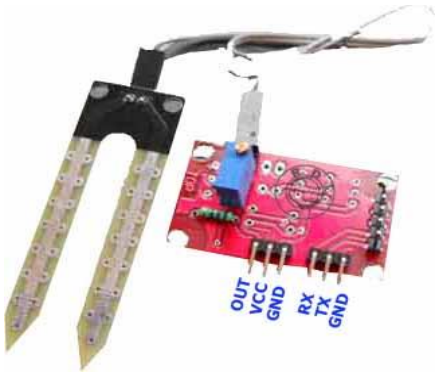
Soil Moisture Sensor

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. Module triple output mode, digital output is simple, analog output more accurate, serial output with exact readings.



Features

- Sensitivity adjustable.
- Has fixed bolt hole, convenient installation.
- Threshold level can be configured.
- Module triple output mode, digital output is simple, analog output more accurate, serial output with exact readings.

Applications

- Agriculture
- Landscape irrigation

Specifications

Parameter	Value
Operating Voltage	+5v dc regulated
Soil moisture	Digital value is indicated by out pin

Pin Details

Pin	Name	Details
1	out	Active high output
2	+5v	Power supply
3	gnd	Power supply gnd
4	rx	receiver
5	tx	transmitter
6	gnd	Power supply gnd

Using The Sensor

- Connect +5v to pin 2 and ground to pin 5 and 6.
- Pin 4 and 5 should be connected to particular transmitter and receiver pin of controller.
- Output pin may be connected to any port pins and can be used to any application.

Working

Soil moisture sensors measure the water content in soil. A soil moisture probe is made up of multiple soil moisture sensors. One common type of soil moisture sensors in commercial use is a Frequency domain sensor such as a capacitance sensor. Another sensor, the neutron moisture gauge, utilize the moderator properties of water for neutrons.

Soil moisture content may be determined via its effect on dielectric constant by measuring the capacitance between two electrodes implanted in the soil. Where soil moisture is predominantly in the form of free water (e.g., in sandy soils), the

dielectric constant is directly proportional to the moisture content. The probe is normally given a frequency excitation to permit measurement of the dielectric constant. The readout from the probe is not linear with water content and is influenced by soil type and soil temperature. Therefore, careful calibration is required and long-term stability of the calibration is questionable.

- In This sensor We are using 2 Probes to be dipped into the Soil
- As per Moisture We will get Analoug Output variations from 0.60volts - 5volts
- Input Voltage 5V DC

Configuring soil moisture module and Application block diagram: