

# ABEM Terrameter LS 2

## RESISTIVITY AND IP IMAGING

Performance through scalability

ABEM Terrameter LS 2 is a world leading resistivity/IP instrument which can be used for a wide range of applications. With its software licensing system, it is available in multiple configurations to best match your requirements.

### General

<b>Casing</b>	Rugged aluminum case meets IEC IP66
<b>Computer</b>	Embedded ARM 9, 400 MHz
<b>GPS</b>	Built-in GPS with support for GLONASS
<b>Display</b>	8,4" Active TFT LCD, full colour, daylight visible
<b>I/O ports</b>	2x KPT 32 pin for imaging AUX, Interconnect, USB A, RJ45 for LAN
<b>WLAN</b>	IEEE 802.11 b/g/n, built-in antenna
<b>3G/GSM<sup>1</sup></b>	3G (UMTS/HSPA+) and GSM (GPRS/Edge), built-in antenna Five bands 3G: 850/800, 900, 1900 and 2100 MHz Quad-band GSM: 850/900/1800/1900 MHz
<b>Measure modes</b>	Resistivity, SP, Resistivity and IP using 50 % duty cycle, Resistivity and IP using 100 % duty cycle <sup>1</sup>
<b>Service point</b>	Accessible through Internet
<b>Memory capacity</b>	16 GB, microSD card accessible from outside
<b>Power</b>	12 V, 8 Ah internal battery, built-in charger 12-18 VDC external power
<b>Dimensions</b>	39x21x32 cm (WxLxH)
<b>Weight</b>	13.9 kg, 12.2 kg without internal battery
<b>Ambient temperature range</b>	-20 °C to + 70 °C operating <sup>2, 3</sup> -30 °C to + 80 °C storage <sup>4</sup>

Note 1: Feature will be activated in software during 2017

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

<b>Number of electrodes</b>	Up to 81, using internal electrode selector Up to 16384, using external electrode selectors
<b>Switching matrix</b>	Internal 10x64, divided into four blocks for effective use of all receiver channels available
<b>Roll-along</b>	Full coverage, both 2D and 3D
<b>Pre-installed array types</b>	Multiple Gradient, Dipole-Dipole, Wenner, Schlumberger, Pole-Dipole and Pole-Pole
<b>Remote electrodes</b>	2 remote electrodes in addition to inline electrodes
<b>Electrode test</b>	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 $\pm 600$ V
Range	Depending on model $\pm 2.5$ V, $\pm 15$ V, $\pm 600$ V
Input impedance	200 MOhm ( $\pm 2.5$ V range), 30 MOhm ( $\pm 15$ V range), 20 MOhm ( $\pm 600$ 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 $\pm 600$ 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	$\pm 15$ V	$\pm 15$ V	$\pm 15$ V	$\pm 600$ V	$\pm 600$ V	$\pm 600$ V	$\pm 600$ V	$\pm 600$ V
Input impedance ( $\pm 2.5$ V)	-	-	-	200 M $\Omega$	200 M $\Omega$	200 M $\Omega$	200 M $\Omega$	200 M $\Omega$
Input impedance ( $\pm 15$ V)	30 M $\Omega$	30 M $\Omega$	30 M $\Omega$	30 M $\Omega$	30 M $\Omega$	30 M $\Omega$	30 M $\Omega$	30 M $\Omega$
Input impedance ( $\pm 600$ V)	-	-	20 M $\Omega$	20 M $\Omega$	20 M $\Omega$	20 M $\Omega$	20 M $\Omega$	20 M $\Omega$
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	1000 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 using 100% Duty cycle	No	No	No	Yes	Yes	Yes	Yes	Yes

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