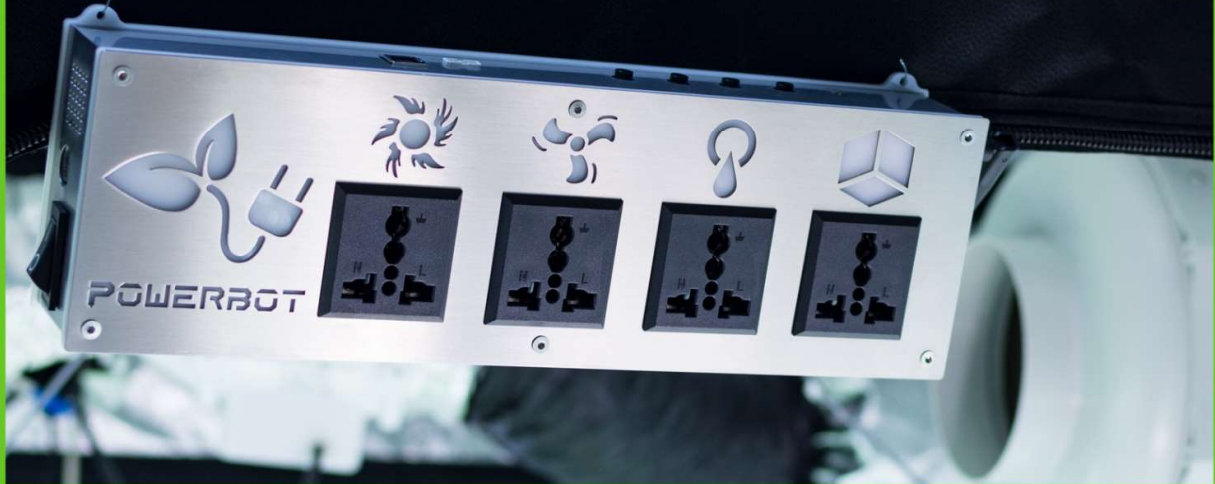GRONODE

TANKBOT

GROLAB™

Everything you need to automate your grow

POWERBOT

SOILBOT

OPENGROW.

GroNode

THE HEART & BRAIN OF THE OPERATION

GroNode is the GroLab™ system's core piece. It controls the whole system simulating the operation of a brain.

Equipped with a LAN Ethernet system that allows the connection with GroLab™ software, the cloud and to send e-mail notifications.

GroNode communicates with the other modules through radio frequency, sending them instructions and retrieving information about all the elements of your grow(s). It can singly handle up to 4 Areas with 2 Grows each, and up to 20 different modules.

Has its own memory that allows to record every change in your grow(s), and it's equipped with a RGB Led and a Buzzer for visual/sound signaling.

GroNode makes the bridge between your grow(s) and the digital world. Welcome to the 21st century of intelligent automation!

GRONODE

- EASY INSTALLATION
- EASY SETUP AREAS & GROWS
- EASY TO CONTROL
- REMOTE CONTROL
- AUTOMATES PROCEDURES WITH NO EFFORT
- AUTONOMOUS
- ADAPTS TO SOIL OR ANY KIND OF PONICS
- SENDS YOU REAL TIME WARNINGS
- CONTROL UP TO 4 AREAS UP TO 16 EXTRA MODULES

YOUR GROWTENT

Contents may differ from those pictured

GROLAB

Autonomous

GroNode is a powerful computer that can do hundreds of tasks by itself. You don't need any PC or other third-party device connected to GroNode for it to continue working

Monitor & Analysis

Using GroLab™ Software user can monitor, and analyses the climate variables and the devices current state in real time. Charts, grow(s) overview and manual control are just some perks you can use.

Notifications

When you provide Internet connection to GroNode it can send real time alerts and updates to your e-mail, keeping you updated about the state of your grow(s) anywhere, anytime.

Remote Control

When connecting the GroNode to a router with an Internet connection, it allows you to activate the GroLab™ system's remote control. This feature grants user access from anywhere at any time through an easy-to-use software. Allowing to fully control all the modules.

Programmable Procedures

There are two main types of programmable procedures, alarms and schedules. GroNode has the ability to store and execute up to 100 of each type allowing a precise and extensive automation of any grow(s).

Modular

GroNode is the core of the GroLab™ modular architecture, it is capable of controlling up to 4 modules of each type (PowerBot, TankBot and SoilBot). This makes it easily adaptable to any grow regardless of its size, type, growing medium or growing system.

Secure

All GroLab™ communications are protected by several security layers, securing your valuable data. By using Open Grow™ private server, your E-mail notifications are also secured, not letting anyone pinpoint your grow(s).

Data-Logging

GroNode have its own memory that is capable of storing hundreds of thousands of data. With data-logging and data-visualization features, it is possible to do a detailed analysis about the life cycle of the user's plants.

Cloud Upload

Connecting GroNode to the Internet allows the user to configure a cloud server to periodically upload the data-log from all sensors/devices.

GroNode Technical Specifications

Dimensions	91mm x 91mm x 28.7mm
Exterior	Casing: Stainless Steel Colors: Silver Physical buttons: Reset, NET Reset, FW Update
Power Supply	USB - 5VDC 1000mA
Connections	USB 2.1 type B Ethernet LAN RJ45 RP-SMA female
Antenna Included	Yes
USB Cable Included	Yes (Type B-A)
USB Cable Length	2 meters
USB Power Adapter Included	Yes (Type A 230AC-5VDC)
Ethernet LAN Cable Included	Yes
Ethernet LAN Cable Length	1.52 meters
Inter-Module Communication	Radio Frequency - 2.4GHz
Battery	CR2032 Lithium 3V 250mAh
Storage Memory	2MB
Audiovisual Indicators	Buzzer single tone LED RGB

PowerBot
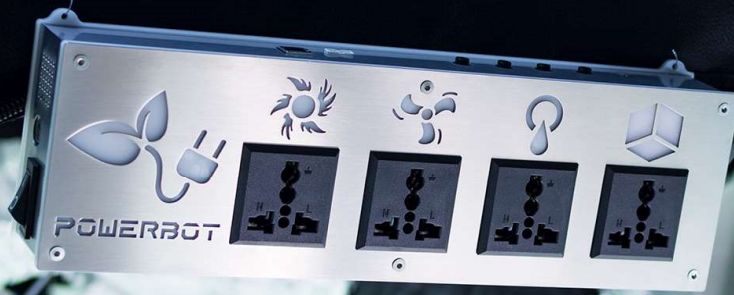
THE COMPLETE ALL IN ONE POWER MODULE

PowerBot is the complete all in one GroLab™ system's power module. It provides everything you need to automate all the basic elements of your grow(s), allowing you to maximize growth and efficiency.
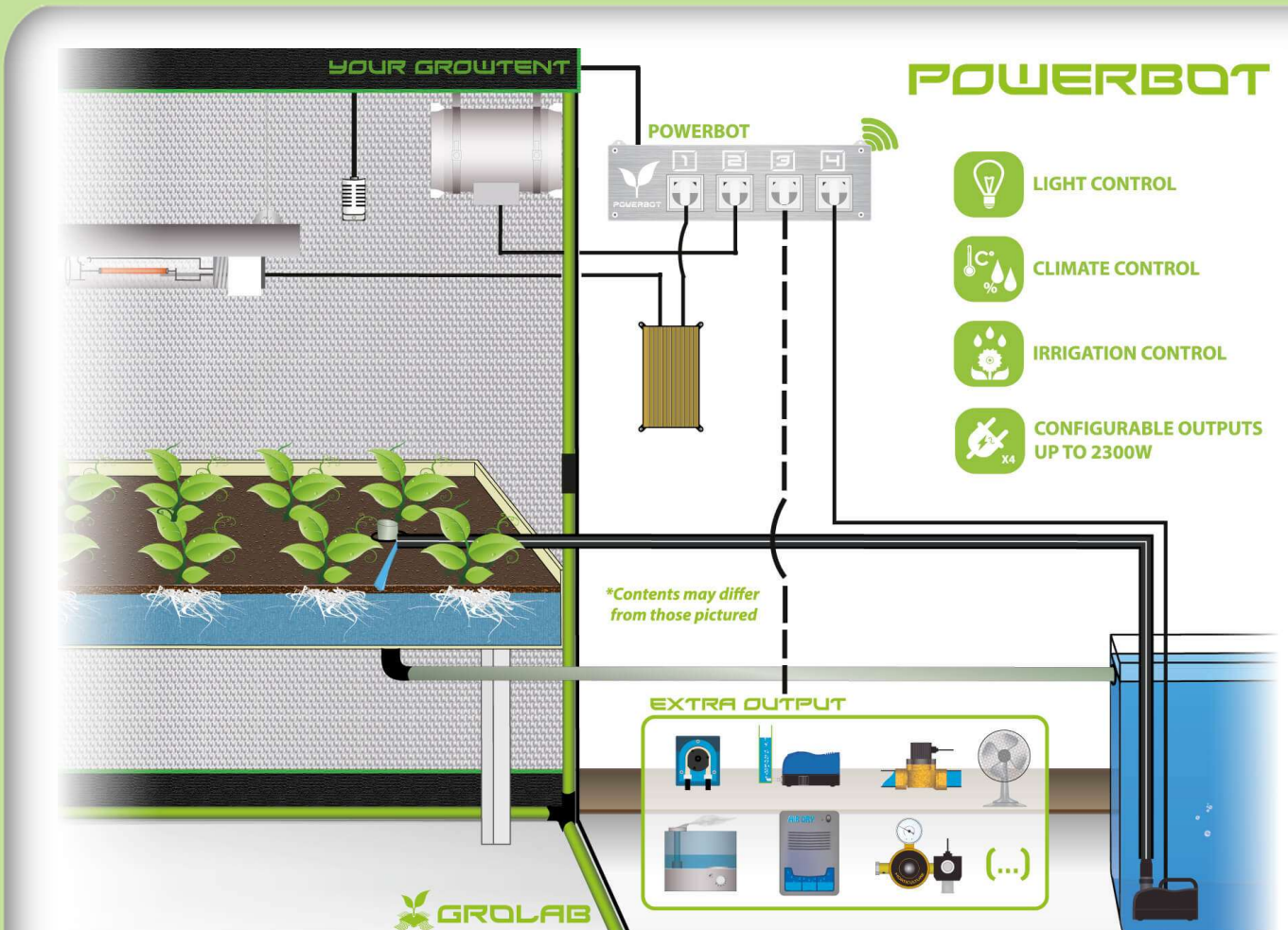
Equipped with a temperature and humidity sensor that makes possible to keep the perfect climate conditions for your plants.

PowerBot has 4 universal outlets supporting up to 2300W (per outlet and in total) or unlimited power when using an external electrical contactor. Lighting & ventilation systems, water pumps, humidifiers, heaters and Co2 dispensers are some peripherals examples that PowerBot can automate.

Its design features 4 LEDs that indicates which elements are ON, and has also external switches that provide manual control on the spot.

PowerBot also allows you to create safety protocols & procedures to avoid overheating and minimize the damage in case of fire.

With this powerful module every variable is under your direct control!

POWERBOT

- LIGHT CONTROL
- CLIMATE CONTROL
- IRRIGATION CONTROL
- CONFIGURABLE OUTPUTS UP TO 2300W

Contents may differ from those pictured

EXTRA OUTPUT

GROLAB

Power Supplier

PowerBot provides power to all peripherals of your growing environment. It has 4 universal outlets that supports up to 2300W (per outlet and in total) or unlimited power when using an external electrical contactor.

