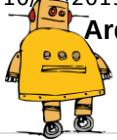


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Arduino Modules - Rain Sensor: 4 Steps

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Arduino Modules - Rain Sensor

By Reichenstein7 (/member/Reichenstein7/) in Technology (/technology/) > Arduino (/technology/arduino/)

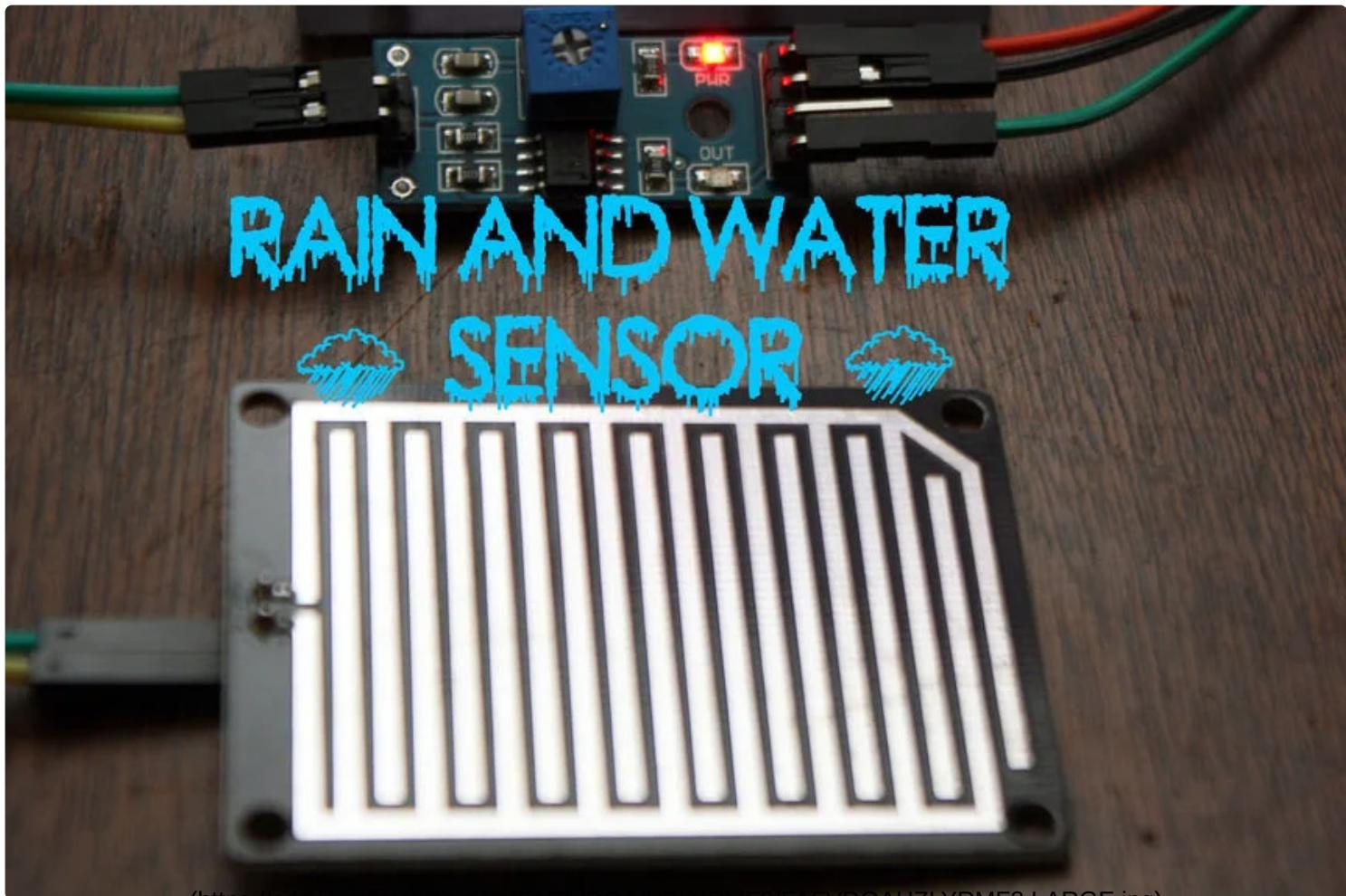
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(/member/Reichenstein7/)

By **Reichenstein7**

(/member/Reichenstein7/)

Tesla Robotics and Electronics

(<https://www.ebay.com/str/teslarobotics>)

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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.

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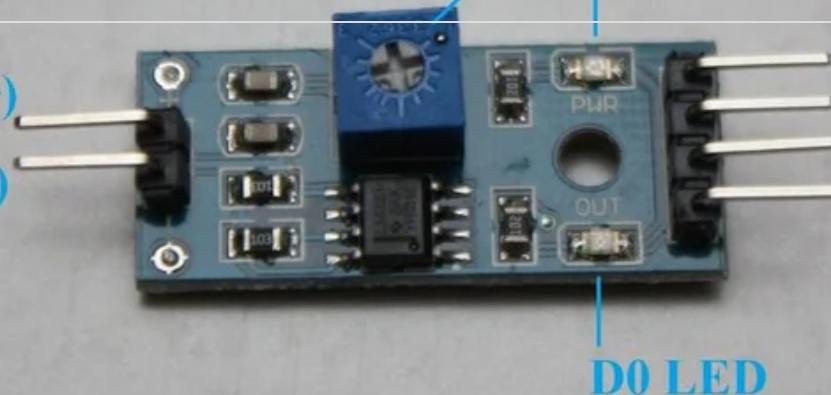
I figured since I recently wrote up an [Instructable about flame sensors](#) (<https://www.instructables.com/id/Arduino-Modules-Flame-Sensor/>), a type of water sensor might just be a good equalizer.

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

[!\[\]\(c50c8b7b2cc2cf9ff925edec0ee94c0d_img.jpg\) Add Tip](#)[!\[\]\(6a9b39b98eb945faa14c645ec99e4eaa_img.jpg\) Ask Question](#)[!\[\]\(9c2e8d1b5bd77cb5c9f83b7a9cff79fd_img.jpg\) Comment](#)[Download](#)

Step 1: Getting to Know Your Rain Sensor:

Sensor Board (+)**Sensor Board (-)**

Vcc
GND
Digital D0
Analog A0

Sensor Board (+)**Sensor Board (-)**

Sensor boards
printed leads

(<https://cdn.instructables.com/FA2/3LIVE/UZLYBODV/FA23LIVEUZLYBODVLARGE.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:

D0..... Digital output

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GND..... Ground

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

Loop Pins:

+ Sensor board hookup A

- Sensor board hookup B

Dimensions:

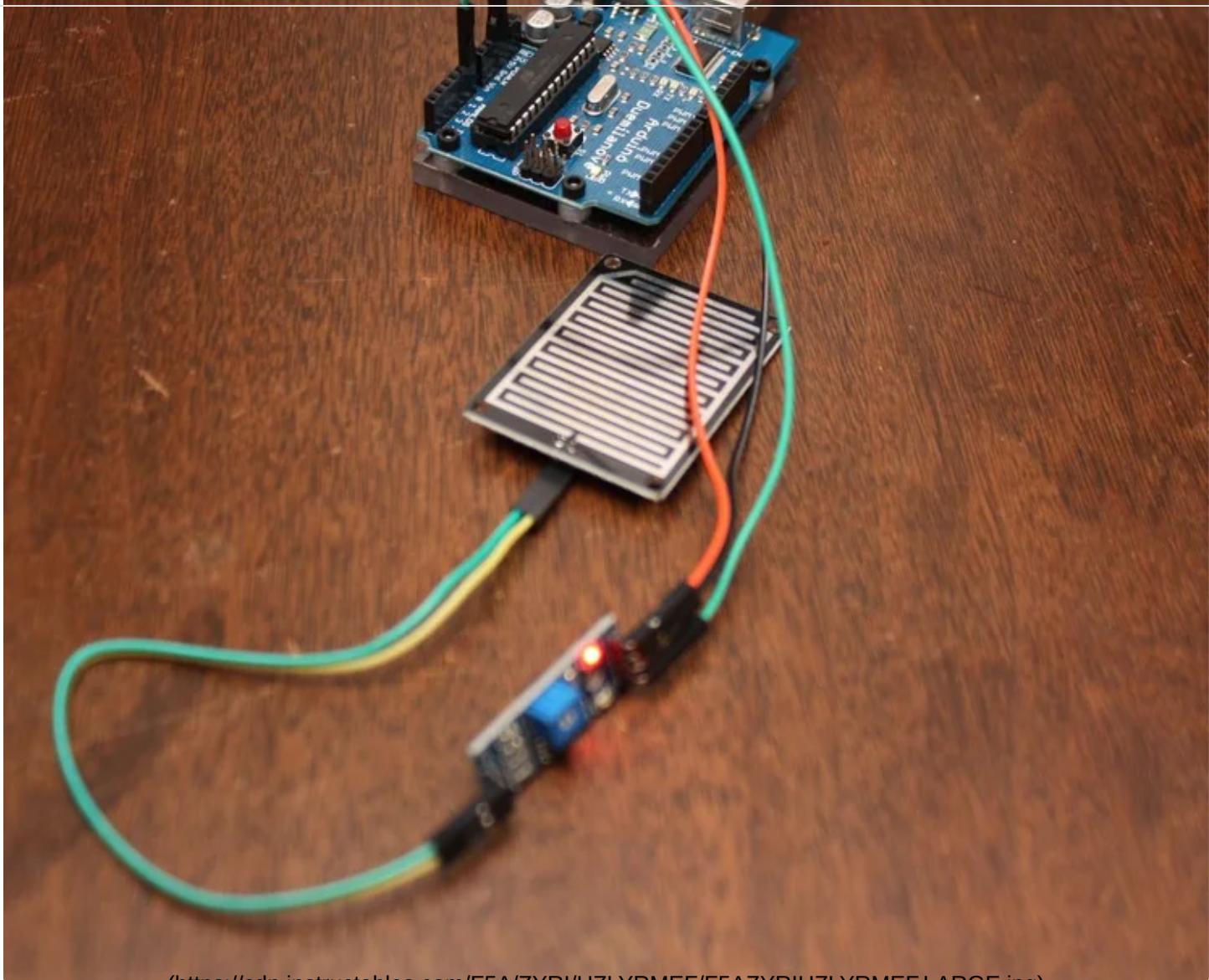
2.17 in x 1.57 in x 0.31 in (5.5 cm x 4.0 cm x 0.8 cm)

Weight:

0.28 oz (8 g)

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Step 2: Testing and Troubleshooting:



(<https://cdn.instructables.com/EEA/ZVDI/U71VDMEE/EEA7ZVDIU71VDMEE1.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?

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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.

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- 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.

