

## Wide-band Magnetotelluric (MT) system



KMS Technologies introduces its new generation wide-band 24-bit, 6-channel, low power consumption, Magnetotelluric system, with sampling rate up to 100 kHz. For magnetic field measurements, the system provides 2 different sets of induction coil magnetometers for different frequency bands (MT & AMT applications). For stable measurements of the electric field, 2 ultra-low noise, low drifting, matched pairs of Cu-CuSO<sub>4</sub> electrodes are provided. The system provides digital interface for digital flux gates for low frequency measurements or customized applications. The system contains all equipment and cables to conduct MT surveys. The provided acquisition and processing software analyze the data with graphical display for quality control and also output the apparent resistivity into the standard EDI format for further processing and inversion by other commercial available software, such as WinGLink® by Geosystem. With wireless and bluetooth.

<b>Magnetic field measurement</b>	
Frequency band LEMI-120 Induction coil magnetometer	0.0001 to 1,000 Hz
LEMI-118 Induction coil magnetometer	1 to 70,000 Hz
Noise level LEMI-120 Induction coil magnetometer	$\leq 100 \text{ pT}/\sqrt{\text{Hz}} @ 0.01\text{Hz}$ $\leq 10 \text{ pT}/\sqrt{\text{Hz}} @ 0.1 \text{ Hz}$ $\leq 0.1 \text{ pT}/\sqrt{\text{Hz}} @ 1 \text{ Hz}$ $\leq 0.01 \text{ pT}/\sqrt{\text{Hz}} @ 100 \text{ Hz}$
LEMI-118 Induction coil magnetometer	$\leq 5.0 \text{ pT}/\sqrt{\text{Hz}} @ 1\text{Hz}$ $\leq 0.2 \text{ pT}/\sqrt{\text{Hz}} @ 10 \text{ Hz}$ $\leq 0.005 \text{ pT}/\sqrt{\text{Hz}} @ 10,000 \text{ Hz}$
Shape of transfer function	Linear – flat
<b>Electrical field measurements</b>	
Frequency band	DC-50,000 Hz
Noise level in frequency band (0.01 to 0.3 Hz)	0.1 $\mu$ V <sub>RMS</sub>
Non-polarized electrodes own noise in frequency band (0.01 to 0.3 Hz)	<10 nV
<b>Acquisition System</b>	
Number of channels	6
A/D resolution	24 bit
Sample rate	Up to 100 kHz
Input impedance	> 1.0 M $\Omega$
Signal gain	Each channel has 12 different gain setting from 1 to 2,560
Timing control	GPS synchronized
Wireless	Long range wireless up to 8 km (5 miles) line-of-sight or unlimited distance in mesh network mode. Bluetooth.
Data saving	Data is saved to SD card
Data monitoring	Data can be monitored wirelessly or via USB for real-time status and quality check
Power supply	External 7.5 V to 32 V, typical 5 W power consumption; it has internal 12 V battery
<b>System includes:</b>	<b>KMS-820 Data Acquisition Unit (1 unit)</b> <b>Operation manuals</b> <b>Acquisition and monitoring software</b> <b>GPS antenna</b> <b>900 MHz 3 dB antenna</b> <b>KMS-100 Induction Coil Transition Cable (allows connecting 3 induction coil to unit)</b> <b>KM-110 Electrode Transition Cable (allows connecting up to 3 pairs of electrodes to the unit)</b> <b>External battery connector</b> <b>USB A-A cable</b> <b>16 GB class 10 SD card</b> <b>Internal battery charger</b> <b>KMS-300 USB wireless adapter (allows wireless control and monitoring of the KMS-820 (1 unit))</b> <b>KMS-105 20 m Induction coil extension cables (3 cables)</b> <b>KMS-115 50 m electrode extension cables (4 cables)</b> <b>LEMI-118 Induction coil magnetometer (3)</b> <b>LEMI-120 Induction coil magnetometer (3)</b> <b>LEMI-701 Non--polarized electrodes (2 matched pairs)</b> <b>KMS-200 processing software (1)</b>

**KMS Technologies - KJT Enterprises Inc.**

6420 Richmond Ave., Suite 610  
Houston, TX, 77057, USA  
Tel.: +1.713.532.8144  
Fax: +1.832.204.8418  
[info@KMSTechnologies.com](mailto:info@KMSTechnologies.com)  
[www.KMSTechnologies.com](http://www.KMSTechnologies.com)