



NO ROOM FOR ERROR.



Introducing the first affordable AHRS that stays on track while moving and through magnetic distortion.

Unmanned vehicles are performing progressively more complex tasks – and requiring increasingly robust and accurate heading and orientation information. But existing AHRS modules leave too much room for error. They lose heading when encountering magnetic distortion; they suffer from errors when experiencing erratic motion; and often don't provide accurate headings, even in a static environment. And at more than \$2000 for a MEMS-based AHRS, it's no wonder AHRS have only been integrated by a select few customers.

When there's no room for error, TRAX stays on track.

The new FieldForce® Trax AHRS module provides unparalleled heading accuracy when static, while moving and through magnetic distortion. Trax employs a patented Kalman filtering algorithm that intelligently fuses PNI's patented Reference Magnetic Sensors with gyros and accelerometers to overcome errors due to erratic motion and changes in the local magnetic field.



When exposed to magnetic distortion, TRAX maintains accurate heading — while the leading AHRS is thrown off track.

And Trax is priced for commercial use — delivering more reliable heading than AHRS modules that cost twice as much.

Features:

- High accuracy
- Magnetic distortion compensation
- Multiple field calibration options
- Low power consumption
- RS232 and USB interface
- RoHs compliant

Specifications¹

Performance Specifications	Heading	Range	360°
		Static Accuracy	0.3° rms
	Tilt	Dynamic Accuracy	2° rms
		Accuracy in Presence of Magnetic Transient	2° rms
		Resolution	0.1°
		Repeatability	0.05 rms
		Range	±90 of pitch, ±180 of roll
Accuracy	.2° rms		
I/O Characteristics	Communication Interface	Resolution	0.1°
		Repeatability	0.05° rms
	Maximum Dip Angle	Range	85°
		Communication Interface	RS232 & USB
Mechanical Characteristics	Dimensions (l x w x h)	3.5 x 4.3 x 1.3 cm	
	Weight	9 gm	
Power Requirements	Supply Voltage (unregulated)	3.6 - 5 VDC	
	Current Draw (continuous output)	80 mA	
Temperature Range	Operation	-40°C to +85°C	
	Storage	-40°C to +85°C	

1. Product specifications are preliminary and subject to change

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

FieldForce **TRAX**
AHRS MODULE

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

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.