GROLAB TROUBLESHOOTING GUIDE

SPP_GL_001

Open Grow

Preface

Thank you for purchasing GroLab systems.

This manual describes how to troubleshoot the problems that could occur while you are using the equipment.

If your issue isn't listed on this guide please enter in contact with us at:

info@opengrow.pt

How to Read this Manual

The present manual is divided on:

- GroLab Software Troubleshooting;
- GroNode Troubleshooting;
- PowerBot Troubleshooting;
- SoilBot Troubleshooting;
- TankBot Troubleshooting;

Symbols in this Manual

In this manual, some important items are described with the symbols shown below. Be sure to read these items before using this equipment.

⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death, serious injury, or serious damage, or fire in the equipment or surrounding objects.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, partial damage to the equipment or surrounding objects, or loss of data.
Note	Indicates information to which you should pay attention when operating the equipment.
Tip	Describes handy information that is useful to know when operating the equipment.
🕮	Pages describing items related to what you are currently doing. See these pages as required.

Target Audience for this Manual

This is a manual that is aimed at general users and administrators.

Screens in this Manual

The details on the screens may differ depending on the equipment version and configurations, such as the GroLab Software settings and the OS version.

Legal Notice

Documentation

Make sure that you have the current version of the documentation. Each document displays the release date and respective version on the Header of each page.

The latest documents versions are available on the Open Grow website at:

www.opengrow.pt/downloads/grolab/guides

Documentation Feedback

The feedback given by our customers is always important and helps us to constantly grow. Suggested improvements or report errors or omissions to the documentation. Include the document title, version, chapter, and section titles of the text on which you are reporting. Send feedback to info@opengrow.pt

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1. GroLab Software Troubleshooting

1.1 Introduction

In this main section, we will present the most common problems that may occur while using GroLab Software, as well as how to solve them.

1.2 GroLab Software credentials

The GroLab system requires two different pairs of credentials to grant full access, the first to access the GroLab Software and the second to connect to GroNode.

When the user opens the GroLab Software, one of the first required actions is to introduce the credentials to access it, these credentials only allow you to use the GroLab Software. However, to fully access/connect to GroNode (for configurations, monitoring...), it will be required to enter the GroNode credentials.

In this way, after successful login into the GroLab Software, at the time the user tries to connect to the GroNode, there will be necessary to introduce the respective credentials. These credentials grant full access to the configurations, schedules, alarms, and data.

1.2.1 I can't find the GroLab Software credentials

Related Problems

- I don't know which are the GroLab software default credentials;
- Cannot locate the GroLab default credentials;

Problem Description

On GroLab I need to insert credentials to access the software but I can't locate then.

Possible Problem/Corrective Action

- **Can't find the GroLab Software default credentials.**

  The default credentials of GroNode and GroLab software are located on the label placed behind the GroNode module. The default credentials are the same for both, GroLab Software and GroNode.

- **Don't know which are the default credentials of GroLab Software.**

  The GroNode default Credentials are:

  - Username: GroLab | Password: gogrow

  You can change the GroNode credentials when you want, to do that enter on GroLab Software go to "Settings" and on "General Settings". Here you can change your GroNode credentials for one more reliable to you.

1.2.2 GroLab Software invalid credentials

Related Problems

- The GroLab Software credentials inserted aren't valid;
- Forgot mine GroLab Software credentials;

Problem Description

On GroLab login shows up an error regarding GroLab invalid credentials inserted.

Possible Problem/Corrective Action

- **I have forgotten my GroLab Software Credentials**

  The only thing to do is reset the GroLab credentials to the default ones.

  To do that access to your "Local Disk" on Windows and then enter on folder "\Users" and enter on your logged account folder. On the explorer bar, add the following path "\AppData\Roaming\GroLab\config to the current one. On this folder, you will find files relative to GroLab configuration named "config.xml" and "config_backup.xml". To reset the current GroLab credentials you must remove those files from this folder, deleting or moving to another folder.

  Now you can login on GroLab with the default credentials.

1.3 Modules Communication Troubleshooting

1.3.1 GroNode can't find the module

Related Problems

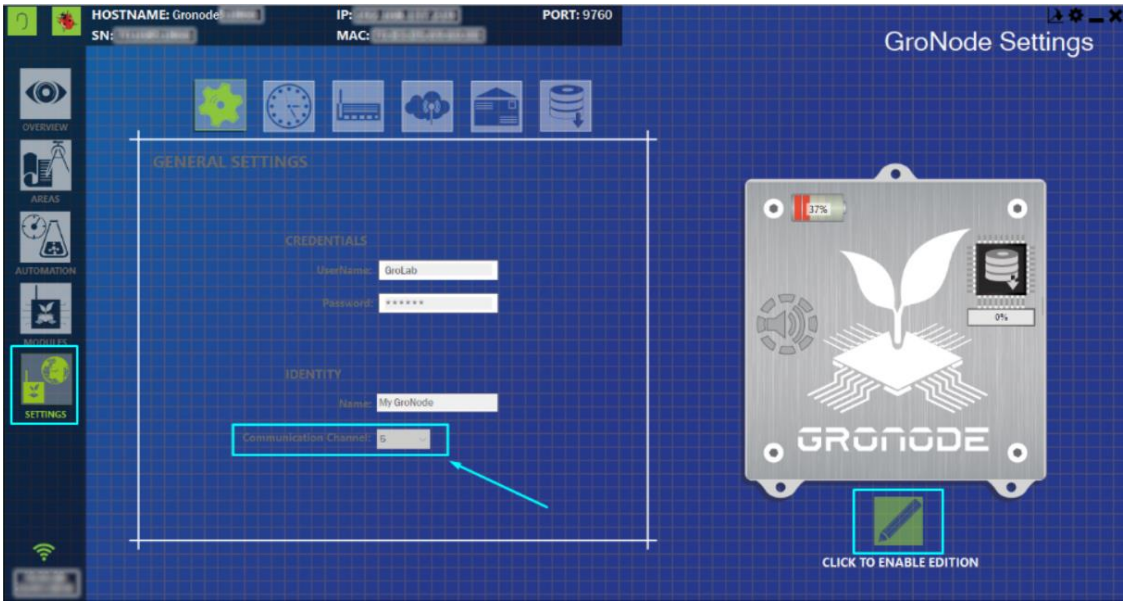
- GroLab module doesn't appear on GroLab Software or is constantly offline (green status LED is constantly blinking);

Problem Description

The GroNode can't find a module, a module does not appear on GroLab Software or a module is offline on GroLab. The not connected modules are working and/or blinking.

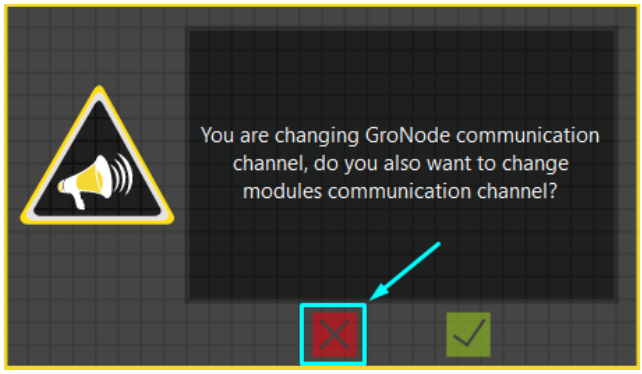
Possible Problem/Corrective Action

- **Different Communication Channels**
  If the GroNode and the module, that you are looking for, are not using the same communication channel, then the GroNode will not be capable of detecting the module. To correct that, you will need to change the GroNode communication channel until the module, that you are trying to find, appears in GroLab Software or stops blinking.
  To do that, access to GroLab Software and go to "Settings" -> "General Settings" and enable edition.

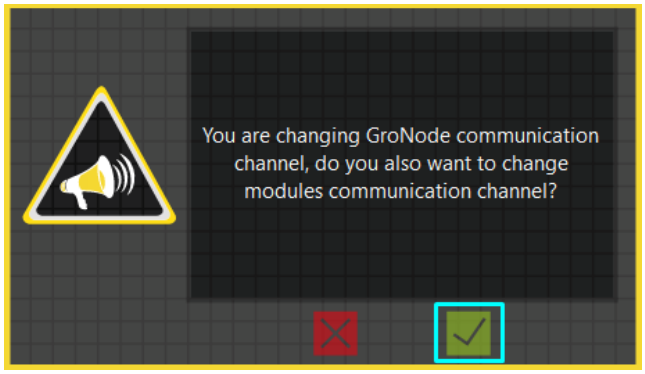


Now you will need to change the communication channel without changing the channel of the modules that already have connected to GroNode. During this procedure all alarms and schedules will not work, so be sure that it is safe to perform this procedure when you start.

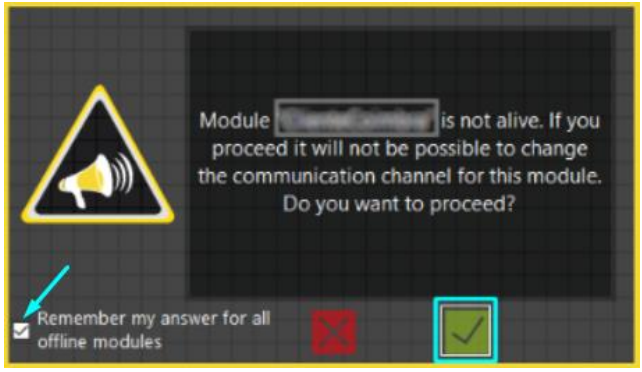
Change the communication channel between 1 and 5, remaining on each channel for at least 2 minutes, after changing the channel again. When the message above appears choose NO to not change the modules communication channel until you find the module “lost”.



When GroNode finds the module that you are trying to connect to it, the green status LED from the module will stop blinking and will stay constant and the module should display on the GroLab Software. The next step is to change the communication channel back to the initial one, however, this time choose the option YES to change the modules' communication channel.



In case a warning is displayed, informing that you have offline modules, select “Remember my answer for all offline modules” and then choose YES to continue.



For each module with problems connecting to the GroNode (green status LED blinking), please, perform this procedure.

It's essential to verify that all the antennas of the GroNode and modules are correctly placed to ensure the maximum performance of the communications.

1.3.2 Communications problems between GroNode and other modules

Related Problems

- Sometimes a module switches between alive and not alive on GroLab Software;
- SoilBot sometimes starts blinking;
- TankBot sometimes starts blinking;
- PowerBot does not act according to programmed schedules;

Problem Description

The module sometimes switches between alive and not alive on GroLab Software or the green status LED starts to blink. The programmed schedules do not act when they should.

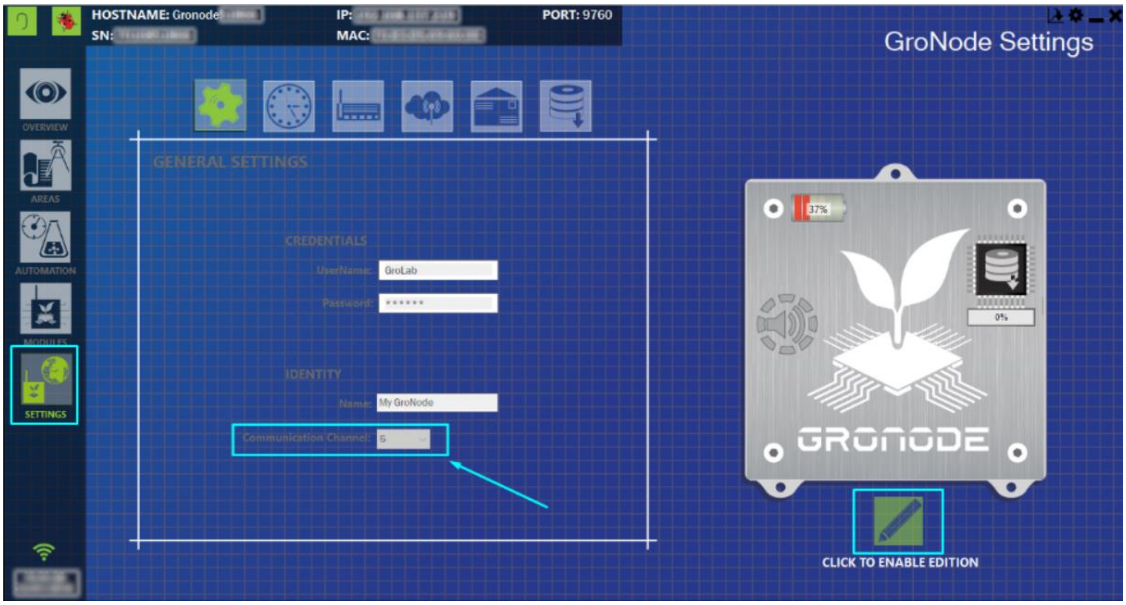
Possible Problem/Corrective Action

- **Distance between modules**
  Your environment conditions could influence the maximum distance which modules need to be for properly perform the wanted actions. Try to move the GroNode to be closer to modules or the module closer to the GroNode, to understand the maximum distance on your environment. You can check too if all antennas are correctly placed and if it seems to be in good conditions.
  If the modules are close to each other or close to the GroNode, they could interfere with each other's communications. So that way you must place all the modules on a reasonable distance of each other to ensure better communications.
  If that solution doesn't work for you please try to follow the above procedures.

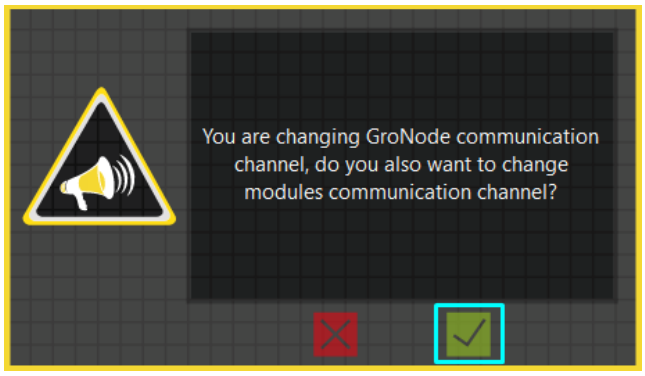
- **Device causing Interferences**
  The ambient noise of the RF environment needs to enter into account. There are a variety of devices that can cause interference on the GroLab network. If you suspect that you are facing some kind of interference please check if the GroNode and/or the module are near devices that can cause interference. Microwave ovens, wireless devices, Bluetooth devices, telephones, cell phones are some kind of devices that can cause interference. Try to move the GroNode or the module or even the device that you suspect is the causing of interference. Check if that solution improves the communication between modules.

