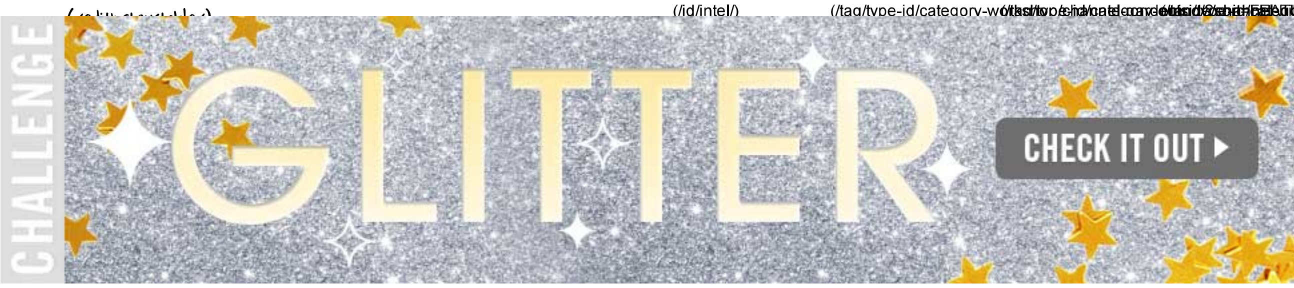
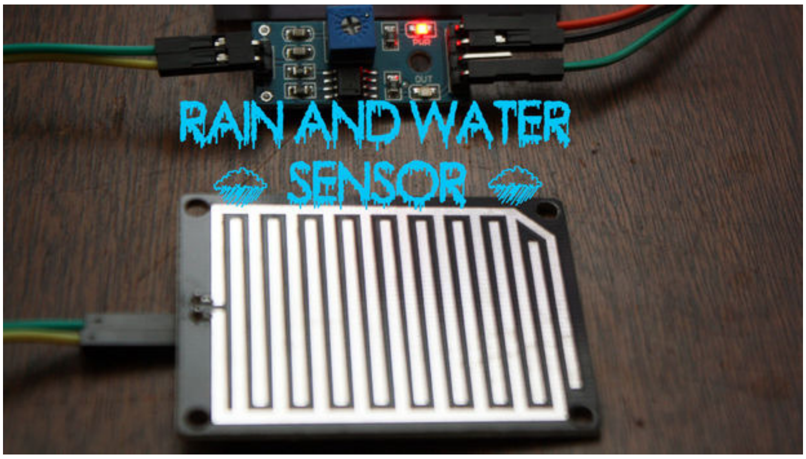


Arduino Modules - Rain Sensor

by Reichenstein7 (/member/Reichenstein7/)



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Quick and simple start guide for using and exploring the Rain Sensor module sometimes called a "Raindrops Sensor Module" with an Arduino.

I figured since I recently wrote up an Instructable about flame sensors (http://www.instructables.com/id/Arduino-Modules-Flame-Sensor/), a type of water sensor might just be a good equalizer.

Materials needed:

- Rain Sensor (model with an analog out) (http://www.dx.com/p/raindrops-sensor-module-blue-black-199859#.VAaJLmOrjfV)
- **3x** Male to Female jumper wires
- **2x** Female to Female jumper wires
- An Arduino, any flavor
- Source of water

Step 1: Getting to know your Rain Sensor:

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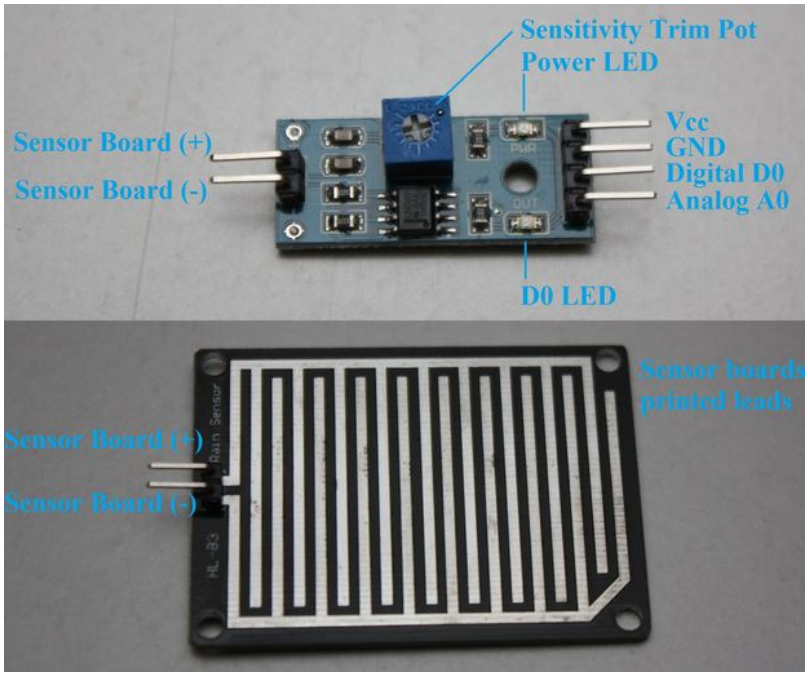

