



3-COMPONENT PRECISION MAGNETOMETER LEMI-018

Main features:

- High resolution and precision
- Low noise
- Low temperature offset
- Convenience of installation and service
- Low power consumption
- Graphical display with touch screen
- 32 GB SD card
- Internal real time clock
- Satellite synchronization
- USB output
- 3 years operational guarantee
- Waterproof housing

Main applications

- Exploration of gas, oil and other deposits
- Surveying deep Earth conductivity
- Basic regional survey
- Earthquakes monitoring

Composition

(from top to bottom left to right):

- GPS antenna
- Connection cables
- Electronic unit
- Tilt compensated flux-gate sensor (optional)
- Observatory flux-gate sensor (optional)
- Hermetic field flux-gate sensor



LEMI-018 vector magnetometer for the precise measurement of Earth's magnetic field and its variations at laboratory and land conditions as well as in geomagnetic observatory is produced on the base of flux-gate sensor, all three components of which are implemented in the same body. It consists of two units - sensor unit in waterproof housing and electronic unit mounted in PELI case, both connected by the cable. The electronic unit provides automated operation - acquisition, processing and storage in the embedded SD card of data about magnetic field and its variations and/or their transmission to the external user via USB interface.

Built-in GPS receiver assures satellite synchronization of the internal clock and the coordinates of magnetometer location are also registered. It allows organizing the synchronous operation of a set of the magnetometers installed at the studied area. The big volume of internal non-volatile memory for data recording and small power consumption permits using this magnetometer for long-term autonomous operation in land conditions. Other options, e.g., tilt compensated sensor version, for observatory and laboratory use with leveling facilities, hermetic version etc. exist too.

MAIN TECHNICAL PARAMETERS

Data Logger	
Frequency band	DC-0.5 Hz
Sample rate	1 per s
SD card	32 GB
Digital output and control	USB
GPS timing, coordinates and altitude determination	
Operating temperature range	minus 20 to
Power supply	(5-20) V
Power consumption	<0.5 W
Weight:	2.0 kg
3-component Flux-Gate Magnetometer	
Measured range at analog output	± 70000 nT
Frequency band for magnetometer	DC-10 Hz
Transformation factor of analog output	20 μ V/nT
Noise level at 1 Hz	≤ 10 pT/ $\sqrt{\text{Hz}}$
Temperature drift	< 0.3 nT/ $^{\circ}\text{C}$
Components orthogonality error (without compensation)	< 30 min of arc
Operating temperature range	minus 20 to +
Power consumption	< 0.5 W
Power supply	5 V ± 0.1 V
Weight: sensor with 20 m cable	~ 5 kg

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