

# Plant Monitoring System

## User Manual



# Introduction

Internet of things can be used to agriculture industry. The Developed countries are still using IoT technology for agriculture. Japan's IoT technology requires very little human labor. As a result, even though the initial cost is higher, the profit after the lower cost is very high. Drone technology allows countries such as Canada to monitor their crops regularly to minimize crop damage. Also, those countries have reaped good benefits by providing chemical fertilizers, water and IoT technology. IoT technology can be used to study crop data and environmental data and analyze that data to control adverse crop residues. This plant monitoring system monitors the conditions required for a plant to grow well and experiments with IoT technology. This Smart plant monitoring system can be used to the green houses to interior of the greenhouse can be used to observe the required factors from the outside or from anywhere. The data can be easily analyzed by gathering those factors.

## ➤ Targets

- Measure the Temperature, humidity, light-intensity, rain and moisture with date and time.
- Data are saved in the spread sheet and display every 10 seconds
- Temperature, Humidity, Light intensity, Rain and Moisture data will be displayed in android application with date and time. And refresh the application automatically upgrade the new data rows.

## Set up instruction

1. Connect the plug to the power supply (230v power supply)
2. USB cable is plugged to the USB port in the system.
3. Switch on the power supply
4. WIFI Router is plugged and switch ON.
5. Laptop or PC were power ON and Spreadsheet was opened.
6. The system is put at the desired location to observe the factors.
7. Moisture sensor is set up the ground and other all sensors are set up.
8. Mobile phone is switch ON and “**Plant monitoring application**” is installed.
9. Email and Password are entered and logging the application.
10. Monitoring values button is clicked and go to **Agro-meta measurement** interface.
11. The json button is clicked and refresh the page.

## Attention:

- You are using this application very first time please click the register button and enter the name, email and password (up to 6 characters) then click the register button.
- To refresh second, click on the back button at the top to return to the main menu page and follow the first steps again.
- Before plugging in the USB cable, check that the button on the power supply is off.
- Be sure to place the Wi-Fi router in a well-marked location.

## Important

- Supply voltage is 12 V DC.
- The android Application does not work in IOS or Windows it's only working Android.
- The new spreadsheet does not use to save the data.
- System should be plugged only USB cable. Don't try to plug the C type cable.
- Don't try to register the same email in more than once.

## Hardware System



- Full System of hardware part.





- Power supply and 12 v to 5 v convert regulator circuit and USB cable.



- Main hardware part of all sensors and nodeMCU included at that part



- Now Main hardware part is ready to take all measurements

## Software Part





