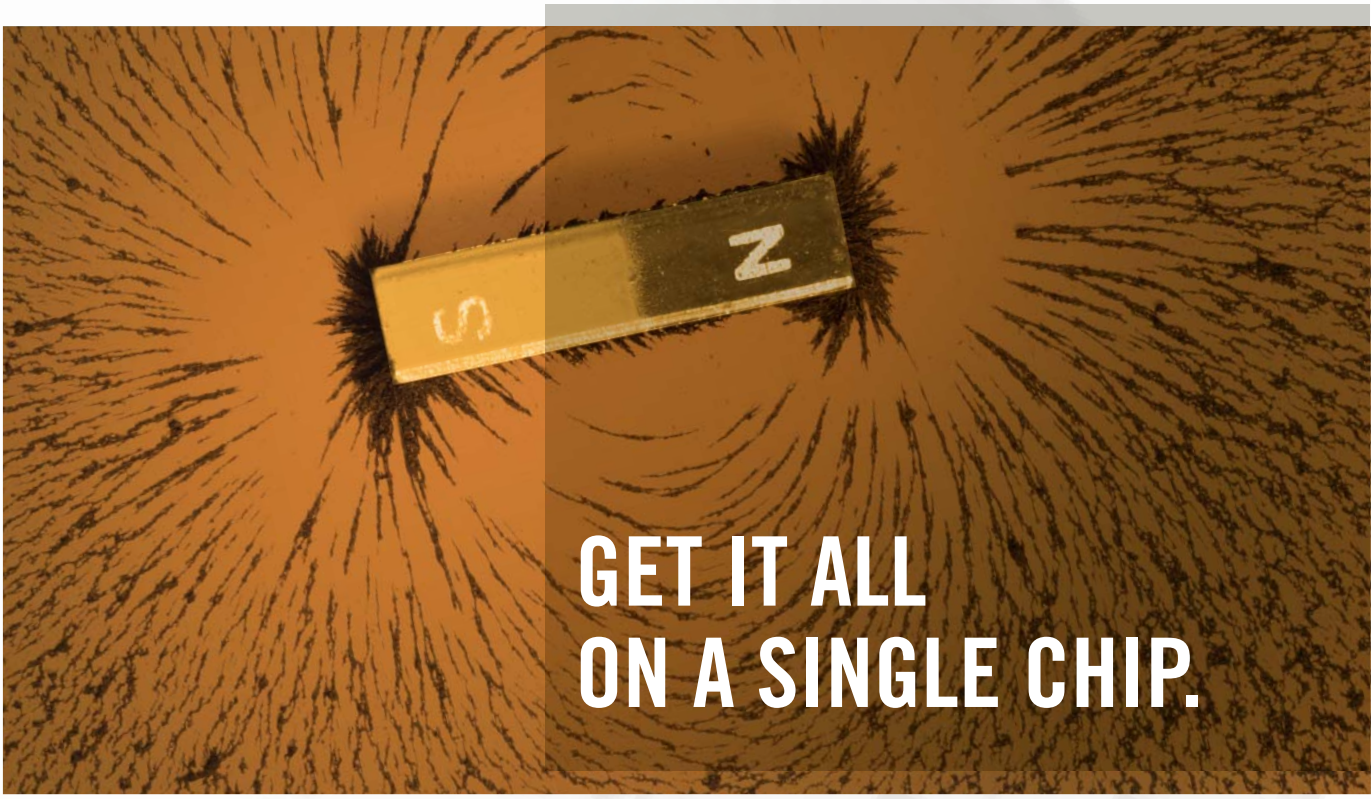
MS2100

2-axis Reference Magnetic Sensor with ASIC



GET IT ALL ON A SINGLE CHIP.

THE SIMPLEST WAY TO INTEGRATE 2-AXIS

magnetic field sensing into any device, the MS2100 from PNI comprises two orthogonal magnetic sensors on a single chip to provide high-resolution compassing while setting new lows for energy consumption. It boasts unparalleled dynamic range, hysteresis-free performance, immunity to large-signal noise, and stablity over a wide temperature range.

Ideal for magnetic field sensing applications where power is in short supply, the MS2100 is optimized for use in watches, radar detectors, and any consumer product with integrated compassing functions.

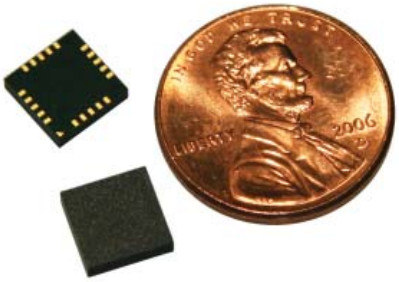
PNI
SENSOR CORPORATION

MS2100

2-axis Reference Magnetic Sensor with ASIC

- 2 AXIS
- HIGH RESOLUTION
- LOW POWER

Get it all...



The MS2100 is a high resolution, integrated 2-axis magnetic sensor chip combining PNI's magneto-inductive (MI) sensors and ASIC into a single package for unparalleled performance. Designed to facilitate digital compassing in consumer electronics products, the MS2100 can enable heading accuracy of 1° with 0.5° resolution. The device also includes pins to support the connection of a third Reference Magnetic sensor axis for higher performance applications.

The MS2100 uses significantly less power than comparable magneto-resistive (MR) or fluxgate sensors. And because it doesn't require setting and resetting like MR devices, its peak current requirement is dramatically less. The MS2100 provides superior signal-to-noise immunity, a large dynamic range, stable measurement over temperature, and is inherently free from offset drift.

...on a single chip.

The microprocessor-compatible SPI interface allows easy access to the MS2100's measurement parameters, while eliminating the need for glue logic components. 3V operation ensures compatibility with most battery-powered products. Providing software-configurable resolution, sampling rate, and measurement range, the MS2100 can be optimized for the user's system.

These advantages make the MS2100 the choice for high volume applications where small size and low power requirements are paramount.

Specifications

	MS2100
Axes	X & Y with Z axis provision
Field Measurement Range[1]	± 11 Gauss
Resolution[2]	55 nT
Linearity, ± 200μT	0.5 %
Current Consumption[3]	0.7 mA @ 3.0 VDC
Peak Current Consumption	<5 mA @ 3.0 VDC
Dimensions	7 x 7 x 1.35mm
Surface-Mount Package	20 pad QFN
Communication Interface	SPI
Operating Temperature	–20ºC to 70ºC
Storage Temperature	–40ºC to 85ºC

1. The field measurement range is the monotonic region of the output curve
2. With period select set to 2048
3. At 8 Hz sample rate and period select set to 2048

PNI MAGNETO-INDUCTIVE ORIENTATION SENSORS can tell you if something is up or down, sideways or facing east. They can tell you where in space your handheld is, or track movement across a screen or down a ravine. They're reliably accurate underwater, in space, in a car, and at extreme temperatures — all with pin-point accuracy, and using far less power than other technologies.

PNI uses the existing power of the earth's magnetic field to measure position, orientation and heading, applying its patented Magneto-Inductive technology in each of its sensors and modules.

Many of today's leading companies are using PNI technology in their marquee products and across a wide spectrum of applications, including compassing, surveying equipment, sonar, robotics, vehicles and oceanography equipment.

For detailed ordering information and most current specifications, please visit www.pnicorp.com

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