Energy Management
Network Software for Energy Management Type PowerSoft

- **Management of up to 800 power analysers and energy meters**
- **Data acquisition by means of COM ports and/or Ethernet (max. 8)**
- **3-level password protection**
- **Interactive synoptics**
- **Alarm setpoints and digital outputs management**
- **Alarms, events and communication errors log**
- **Exportable graphical and analytical trends**
- **Multi-tariff energy metering**
- **Automatic report generation**
- **Waveforms and harmonics analysis**
- **Energy, gas and water costs estimation**
- **Consumptions statistical analysis**
- **Estimation of the ideal installed power**
- **Automatic e-mailing and billing**
- **Web-server capability**
- **Shareware version for 30-day full option trial**
- **Service capability**

Product description

PowerSoft is an analysis platform suitable for Win98, 98SE, XP, Vista and Win 7 which has been specifically developed to interface, by means of the Modbus protocol (RTU and TCP/IP), the Carlo Gavazzi products for Energy Management.
Consisting of a main core and of a series of optional modules, it allows to correctly and efficiently manage an electrical distribution system, mainly considering the cost reduction point of view. This aim is achieved monitoring the consumptions, checking the demanded power peaks and adopting accurate analysis and data processing tools.

How to order

	PowerSoft
Core module	
Setpoint management module	PWS-alarm
Statistical analysis module	PWS-analysis
Multi-tariff management module	PWS-tariff
Costs estimation module	PWS-bill
Automatic e-mailing module	PWS-mail
Web-server module	PWS-web
Waves and harmonic module	PWS-harmonics
Report module	PWS-report
Service module	PWS-service
Shareware version	PWS-shareware

General Specifications

Interactive synoptic
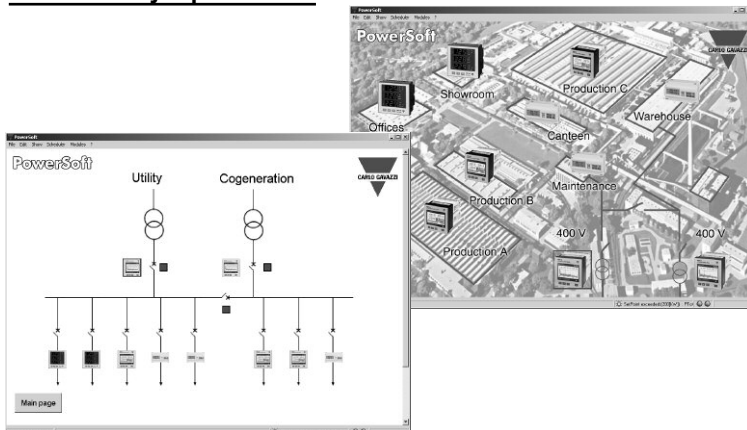
The animated interactive synoptics allow to:
- display the plant configuration with planimetric and functional diagrams;
- display the real time values acquired from the instruments;
- monitor the digital inputs status acquired by the system;
- monitor any setpoint and communication alarm of the instruments;
- page to other synoptics using link buttons.

# General Specifications, cont.

Real time display
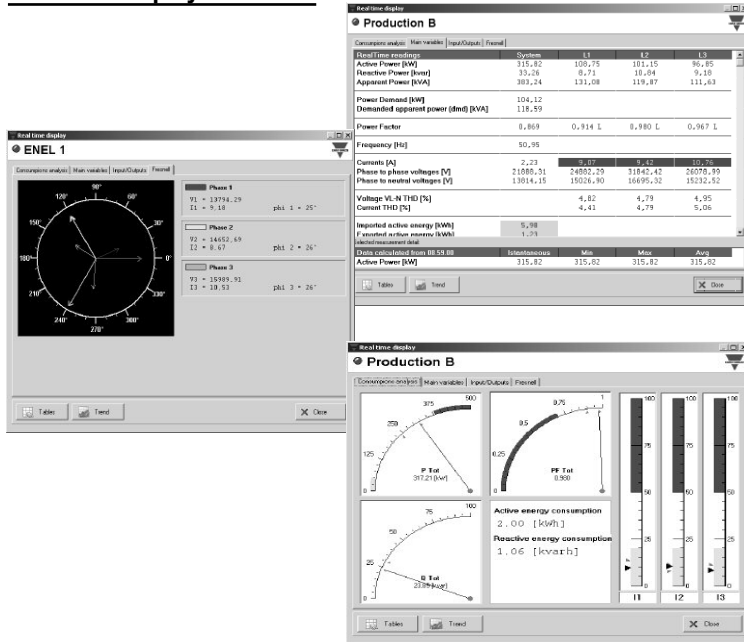
Consisting of 4 pages including all the real time information of the selected instrument.
- Indicators: it displays, through analogue indicators, the power and current values and the energy meters showing any alarm condition.
- Variables: it displays all the measurements of the selected instrument, with the indication of any alarm and of the minimum, average and maximum values took by the variables.
- Inputs/outputs: it displays the digital input and output status.
- Fresnell: it displays the Fresnell diagram of the line monitored by the instrument.