Lighting

Automate any lighting system connected to PowerBot. With our advanced lightning system you are not bound to the 24 hours combined day, your grow(s) can now have a 20 hours of combined day/night, or even less if you wish so.

Climate

The included temperature & humidity sensor and the capacity to independently control the electrical devices, allows you to perform a precise climate automation in your grow(s).

Irrigation

From drip systems to hydroponics, GroLab™ schedule capabilities allow you to pre set the irrigation for any kind of system.

Manual Control

This module comes with 4 external switches that give the user the ability to manually control all connected peripherals at any time on the spot.

LED Indicator

Its design features 4 LEDs that indicates which elements are ON. Useful to visually understand what is happening on your grow(s).

Safety Protocols & Procedures

PowerBot allows you to create safety protocols & procedures to avoid risk situations or even react to them in order to minimize the damage. The cool-down feature prevents damage to devices that need some time to cool down before turning them on (HPS Lamps).

Wireless

PowerBot communicates with GroNode through radio frequency with a range of 25 meters indoors (depending on obstacles) and 100 meters in open spaces. This makes it easy to install the PowerBot on your growing area or even on the outside.

PowerBot Technical Specifications

Dimensions	236.4mm x 91.4mm x 46.7mm
Exterior	Casing: Stainless Steel Colors: Silver Physical buttons: On/Off Switch, Reset, 4 x Outlet Controller
Power Supply	EU - 230v AC US - 120v AC
Fuse Included	Yes (250V 16A)
Cord Included	Yes (Universal)
Cord Length	2 meters
Connections	USB 2.1 type B RP-SMA female Power Entry IEC 320-C14 2.5mm 4-Pin male
Antenna Included	Yes
USB Cable Included	Yes (Type B-A)
USB Cable Length	Yes
Outlets	4 x Universal
Outlet Maximum Power	EU - 2300W(10A) US - 1200W(10A)
Total Maximum Power	EU - 2300W(10A) US - 1200W(10A)
Temperature & Humidity Sensor Included	Yes
Inter-Module Communication	Radio Frequency - 2.4GHz
Visual Indicators	4 x LED

Temperature & Humidity Sensor Specifications

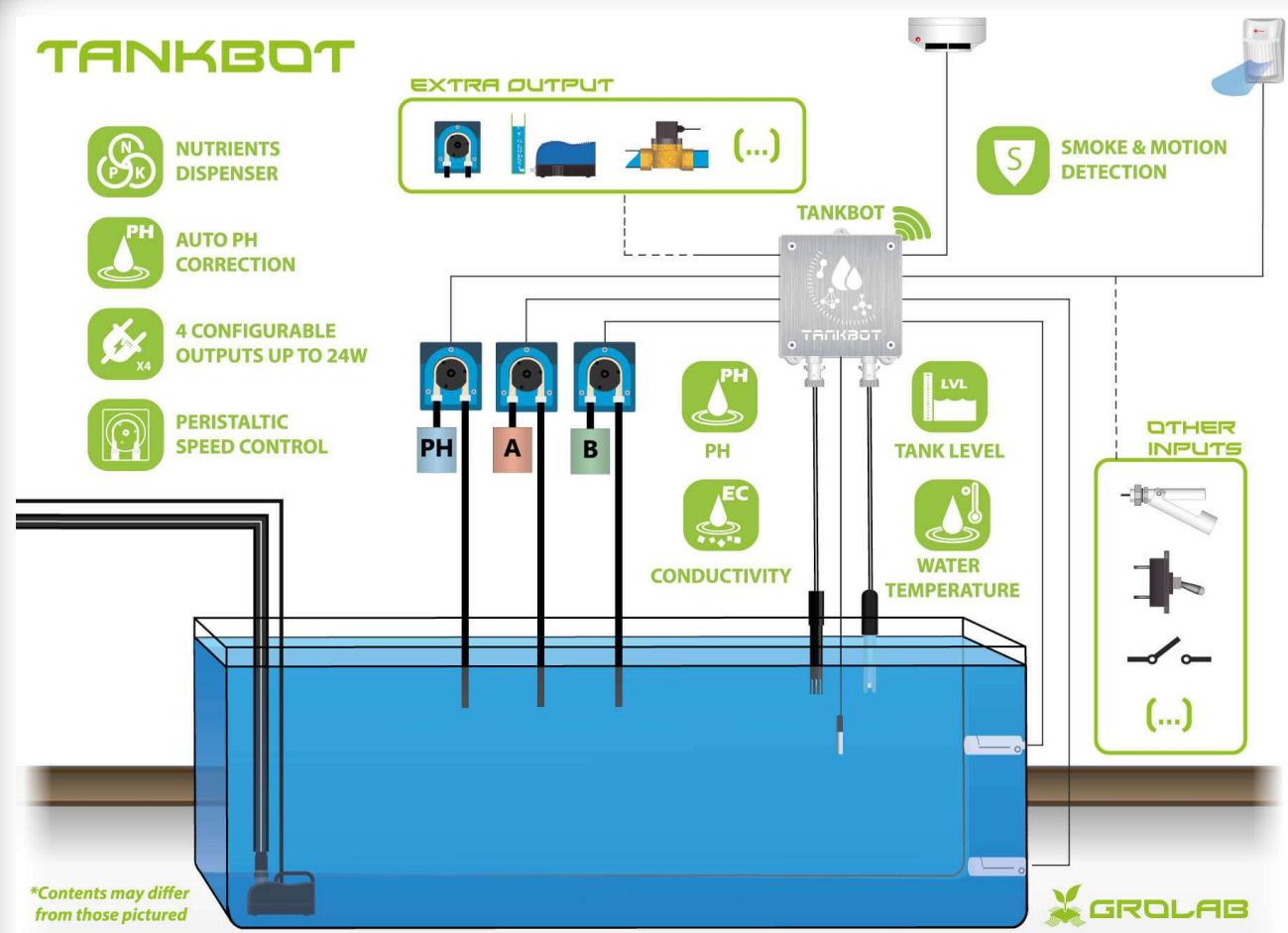|	
Dimensions	27mm x 58.75mm x 13.30mm
Exterior	Casing: Plastic Colors: White
Cable Length	2 meters
Temperature Range	-40ºC ~ 80ºC
Temperature Precision	±0.5ºC
Humidity Range	0% ~ 99.9%
Humidity Precision	±2%

TankBot

THE POWERFUL TANK MANAGER

TankBot is the most versatile and precise module in the GroLab™ family.

It could be described as a complete controller that is able to cover all the aspects of tank management. However, this description is not enough because TankBot is much more than that.

PH & water temperature regulation, nutrients dosing, water level management and tank refill/drain are just some examples of the TankBot capabilities.

Supports up to 4 actuators of 12v allowing to connect a wide variety of devices like water pumps, solenoid valves, peristaltic pumps, relays, air pumps and power contactors. With the capability to independently control those 4 actuators makes it possible to automate a variety of systems like irrigation, lighting and air flow. TankBot is capable of challenging the user's imagination.

This powerful module is not only capable of monitor and control the pH, EC and water temperature, but also offers the possibility to connect 4 extra switch sensors of your choice like water level sensors, motion/smoke detectors or switch buttons. Extending the TankBot capabilities to the surveillance and security domains, granting GroLab™ system a huge amount of options to react/notify in case of any security threats/issues arises.

TANKBOT

EXTRA OUTPUT

NUTRIENTS DISPENSER

AUTO PH CORRECTION

4 CONFIGURABLE OUTPUTS UP TO 24W

PERISTALTIC SPEED CONTROL

PH   A   B

PH

CONDUCTIVITY

PH

TANK LEVEL

WATER TEMPERATURE

SMOKE & MOTION DETECTION

TANKBOT

OTHER INPUTS

*Contents may differ from those pictured

GROLAB

Power Supplier

TankBot can provide power to all peripherals of your growing environment. It has 4 connectors that support 12VDC~24VDC actuators allowing a wide variety of devices from small water pumps, peristaltic pumps, relays, power contactors, etc.

PH Monitor & Adjustment

This module gives you the possibility to deep analysis, monitor and control the pH. The GroLab™ system programmable procedures offers several options to regulate pH based on the user needs.

EC Monitor & Analysis

TankBot also supports EC probe extending the monitor and control of your water tank to another level. GroLab™ system can notify you and even react based on electrical conductivity of your water.

Water Temperature

TankBot provides all you need to continuously regulate the water temperature ensuring the optimum conditions for your plants to grow.

Nutrients Dosing

Connecting peristaltic pumps on TankBot opens the door to the nutrients dosing domain. GroLab™ system provides all the necessary tools to calibrate the peristaltic pumps and to create procedures to pump the exactly amount of milliliters required.

Speed Customization

TankBot provides the capability to customize device speed. This feature can improve the precision even with low cost devices.

Advance Irrigation

Thanks to the capability of handling actuators of 12v, it is possible to create impressive irrigation systems that can independently feed multiple grows.

Tank Level Management

This module supports 4 extra switch sensors of your choice like water level sensors, allowing to continuously monitor the water level of your tanks. With the right peripherals connected to the TankBot, like solenoid valves or water pumps, user can create procedures to automatically drain and refill, allowing a complete tank maintenance.

Safety Protocols & Procedures

TankBot allows you to create safety protocols & procedures to avoid risk situations or even react to them in order to minimize the damage. Fires and intrusions are some examples of risk situations this module can handle. The cool-down feature prevents damage to devices that need some time to cool down before turning them on.

Module Communication

TankBot communicates with GroNode (the system's core module) through radio frequency with a range of 25 meters indoors (depending on obstacles) and 100 meters in open spaces. This makes it easy to install the TankBot close to the water tank.

TankBot Technical Specifications

Dimensions	91mm x 108.9mm x 28.7mm
Exterior	Casing: Stainless Steel Colors: Silver Physical buttons: Reset
Power Supply	12V/2A
Power Supply Adapter Included	Yes
Power Supply Adapter Cable Length	1 meter
Connections	USB 2.1 type B RP-SMA female Power Entry 12V/1A 24V/2A 4 x 12v Actuators (2.5mm 4-Pin male) 4 x Switch Sensor (2.5mm 4-Pin male) Temperature Sensor (2.5mm 4-Pin male) PH Connector (BNC) EC Connector (BNC)
Antenna Included	Yes
USB Cable Included	Yes (Type B-A)
USB Cable Length	2 meters
Sensors Included	PH Probe Temperature Sensor
Connector Plug Included	Yes (4 x 2.5mm 4-Pin female)
Inter-Module Communication	Radio Frequency - 2.4GHz
Visual Indicators	LED

pH Sensor Specifications

Dimensions	140mm (length) x 12mm (diameter)
Exterior	Casing: Plastic Colors: Green
Cable Length	3 meters
Measure Range	0PH ~ 14PH
Measuring Temperature	0ºC ~ 80ºC
Resolution	0.01PH
Accuracy	±0.01PH
Zero	7±0.25PH
Response Time	<1min
Repeatability	<0.017
Noise	<0.5mV

Temperature Sensor Specifications

Dimensions	50mm (length) x 10mm (diameter)
Exterior	Casing: Stainless Steel Colors: Silver
Cable Length	2 meters
Waterproof	Yes
Temperature Range	-40ºC ~ 110ºC
Temperature Precision	±0.5ºC