- **Noise on selected communication channel**

As previously explained, the ambient noise of the RF environment needs to enter into account. So other networks could affect the performance of the GroLab network if that network has on co-channel and adjacent channel that can cause interferences.
The following procedure intends to go through the GroLab communication channels to check between all channels what the better one for your environment is.
To do that access GroLab and go to “Settings” -> “General Settings” click to enable edition and select a different channel. Ensure that you have all modules online after doing this alteration.



Choose YES to also change the modules’ communication channel. If a module becomes offline during this procedure, you can change the GroNode communication channel to go to the previous one. When you go back, just select NO when this message appears. Then repeat this point until you are capable of change all modules channel to the new one.



Wait for all modules to become online and stay on this channel for some time. Check if this changing of the communication channel improves the communications between modules. If not or if you want to check another channel repeat the procedure until you find one channel suitable for you.

1.4 Notifications Troubleshooting

This chapter describes how to Troubleshooting Notifications problems.

1.4.1 Cannot Activate GroLab Notifications

Related Problems:

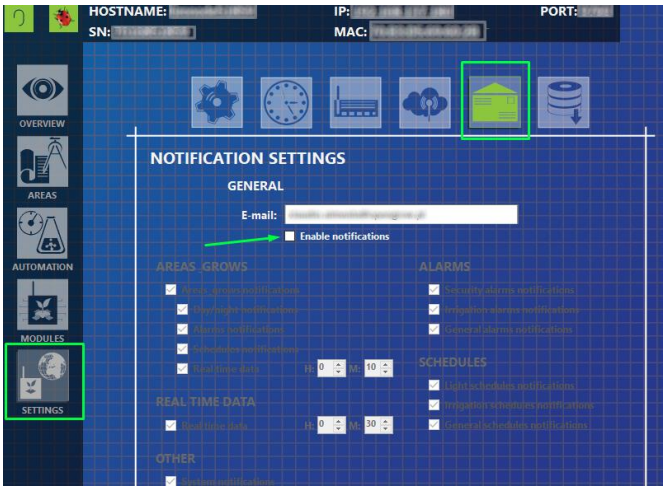
- Not receiving GroLab Notifications on my email;

Problem Description:

After configuring the email on GroLab Software Notification Settings still don't receive any email about notifications of GroLab on my mailbox.

Possible Problem/Corrective Action

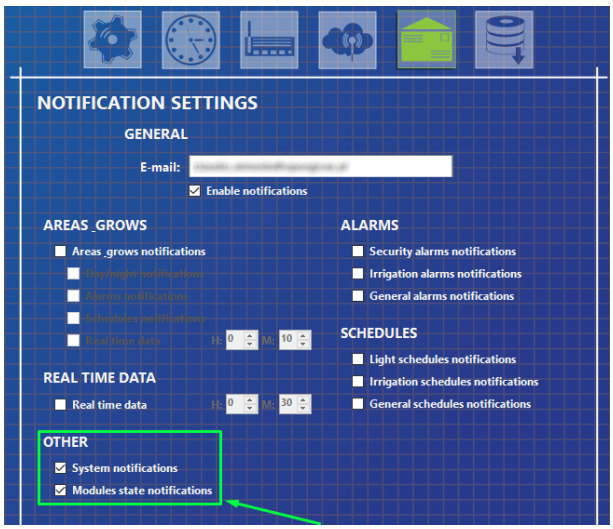
- **Email Notifications are not Enable**
  On GroLab goes to "Settings" -> "Notification Settings". Below the text box for email input ensure that the checkbox for "Enable Notification" is selected.



- **Wrong email/typing error or email sent is on the Spam folder**
  On GroLab goes to "Settings" -> "Notification Settings" and check if the email inserted is the correct one. If everything is right please check on your email your spam folder.

- **GroNode doesn't have Internet Access**
  To allow Internet Access to GroNode please follow the procedures on GroNode Troubleshoot -> Provide Internet Access to GroNode.

- **Wrong configuration of Notifications Settings**
  On GroLab goes to "Settings" -> "Notification Settings" and click for Edit.
  Ensure that you have selected at least the "System Notifications". Save and reset GroNode. Check your email box if you receive an email regarding GroNode Woke up Notification.



For receiving the wanted notifications on your email you need to select the kind of notification that you want to be notified.

1.4.2 Just receive some email notifications but not all I want.

Related Problems

- Cannot receive Alarms related notifications;
- Cannot Receive Schedules related notifications;
- Cannot receive Areas related notifications;
- Cannot receive Grows related notifications;
- Cannot receive system notifications;
- Cannot receive modules state notifications;
- Cannot receive real-time data notifications;

Problem Description

I configure my Alarm/Schedule/Area/Grow to send me an email notification but still not receiving nothing related to that.

I configure the Notification Settings but still not receiving all the notifications I want for my Grow.

Possible Problem/Corrective Action

GroLab has a protection against unwanted emails and to not spam your email account. That way two steps are required to configure properly the email notifications. In the majority of the cases, one of the steps is not correctly done.

Step 1 consists to enable on Settings -> Notifications Settings the kind of notifications that you want to receive.

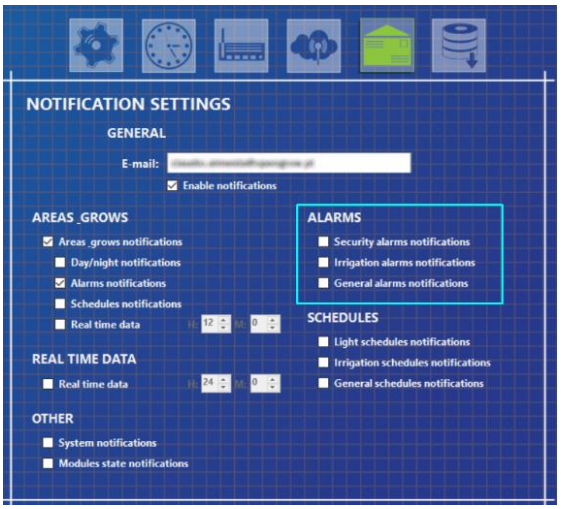
Step 2 consists to enable specifically on Automation Tab what areas, alarms, or schedules you want to be able to receive notifications.

The following problems and respective corrective actions are regarding to verify if the steps above were correctly configured.

- **The type of alarm from which you want to receive email notification is not enabled on "Notification Settings".**
  On GroLab you can configure different kinds of notifications: Alarm Notifications, Schedules Notifications, Areas & Grows Notifications, Real Time Data Notifications, System Notifications, and Modules State Notifications. That way the users can choose what notification is important to receive.

  Alarm Notifications is not Enabled:

  On Settings -> Notification Settings click to edit and check the Alarm Notifications pretended to receive:
  - Security Alarms Notifications: send an email about the state of **all Security Type Alarms Enabled on Automation Tab;**
  - Irrigation Alarms Notifications: send an email about the state of **all Irrigation Type Alarms Enabled on Automation Tab;**
  - General Alarms Notifications: send an email about the state of **all General Type Alarms Enabled on Automation Tab;**

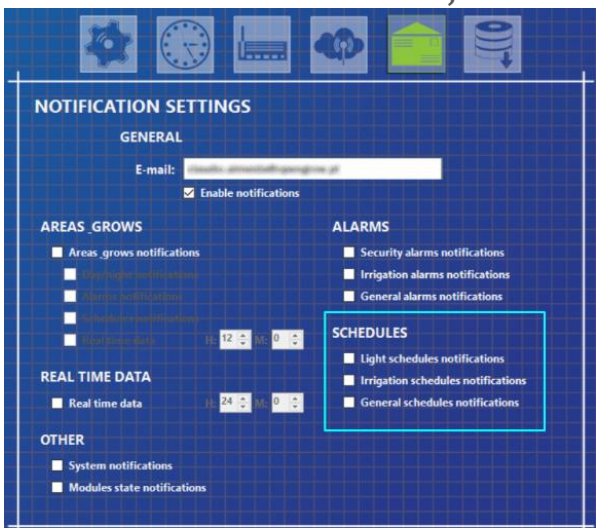


To receive an email notification from an alarm, you should start by ensuring the option to receive notifications from the respective alarm type is enabled. After that, you should also enable the option to receive the email notifications for the desired alarm. For example, if you want to receive email notifications for all Security Alarms, the Security Alarms Notifications on the Notifications Settings must be selected, at the same time, the security alarms that you want to be notified, present on Automation Tab -> Alarms, must have the email notifications enabled.

Schedules Notifications is not Enabled

On Settings -> Notification Settings click to edit and check the Schedules Notifications pretended to receive:

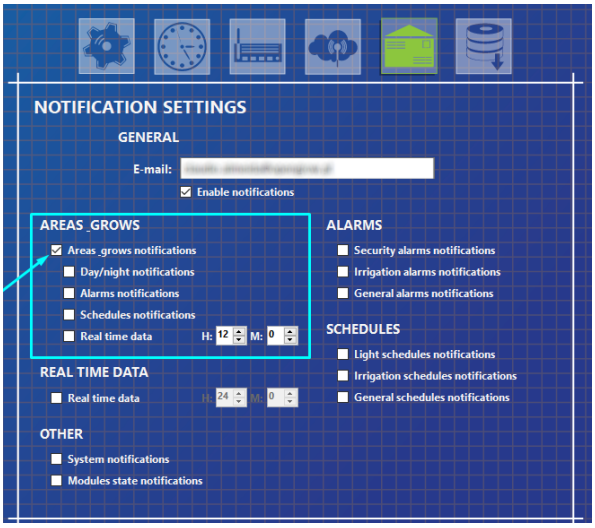
- Light Schedules Notifications: send an email about the state of **all Light type schedules Enabled on Automation Tab;**
- Irrigation Schedules Notifications: send an email about the state of **all Irrigation type schedules Enabled on Automation Tab;**
- General Schedules Notifications: send an email about the state of **all General type schedules Enabled on Automation Tab;**



To receive an email notification from a schedule, you should start by ensuring the option to receive notifications from the respective schedule type is enabled. After that, you should also enable the option to receive the email notifications for the desired schedule. For example, if you want to receive email notifications for all Light Schedules, the Light Schedules Notifications on the Notifications Settings must be selected, at the same time, the light schedules that you want to be notified, present on Automation Tab -> Schedules, must have the email notifications enabled.

Areas & Grows Notifications:

On Settings -> Notification Settings click to edit and check “Areas & Grows Notifications” on Settings -> Notifications Settings.

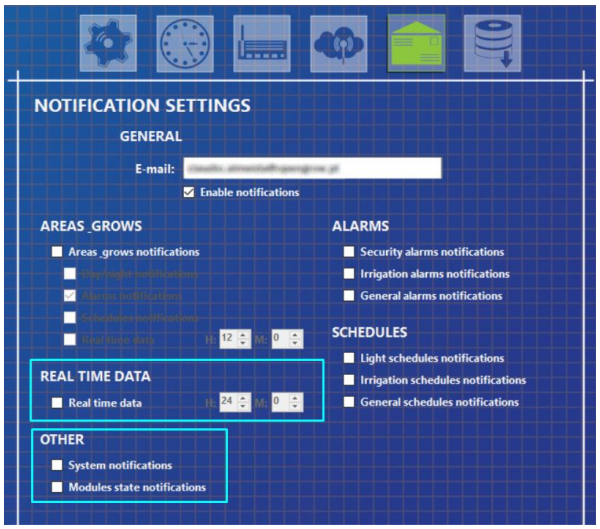


Inside "Areas & Grows Notifications" the user can choose the type of notifications they want to receive regarding Areas & Grows, i.e.:

- Day/Night Notifications: informs when day or night starts;
- Alarms Notifications: informs about alarms the state of an alarm;
- Schedules Notifications: informs about schedules on progress;
- Real-time data: periodically informs about the state of your Area & Grow.

Real-time Data Notifications and Other is not Enabled

On Settings -> Notification Settings click to edit and check the Real-time Data Notifications.



For the user to be able to receive emails about real-time data, system notifications, and modules notifications, those options must be enabled on the Notification Settings.

- **The notification emails are not enabled for Area, Alarm, or Schedule.**
  On GroLab Software you can choose if you want to receive notifications from a specific Area, Alarm, or Schedule, by default this option is not enabled.

  Alarm Notifications:

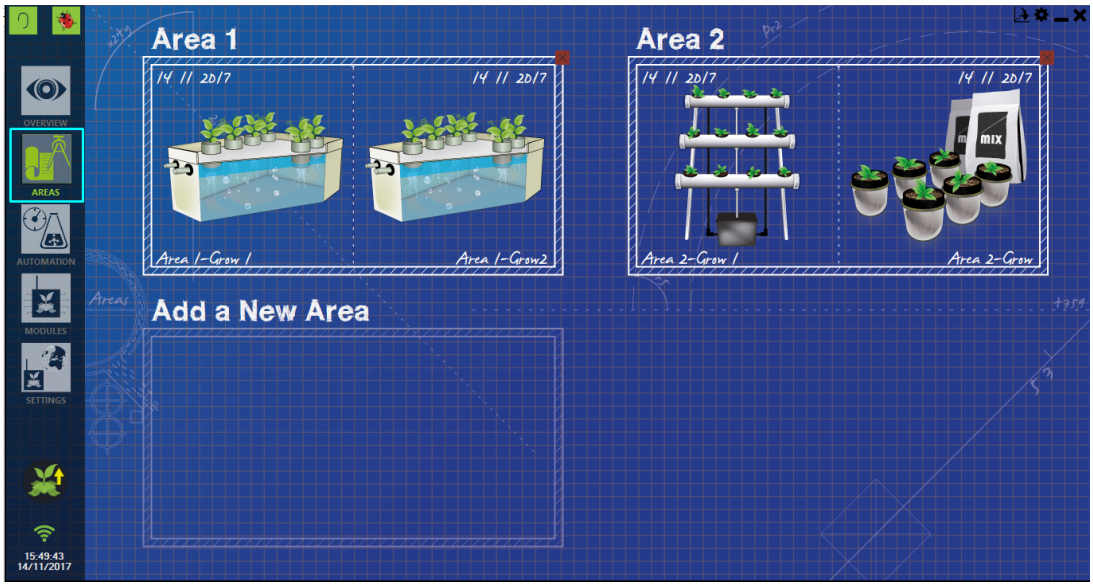
  On Automation Tab -> Alarms enable Notifications for the specific Alarm that you want to be notified.

