

LONG-PERIOD MAGNETOTELLURIC STATION (MTS) LEMI-417

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Main features:

- High resolution and accuracy
- Low noise
- 3 electric + 3 magnetic channels
- Very low temporal and thermal drift
- Low power consumption
- 512 MB - 2 GB internal memory
- Satellite synchronization
- 4-lines digital display
- Analog and RS - 232 outputs
- Magnetic sensor with leveling facilities
- Waterproof plastic case



LEMI-417 digital six-component MTS (three magnetic + three electric channels) is intended for the measurement of natural magnetic and electric field components and their variations in laboratory and field conditions. Its major advantages are very low temporal drift and high accuracy of measurements, what makes it especially efficient for deep sounding application. The magnetometer is produced on the base of flux-gate sensor, all three components of which are implemented in the same thermostable housing. The electrometer has three channels with high input resistance and offset compensation, which can operate with any type of measuring electrodes. The electronic unit allows acquisition, processing and storage of data about magnetic and electric fields variations in internal memory and their transmission to the computer via RS-232 interface. Built-in GPS receiver provides satellite synchronization of the internal clock and the coordinates of the MTS location. MTS operation algorithm allows organizing both autonomous and synchronous operation of a set of the MTS installed at the studied area. Low magnetism of all components allows the magnetic sensor operating conveniently close to the electronic unit. We are flexible to adopt every parameter to your needs.

TECHNICAL SPECIFICATIONS

Magnetic variations measuring ranges along each component	$\pm 65\,000\text{ nT}$
Resolution	10 pT
Noise level at analog output at 1 Hz	$< 7\text{ pT}$
Long-term zero drift	$< \pm 5\text{ nT/year}$
Temperature drift	$< 0.2\text{ nT/}^\circ\text{C}$
Transformation factor linearity error	$< 0.01\%$
Components orthogonality error	$< 30\text{ min of arc}$
Electric voltage total measurement range	$\pm 250\text{ mV}$
Resolution	10 nV
Input resistance	10 GOhm
Time of samples averaging	1, 2, 5, 10, 60 s
Internal FLASH-memory volume	512 MB - 2 GB
Operating temperature range	minus 40 to +50 $^\circ\text{C}$
Power supply source	built-in battery 12 V
Power consumption	$< 0.9\text{ W}$
Weight of electronic unit with magnetic sensor	2.7 kg
Length of connecting cable between magnetic sensor and electronic unit up to	10 m

Optional: Cu-CuSO₄ electrodes (matched pairs).