



Model 113D

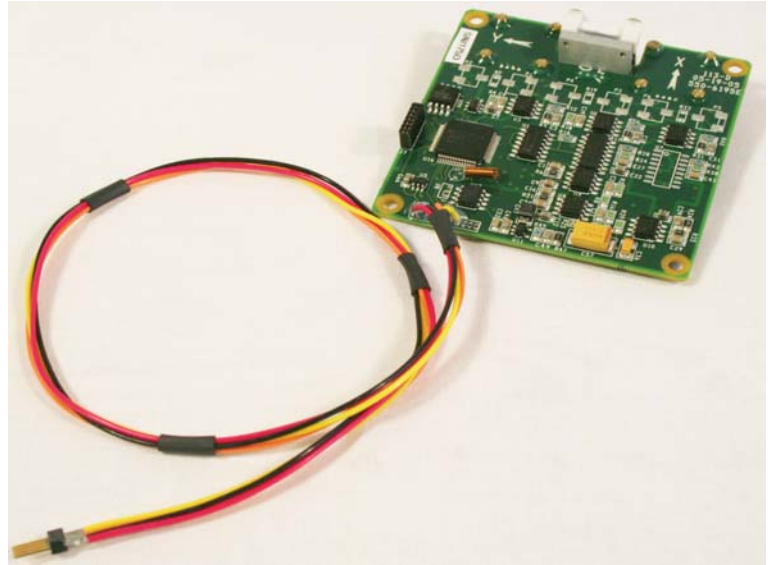
Digital 3-Axis Fluxgate Magnetometer

Features

- 3-axis vector magnetometer
- High speed digital interface
- Low-cost PC board system
- Low noise level $\pm 20 \mu\text{G}$
- Measures fields up to $\pm 600 \text{ mG}$
- Single power input +4.9V to 12V

Applications

- Fluxgate compass systems
- Magnetic anomaly detection
- OEM magnetic field measuring



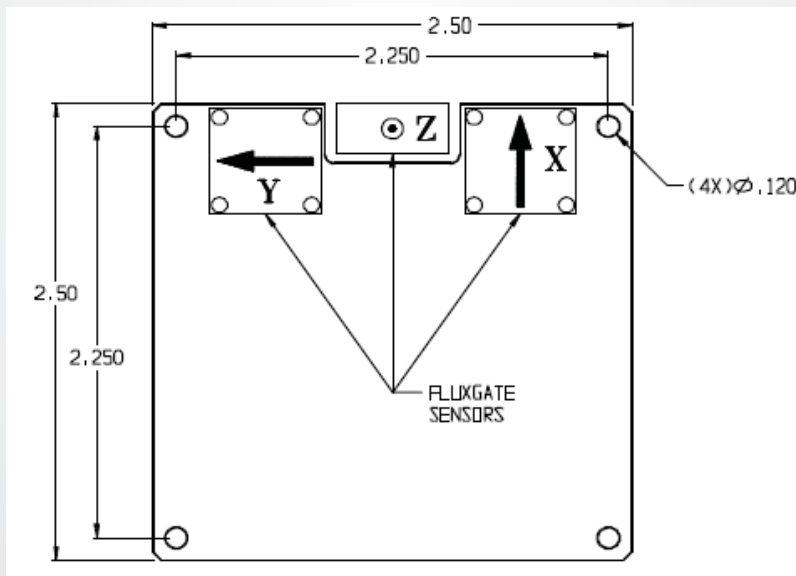
The Model 113D magnetometer is a tri-axial vector magnetometer system with a high-speed digital interface that can transmit XYZ magnetic field values at up to 140 times per second.

The Model 113D contains a microprocessor and a three channel 16-bit analog-to-digital converter. The system microprocessor and A-to-D subsystem:

- convert the sensor analog outputs to digital form
- calibrate the sensor scale, offset and alignment
- implement serial communications between the system and an external computer

The Model 113D Magnetometer communicates with an external computer over bi-directional RS232 and TTL serial interfaces. An ASCII character command language facilitates communication with the 113D.

An autosend data mode is included in the 113D software. When this mode is active, a continuous data stream is automatically sent out the serial port after power is applied to the system. The system also contains a temperature sensor. The graphic below shows the placement of the X, Y, and Z axes on the Model 113D:



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Systems

PHYSICAL

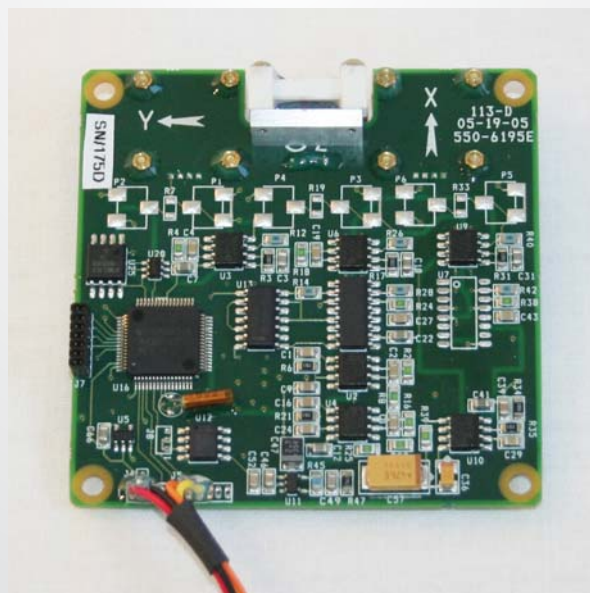
Width/Length (PC board)	2.5" (63.5 mm)
Height (PC board)	.625" (15.88 mm)
Weight	25 g
Leads	6" flying leads

ELECTRICAL

Input	+4.9 VDC to +15 VDC @ 80 mA
Data Rate in Autosend Mode	ASCII mode: 70 transmissions/sec Binary mode: 140 transmissions/sec
Digital Output Protocols	RS232 and TTL, User programmable baud rate to 9600 baud
Digital Output Formats	ASCII and Binary

ENVIRONMENTAL

Noise Level	± 2 nT (± 20 μ Gauss)
Dynamic Range	$\pm 60,000$ nT (± 600 mGauss) $\pm 100,000$ nT (± 1.0 G) optional
Resolution	2 nT (20 μ Gauss)
Accuracy	$\pm 1\%$ FS



Specifications within this document are subject to change without notice.

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www.appliedphysics.com

281 East Java Drive, Sunnyvale, CA 94089 USA • 650.965.0500 • Fax: 650.965.0404 • email: service@appliedphysics.com