  Schedules Notifications:

  On Automation Tab -> Schedules enable Notifications for the specific Schedule that you want to be notified.

Area Notifications:

On Area Tab choose the area(s) that you want to be notified.



For all the Areas that want to be notified, enable notifications for that Area on "Area Configuration".

1.5 Firmware Recovery

1.5.1 GroNode Firmware Recovery

Related Problems

- My GroNode are facing some problems and I need to recover the firmware;
- My GroNode seems not working properly after a firmware upgrade;
- The installation of a new firmware fails and GroNode is not working or is blinking Yellow;

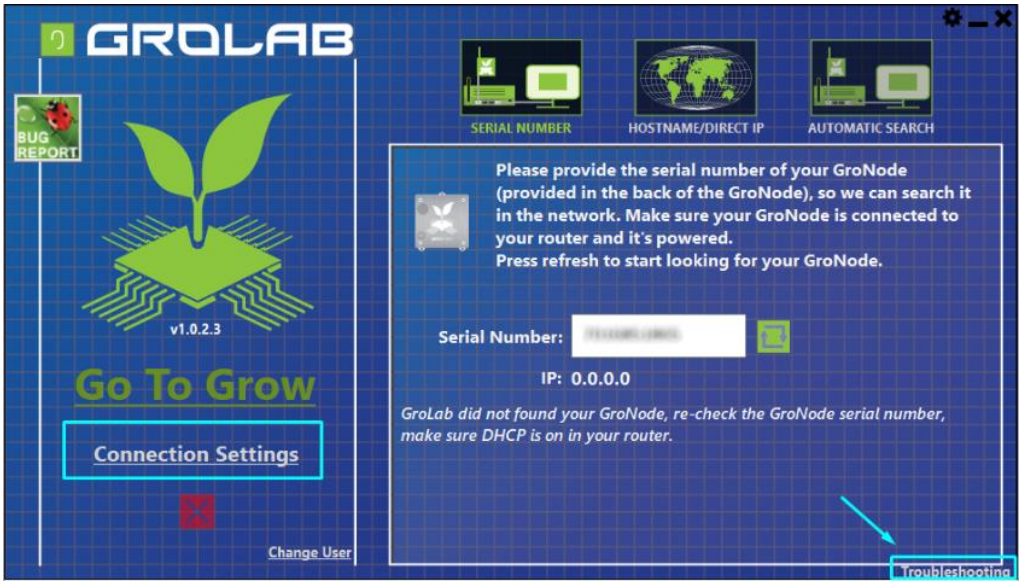
Problem Description

A Firmware Upgrade sometimes could go wrong and due to various reasons, a GroNode module can have problems on their firmware because it was incorrectly applied.

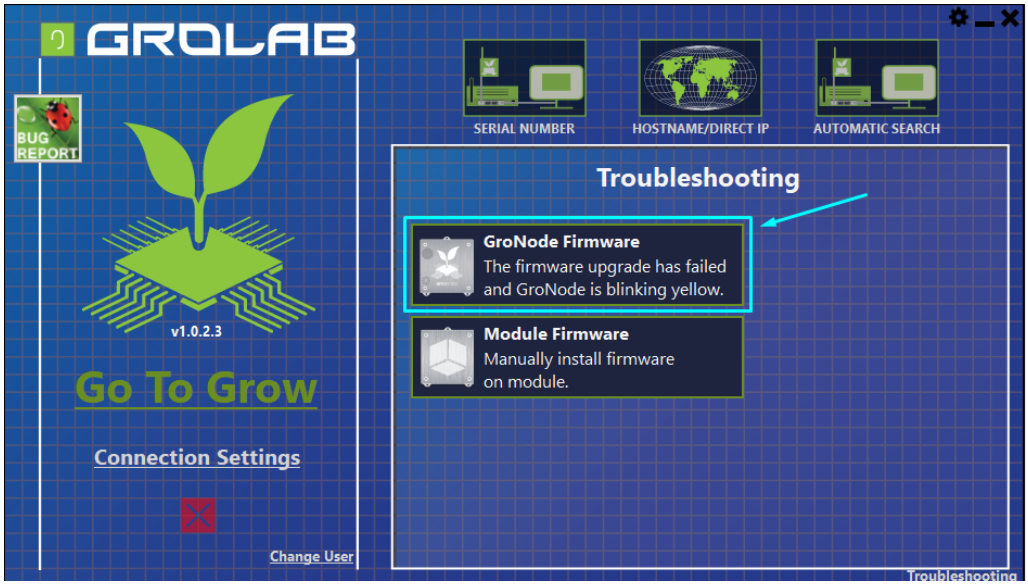
The GroNode starts blinking yellow after an Update.

Possible Problem/Corrective Action

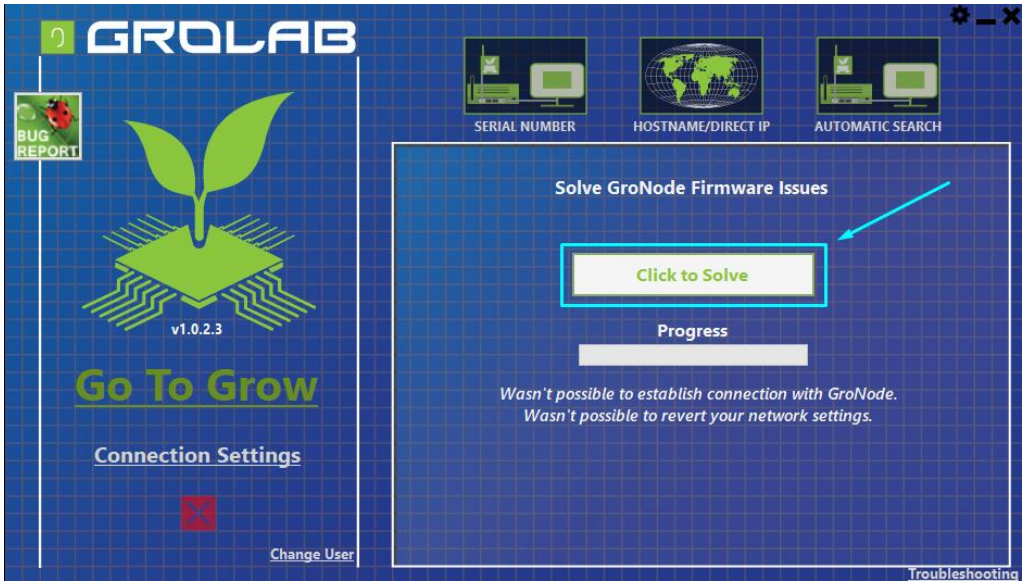
- **Firmware Update Failed/GroNode Blinking Yellow**
  To correct this issue you will need to fully apply the GroNode firmware again. To do that you will need to access GroLab and ensure that you were connected to the Internet. Them go to "Connection Settings", here you will find on right inferior corner a "Troubleshooting" submenu to resolve some problems regarding GroLab.



On troubleshooting sub-menu click on the "GroNode Firmware".



Once on GroNode Firmware Troubleshooting be ensure if you were connected to the Internet and then click on the "Click to Solve" button.



Now the GroNode firmware will be applied to your GroNode and if everything was corrected updated, the GroNode will reset and then you can access it.

- **Firmware Upgrade Incorrectly Applied**
  If your GroNode seems not working well after a firmware update you can reinstall the firmware. For that, you will need to push the GroNode's "Reset" button and then push the "FW Update" button. The GroNode will start blinking yellow and it's ready to receive a Firmware update. Follow the previous steps to reinstall de firmware through GroLab's troubleshoot.

1.5.2 PowerBot Firmware Recovery

Related Problems

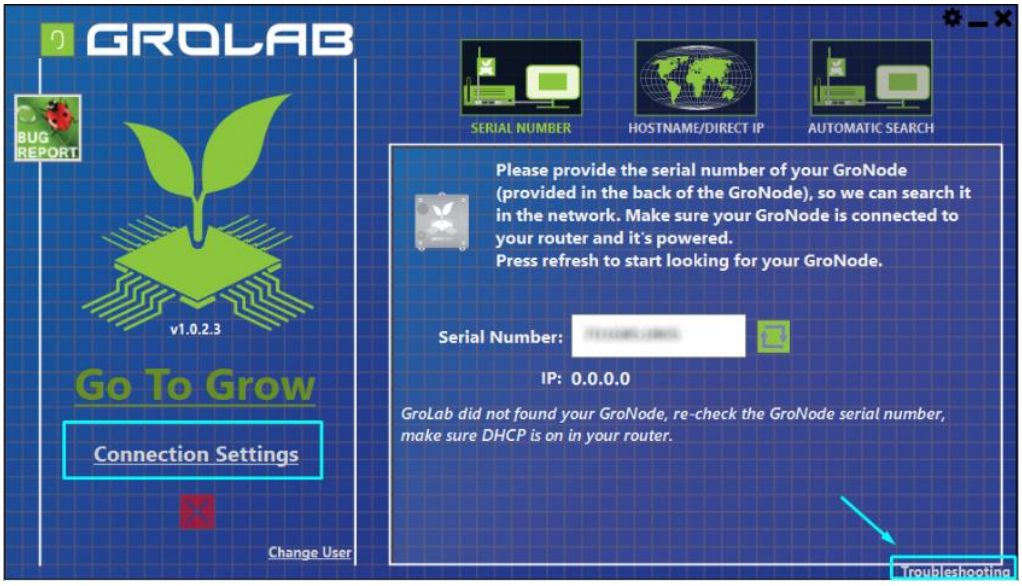
- My PowerBot are facing some problems and I need to recover the firmware;
- My PowerBot seems not working properly after a firmware upgrade;
- The installation of a new firmware fails and PowerBot is not working.

Problem Description

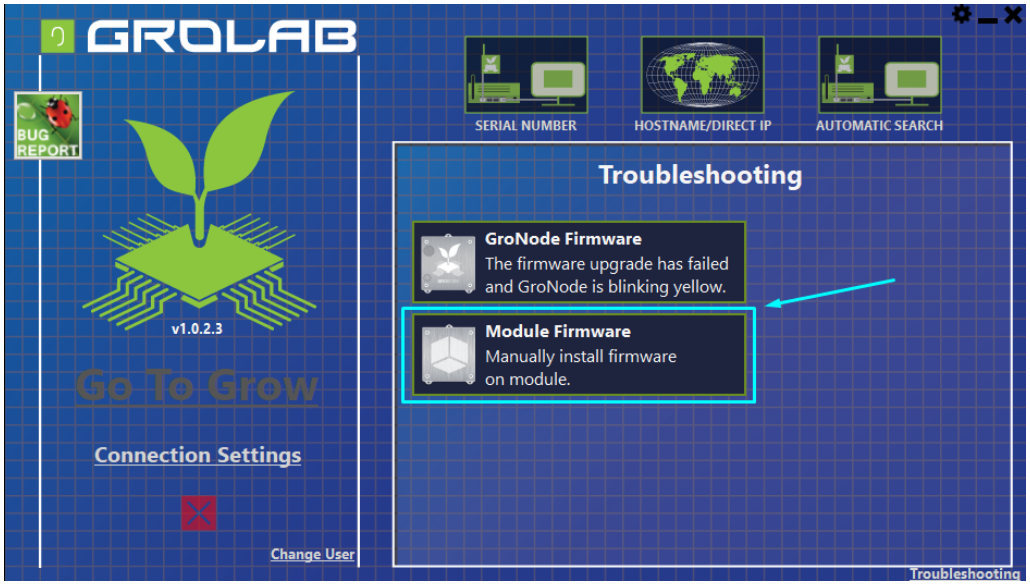
A Firmware Upgrade sometimes could go wrong and due to various reasons, a PowerBot module can have problems on their firmware because it was incorrectly applied.

Possible Problem/Corrective Action

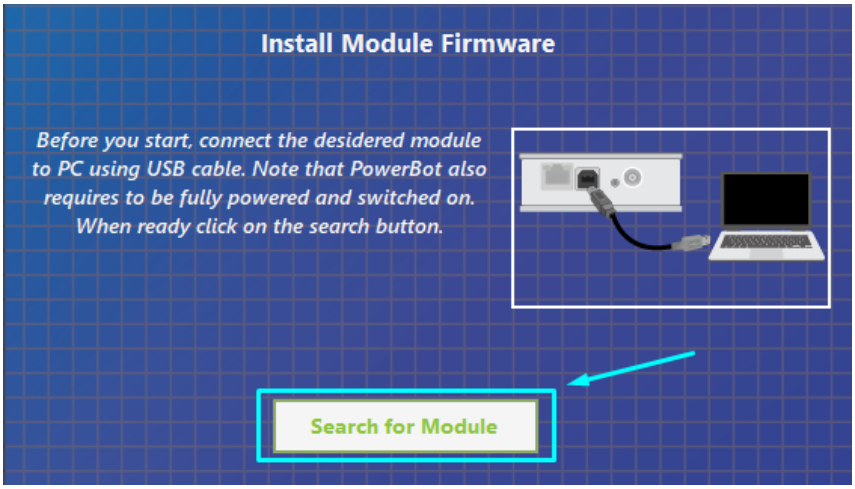
- **Firmware Upgrade failed**
  To correct this issue you will need to fully apply the PowerBot firmware again. To do that you will need to access GroLab and ensure that you were connected to the Internet. Them go to "Connection Settings", here you will find on right inferior corner a "Troubleshooting" submenu to resolve some problems regarding GroLab.



