SIGNAL GEOFÍSICA LTDA
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Overhauser magnetometer MiniMag

Main features:

- The lightest and most portable in the World
- Wide range: 20 000 ÷ 110 000 nT
- High sensitivity: 0.01 nT
- Built-in GNSS receiver
- USB and RS232 for PC or external GNSS receiver connection
- Li-ion battery included

MiniMag areas of application:

- Archaeological surveys
- UXO detection
- Environmental and engineering studies
- Oil and gas exploration
- Mineral exploration
- Continuous monitoring in magnetic observatories

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MiniMag — is the most advanced and lightest Overhauser magnetometer in the World. The instrument is intended for high-precision measurements of the Earth's total field. MiniMag could be deployed as both rover hand-held magnetometer and autonomous or remote base station (BS).
Built-in and external GNSS receiver

Integrated multi-system GPS/GLONASS GNSS receiver enables automatic coordinate gridding of measurement stations and time synchronization with the base station. In cases when the connection of an external receiver is required, MiniMag can provide it using standard NMEA 0183 protocol via RS-232 connection.

Reliable instrument for magnetic observatories

High sensitivity and outstanding absolute accuracy (less than 0.1 nT) alongside with high sampling rate make MiniMag an excellent tool for the equipping of magnetic observatories. Real-time data transfer can be realized via either USB or RS-232 interfaces. An external GNSS receiver installed outside can provide the accurate time synchronization in any magnetic observatory.

Display and beeper

Both text and graphic data presentations are available on the built-in display of MiniMag. Convenient signal quality estimation is realized using sound beeper. Such user-friendly interface makes the magnetometer very easy to use for the real-time UXO and utility detection.
Metrology – guarantee of high accuracy

Each particular MiniMag has its own Certificate issued by authorized organization based on the testing in the entire operation range in the certified magnetic induction measure. We check such parameters as RMSE; sensitivity and orientation error. Metrological Certificate confirms the instrument quality and guarantees the reliability of collected data.
Reliability and Warranty

Our R&D specialists have big experience in magnetometry surveys, that is why we understand that field instruments must be very reliable whereas the maintenance and repair must be fast and simple. All of our magnetometers are provided with 3-year Warranty and our technicians are ready to assist you if any problem arises.
You can also take advantage of our trade-in program and change your old instruments to the new MiniMag with discounts.
Important details

We realize that geophysical instruments must not have useless details, that's why we are focused on technical features that make operation as comfortable as possible.

- MiniMag is waterproof and protected from the dust and precipitation
- New heavy-duty Kevlar cables and reinforced connectors

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- Portable folding sensor rod (available as an option) — comfortable for air travels (fits general carry-on limits)
- New ergonomic backpack harness for comfortable operation
- New safe Li-ion battery that extends the operation temperature range (-40 ÷ +85 °C). The battery has MSDS certificate and allowed for transportation by any kind of vessels
- Remote start module provides convenient operation at low temperatures
- Advanced signal processing algorithms provide improved gradient tolerance and noise reduction
- MS Windows based SDK API − intended for real-time data transfer (available on request)

Features of measurements:

- Automatic change of line and station numbers as well as their coordinate gridding
- Precise measurements in the continuous mode with 0.2 s rate
- Stand-alone or remote base station modes either with data storage in built-in memory or real-time data transfer to a PC
- Both text and graphic data presentation via built-in display, sound beeper data quality estimation
- Test mode with RMS and medium value estimation (without data storage)
- Data export to ASCII text file

Package contents:

- MiniMag magnetometer
- Console
- Set of cables
- Remote start module
- Li-ion battery with power cable
- Charger
- External power supply (for lead battery)
- Backpack harness
- Rugged shipping / storage container
- Data storage software
- Calibration certificate issued by authorized organization
- Operation manual

Magnetometry survey forward modelling and data inversion may be successfully carried out with advanced ZondGM2d and ZondGM3d software packages.

Specification:

Principle of operation	based on Overhauser effect
Range	20 000 ÷ 110 000 nT
Sensitivity	0.01 nT

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Resolution	0.001 nT
Absolute accuracy	0.2 nT
Gradient tolerance	10 000 nT/m
Max sample rate	5 Hz
Memory capacity	1 000 000 (in base magnetic station mode), 250 000 (with coordinate referencing)
Communication interfaces	USB and RS-232
Power	10 ÷ 16.8 V, Li-ion or Pb battery
Operation temperatures	–40 ÷ +60 °C

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