

MULTIFUNCTIONAL GEOPHYSICAL ELECTROPROSPECTING STATION LEMI-415

Main features:

- possibility of different operation modes,
- 3 types of sensors, 6 channels (loop, search-coil and electric);
- multichannel electric field measurement,
- satellite synchronization operation of one or more stations;
- excellent temperature stability;
- high suppression of industrial noise (> 120 dB at 50 or 60 Hz);
- low noise level;
- special software package;
- real-time processing;
- digital interface with possibility of distant (up to 1 km) operation,
- autonomous operation mode with Flash-memory capacity up to 40 Gb.

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Multi functional geoelectric prospecting station LEMI-415 is intended for the study of geoelectric structure of Earth's crust in field conditions with aim of survey of different types of deposits or monitoring by different electromagnetic methods in wide temperature range. The station provides automatically measurements, processing and data storing in FLASH memory from 3 search-coil magnetometers, 6 electric channels or 6 induction loop sensors and also temperatures of sensors and electronic units. All sensors may be connected to the station along the line of 1 km length. The station can operate autonomously or in real time mode. The real time visualisation of current and previously recorded data is possible on the display of external computer. Data from compact FLASH memory card can be transferred to remote computer through RS-422 ports or radio modem. FLASH memory card can be removed from the station and written by external computer. The station can operate in continuous and pulse modes.

TECHNICAL SPECIFICATIONS

1. Search-coil magnetometer:

- frequency band (0.01 - 30) Hz;
- shape of transfer function:
 linear-flat with sensitivity 50mV/nT;
 linear with sensitivity 5 and 0.5 mV/nT/Hz;
- noise level:
 0.1 Hz - 7 pT / sqrt(Hz) ;
 1 Hz - 0.2 pT / sqrt(Hz);
 10 Hz - 0.03 pT / sqrt(Hz)

2. Search-coil loop magnetometer (diameter 10 m)

Noise level frequency 1 Hz: 0,02pT / sqrt(Hz)

3. Electric field meter (for measuring base 100 m):

- frequency band - (DC-30) Hz;
- measuring range - ±200 mV/m;
- temperature drift, less than - 0.1 mV/m/oC;
- noise level in frequency band (0.01-1) Hz,
 less than- 0.01 mV/m (rms)

4. Flash memory card capacity: 8 MB - 4 GB

5. Possibility of direct connection to the Internet

6. Two additional USB ports

7. Interface - RS-422 or radio modem.

8. Power supply - +(9-18)V

9. Power consumption, less than - 4 W.

10. Operation temperature - (minus 10 ...+40) °C.

11. Weatherproof housing.