  On troubleshooting sub-menu click on the "Module Firmware".

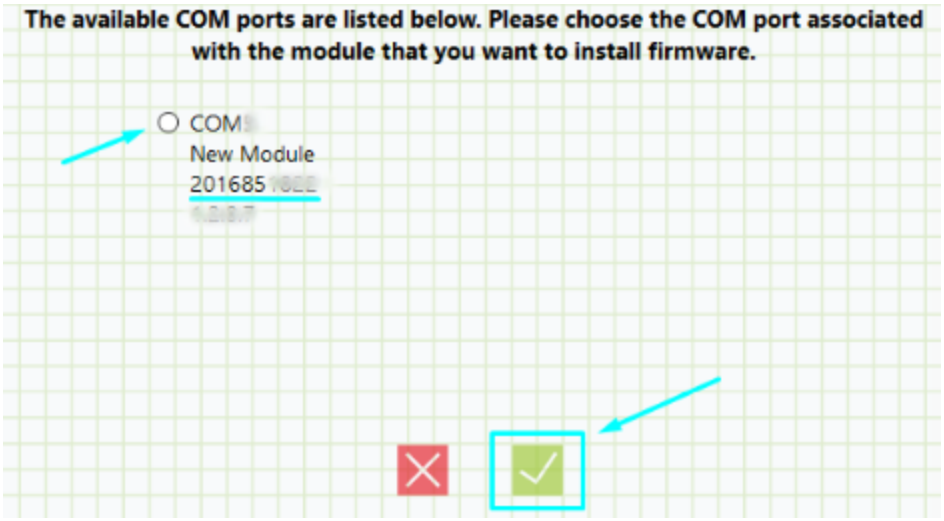


On GroLab Software, follow the steps and recommendations given and then click on "Search for Module". It is recommended to only have the module that you want to install the firmware connected to your PC (through USB cable). In this way, if GroLab Software is not able to retrieve the info from the connected module, you can easily add that info to properly install the correct firmware.

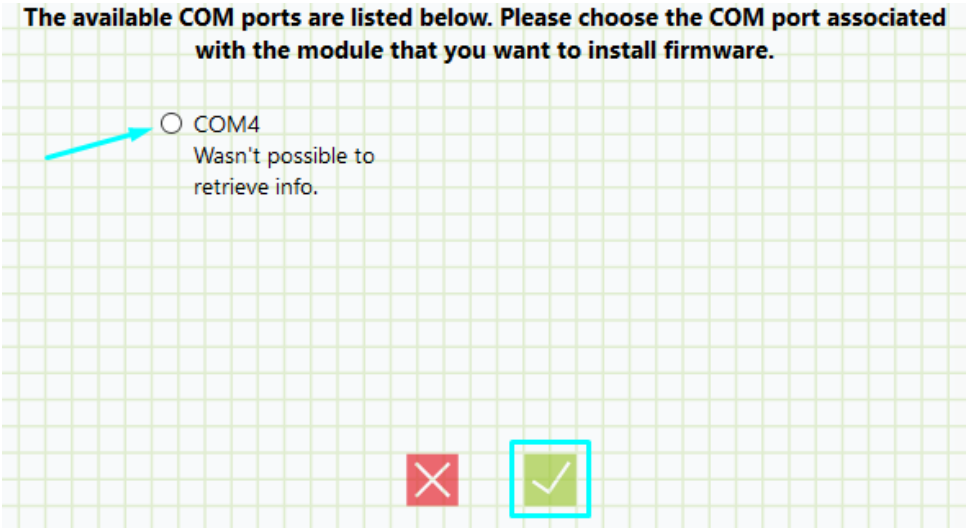


On the GroLab module search, it will appear a list of all the modules connected to your PC. If you have only one module connected the next step is easy, else you will need to search on the list each one is the wanted module.

Find on this list if the wanted PowerBot is on it, search by Serial Number, select the wanted module, and choose YES to continue.



If your PowerBot isn't on this list, ensure that you have only one module connect via USB to your PC and select that one on the search list.

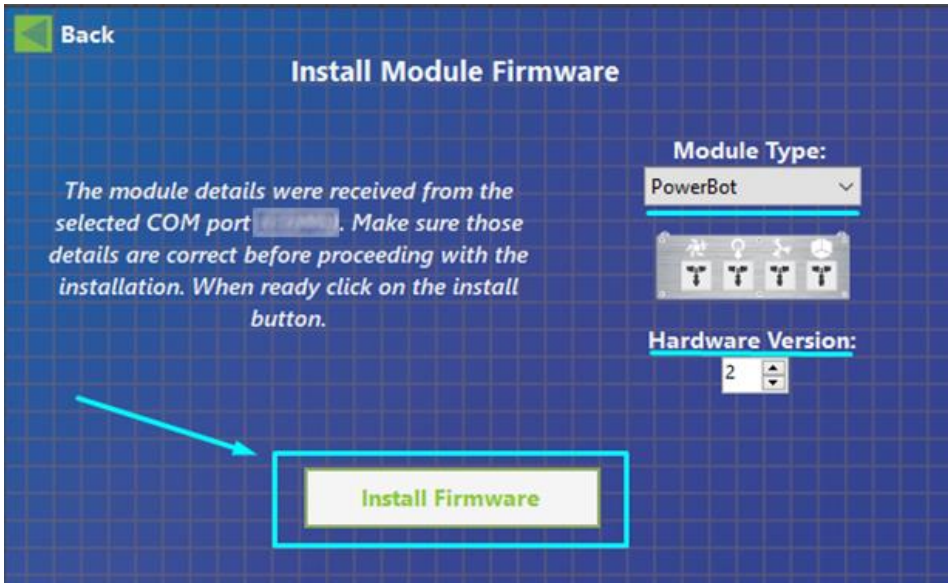


If on previously step GroLab was capable of detecting your module it will automatically add the ideal settings of your module, regarding "Module Type" and to "Hardware Version".

If not, you will need to manually specify it. First on "Module Type" select the correct one, i.e. PowerBot on this case. Next, on Hardware Version you will need to verify your module Serial Number to add the correct version on this field:

- Hardware Version 2: Serial Numbers between 2016851816 and 2016851915;

Ensure that you have an Internet connection to guarantee that you are installing the most recent Firmware Version released. Click on "Install Firmware" and follow the instructions given by GroLab.



If everything installs correctly your module will work again like us to and GroNode will be able to find it.

1.5.3 TankBot Firmware Recovery

Related Problems

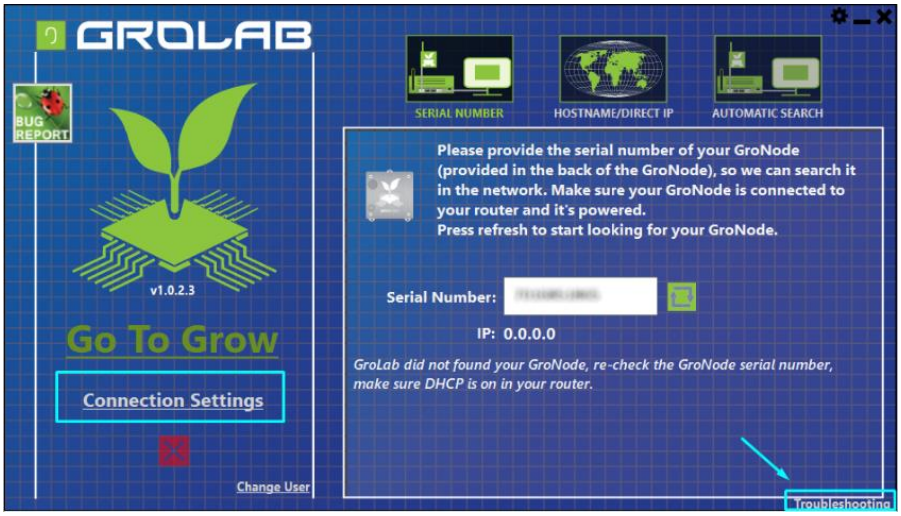
- My TankBot is facing some problems and I need to recover the firmware;
- My TankBot seems not working properly after a firmware upgrade;
- The installation of a new firmware fails and TankBot is not working;

Problem Description

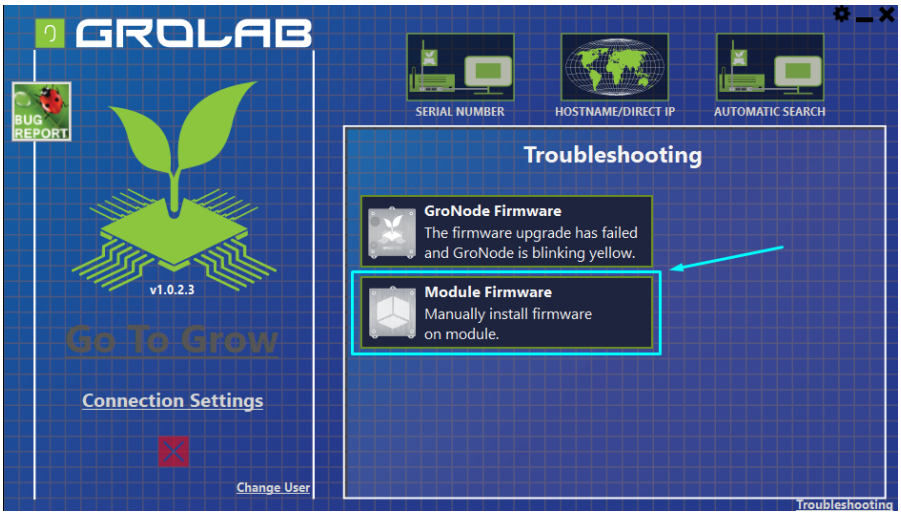
A Firmware Upgrade sometimes could go wrong and for various reasons, a TankBot module can have problems on their firmware due to an incorrect application of it.

Possible Problem/Corrective Action

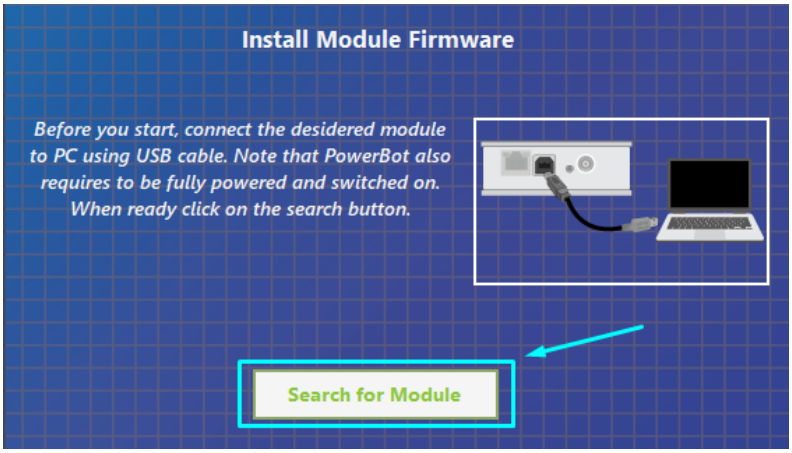
- **Firmware Upgrade failed**
  To correct this issue you will need to fully apply the TankBot firmware again. To do that you will need to access GroLab and ensure that you were connected to the Internet. Them go to “Connection Settings”, here you will find on right inferior corner a “Troubleshooting” submenu to resolve some problems regarding GroLab.



On troubleshooting sub-menu click on “Module Firmware”.

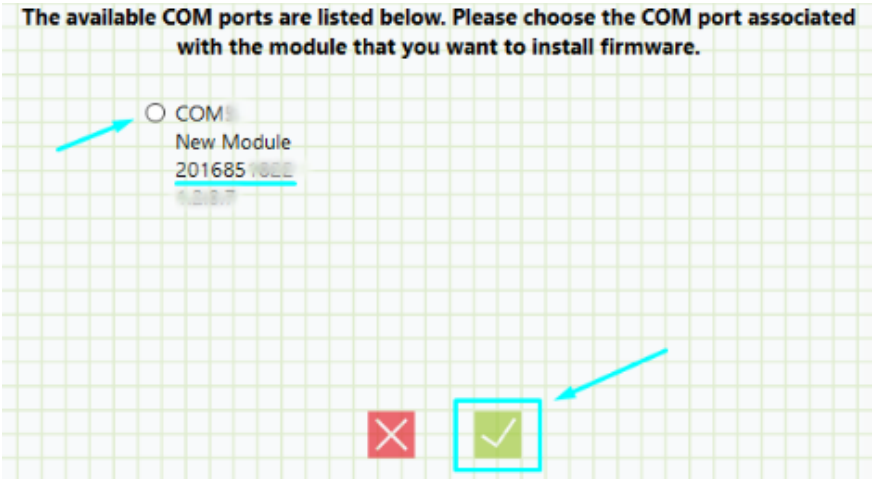


On GroLab Software, follow the steps and recommendations given and then click on “Search for Module”. On this step, we recommend only have connected to your PC, via USB, the module that you want to install the firmware. That way if GroLab can’t know which module was connected you can easily add that info to properly install the correct firmware.