(http://cdn.instructables.com/FA2/3UV5/HZLYROPV/FA23UV5HZLYROPV.LARGE.jpg)

Usage:

Rain sensors are used in the detection of water beyond what a humidity sensor can detect.

How it works:

The rain sensor detects water that completes the circuits on its sensor boards' printed leads. The sensor board acts as a variable resistor that will change from 100k ohms when wet to 2M ohms when dry. In short, the wetter the board the more current that will be conducted.

Pins:

A0..... Analog output

D0..... Digital output

GND..... Ground

VCC..... Positive voltage (input: 5v for analog 3.3v for Digital.)

Loop Pins:

+ ..... Sensor board hookup A

- ..... Sensor board hookup B

Dimensions:

2.17 in x 1.57 in x 0.31 in (5.5 cm x 4.0 cm x 0.8 cm)

Weight:

0.28 oz (8 g)

Step 2: Testing and Troubleshooting:

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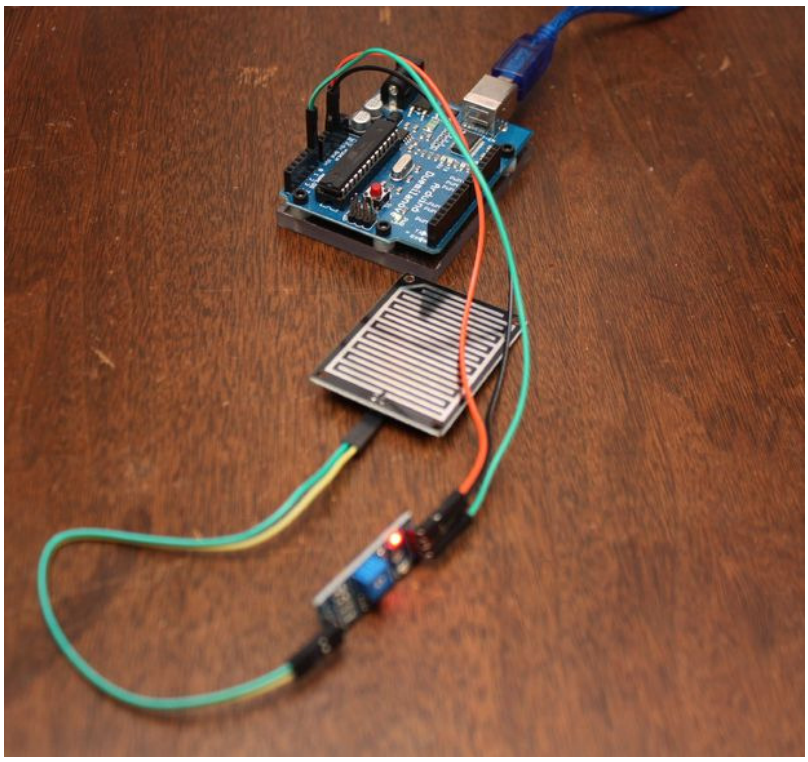


(http://cdn.instructables.com/F5A/ZYRI/HZLYRMEF/F5AZYRIHZLYRMEF.LARGE.jpg)

Testing:

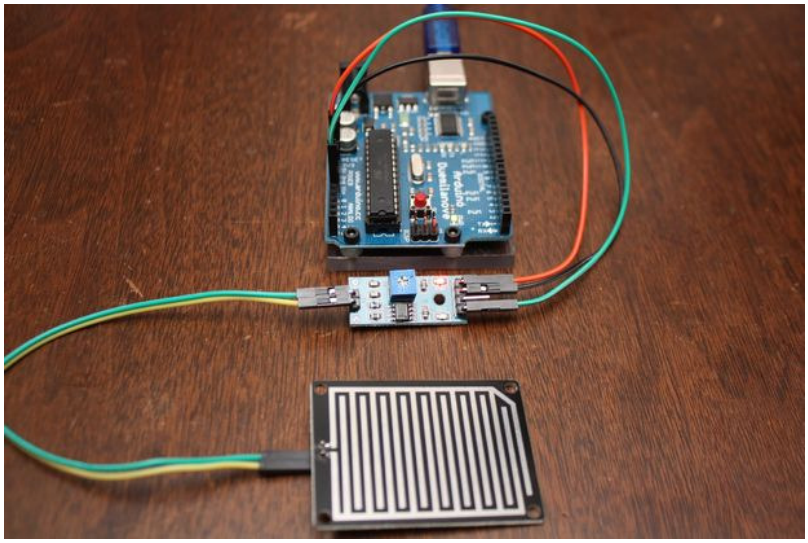
To test the Rain Sensor and ensure that it is working correctly connect the VCC to a 5v power source and GND. Try placing a few droplets of water on the Rain sensor detection board and the D0-LED should light up.

Troubleshooting:

If the D0-LED does not light up check the following:

- Is the module hooked up properly?
- Sometimes salinity is an issue with these units, this one worked fine with filtered, bottled water, but in some instances you may have to add a bit of salt to increase the waters conduction.
- This might be a bit more tricky, but for some reason two different models by two different manufacturers have had defects in their soldering skills. Make sure all of the little SMD's and connectors have been soldered on properly. IE - are solder joints actually soldered?
- If none of the previous makes the D0-LED light up, your sensor may be defective.

Step 3: Wiring to an Arduino:



(http://cdn.instructables.com/FOT/C8SZ/HZLYRMEO/FOTC8SZHZLYRMEO.LARGE.jpg)

as shown:

Rain Sensor ..... Arduino

VCC..... 5v

GND..... GND

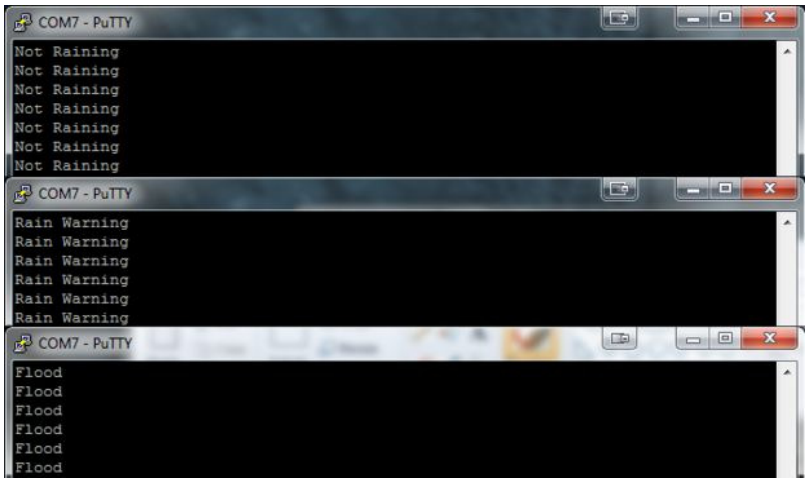
A0..... Analog in 0

Rain Sensor ..... Sensor Board

+..... +

-..... -

Step 4: Arduino Sketch Example:



(http://cdn.instructables.com/FPP/VOAQ/HZLYRIJ3/FPPVOAQHZLYRIJ3.LARGE.jpg)

The following code maps and reads the analog values given by the Rain Sensor (0-1024). The Rain Sensor will have the following reaction with this code:

- If the Sensor Board is completely soaked; "case 0" will be activated and " Flood " will be sent to the serial monitor.
- If the Sensor Board has water droplets on it; "case 1" will be activated and " Rain Warning " will be sent to the serial monitor.
- If the Sensor Board is dry; "case 2" will be activated and " Not Raining " will be sent to the serial monitor.

** The output in "case 2", "Not Raining" is just for this demonstration. When I used this code in production I omitted the output for this case and just had the alert for "Rain Warning" and "Flood".*

* To view the output, point a serial monitor such as Putty at your Arduino.

* This code is constantly updating in order to provide a real time feedback of the Rain Sensor.

Code:

Attached due to formatting.

Rain_Sensor_by_Reichenstein7.ino
(/files/orig/FV9/QZY5/HZLYRIU8/FV9QZY5HZLYRIU8.ino)1 KB

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