

Technical Specification

ABEM GroundTEM i-Series



Groundwater and environmental TEM surveys are now more affordable, less complex, and quicker with the ABEM GroundTEM i5, i10 and i20. These lowcost, 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.

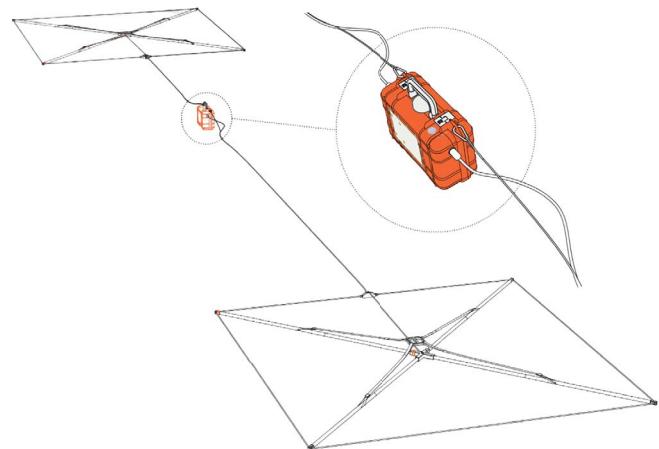
General

GroundTEM App	Android 7.1 & above Instrument set-up Data collection Real-time inversion (premium license feature)	Loop options	20 × 20 m (2.5 mm ² , 1 turn) 40 × 40 m (4.0 mm ² , 1 turn) 80 × 80 m (6.0 mm ² , 1 turn) Explorer Coils (see next page)
Onboard power (Rx + Tx)	2 × removeable Li-ion (i5/i10) 3 × removeable Li-ion (i20) 14.4 V, 6.8 Ah, 99.4 Wh	Receiver	1
Instrument weight	6 kg incl. batteries (i5/i10) 8 kg incl. batteries (i20)	Channels	4 MHz
Environmental	IP65, -20 to +50 °C	Coil options	3 × 3 m (4 turns, 200 kHz bandwidth) 5 × 5 m (4 turns, 100 kHz bandwidth)*
Positioning	Onboard GNSS		*For use with 80 × 80 m Tx loop
Upgrades & diagnostics	Remote, via internet		Explorer Coils (see next page)
Transmitter			
Output current	Dual-moment 1 A / 5 A (GroundTEM i5) 1 A / 10 A (GroundTEM i10) 1 A / 20 A (GroundTEM i20)	Shipping cases	GroundTEM i-Series instruments include shipping cases. For 20 m and 40 m Tx packages, everything fits in one box (instrument, transmitter loop, receiver coil, and battery charger). Without batteries and charger, it can fly as standard hold luggage.
Switch-off	7 µs (low moment) 13 µs (high moment)		Explorer Coil and 80 m Tx packages ship in two cases. See next page.
Loop options	20 × 20 m (2.5 mm ² , 1 turn) 40 × 40 m (4.0 mm ² , 1 turn) 80 × 80 m (6.0 mm ² , 1 turn) Explorer Coils (see next page)		



GroundTEM Explorer Coils

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General

1.6 m Explorer Coils	1.65 m × 1.65 m, 2 turn Tx coil – 1.65 m × 1.65 m, 4 turn Rx coil
3 m 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 (3 m 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)



80 × 60 × 43.3 cm

GroundTEM i5 / i10 / i20
instrument with
20 m / 40 m / 80 m Tx loop
(includes a large case for
instrument, Tx loop, Rx coil
& accessories)



80 × 60 × 43.3 cm

GroundTEM Explorer Coils
as an accessory to an existing
i-Series package (only
includes Explorer Coil case)



120 × 40 × 16.8 cm

GroundTEM i5 / i10 / i20
instrument with only **Explorer**
Coils (includes Explorer Coil
case plus a small case for
instrument & accessories)



120 × 40 × 16.8 cm

GroundTEM i5 / i10 / i20 with
20 m / 40 m / 80 m Tx loop
plus **Explorer Coils** (includes
Explorer Coil case plus a large
case for instrument, Tx loop,
Rx coil & accessories)

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