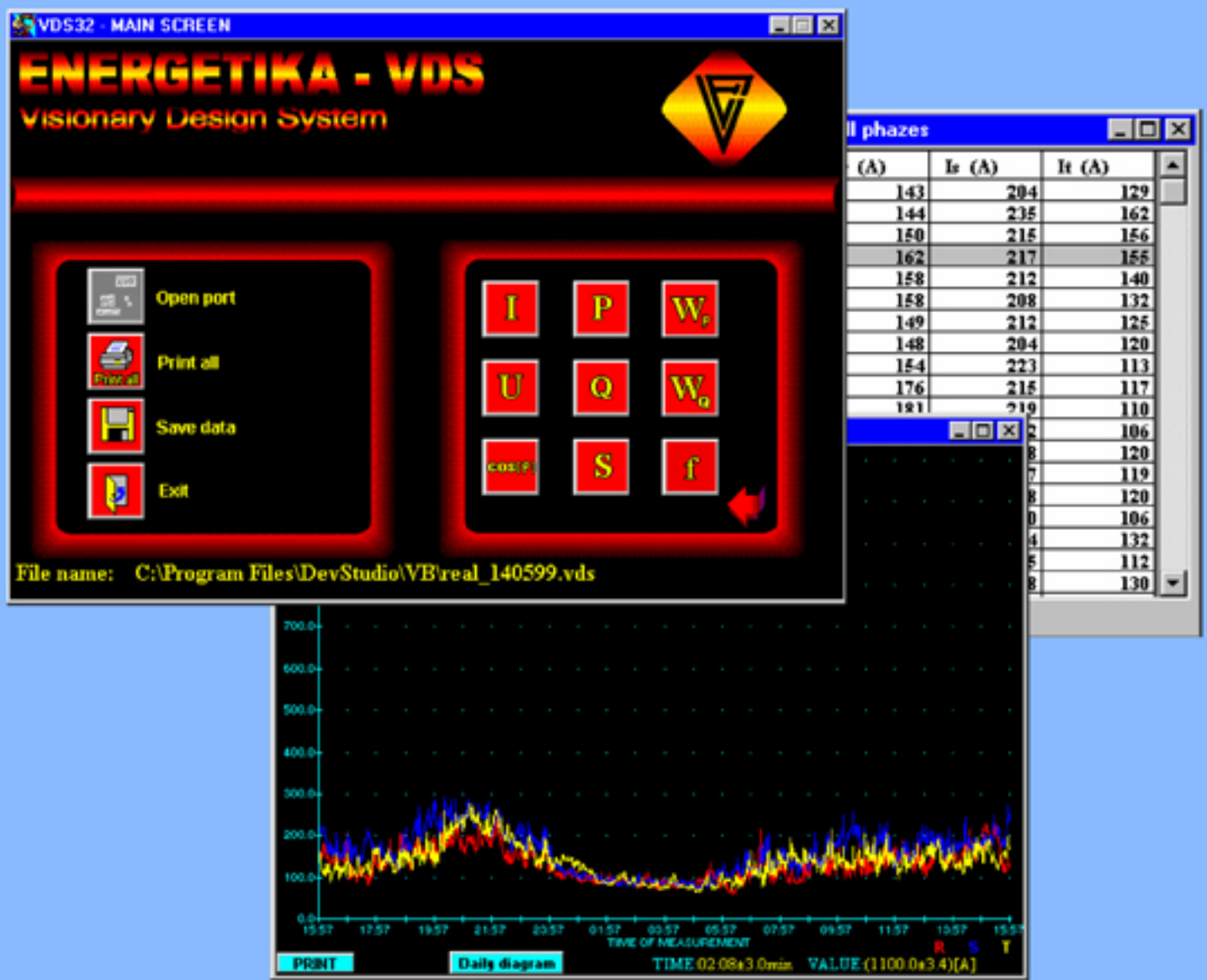
ANALYZER K-10



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Preface

Analyzer K-10 is the first Macedonian product of that kind, manufactured in our company "Energetika-VDS" from Strumica, which is also in the business of producing power meters and real-time counters for public use.

The idea of producing such an instrument came out of the needs that are in the power production, transmission and distribution systems, as well as for the needs of the industry.

The use of this analyzer in the power production sites, and even in the transmission sites (traffo stations of 400kV/X to 110kV/X level) equipped with instrumentation for wide analysis (current, voltage, power etc.) might seem meaningless. Nevertheless, its use is very much welcomed. In the distribution sites, especially the traffo stations, 20(10)/0.04kV, without a crew and poor measuring equipment, Analyzer K-10 enables all data monitoring in all of these objects, during a 24h period.

Analyzer K-10 solves this problem for it contains such technical solutions that enable registration of all the data in a period of 24 hours: current in all three phases, phase voltage in all three phases, active, reactive and apparent power, frequency and electrical energy. All of these data are registered as tables and diagrams, every minute. It constructs daily diagrams for current, voltage, active and reactive power, as well as daily diagram analysis with the spent electrical energy in the course of 24 hours.

Description of the measuring method

Analyzer K-10 is composed of two parts: the hardware and the software part. The hardware part is in fact the instrument itself. It is taken in the object where the measuring should be conducted. Afterwards, the data processing is done by the software part, which is based on the Windows95/98 operating system.

The connection of the analyzer, prior the measuring, is in the following order:

- First, choose the most appropriate place to set the instrument
- Then, via the ground connection, connect it to the ground conductor of the object
- Connect the connectors of the O, R, S and T phase to the instrument connectors, respectively
- Then, connect the measuring clamps 1000(1)A to the phase conductors R, S, T of the object, respectively
- Turn the analyzer on
- Set the correct time and press the START button to begin measuring
- After the time of 24 hours elapses the instrument stops registering data

If while measuring power goes out, supported by its own power source, the analyzer does not stop.

The order of disconnecting the instrument is as follows:

- turn off the main switch
- Then, disconnect the measuring clamps
- And release the instrument from the ground conductor

The instrument should then be connected to a personal computer via the communication port RS232, with the required software previously installed. As mentioned before, this software enables data processing and visualization.

Technical feature characteristics

- Auxiliary voltage 3*220/380V
- Nominal current 1000A , 5A , 1 A
- Frequency 50Hz ±10%
- Working temperature from -20°C to +45°C
- Own reserve power source 12V, 270mAh
- A/D converter 10 bit

Reference conditions

Temperature	(23 ± 2)°C
Voltage	(0 ... 260)V
Current	(0 ... 1000) A
Power factor	(-0.5 ... 0.5)
Frequency	(50 ± 2)Hz

Instrumental deviations in reference conditions

Voltage	± 1V
Current	± 1A
Power factor	± 2°
Frequency	± 0.2Hz

The rest of the measuring deviations (active, reactive, apparent power, active, and reactive energy) are calculated applying standard procedures.

Minimal requirements for the personal computer

Operating system	Windows95
RAM	16MB
Free space on the hard disc	5MB
Floppy disk	3½
Communication port	RS232 (DB9)
Parallel port	option
Graphics	VGA


Input Current
R
S
T
0929
Measuring
k/min.
Inc.
Start
Communication
Read Mode ON
POWER