

- **Fast**
- **Portable**
- **Accurate**
- **Versatile**
- **Affordable**



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LANDMAPPER[®]

FIELD EC METER WITH LAB ACCURACY



LandMapper® ERM-02

Don't break your back collecting soil samples. Reduce amount of samples sent for laboratory analysis and save money. And still make detail soil map of your fields, which will be more accurate than conventional soil surveys. Impossible? Not at all with LandMapper ERM-02.

This device measures three important electrical properties of soil: electrical resistivity (ER), conductivity (EC), and potential (EP). Utilizing the most accurate four-electrode principle LandMapper measures ER or EC and helps delineate areas with contrasting soil properties within the fields quickly, non-destructively and cost-efficiently.

In a typical setting, a four-electrode probe is placed on the soil surface and an electrical resistivity or conductivity value is read from the digital display. Using the device prior to soil sampling you can significantly reduce the amount of samples required and precisely design a sampling plan based on the site spatial variability.

Bulk soil EC was correlated with salinity, texture, stone content, total available nutrients, water holding capacity, and filtration rates. Guided by detailed soil EC map obtained with LandMapper, only minimal amount of soil samples is needed to invert EC map into correlated soil properties. Also, LandMapper can be used to measure EC in soil pastes, suspensions and solutions and quickly estimate total dissolved salts (TDS) in solid and liquid samples.

LandMapper ERM-02 was successfully used for non-destructive mapping and monitoring of agricultural fields as well as construction, remediation and archaeological sites.

The device measures ER or EC in soil from 1 inch down to 30 feet, depth is set by varying the size of a four-electrode probe. Probes can be easily assembled from inexpensive materials available at any hardware store.

Repeat the measurements using series of probes with increasing distances among electrodes and collect detail information about soil horizons, hardpan and groundwater depth. Additional processing of such ER data allows to plot 1D, 2D and even 3D images of sub-surface (software available).

LandMapper ERM-02 is the most versatile device in LandMapper series and allows you not only measure ER and EC using artificially applied electrical current and four-electrode probes, but also study natural electrical fields in soils and plants with non-polarizing electrodes. Electrical balance between soil and plants is important for plant health; electrical potential gradient governs water and nutrient uptake by plants.

Live DEMO at

Houston, TX

4-9 October

2008 Annual

Joint Meetings

GSA-SSSA-ASA-CSSA

Booth #1445



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Key Features

Compact and **portable** design (weights only 250 g without the probe)

Fast (one measurement takes 4 sec)

Accurate (Automatically adjusts electrical resistivity/conductivity/potential ranges to provide best measurement accuracy >99%)

ER= $0.01-1 \cdot 10^6 \Omega \cdot m$

EC= $1 \cdot 10^{-6} - 10 \text{ S m}^{-1}$

EP = -1 to +1 V ($\Delta=0.01 \text{ mV}$)

Safe and **reliable** (uses a standard 9 V battery)

PC connected for data transfer (stores 999 data values in non-volatile memory)

Modular and **interchangeable** (detachable measuring unit accepts mapping 4-electrode probes, sounding cables, laboratory cells, micro-probes, and non-polarizing electrodes)

Versatile (the same unit can be used for field mapping, measurements in soil, plant and food samples as well as on live plants and animals)

Affordable (inquire about our very competitive prices and rental rates as well as available discounts)

To discuss your research needs and applications contact us at

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