SoilBot

THE VERSATILE SUBSTRATE ANALYZER
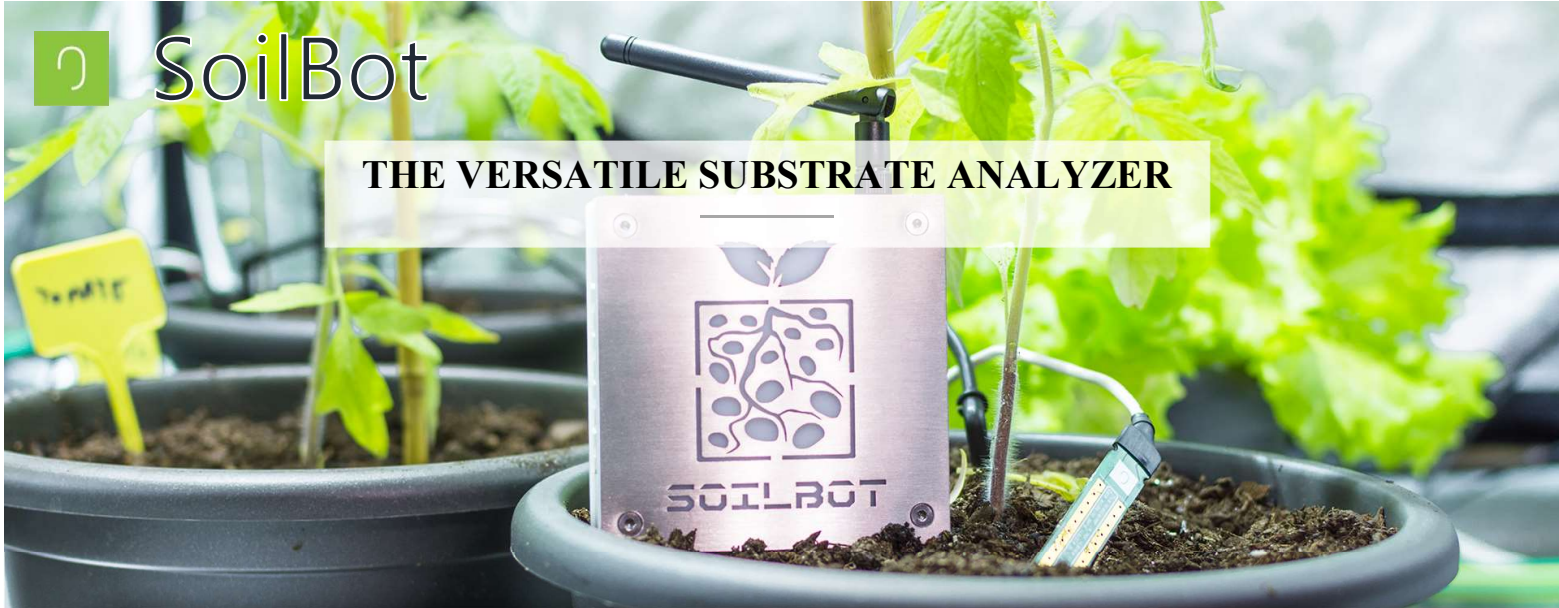
SoilBot is a rigorous and versatile substrate analyzer, it is another module that makes part of the GroLab™ family. It is capable to completely monitor the substrate of your plants regardless of whether it is soil, rock wool, coconut or a recurrent dipping of roots in water.

Supports up to 4 moisture sensors giving you the possibility to monitor 4 different groups of plants at same time. When combined with PowerBot or TankBot allows you to automate their irrigation processes, keeping the perfect moisture for your plants avoiding water wasting and floods.

SOILBOT
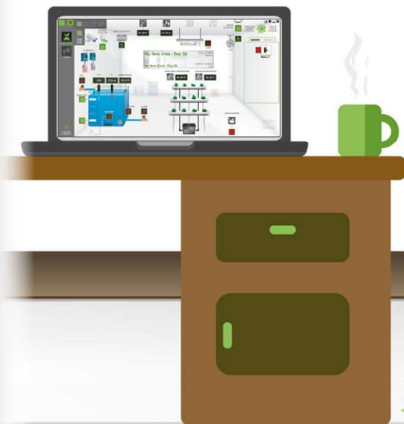
- **SOIL MOISTURE ANALYSIS** x4
- **SOIL/AIR/WATER TEMPERATURE** x2
- **DETECTS AND ACTS UPON FLOODS** x2
- **PREVENTS DROUGHTS**
- **ENABLES SMART IRRIGATION**

YOUR GROWTENT

SOILBOT

*Contents may differ from those pictured

GROLAB

Moisture

SoilBot has the ability to monitor any substrate's moisture regardless of whether it is soil, rock wool, coconut or a recurrent dipping of roots in water. That's right SoilBot can also be used in a hydroponic set up! It supports up to 4 moisture sensors giving you the possibility to monitor 4 different groups of plants at same time. When combined with PowerBot or TankBot allows you to automate their irrigation processes, keeping the perfect moisture for your plants avoiding water wasting and floods.

Temperature

With this versatile module even the substrate temperature can be fully monitored. SoilBot supports 2 temperature sensors that greatly extends its substrate analysis capabilities. By combining SoilBot with PowerBot or TankBot, it is possible to create procedures to keep substrate temperature at the perfect value for your plants to continue to grow healthier.

Flood Prevention & Detection

Equipped with flood detection system, it will quickly detect water leaks, excess water and automatically activate the security features that the user has programmed to minimize damages and even notify you of any anomaly.

LED Indicator

Its design features a LED that indicates if the module is currently powered on and the connection state with GroNode (the system's core module).

Module Communication

SoilBot communicates with GroNode (the system's core module) through radio frequency with a range of 25 meters indoors (depending on obstacles) and 100 meters in open spaces. This makes it easy to install the TankBot close to the water tank.