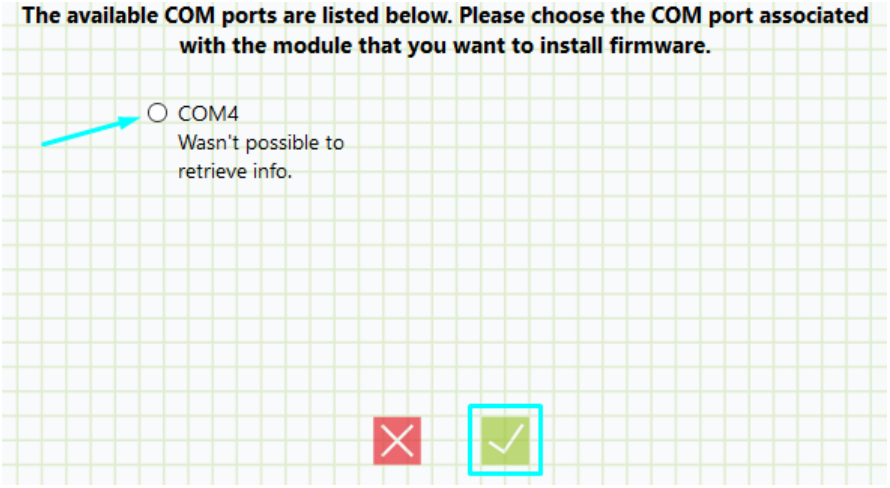


On the GroLab module search, it will appear a list of all the modules connected to your PC. If you have only one module connected the next step is easily, else you will need to search on list each one is the wanted module.

Find on this list if the wanted PowerBot is on it, search by Serial Number, select the wanted module and choose YES to continue.



If your TankBot isn't on this list, ensure that you have only one module connect via USB to your PC and select those one on the search list.

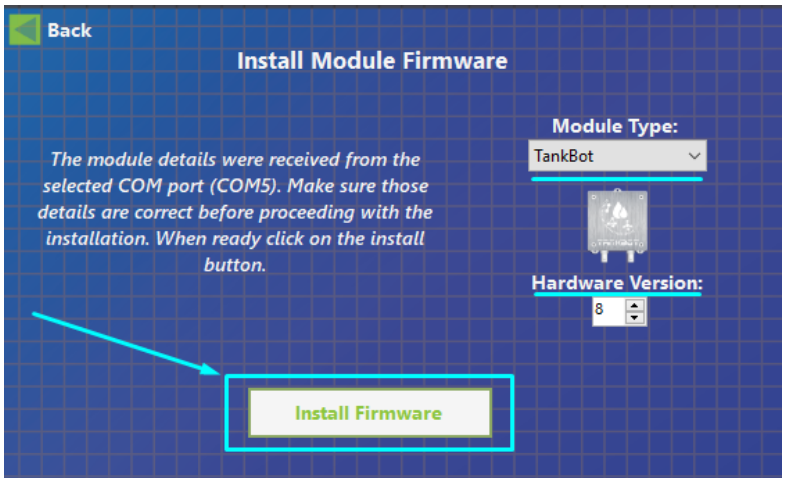


If on previously step GroLab was capable of detect your module it will automatically add the ideal settings of your module, regarding to "Module Type" and to "Hardware Version".

If don't, you will need to manual specify it. First on "Module Type" select the correct one, i.e. TankBot on this case. Next, on Hardware Version you will need to verify your module Serial Number to add the correct version on this field:

- Hardware Version 8: Serial Numbers between 3016851816 and 3016851899;
- Hardware Version 9: Serial Numbers between 3016851900 and 3016851999;

Ensure that you have Internet connection to guarantee that you are installing the most recent Firmware Version released. Click on “Install Firmware” and follow the instructions given by GroLab.



If everything installs correctly your module will work again like before and GroNode will be able to find it.

1.5.4 SoilBot Firmware Recovery

Related Problems

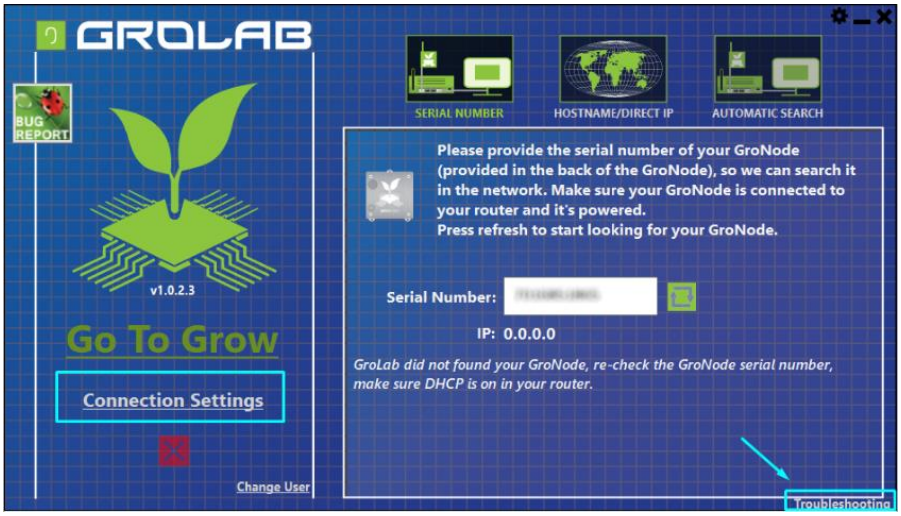
- My SoilBot are facing some problems and I need to recover the firmware;
- My SoilBot seems not working properly after a firmware upgrade;
- An installation of a new firmware fails and SoilBot is not working;

Problem Description

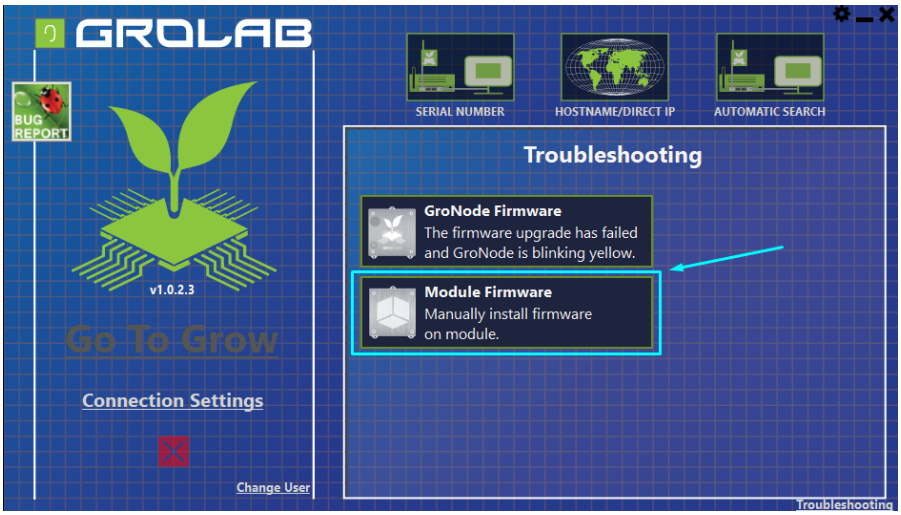
A Firmware Upgrade sometimes could go wrong and for various reasons a SoilBot module can have problems on their firmware due to an incorrectly application of it.

Possible Problem/Corrective Action

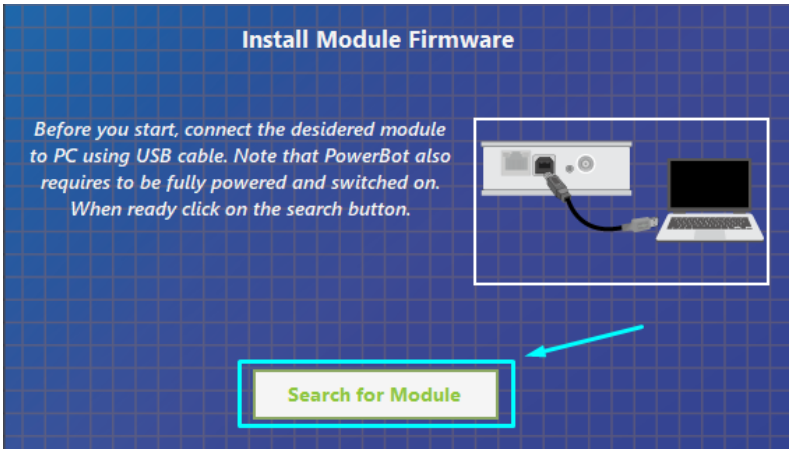
- **Firmware Upgrade failed**
  To correct this issue you will need to fully apply the SoilBot firmware again. To do that you will need to access GroLab and ensure that you were connected to Internet. Them go to “Connection Settings”, here you will find on right inferior corner a “Troubleshooting” submenu to resolve some problems regarding to GroLab.



On troubleshooting sub-menu click on “Module Firmware”.

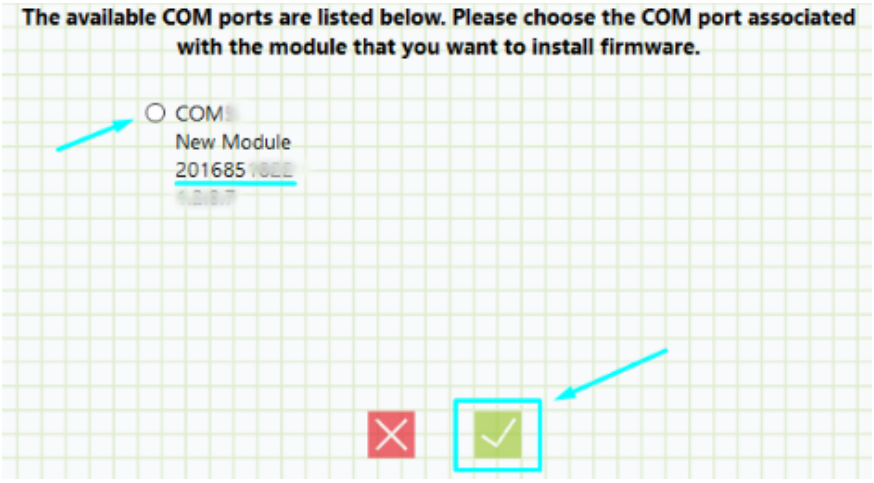


On GroLab Software, follow the steps and recommendations given and then click on “Search for Module”. On this step we recommends only have connected to your PC, via USB, the module that you want to install the firmware. That way if GroLab can’t know which module was connected you can easily add that info to properly install the correct firmware.

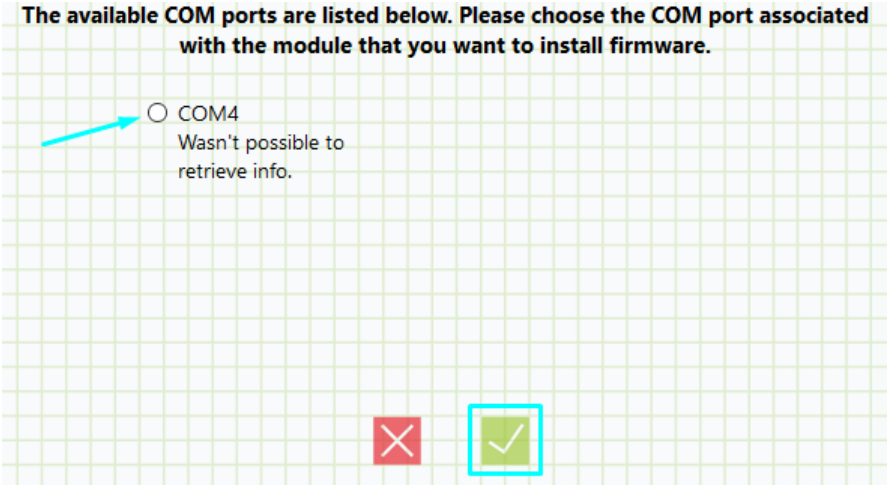


On GroLab module search it will appears a list of all the modules connected to your PC. If you have only one module connected the next step is easily, else you will need to search on list each one is the wanted module.

Find on this list if the wanted SoilBot is on it, search by Serial Number, select the wanted module and choose YES to continue.



If your SoilBot isn't on this list, ensure that you have only one module connect via USB to your PC and select those one on the search list.

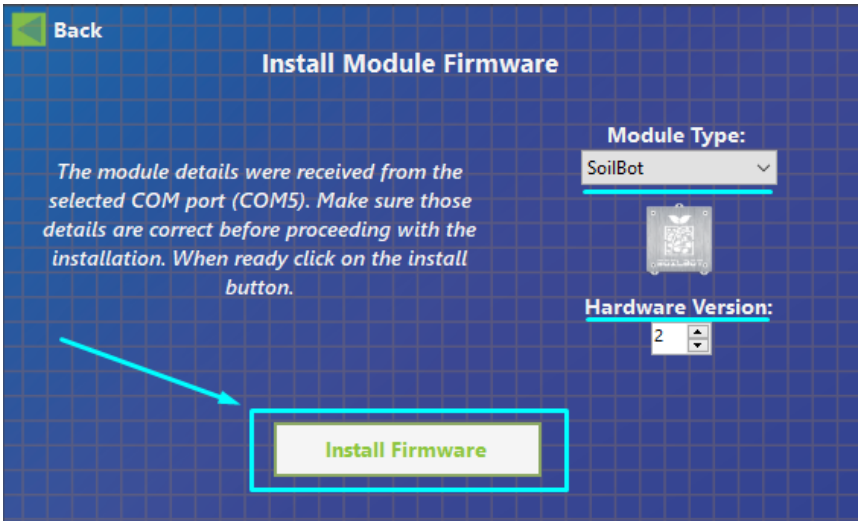


If on previously step GroLab was capable of detect your module it will automatically add the ideal settings of your module, regarding to "Module Type" and to "Hardware Version".

If don't, you will need to manual specify it. First on "Module Type" select the correct one, i.e. SoilBot on this case. Next, on Hardware Version you will need to verify your module Serial Number to add the correct version on this field:

- Hardware Version 2: Serial Numbers between 4016851816 and 4016851916;

Ensure that you have Internet connection to guarantee that you are installing the most recent Firmware Version released. Click on "Install Firmware" and follow the instructions given by GroLab.



If everything installs correctly your module will work again like before and GroNode will be able to find it.

2. Network Configuration Troubleshooting

2.1 Introduction

This main section is regarding Network Troubleshoot problems and configurations.

