

# BSK DIGITL VIBRTN SENSOR ARDUINO/CMU DIGITL VIBRTN SENSOR ARDUINO

## HOOKUP GUIDE

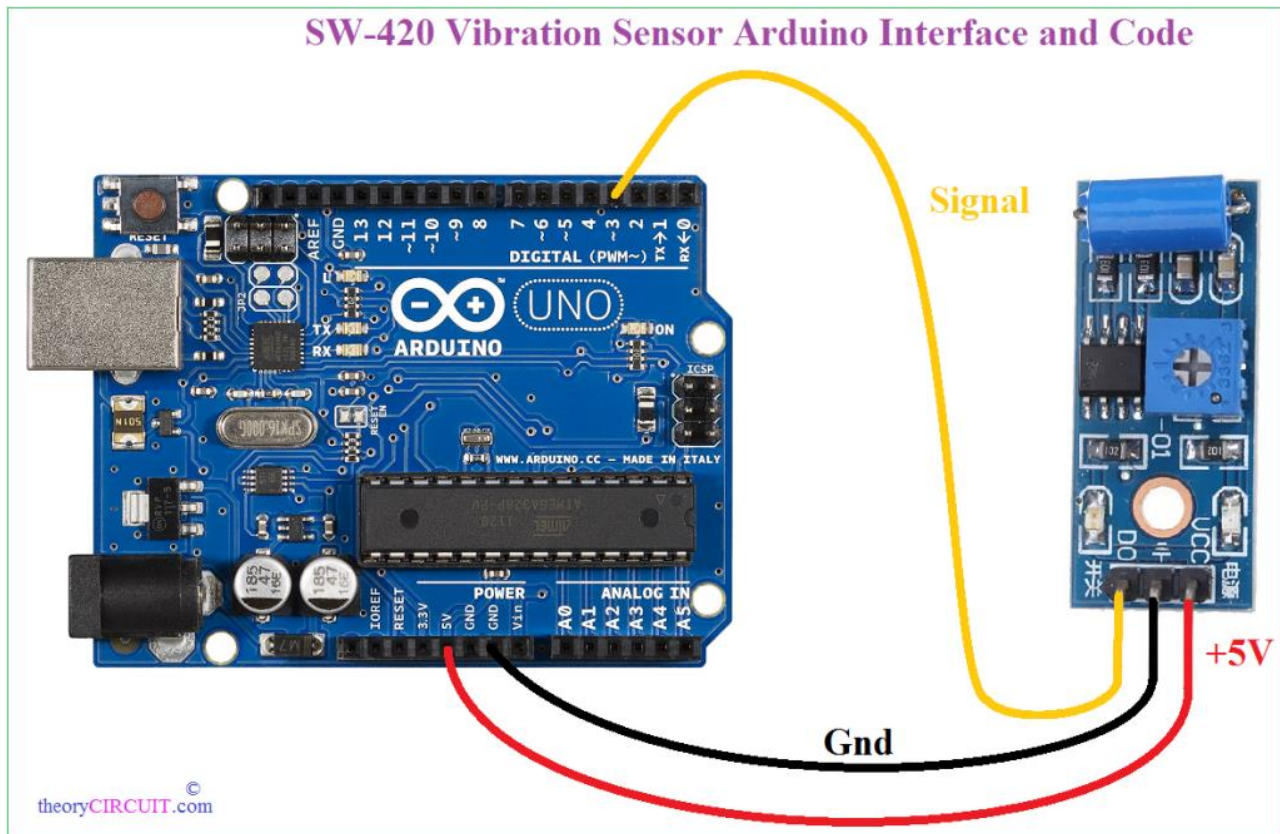
Many Applications can be created by measuring Vibration level, but sensing vibration accurately is a difficult job. This article describes about vibration sensor SW-420 and Arduino interface then it may help you to design effort less vibration measurement.

The vibration sensor SW-420 Comes with breakout board that includes comparator LM 393 and Adjustable on board potentiometer for sensitivity threshold selection, and signal indication LED.



This sensor module produce logic states depends on vibration and external force applied on it. When there is no vibration this module gives logic LOW output. When it feels vibration then output of this module goes to logic HIGH. The working bias of this circuit is between 3.3V to 5V DC.

## Arduino Hookup with SW-420



Connect Vcc pin of sensor board to 5V pin of Arduino board, connect Gnd pin to Gnd pin of Arduino, Connect DO output signal pin of sensor board to Arduino digital pin D3. Do some calibration and adjust the sensitivity threshold, then upload the following sketch to Arduino board.

**Arduino Code for Logic State Output** from sensor module, here on-board LED of Arduino indicates the presence of vibration.

```

int vibr_pin=3;

int LED_Pin=13;

void setup() {

  pinMode(vibr_pin, INPUT);

  pinMode(LED_Pin, OUTPUT);

}

void loop() {

  int val;

  val=digitalRead(vibr_pin);

  if(val==1)

  {

    digitalWrite(LED_Pin, HIGH);

    delay(1000);

    digitalWrite(LED_Pin, LOW);

    delay(1000);

  }

  else

    digitalWrite(LED_Pin, LOW);

}

```

**Arduino Code for Value Reading** and serial printing Vibration value, this code turns ON the onboard LED when measurement goes greater than 1000, you can adjust this threshold to your need.

```

int LED_Pin = 13;

int vibr_Pin =3;

```

```

void setup(){

  pinMode(LED_Pin, OUTPUT);

  pinMode(vibr_Pin, INPUT); //set vibr_Pin input for measurment

  Serial.begin(9600); //init serial 9600

  // Serial.println("-----Vibration demo-----");
}

void loop(){

  long measurement =TP_init();

  delay(50);

  // Serial.print("measurment = ");

  Serial.println(measurement);

  if (measurement > 1000){

    digitalWrite(LED_Pin, HIGH);

  }

  else{

    digitalWrite(LED_Pin, LOW);

  }

}

long TP_init(){

  delay(10);

  long measurement=pulseIn (vibr_Pin, HIGH); //wait for the pin to get HIGH and returns
measurement

  return measurement;

}

```

## Screenshot

