

Smart Agriculture System (IOT)

Aayushi Jain , Ankur Nagar , Amisha Linjhara , Atharva Pagare

Guided By: Ritika Bhatt

INTRODUCTION

This introduction provides an overview of the project, including the name of the project, a brief description of the solution, and the motivation behind the particular solution.

The project aims to create an IoT system that can monitor real-time changes in humidity, temperature and other environmental factors to improve crop growth and reduce agricultural water. The system will also ensure resource efficiency and support permaculture practices.

The motivation behind solving this particular problem stems from the increasing global demand for food production and the need to solve agricultural water scarcity and environmental health problems. Using IoT technology, we can leverage the power of real-time data and machine utilization to optimize crop production and reduce resource waste.

OBJECTIVE

- 1) Develop an IoT-based system that enables real-time monitoring of key agricultural parameters, including soil moisture, temperature, humidity, light intensity, and weather conditions.
- 2) Develop interactive and visually appealing graphs, charts to represent the real-time data collected from agricultural parameters.

FEATURE

These are the components of our Project :

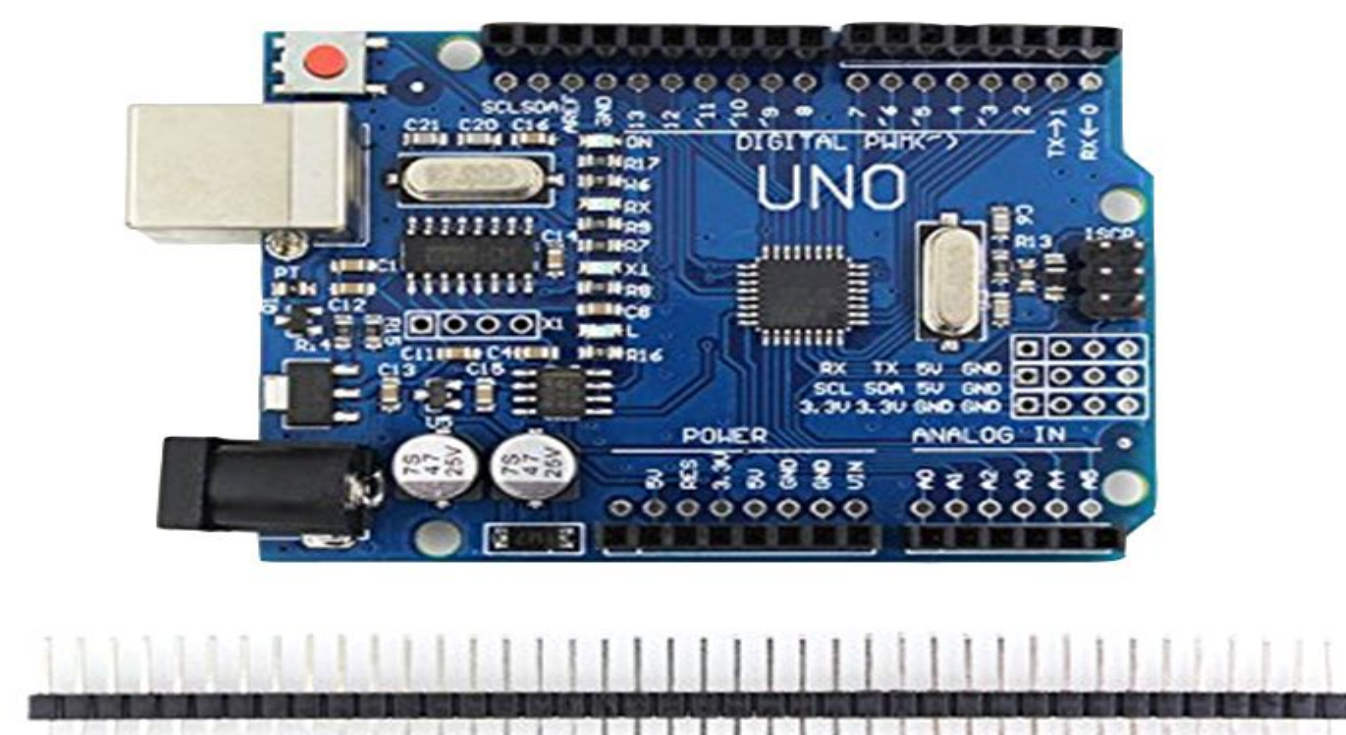


Image 1 - Arduino UNO

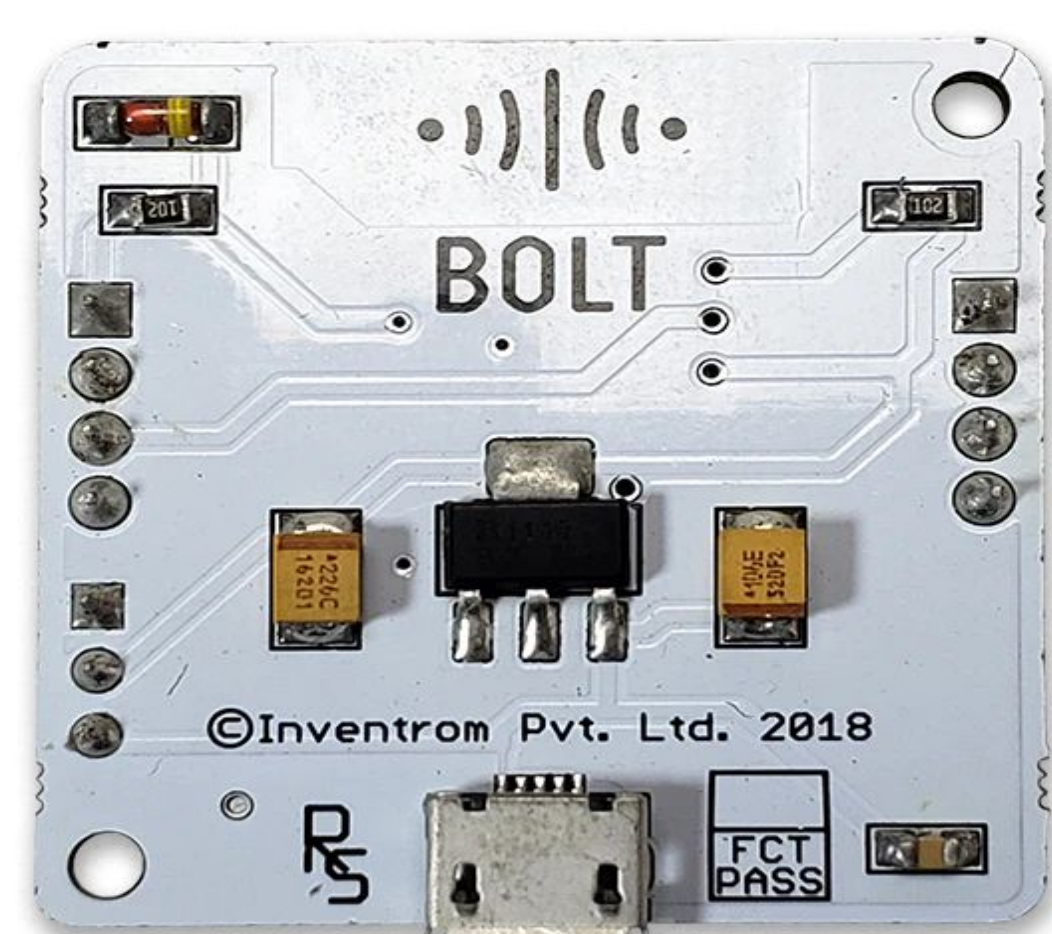


Image 2 - BOLT ESP8266 Wi-Fi Module

The Light Dependent Resistor (LDR)

