ELREC Pro

ELREC Pro unit with its graphic LCD screen

10 CHANNELS

IP RECEIVER FOR

MINERAL EXPLORATION

- **20 programmable chargeability windows**
- **High accuracy and sensitivity**
- **Full wave record**

ELREC Pro: this new receiver is a new compact and low consumption unit designed for high productivity Resistivity and Induced Polarization measurements. It features some high capabilities allowing to work in any field conditions.

Reception dipoles: the ten dipoles of the ELREC Pro offer a high productivity in the field for dipole-dipole, gradient or extended poly-pole arrays.

Programmable windows: beside classical arithmetic and logarithmic modes, ELREC Pro also offers a Cole-Cole mode and twenty fully programmable windows for a higher flexibility in the definition of the IP decay curve.

IP display: chargeability values and IP decay curves can be displayed in real time thanks to the large graphic LCD screen. Before data acquisition, the ELREC Pro can be used as a one channel graphic display, for monitoring the noise level and checking the primary voltage waveform, through a continuous display process.

Internal memory: the memory can store up to 44 800 readings, each reading including the full set of parameters characterizing the measurements. The data are stored in flash memories not requiring any lithium battery for safeguard.

Switching capability: thanks to extension *Switch* Pro box(es) connected to the ELREC Pro unit, the 10 reception electrodes can be automatically switched to increase the productivity in-the-field.

Full wave record: as an option, the Elrec Pro can record all the samples every ten milliseconds (100 Hz sampling frequency). This allows advanced signal processing, remote reference, correlation with perpendicular dipoles... All data is time stamped, 8 recording hours can be stored in the internal memory (for one single channel). High resolution for time stamp is available through an external GPS providing PPS signal (1 pulse/ sec). All memory can be transferred to a SD card directly on the field.
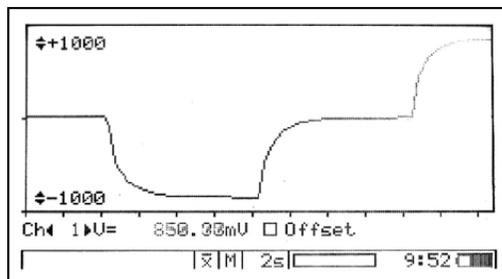
Monitoring of the Primary voltage waveform before acquisition
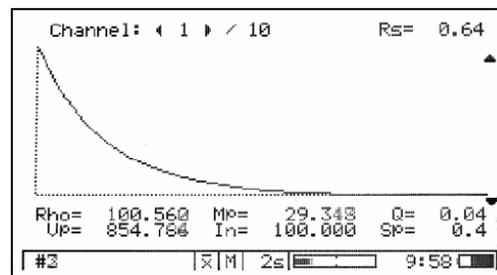
Display of numeric values and IP decay curve during acquisition

FIELD LAY-OUT OF AN ELREC PRO UNIT

The ELREC Pro unit has to be used with an external transmitter, such as a VIP transmitter.

The automatic synchronization (and re-synchronization at each new pulse) with the transmission signal, through a waveform recognition process, gives a high reliability of the measurement. Before starting the measurement, a grounding resistance measuring process is automatically run; this allows to check that all the electrodes are properly connected to the receiver.

Extension *Switch* Pro box(es), with specific cables, can be connected to the ELREC Pro unit for an automatic switching of the reception electrodes according to preset sequence of measurements ; these sequences have to be created and uploaded to the unit from the ELECTRE II software.

Extension Switch Pro box able to drive 24 - 48 - 72 or 96 electrodes

The use of such boxes allows to save time in case of the user needs to measure more than 10 levels of investigation or in case of large 2D or 3D acquisition.

DATA MANAGING

PROSYS software allows to download data from the unit. From this software, one has the opportunity to visualize graphically the apparent resistivity and the chargeability sections together with the IP decay curve of each data point. Then, one can process the data (filter, insert topography, merge data files…) before exporting them to ″txt″ file or to interpretation software:

RES2DINV or X2IPI for pseudo-section inversion to true resistivity (and IP) 2D section.

RES3DINV for inversion to true resistivity (and IP) 3D data.

Full Wave Recording
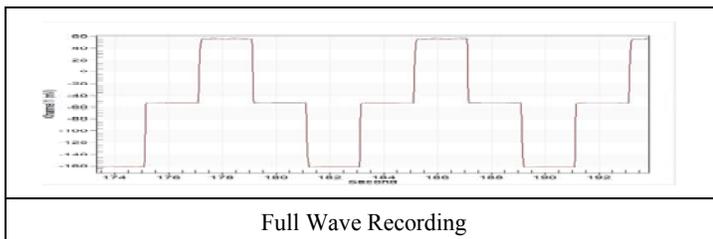
FEATURES

TECHNICAL SPECIFICATIONS

- Input voltage:
    Max. input voltage: 15 V
    Protection: up to 800V
- Voltage measurement:
    Accuracy: 0.2 % typical
    Resolution: 1 µV
    Minimum value: 1 µV
- Chargeability measurement:
    Accuracy: 0.6 % typical
- Induced Polarization (chargeability) measured over to 20 automatic or user defined windows
- Input impedance: 100 MΩ
- Signal waveform: Time domain (ON+,OFF,ON-,OFF) with a pulse duration of 500 ms - 1 s - 2 s - 4 s - 8 s
- Automatic synchronization and re-synchronization process on primary voltage signals
- Computation of apparent resistivity, average chargeability   and standard deviation
- Noise reduction: automatic stacking number in relation with a given standard deviation value
- SP compensation through automatic linear drift correction
- 50 to 60Hz power line rejection
- Battery test

GENERAL SPECIFICATIONS

- Data flash memory: more than 44 800 readings
- Possibility of data storage on external SD card with a capacity of 7 000 000 readings (option)
- USB and serial link RS-232 for data download
- Power supply: internal rechargeable 12V, 7.2 Ah battery optional external 12V standard car battery can be also used
- Weather proof
- Shock resistant fiber-glass case
- Operating temperature: -20 °C to +70 °C
- Dimensions: 31 x 21 x 21 cm
- Weight: 6 kg

FULL WAVEFORM RECORDING

- Available in option, storage of all time series every 10 milli seconds, up to 10 simultaneous channels
- Samples are time stamped, accurate external GPS with PPS allows 250 micro seconds resolution
- High Resolution chargeability: 20 windows for a 2 sec pulse
- Up to 2 860 000 stored samples: 8 hours for 1 channel
- Signals can be processed on pc with FullWave Viewer program

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