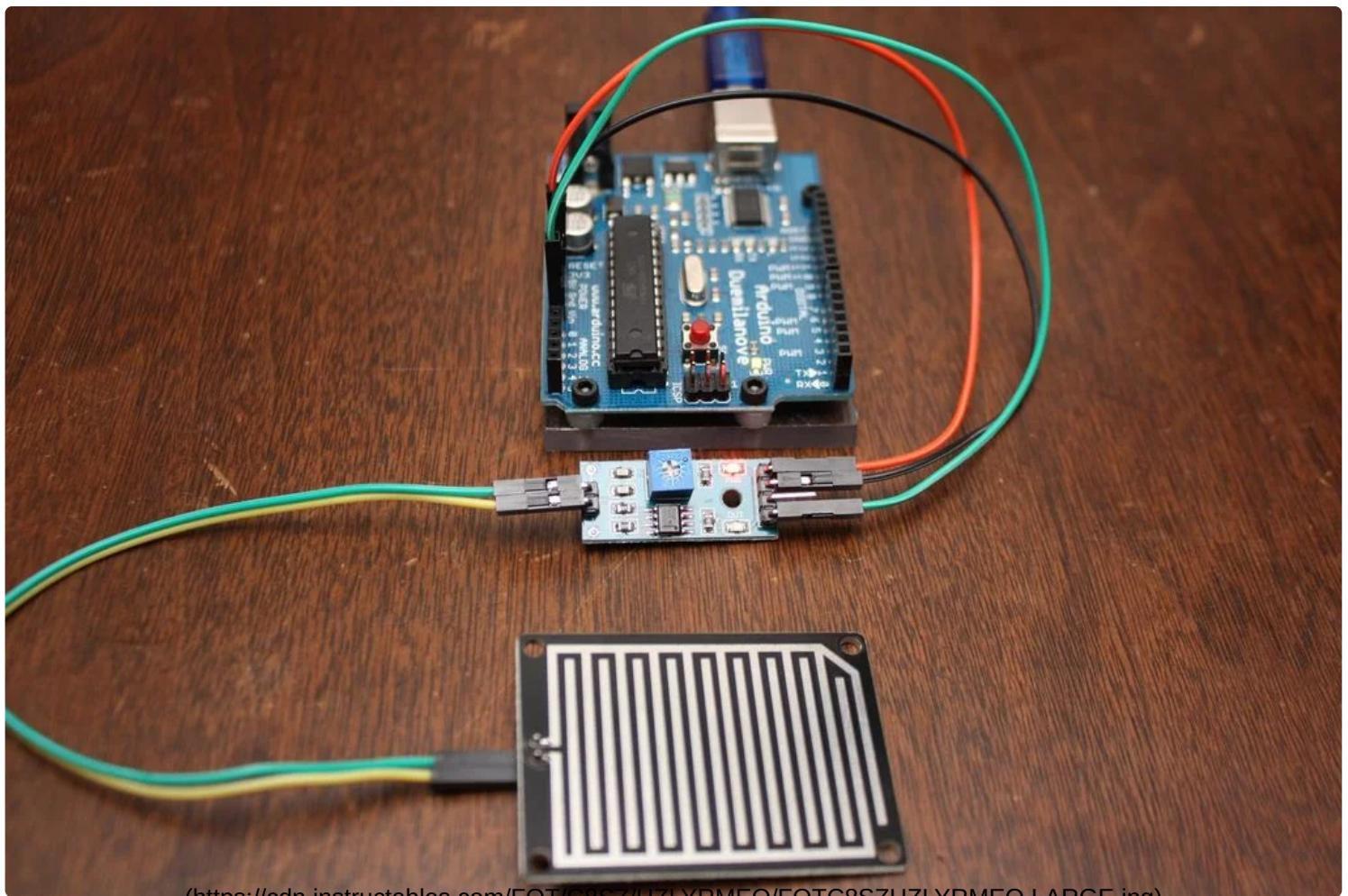
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Step 3: Wiring to an Arduino:



(<https://cdn.instructables.com/FOTC8S7H7LXPMEO/FOTC8S7H7LXPMEO.LARGE.jpg>)

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To wire the Rain Sensor to the Arduino for analog simply connect the following as

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Rain Sensor Arduino

VCC..... 5v

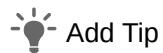
GND..... GND

A0..... Analog in 0

Rain Sensor Sensor Board

+..... +

-..... -



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Step 4: Arduino Sketch Example:

The image consists of three vertically stacked screenshots of the PuTTY serial terminal window. The top screenshot shows the title bar 'DM7 - PuTTY' and the text 'Rain Sensor by Reichenstein7 (/member/Reichenstein7/)' followed by a yellow 'Follow' button. The main window displays the word 'Raining' repeated seven times. The middle screenshot shows the title bar 'DM7 - PuTTY' and the text 'Warning' repeated six times. The bottom screenshot shows the title bar 'DM7 - PuTTY' and the letter 'd' repeated five times.