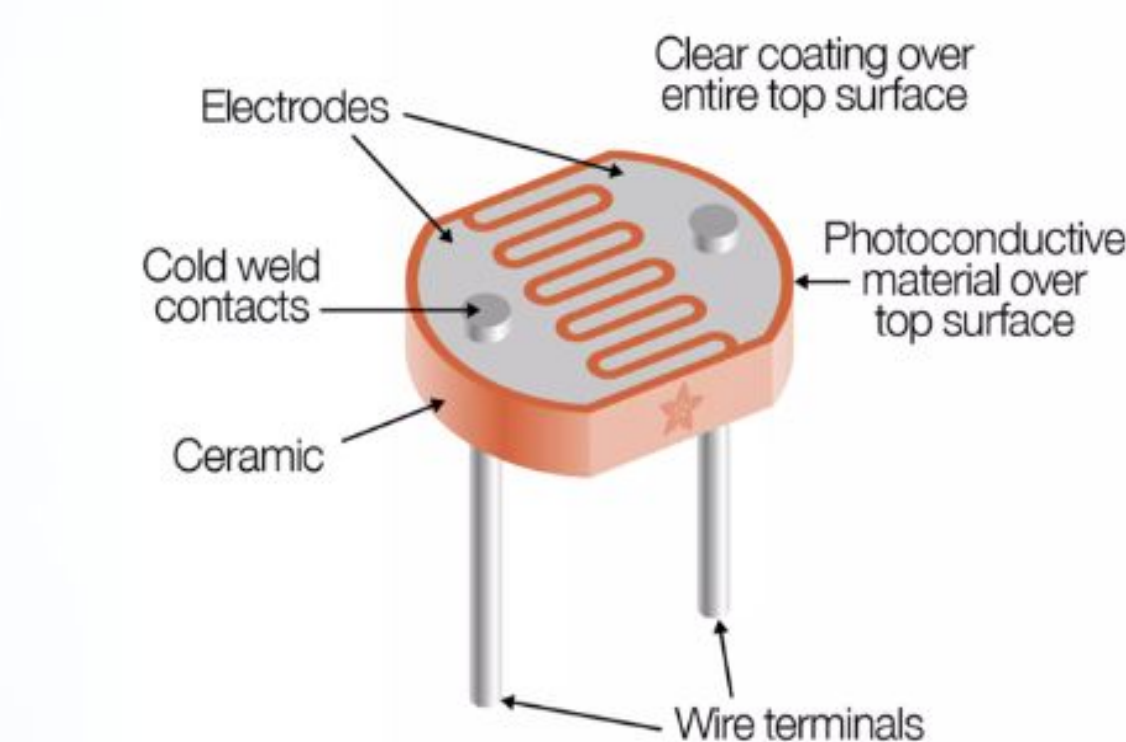


Image 3-LDR sensor

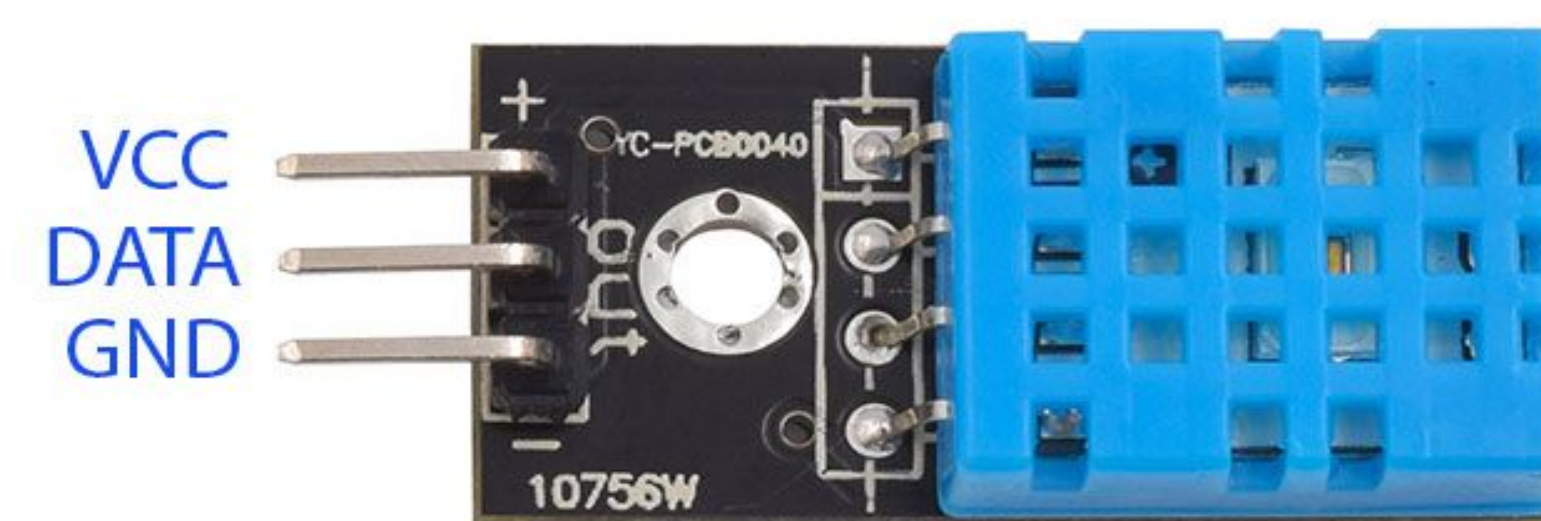


