

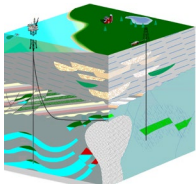
# Long-Period Magnetotelluric Station (MTS) LEMI-424



## LEMI-424



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



## KMS Technologies

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The Long-Period Magnetotelluric Station LEMI-424 is composed of two units - Data Logger (DL) and Analog Magnetometer (AM). DL (at the photo above) is developed for the analog signals received both from AM and from electric lines for telluric field measurements digitizing and storage. In order to realize the design of electric channels major attention was paid to thermal and temporal stability, high input impedance and low drift. High-pass filter-free technology of input stages was used in order to let super-long period signals (up to 100.000 second) to be measured. The lightning protection unit (at the photo, two models shown left and right, below) 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 (at the photo, upper right), but any other electrode types may be used too.(not included in the 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
- Satellite synchronization
- Graphic display with touch screen
- USB output
- Waterproof plastic case
- Two models of lightning protection units to choose

## Product specifications



Frequency band	DC-0.5 Hz
Measured range	$\pm 2450$ mV
Resolution of electric meter along each component (ADC 32 bit)	2 nV
Sample rate	1 per s
SD card	8 GB
Digital output and control	USB or Via Web access box (optional)
GPS	GPS timing, coordinates and altitude determination (antenna cable length 3m)
Operating temperature range	minus 20 to +60°C
Power supply	(5-20) V
Power consumption	<0.35 W
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.



## 3-Component Magnetometer

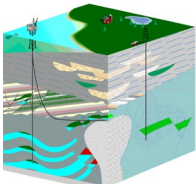


### Product features:

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

LEMI-424 3-Component analogue Magnetometer

LEMI-424 Long-Period MT Station includes as the second unit the vector AM for the precise measurement of Earth's magnetic field and its variations at land conditions as well as in geomagnetic observatory (at the photo, above). It is produced on the base of flux-gate sensor, all three components of which are implemented in the same body. The electronics is implemented as "black box" PCB with analog output fixed in the same housing which and connected to DL. Very low power consumption of the magnetometer allows using a small buffer battery what is convenient for long-term autonomous measurements in field conditions, where power breaks may often occur.



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## Product Specifications

<b>Measured range at analog output</b>	<b>65000 nT</b>
<b>Frequency band for magnetometer</b>	<b>DC-10 Hz</b>
<b>Transformation factor of analog output</b>	<b>25 <math>\mu</math>V/nT</b>
<b>Noise level at 1 Hz</b>	<b>10 pT/ Hz</b>
<b>Temperature drift</b>	<b>&lt; 0.3 nT/°C</b>
<b>Components orthogonality error</b>	<b>&lt; 30 min of arc</b>
<b>Operating temperature range</b>	<b>minus 20 to + 60° C</b>
<b>Power supply</b>	<b>5 V</b>
<b>Weight: sensor with support and 10m cable</b>	<b>3 kg</b>
<b>Length of sensor connecting cable as manufactured</b>	<b>6 m*</b>
<b>* any other values up to 75 meters are possible to use.</b>	



## 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:

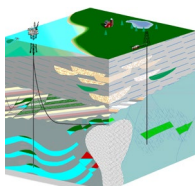
- NOISE FREE data transfer during MT acquisition
- Real-time remote acquisition control
- Real-time remote data processing
- Lower operational cost

### 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
- Flexible, anti-scraped and anti-cut, livestock deterrent using polyurethane jacket
- Cable length is 50 m or 75 m, 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



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## LEMI-424 Order Information

1. **LEMI-424 full system:** LEMI-424 system with all options: LEMI-701 electrode, Web access box, KMS-115 cable, KMS-155 cable reel, 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, magnetometer, GPS antenna and basic accessories. LEMI-701 Electrode and LEMI-115 E field cable are NOT included

Please contact [info@KMSTechnologies.com](mailto:info@KMSTechnologies.com) or [sales@LEMIsensors.com](mailto:sales@LEMIsensors.com) for more information and get your customized quote today!