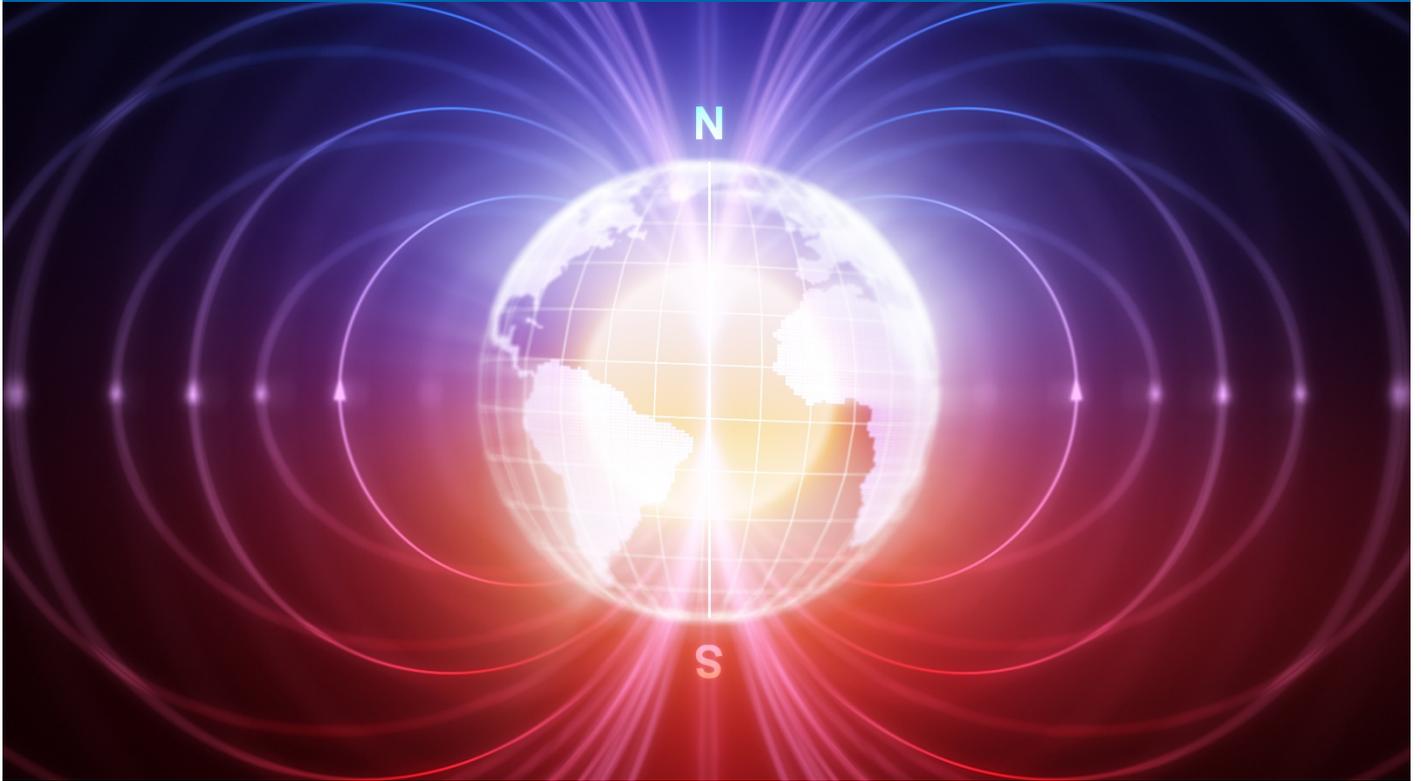


## Precise magnetic field measurements



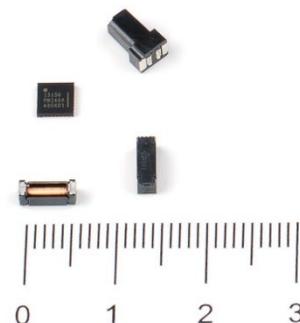
**The RM3100 geomagnetic sensor is the highest performance sensor in its class with over 10 times better resolution and over 20 times lower noise than the leading Hall Effect sensor.**

Based on PNI's proprietary magneto-inductive sensor technology, which provides high resolution, low power consumption, no hysteresis, large dynamic range, and high sampling rates, the RM3100 is ideal for applications requiring precise compass heading and precise magnetic field measurements.

The RM3100 is a military-grade sensor at a consumer price. It is proven across a wide range of applications including drones, robotics, manned and unmanned vehicles, marine, scientific, defense, and automotive.

### Key Features

- Provides high gain, high sampling rates, and no hysteresis
- Measurements are stable over temperature and inherently free of offset drift
- High sensor sample rate and precise magnetic field measurements enable accurate sensor fusion algorithm development for any application
- The RM3100's MagI2C features both continuous measurement mode and single measurement polling and software-configurable resolution
- I2C and SPI interfaces offer system design flexibility





## Technical Specifications\*

Parameter	Cycle Counts		
	50	100	200
Field Measurement Range	±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
Circuit Oscillation Frequency	180 kHz		
Interface	SPI and I2C		
Operating Temperature Range	-40° C to +85° C		
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	

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.

For detailed product information and sensor evaluation options, please visit: [www.pnicorp.com](http://www.pnicorp.com) or contact your regional PNI representative.

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\*Specifications are subject to change.  
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 [RM3100 3/11/2020]