Image 4- DHT11 Humidity Sensor

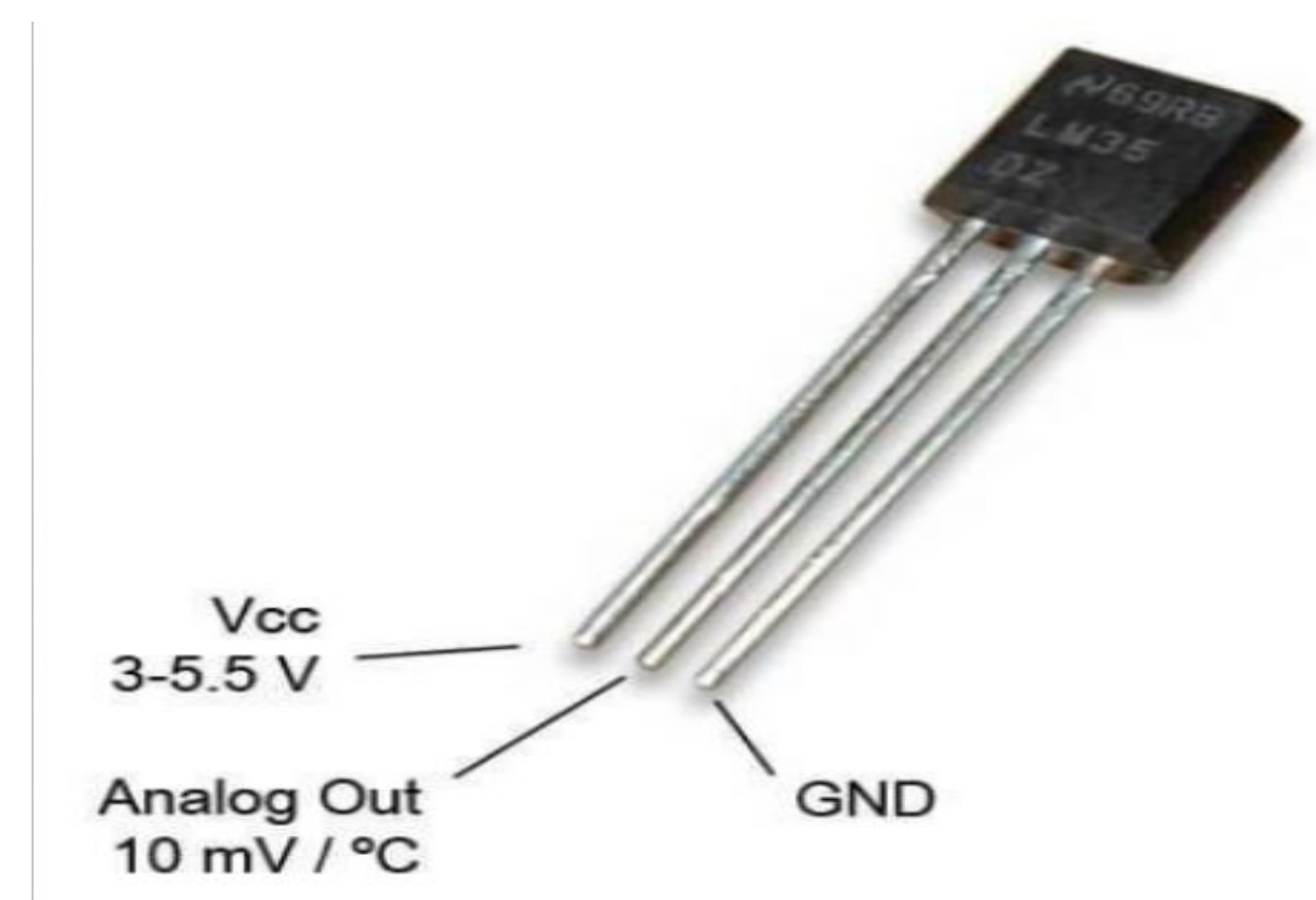


Image 5-LM35 sensor