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.

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Code:

Attached due to formatting.



Rain_Sensor by Reic...

[Download](#) (<https://cdn.instructables.com/ORIG/FV9/QZY5/HZLYRIU8/FV9QZY5HZLYRIU8.ino>)

(<https://cdn.instructables.com/ORIG/FV9/QZY5/HZLYRIU8/FV9QZY5HZLYRIU8.ino>)

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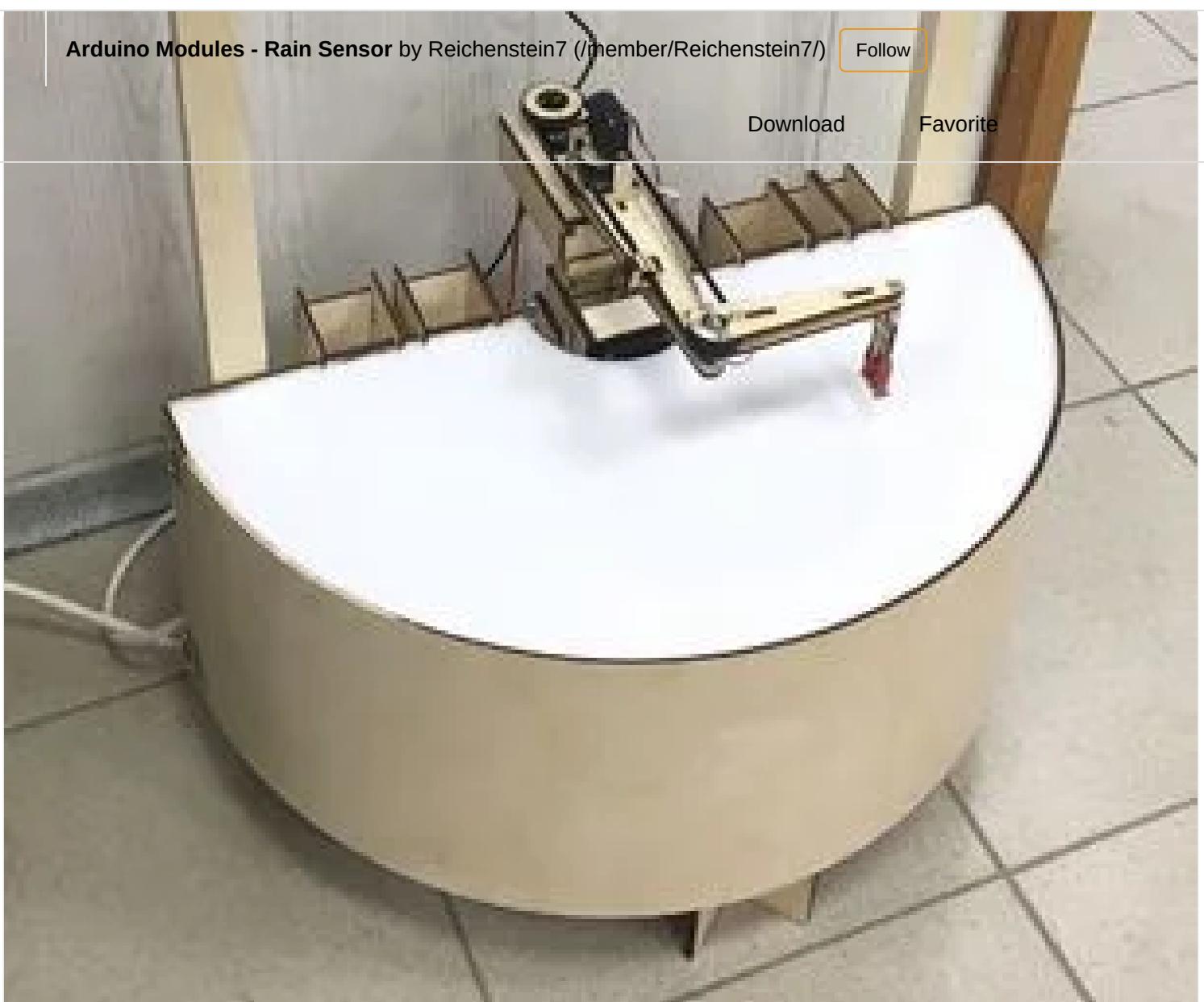
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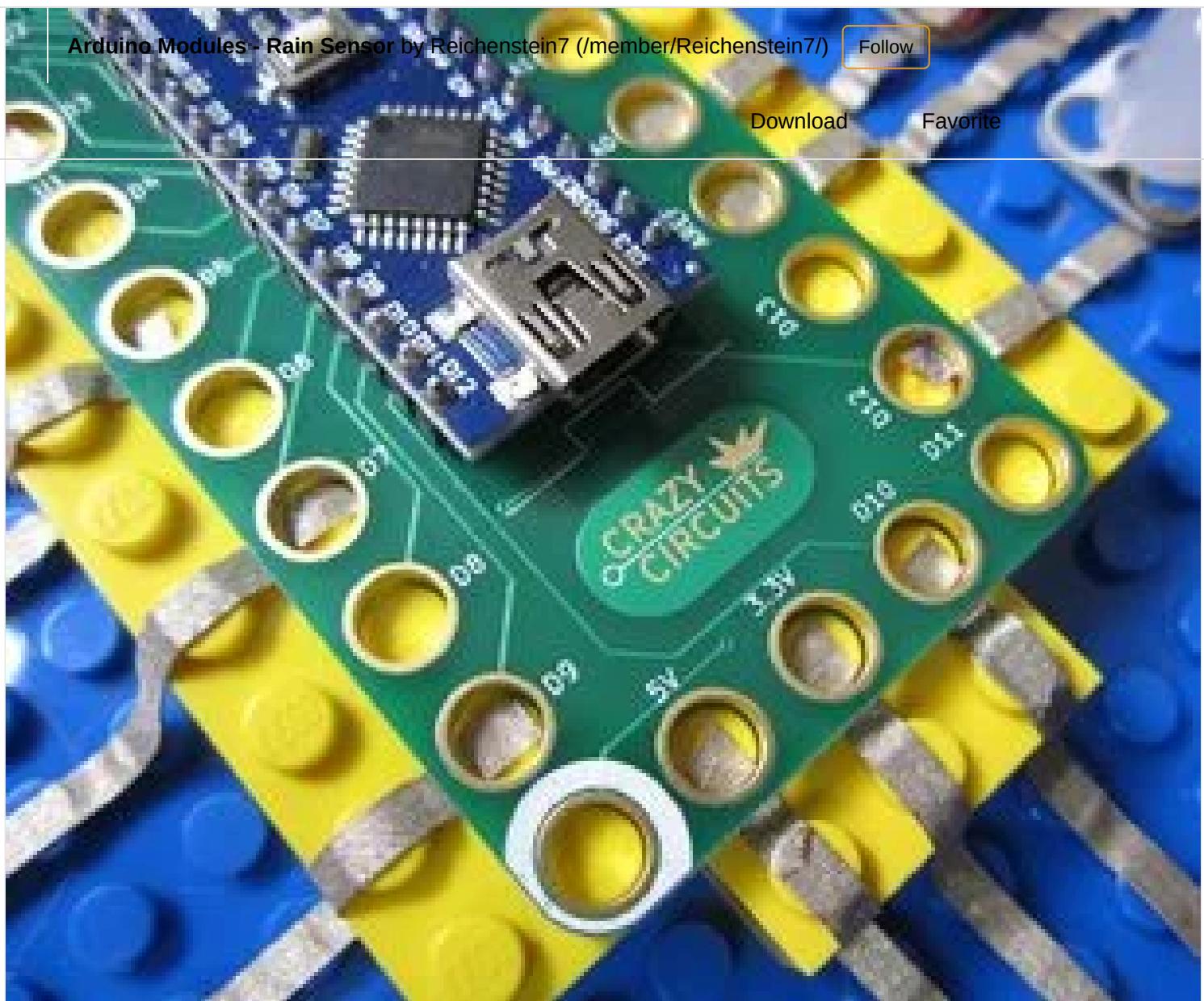
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Screw Sorting Machine (/id/Screw-Sorting-Machine/)