2.2 GroNode Access through GroLab Software

There are different ways to access GroNode through GroLab:

- GroNode connected directly to PC;
- GroNode connected to a Router;

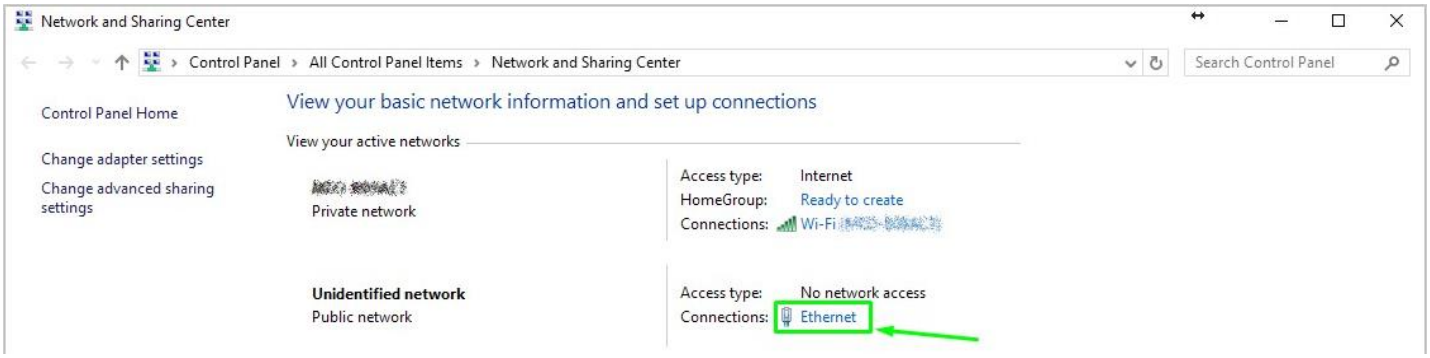
2.2.1 Access GroNode connected directly to PC

Is possible directly access your GroNode connecting it directly to your PC via Ethernet port. To do that you must connect your module to the PC with Ethernet port using the network cable supplied with your module.

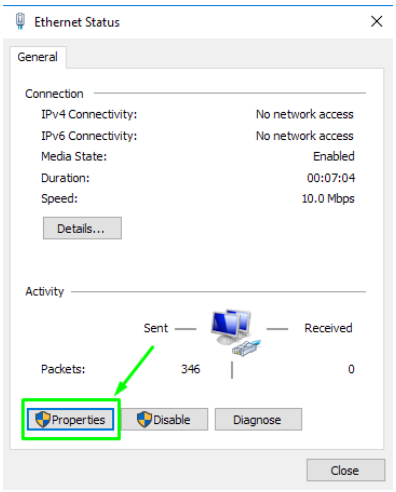
This procedure intends to help the user to properly configure their Ethernet board to allow GroLab to detect the GroNode connected to their PC.

Network Card Configuration

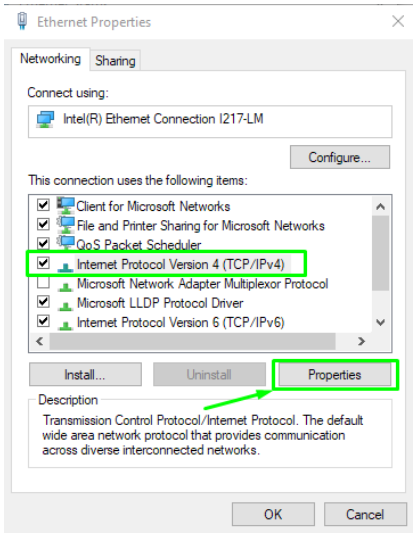
With GroNode connected to your PC, access to **Network and Sharing Center**, and click on the right network, Ethernet.



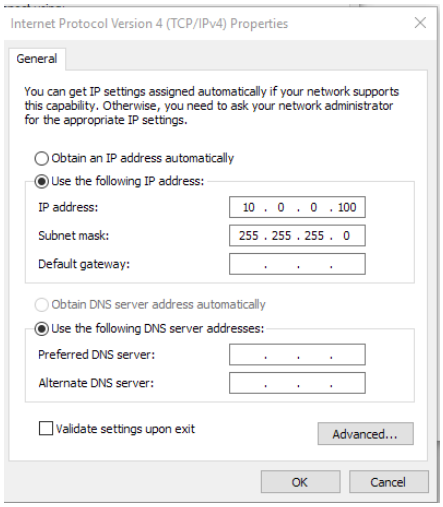
After that must click on **Properties:**



On the Ethernet Adaptor Properties select TCP/IPv4 Protocol and click on **Properties.**



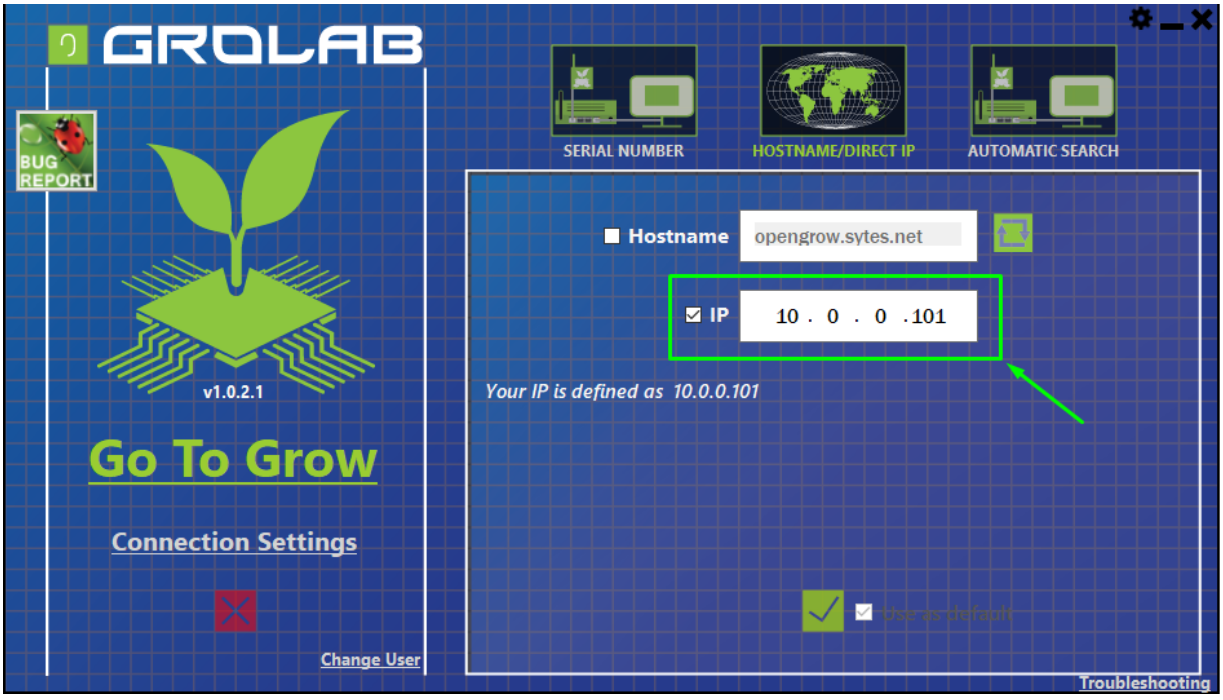
Select Using the following IP and on IP address write: “100.0.0.100”.
On Subnet Mask write the following: “255.255.255.0”.



Direct Connection Test

Once the Ethernet network card is properly configured, using the GroLab Software we can test the connection. Now the GroNode connected to your PC can be detected by GroLab.

In the Software, the user can search GroNode either by Serial Number, Direct IP (use the default IP: 10.0.0.101), or Automatic Search.



After configuring the connection by the available ways GroLab should already detect the GroNode in question, the user must press “Go To Grow” in order to test the established connection.

If the configuration is correctly performed, the GroLab will connect to GroNode without any problem and start the initial loading process.

At this moment, the user can use the GroLab with GroNode directly connected to their PC.

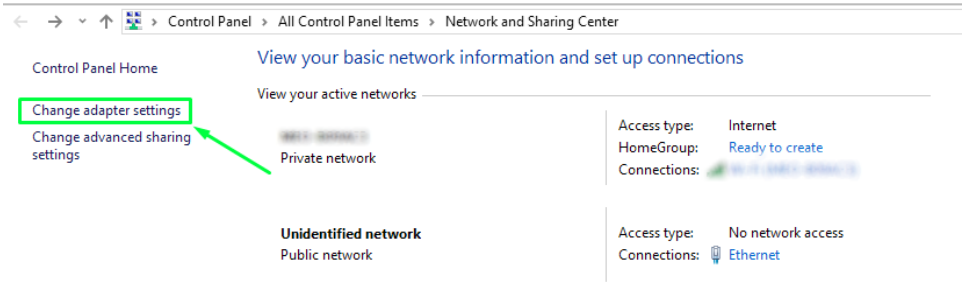
In case the connection doesn’t be succeeded, the user must restart the GroNode pressing and release the Reset Button and immediately press and hold the Net Reset Button until GroNode turns purple. Doing that, the GroNode network configuration goes to their default state and the user must repeat the connection test process. If the problem persists please contact the Open Grow support to help you to have direct access to your GroNode.

2.2.2 Provide Internet Access to GroNode

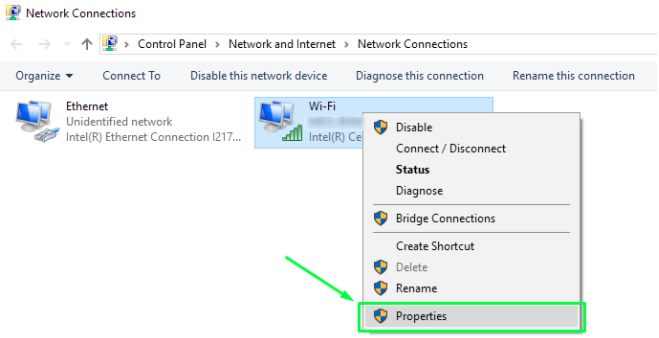
GroNode Connected Directly to a PC

The following procedure is regarding how to provide Internet Access to your GroNode that was directly connected to your PC via Ethernet Port.

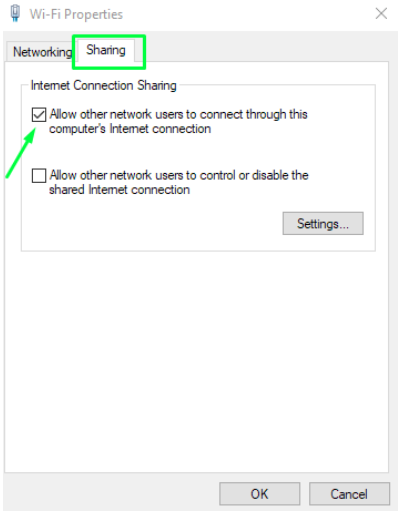
The first step is allowing Internet sharing for other networks/users is enabled. To do that go to “Network and Sharing Center” on Control Panel and select “Change adapter settings”.



Right-click on your Network/WIFI card that you are connected to the Internet through and select Properties.



On Properties go to the “Sharing” tab and ensure that the checkbox for allowing other networks to use this Internet connection is selected.



At this point, your GroNode gains an IP and haves Internet Access.

Check if GroNode can access to the Internet.

On GroLab goes to “Settings” -> “Clock Settings” click for Edit and change the clock to “Online Clock”. Verify if your current clock is updated, the time and date changes could influence the schedules and/or alarms enabled.

GroNode Connected to a Router/Switch/Access Point

Once connected to a Router with Internet Access, GroNode normally automatically gets Internet Access. So probably your router, switch or access point doesn’t have internet access or is blocking GroNode MAC Address.

The following procedure is regarding how to verify if your access to the router/switch/access point haves Internet Access.

To check if the device in which the GroNode is connected has Internet Access, try to connect directly to that device with your smartphone or PC and verify if you have Internet Access.

The other thing to do is to access the device in which GroNode is connected and check if something is blocking the GroNode. Check on all settings if a new device that connects has permissions to access the network. The other thing to do is search for the MAC Address exceptions and blocking menu and add an exception to allow the GroNode MAC Address on the list of exceptions or disable/delete some kind of rule that can be blocking GroNode.

Check if GroNode can access to the Internet.

On GroLab goes to “Settings” -> “Clock Settings” click for Edit and change the clock to “Online Clock”. Verify if your current clock is updated, the time and date changes could influence the schedules and/or alarms enabled.

2.2.3 External Access to GroNode

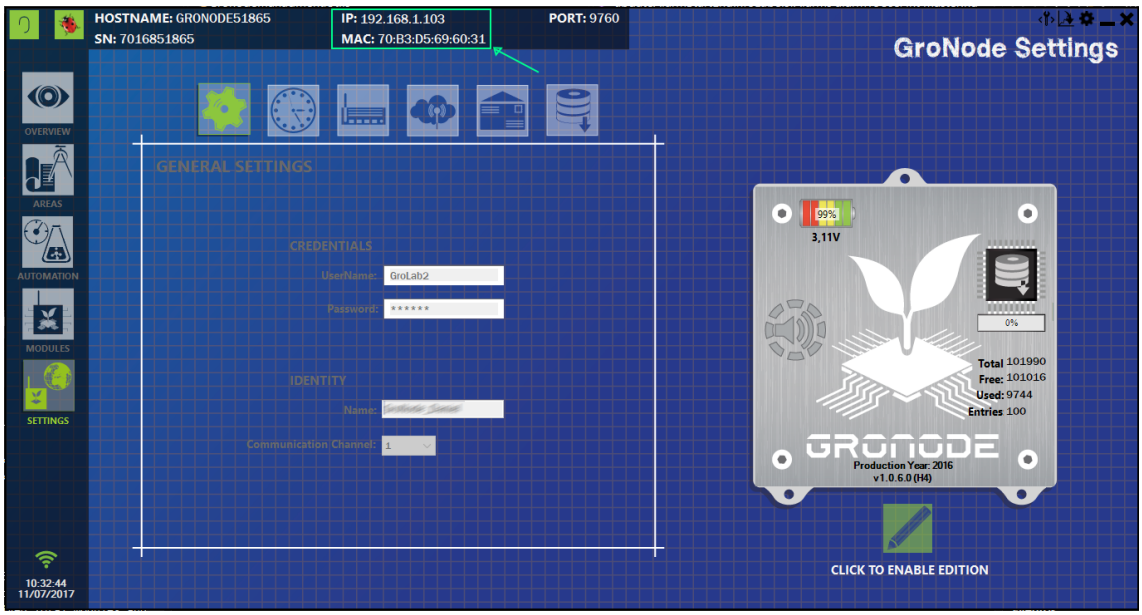
The user can get access to their GroNode from anywhere in the world as long as it is connected to the Internet and has the right network configurations that make it possible.