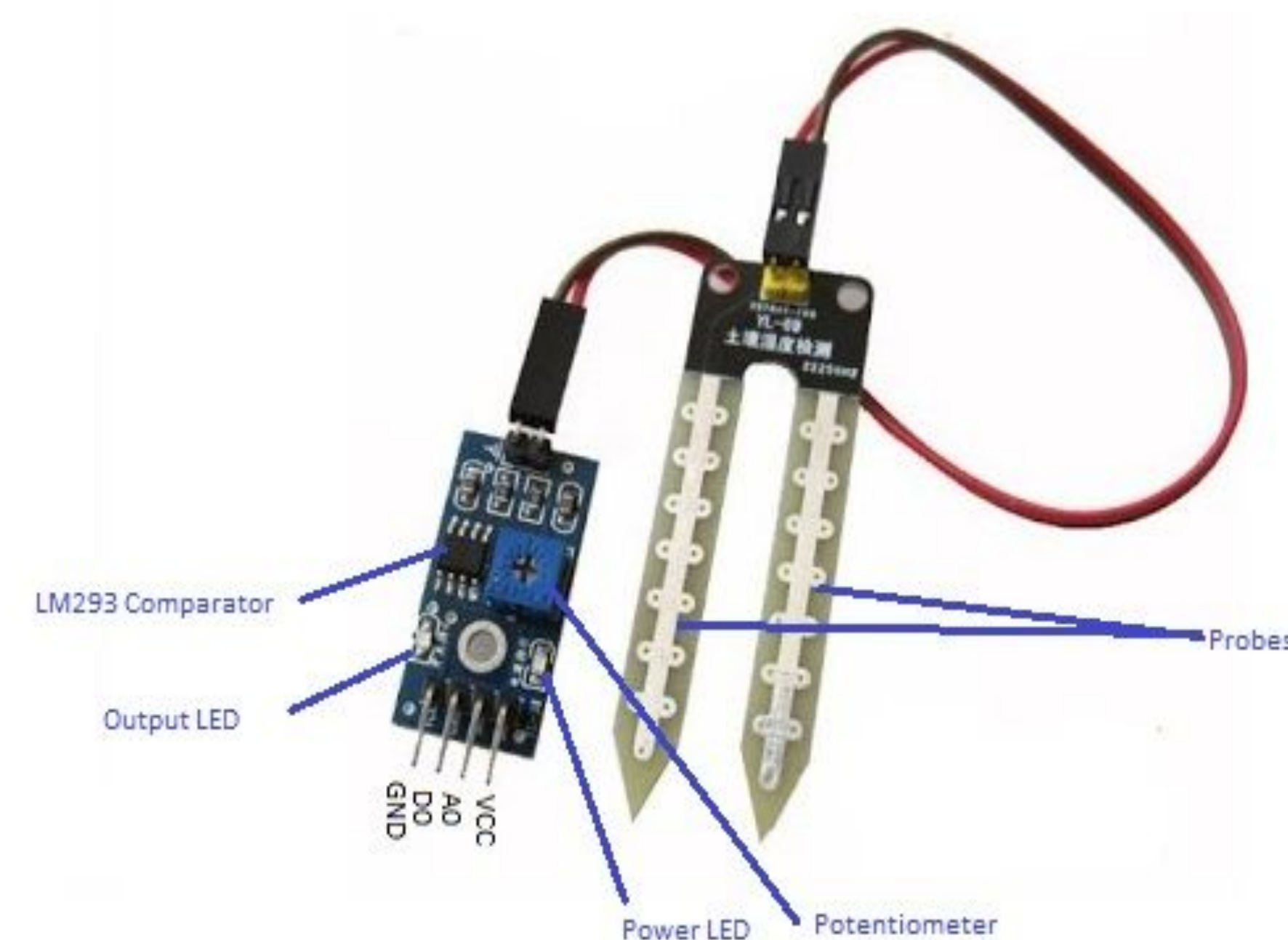


Image 6-FC28 Sensor

RESULT

There are four sensors :

