HYDROGENERATOR ELECTRIC PARAMETERS ANALYSIS

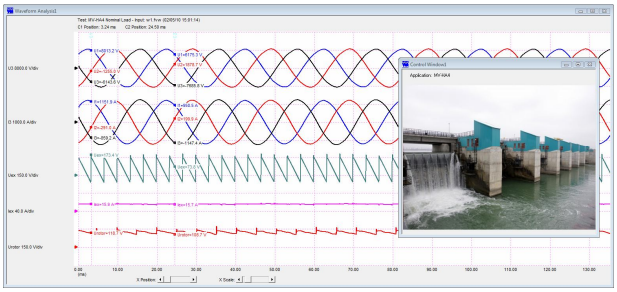
VPA124 simultaneously and interdependently analyzes the three-phased system's voltages and currents, and the excitation DC parameters.

The rotor current measurement may be performed through the brushes and shunt using the VPA 124 or wireless by using the RotorView equipment.

VPA 124: *One power analyzer, 150V/600V, 5A for the generators' output, one power analyzer, 100V/300V, 60mV for the excitation, 3 vibration inputs, one speed-phase input*

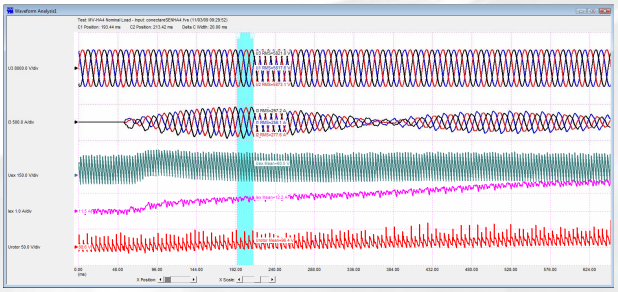
RotorView: *Highly accurate reproduction of the rotor voltage and current waveforms, windings temperature, core and phase signal*

The waveform analysis offers a global image on the operation regime and analyzed signal characteristics.



Output and excitation voltage and current waveforms in a stationary regime

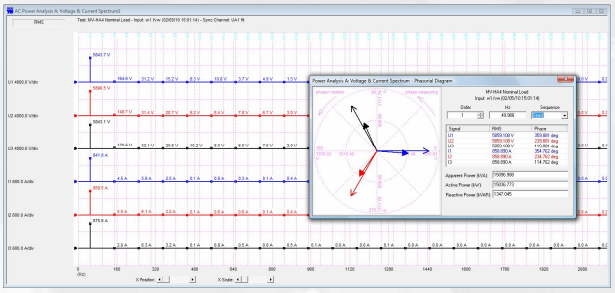
The continuous recording and analysis of the instant values lead to a detailed description of the transient regimes and identification of their causes.



Output and excitation voltage and current waveforms during the connecting sequence

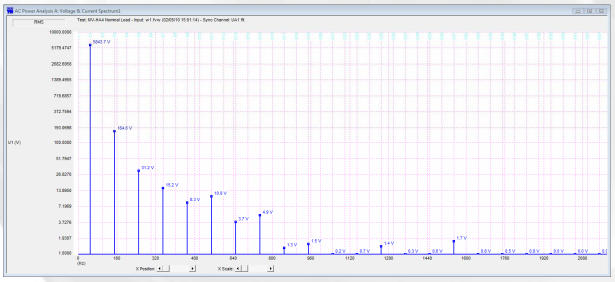
The FFT calculates the frequency spectrum of the three-phased system voltages and currents.

The phasorial diagram shows the actual, direct, inverse and homopolar components for each harmonic.



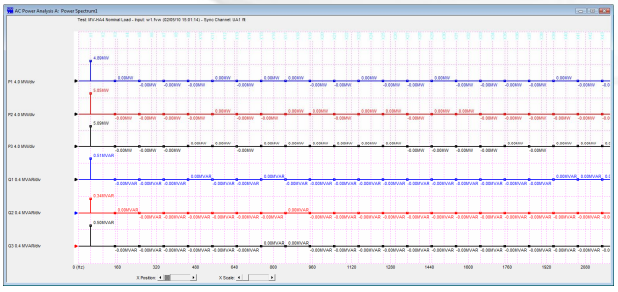
Voltage and current frequency spectrum. Phasorial diagram of the direct fundamental's component.