This document is a generic description of How to set up a Private Network to allow GroNode being remotely be accessed.

Initially, the user must ensure that GroNode is connected to a Router that haves Internet access and the computer, where all the configuration is being done, are on the same network.

GroNode IP & MAC

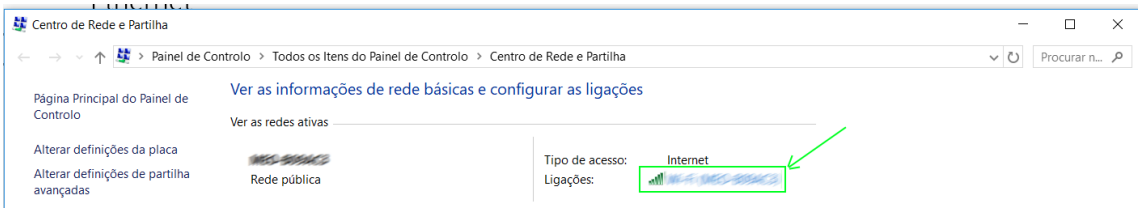
The GroNode IP and MAC must be identified and noted because it will be needed to proceed to further configurations.



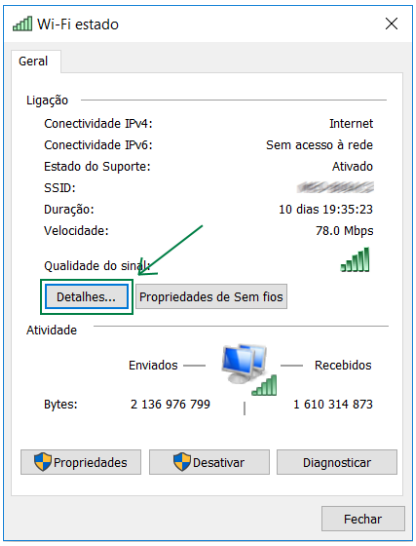
Access to Router Configuration page

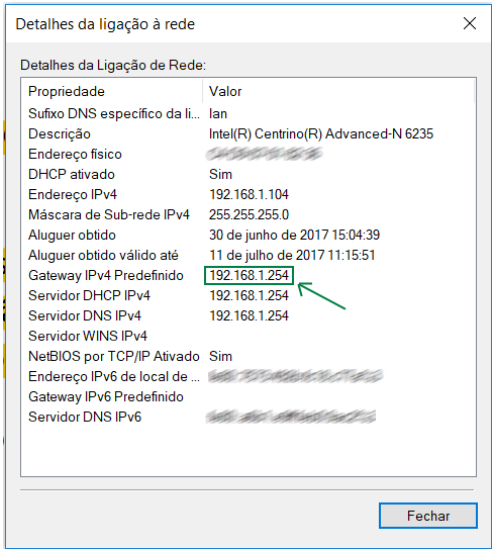
By default, the router configuration page is the gateway defined on the network/WIFI card.

To find this page the user must go to **Network and Sharing Center** and click on the proper network.



Then click on **Details.**





Step 1 Step 2

Note the IP address defined for the gateway.

After that the user must open an Internet browser, Chrome, Firefox, etc. and write the noted gateway IP address.

Now the user is on their router configuration page. Insert your access credentials and proceed to configuration menus.

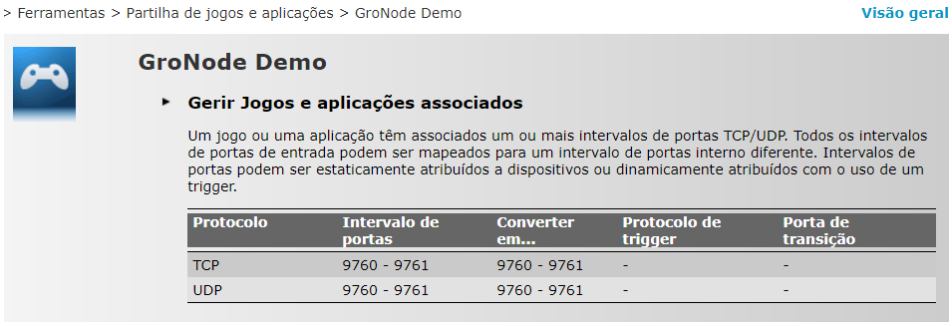
Port Forwarding

At this point, it will be done the mapping and configuration of router ports, to which GroNode is connected.

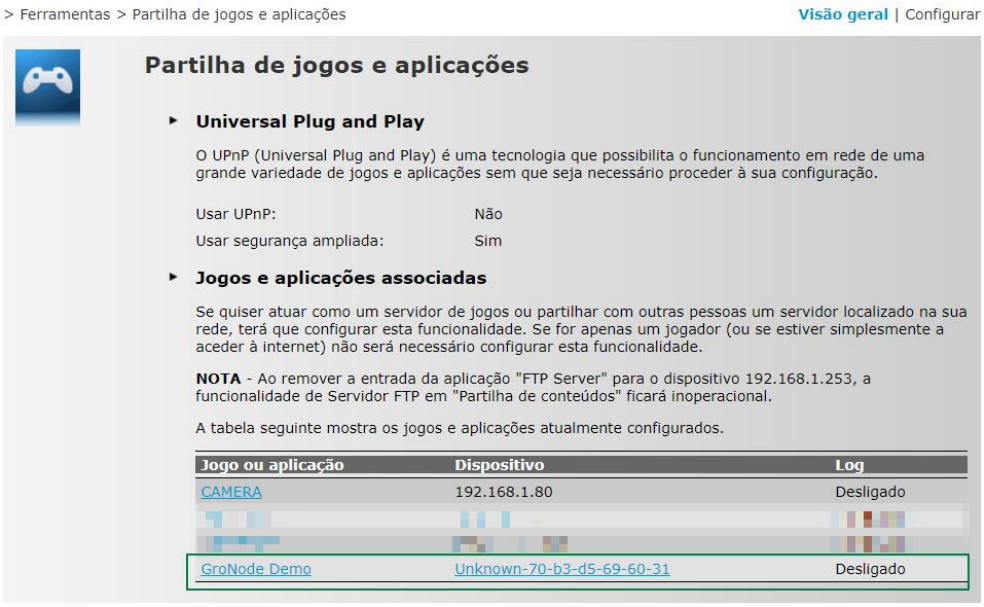
Due to the diversity of routers and respective configurations, it will be exemplified a generic case, however, the user must access their router configuration page and find a menu for a port forwarding, port sharing, game or application sharing, or similar.

On this menu, the user should open the ports 9760 and 9761 for both TCP and UDP protocols.

Configuration example:



Now, these ports must be associated or to IP or to the MAC of your GroNode, previously noted. Depending from router to router this association could be after creating a port mapping or could be created automatically on the mapping creation.

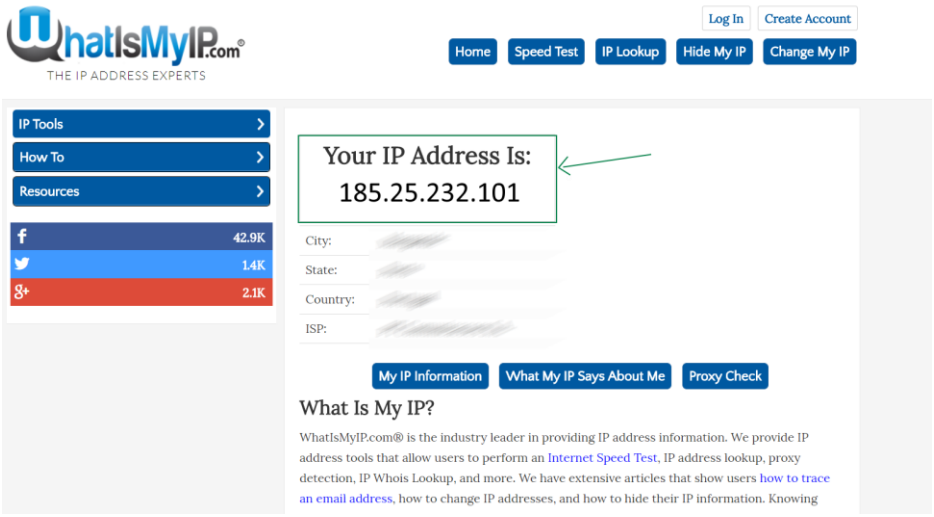


This way, when accessing externally to the router on ports 9760 and 9761, all the traffic will be redirected to GroNode.

External IP Discovery

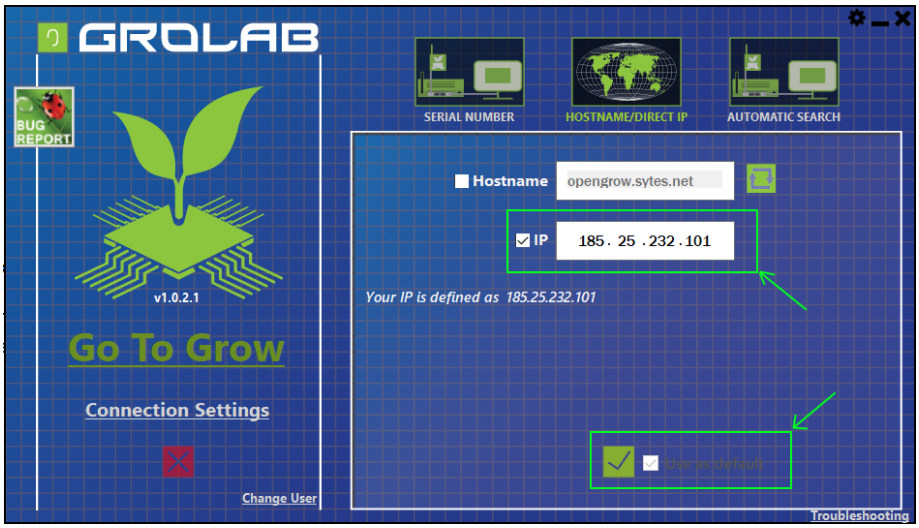
To find the external IP of an installation its needed being connected to the network in question, access the follow site: http://www.whatismyip.com

Your IP to the External connection will be displayed:



External Connection Test

Once the ports are already open and redirected o GroNode's IP address we can test the connection using GroLab Software with Direct IP access.



After setting up the Direct IP connection, the user must press on "Go to Grow" to test the connection.

If the configuration is correctly performed, the GroLab will connect to GroNode without any problem and start the initial loading process.

At this moment, the user can use the GroLab on any part of the world, always connecting to the external IP of their router.

In case the connection doesn't be succeeded, it's possible that GroNode isn't connected to this router, or the router doesn't have Internet access or the port mapping wasn't be well succeeded and some configuration is missing. In this case please contact the Open Grow support to help you with GroNode External Access configuration.

2.2.4 Configure a Dynamic DNS to always be possible access your GroNode

Configure your Router to provide you external access to your GroNode can not be enough due to your IP not be always the same. It changes from times to times and when it occurs you need to check your configurations again.

To avoid this issue, there are some procedures that you can do. One of them is to enter in contact with your ISP provider and try to know if it is possible to provide you a static IP.

The other alternative is to configure a Dynamic DNS to solve the issues surrounding remote access.

Create your Dynamic DNS Hostname

There are some services that you can use to create your own Dynamic DNS Hostname. That way the first thing to do is register on one of those services that provide this kind of service and define a Hostname. If you don't know any, you can create an account on No-IP, https://www.noip.com/.

Once on No-IP go to your account and add a Hostname. Enter your desire hostname and choose a domain, leave all of the other settings as is and Save It.

Some Routers include No-IP as an integrated DDNS provider so you will need to check that after proceed. If yes, you only need to enter your No-IP hostname into your device configurations and it will update your hostname with the correct IP address when it changes.

If your router or device does not include an integrated DDNS provider you will need to install the Dynamic Update Client on your computer to keep your hostname updated with your current IP address.

Now you only need to configure GroLab to use this Hostname when you want to access your GroNode externally. To do that access GroLab -> Connection Settings -> Hostname/Direct IP, select connection by Hostname, and type your hostname.

3. GroNode Troubleshoot

3.1 Introduction

In this section, we will discuss the most important issues regarding GroNode Troubleshoot.

If your problem or issue was not present on the following topics please contact us at info@opengrow.pt.

3.2 GroNode Credentials

3.2.1 I can't find the GroNode default credentials

The GroLab system uses two different credentials to fully access your system.

The first one is the GroLab software, these credentials only allow you to use the software, but to fully access your system, to configure and monitor your grow(s) you will need other credentials.

The other credentials are the GroNode's credentials and they are stored on the GroNode's memory.

So if you don't know which the GroNode's default credentials are or you have forgotten yours, please refer to this section.

Related Problems

- I don't know which are the GroNode default credentials;
- Cannot locate the GroNode default credentials;

Problem Description

On GroLab loading I need to insert the GroNode Credentials but I can't locate then.

Possible Problem/Corrective Action

- **Can't find the GroNode default credentials.**
  The default credentials of GroNode and GroLab software are located on the label placed behind the GroNode module.

