

ABEM

WalkTEM 2

TRANSIENT ELECTROMAGNETICS (TEM)

Groundwater, Minerals & Environmental Survey

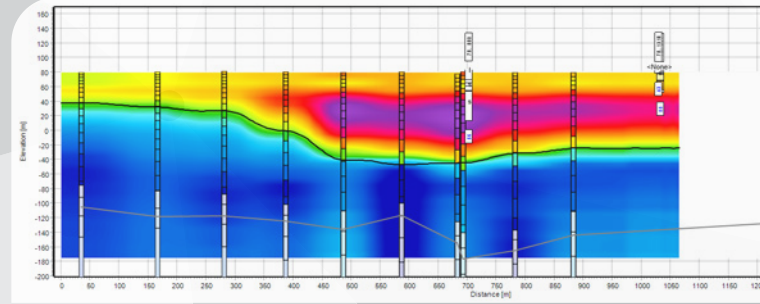


**EASY, PRECISE AND RAPID
RESISTIVITY SURVEYS**

ABEM WalkTEM 2

The ABEM WalkTEM 2 is a user-friendly, rapid survey solution that can provide precise resistivity models directly in the field for the search, mapping and monitoring of groundwater, mineral deposits, and environmental change.

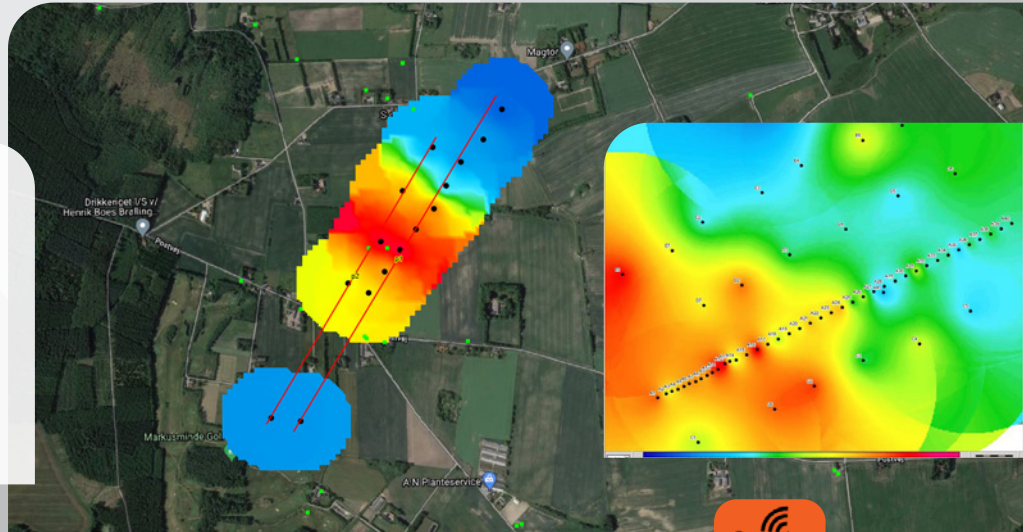
Depths of hundreds of metres can be investigated in minutes and the work can be finished whilst other survey methods would still be setting up. The system is scalable, with modular hardware, allowing expansion of the instrument capabilities in line with your changing needs.



Resistivity data from over a buried river channel: pairing the WalkTEM 2 with Aarhus Workbench allows visualization of resistivity results as 2D profiles (above), depth-slices (below) or even 3D volumes.

Precise

Clean and precise data are provided seamlessly from shallow to deep with separated transmitter and receiver units, robust ABS polymer housings, broad dynamic range and dual moment measurements.



Flexible

With a choice of receiver specifications, multiple transmitter models and a range of transmitter loops and receiver coils, the WalkTEM 2 is always a perfect fit. Combined with a unique hardware licensing system, ABEM are able to offer the ultimate scalable solution, with depths of 800+ metres achievable from the largest configuration.

Hardware licensing allows remote upgrade of receiver and transmitter specifications with no need for a return to base.



RX unit



TX 8/20



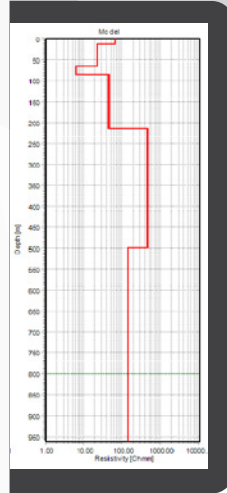
TX 60

Rapid

User-friendly transmitter loops and receiver coils are fast to lay out and the operator will be quickly into the light and intuitive user interface, mapping in minutes what could take hours or days with other geophysical technologies or drilling.

