



# TRAX2 Attitude & Heading Reference System (AHRS) & Digital Compass

Accurate orientation in demanding conditions



**TRAX2 incorporates PNI's military-grade magnetic sensors with proven sensor fusion and digital compass algorithms to provide accurate direction and orientation.**

TRAX2 is the only orientation module that provides two different modes: AHRS or digital compass. TRAX2's dual-mode capability supports a wide range of applications including drones, robotics, ocean buoys, manned and unmanned vehicles, among others.

TRAX2 combines PNI's high sensitivity magneto-inductive sensors with a high stability 3-axis MEMS accelerometer to provide accurate heading information under a wide variety of conditions and the ability to overcome errors caused by changes in the local magnetic field. This provides no drift, high accuracy heading, pitch and roll and long-term static accuracy.

## Features & Benefits

- AHRS mode incorporates PNI's 15 state Kalman filter with user-adjustable knobs to optimize the algorithms for specific applications and conditions
- Gyro-stabilized compass for improved dynamic accuracy provides sub-0.5 degrees of heading accuracy
- Low latency and no overshoot for quick target acquisition
- Multiple calibration methods ensure accuracy in a wide in a wide range of industrial, scientific, marine and military applications
- ITAR-free



## Preliminary Specifications\*



With over 30 years of experience, PNI is the world's foremost expert in precision location, motion tracking, and fusion of sensor systems into real-world applications.

PNI's sensors and algorithms serve as the cornerstone of successful IoT projects and other mission-critical applications where pinpoint location, accuracy, and low power consumption are essential.

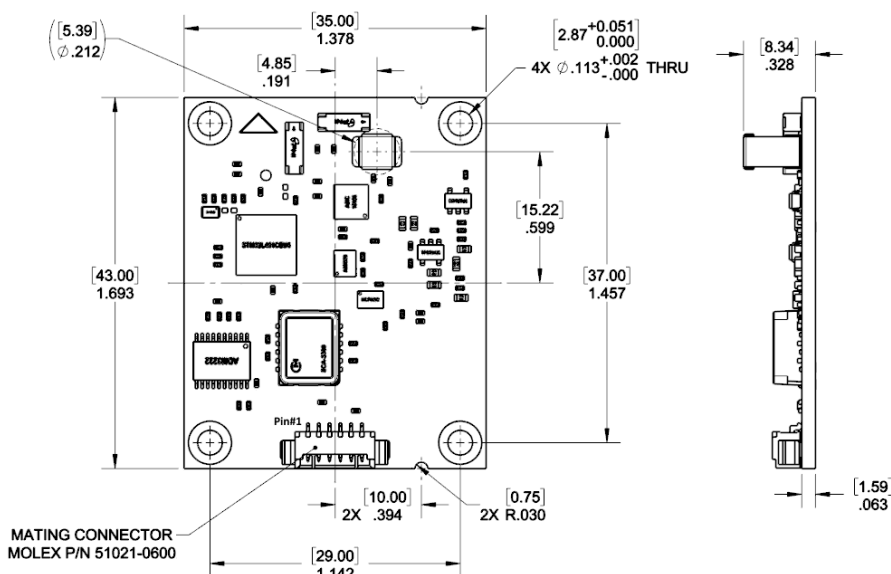
Building on decades of patented sensor and algorithm development, PNI offers the industry's highest-performance geomagnetic sensor in its class, location and motion coprocessors, high-performance modules, sensor fusion algorithms, and complete sensor systems.

To learn more, please visit [www.pnicorp.com](http://www.pnicorp.com).

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\*Specifications are subject to change.  
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Performance Specifications	Heading	Range	360°
		Digital Compass	0.3° rms
		AHRS	2.0° rms
		Resolution	0.1°
		Repeatability	0.05° rms
	Tilt	Range	±90° of pitch, ±180° of roll
		Accuracy	0.2° rms
		Resolution	0.01°
		Repeatability	0.05° rms
		Maximum Dip Angle	85°
I/O Characteristics	Communication Interface	RS232 & TTL	
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)	3.7 – 9 VDC	
	Current Draw (in AHRS mode)	21 mA	
	Current Draw (in compass mode)	14 mA	
Temperature Range	Operation	-40°C to + 85°C	
	Storage	-40°C to + 85°C	



DIMENSIONS IN [MM] / INCHES