

G-862RBS

CESIUM BASE-STATION MAGNETOMETER

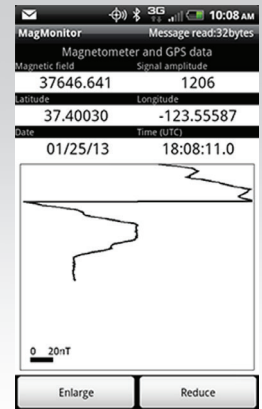
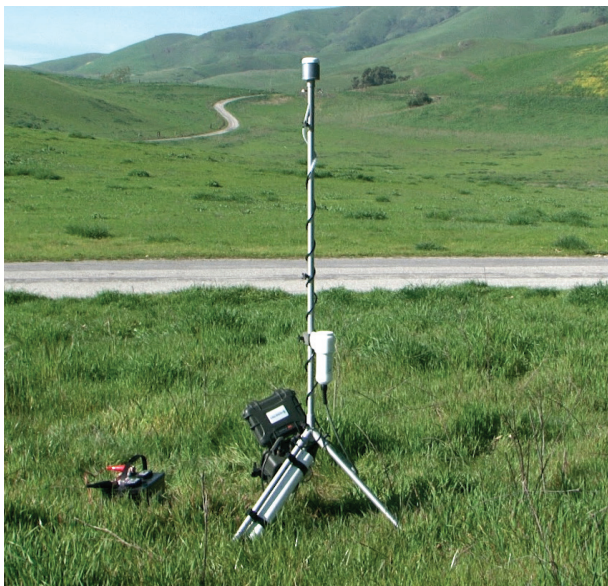


GEOMETRICS

Innovation • Experience • Results

FEATURES & BENEFITS

- High sensitivity cesium vapor magnetometer with the CM-221 Mini-Counter providing $0.004 \text{ nT}/\sqrt{\text{Hz}}$ RMS performance.
- Automatic measurement timed by integrated Tallysman TW5341 GPS antenna/ receiver. Each magnetometer reading is concatenated with GPS data.
- Magnetometer data and GPS time coordinates recorded as an ASCII data file on high capacity USB memory stick.
- Low power consumption (30 W) and operable from 10-36 VDC or 110-240 VAC 50-60 Hz external power sources.
- System includes nonmagnetic, collapsible tripod sensor stand with attachment hardware for magnetometer sensor, sensor driver/counter module, GPS antenna/ receiver, and data logger.
- System comprised entirely of weatherproof components and packed in a durable watertight shipping/storage case ready for immediate use.
- Bluetooth capability built in to data logger permits display on Android device. Download application from Geometrics.



The high performance of the G-862 and its multi-function capabilities are well suited for many mobile survey applications and also for applications that require stationary monitoring of the total magnetic field. In addition to providing magnetic field measurements, the electronic circuits included in the G-862 provide the ability to concatenate its measurement data with the output of other RS 232 serial devices. This feature permits the G-862 to be integrated with other digital devices and to merge this combined data into a single digital stream for efficient transmission and storage. The default data transmission format of the G-862 is also selectable by external software command and may be customized for specific needs. These features are utilized in the design of the G-862RBS, which combines Geometrics high performance G 862 magnetometer with a Tallysman TW5341 GPS and Dog Catcher serial data logger to provide a high performance Recording Base Station (RBS) magnetometer system. The default configuration of the G-862RBS provides 0.02 nT P-P performance ($0.004 \text{ nT}/\sqrt{\text{Hz}}$ RMS) at 10 samples per second where each measurement is time tagged by the GPS data as it arrives from the Tallysman receiver.

These time-stamped magnetic field measurements are presented as a serial data stream in RS 232 ASCII format and logged by the Dog Catcher serial data logger included in the G-862RBS.

Because the G-862RBS's measurements are time stamped, and GPS synchronized, they are automatically synchronized with a similarly configured magnetometer system – whether it is stationary or mobile. The precise, synchronous records obtained from a mobile magnetic survey system and a stationary G-862RBS will permit the recognition and removal of both the diurnal variation of the Earth's field as well as higher frequency magnetic signal due to spherics. The magnetometer and GPS time value are synchronized to within 1 ms and the Cesium-vapor technology used in the G-862RBS is stable, not requiring adjustment or periodic factory recalibration. Status lights are available to signify loss of GPS data, questionable timing and other error messages. After years of operation, full conformity with original stringent specifications can be expected. A full one-year warranty is offered with every system.