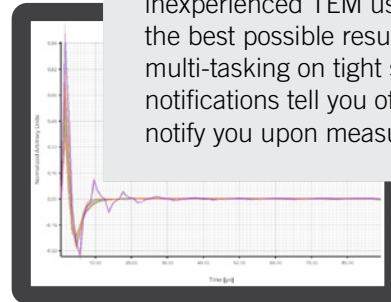
The unique Dual Moment operation switches between settings suited to shallow and deep soundings automatically within a single measurement cycle. Multiple channels allow the simultaneous use of separate receivers, either sensitive to shallow and deep responses, or configured to measure different components of the returned signal. These 'multi-component' measurements are particularly useful for mineral prospecting and complex geological settings. To speed up the processing stage, data from both moments and all channels are recorded into a single dataset, so no need to manually reconfigure the system and repeat readings, or combine separate files after the survey.

Onboard inversion allows for initial assessment of a site and data to be made there and then, with no need to return to base or even get a laptop out.



Easy

The built-in damping resistors and waveform analysis tools will simplify the set-up of transmitter loops so that even a relatively inexperienced TEM user can easily achieve the best possible result every time. When multi-tasking on tight schedules, Bluetooth notifications tell you of instrument alerts and notify you upon measurement completion.



Integrated GPS

6mm toughened glass display

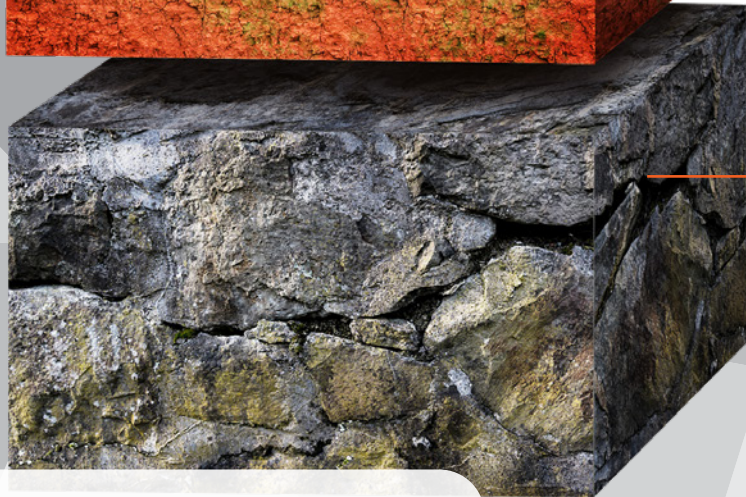
Rugged dust and water proof IP66 casing

Protective rubber bump strips

Durable high specification connectors

Hot-swappable internal RX batteries





Search, Map, Monitor

Groundwater

A high sensitivity to conductive materials makes TEM extremely useful in groundwater studies, for example differentiating between fresh, brackish and saline deposits, monitoring drawdown and recharge of an aquifer, or simply estimating its extents by building up profiles or grids of soundings.

Environmental

TEM provides a rapid means of surveying for a range of environmental applications from identifying potentially hazardous clay units within a geological sequence, to mapping and monitoring dynamic features such as permafrost thickness or potential pollutants.

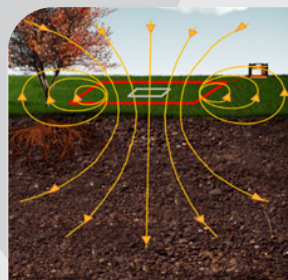
Minerals

TEM responds well to conductive mineral bodies. With multi-component measurements and the ability to determine chargeability from IP effects in TEM data (using Aarhus SPIA TEM), the WalkTEM 2 is a powerful tool in the search for new mineral deposits.

The TEM method

Time domain transient electromagnetics (TEM) is a non-destructive, rapid tool for the search, mapping and monitoring of groundwater, mineral deposits and environmental change.

Depths of hundreds of metres can be investigated in minutes and the work can be finished whilst other survey methods would still be setting up.



Currents flowing in the TX loop will create a magnetic field (yellow)



The collapsing magnetic field creates electrical currents in the ground



Ground currents create a secondary magnetic field recorded by the RX loop

Technical Specification

The ABEM WalkTEM 2 is a user-friendly, rapid survey solution that can provide precise resistivity models directly in the field for the search, mapping and monitoring of groundwater, mineral deposits, and environmental change. The system is scalable, with modular hardware, which allows expansion of the instrument capabilities to keep up with your changing needs.



