



## NO ROOM FOR ERROR.



Introducing the first affordable AHRS that stays on track while moving and when encountering 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.

So when there's no room for error, Trax stays on track.

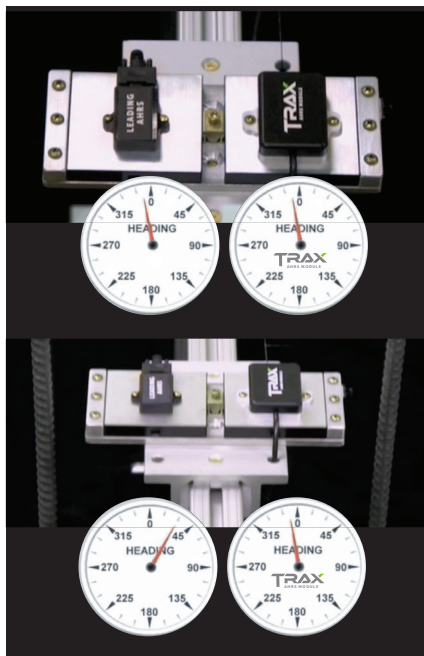
## When there's no room for error, TRAX stays on track.

The new FieldForce Trax AHRS provides unparalleled heading accuracy when static, while moving and when encountering 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.

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
- Backward compatible footprint



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

### Specifications<sup>1</sup>

Performance Specifications	Heading	Range	360°
		Static Accuracy <sup>2</sup>	0.3° rms
		Accuracy in presence of magnetic transient, and/or dynamic motion <sup>3</sup>	2.0° rms
		Resolution	0.1°
		Repeatability <sup>4</sup>	0.05° rms
	Tilt	Range	±90 of pitch, ±180 of roll
		Accuracy	0.2° rms
		Resolution	0.01°
		Repeatability <sup>4</sup>	0.05° rms
		Maximum Dip Angle	85°
I/O Characteristics	Communication Interface	RS232 & USB	
Mechanical Characteristics	Dimensions (l x w x h)	3.5 x 4.3 x 1.0 cm	
	Weight	7 gm	
Power Requirements	Supply Voltage (unregulated)	3.8 - 9 VDC	
	Current Draw (in AHRS mode)	55 mA	
	Current Draw (in compass mode)	28 mA	
Temperature Range	Operation	-40° C to +85° C	
	Storage	-40° C to +85° C	

1. Product specifications are preliminary and subject to change  
2. Compass Mode

3. AHRS Mode  
4. When Trax remains stationary and magnetic field is changed.

FieldForce **TRAX**  
AHRS MODULE



2-Axis



3-Axis



HARD AND SOFT IRON CORRECTION



INTEGRATED PROCESSOR



LOW POWER



DYNAMIC MOTION CONTROL

PNI SENSOR CORPORATION is America's leader in the exacting science of producing pinpoint heading and orientation modules for the military, scientific and oceanography communities. Building on decades of patented sensor research, PNI offers today's most reliable magnetic sensor systems, including advanced compass modules and AHRS with proven intelligence that virtually eliminates magnetic distortion issues encountered with standard magnetic sensors.

Serving a demanding list of customer needs with highly individual qualifications and specifications, PNI is a specialized magnetic sensor producer with a proven history of meeting the needs of large industries including the US Military, the auto industry and the consumer electronics industry. Nimble and responsive, PNI's U.S. based team of physicists, engineers, and quality control experts offers a multitude of compass and AHRS modules to speed integration into complex systems and end-products.

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

PNI Sensor Corporation

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