

I3M Precision Pointing Device



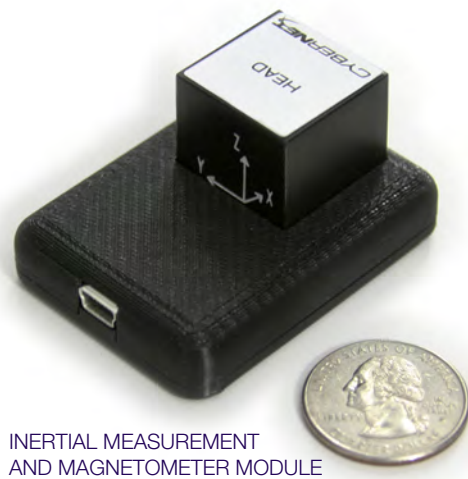
The I3M (Inertial Measurement and Magnetometer Module) is a product of Cybernet's continued development of MEMS-based inertial measurement instrumentation. It is among the smallest and most accurate MEMS inertial measurement units in the world. It provides accelerometer, gyroscope, and magnetometer data in pitch, roll, and yaw.

THE I3M PROVIDES:

- ▶ Full 6 Degrees of Freedom measurements plus 3 axis magnetic sensing.
- ▶ Output:
 - ▷ USB 2.0 Full Speed (12 Mbps)
- ▶ Pre-calibrated temperature range of -40 to 85 °C.
- ▶ Inertial sampling rates up to 273 Hz.
- ▶ Current draw is < 100 ma.
- ▶ Interface for calibrating the sensor beyond the factory defaults.
- ▶ Dimensions:
 - ▷ 2.0 in. Length
 - ▷ 1.5 in. Width
 - ▷ 1.25 in. Height
 - ▷ 1.1 oz. Weight
- ▶ Expandable Features:
 - ▷ Digital I/O
 - ▷ Analog or Digital I/O
 - ▷ RS232 Output
 - ▷ 3.3 V TTL Serial Output

APPLICATIONS:

- ▶ Pointing Solutions
- ▶ Motion Tracking
- ▶ Position Estimation
- ▶ Dead Reckoning



SPECIFICATIONS:				
I3M SYSTEM	MIN.	TYPICAL	MAX.	UNITS
Operating Voltage	2.5	-	5	V
Operating Current	55	-	100	mA
Operating Temperature Range	-40	-	105	°C
Calibrated Temperature Range	-40	-	85	°C
Sample Rate	1	-	300	SPS
ACCELEROMETER				
Dynamic Range	-18	-	18	g
Resolution	3.285	3.33	3.38	mg
Bandwidth	-	330	-	Hz
GYROSCOPE				
Dynamic Range	-6.1	-	6.1	rad/s
Resolution	0.864	0.873	0.88	mrad/s
Bandwidth	-	330	-	Hz
MAGNETOMETER				
Dynamic Range	-2.5	-	2.5	gauss
Resolution	0.49	0.5	0.51	mgauss
Bandwidth	-	1540	-	Hz
TEMPERATURE				
Resolution	-	0.14	-	°C

