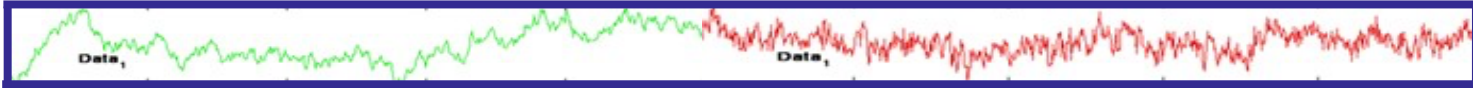


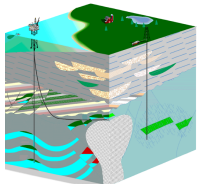
Long-Period Magnetotelluric Station (MTS) LEMI-424



LEMI-424



LEMI-424 system full set layout (left); LEMI-424 system in transportation case (middle); LEMI-424 X (right)



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The LEMI-424 Long-Period Magnetotelluric Station consists of two units: the Data Logger (DL) and a 3-component fluxgate magnetometer. The upgraded version, LEMI-424 X, brings further advancements in ruggedization, with an IP67 rating for the KMS-820 array acquisition system. It also offers higher data volume and increased accuracy standards. Additionally, the warranty period for the LEMI-424 X has been extended. The data logger seamlessly integrates data from electric field sensors and magnetometer. The LEMI-424 maintains a superior standard of performance, including thermal stability, temporal stability, high input impedance, and low drift. Its input stages are designed to accommodate super-long period signals, allowing measurements of up to 100,000 seconds. The lightning protection unit (in the left picture, bottom left and right; in the X version it is integrated) allows both the protection against nearby lightning discharges and easy connection of electric lines in the field. Specially developed very low noise LEMI-701 electrodes are recommended (in the left picture, upper right), but any other electrode types may be used too (not included in the base delivery set).

Product Features

- High resolution and accuracy
- Very low noise
- 4 electric and 4 magnetic channels
- Very low temporal and thermal drift
- Low power consumption
- 8 GB SD card (standard; optional 16/32 GB, unlimited with web access box) 424 X – 64 or 128 GB
- Satellite synchronization
- Graphic display
- USB output
- Waterproof plastic case – IP67
- Two models of lightning protection units to choose; 424 X integrated

Product Specifications

Frequency band	DC-0.5 Hz (424) DC-10 Hz (424 X)
Measured range	± 2450 mV (424) ± 2000 mV (424 X)
Resolution of electric meter along each component (ADC 32 bit)	2 nV
Sample rate	1 Hz (424) 1, 2 Hz (424 X)
SD card	8 GB (424), 64 or 128 GB (424 X)
Digital output and control	USB or Via Web access box (optional) internet, Wi-Fi etc.; Bluetooth (424 X)
GPS	GPS timing, coordinates and altitude determination (antenna cable length 3m) Build inside unit (424 X) (external optional)
Operating temperature range	- 20 to +60°C - 5 to 60°C (suspended sensor – 424 X)
Power supply	8-30 V
Power consumption	<0.35 W, 1.2 W (424 X)
Weight:	
Electronic unit	2.0 kg
Lighting protection unit	1.0 kg



PICTURES:

1. Three sets of LEMI-424.
2. LEMI-424 case has wheels for easy transportation.
3. All parts inside the case are well protected.

Three-Component Fluxgate Magnetometer (included)



LEMI-424 3-Component Fluxgate Magnetometer

Product features:

- High resolution and precision
- Low noise
- Low temperature offset
- Temperature channel
- Convenience of installation & service
- Low power consumption
- 3 years operational guarantee

The LEMI-424 Long-Period MT Station features the vector AM as its second unit, enabling precise measurements of Earth's magnetic field and its variations in both land conditions and geomagnetic observatories (as shown in the picture above). Equipped with a fluxgate sensor, all three components are conveniently enclosed together. The electronics are housed in a "black box" PCB with an analog output, seamlessly connected to the DL. Thanks to its exceptionally low power consumption, the magnetometer can operate with a small buffer battery, making it ideal for long-term autonomous measurements in the field, even in areas with frequent power breaks.

Product Specifications

Measured range at analog output	65000 nT
Frequency band for magnetometer	DC-10 Hz
Transformation factor of analog output	25 μ V/nT
Noise level at 1 Hz	10 pT/ Hz
Temperature drift	< 0.3 nT/°C
Component's orthogonality error	< 30 min of arc
Operating temperature range	minus 20 to + 60° C
Power supply	5 V
Weight: sensor with support and 10m cable	3 kg
Length of sensor connecting cable as manufactured	6 m*

* any other values up to 75 meters are possible to use.

LEMI-424 Optional Add-ons

LEMI-701 Electrode:

- Ultra-low noise
- Very low long-term drift
- Lead free & ecologically safe
- Maintenance free during its service life



KMS Web access box:

- NOISE FREE data transfer during MT acquisition
- Real-time remote acquisition control (Wi-fi, network etc.)
- Real-time remote data processing via Cloud
- Lower operational cost



KMS-105 H field extension cable & KMS-115 E field extension cable:

- Ruggedized cable design following seismic industry field cable standard
- Reliable and steady, using twisted pair connection for fail proof performance. REDUNDANT wiring reduces breakage risk (KMS-115 only)
- Flexible, anti-scraped and anti-cut, livestock deterrent polyurethane jacket
- Cable length is 20 m for H field; 50 m or 75 m for E field, can be cut for shorter length by customer
- Optional KMS-155 cable reel for EASY field operation.



KMS-200 Software:

- Single site, remote reference & multi-remote reference robust processing
- Time & frequency domain display
- Real-time acquisition & monitoring software
- Export to numerous industry standard formats
- 1D inversion



LEMI-424 Order Information

1. **KMS-424 full system:** KMS-424 system with all options incl. 4 of LEMI-701 electrode, Web access box, 4 of KMS-115 cable w/ cable reel, KMS-105 20 m ruggedized extension cable for fluxgate and KMS-200 software.
2. **LEMI-424 MT system only:** LEMI-424 system with 4 of LEMI-701 and 4 of LEMI-115.
3. **LEMI-424 basic system:** LEMI-424 system alone.
4. **LEMI-424 customized options:** LEMI-424 basic system plus customized options.

Note: LEMI-424 basic system only has data logger, Fluxgate magnetometer, GPS antenna and basic accessories. LEMI-701 Electrode and LEMI-115 E field cable are NOT included; LEMI-424 X is default system.

Please contact info@KMSTechnologies.com or sales@LEMIsensors.com for more information and get your customized quote today!