

ELREC Pro Switch-48



Elrec Pro Switch-48 unit with its graphic LCD screen

10 CHANNELS HIGH RESOLUTION

RESISTIVITY AND IP RECEIVER

SWITCHING CAPABILITY

- 10 simultaneous reception channels
- 48 electrodes switching capability
- 20 programmable IP windows
- High accuracy and sensitivity

ELREC Pro Switch-48: this receiver is a new compact and low consumption unit designed for high resolution Resistivity and Induced Polarization measurements.

Reception dipoles: the 10 simultaneous measurement dipoles of the ELREC Pro Switch-48 unit offer a good productivity in the field for dipole-dipole, gradient or extended poly-pole arrays.

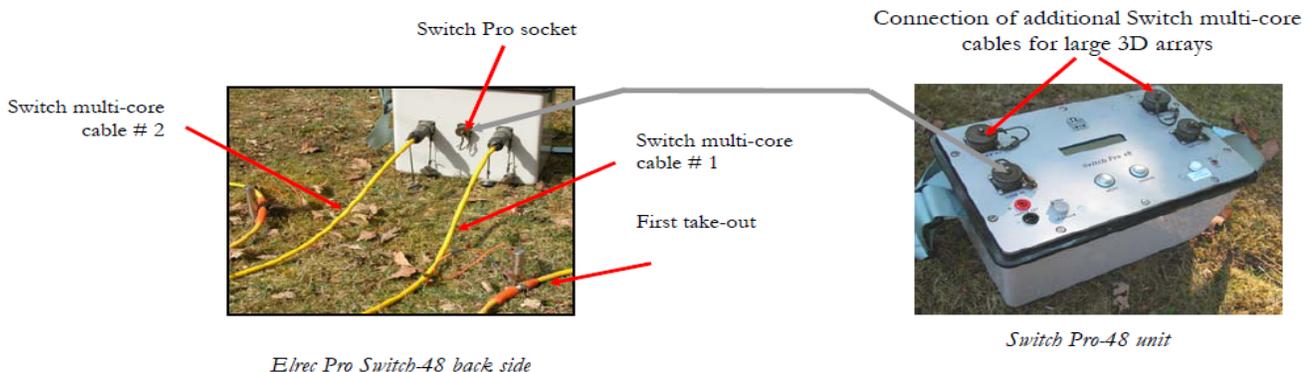
Switching capability: the ELREC Pro Switch-48 unit has 2 internal switching boards to make it a very fast resistivity and IP imaging system as, up to 48 electrodes can be switched in an automatic way ; this type of unit can be also delivered in a 24 - 72 - 96 or 120 electrodes switching configuration.

Some external switching box(es), called Switch Pro, can be connected to the unit to extend the number of electrodes for large 3D investigations.

Programmable windows: beside classical arithmetic and logarithmic modes, the ELREC Pro Switch-48 unit also offers a Cole-Cole mode and a 20 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 Switch-48 unit 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 more than 21 000 readings, each reading including the full set of parameters characterizing the measurements - data are stored in a flash memory not requiring any lithium battery for safeguard.



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FIELD LAY-OUT OF AN ELREC PRO SWITCH UNIT

The ELREC Pro Switch-48 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 for the set of reception electrodes ; this allows to check that all the electrodes are properly connected to the receiver.

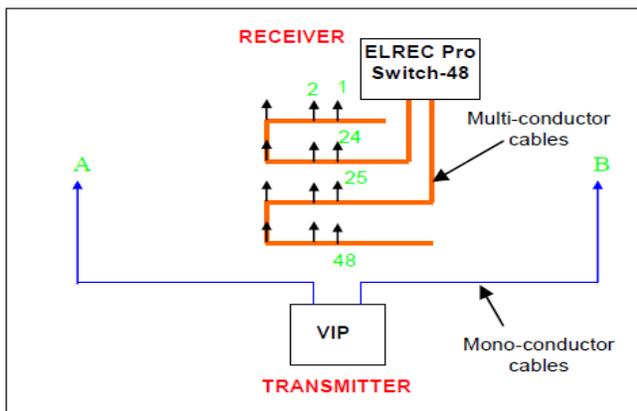
The Elrec Pro Switch-48 unit can be delivered with multi-core cables (standard take-out spacings for these cables are 5 and 10 meters) delivered in several cable sections on reels. In case of you want to use some individual mono-conductor wires for the electrodes connection, some specific boxes can be used (bared wires screwed in the strip box terminations):



48 terminations strip box for Elrec Pro Switch-48 unit

Connection to the Elrec Pro Switch-48 backside sockets

Sequences of measurement using standard electrode arrays (Dipole-Dipole,...) can be directly programmed from the ELREC Pro Switch-48 unit for a full in-the-field autonomy ; non standard configuration can be also uploaded to the unit by the ELECTRE Pro PC software.



Elrec Pro Switch-48 unit with 2 multi-core electrode strings (48 electrodes set in 4 lines of 12 electrodes) in a gradient array

DATA MANAGING

PROSYS II software allows to download data from the unit. Then, one can visualize graphically the apparent resistivity and chargeability sections, together with the IP decay curve of each data point.

Data can be also processed (filter, insert topography, merge data files...) before exporting them to "txt" file or to interpretation software:

RES2DINV / GEOSOFT / RESIX software for pseudo-section inversion to true resistivity (and IP) 2D section.

RES3DINV / ERTLAB software, for inversion to true resistivity (and IP) 3D data.

SPECIFICATIONS

TECHNICAL

- Input voltage:
Max. input voltage: 15 V
Protection: up to 800V
- Voltage measurement:
Accuracy: 0.2 % typical
Resolution: 1 μ V
Minimum value: 1 μ V
- Chargeability measurement:
Accuracy: 0.6 % typical
- Induced Polarization (chargeability) measured over to 20 automatic or user defined windows
- Input impedance: 100 M Ω
- 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 linear drift correction
- 50 to 60Hz power line rejection

GENERAL

- Data flash memory: more than 21 000 readings
- USB cable for PC data download (SD card writer for in-the-field temporary memory transfer)
- Power supply: internal rechargeable 12V, 7.2 Ah battery ; possible external 12V standard car battery
- Weather proof
- Shock resistant fiber-glass case
- Internal screen heater in case of very low temperature conditions
- Operating temperature: -20 $^{\circ}$ C to +70 $^{\circ}$ C
- Dimensions: 31 x 21 x 31 cm (for the ELREC Pro Switch-48 unit)
- Weight: 8 kg (for the ELREC Pro Switch-48 unit)