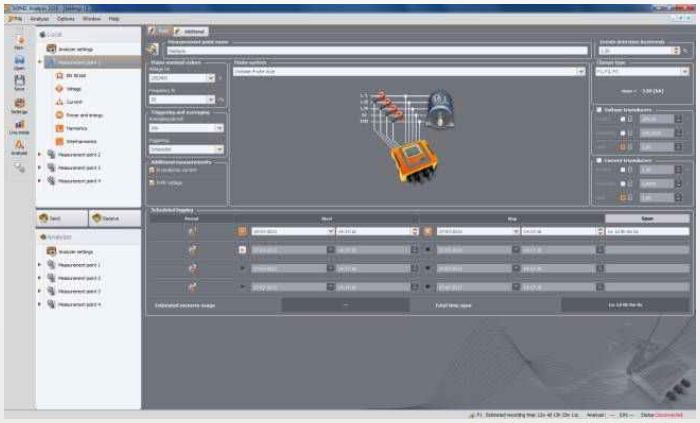
SONEL ANALYSIS SOFTWARE

The SONEL Analysis software is necessary for working with the PQM series analyzers and is supplied as standard accessory.

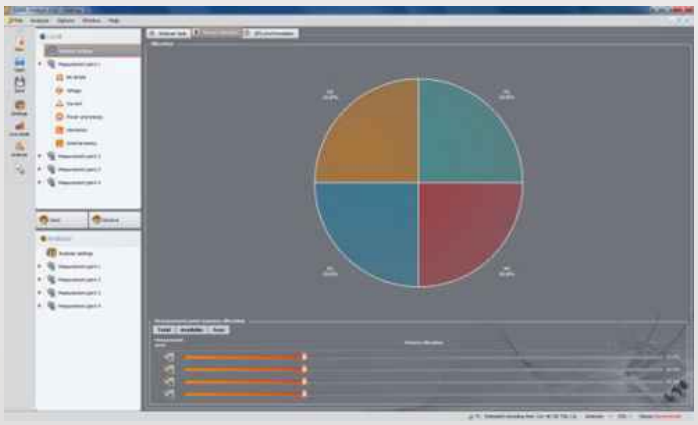
It allows for:
- configuring the analyzer,
- reading data from the recorder,
- viewing real time parameters of a power system (the ability to read data through GPRS modem),
- erasing data in the analyzer,
- presenting data in tables,
- presenting data as graphs,
- analysing data in compliance with the EN 50160 standard (reports) and other user-defined reference conditions,
- independent operation with multiple analyzers,
- updating to the latest versions through a WWW page.



Software Sonel Analysis enables compensation of noise current for clamps on inactive objects.

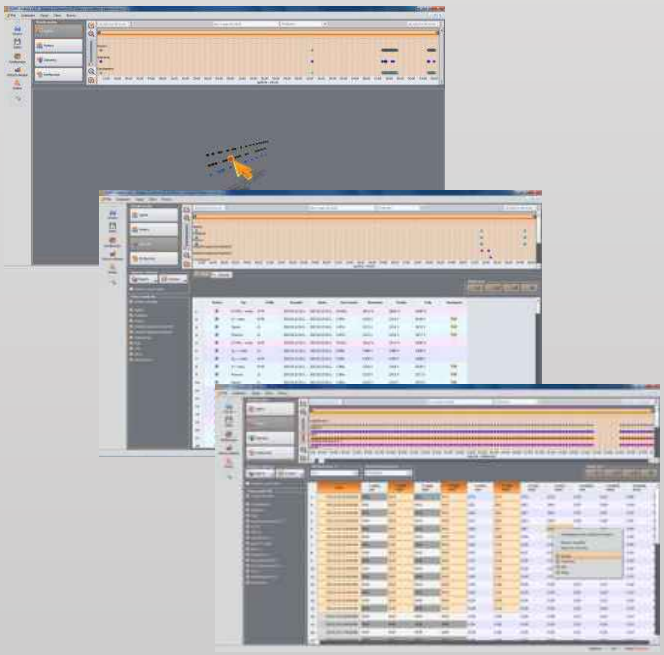
Configuration of the analyzer
The program allows for configuring all key parameters of the analyzer. The configuration is prepared on a computer, and then transferred to the analyzer. The configuration can also be saved on the HDD/PC or other data media, in order to be used at a later time.

The software allows for:
- selecting Metering Points as well as arbitrarily assigning memory for individual Measurement Points,
- setting the time of analyzer,
- enabling button lock,
- protecting the analyzer with a PIN code to prevent unauthorised access,
- setting averaging time,
- selecting current and voltage transformers,
- selecting the triggering mode (instantaneous, after the occurrence of an event or in accordance with the defined time schedule),
- selecting clamp type, specifying whether the analyzer has to record additional parameters in N and PE channels,
- selecting power system type, where the analyzer will record all defined parameters.



The analyzer has four independent measurement points. Each Measurement Point can be configured separately, to later carry out four different recordings without the need for reprogramming the analyzer.

