

# **ABEM WalkTEM**

**TRANSIENT ELECTROMAGNETICS**

Advanced TEM made easy



## Advanced TEM made easy

ABEM WalkTEM offers fast, efficient penetration of conductive overburden with excellent data collection in high resistivity zones to meet each client's specific needs.

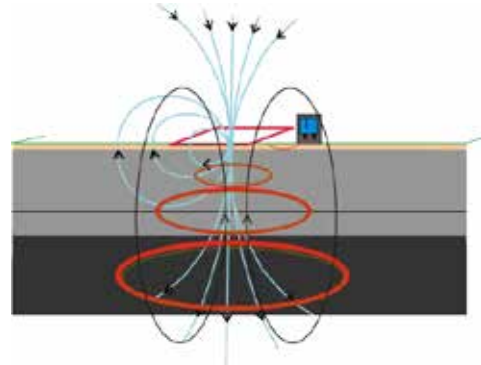
### The Transient Electromagnetic (TEM) method

offers good penetration of conductive overburden and is increasingly popular for hydrogeological applications as well as general geological mapping and mineral exploration. Since there is no requirement for galvanic ground contact, data can be collected in high resistivity surficial zones and in areas covered by ice or exposed rock.

ABEM WalkTEM is derived from the airborne SkyTEM helicopter system, sharing the technology. While SkyTEM covers large areas, ABEM WalkTEM offers more accurate resolution of fine details in geology.

The ABEM WalkTEM system integrates a high current transmitter and a dual channel wide bandwidth receiver in one rugged box, which also contains an integrated PC and dual internal batteries. The system is complete with two models of low noise receiver coils; one optimized for high resolution shallow soundings and the other, with a larger effective area, suitable for deeper soundings.

ABEM WalkTEM operates using dual moment transmission where it automatically alternates between maximum and reduced current pulses, thus utilizing the benefits from both high energy fields as well as fast current pulse turn-off. The advantage is high resolution responses from shallow to maximum depth.



*The principle of a TEM survey: A current cut-off in the transmitter loop emits an electromagnetic transient that induces secondary fields (eddy currents) in conductive structures. The receiver coil intercepts the transient and the resulting voltage decay is digitally recorded.*

With its unique acquisition technology, ABEM WalkTEM accurately resolves a wider span of signals, covering both deep and more near-surface data in one go, greatly improving field survey efficiency.

### Features

- ▷ Built-in computer and integrated GPS
- ▷ Sunlight visible LCD with graphical user interface
- ▷ A variety of transmitter loop sizes are available
- ▷ On-board data and inversion software
- ▷ ViewTEM processing software is offered as a powerful option for further data editing and processing in the office.
- ▷ Fully compatible with Aarhus Workbench for further visualization

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The measured data can be processed into a layer model directly after the measurement is finished, using the on-board ViewTEM software. Further processing and visualization can be done with ViewTEM PC version and Aarhus Workbench.

## Advantages

- ▷ Easy to handle standalone system
- ▷ Fast setup, efficient field operation and processing directly on site
- ▷ Dual moment measuring technique enables high resolution data from both large and shallow depths
- ▷ Intuitive graphical user interface, easy to switch between pre-installed protocols, integrated easy-to-use processing software
- ▷ Dual channel input utilizes dual antennas working simultaneously
- ▷ High level of integration – a rapid turn-off transmitter, dual channel receiver and computer in one rugged and portable platform

A wide range of connectivity, such as on-board GPS, Ethernet, WiFi, VGA and USB, is available thanks to the Windows operating system. It also allows for remote control of the instrument, making it possible to take measurements without being close to the instrument, and for our support team to conduct upgrades, support and troubleshooting remotely.

## Typical applications

- ▷ Groundwater prospecting
- ▷ Geological mapping
- ▷ Salinity studies
- ▷ Mineral exploration



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ABEM WalkTEM provides an intuitive user interface combined with stunning performance, making it a powerful tool for surveys in the geological near-surface. Applications include groundwater and mineral exploration and environmental investigations. With a set of predesigned protocols, ABEM WalkTEM quickly switches between different tasks. A variety of transmitter loop sizes provides good scalability for the project at hand.

A high level of integration means less carrying and setup. Data collection is complete in a few minutes. Powerful on-board processing software takes the guessing out of field surveys as a resistivity layer model can be produced within a minute of completing a measurement.



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*Guideline Geo is a world-leader in geophysics and geo-technology offering sensors, software, services and support necessary to map and visualize the subsurface. Guideline Geo operates in four international market areas: Infrastructure – examination at start-up and maintenance of infrastructure, Environment – survey of environmental risks and geological hazards, Water – mapping and survey of water supplies and Minerals – efficient exploration. Our offices and regional partners serve clients in 121 countries. The Guideline Geo AB share (GGEO) is listed on NGM Equity.*

**GUIDELINEGEO**

**GUIDELINE GEO**  
Löfströms Allé 6A  
SE-172 66 Sundbyberg, Sweden  
Tel: +46 8 557 613 00  
info@guidelinegeo.com  
www.guidelinegeo.com

**MALÅ GEOSCIENCE**  
Skolgatan 11  
SE-930 70 Malå, Sweden  
Tel: +46 953 345 50  
sales@guidelinegeo.com  
www.guidelinegeo.com

**ABEM INSTRUMENT**  
Löfströms Allé 6A  
SE-172 66 Sundbyberg, Sweden  
Tel: +46 8 564 883 00  
sales@guidelinegeo.com  
www.guidelinegeo.com

**MALÅ GEOSCIENCE USA**  
465 Deanna Lane  
Charleston 29492, USA  
Tel: +1 843 852 5021  
sales@guidelinegeo.com  
www.guidelinegeo.com