KMS Technologies
Innovating Solutions

LEMI Sensors:

Ultra-low noise non-polarizable electrodes

Product description
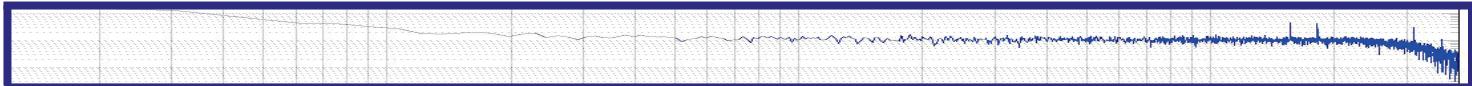
LEMI-701 electrodes
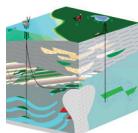
The lead-free non-polarizable electrodes LEMI-701 are designed for the measurement of the electric field variations in the ground.
The quality of the electrodes used for the measurement of horizontal electric field in magnetotelluric (MT) sounding of Earth's crust is crucial to increase the resolution of MT survey and, correspondingly, the credibility of the constructed Earth's crust electric models. Different types of electrode constructions are used, as well as different materials are applied to reduce electrode noise and especially long-term drift to as low a level as possible. Our improved non-polarized electrode construction based on Cu-$CuSO_4$ combination was developed to achieve this exceptional low noise level while maintaining long-term stability. Studies have shown that the new LEMI-701 geophysical electrodes are robust and convenient in use. They have a long service life, up to 5 years, and are ecologically safe.

Figure 1: LEMI-701 ultra-low noise non-polarized electrodes.

Product features

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

Areas of application

Measurement of the electric field variations in the ground for electromagnetic measurement including magnetotelluric (MT) surveys.

KMS Technologies

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Product specifications

| Non-polarizable electrodes	
RMS error of short-period (5 days) tests for selected matched pairs	13 µV
RMS error of long-period (144 days) tests for selected matched pairs	56 µV
Noise level of randomly selected pair	~20 nV at 1 Hz
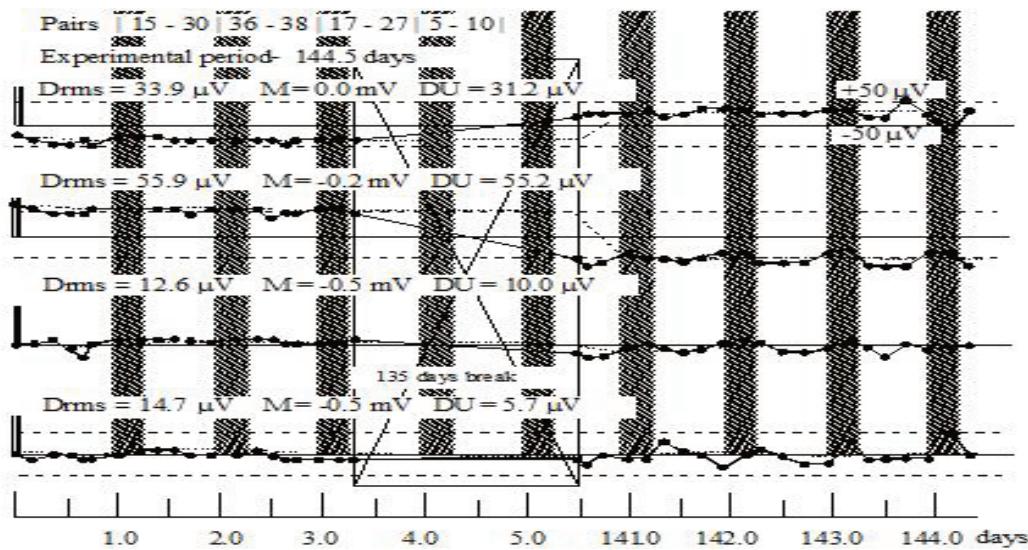

Figure 2: Long-term tests showing approximately 50 µV drifting over 144 days.
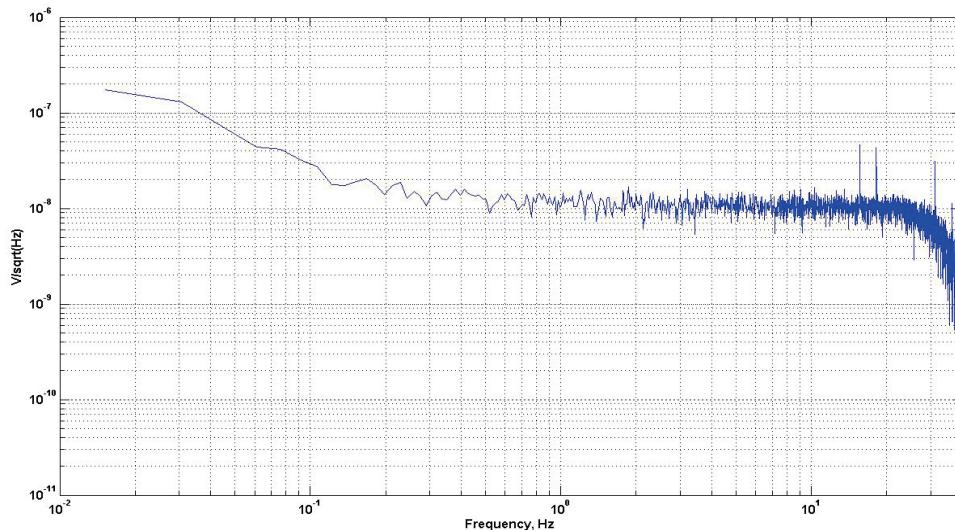
Figure 3: Typical electrode spectral noise density.

www.LEMIsensors.com

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