Multi-instrument display
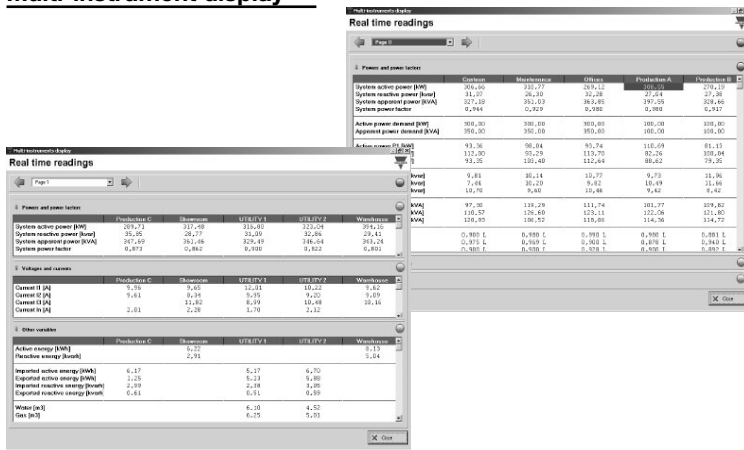
It displays the real time measurements of all the instruments connected to PowerSoft, grouped in three parts:
- voltages and currents;
- powers and power factors;
- temperatures, total harmonic distortions, imported and exported energies, gas and water consumptions.

Trends
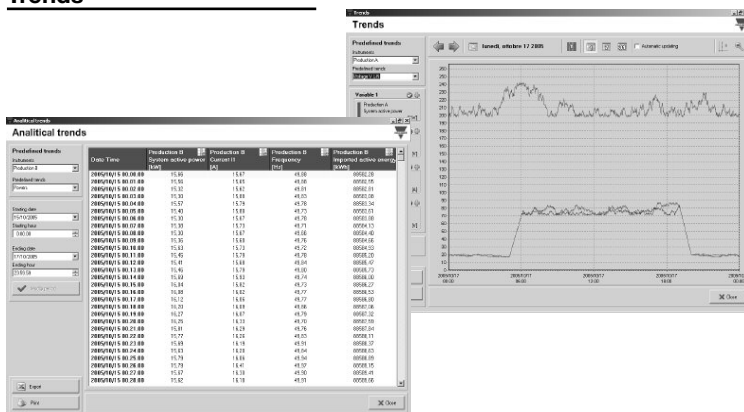
The access to the measurements historical archive is allowed in:
- graphical format, exportable in ".wmf" format;
- analytical format, exportable in ".csv" and ".xls" format.

The different tariffs, if set in the relevant module, can be connected with the stored and displayed values. Up to 4 variables (from the same of from different instruments) can be contemporary displayed. With simple and intuitive procedures is also possible to zoom the graph, analyse it in detail with a cursor and modify the displayed time period.

General Specifications, cont.

Report
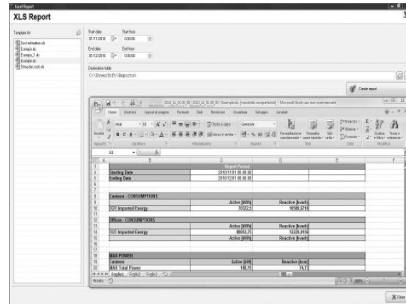
It allows to automatically fill any Excel file with any data extracted by its database.
• A list of template xls file can be saved in the proper directory and then displayed in the relevant list of PowerSoft;
• A number of tags are available to assign to the xls file cells values to be automatically extracted from the database;
• Selecting the template and the starting-end dates it is possible to get the relevant report in a few seconds.

