

MagEx

Portable Cesium Magnetometer



The MagEx is the newest, lightest, and most advanced land magnetometer in the Geometrics product line. Completely designed around our MFAM sensor, the MagEx is fully self-contained with GPS, data storage, and its own wireless access point on-board, allowing for a more modern user experience.

The system will run for 10 hours on a fully charged battery. At only 3.7 kilograms (about 8 pounds), this well-balanced instrument is comfortable to use in all types of terrain and in the most inhospitable conditions.

The user interface software, MagNav, has modern features such as real-time viewing of the magnetic field data, waypoint navigation with Mapped Surveys, and the ability to grid data and create a color contour map while in the field. Once the survey is complete, the data is transferred from the tablet to the field computer for further analysis.

Since 1969, Geometrics has been designing magnetometers to meet a wide range of industry needs. The geophysics industry has changed since we released our first magnetometer over 50 years ago. Today geoscientists and surveyors are looking not only for rugged and reliable instruments, but also those that are lightweight, fast, and easy to operate.

The new MagEx fits today's market - a lightweight design for easier portability, Android-tablet compatible to eliminate bulky data loggers, and low-powered for extended battery life. The system's wireless controls eliminate the well-known hassle that cables can cause while in the field. The MagEx is unlike anything we've offered before.

FEATURES & BENEFITS

- **Lightweight** – Weighs less than 4 kg for enhanced portability.
- **Self-Contained** – GPS, storage, and WiFi on board.
- **Adjustable Sampling Rate** - MFAM sensors sample at 1000 Hz. The 1000 Hz data is internally filtered and down sampled to different rates, up to 25 Hz for high resolution mapping. High frequency noises, such as 50/60Hz power line noises, will not alias into the MagEx readings.
- **Long Battery Life** – 10 hours of battery life to allow for a full day of surveying without carrying additional batteries.
- **Wirelessly Controlled** - Wireless user interface on Android tablet simplifies system setup and eliminates cables.

SPECIFICATIONS | MagEx Portable Cesium Magnetometer

HIGH-PERFORMANCE, SIMPLE DESIGN

For simplicity in the field, the MagEx has no external connections, instead containing the GPS, WiFi, and memory on board. All operations are accessed through an Android based application

Operating Principle: Laser pumped cesium vapor (Cs133 non-radioactive) total field scalar magnetometer

Operating Range: 20,000 to 100,000 nT

Gradient Tolerance: 10,000 nT/m

Operating Zones: Configurable for operation worldwide

Dead Zone: Adjustable single polar deadzone; $\pm 30^\circ$ typical; $\pm 35^\circ$ guaranteed

Noise/Sensitivity: 5pT/ $\sqrt{\text{Hz}}$ typical; 10pT/ $\sqrt{\text{Hz}}$ Guaranteed; Global 20pT/ $\sqrt{\text{Hz}}$

Sample Rate: 5 Hz, 10 Hz, 20 Hz, and 25 Hz

Heading Effect: ± 1.5 nT typical, ± 2 nT guaranteed at 48uT
Much less if far away from the deadzone

Output: WiFi

GPS: 50% CEP ≤ 1.5 m; ≤ 1.0 m with SBAS

Data Logger: Ruggedized, sunlight-readable, Getac Tablet; non-magnetic

Total Weight: Less than 4 kg (~8 lbs)

Length: 1.2 m (4 ft)

Power: 2 x 5000 mAh Li-Po Batteries; up to 10 hours

ENVIRONMENTAL

Operating Temperature: -20°C to $+40^\circ\text{C}$ (-4°F to $+104^\circ\text{F}$)

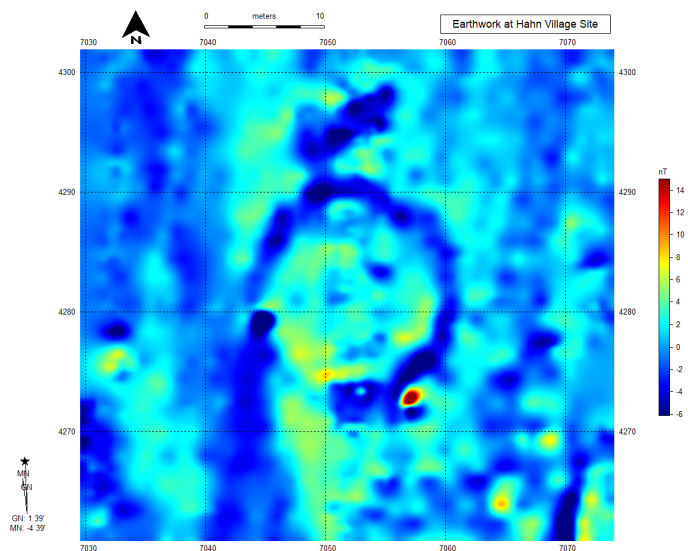
Storage Temperature: -45°C to $+70^\circ\text{C}$ (-49°F to $+158^\circ\text{F}$)

Water Tight: IP4 rated; rain-proof

ACCESSORIES

Standard: Carrying case, shoulder strap, AC adapter, custom Getac Tablet with hand strap, tablet charger, USB with Survey Manager software and manuals

Optional: Backpack, Li-Po batteries, battery charger



1. MagEx
2. Shoulder Strap
3. Tablet
4. Battery*
5. Battery Charger*
6. Tablet Charger

*Optional Equipment

Specifications subject to change without notice. MagEx(0324)