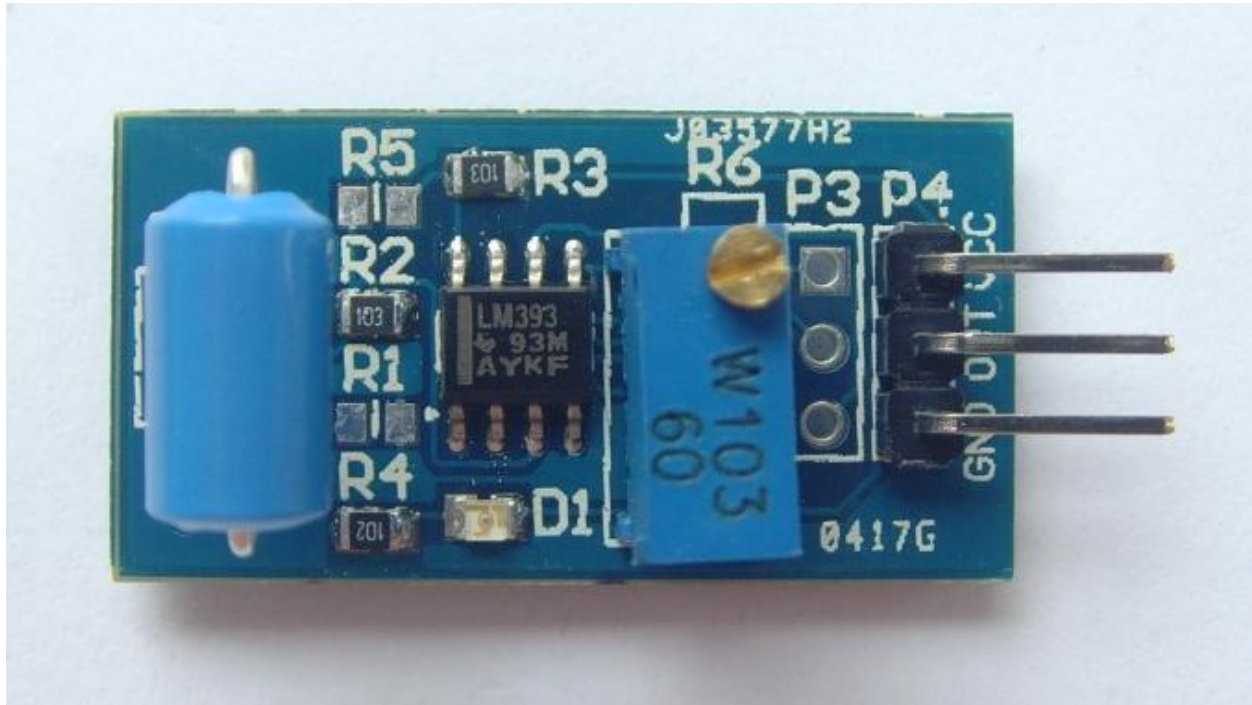# TILT SENSOR MODULE

Description

The tilt sensor is a component that can detect the tilting of an object. However it is only the equivalent to a pushbutton activated through a different physical mechanism. This type of sensor is the environmental-friendly version of a mercury-switch. It contains a metallic ball inside that will commute the two pins of the device from on to off and vice versa if the sensor reaches a certain angle.

Specifications

- On-board LM393 voltage comparator chip and photo activity sensing probe
- Support 5V/3.3V voltage input

- On-board signal output instructions, output the effective signal is low lever, at the same time indicator light off
- Output signal can directly connect with the microcontroller IO
- The sensitivity of the signal detection can be adjusted
- Reserve a line voltage to compare circuit (P3 has been leaded out)
- PCB size: 30(mm) x15(mm)

