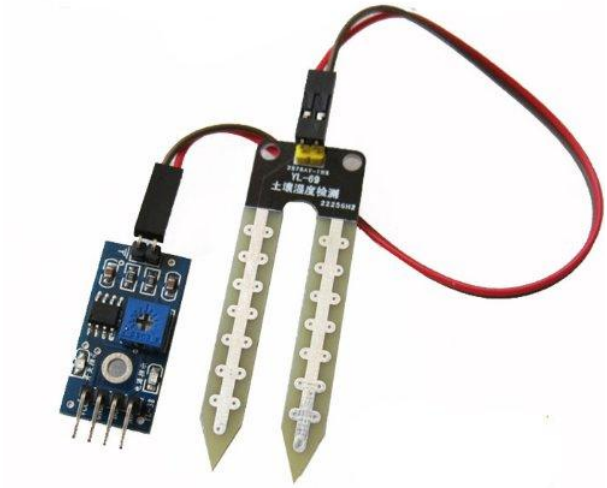
Moisture Sensor Module
SN-MOISTURE-MOD



GETTING STARTED GUIDE

V1.0

March 2014

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1.0 Introduction

Moisture sensor module is a suitable sensor for auto gardening project. User might need this moisture sensor to detect moisture of soil further control the pipe valve to water your plants.

This sensor comes in 2 parts, sensor probes and module board. The sensor is basically two probes to be inserted into soil. This sensor uses the two probes to pass current through the soil, and then it reads that resistance to get the moisture level. More water makes the soil conduct electricity easier (less resistance), while dry soil conducts electricity poorly (more resistance).

The module come with a comparator and adjustable potentiometer for user to adjust the threshold to toggle digital output. Users may choose to use the digital or analog output.

2.0 Specification

- Easy to Use
- power supply: 3.3V to 5VDC
- Current: ~ 35mA

3.0 Packing List

- Sensor probes
- Module board
- Jumper wires

4.0 Requirements

It can be interface with any microcontroller such as PIC, SK40C, SK28A, SKds40A, Arduino series.

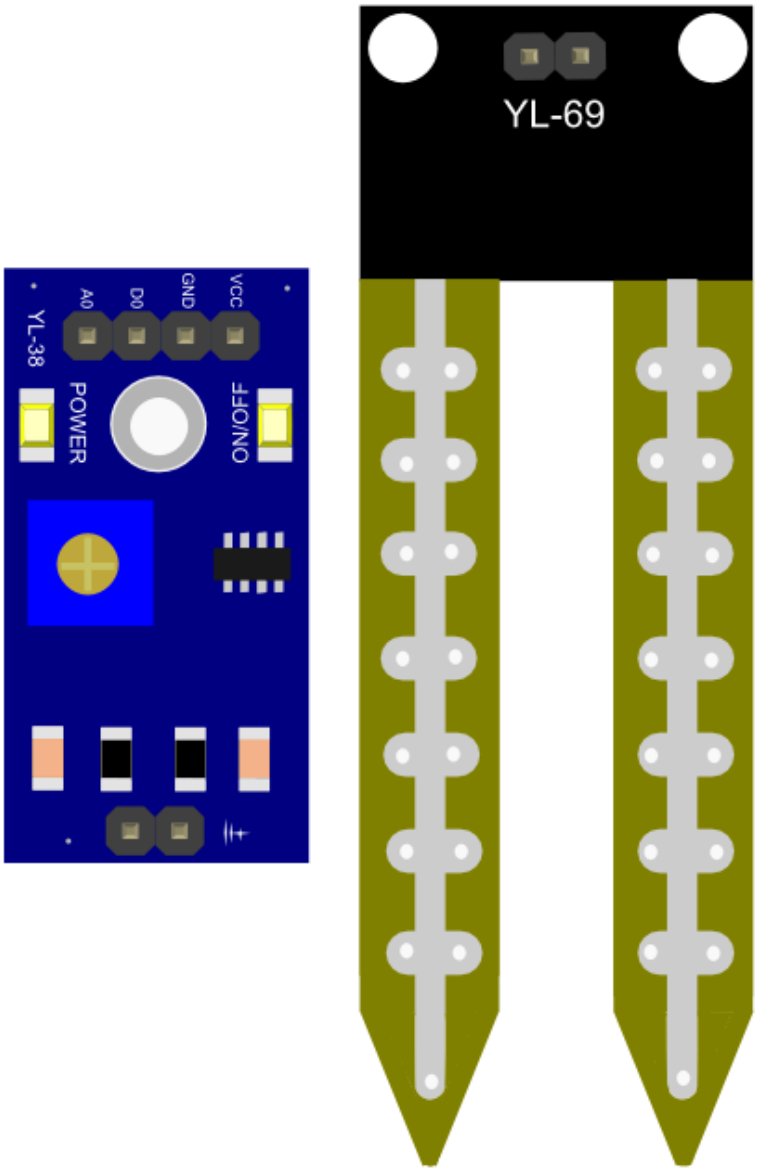
Necessary hardware to follow this guide:

- Arduino Uno
- Moisture Sensor module
- Male-Female/Female-Female jumper wire

5.0 Pin Assignment

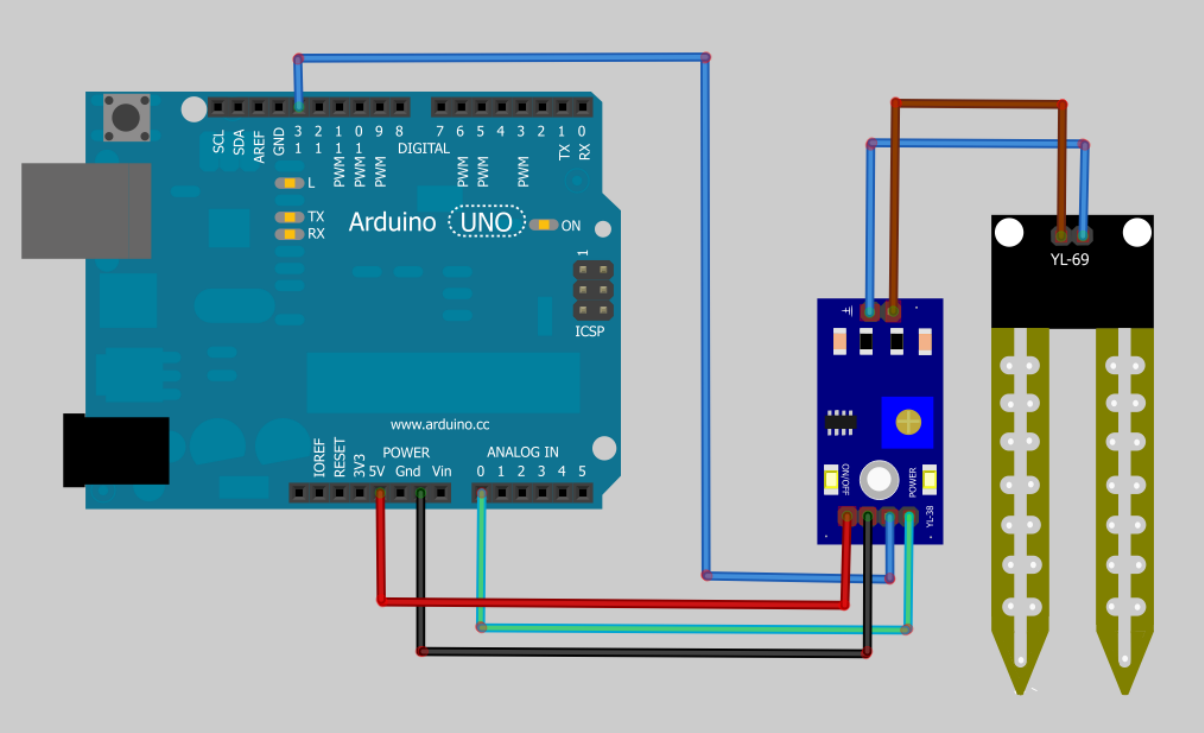
There are 4 pins used to interface Moisture Sensor board to microcontroller. User may used either Digital Output (DO) or Analog Output (AO) or both pin as output pin.

1. VCC
2. GND
3. Digital Output (DO)
4. Analog Output (AO)



6.0 Hardware Interface/Setup

Here is sample hardware interface between arduino uno and moisture sensor module. Please adjsut the potentiometer to preset the threshold for DO to toggle. When the soil moisture is low, below the threshold level, DO pin will output logic high. when the soil moisture exceeds a set threshold value, the module D0 output low.



Hardware connection between moisture sensor module and arduino. Not to forget to insert the probe into soil.

Do check out the youtube video demonstration of the sensor:
Soil Moisture Sensor

7.0 Example Code

This is example code for moisture sensor module. The full code can be download at Cytron's Product Page.

```
// Soil Moisture Sensor Hygrometer example code
// Code author: http://electron-space.blogspot.com
// Interface Description (4-wire)
// VCC: 3.3v-5v
// GND: GND
// DO: Digital output interface (0 and 1) threshold taken from potentiometer
// AO: Analog output interface

 const int moistureAO = 1;
 const int moistureDO = 13;

 int AO = 0;
 int DO = 0;
 int tmp = 0;

 void setup (){
  Serial.begin(9600);
  Serial.println("Soil moisture sensor");
  pinMode(moistureAO, INPUT);
  pinMode(moistureDO, INPUT);
 }

 void loop ()
 {
  tmp=analogRead( moistureAO );
  if ( tmp != AO )
  {
        AO=tmp;
        Serial.print("A=");
        Serial.println(AO);
  }

  tmp=digitalRead( moistureDO );
  if ( tmp != DO )
  {
        DO=tmp;
        Serial.print("D=");
        Serial.println(DO);
  }



  delay (1000);

 }
```

8.0 WARRANTY

- Product warranty is valid for 12 months.
- Warranty only applies to manufacturing defect.
- Damaged caused by misuse is not covered under warranty
- Warranty does not cover freight cost for both ways.

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