Prototype your designs with a high-quality magnetic sensor

Now you can quickly and easily prototype your designs with a high-quality magnetic sensor, flexible interfaces, and a low price.

Introducing the PNI 3-Axis Magnetometer Breakout Board, a plug-and-play module that can be used to quickly evaluate and prototype PNI's RM3100 geomagnetic sensor. This breakout board is ideal for developers, hobbyists and makers who want to evaluate a high-quality magnetic sensor without a high cost. It is also the preferred product for developers doing proof-of-concept prototyping. The cornerstone of the PNI 3-axis Magnetometer Breakout Board is the RM3100 sensor, based on magneto-inductive technology, where the sensor changes inductances with the changing magnetic fields.

Features and Benefits

- Includes PNI's RM3100 3-axis geomagnetic sensors and MagI ^{2}C ASIC controller mounted on a PCB, to provide a complete magnetic field sensing module.

- Incorporates both I ^{2}C and SPI interfaces for system design flexibility and easily connects to your Arduino, Raspberry Pi, and other microcontroller boards.

- The RM3100 is the highest performance geomagnetic sensor in its class, with more than 30 times lower noise and over 20 times greater sensitivity than leading Hall Effect, fluxgate, or magneto-resistive (MR) sensors.

- Measurements are stable over temperature and inherently free from offset drift, making it the ideal choice not only for prototyping high-volume solutions, but also for hobbyists and lower-volume applications.

Specifications*

System

Components	RM3100 Magnetometer
	MagI²C ASIC controller
Dimensions	25.4 x 25.4 x 0.8 mm
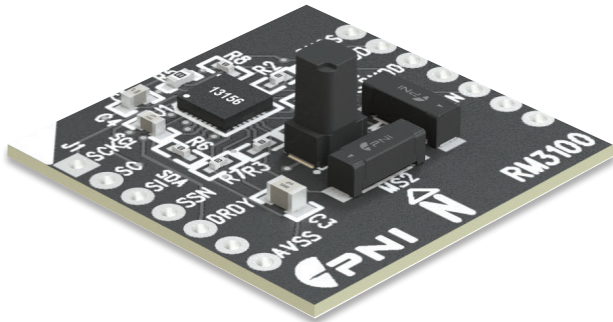
RM3100 Breakout Board Characteristics

Parameter	Cycle Counts		
	50	100	200
Field Measurement Range	-1100 µT to +1100 µT		
Noise	30 nT	20 nT	15 nT
Gain @ 3V (LSB/µT)	20 µT	38 µT	75 µT
Linearity over ±200 µT	0.5 % (typical)		
Sensitivity	50 nT	26 nT	13 nT
Max 3-Axis Sample Rate	534 Hz	284 Hz	147 Hz
Current Usage @ 8 Hz, 3 Axes	70 µA	135 µA	260 µA
Size (l x w x h)	Sen XY	6.0 x 2.1 x 2.2 mm	
	Sen Z	3.88 x 2.98 x 6.35 mm	
	MagI²C	4.0 x 4.0 x 0.75 mm	

Please note: The RM3100 Breakout Board does not include any header pins. Designers requiring header pins should purchase PNI's RM3100 Evaluation Board (P/N 13606).

For availability, please contact sales@pnicorp.com.

With over 30 years of experience, PNI is the world's foremost expert in precision location, motion tracking, and fusion of sensor systems into real-world applications.

PNI's sensors and algorithms serve as the cornerstone of successful IoT projects and other mission-critical applications where pinpoint location, accuracy, and low power consumption are essential. Building on decades of patented sensor and algorithm development, PNI offers the industry's highest-performance geomagnetic sensor in its class, location and motion coprocessors, high-performance modules, sensor fusion algorithms, and complete sensor systems.

To learn more, please visit www.pnicorp.com.

*Specifications are subject to change.
[R01 04/20]