MiniSting

Earth Resistivity/IP Meter

- 4-pin Wenner Soil Test (ASTM G57)
- IEEE Fall of Potential
- Vertical Electrical Sounding (VES)

The MiniSting is a high powered resistivity & IP meter especially designed for manual resistivity jobs like electrical grounding-grid testing, the IEEE fall-off-potential method, ASTM G57 soil resistivity test using the Wenner four electrode method, survey for corrosion control, electrical surveys with the four electrode method (vertical electrical sounding or profiling).

The MiniSting is pre-programmed for Wenner, Schlumberger, dipole-dipole, pole-dipole, pole-pole, mise-a-la-masse, SP, resistance and azimuthal surveys in the manual measurement mode.

Recorded data is saved in the internal memory and at a convenient time downloaded to a computer for further processing. Our utility sofware „the Administrator“ is included with the MiniSting as well as a serial download cable. The Administrator software is used for data down-load.

The MiniSting has a built in re-chargeable NiMH battery with power sufficient for one day of manual surveying. The instrument is delivered with a battery charger.

Key Benefits

- High Powered
- Compact size with built in battery
- Rugged construction
- Easy to use menu driven system
- Versatile instrument for different survey configurations

TECHNICAL SPECIFICATION

Measurement modes	Apparent resistivity, resistance, voltage (SP), induced polarization (IP), battery voltage.
Measurement range	400 kohms to 0.1 milliohms (resistance) 0-500 V full scale voltage autoranging
Measuring resolution	Max 30 nV, depends on voltage level
Screen resolution	4 digits in engineering notation.
Output current	1-2-5-10-20-50-100-200-500 mA
Output voltage	The user can switch between high and low voltage limit for the transmitter (800 Vp-p or 320 Vp-p voltage limit). Actual electrode voltage depends on transmitted current and ground resistivity.
Input gain ranging	Automatic, always uses full dynamic range of receiver.
Input impedance	>20 Mohms
Input voltage	Max 500 V
SP compensation	Automatic cancellation of SP voltages during resistivity measurement. Constant and linearly varying SP cancels completely.
Type of IP measurement	Time domain chargeabilitiy (M), six time slots measured and stored in memory.
IP current transmission	ON+, OFF, ON-, OFF
IP cycle times	1 s, 2 s, 4 s and 8 s
Measure cycles	Running average of measurement displayed after each cycle. Automatic cycle stops when reading errors fall below user set limit or user set max cycles are done.
Cycle times	Basic measure time is 1.2, 3.6, 7.2 or 14.4 s as selected by user via keyboard. autoranging and commutation adds about 1.4 s.
Signal processing	Continuous averaging after each complete cycle. Noise errors calculated and displayed as percentage of reading. Reading displayed as resistance (dV/I) and apparent resistivity (ohmm). Resistivity is calculated using user entered electrode distances.
Noise suppression	Better than 100 dB at f>20 Hz. Better than 120 dB at power line frequencies (16 2/3, 20, 50 & 60 Hz).
Total accuracy	Better than 1% of reading in most cases (lab measurements). Field measurement accuracy depends on ground noise and resistivity. Instrument will calculate and display running estimate of measuring accuracy.
System calibration	Calibration is done digitally by the microprocessor based on correction values stored in memory.
Supported configurations	Resistance, Schlumberger, Wenner, dipole-dipole, pole-dipole, pole-pole, azimuthal, mise-a-la-masse, SP (absolute) and SP (gradient).
Data storage	Full resolution reading average and error are stored along with user entered coordinates and time of day for each measurement. Storage is effected automatically.
Memory capacity	More than 3000 measuring points can be stored in internal memory.
Data transmission	RS-232C channel included to dump data from instrument to PC on user command
User controls	20 key tactile, weather proof keyboard with numeric entry keys and function keys. On/Off switch Measure button, integrated within main keyboard. LCD night light switch (push to illuminate).
Display	Alphanumeric LCD display (4 lines x 20 characters) with night light.
Connectors	4 banana plug, pole screws for current and potential electrodes. 10-pole KPT connector for external power, RS-232C and synchronization connections.
Power supply	12V, 4.5 Ah NiMH built-in rechargeable battery. External power connector on front panel, the instrument automatically selects external battery if present.
Operating time	Depends on conditions, internal circuitry in auto mode adjusts current to save energy. At 20 mA output current and 10 kW electrode resistance more than 2000 cycles are available from a fully charged battery pack.
Battery charger	Dual stage charger with switchable input (115/230 V AC @ 50/60 Hz
Weight	6.6 kg (14.5 lb.)
Dimensions	Width 255 mm (10“), length 255 mm (10“) and height 123 mm (5“).