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Crazy Circuits: an Open Source Electronics Learning System (</id/Crazy-Circuits-an-Open-Source-Electronics-Learning/>)

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(/id/Dual-Axis-Tracker-V20/)

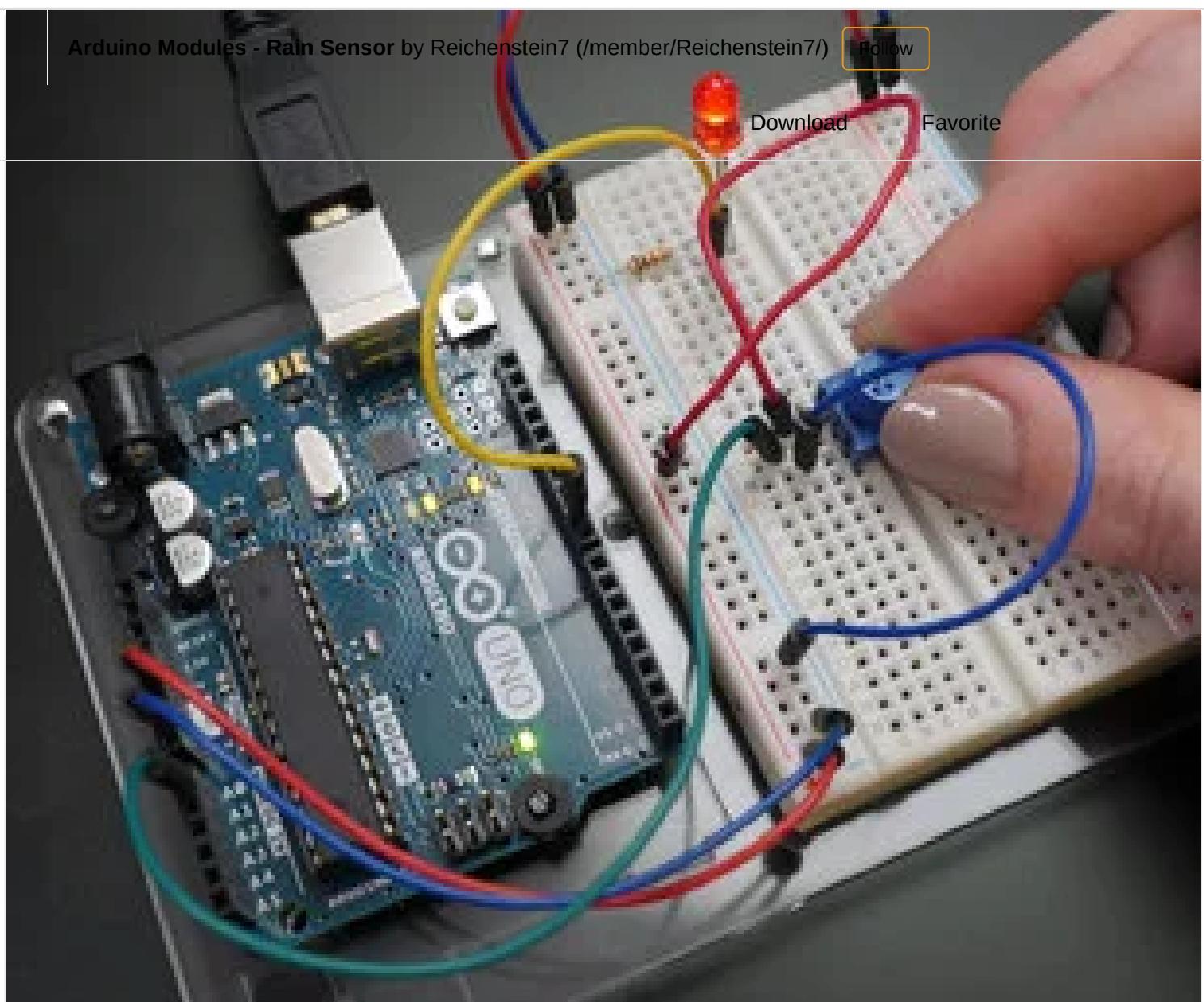
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Please be positive and constructive.

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(/member/SUJIA1/) SUJIA1 (/member/SUJIA1/) 3 months ago

Reply

▲ Upvote

hi,

could u plz explain in the below instruction why 0,3 is used

```
int range = map(sensorReading, sensorMin, sensorMax, 0, 3);
```

thanku



(/member/NawaedR/) NawaedR (/member/NawaedR/) 2 years ago

Reply

▲ Upvote

How can I get sensor to not be so sensitive? Approximately 1 droplet of water will equal a flood and a few sprinkles equal a rain warning.

5 replies ▾



(/member/ADIKARUNAH/) ADIKARUNAH (/member/ADIKARUNAH/) 1 year ago

Reply

▲ Upvote

Hi Sir,

H

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(/member/pink+banana/) pink banana (/member/pink+banana/) 1 year ago

Reply

Upvote

aawsome invention



(/member/sadeem88/) sadeem88 (/member/sadeem88/) 2 years ago

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how can i order it please? and how much is it?



(/member/roadrunr74/) roadrunr74 (/member/roadrunr74/) 2 years ago

Reply

Upvote

great easy test of the sensor! thank you!



(/member/gulliverrr/) gulliverrr (/member/gulliverrr/) 2 years ago

Reply

Upvote

not sure if it is intentional but the delay(1) at the end is actually causing to check for rain 1 thousand times every second which I find overkill. Changing it to delay(1000) for once per second seemed more suitable for my needs but I believe most cases would be covered sufficiently with once per minute, that is delay(60000). Great 'ible btw!



(/member/AtholereA/) AtholereA (/member/AtholereA/) 2 years ago

Reply

Upvote

can i use a rain sensor to monitor river level? If yes, how?

2 replies ▾



(/member/Shiva+kumarR1/) Shiva kumarR1 (/member/Shiva+kumarR1/) 2 years ago

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where can i get code



Arduino Modules - Rain Sensor by Reichenstein7 (/member/Reichenstein7/) priscus (/member/priscus/) 2 years ago

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Nice project,

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where can i get the Proteus library for this sensor please



(/member/dancopy/) dancopy (/member/dancopy/) 2 years ago

Reply

Upvote

Hello Friend! First, thanks for the tutorial!

How would the code to drive a stepper motor or servo motor? Thank you



(/member/igloo63/) igloo63 (/member/igloo63/) 2 years ago

Reply

Upvote

Hi

Great job and thank you for sharing this tutorial. It was a real pleasure playing with my arduino and rain sensor. However, I could like to use this rain sensor on Rapberry Pi. Any idea to wire and python code?



(/member/zamirul/) zamirul (/member/zamirul/) 3 years ago

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Can i know the coding for this project?

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