

# Water Drop Rain Sensor Module



## Description:

Raindrop Sensor is a tool used for sensing rain. It consists of two modules, a rain board that detects the rain and a control module, which compares the analog value, and converts it to a digital value. The raindrop sensors can be used in the automobile sector to control the windshield wipers automatically, in the agriculture sector to sense rain and it is also used in home automation systems.

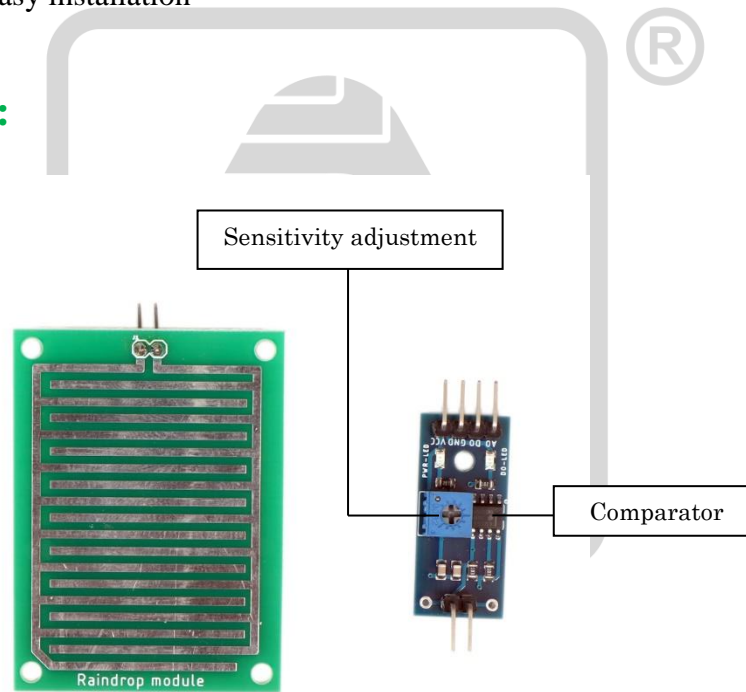
## Features:

1. Working voltage 5V
2. Output format: Digital switching output (0 and 1), and analog voltage output AO
3. Potentiometer adjust the sensitivity
4. Uses a wide voltage LM393 comparator
5. Comparator output signal clean waveform is good, driving ability, over 15mA
6. Anti-oxidation, anti-conductivity, with long use time
7. With bolt holes for easy installation

## Specifications:

- Operating voltage: 5V
- Provide both digital and analog output
- Adjustable sensitivity
- Output LED indicator
- Compatible with UNO/Nano/ESP etc.
- TTL Compatible
- Bolt holes for easy installation

## How it works:



The sensing pad with series of exposed copper traces, together acts as a variable resistor (just like a potentiometer) whose resistance varies according to the amount of water on its surface.

The resistance is inversely proportional to the amount of water. The more water on the surface means better conductivity and will result in a lower resistance. The less water on the surface means poor conductivity and will result in a higher resistance.

The sensor produces an output voltage according to the resistance, which by measuring we can determine whether it's raining or not.

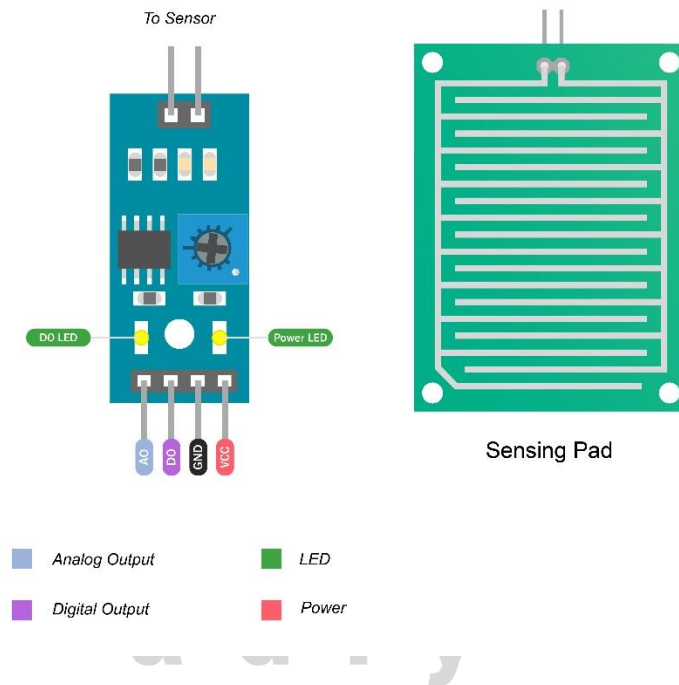
The module produces an output voltage according to the resistance of the sensing pad and is made available at an Analog Output (AO) pin.

The same signal is fed to a LM393 High Precision Comparator to digitize it and is made available at a Digital Output (DO) pin.

The module has a built-in potentiometer for sensitivity adjustment of the digital output (DO).

User can set a threshold by using a potentiometer; So that when the amount of water exceeds the threshold value, the module will output LOW otherwise HIGH.

## Pin Configuration:



Sensing pad's pins need connect to sensors 2 pin

VCC: 5V Power Supply

GND: Ground

DO: Digital Output

AO: Analog Output

## Applications:

- Automatic windshield wipers
- Smart Agriculture
- Home-Automation

