



PNI V2Xe

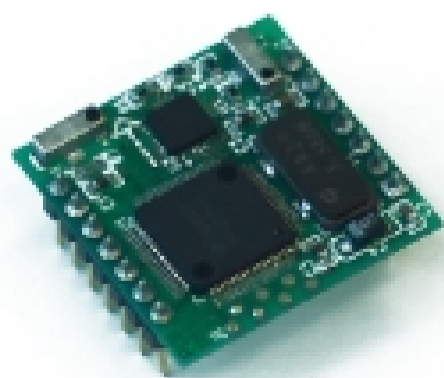
2-Axis Compass Module

General Description

The V2Xe is an integrated 2-axis compass and magnetic field sensing module featuring an on-board microprocessor for control and interfacing. The V2Xe combines PNI Corporation's patented Magneto-Inductive (MI) sensors and measurement circuit technology for unparalleled cost effectiveness and performance. The MI sensor changes inductance by 100% over its field measurement range. This variable inductance property is used in a cost and space efficient ASIC (PNI 11096) which incorporates a temperature and noise stabilized oscillator/counter circuit. The microprocessor controls the ASIC and provides easy access to the V2Xe's heading information as well as magnetic field measurement data via a Motorola compatible SPI interface.

Advantages include 3 V operation for compatibility with new systems, low power consumption, a small footprint, large signal noise immunity under all conditions, and a large magnetic field dynamic range. Resolution and field measurement range are software configurable for a variety of applications. The measurement is very stable over temperature and inherently free from offset drift.

These advantages make PNI Corporation's V2Xe the choice for applications that require a solution that has a high degree of azimuth accuracy, requires little power, and has a small package size.



Features

- Low power: draws 2 mA at 3 VDC (continuous output)
- Small size: 25.4 x 25.4 x 11.55 mm
- High resolution compass heading: 0.01 °
- High accuracy compass heading: 2 °
- Non-volatile memory: retains calibration when power is removed
- Multiple measurement modes: compass heading or magnetic field
- Large field measurement range: $\pm 1100 \mu\text{T}$ (± 11 Gauss)
- High resolution field measurement: 0.015 μT (0.00015 Gauss)
- Fully digital interface: SPI protocol at 3V

Applications

- Remote terrestrial antenna direction indicators
- High-performance magnetic field sensing
- High-performance solid state navigation equipment
- Survey equipment
- Robotics systems
- Vehicle detection
- Consumer and hobbyist markets
- Security/tamper detection

Ordering Information

Name	Part #	MOQ	Package	RoHS Compliant
V2Xe	11862	1	Each	No
V2Xe Developers Kit	90025	1	1 kit	No

Table 1 Ordering Information

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SPECIFICATIONS

CAUTION:

Stresses beyond those listed under **Table 2** may cause permanent damage to the device. These are stress ratings only. Functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Table 2: Absolute Maximum Ratings

Symbol	Parameter	Minimum	Maximum
V_{DD}	DC supply voltage	-0.3 VDC	4.1 VDC
V_{IN}	Input pin voltage	$V_{DD} - 0.3$ VDC	$V_{DD} + 0.3$ VDC
I_{IN}	Input pin current	-2.0 mA	2.0 mA
T_{STRG}	Storage Temperature	-40 °C	85 °C