Export Restrictions

This product has some level of export control/restriction, so may be delayed when shipping outside the US. Contact us with questions, or we will contact you after you place your order.

9 Degrees of Freedom - Razor IMU

SEN-10736 ROHS✔

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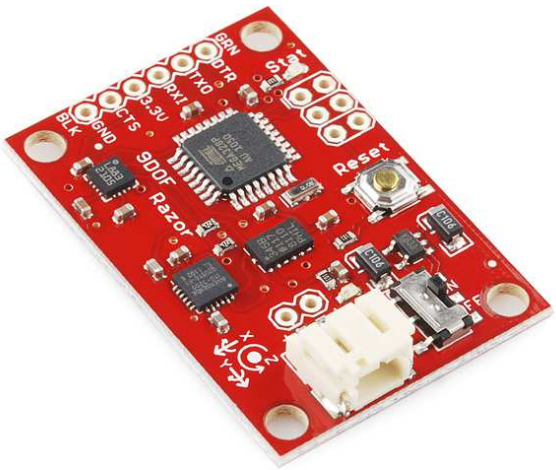

$74.95

NOTIFY ME

1	quantity
O	out of stock
$74.95	1+ units
$67.46	10+ units
$59.96	100+ units

This product is produced in-house by SparkFun. We are currently planning to build **180 units**.

Incoming stock values are estimates, and subject to change without warning.

Questions?

Chat with one of our gurus!

Description: The 9DOF Razor IMU incorporates three sensors - an ITG-3200 (MEMS triple-axis gyro), ADXL345 (triple-axis accelerometer), and HMC5883L (triple-axis magnetometer) - to give you nine degrees of inertial measurement. The outputs of all sensors are processed by an on-board ATmega328 and output over a serial interface. This enables the 9DOF Razor to be used as a very powerful control mechanism for UAVs, autonomous vehicles and image stabilization systems.

The board comes programmed with the 8MHz Arduino bootloader (stk500v1) and some example firmware that demos the outputs of all the sensors. Simply connect to the serial TX and RX pins with a 3.3V FTDI Basic Breakout, open a terminal program to 57600bps and a menu will guide you through testing the sensors. You can use the Arduino IDE to program your code onto the 9DOF, just select the 'Arduino Pro or Pro Mini (3.3v, 8mhz) w/ATmega328' as your board.

The 9DOF operates at 3.3VDC; any power supplied to the white JST connector will be regulated down to this operating voltage - our LiPo batteries are an excellent power supply choice. The output header is designed to mate with our 3.3V FTDI Basic Breakout board, so you can easily connect the board to a computer's USB port. Or, for a wireless solution, it can be connected to the Bluetooth Mate or an XBee Explorer.

Having a hard time picking an IMU? Our Accelerometer, Gyro, and IMU Buying Guide might help!

Note: This product is a collaboration with Jordi Munoz of 3d Robotics. A portion of each sales goes back to them for product support and continued development.

Features:

- 9 Degrees of Freedom on a single, flat board:
  - ITG-3200 - triple-axis digital-output gyroscope
  - ADXL345 - 13-bit resolution, ±16g, triple-axis accelerometer
  - HMC5883L - triple-axis, digital magnetometer
- Outputs of all sensors processed by on-board ATmega328 and sent out via a serial stream
- Autorun feature and help menu integrated into the example firmware
- Output pins match up with FTDI Basic Breakout, Bluetooth Mate, XBee Explorer
- 3.5-16VDC input
- ON-OFF control switch and reset switch

Dimensions: 1.1" x 1.6" (28 x 41mm)

Documents:

- Schematic
- Eagle Files
- Datasheet (ITG-3200)
- Datasheet (ADXL345)
- Datasheet (HMC5883L)
- Python Graphic interface
- AHRS Code
- AHRS/Head-tracker Tutorial (Thanks Peter!)
- GitHub

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1 of **1** found this helpful:

★★★★☆ Great Product From Sparkfun

about 2 months ago by SWDUDE ✔ verified purchaser

I have used a few industrial altitude, heading, and reference systems (AHRS) that cost $1,500 per device. It takes a great deal of time and knowledge to create such a device at an industrial level. However, with the AHRS code supplied I was able to turn this into a great AHRS with little effort and I was amazed how accurate it was. I still can't believe how much this device costs but if you compare that to other AHRS devices it is a good price.