SoilBot Technical Specifications

Dimensions	91mm x 91mm x 28.7mm
Exterior	Casing: Stainless Steel Colors: Silver Physical buttons: Reset
Power Supply	USB - 5VDC 1000mA
Connections	USB 2.1 type B RP-SMA female 4 x Moisture Sensor (2.5mm 4-Pin male) 2 x Temperature Sensor (2.5mm 4-Pin male) 2 x Flood Detector (2.5mm 4-Pin male)
Antenna Included	Yes
USB Cable Included	Yes (Type B-A)
USB Cable Length	2 meters
USB Power Adapter Included	Yes (Type A 230AC-5VDC)
Sensors Included	2 x Moisture Sensor Temperature Sensor Flood Detector
Inter-Module Communication	Radio Frequency - 2.4GHz
Visual Indicators	LED

Moisture Sensor Specifications

Dimensions	13mm x 99.89mm x 2.5mm
Exterior	Material: FR-4 Colors: Pigment Green
Cable Length	2 meters
Moisture Range	5% ~ 100%
Moisture Precision	Variable (calibration dependent)

Temperature Sensor Specifications

Dimensions	50mm (length) x 10mm (diameter)
Exterior	Casing: Stainless Steel Colors: Silver
Cable Length	2 meters
Waterproof	Yes
Temperature Range	-40ºC ~ 110ºC
Temperature Precision	±0.5ºC

Flood Sensor Specifications

Dimensions	39.26mm x 56.33mm x 2.5mm
Exterior	Material: FR-4 Colors: Pigment Green
Cable Length	2 meters

GroLab Software

GroLab™ Software is the control booth of the system. The main purpose of this software is to allow you to fully configure the whole system, providing all the tools to customize modules and devices settings matching the functionalities of any agricultural growing system.

Track your grow(s) progress through IP cameras and a variant of data inputs, featuring graphs, historical data, and trends. All sensors/actuators data can easily be exported to a friendly file for an external deep analysis.

Using a third-party device capable of cloud data logging, GroLab™ system can periodically upload data to that device in the JSON format.

Thanks to the remote control feature, this easy-to-use software allows you to keep controlling and monitoring your grow(s) like if you were there.

The GroLab™ Software provides you all of these features in a forward thinking, easy and simple way. It is full of simple illustrations that will guide you on the introduction to the world of grow automation. A simple click and go function, removing all the complicated operations usually associated with this kind of product.

Nowadays, our time is a valuable concept and it can be difficult to constantly take care of our grow(s). Using GroLab™
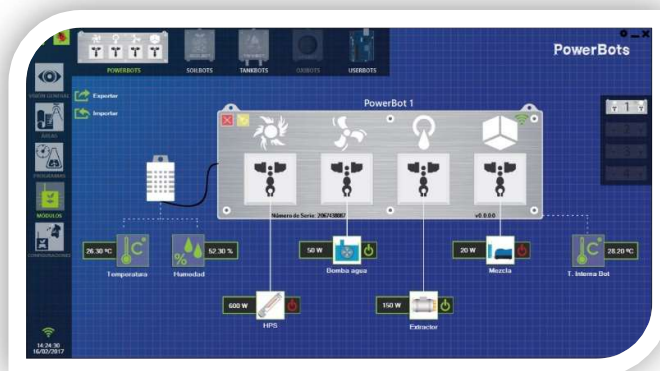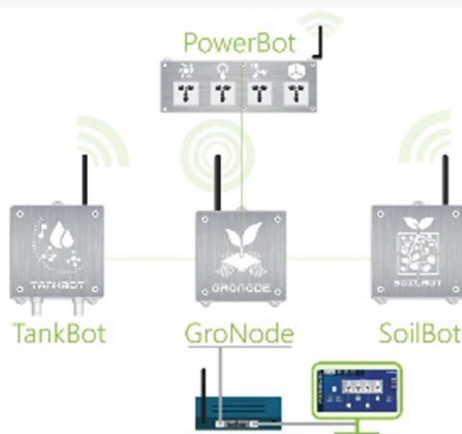
USER FRIENDLY

GroLab™ Software was designed to be easy-to-use and accessible for anyone. Every feature and configuration is accessible with a simple click, there are no complicated operations and no expert knowledge is required. The software is fully illustrated and includes several assistants that will guide you through all the features.

SECURE

GroLab™ has several layers to protect your data, in addition to the credentials needed to access GroLab™ Software the system also requires credentials to access GroNode (the system's core module). This means that if your PC gets compromised the GroLab™ will stay safe. E-mail notifications are also secured, GroNode uses a private server as a redirection point to send notifications, this way the IP can't be linked to your location. Remember that GroLab™ can operate without Internet connection, using it that way entirely hides it from the world.

FULLY CUSTOMIZABLE

This software allows you to customize every parameter of your grow(s).
It provides all the tools to configure modules and devices settings matching the functionalities of any agricultural growing system. Set the device name, type, power, cool-down time (no more HPS damage) and much more, with just a simple click. GroLab™ software even allows you to export modules configurations to a file that you can import at any time.

SETUP AREAS & GROWS

GroLab™ supports up to 4 Areas that can contain 2 grows each. For each growing space the software already provides a standard of which devices and sensors you should have. In this way, you just need to drag and drop the desired peripherals to the designated space. The same happens with the grow(s), where you fully configure your water tanks, like pH, EC, level sensors, pumps and nutrient dosers.

PROGRAMMABLE PROCEDURES

GroLab™ Software allows you to freely create schedules for your irrigation, light or any other output. By hour, by minute and almost by second, restrict by days of the week, it is up to you to decide! Create general, irrigation and security alarms, that do actions based on sensors values or device states, allowing any kind of automation. GroLab™ let's you do all of this through a graphical and intuitive assistant, that helps you to create complex automation procedures effortlessly.

REAL-TIME MONITOR AND CONTROL

Using the software it is possible to keep tracking and control your grow(s) in real-time. Turn on/off any device, check sensors values, access IP cameras, change configurations, earlier detect any security issue and calibrate the sensors, do all of this while you relax on your couch!

