

Technical Specification

The ABEM Terrameter LS 2 is a world leading resistivity/IP instrument which can be used for a wide range of applications. With its hardware licensing system it is available in multiple configurations to best match your requirements, with the ability to upgrade the specifications remotely should your circumstances change in the future.

General

Casing	Rugged aluminum case meets IEC IP66
Computer	Embedded ARM 9, 400 MHz
GPS	Built-in GPS with support for GLONASS
Display	8,4" Active TFT LCD, full colour, daylight visible
I/O ports	2x KPT 32 pin for imaging, AUX for accessories Interconnect, USB A, RJ45 for LAN, microSD card slot
WLAN	IEEE 802.11 b/g/n, built-in antenna
Mobile Comms	Optional mobile modem for remote control and autonomous operation where a hardwired connection is unavailable
Measure modes	Resistivity, SP, Resistivity and IP using 50 % duty cycle, Resistivity and IP using 100 % duty cycle ¹
Service point	Accessible through Internet
Memory capacity	16 GB, microSD card accessible from outside
Power	12 V, 8 Ah internal battery, built-in charger 12-18 VDC external power
Dimensions	39x21x32 cm (WxLxH)
Weight	13.9 kg, 12.2 kg without internal battery
Ambient temperature range	-20 °C to + 70 °C operating ^{2, 3} -30 °C to + 80 °C storage ⁴

Note 1: Available on all "Advanced" models

Note 2: Measuring speed may be reduced in high ambient temperature combined with high output power

Note 3: The performance of the LCD is not guaranteed below 0 °C

Note 4: Non-condensing

Multi-Electrode Survey Systems for 2D & 3D

Number of electrodes	Up to 81, using internal electrode selector Up to 16384, using external electrode selectors
Switching matrix	Internal 10x64, divided into four blocks for effective use of all receiver channels available
Roll-along	Full coverage, both 2D and 3D
Pre-installed array types	Multiple Gradient, Dipole-Dipole, Wenner, Schlumberger, Pole-Dipole and Pole-Pole
Remote electrodes	2 remote electrodes in addition to inline electrodes
Electrode test	Estimates contact resistance on all electrodes currently in use



Receiver

Number of channels	Up to 12 (+ 2 for transmitter monitoring)
Isolation	All channels are galvanically separated
Input voltage range	Up to ± 600 V
Range	Depending on model ± 2.5 V, ± 15 V, ± 600 V
Input impedance	200 M Ω (± 2.5 V range), 30 M Ω (± 15 V range), 20 M Ω (± 600 V range)
Precision	0.1 %
Accuracy	0.2 %
Resolution	Up to 3 nV at 1 sec integration (theoretical)
Linearity	0.005 %
Flat frequency response	Better than 1 % up to 300 Hz
Full waveform recording	Depending on model Built-in monitoring of all input channels

Transmitter

Maximum output power	Up to 250 W
Current transmission	Constant current transmitter
Maximum output current	Up to 2500 mA
Maximum output voltage	Up to ± 600 V, 1200 V peak to peak
Current accuracy	0.2 %
Current precision	0.1 %
Instant polarity changer	Yes
Self diagnostics	Monitoring of temperature and power dissipation
Safety	Easily accessible safety switch
Full waveform recording	Depending on model, built-in monitoring of current and voltage output



Specifications per model

Model Configuration	Basic 2/48	Standard 2/48	Standard 2/81	Advanced 4/48	Advanced 10/48	Advanced 4/81	Advanced 8/81	Advanced 12/81
Number of channels	2	2	2	4	10	4	8	12
Max. number of electrodes	48	48	81	48	48	81	81	81
Input voltage range	± 15 V	± 15 V	± 15 V	± 600 V	± 600 V	± 600 V	± 600 V	± 600 V
Input impedance (± 2.5 V)	-	-	-	200 M Ω	200 M Ω	200 M Ω	200 M Ω	200 M Ω
Input impedance (± 15 V)	30 M Ω	30 M Ω	30 M Ω	30 M Ω	30 M Ω	30 M Ω	30 M Ω	30 M Ω
Input impedance (± 600 V)	-	-	-	20 M Ω	20 M Ω	20 M Ω	20 M Ω	20 M Ω
Theoretical resolution	22.5 nV	22.5 nV	22.5 nV	3 nV	3 nV	3 nV	3 nV	3 nV
Max. output power	100 W	200 W	200 W	250 W	250 W	250 W	250 W	250 W
Max. output current	1500 mA	2000 mA	2000 mA	2500 mA	2500 mA	2500 mA	2500 mA	2500 mA
Max. output voltage	400 V	500 V	500 V	600 V	600 V	600 V	600 V	600 V
Full waveform recording	No	No	No	Yes	Yes	Yes	Yes	Yes
IP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IP - 100% Duty cycle	No	No	No	Yes	Yes	Yes	Yes	Yes