G-862RBS

CESIUM BASE-STATION MAGNETOMETER

SPECIFICATIONS

MAGNETOMETER: Self-oscillating split-beam Cesium Vapor (non-radioactive)

MAGNETOMETER OPERATING RANGE: 20,000 to 100,000 nT

OPERATING ZONES: The earth's field vector should be at an angle greater than 10° from the sensor's equator and greater than 10° from the sensor's long axis. Automatic hemisphere switching.

SENSITIVITY: $< 0.004 \text{ nT}/\sqrt{\text{Hz}}$ rms. Typically 0.02 nT P-P at a 0.1 second sample rate (90% of all readings falling within the P-P envelope)

ABSOLUTE ACCURACY: $< 3 \text{ nT}$ throughout range

GPS RECEIVER Time accuracy; 20ns, RMS, max. data rate; 1 Hz

DATA LOGGER Serial logger, removable military grade USB memory stick.

DATA FORMAT ASCII, MS Windows PC compatible, FAT16 file format.

CAPACITY 21 days using 1 Gb USB memory stick while recording at 10 Hz rate with GPS receiver output set to provide GPRMC data sentence.

Mechanical / Environmental Shipping weight: 12.7kg. (28Lbs.)

OPERATING TEMPERATURE: -30° F to +122° F (-35° C to +50° C)

STORAGE TEMPERATURE: -48° F to +158° F (-45° C to +70° C)

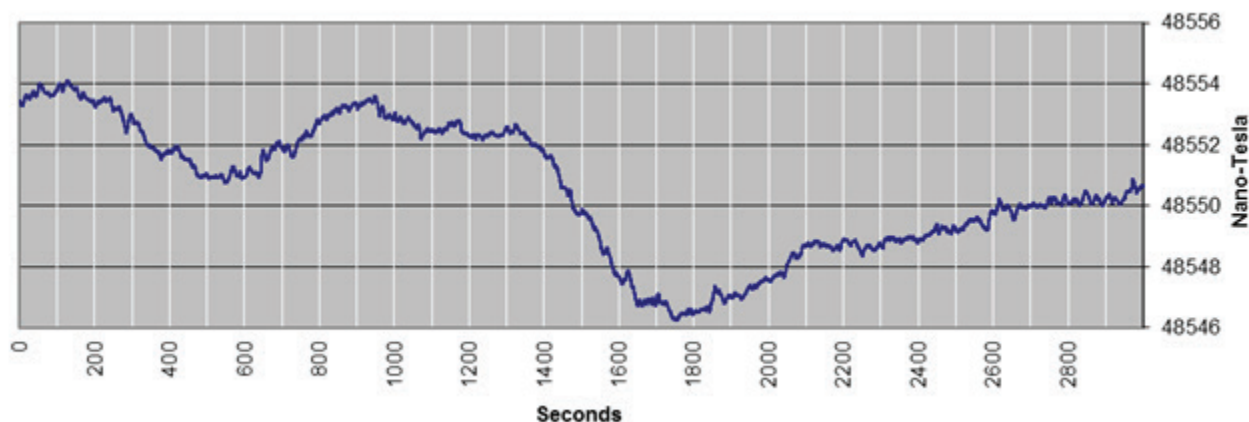
ALTITUDE: Up to 30,000 ft (9,000 m)

WEATHERPROOF: O-Ring sealed for operation in the rain and/or 100% humidity

POWER: 10 to 36 VDC, 30 Watt. or 110-220VAC (50-60hz)

STANDARD ACCESSORIES: 110-220 VAC (50-60hz) power supply, Flash card reader, shipping/storage case, Geometrics MagMap2000 data processing and display software.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



Record of magnetic field variation measured with G-862RBS at 10 Hz rate.

862RBS Datasheet_061915.doc - Rev. 12-30-14

For additional information on these and other products, contact:

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