DATA-LOGGING & STORAGING

GroLab™ Software includes the data-logging and data-storing features, that will constantly retrieve and store on a database all the information about sensors and devices over the time. It is not required to run the software 24h a day to gather this information, because GroNode (the system's core module) is capable of storing hundreds of thousands of data. User can download the GroNode's data through the software at any time in order to complete the information stored on the database. Thanks to these and to the data-visualization features, it is possible to do a detailed analysis about the life cycle of the user's plants.

IP CAMERAS

GroLab™ supports IP cameras allowing the user to keep their grows and surrounding areas under constant surveillance from anywhere at any time, through an intuitive interface provided by the GroLab™ Software.

REMOTE CONTROL

When connecting the GroNode (the system's core module) to a router with an Internet connection, it allows you to activate the GroLab™ system's remote control. This feature grants user access from anywhere at any time through the GroLab™ Software.

ADVANCED DATA ANALYSIS

With GroLab™ Software, the user can constantly monitor and deeply analyze all the variables of their grow(s). The software provides you a variant of data inputs, featuring graphs, historical data, trends and grow(s) overview. It also allows you to easily export the sensors/devices data to a friendly file from the beginning of your grow(s) life cycle.

NOTIFICATIONS

When you provide Internet connection to GroNode (the system's core module) it can send real time alerts and updates to your e-mail. This feature can be fully configurable with GroLab™ Software that offers the tools to set the e-mail address, desired notifications, time interval and much more. GroLab™ not only keeps you updated all the time, but also lets you know if any issues arises.

CLOUD UPLOAD

This is another feature that makes the bridge between your grow(s) and the online world. Connecting GroNode (the system's core module) to the Internet allows the user to configure a cloud server to periodically upload to it the data-log from all sensors/devices (in the JSON format). One feature that opens the door to a multitude of advanced data analysis possibilities, essential for comprehensive studies.

SECURITY PROTOCOLS

It is possible to create complex security protocols using alarms (one of the main programmable procedures type). GroLab™ provides several options that can be fully customizable trough the software, to prevent, notify or even react to risk situations.
One of the possible reactions is to suspend some parts or even the whole system until the user gives the order to continue. When a security alarm activates, GroNode (the system's core module) will blink red and can also be configured to emit a loud beeper and send e-mail notifications.

MULTI-LANGUAGE

GroLab™ Software is available on several languages like English, French, Spanish and Portuguese. This way user can enjoy the product on his preferred language. The GroLab™ modules manuals and related documentation are also available on those languages. One of the main goals of Open Grow™ is to make our products accessible for anyone, that is why we will keep adding languages based on our customers needs.

PERIODICAL UPDATES

GroLab™ Software is always under development. With this in mind, an update system was implemented so whenever the user opens the software, if a newer version is available, the system will automatically update. The same happens for any of our modules, this means that our products are constantly being improved with no costs or hassle to our users.

GroLab™ Software System Requirements	
CPU	1.6GHz
Memory	1GB
Disk Space	500MB
Operating System	Windows 7, 8, 8.1, 10
Screen Resolution	1366 x 768

FREQUENTLY ASKED QUESTIONS

What is GroLab?

GroLab™ is a versatile and powerful grow controller, that provides the tools to fully monitor, control, analyze and automate all the aspects of any agricultural grow.

It can handle a wide variety of operations, like lighting, climate regulation, irrigation, nutrients dosing, pH correction, tank management and security (like floods, droughts, smoke and motion detection).

The GroLab™ modular architecture ensures the capability to work with any environment regardless of its size, type, growing medium or growing system.

The system is fully configurable through an easy-to-use software and even includes remote control, notifications, IP cameras support and analysis tools.

One of main GroLab™ goals is to be a system that can be used by any kind of grower in any kind of grow.

How does GroLab™ works?

GroLab™ is a modular system composed by distinct modules: GroNode, PowerBot, TankBot and SoilBot. Each module has its own capabilities, that can be combined to fulfill the requirements of any grower.

GroNode is the core, it is responsible to control the other modules, one GroNode supports up to 4 PowerBots, 4 TankBots and 4 SoilBots. GroNode analyze all data from sensors/devices plugged on the modules and then acts/notify based on the user instructions. Those are configurable through the GroLab™ Software and stored on the GroNode, that will continuously keep doing his tasks.

PowerBot is a all-in-one power supplier, capable to automate the basic elements like temperature, humidity, air flow, lighting and irrigation.

TankBot is a tank management controller, it can control the irrigation, nutrients dosing, pH correction and tank management tasks.

SoilBot is a substrate analyzer, that completely monitors the plants substrate regardless of whether it is soil, rock wool, coconut or a recurrent dipping of roots in water.

The grower is free to choose which GroLab™ modules wants to acquire, the best part is that he can expand the system at any time in the future.

How to install GroLab™?

GroLab™ was designed to be plug-n-grow system.

You only need to open the package containing the GroLab™ modules, choose the preferred location and place them, plug the power supply cables, antennas and the desired sensors/devices to the GroLab™ modules.

Apart from that you just need to plug the Ethernet cable on GroNode and connect it to a router, PC or other access point.

Install GroLab™ software on your PC, open it, type GroNode's serial number and authenticate with credentials.

After those steps you are ready to fully use GroLab™ system.

What are the average GroLab™ system installation and configuration times?

The installation and configuration times are always related with the number of GroLab™ modules you acquired and desired sensors/devices to plug on the modules.

However, using GroLab™ Starter Kit (composed by GroNode and PowerBot) as reference, the approximately average times are: 20 minutes to install and 30 minutes to configure.

This means it will take less than 1 hour to fully install and configure GroLab™ Starter Kit.

What to do if I have questions or difficulties while installing/using GroLab™?

GroLab™ is specifically designed to be easy and intuitive in its installation and usage. But we know that every grower is different and have its own learning curve.

That's why we offer for free a wide variety of video tutorials, manuals and other support materials, that proved to be enough for the majority of our customers, being able to set everything in less than 1 hour without any assistance.

