

# CompassPoint Prime

3-axis digital compass module



## A COMPLETE 3-AXIS COMPASS FOR A 2-AXIS PRICE.



### THE HIGHEST-PERFORMANCE 3-AXIS COMPASS

module in its price range, PNI's CompassPoint™ Prime provides pitch, roll and compass heading anywhere GPS is compromised or unavailable — underwater or underground, beneath bridges or inside buildings.

The low-power consumption, low-cost CompassPoint Prime provides all-digital compass heading outputs accurate to 1 degree, can be calibrated to account for magnetic distortions, and offers several user-programmable parameters — including output damping, reporting units, and sampling configuration. Designed for flexibility and adaptability, it's a perfect fit for sonobuoys, ROVs, AUVs, and cost-sensitive applications that require a full-featured 3-axis digital compass.

## Full featured digital compass...

By combining PNI's patented magneto-inductive sensors with a 3-axis MEMS accelerometer, the Prime is a low-cost compass that provides accurate heading and tilt readings, even at high and low latitudes. PNI's advanced hard and soft iron correction algorithms allow for compensation of magnetic distortions inherent in the user's system, resulting in reliable and consistent readings.



## ...at a 2 axis price.

By incorporating PNI's patented magneto-inductive sensors and intelligent power-saving algorithms, the Prime consumes less than half the power of magneto-resistive-based compasses. Unlike competitive products, the Prime works well at high and low latitudes where the earth's magnetic field has a very high Z-axis component. Applications include inclusion in binoculars and telescopes, robots and small unmanned vehicles, sonobouys, acoustic Doppler current profilers (ADCPs) and seismic monitoring equipment.

## CompassPoint Prime

3-axis digital compass module

	2 - AXIS
	3 - AXIS
	HARD AND SOFT IRON CORRECTION
	INTEGRATED PROCESSOR
	LOW POWER

## Specifications

Performance Specifications	Heading	Accuracy	1°rms
		Resolution	0.1°
		Repeatability	± 0.05
	Tilt	Range	±90 of pitch, ±180 of roll
		Accuracy	<1° rms
		Resolution	0.1°
		Repeatability	0.05°
	Maximum Dip Angle	85°	
I/O Characteristics	Maximum Sample Rate	10 samples/sec	
	Communication Interface	Binary RS232	
Mechanical Characteristics	Dimensions (l x w x h)	3.3 x 3.1 x 1.3 cm	
	Weight	5 gm	
Power Requirements	Supply Voltage	3.6 - 5 VDC	
	Current Draw (continuous output)	16 mA	
	Current Draw (sleep mode)	0.6 mA	
Temperature Range	Operation	-40 °C to +85 °C	
	Storage	-40 °C to +85 °C	

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 ordering information and most current specifications, please visit [www.pnicorp.com](http://www.pnicorp.com)

PNI Sensor Corporation 133 Aviation Blvd, Suite 101, Santa Rosa, CA 95403-1084 USA  
Phone: 707-566-2260 Fax: 707-566-2261

March 2010

