**IOT BASED SOIL MOISTURE DEDECTOR USING ARDUINO**

**DAYALBAGH EDUCATIONAL INSTITUTE(DEEMED UNIVERSITY)**

**1.Design and Implementation of an Automatic Irrigation Feedback Control system based on Monitoring of Soil Moisture by Gagandeep , Dinesh Arora2 and Hardeep Singh Department of ECE, CEC, Landran, Mohali, India-140307**

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**Soil moisture sensors measure or estimate the amount of water in the soil. These sensors can be stationary or portables such as handheld probes. Stationary sensors are placed at the predetermined locations and depths in the**

**field, whereas portable soil moisture probes can measure soil moisture at several locations.**

**OBJECTIVE**

**BY**

**Akash Sikarwar**

**Rahul Kumar**

**Krishna Kumar**

**SUPERVISION**

**Ms. Akella Vandana**

**Ms. Khushbu Dixit**

1. **Soil moisture detector measure or estimate the amount of water in the soil. These sensors can be stationary or portables such as handheld probes. Stationary sensors are placed at the predetermined locations and depths in the field, whereas portable soil moisture probes can measure soil moisture at several locations.**
2. **This sensor can be used to test the moisture of soil, when the soil is having water shortage, the module output is at high level, else the output is at low level. By using this sensor one can automatically water the flower plant, or any other plants requiring automatic watering technique.**
3. **Soil moisture sensors measure the water content in the soil and can be used to estimate the amount of stored water in the soil horizon. Soil moisture sensors do not measure water in the soil directly. Instead, they measure changes in some other soil property that is related to water content in a predictable way.**

**ABSTRACT**

**INTRODUCTION**

**The soil moisture detector is a simple device for measuring the moisture level in soil and similar materials. The soil moisture sensor is straight forward to use. The two large exposed pads function as probes for the sensor, together acting as a variable resistor. The more water that is in the soil or any other material means the better the conductivity between the pads will be and will result in a lower resistance, and a higher SIG out. To get the soil moisture sensor functioning we need to connect the VCC and GND pins to your Arduino-based device and you will receive a SIG out which will depend on the amount of water in the soil. A 3-pin jumper wire assembly is soldered onto the sensor for easy wiring. Use the Soil Moisture Sensor to:**

**1.Measure the loss of moisture over time due to evaporation and plant uptake.**

**2.Evaluate optimum soil moisture contents for various species of plants.**

**3.Monitor soil moisture content to control irrigation in greenhouses.**

**4.Enhance your Bottle Biology experiments.**

**REFERENCE**

**Soil Moisture Detector can be used: To monitor soil moisture sensors under wheat crop**

**cultivation practices using intelligent irrigation system. The tensiometers and Watermarks**

**were less responsive to the soil drying between irrigations than GM.**

**CONCLUSION**

**This system can be implemented to any shop in the locality or to multinational branded shops having retail outlet chains. The system recommends a facility to accept the orders 24\*7 and a home delivery system which can make**

**customers happy.**

**If shops are providing an online portal where their customers can enjoy easy shopping from anywhere, the shops won’t be losing any more customers to the trending online shops such as flipchart or eBay. Since the application is available in the Smartphone it is easily accessible and always available.**

**SCOPE AND FEASIBILITY**

**WORKING MODEL**

**5V**

**BATTERY**

**WATER**

**PUMP**

**RELAY**

**ARDUINO**

**NANO**

**SOIL**

**MOISTURE**

**SENSOR**

**BLOCK DIAGRAM**