

Technical Specification

Groundwater and environmental TEM surveys are now more affordable, less complex, and quicker with the **ABEM GroundTEM i5, i10 and i20**. These low-cost, user-friendly and app-controlled instruments complement the existing **ABEM WalkTEM** range perfectly. With system packages suitable for static survey and profiling, near-surface and deep survey, there are i-Series configurations for a host of survey needs.

Mapping resistivity variation with TEM can help locate groundwater, monitor aquifer health, identify recharge pathways, detect potential pollutants or saltwater intrusion, and distinguish between different geological deposits.



General

GroundTEM app:	Android 7.1 & above Instrument set-up Data collection Real-time inversion (option, 2025)
Onboard power (RX+TX):	2x removeable Li-ion (i5/i10) 3x removeable Li-ion (i20) 14.4V, 6.8Ah, 99.4Wh
Instrument weight:	6 kg incl. batteries (i5/i10) 8 kg incl. batteries (i20)
Environmental:	IP65, -20 to +50°C
Positioning:	Onboard GNSS
Upgrades & diagnostics:	Remote, via internet

Transmitter

Output current:	Dual-moment 1A / 5A (GroundTEM i5) 1A / 10A (GroundTEM i10) 1A / 20A (GroundTEM i20)
Switch-off:	7 μ s (low moment) 13 μ s (high moment)
Duty cycle:	Default 46% / 30% (LM/HM)
Loop options:	20 x 20 m (2.5 mm ² , 1 turn) 40 x 40 m (4.0 mm ² , 1 turn) 80 x 80 m (6.0 mm ² , 1 turn) Explorer Coils (see next page)

Receiver

Channels:	1
Sample rate:	4MHz
Coil options:	3 x 3 m (4 turns, 200 kHz bandwidth) 5 x 5 m (4 turns, 100 kHz bandwidth)* Explorer Coils (see next page)

**for use with 80 x 80 m Tx loop*

Shipping cases

GroundTEM i-Series instruments include appropriate shipping cases. For the 20 m and 40 m Tx packages, the system is in a single box, holding the instrument, transmitter loop, receiver coil, and battery charger. If the batteries and charger are removed, the system can be flown as standard hold luggage.

For Explorer Coil and 80 m Tx packages, the system ships in two cases. See next page.





GroundTEM Explorer Coils

FOR RAPID SHALLOW MEASUREMENTS



Explorer Coils are an essential accessory for fast, efficient survey with the **GroundTEM i-Series** and offer a budget-friendly means of producing 2D profiles or large area surveys from a series of 1D soundings. They comprise a set of compact transmitting and receiving coils, mounted on carry frames, that make moving between stations simple and quick, even in difficult terrain. The Explorer Coils can be purchased as part of a new **GroundTEM i5, i10 or i20** package, or added to an existing system.

Specifications

1.6m Explorer Coils:	1.65 m × 1.65 m, 2 turn Tx coil — 1.65 m × 1.65 m, 4 turn Rx coil
3m Explorer Coils:	3.0 m × 3.0 m, 2 turn Tx coil — 3.0 m × 3.0 m, 4 turn Rx coil
Carrier Solution:	Collapsible, poled frame, with ergonomic handles, carry straps and strain-relief cord
Tx-Rx Separation:	10 m
Depth Range:	1.6 m Explorer Coils: 50 - 100 m 3.0 m Explorer Coils: 75 - 150 m
Measurement Duration:	From 15 seconds
Compatibility:	GroundTEM i5 (3m Explorer Coils only), i10, and i20
Explorer Coils Weight:	1.6 m Explorer Coils ~9 kg (Tx coil, Rx coil, and carrier solution) 3 m Explorer Coils ~15 kg (Tx coil, Rx coil, and carrier solution)