- **Don't know which the default credentials of GroNode are.**
  The GroNode default Credentials are:
  - Username: GroLab
  - password: gogrow

  You can change the GroNode credentials when you want, to do that enter on GroLab Software go to "Settings" and on "General Settings". Here you can change your GroNode credentials for one more reliable to you.

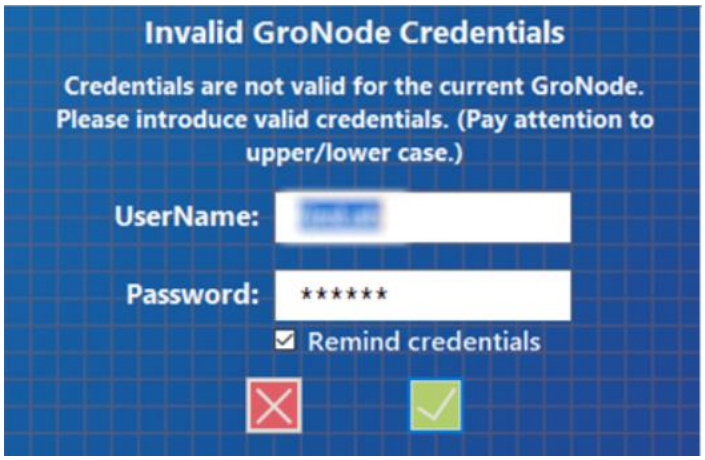
3.2.2 GroNode Invalid Credentials

Related Problems

- The GroNode Credentials inserted aren't valid;
- Forgot mine GroNode credentials;

Problem Description

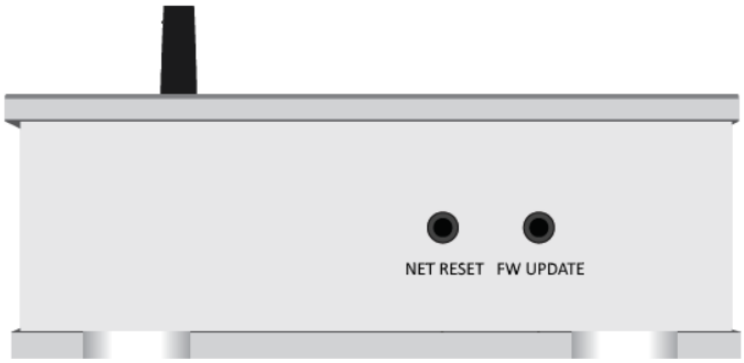
On GroLab loading shows up an error regarding to GroNode credentials are not valid for my GroNode.



Possible Problem/Corrective Action

- **I have forgotten mine GroNode credentials.**
  We appreciate our customer privacy so we don't have a way to know what username and/or password you have defined to your GroNode. The only thing to do is reset your credentials to default. Then, you can change the default credentials again on GroLab Software -> settings.
  The follow procedure it's safe and will only reset the GroNode credentials, all other things that you have set up will be remain like you defined.

To reset the GroNode credentials all you need is to press the “Net Reset” button and the “FW Update” button at the same time until the GroNode start blinks Red.



Now you can enter on your GroNode with the default credentials, located on the label placed behind the module.

3.3 GroNode is powered but not shows up any color

Related Problems

- GroNode seems to be dead;
- GroNode does not perform the initialization routine of colors and beeps;

Problem Description

A GroNode module is powered but it does not shows up any color and not even performs the initialization routine. It was working correctly after that but for some reason it stops working.

Possible Problem/Corrective Action

- **Coin cell battery with low capacity**
  If your GroNode module has a coin cell battery plugged and haves low capacity it could be the reason why GroNode does not starts.
  Try to remove the coin cell battery and power on GroNode. If the problem is regarding to that, GroNode will starts correctly. Replace the coin cell battery to ensure that GroNode’s works properly.

3.4 GroNode is Blinking Yellow

Related Problems

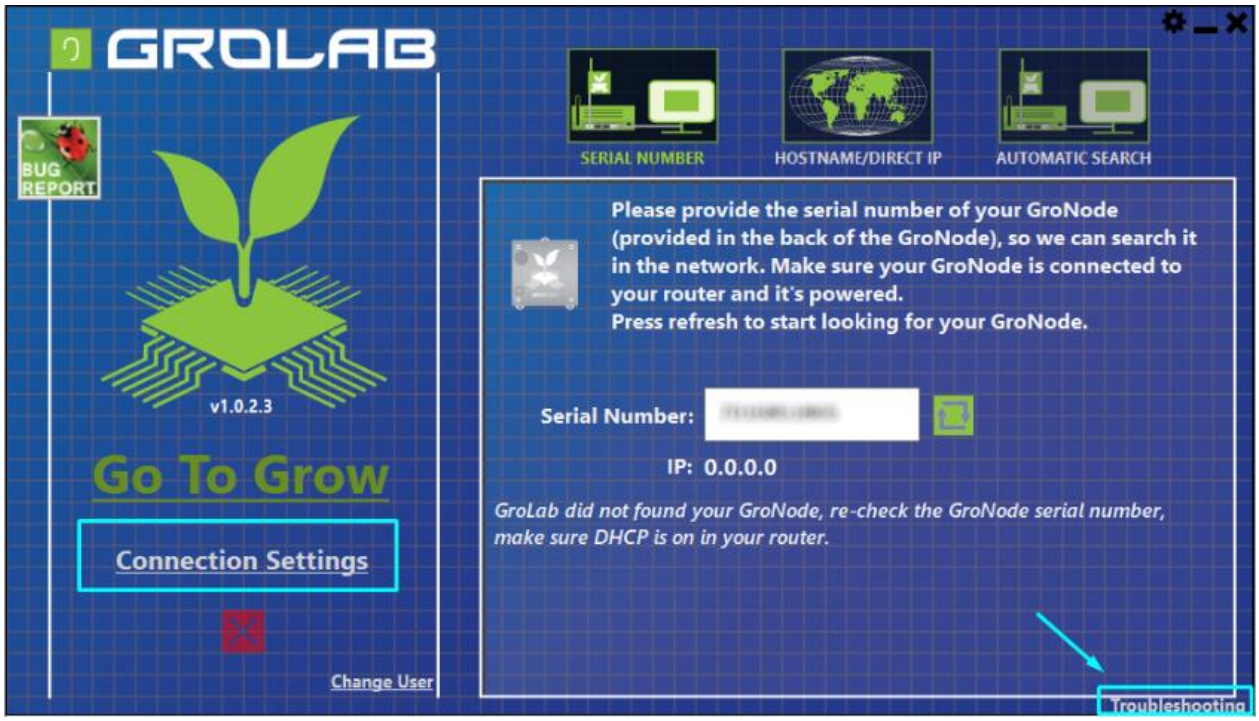
- GroNode starts blinking Yellow.
- I reset my GroNode but it continues blinking Yellow.

Problem Description

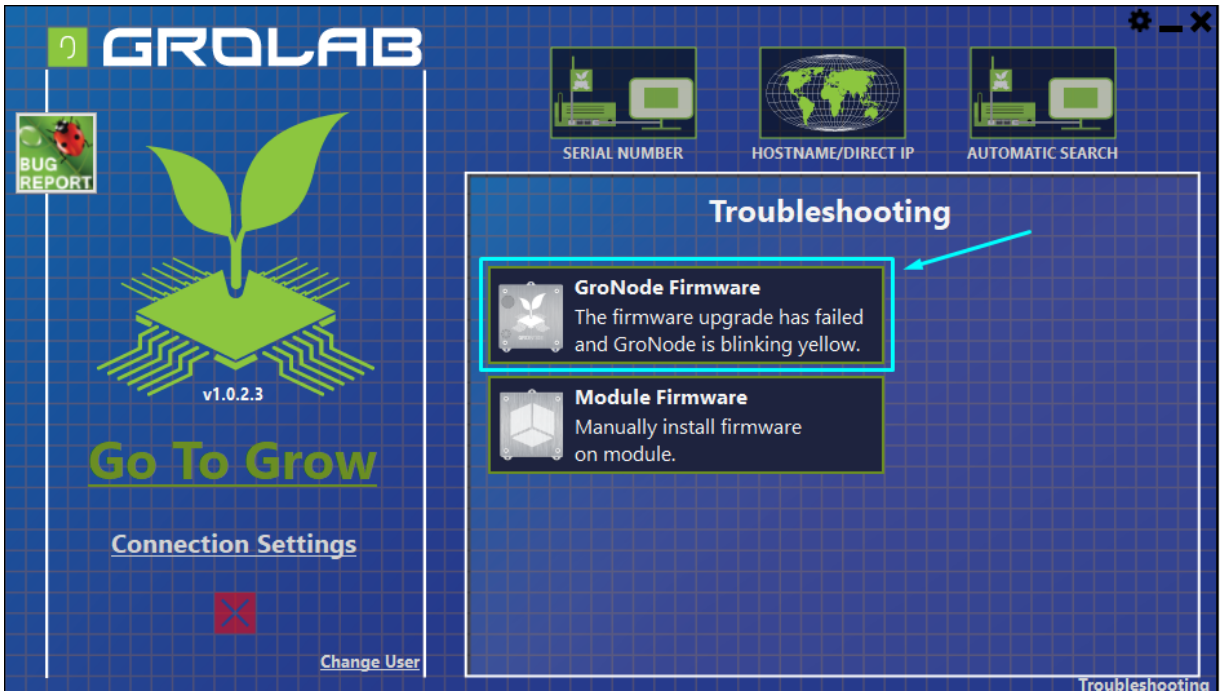
My GroNode starts blinking yellow and even if I reset the module by pressing the button the problem persists.

Possible Problem/Corrective Action

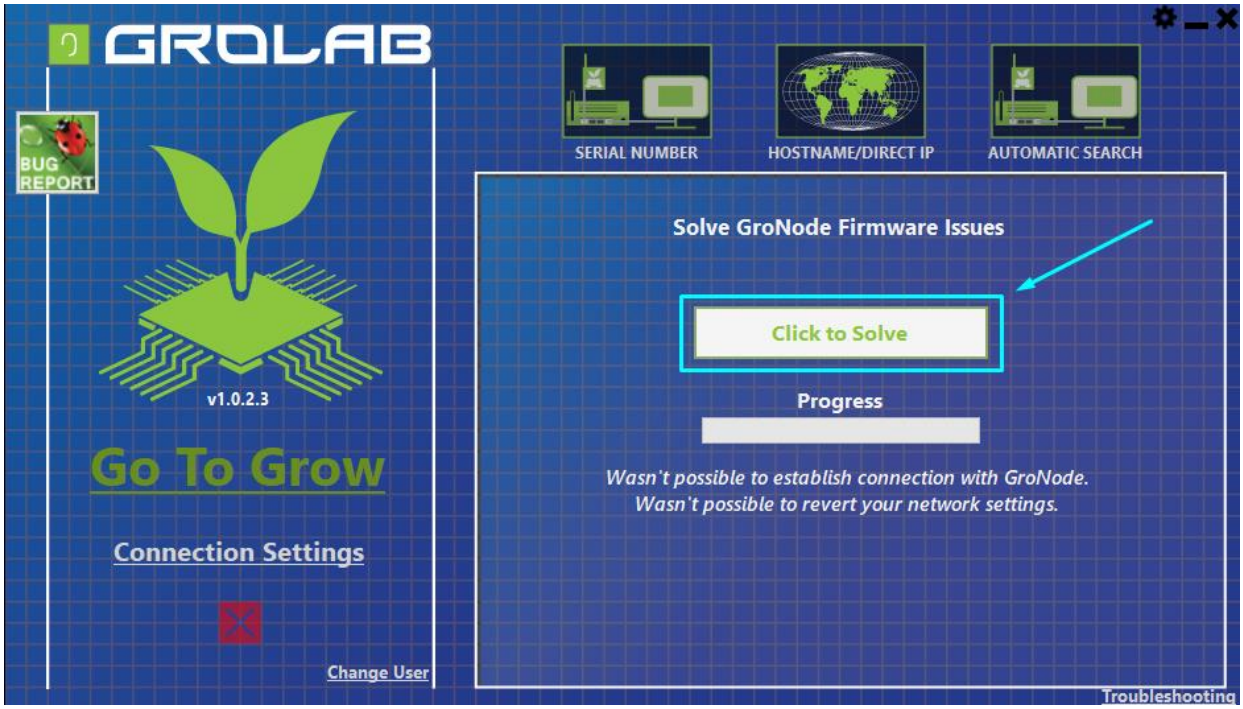
- **GroNode Blinking Yellow**
  Normally this problems happens when a firmware update failed or is not well applied due to various reasons.
  To correct this issue you will need to fully apply the GroNode firmware again. To do that you will need to access GroLab and ensure that you were connected to Internet. Them go to "Connection Settings", here you will find on right inferior corner a "Troubleshooting" submenu to resolve some problems regarding to GroLab.



On troubleshooting sub-menu click on “GroNode Firmware”.



Once on GroNode Firmware Troubleshooting be ensure if you were connected to Internet and them click on “Click to Solve” button.



Now the GroNode firmware will be applied to your GroNode and if everything was corrected updated, the GroNode will reset and then you can access it.

3.5 GroNode led is not showing any color after power on

Related Problems

- GroNode is power on but then is not showing any color;
- GroNode performs the initialization routine before stops without any color displayed.

Problem Description

This kind of "symptoms" are related to a Power Fail issue which could be due problems since the power supply to the module in question.

The GroNode is powered on and performs the initialization routine, of colors and beeps, multiples times before stops without any color displayed.

Possible Problem/Corrective Action

- **The GroNode module is power on and it performs the initialization routine, color (1st green, 2nd blue, 3rd red) and beeps twice, and then not shows any color.**

  The problems is due to some malfunction on your power source or USB cable.
  To understand where the problem is located:
  - Replace the USB cable connected to GroNode for another one;
  - Replace the 5V Power Supply to another one;
  - If the GroNode is connected to a USB port of your PC or other device try to connect them to the 5V Power Supply supplied;

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