SYSTEM CONFIGURATIONS	RX Standard + TX-8*	RX Advanced + TX-8*	RX Advanced + TX-20*	RX Advanced + TX-60
TX min. / max. output current	1 Amp / 8 Amps	1 Amp / 8 Amps	1 Amp / 20 Amps	7 Amps / 60 Amps
Number of RX channels	1	2	2	2
Onboard inversion	No	Yes	Yes	Yes
Compatible TX Loops	20 x 20 m, 40 x 40 m	All loops	All loops	All loops
Compatible RX Coils	RC-5 only	RC-5 & RC-200	RC-5 & RC-200	RC-5 & RC-200
Dual moment	Yes	Yes	Yes	No
Waveform recording & analysis	Optional	Yes	Yes	Yes
Damping resistor selector tool	Optional	Yes	Yes	Yes
Internal damping resistor array	Yes	Yes	Yes	No
Auto-repetition for monitoring	Yes	Yes	Yes	Yes

*RECEIVER & TRANSMITTER UPGRADES ARE INSTALLED REMOTELY

RX UNITS

Gates/Windows	Up to 200
Sample rate	1 MHz per channel
Dynamic range	170 dB system, 140 dB instantaneously
Stacking/Cycles	1 to 65,536 in single steps
Calibration values	Automatic selection based on configuration
Onboard computer	Intel Pentium N4200 or better
Internal ram	Minimum 4GB
Hard disk capacity	Solid state disk (SSD) 100 GB or greater
Operation system	Windows 10
Display	8.4" Active TFT LCD, 800x600, full colour, daylight visible, 6mm shatterproof screen
I/O ports & interfaces	1x KPT19 for RX-TX synchronization 2x KPT19 for receiver antennas 1x Gigabit Ethernet 2x USB 3.0 ports WiFi with built-in antenna
GPS receiver	Built-in GPS
Service point & upgrades	Via internet connection

TX UNITS

Pulse on / off times	1 ms to 500 ms, in 1µs steps
Repetition rate	500 Hz to 0.5 Hz
Duty cycle	10 % - 50 % pre-loaded scripts, fully customizable
Upgrades	Via internet connection (TX-8 / TX-20)

RECEIVER COILS

RC-5	Active magnetic receiver coil (rigid)
Bandwidth	450kHz
Effective area / dimensions	5 m ² (20 turns) / 59 cm x 59 cm x 9 cm
RC-200	Active magnetic receiver coil (flexible)
Bandwidth	100kHz
Effective area / dimensions	200 m ² (2 turns) / 10 x 10 m

TRANSMITTER LOOPS

TL-400	Single turn flexible transmitter loop
Effective area / dimensions	400 m ² / 20 m x 20 m x 2.5 mm ²
TL-1k6	Single turn flexible transmitter loop
Effective area / dimensions	1600 m ² / 40 m x 40 m x 2.5 mm ²
TL-10k HP6	Single turn flexible transmitter loop
Effective area / dimensions	10,000 m ² / 100 m x 100 m x 6.0 mm ²
TL-40k HP6	Single turn flexible transmitter loop
Effective area / dimensions	40,000 m ² / 200 m x 200 m x 6.0 mm ²

PHYSICAL	RX Standard / Advanced	TX-8 / TX-20	TX-60
Housing construction	Rugged ABS/PMMA	Rugged ABS/PMMA	Rugged aluminium casing
IEC protection rating	IP66	IP66	IP66
Ruggedized connectors	Yes	Yes	Yes
Dimensions	39 x 21 x 32 cm	19 x 21 x 32 cm	39 x 21 x 32 cm
Weight	8.3 kg incl. batteries	4.7 kg	14 kg
Internal power	2x 11.25 V, 6.4 Ah batteries Li-Ion, hot-swappable, built-in charger	None	12 V 8 Ah NiMH battery
External power	10-18 V DC	10-34 V DC	24-250 V DC
Cooling	Passive convection	Passive convection	Active (internal fans)
Temperature range		Storage ¹ : -20 °C to +70 °C Operating ^{2, 3} : -20 °C to +60 °C	

Note 1: Non-Condensing
Note 2: LCD performance not guaranteed below 0 °C
Note 3: Measurement speeds may be reduced in high ambient temperatures



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