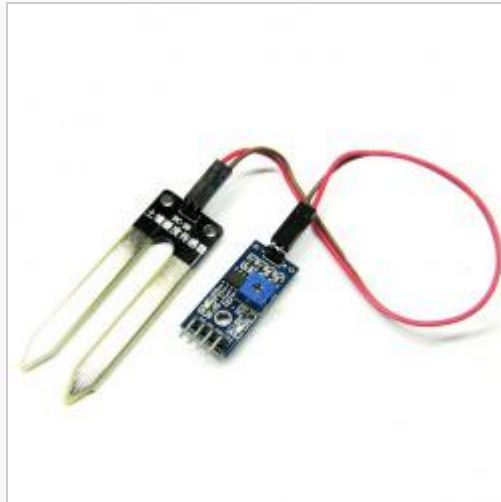


# Moisture Sensor

## Introduction

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### Moisture Sensor

The **Moisture sensor** is used to measure the water content(moisture) of soil.when the soil is having water shortage,the module output is at high level, else the output is at low level.This sensor reminds the user to water their plants and also monitors the moisture content of soil.It has been widely used in agriculture,land irrigation and botanical gardening.

## Specifications

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- Working Voltage:**5V**
- Working Current:**<20mA**
- Interface type:**Analog**

- Working Temperature: **10°C~30°C**

## **Working Principle of Moisture Sensor**

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The Soil Moisture Sensor uses capacitance to measure dielectric permittivity of the surrounding medium. In soil, dielectric permittivity is a function of the water content. The sensor creates a voltage proportional to the dielectric permittivity, and therefore the water content of the soil. The sensor averages the water content over the entire length of the sensor. There is a 2 cm zone of influence with respect to the flat surface of the sensor, but it has little or no sensitivity at the extreme edges. The Soil Moisture Sensor is used to measure the loss of moisture over time due to evaporation and plant uptake, evaluate optimum soil moisture contents for various species of plants, monitor soil moisture content to control irrigation in greenhouses and enhance bottle biology experiments.

## **How to Connect Moisture Sensor with Arduino?**

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### **Hardware and Software Required**

- Moisture Sensor Module
- Arduino Uno
- Arduino IDE(1.0.6 Version)

### **Hardware Connections**

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The moisture sensor module should be connected to the as follows:

- Vcc to 5V
- GND to GND
- A0 to Analog 0 of Arduino

### **Program for Moisture Sensor**

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The program will generate the sensor value as output. Take different types of soil(eg:wet,dry)and insert the sensor into the soil.As a result,you will obtain the moisture value present in the soil.For the sake of demo,the user can hold the sensor in their palm.In the serial monitor,notice that the sensor will read the moisture in your palm and displays the output.

```
int sensorPin = A0;    // select the input pin for the potentiometer
int sensorValue = 0;  // variable to store the value coming from the
sensor
void setup()
{
  Serial.begin(9600);
}
void loop()
{
```

```
sensorValue = analogRead(sensorPin); // read the value from  
the sensor:
```

```
delay(1000);
```

```
Serial.print("sensor = " );
```

```
Serial.println(sensorValue);
```

```
}
```