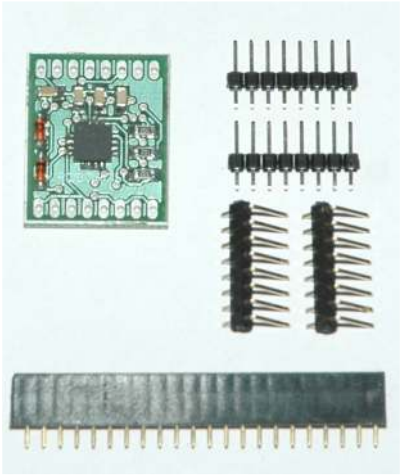
2.5G/3.3G/6.7G/10G 3 Axis Linear Accelerometer Module



Users Manual

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Thank you for purchasing the 2.5G/3.3G/6.7G/10G 3 Axis Linear Accelerometer Module. This unit has been carefully engineered and tested to provide superior performance. This document covers the features and operation of the 2.5G/3.3G/6.7G/10G 3 Axis Linear Accelerometer Module.

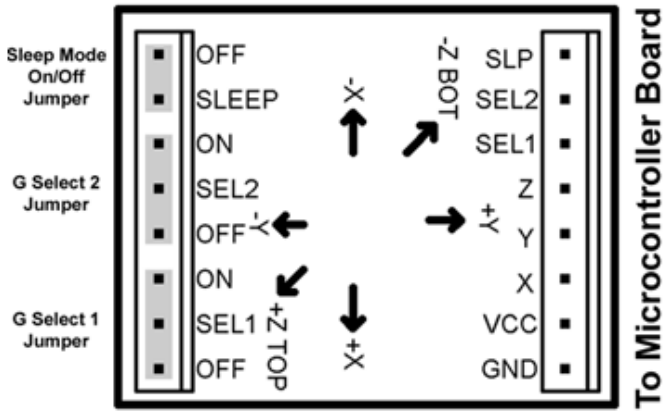
This is an easy-to-use board using 3Axis Linear Accelerometer chip. The Accelerometer Module features temperature compensation and g-Select which allows for the selection among 4 sensitivities. It requires no external devices and works on 2.6V to 5V power supply. It can be directly interfaced to ADC of a microcontroller without any external components. This module can be used to sense motion or tilt (in case of non moving) in 3 axis.

Features

- **Small board size - Just 28mm X 23mm**
- **Simple 5 pin interface (VCC, GND, Xout, Yout, Zout)**
- **Selectable Sensitivity (2.5g/3.3g/6.7g/10g) and Sleep Mode Selectable through jumpers or microcontroller**
- **Needs no external components**
- **Easy to mount on General purpose PCB, Breadboards and special PCBs**
- **Low Current Consumption: 500 µA**
- **Low Voltage Operation: 2.6V to 5V**
- **High Sensitivity for small movements**
- **Fast Turn On Time**
- **Integral Signal Conditioning with Low Pass Filter**
- **Robust Design, High Shocks Survivability**

***Caution: While selecting sensitivity or sleep mode through external signal, do not give more than 3.6V signals. Use resistive voltage divider for signals more than 3.6V. You can simply configure through jumpers for normal applications where you do not need to change sensitivity in application.**

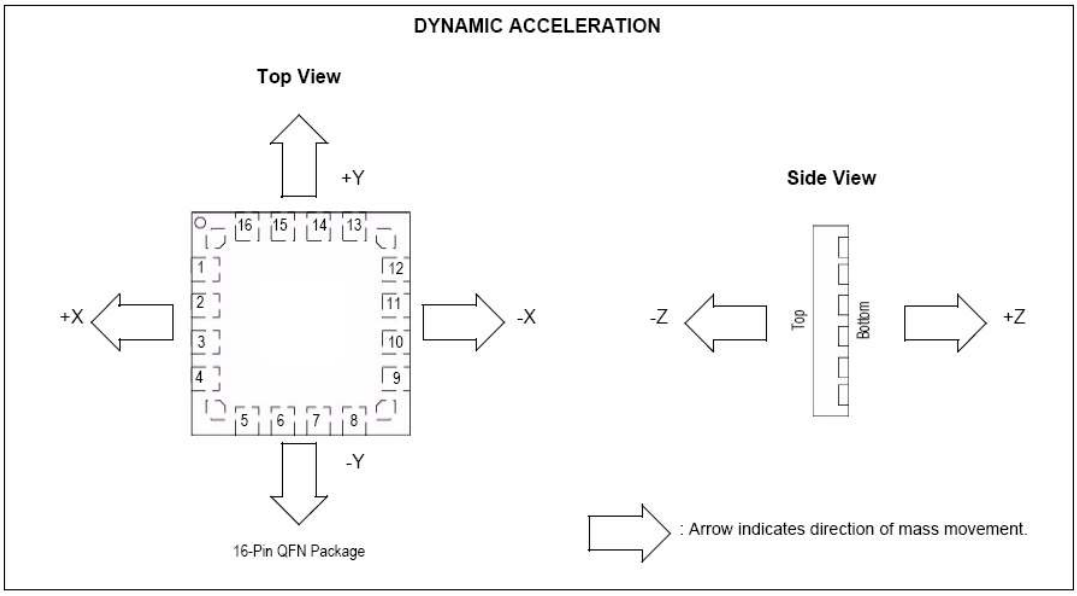
Board Top Layout

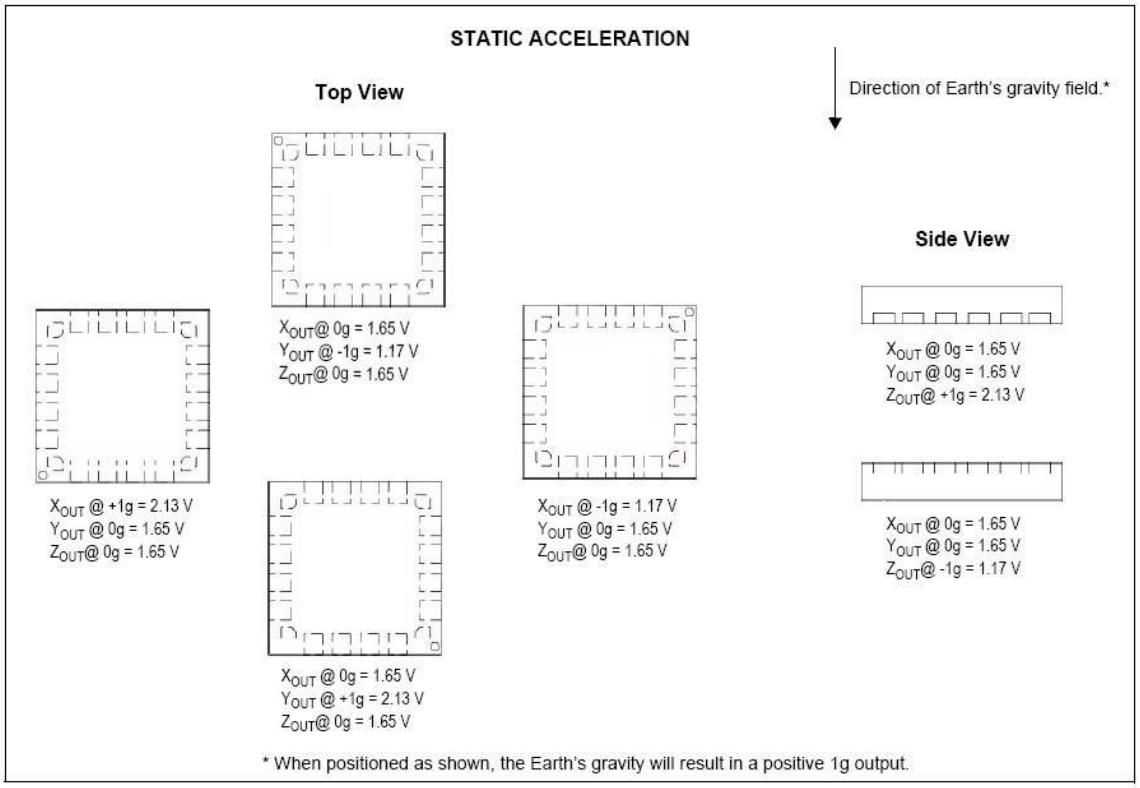


g-Select2	g-Select1	g-Range	Sensitivity
0	0	2.5g	480mV/g
0	1	3.3g	360mV/g
1	0	6.7g	180mV/g
1	1	10g	120mV/g

SLP – Sleep Mode*
SEL2 – g-Select2*
SEL1 – g-Select1*
Z – Z Axis analog Output
Y – Y Axis analog Output
X – X Axis analog Output
VCC – 2.6V to 5V input
GND - Ground

***Do not provide more than 3.6V input to these pins. If not controlled by microcontroller use Jumpers on other side to select mode and leave these pins open.**




STATIC ACCELERATION
Top View
Direction of Earth's gravity field.*
Side View
X_{OUT} @ 0g = 1.65 V
Y_{OUT} @ -1g = 1.17 V
Z_{OUT} @ 0g = 1.65 V
X_{OUT} @ +1g = 2.13 V
Y_{OUT} @ 0g = 1.65 V
Z_{OUT} @ 0g = 1.65 V
X_{OUT} @ -1g = 1.17 V
Y_{OUT} @ 0g = 1.65 V
Z_{OUT} @ 0g = 1.65 V
X_{OUT} @ 0g = 1.65 V
Y_{OUT} @ 0g = 1.65 V
Z_{OUT} @ +1g = 2.13 V
X_{OUT} @ 0g = 1.65 V
Y_{OUT} @ +1g = 2.13 V
Z_{OUT} @ 0g = 1.65 V
X_{OUT} @ 0g = 1.65 V
Y_{OUT} @ 0g = 1.65 V
Z_{OUT} @ -1g = 1.17 V
* When positioned as shown, the Earth's gravity will result in a positive 1g output.

Service and Support
Service and support for this product are available from Robokits India. The Robokits Web site (http://www.robokits.co.in) maintains current contact information for all Robokits products.

Limitations and Warrantees
The 2.5G/3.3G/6.7G/10G 3 Axis Linear Accelerometer Module is intended for personal experimental and amusement use and in no case should be used where the health or safety of persons may depend on its proper operation. Robokits provides no warrantee of suitability or performance for any purpose for the product. Use of the product software and or hardware is with the understanding that any outcome whatsoever is at the users own risk. Robokits sole guarantee is that the software and hardware perform in compliance with this document at the time it was shipped to the best of our ability given reasonable care in manufacture and testing. All products are tested for their best performance before shipping, and no warranty or guarantee is provided on any of them. Of course the support is available on all of them for no cost.

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