The logarithmic representation of the voltage and current frequency spectra shows the entire harmonics content. The numerical values can be absolute or relative to the fundamental's amplitude.



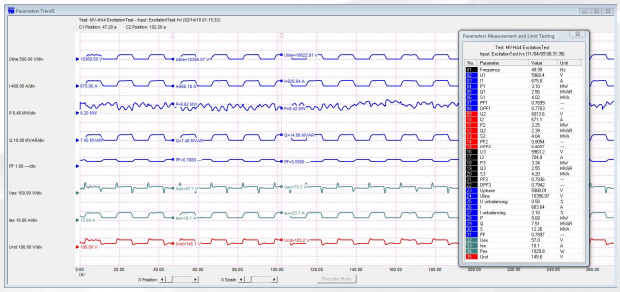
Logarithmic representation of the Phase 1 voltage spectrum

Electric powers are calculated for each voltage-current harmonics pair according to their defining relationships. The sum of the powers over the entire spectrum is equivalent to the global values. The harmonics sign corresponds to that power's direction (generated or consumed).



Frequency spectrum for the active and reactive powers of each phase

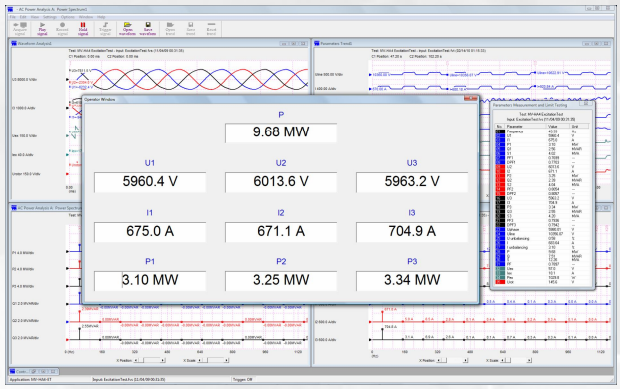
The evolution of the tracked parameters shows both the machine's status and its timely behavior.
The recordings help optimally identifying the stationary points on which basis we determine the generator's functional performance.



Current values and parameters trend

The *Operator Window* shows the main group's parameter in a large view.

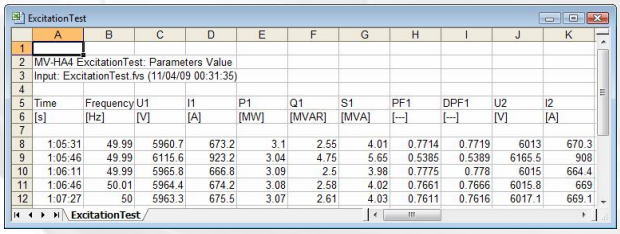
Each analysis window can be minimized, maximized or scaled according to the test specificity and information needed.



Parameters visualization in the Operator Window with the simultaneous display of the analysis windows

The results can be saved in a proprietary format or exported to an Excel-compatible format.

Data is being exported into new or already existing files where it adds to previous records.



ExcitationTest

	A	B	C	D	E	F	G	H	I	J	K
1											
2	MV-HA4 ExcitationTest: Parameters Value										
3	Input: ExcitationTest.fvs (11/04/09 00:31:35)										
4											
5	Time	Frequency	U1	I1	P1	Q1	S1	PF1	DPF1	U2	I2
6	[s]	[Hz]	[V]	[A]	[MW]	[MVAR]	[MVA]	[---]	[---]	[V]	[A]
7											
8	1:05:31	49.99	5960.7	673.2	3.1	2.55	4.01	0.7714	0.7719	6013	670.3
9	1:05:46	49.99	6115.6	923.2	3.04	4.75	5.65	0.5385	0.5389	6165.5	908
10	1:06:11	49.99	5965.8	666.8	3.09	2.5	3.98	0.7775	0.778	6015	664.4
11	1:06:46	50.01	5964.4	674.2	3.08	2.58	4.02	0.7661	0.7666	6015.8	669
12	1:07:27	50	5963.3	675.5	3.07	2.61	4.03	0.7611	0.7616	6017.1	669.1

ExcitationTest

Excel table with test results

DIGITLINE Automatizari SRL

2-6 Baneasa Street
Bucharest, Romania
Email office@digitline.eu
Web www.digitline.eu