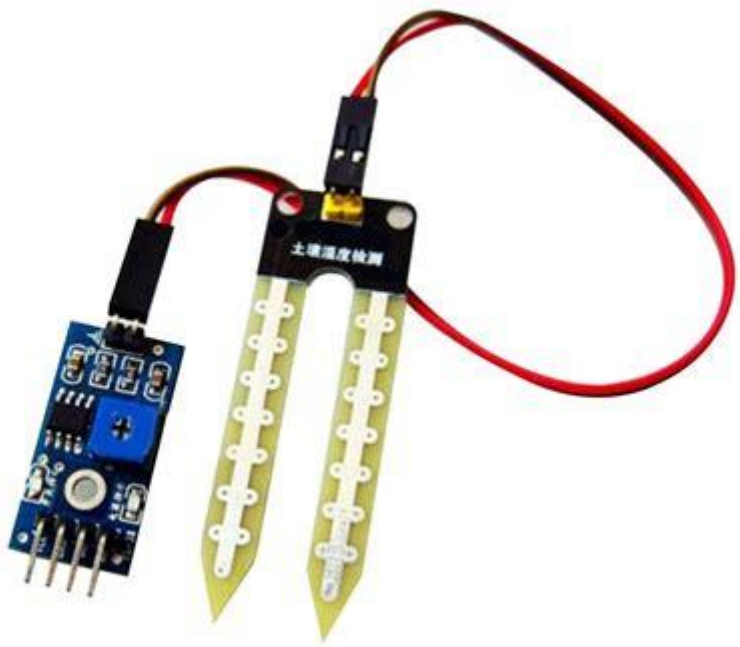
Soil Moisture Sensor



Introduction

The sensor is two-part : a probe and an amplifier. The amplifier converts the resistance detected on the probes. The probe is the one that you put in the ground.

Pure water is void of any ions and could not conduct electricity. However, water from your faucet or water from rain is not. The two pins on the probe, when inserted into a wet soil, will have a finite resistance between them that we can measure. The more wet the soil is, the lower the resistance.

The probe is connected directly to the amplifier. Note that there it does not have any polarity.

Like the other sensors, this also operates in a negative logic – output is HIGH until the sensor passes the trigger point set by the trimmer onboard.

Interfacing with Arduino

Lets wire it up and check the output voltage (get dry soil or TAP water in a cup or moist towel)

Notice that the voltage goes down (on the A0 pin) whenever the sensor leads are in moist soil (put the probe in a cup of tap water or on a moist towel). Now you can interface this directly to Arduino by connecting it to the analog pin.

You can also make sure of the digital output of the sensor to trigger Arduino to do an action (such as controlling an irrigation pump or sprinkler). The pin can be connected directly to Arduino and is pretty straightforward.