Pin Configuration
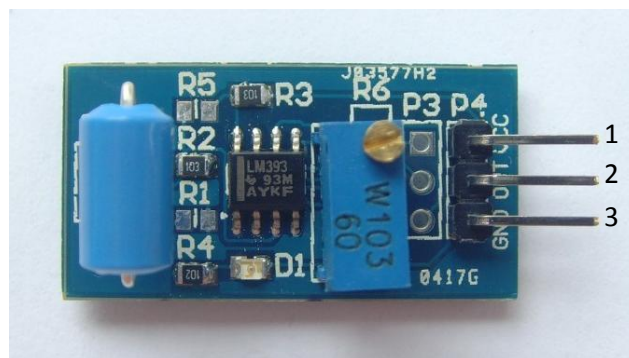
1. VCC: 3.3V / 5V DC
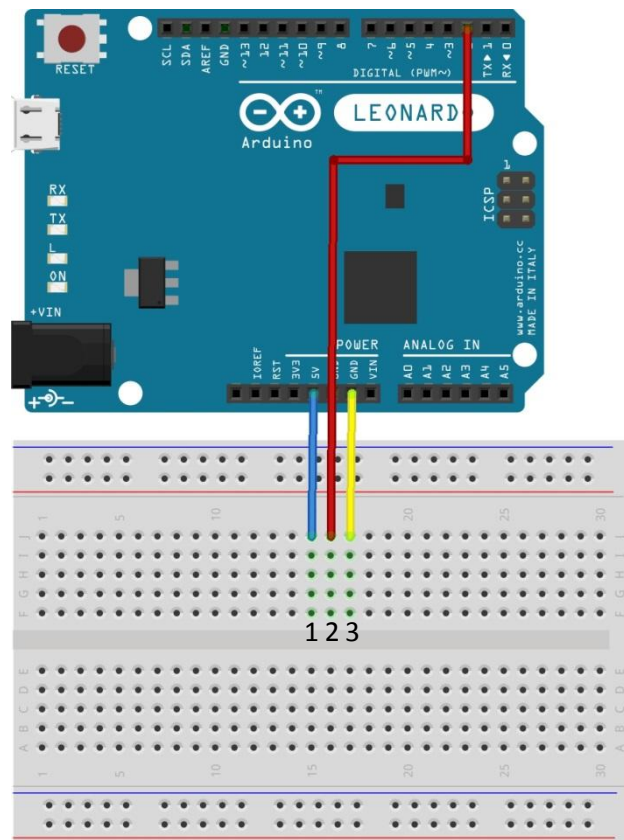2. OUT: high/low output
3. GND: ground

Schematic Diagram
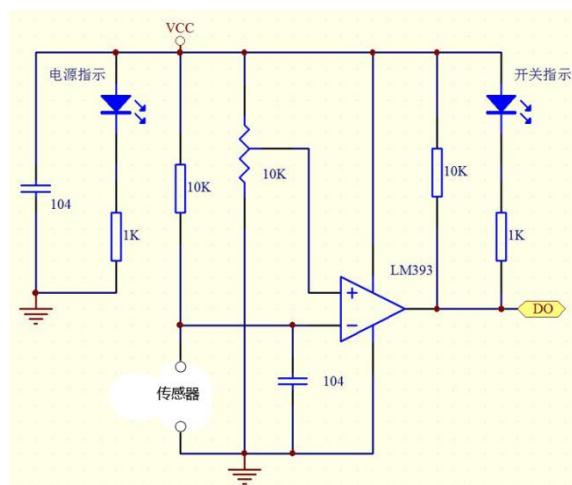
Wiring Diagram

Sample Sketch

```
void setup(){
  pinMode(2, INPUT);
  pinMode(13, OUTPUT);
  Serial.begin(9600);
}

void loop(){
  if(digitalRead(2) == HIGH){
    digitalWrite(13, HIGH);
    Serial.println("tilted!");
  }
  else{
    digitalWrite(13, LOW);
    Serial.println("not tilted");
  }
  delay(250);
}
```

How to test

The components to be used are:

- Microcontroller (any compatible arduino)
- Tilt sensor module
- 1 Pin M-M connectors
- Breadboard
- USB cable

1. Connect the components based on the figure shown in the wiring diagram using a M-M pin connector. VCC pin is connected to the 5V power supply, GND pin is connected to the GND, and the OUT pin is connected to the digital I/O pin. Pin number will be based on the actual program code.
2. After hardware connection, insert the sample sketch into the Arduino IDE.
3. Using a USB cable, connect the ports from the microcontroller to the computer.
4. Upload the program.
5. See the results in the serial monitor.

Testing results

The serial monitor shows the results of tilting the module.

When the module was tilted: