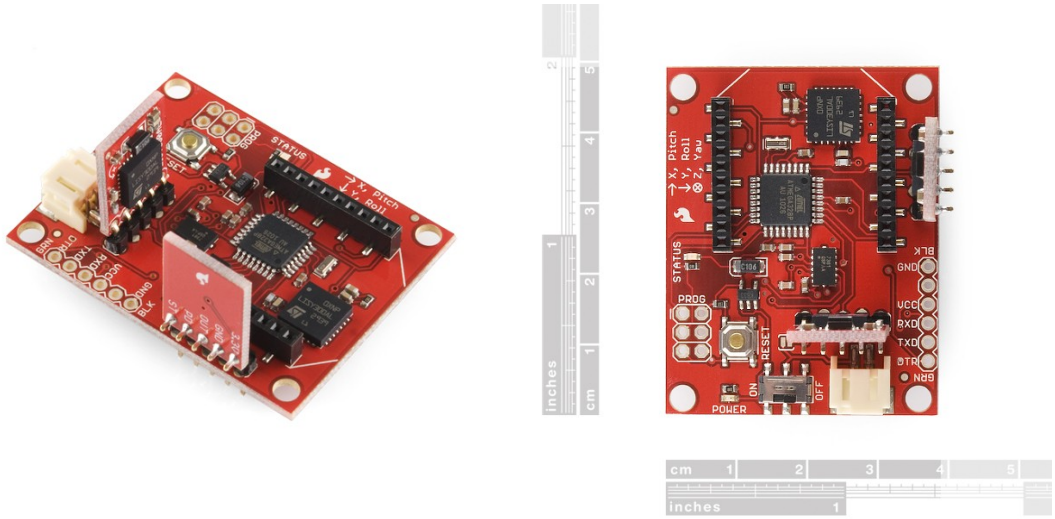
SparkFun

Atomic IMU 6 Degrees of Freedom - XBee Ready

sku: SEN-09812



Description: The 6DOF Atomic is a stripped-down IMU, designed to give good performance at a low price. The unit can run as a hard-wired UART interface (0-3.3V, 115200bps), or with an XBee RF module, and is powered from a single Lithium Polymer battery. The processor is an Atmel ATMega328 running at 10MHz with 6 dedicated 10-bit ADC channels reading the sensors. Source code for the 6DOF Atomic is freely available and compiles with the free AVR GCC compiler.

The 6-DOF Atomic uses a Freescale MMA7361L triple-axis accelerometer, which is configurable to 1.5 or 6g sensitivity. Riding along with the MMA7361L are three ST Microelectronics LISY300AL single-axis, 300°/s gyros. All sensor readings are available through any terminal program in either ASCII or binary format, or with the 6DOF Atomic IMU Mixer demo application (you can get the source code below).

Note: The datasheet for this product is outdated by a few revisions. The interface is essentially the same though, the only change has been the replacement of the Accelerometer IC resulting in the ability to choose only between 1.5g and 6g sensitivity.

Dimensions: 1.85 x 1.45 x 0.975 inches (47 x 37 x 25 mm)

Specifications:

- Input voltage: 3.4V to 10V DC
- Current consumption: 24mA hardwired with UART (75mA wireless with X-bee)
- Freescale MMA7361L triple-axis accelerometer configurable to 1.5 or 6g sensitivity.
- 3 x ST Microelectronics LISY300AL single-axis, 300°/s gyros

Documents:

- Schematic
- Eagle Files
- Datasheet
- Datasheet (MMA7361L)
- Datasheet (LISY300AL)
- Source Code
- Atomic Mixer