCare's worldwide patented sensor technology is based on the microthermic measurement of soil moisture. A specially developed felt material in moisture balance with the soil acts as the interface between the surrounding soil and the sensor. To measure the moisture level, the sensor is briefly heated and the cooling-down time, which varies depending on soil moisture, is determined. The sensor's cooling-down time thus provides a reliable statement of the soil's moisture content.

General specifications

- Temporary or permanent installation
- Measurement in: relative % or hPa
(for hPa 6 standard soils to choose from)
- Data analysis with PlantCare DataViewer Software (inclusive)
- Signal range up to 200 meters, dependent on the type of terrain. This range can be increased up to 30 km using optional range extenders.
- Licence-free transmission frequency: 868 MHz or 915 MHz, interchangeable
- Weatherproof IP67 housing
- Frost resistant
- Operating temperature: -20° C to +50° C

Technical specifications PlantControl D

- Up to 100.000 data sets can be recorded
- USB interface for data export on USB stick
- Power supply: 8 AA rechargeable batteries (inclusive), in combination with mains (110/230V) or solar cell 12W
- Dimensions: 29 x 23 x 15 cm

Technical specifications soil moisture sensor

- Can be used in all soil types
- Power supply: 2 AA 1.5 V batteries
- Battery life span approx. 1 year depending on measuring cycle
- Dimensions: 4 x 4 x 29 cm (shortest version)
- Available length:
 - Stick version: 18/35/60/100 cm
 - Cable version: 60/250 cm (other length available on request)

Measurement data

- Moisture display:
 - In relative %-units or
 - hPa suction pressure for 6 standard soils
- Measuring range soil moisture (at a soil temperature between 2° C to +37° C*):
 - Relative %-units: 0 - 100%
 - hPa: 0 – 400 hPa high sensitivity / > 400 - 800 hPa lower sensitivity
- Measuring range soil temperature: -20° C to +50° C
- Measuring accuracy:
 - Soil moisture: +/- 3%
 - Soil temperature: +/- 0.3° C
- Reading accuracy:
 - Soil moisture in relative %: 1%
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 - Soil temperature: 0.1 °C

* Sensors for soil moisture measurements at soil temperature range between 2° C to +50° C on request



PlantCare Mini-Logger

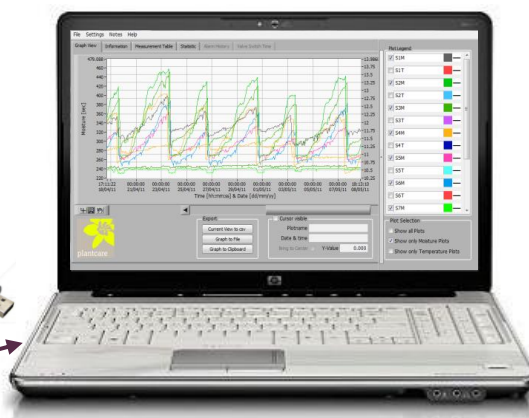
Soil moisture and soil temperature monitoring system.

PlantCare Mini-Logger

The PlantCare Mini-Logger is a maintenance-free sensor which records soil moisture and soil temperature. A USB stick is used to easily program the mini-logger and readout the data. The PlantCare DataViewer Software allows a quick and easy display and analysis of the measured data. Fields of application are scientific research, agriculture and garden and landscaping construction.



Simple readout of the data with a USB stick



Quick analysis of the measured data with the PlantCare DataViewer software

Area of use

- Agricultural research / forestry / hydrology
- Irrigation monitoring in:
 - Garden and landscaping construction
 - Agriculture
 - Horticulture
 - Nurseries
 - Tree nurseries

Features

- Measurement of soil moisture levels and soil temperature at freely selectable intervals.
- Speedily reaction to changes in moisture levels.
- Reliable results even at minimum depths (from 5 cm).
- Value measured is unaffected by salt or fertilizer content.
- Precise recording of measurements through built-in quartz clock.
- A USB-interface allows programming the logger as well as readout the measured data.
- Maintenance-free
- Weatherproof IP67 housing

Scope of supply

- PlantCare Mini-Logger incl. batteries
- PlantCare Mini-Logger Configurator Software
- PlantCare DataViewer software for the display and analysis of the measured data

Accessories

- Data upload / download cable incl. 2 USB Sticks (1GB) for Mini-Logger configuration respectively data download
- Replacement tip with felt for Mini-Logger sensor



Available in different length as stick or cable version

PlantCare Mini-Logger

Soil moisture and soil temperature monitoring system.

Measuring method

PlantCare's worldwide patented sensor technology is based on the microthermic measurement of soil moisture. A specially developed felt material in moisture balance with the soil acts as the interface between the surrounding soil and the sensor. To measure the moisture level, the sensor is briefly heated and the cooling-down time, which varies depending on soil moisture, is determined. The sensor's cooling-down time thus provides a reliable statement of the soil's moisture content.

Technical specifications

- Temporary or permanent installation
- Can be used in all soil types
- Setting options
 - Device name
 - Measuring cycle time : 10 - 360 min
 - Measurement in: relative % or hPa (for hPa 6 standard soils to choose from)
 - Time of first measurement
 - Date and time
 - Date erase
 - Parameter reset
- Logging capacity for approx. 12.000 data sets
- Data export with export cable and USB Stick
- Programming with configuration file on a USB stick
- Data analysis with PlantCare DataViewer Software (inclusive)
- Power supply: 2 AA 1.5 V mono-cells
- Battery life span approx. 1 year depending on measuring cycle time
- Weatherproof IP67 sealing with one button operation
- Frost resistant
- Dimensions: 4 x 4 x 23 cm (shortest version)
- Weight approx. 130 gram
- Available length:
 - Stick version: 18/35/60/100 cm
 - Cable version: 60/250 cm (other length available on request)
- Operating temperature: -20° C to +50° C



Measurement data

- Moisture display:
 - In relative %-units or
 - hPa suction pressure for 6 standard soils
- Measuring range soil moisture (at a soil temperature between 2° C to +37° C*):
 - Relative %-units: 0 - 100%
 - hPa: 0 – 400 hPa high sensitivity / > 400 - 800 hPa lower sensitivity
- Measuring range soil temperature: -20°C to +50° C
- Measuring accuracy:
 - Soil moisture: +/- 3%
 - Soil temperature: +/- 0.3° C
- Reading accuracy:
 - Soil moisture in relative %: 1%
 - Soil moisture in hPa: 1hPa
 - Soil temperature: 0.1 °C



* Sensors for soil moisture measurements at soil temperature range between 2° C to +50° C on request



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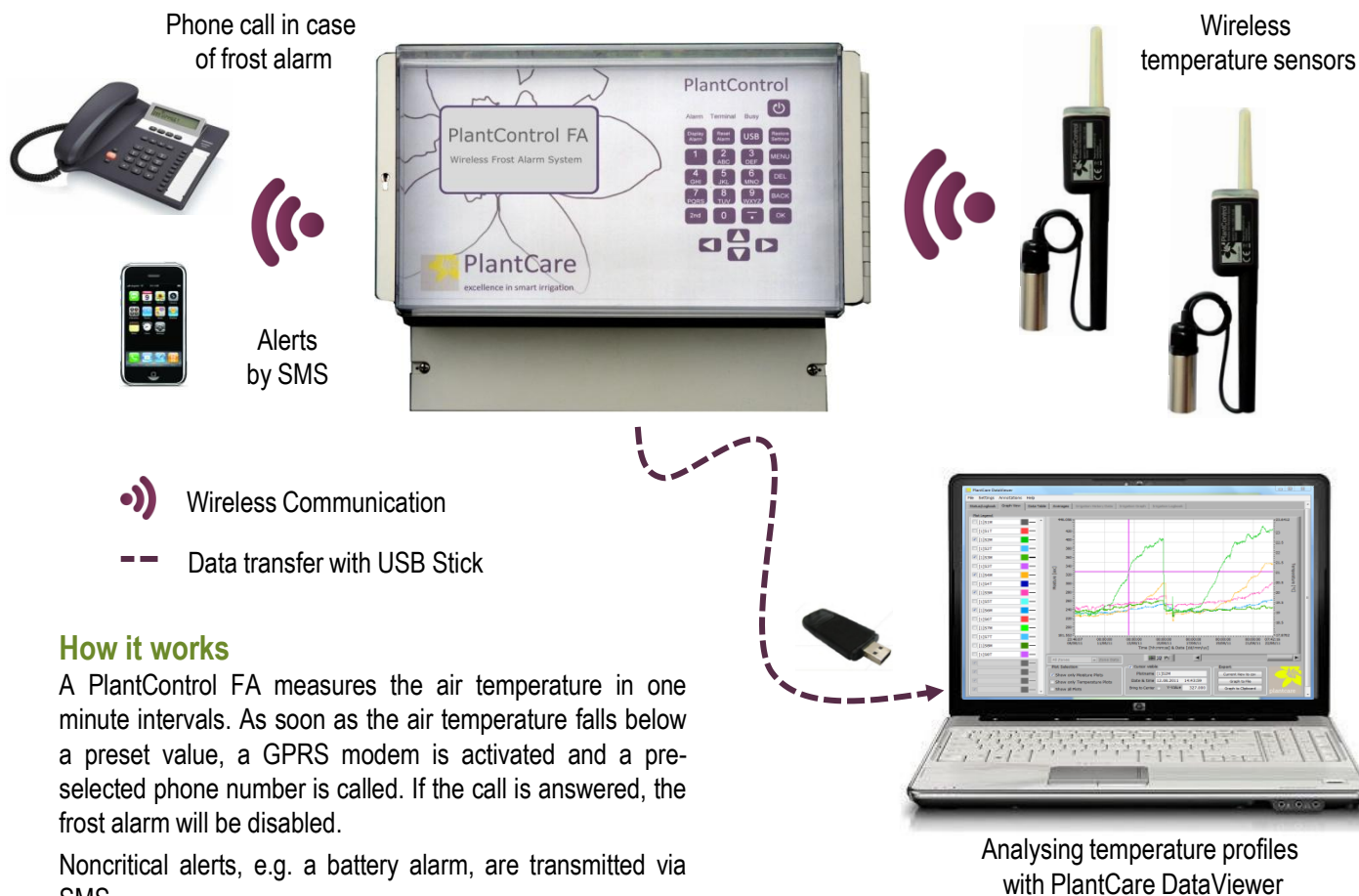
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PlantControl FA

Sensor-controlled, wireless frost alarm system.

PlantControl FA

In combination with PlantCare's wireless sensors, the PlantControl FA measures the air temperature and activates a phone call, when the air temperature drops below a preset value. Field of application is frost protection of fruits and berries.



How it works

A PlantControl FA measures the air temperature in one minute intervals. As soon as the air temperature falls below a preset value, a GPRS modem is activated and a pre-selected phone number is called. If the call is answered, the frost alarm will be disabled.

Noncritical alerts, e.g. a battery alarm, are transmitted via SMS.

The temperature data are continuously stored and can be analysed with the provided evaluation software. Thus, the effectiveness of countermeasures can be judged objectively.

Scope of supply

- PlantControl FA central unit
- 2 temperature sensors
- GPRS Terminal (excl. SIM-Card)
- Solar cell 12W incl. connection cable
- USB Stick for the read out of data
- PlantCare DataViewer software for the display and analysis of temperature data

Accessories

- Additional temperature sensors
- Multi-functional switching module (floating contact for spray mist, valve etc.)

PlantControl FA

Sensor-controlled, wireless frost alarm system.

General specifications

- Up to 5 wireless temperature sensors can be connected.
- PlantControl FA and sensors with weatherproof IP67 housing.
- Signal range up to 200 meters, dependent on the type of terrain.
- Operating temperature: -20° C to +50° C.
- Licence-free transmission frequency: 868 MHz or 915 MHz, interchangeable.
- Measuring cycle 1 minute.
- Precise recording of measurements through built-in quartz clock.
- GPRS Modem for automatic phone call in case of frost alarm. Other alerts by SMS message (battery, reception strength).
- A multi-functional switching module allows the automatic activation of frost spray, valve etc.
- Language setting German/English

Technical specifications PlantControl FA

- Power supply: 8 AA rechargeable batteries (inclusive) and solar cell 12W
- USB-interface allows to read out data on USB stick
- Dimensions: 29 x 23 x 15 cm

Technical specifications temperature sensor

- Power supply: 2 AA 1.5 V batteries
- Battery life span approx. 1 year
- Measuring range: -20°C to +50° C
- Measuring accuracy: +/- 0.3° C
- Reading accuracy: 0.1 °C
- Dimensions : 4 x 4 x 29 cm (without cable)

