



## WIDE BAND MAGNETOTELLURIC STATION FOR FIELD SURVEY LEMI-419

### Main features:

- 3 AC magnetic field sensors
- 4 telluric field channels
- Wide frequency range (0.0001...300) Hz
- Satellite synchronization
- Excellent temperature stability
- Low noise level
- All sensors are calibrated
- Special software for real-time data acquisition and visualization
- Digital interface
- Two types of lightning protection units to select

### Main applications:

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

### Composition (left to right):

- 3 induction sensors
- Lightning protection units
- Electronic unit
- GPS antenna
- Data Registration Unit (optional)



Wide band magnetotelluric station LEMI-419 is intended for the study of natural electromagnetic fluctuations in field conditions in wide temperature range. The station registers and digitizes automatically the data from 3 search-coil magnetometers and 4 electric channels and monitors the temperature of electronic unit. The electric channels include lightning protection unit,

one of two its constructions differing by the way to connect electric lines (see photo) may be selected. The real time acquisition, recording and visualization of current and previously recorded data are executed in the external PC or in the Data Registration Unit (optional), to which digital data are transferred through serial RS-422 port. The station operation is GPS synchronized.

<b>1. Search-coil magnetometer</b>	
Frequency band	(0.0001-300) Hz
Shape of transfer function	Linear-flat
Corner frequency	1 Hz
Transfer factor at flat part	200 mV/nT (or other on demand)
Noise level: at 0.001 Hz at 0.01 Hz at 1 Hz at 300 Hz	< 100 pT/√Hz < 10 pT/√Hz < 0.1 pT/√Hz < 0.01 pT/√Hz
Weight of one sensor	5,8 kg
<b>2. Electric field meter</b>	
Frequency band	(DC-300) Hz
Measuring ranges (for measuring base 1 m): at gain=1 at gain=10 at gain=100 at gain=1000	± 5000 mV ± 750 mV ± 75 mV ± 7.5 mV
Offset compensation range	±7500 mV
Noise level in frequency band (0.01- 0.3) Hz	0.1 μVrms
Non-polarized electrodes (optional) own noise in frequency band (0.01...0.3) Hz	< 10nV
<b>3. Electronic unit</b>	
Power supply voltage	(9-18) V
Power consumption	4 W
Weight	4 kg
Operation temperature range	minus 20° to +60°C
Waterproof housing	
<b>4. Data Registration Unit (optional)</b>	
Processor	Intel Atom Z510 1.1GHz
USB interface	2 x USB 2.0
Power consumption	≤ 12 W
Power consumption when display is off	≤ 7 W

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