However, if those materials are not enough, we have a specialized support team that will gladly help. If you have any questions or need help do no hesitate on contact us for one of the following e-mail addresses:

info@opengrow.pt

support@opengrow.pt

Our team assists each user in a completely individualized way, offering help in all aspects related with GroLab™.

We also offer assistance through GroPedia.com, our anonymous social network where users can share their experience with our system.

What is a GroLab™ Kit?

GroLab™ Kit is a product that contains GroLab™ modules. We created those kits to provide an easy way to acquire GroLab™.

Currently there are 5 distinct GroLab™ Kits:

– Starter Kit includes GroNode and PowerBot. Usage examples: climate regulation, lighting, air flow and irrigation;
– Doser Kit includes GroNode, TankBot and some third-party peripherals. Usage examples: nutrients dosing, pH correction, irrigation and tank refill/drain;

– Soil Kit includes GroNode, PowerBot and SoilBot. Usage examples: same as Starter Kit usage examples plus irrigation based on substrate moisture, substrate temperature regulation and floods prevention;

– Hydro Kit includes GroNode, PowerBot and TankBot. Usage examples: same as Starter Kit plus Doser Kit usage examples;

– Pro Kit includes GroNode, PowerBot, TankBot and SoilBot. Usage examples: combination of others GroLab™ Kits usage examples.

Note that GroLab™ Kits are our suggested modules combinations. However you are free to acquire the modules separately at any time.

Why choose GroLab™ instead of other grow controllers?

GroLab™ system is capable to cover all the aspects of any agricultural grow.

Climate regulation, lighting, air flow, fires and floods detection, irrigation, nutrients dosing, pH correction, tank management, IP camera surveillance, notifications and remote control are just some examples of the GroLab™ capabilities.

Thanks to the GroLab™ modular architecture, it is possible to adapt GroLab™ to any environment regardless of its size, type, growing medium or growing system.

In addition to all of this, Open Grow™ is a company that counts with specialized teams that daily dedicate themselves to improve the GroLab™ system. Constantly retrieving users feedback to provide the features they want.

GroLab™ system includes automatic updates feature, that allows the users to receive free updates not only for the GroLab™ Software but also for all GroLab™ modules. Giving access to new features without the need to buy the equipment again.

GroLab™ never stops growing.

How much power can I control with PowerBot?

PowerBot has 4 universal outlets that supports up to 2300W (per outlet and in total). However, it is possible to extend it without the need to buy additional PowerBots.

You can connect external electrical contactors to PowerBot, allowing it to control up to 4 groups of devices with unlimited power.

Does GroLab™ works with my grow(s)?

GroLab™ was designed to scale and adapt to any type of growing environment, whether it is a small grow-tent/room or an industrial one, with several areas and grows.

GroLab™ offers a wide variety of features that can be freely combined, we do not force growers to follow a fixed path or a configuration preset, this means growers can literally play with the system the way they want.

Believe it or not, GroLab™ system can even be used to automate other areas outside the agricultural growing domain, like aquariums automation.

Open Grow™ is a company that challenges the automation world, if you have a peculiar system that you think GroLab™ can't fit in please challenge us back. Open Grow™ will surprise you.

If you have any questions or want to discuss how GroLab™ system can help you, do no hesitate on contact us for one of the following e-mail addresses:

info@opengrow.pt

support@opengrow.pt

Which modules do I need for my grow?

You will always need one GroNode. It is the GroLab™ system core unit.

Then you can choose up to 4 modules of each type: PowerBot, TankBot and SoilBot. The modules you will need are always related with your requirements.

For climate regulation, lighting, air flow or irrigation based on 230VAC devices, we suggest PowerBot. It can control up to 4 230VAC outlet (2300W per outlet and in total) and is equipped with a air temperature/humidity sensor.

For advanced irrigation (like one water tank feeding several grows), nutrients dosing, pH correction and tank management tasks based on 12VDC devices, we suggest TankBot. It can control up to 4 12VDC outputs, supports 4 switched sensors (like smoke/motion detector and water level), air/water/substrate temperature sensor and pH/EC probes.

For plants substrate monitor and flood prevention, we suggest SoilBot. It can monitor up to 4 substrate's moisture and 2 air/water/substrate temperature. Also provides 2 flood detectors that you can place on the flood risk zones.

The combination between different GroLab™ modules, provides even more options to the growers. For example:

– PowerBot combined with TankBot, extends the possibilities when automating the irrigation system and tank drain/refill tasks. Allowing to control 230VAC and 12VDC devices, like water pumps and solenoid valves;

– SoilBot combined with TankBot or PowerBot, allows to automate the irrigation based on the substrate moisture, avoiding water waste and improving the plants health;

– PowerBot, TankBot and SoilBot combination provides the tools to create security measures to detect/prevent floods, fires, intrusions, device damage, etc.

GroLab™ system, regardless of the modules, provides remote control, e-mail notifications, deep data analysis, IP camera support and cloud features.

We tried to cover the majority of the possibilities offered by GroLab™ modules. If you need additional information or require different automation/control features, do not hesitate on contact us for one of the following e-mail addresses:

info@opengrow.pt

support@opengrow.pt

Note that Open Grow™ offers distinct GroLab™ Kits with our suggested modules combinations. However, you are free to acquire the modules separately at any time.

Is GroLab™ a secure system?

GroLab™ has several layers to protect your data, in addition to the credentials needed to access GroLab™ Software the system also requires credentials to access GroNode. This means that if your PC gets compromised the GroLab™ will stay safe.

E-mail notifications are also secured, GroNode uses a private server as a redirection point to send notifications, this way the IP can't be linked to your location.

*Remember that GroLab™ **can operate without Internet connection**, using it that way entirely hides it from the world.*

What platforms does GroLab™ Software supports

Currently GroLab™ Software supports from Windows 7 to higher versions.

We are working on a multi-platform application compatible with Android, iOS and Mac OS.

A first version of this app will be available at the end of 2018 for all GroLab™ users.

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