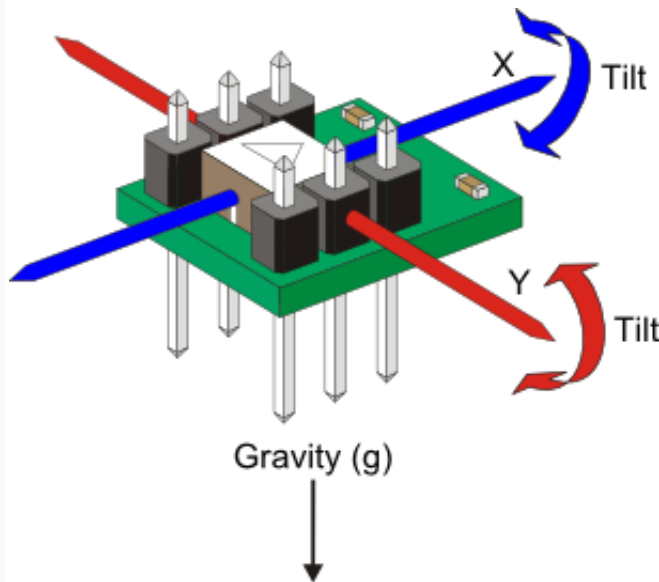


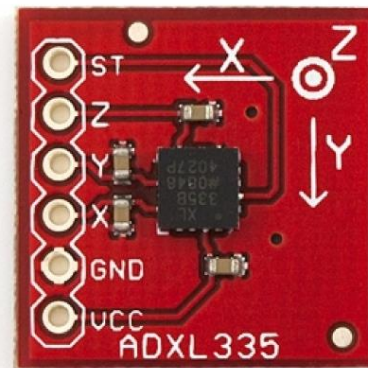
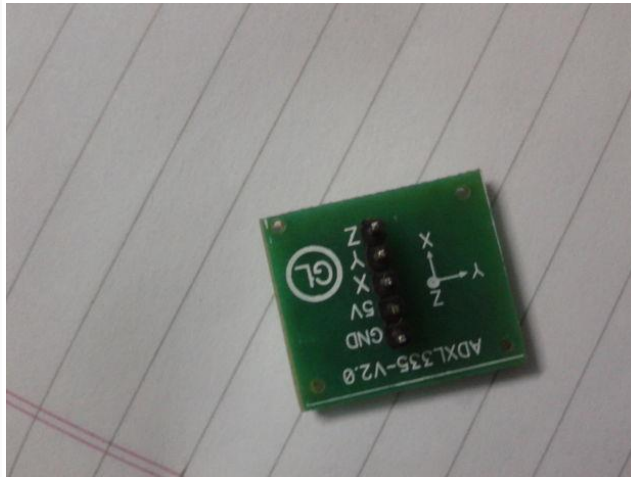


ADXL335 Accelerometer Tutorial

Accelerometer:



An accelerometer is an electromechanical device that will measure acceleration forces. These forces may be static, like the constant force of gravity pulling at your feet, or they could be dynamic – caused by moving or vibrating the accelerometer. Accelerometers are of two types Analog and Digital. In this post we will be discussing about Analog accelerometer. They give voltage as output which is proportional to acceleration. The digital one gives the PWM output or direct binary digital data. They come in a variety of shapes, sizes and functions. The one we discuss here is the ADXL335 3-axis accelerometer.

**ADXL335:**

Datasheet at:

<https://www.sparkfun.com/datasheets/Components/SMD/adxl335.pdf>

As the datasheet says, **ADXL335** is a small, thin, low power, complete **3-axis accelerometer** with signal conditioned voltage outputs. The product measures acceleration with a minimum full-scale range of ± 3 g. It can measure the static acceleration of gravity in tilt-sensing applications, as well as dynamic acceleration resulting from motion, shock, or vibration. ADXL335 is 3V3 compatible device, it's powered by a 3.3V source and also generates 3.3V peak outputs. It has three outputs for each axis i.e. X, Y & Z. These are analog outputs and thus require an ADC in a micro-controller. The accelerometer module has 5 pins, GND and VCC (=5V if the chip has in-built power regulator otherwise 3.3V) for ground and 5 volts respectively and X, Y, Z are the analog inputs respectively for measuring the tilt of x-axis, y-axis and z-axis respectively. These are to be connected to the analog pins of the micro-controller. The one shown in red has another pin called the ST (Self-Test) pin.



Tutorials for ADC in atmega are available at:

http://www.robotplatform.com/knowledge/ADC/adc_tutorial_4.html

<http://www.electroschematics.com/10053/avr-adc/>

For more information refer to:

<http://www.instructables.com/id/Interfacing-ADXL335-with-ARDUINO/?ALLSTEPS>

<http://www.embedds.com/accelerometer-interfacing-with-avr/>

Some suggested links to purchase the chip online:

<http://www.simplelabs.co.in/content/triple-axis-accelerometer-adxl335>

<http://www.digibay.in/adxl335-triple-axis-accelerometer-analog-output>

