

AUTONOMOUS METEOMAGNETIC STATION LEMI-017

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Main features:

- High resolution and accuracy
- Low noise
- 3 magnetic channels, 2 tilt channels, atmospheric pressure and temperature channels
- Very low temporal and thermal drift
- Low power consumption
- 512 MB removable FLASH memory card
- Satellite synchronization
- 4-lines digital display
- Analog and RS-232 outputs
- Magnetic sensor with levelling facilities
- Waterproof plastic case



LEMI-017 digital seven component MMS (three magnetic + 2 tilt + atmospheric pressure + temperature channels) is intended for the measurement of natural magnetic field components and their variations in laboratory and field conditions, atmospheric pressure and air temperature. Its major advantages are very low temporal drift and high accuracy of measurements, what makes it especially efficient for long term monitoring. The magnetometer is produced on the base of flux-gate sensor, all three components of which are implemented in the same thermostable housing. The pressure meter is based on precise tensoresistive sensor produced by industry. The temperature meter is made on the base of thermoresistor. The electronic unit allows acquisition, processing and storage of data about magnetic field variations, pressure, temperature and tilt 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 MMS location. MMS operation algorithm allows organizing both autonomous and synchronous operation of a set of the MMS installed at the studied area. Low magnetism of all components allows the magnetic sensor operating conveniently close to the electronic unit.

TECHNICAL SPECIFICATIONS

Three component magnetometer	
Magnetic field measurement range for each component	±55000 nT
Noise density at 1Hz frequency less than	15 pT/√Hz
Frequency band	(DC-0.2) Hz
Temperature non-stability	0.2 nT/°C
Long-term non-stability	5 nT/month
Magnetic sensors non-orthogonality error less than	30 arc minutes
Pressure meter	
Atmospheric pressure measurement range	0.05-0.15 Mpa
Temperature meter	
Temperature measurement range	(-40...+40) °C
Temperature measurement error	0,1 °C
Two component tilt meter	
Tilt measurement range	±15 arc degrees
Tilt measurement error	±0.3 arc degrees
Sample rate	1 samples per second
Removable FLASH memory card	64-512 MB
Power consumption less than	0.5 W