# Terrameter LS 2

**RESISTIVITY AND IP IMAGING**

**Performance through scaleability**

# 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. Ease-of-use is at the heart of ABEM instrument design, and the easy-to-navigate menus, on the large colour display, are supported by Active Guidance, which provides specific assistance on every screen, menu item, and command at the press of a button.

## 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 |
| **Languages** | English, French, Spanish, Swedish |
| **I/O orts** | 2x KPT 32 pin for imaging, AUX for accessories<br>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,<br>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<br>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]<br>-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<br>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<br>± 2.5 V, ± 15 V, ± 600 V |
| **Input impedance** | 200 MOhm (± 2.5 V range), 30 MOhm (± 15 V range), 20 MOhm (± 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<br>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 montoring of current and voltage output |

## Accessories catalogue

Scan the QR-code to explore the most commonly purchased accessories and extras.

## 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 MΩ | 200 MΩ | 200 MΩ | 200 MΩ | 200 MΩ |
| Input impedance (± 15 V) | 30 MΩ | 30 MΩ | 30 MΩ | 30 MΩ | 30 MΩ | 30 MΩ | 30 MΩ | 30 MΩ |
| Imput impedance (± 600 V) | - | - | - | 20 MΩ | 20 MΩ | 20 MΩ | 20 MΩ | 20 MΩ |
| 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 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| IP - 100% Duty cycle | No | No | No | Yes | Yes | Yes | Yes | Yes |

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