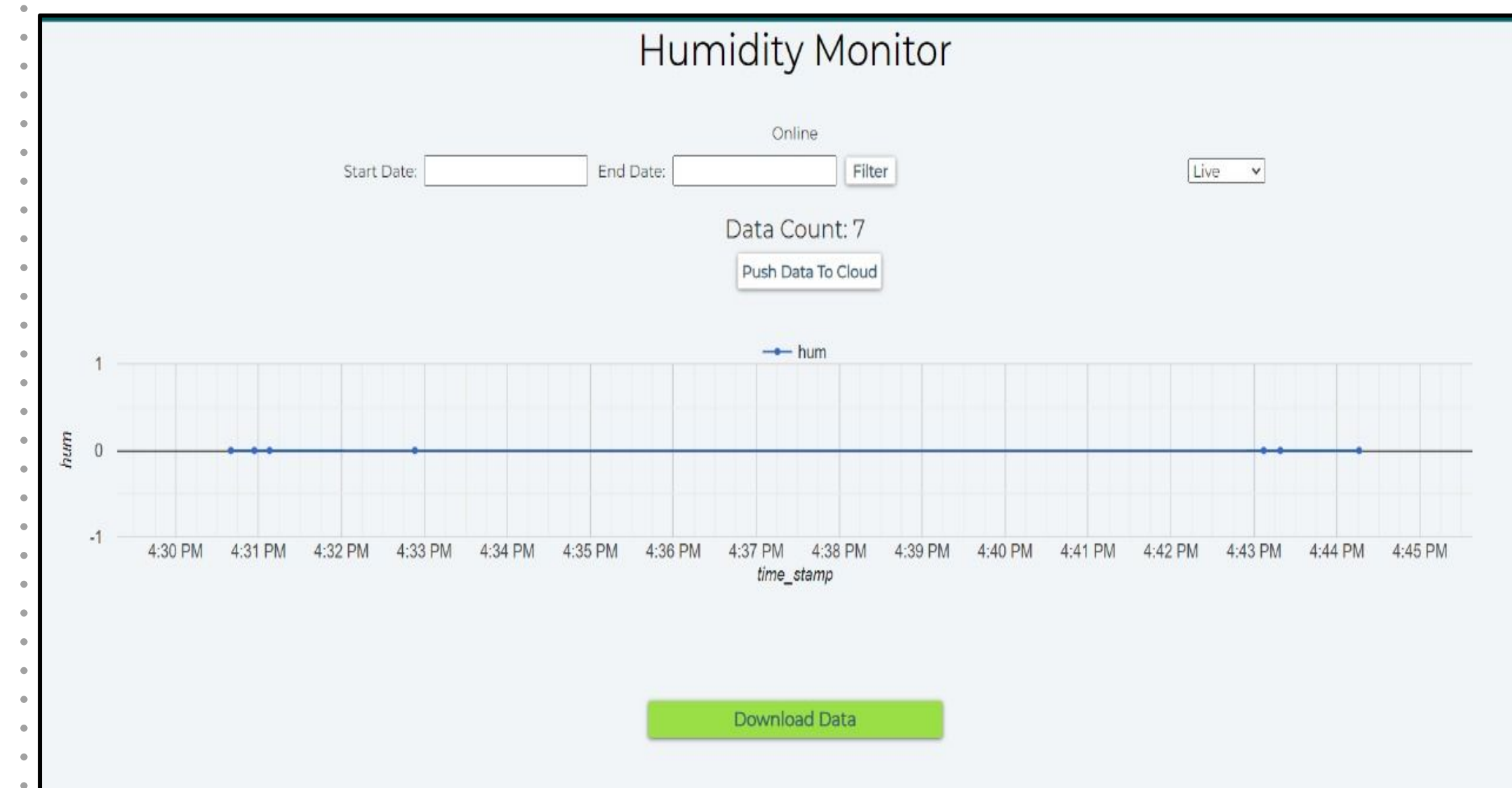


Figure 1-DHT11 Humidity Sensor

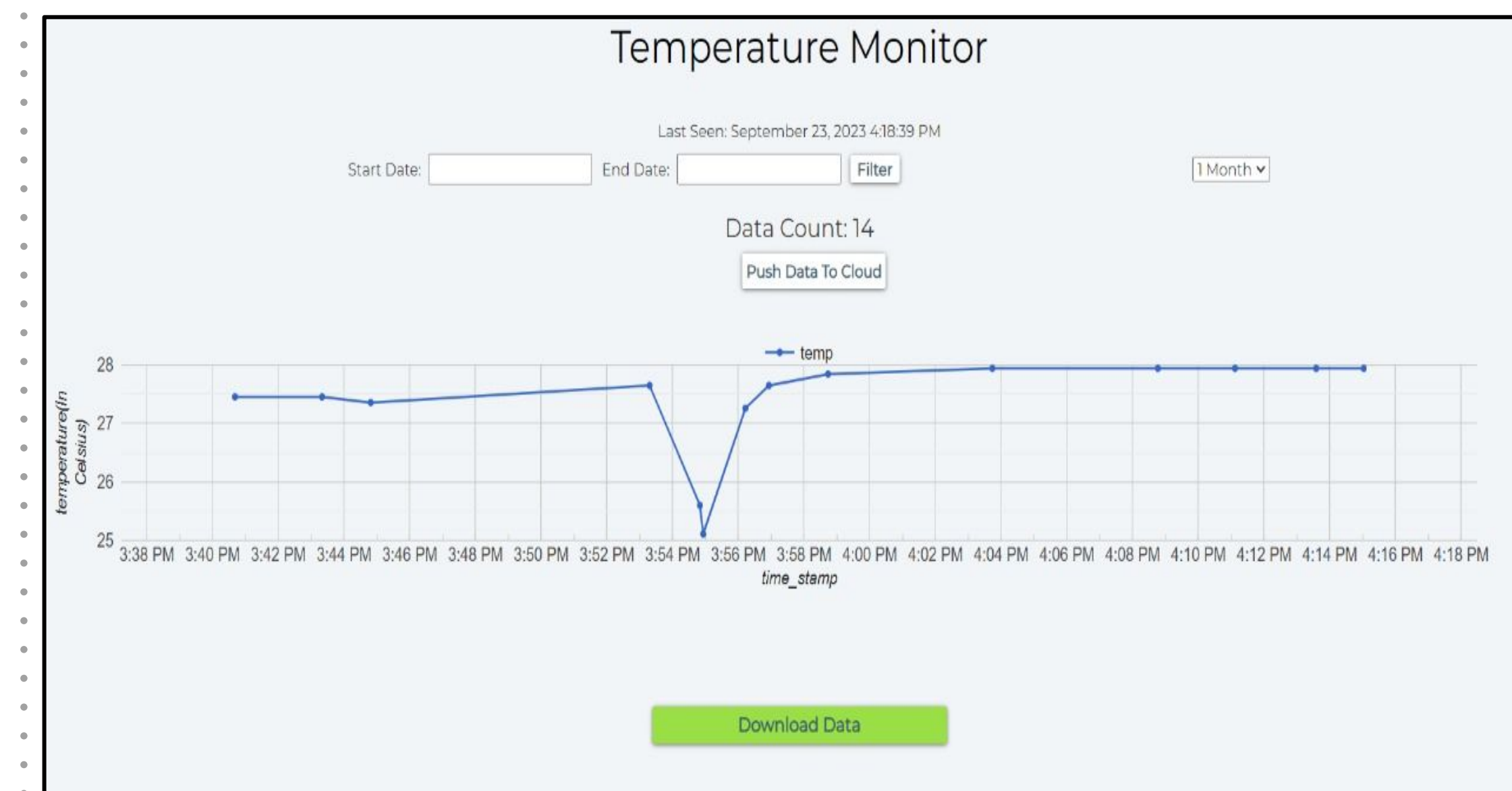


Figure 2-LM35 Sensor

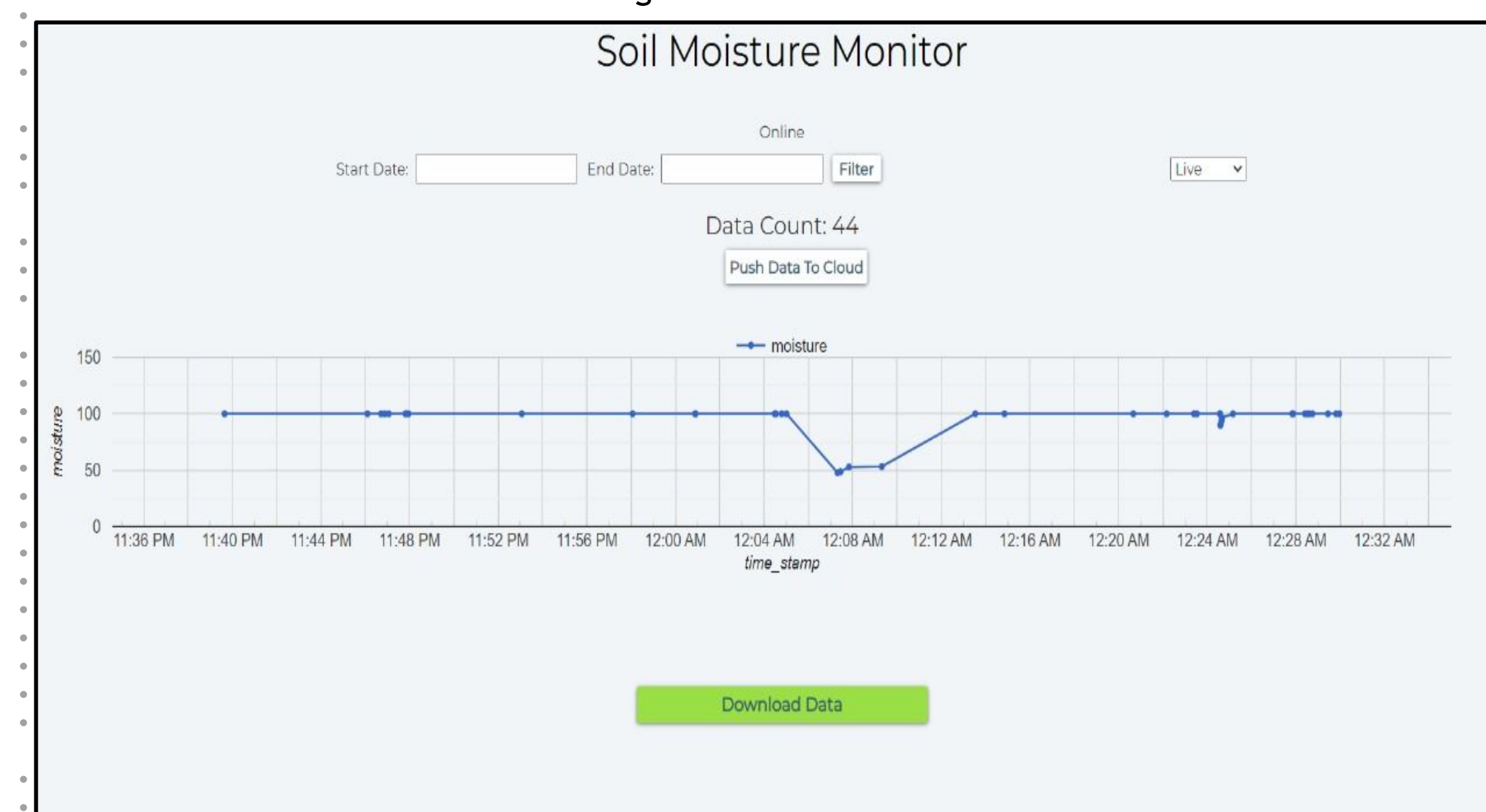


Figure3 - FC28 Sensor

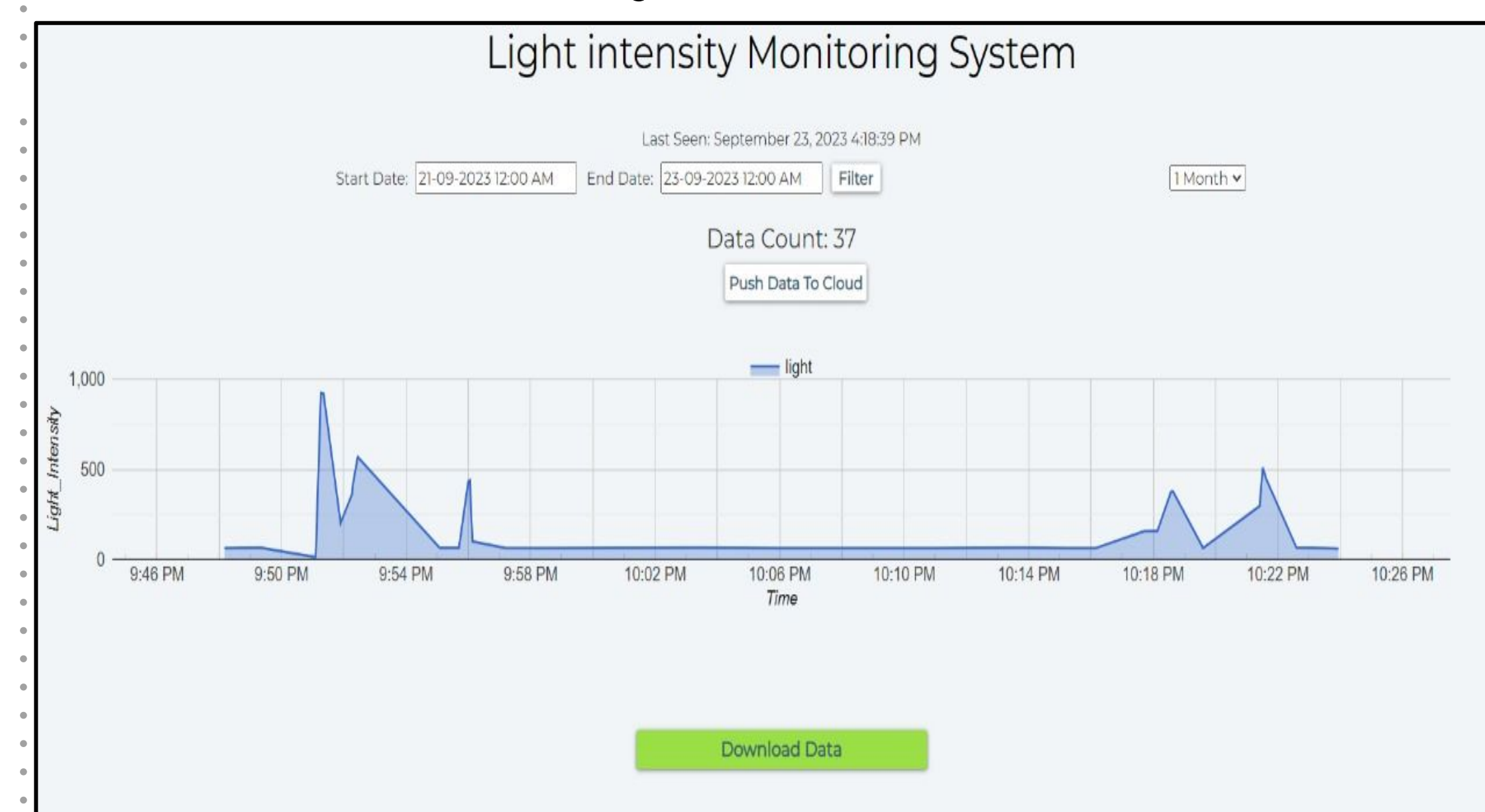


Figure 4-LDR Sensor

CONCLUSION

IoT technology plays a crucial role in advancing smart farming practices. By utilizing IoT, the system can accurately predict soil moisture levels and humidity, enabling efficient monitoring and control of irrigation systems. IoT applications span various farming domains, enhancing time efficiency, water conservation, crop monitoring, soil management, and the precise application of insecticides and pesticides. This system not only reduces human labor but also simplifies farming techniques, leading to the evolution of smart farming. Beyond its inherent benefits, smart farming facilitates market expansion for farmers, offering a streamlined approach with minimal effort and a single touch.

REFERENCES

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CONTACT INFO.

Aayushi Jain-aayushijain20085@acropolis.in

Amisha Linjhara-amishalinjhara20867@acropolis.in

Ankur Nagar-ankurnagar20121@acropolis.in

Atharva Pagare-atharvapagare20242@acropolis.in