



# V - ALPHI

## VOLTAGE FULL WAVE RECORD 2 SIMULTANEOUS DIPOLES SEVERAL WEEKS RECORDING TIME STAMPED DATA



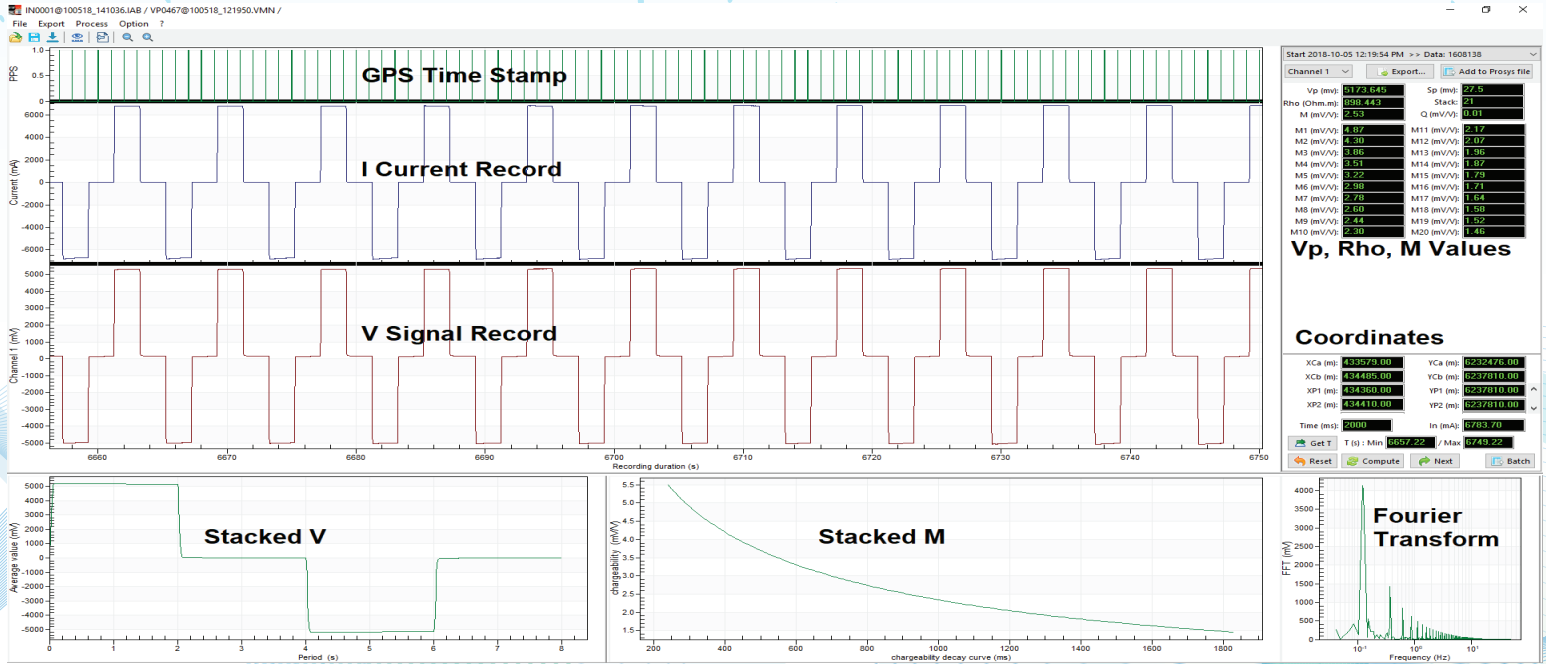
**V-ALPHI:** this logger for electrical signal is a new concept of compact and low consumption unit designed for advanced Time Domain Induced Polarization, Resistivity and SP measurements. It can work in all field conditions, small, discrete, autonomous and can record continuously without operator.

**COMPACTNESS:** light, discrete and easy to setup on the field, even on remote areas. Autonomous two dipoles logger, no need of the operator during acquisition. V-ALPHI allows a high productivity for dipole-dipole, gradient, extended poly-pole and other arrays. A network of several tens of channels can be quickly installed on the field for deep exploration and advanced processing (perpendicular dipoles, remote reference...)

**INTERNAL GPS:** an integrated gps, very accurate and providing PPS signal (one pulse per second) allows to store all time series with time information. This is crucial to process data from several V-ALPHIs installed in a same area. This is also useful to correlate with injection dipole waveform (I-ALPHI).

**HIGH RESOLUTION:** samples are recorded every 10 (ten) milliseconds (100 Hz sampling frequency). Data from several recorders can be merged and processed together with the current data on a proprietary software. All data is synchronized through the GPS-PPS time stamping. A post acquisition processing permits to improve the signal-to-noise ratio. This also allows good quality IP data for deep investigations and for noisy areas.

**INTERNAL MEMORY:** the memory can store up to three month recording time. Then data can directly be transferred to a USB key in a few seconds.



IP Receiver (V-Alphi) Characteristics	
Pulse duration	1s, 2s, 4s, or 8s
Channels	2 Channels
Input Impedance	100 MOhms
Induced Polarization	(Chargeability) measured every 10 milliseconds ( 200 IP windows for a 2 sec pulse)
Input Voltage	15V, Automatic Gain, Input Protection 1000V
Resolution / Accuracy	1 $\mu$ V / 0.2%
Readings	Full Waveform 10ms (100Hz) Sampling Rate, Resistivity, Self-Potential
Noise Rejection	Power Line Rejection, SP Linear Drift Correction.
Storage	Up to 70 days, Stored on Solid State Memory
Low Pass Filter & Upper Cut Off Frequency	10 Hz – 50Hz
Frequency Resolution	Up to 34 micro Hz
Time Resolution	250 micro seconds ( Time Stamped Samples)
Contact Resistance Check	Fast resistance check to improve the contacts
GPS	Internal GPS with PPS (one pulse per second), GPS Input for Coordinates and Synchronization
Display	LCD Display , Graphic and Alpha Numeric with 16 Lines of 40 Characters
Data Flash Memory	one month recording
After Acquisition	Data retrieval on a USB Key
Battery Test	In Field Test
Power supply	Internal Li-Ion Rechargeable Battery; Optional External 12V Standard Battery
Autonomy	80 Operating Hours with the Internal Li-Ion Battery
Operating Temperature	-20 $^{\circ}$ C to +70 $^{\circ}$ C, Weather proof IP 67
Dimensions	31 x 25 x 15 cm
Weight	2.8 kg





# I - ALPHI

## RECORDING INJECTED CURRENT FOR ADVANCED PROCESSING SEVERAL WEEKS RECORDING TIME STAMPED DATA



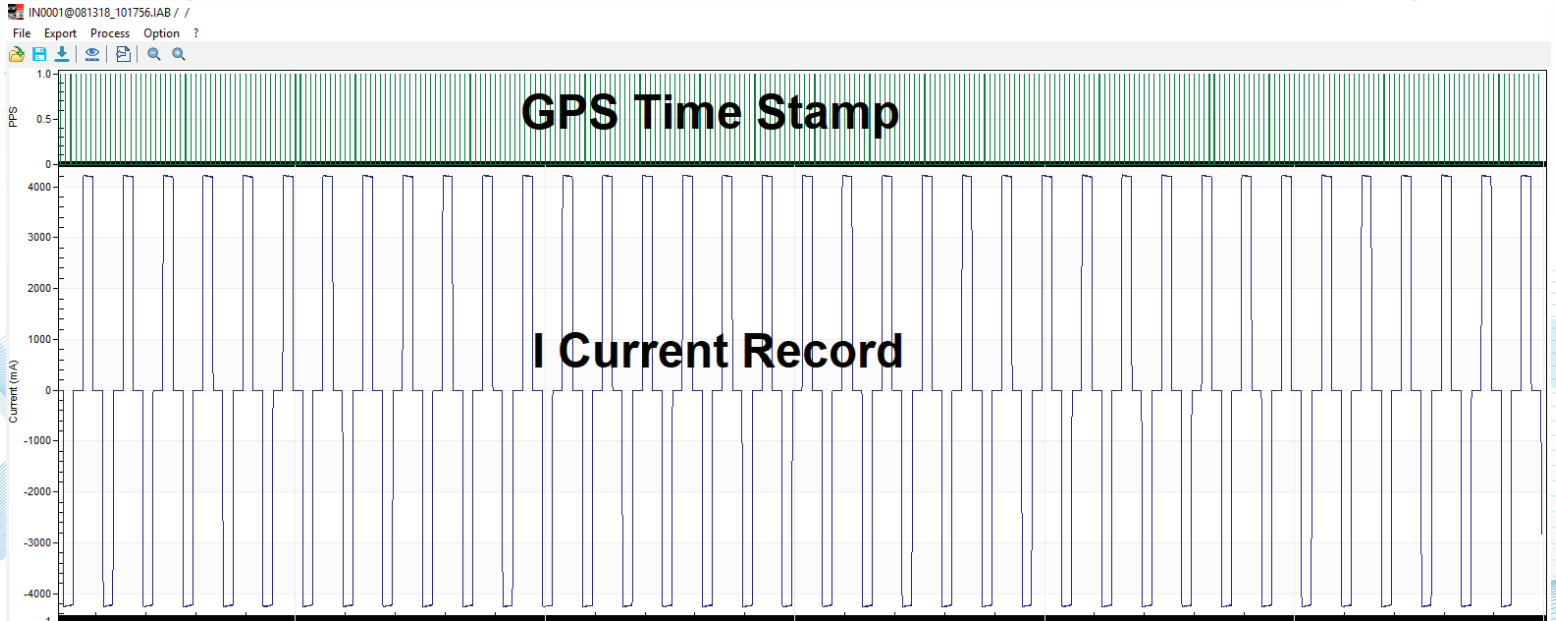
**I-ALPHI:** this logger for electrical signal is a new concept of compact and low consumption unit designed for advanced Time Domain Induced Polarization, Resistivity and SP measurements. It can work in all field conditions, small, discrete, autonomous and can record continuously without operator. I-ALPHI is connected in series on the AB injection line, it measures and logs very accurately the injected current IAB.

**COMPACTNESS:** light, discrete and easy to setup on the field, even on remote areas. This autonomous logger does not need any operator during the acquisition. I-Fullwaver is connected close to the transmitter or close to any injection electrode.

**INTERNAL GPS:** an integrated gps, very accurate and providing PPS signal (one pulse per second) allows to store all time series with time information. This is crucial to process data with V-ALPHIs installed in a same area. This information displays the behaviour of the transmitter, its regulation specifications and the value of lab in order to compute accurately the apparent resistivity.

**HIGH RESOLUTION:** samples are recorded every 10 (ten) milliseconds (100 Hz sampling frequency). Data from several recorders (for current and received voltages) can be merged and processed together with the FullWaveViewer program delivered with the system. All data is synchronized through the GPS-PPS time stamping. A post acquisition processing allows to improve the signal-to-noise ratio, giving good quality IP data for deep investigations in noisy areas.

**INTERNAL MEMORY:** the memory can store up to three month recording time. Then data can directly be transferred to a USB key in a few seconds.



<b>IP Current Recorder (I-Alpha) Characteristics</b>	
Pulse duration	1s, 2s, 4s, or 8s
Channels	1 channels
Input current	+/- 25000mA (optional 50A)
Resolution / Accuracy	0.1mA / 0.1%
Protection	up to 50 A and 3 000 V
Sensor	Magnetic Sensor
Magnetization offset (offset memory)	up to 0.05%
Readings	full waveform 10ms (100Hz) sampling rate
Calibration	Offset Calibration
Storage	up to 70 days 2 channels full waveform, stored on solid state memory
Time Resolution	250 micro seconds ( time stamped samples)
Battery Test	In field test
GPS	Internal GPS with PPS (one pulse per second), GPS input for coordinates and synchronization
Display	LCD display , graphic and alpha numeric with 4 lines of 20 characters
Data Flash Memory	one month recording
After Acquisition	Data retrieval on a USB key
Power supply	internal Li-Ion rechargeable battery; optional external 12V standard car battery can be also used
Autonomy	80 operating hours with the internal Li-Ion battery
Operating Temperature	-20 °C to +70 °C, Weather proof IP 67
Dimensions	31 x 25 x 15 cm
Weight	3.0 kg