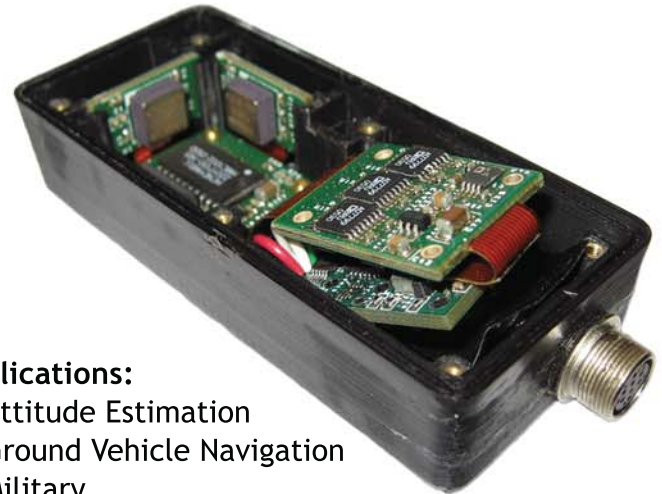


The I3M (Inertial Measurement & Magnetometer Module) is a product of Cybernet's continued development and miniaturization of MEMS-based Inertial measurement instrumentation. It is among the smallest and most accurate MEMS inertial measurement units in the world, providing fast dynamic response and drift-free, absolute pointing data to better than 0.1 milliradian in pitch, roll and yaw - both indoors and outdoors.

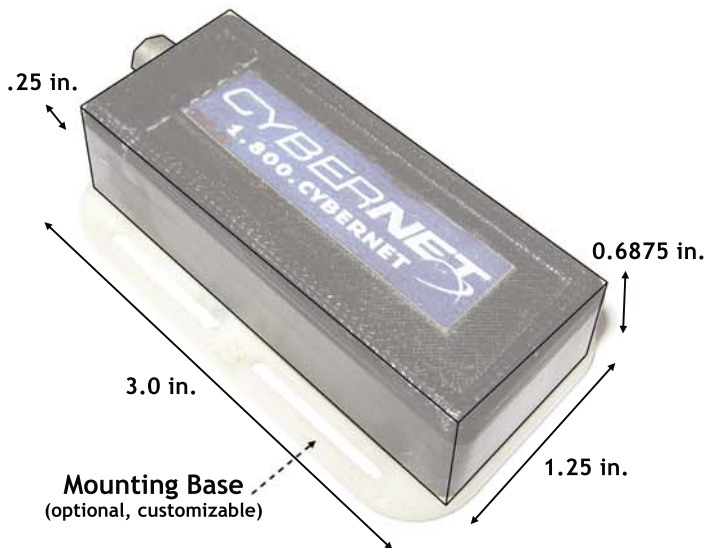
## An I3M Provides:

- Full 6 Degrees of Freedom measurements plus 3 Axis magnetic sensing.
- Better than 1 milliradian pointing accuracy (+/- 1m error at 1000 meters) when using Cybernet-supplied calibration C++ software API.
- 16 bit analog to digital conversion of 3 Axis of Acceleration, Rotation, and Earth's Magnetic Field sensing.
- RS232 interface (115 kbaud) and digital control inputs for maximum flexibility
- Sampling rates and sensor selection of up to 100 sps.
- On board temperature sensing for calibration over temperature.
- Packaged and OEM versions.
- Current draw of only 186mA.
- Dimensions:
  - 3.0 in. Length (plug +.25 in.)
  - 1.25 in. Width
  - 0.6875 in. Height
  - 1.3 oz. Weight



## Applications:

- Attitude Estimation
- Ground Vehicle Navigation
- Military
- Marine
- Industrial



I3M System	Units	Min.	Typical	Max.
Opr. Temp. Range	°C	-40	-	85
<b>Accelerometer</b>	<b>±2G</b>	<b>3 axis</b>		
Zero-G Offset	V	1.55	1.65	1.75
Zero-G Offset over Temp.	mg/°C		±0.4	
Sensitivity	mV/g	640	660	680
Sensitivity over Temp.	%/°C		±0.005	
Non-Linearity	% of FS		0.1	
<b>Gyro</b>	<b>±300 °/s</b>	<b>3 axis</b>		
Null Offset	V	2.3	2.5	2.7
Null Offset over Temp.	V	2.3		2.7
Sensitivity	mV/°/s	4.6	5	5.4
Sensitivity of Temp.	mV/°/s	4.6	5	5.4
Non-linearity	% of FS		0.1	
<b>Magnetometer</b>		<b>3 axis</b>		
Null Offset	mV	-60	-15	30
Sensitivity	2MV/Gauss	2.5	3.2	4.0
Field Range	Gauss	-2		+2
Noise Density	nV/Hz		29	
Resolution	µGauss		27	
Hysteresis Error	% of FS		0.05	0.10
Repeatability Error	% of FS		0.05	0.10
S/R Repeatability	µV		2	10
<b>Temperature</b>		<b>1 axis</b>		
V <sub>out</sub> at 298°K	V		2.50	
Scale Factor	mV/°K		8.4	