The following can be configured for each Measurement Point:
- whether the analyzer has to perform recording for compliance with the EN 50160 standard or in accordance with arbitrary user-defined parameters,
- for arbitrary recording, the user can specify the parameters to be recorded by the analyzer (switch on or off),
- for individual parameters, the user can define, whether the recorder should record instantaneous, mean, maximal or minimal values,
- thresholds can be defined for almost all parameters, to trigger recording of an event by the analyzer.



Readout of instantaneous data (live mode)
The Sonel Analysis software allows for reading selected parameters and their graphical presentation on a computer screen in real time. These parameters are independent from recording data to the memory card.

The user can view:
- voltage and current wave form graphs (oscilloscope),
- voltage and current graphs as a function of time,
- phasors,
- measurements of multiple parameters,
- harmonics and harmonics powers.

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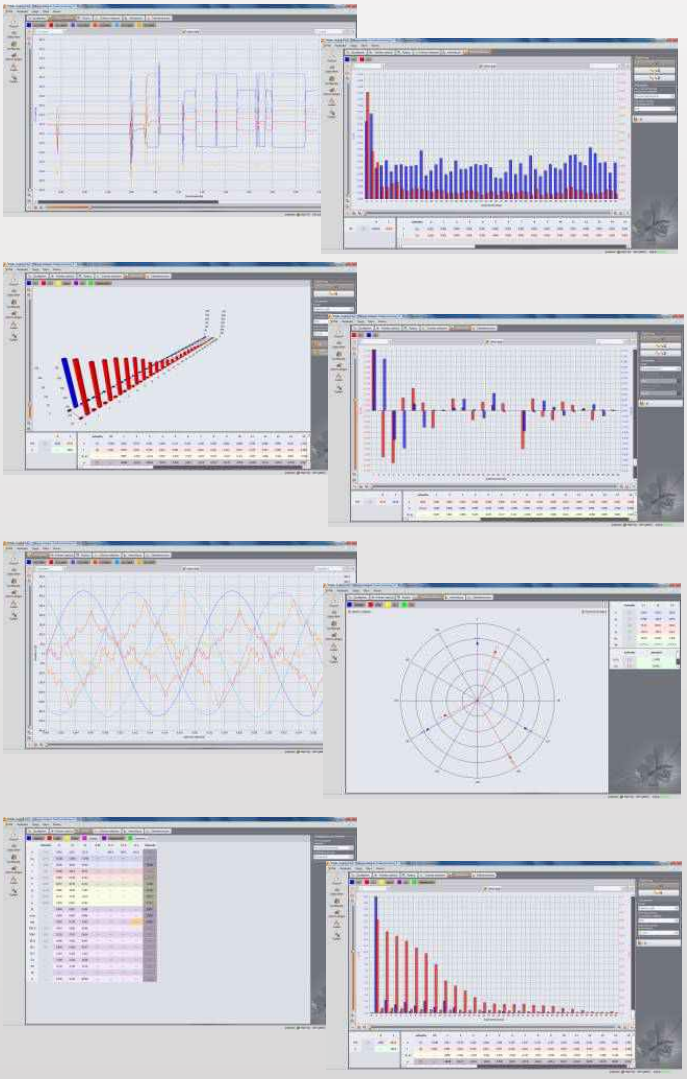
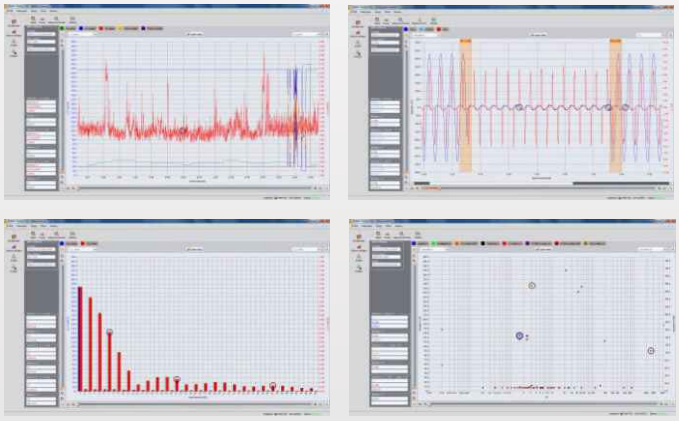
Data analysis
With the software, the user can read and analyse data recorded on the memory card. The data can also be saved to the HDD of PC to be processed at a later time. This also provides the way of archiving data from consecutive recordings.



After reading out the data, the user can perform data analysis. There is a choice of three screens:

- **General** – all data of particular types are presented in a dot form (Measurements Events and Oscillograms),
- **Measurements** – all types of measurements recorded by averaging time are presented in a dot form (voltage, frequency, etc.),
- **Events** – all kinds of detected events are presented in a dot form (voltage dips, overvoltages, interruptions, etc.).

The software provides various types of graphs, enabling the User to easily visualise the data recorded by the analyser:



- **Time graph** – shows time-based wave forms of selected parameters,
- **Oscillogram** – instantaneous voltage and current wave forms during events or at the end of averaging time,
- **Harmonics graphs** – bar graph showing the level of 1...50th order harmonics,
- **Value/Time graph** – events are presented in a dot form as a function of their duration time.

User reports can be created from the data read out from the analyzer, to be saved as files in the PDF, HTML, CSV or TXT format. The software allows for creating the report of conformity with the EN 50160 standard.