Waves and harmonics
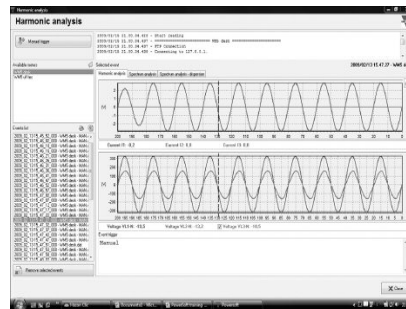
It allows to carry out a waveform and harmonics by displaying:
• 10-cycle waveform of 3-phase currents and voltages
• 10-cycle average spectrum bar diagram;
• 10-cycle dispersion spectrum bar diagram.

Each set of 10 cycles harmonic data is stored in a dedicated folder. The trigger for the harmonic capture can be:
• manual, single.
• Manual, continuous (10 cycles period stored per second).
• Automatic, triggered by an alarm detected by the instrument.

Alarms and events
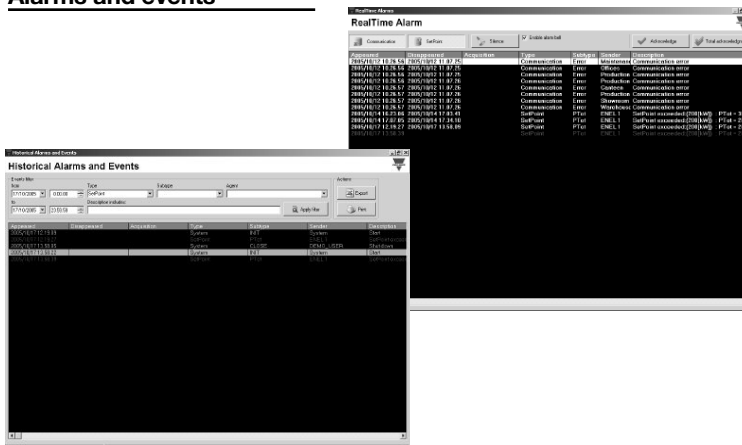
Two manners are provided to display alarms and events.
• Active alarms window: it advises the user if a setpoint has been exceeded or if a communication error is present; it allows to acknowledge the selected alarms by the qualified users.
• Alarms and events log window: it allows to access the archive of the events (login, logout, startup, alarm acknowledgment, etc.) and of the alarms (setpoint alarm, communication errors, missing data storing, etc.) and to carry out filter-based searches.

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# General Specifications, cont.

Setpoint configuration
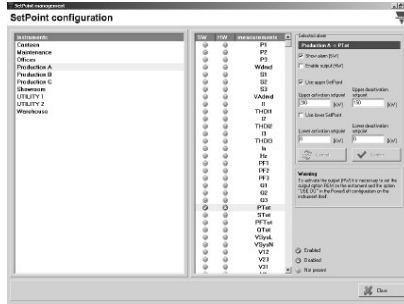
It allows to set up and down setpoints on all the variable measured by all the instruments of the network, exceeding which an alarm is activated. The alarm can be:
- software, and it is displayed in the Active alarms windows and stored in the Alarms and events log;
- hardware, which is stored as above and switches the digital output of the instrument that are pointing out the anomaly.
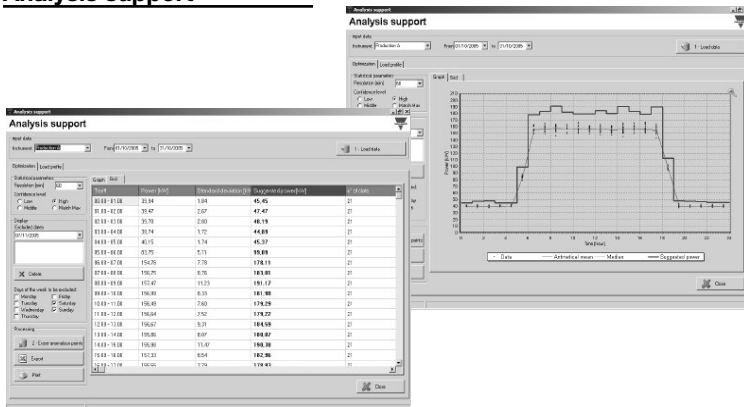
Tariff configuration
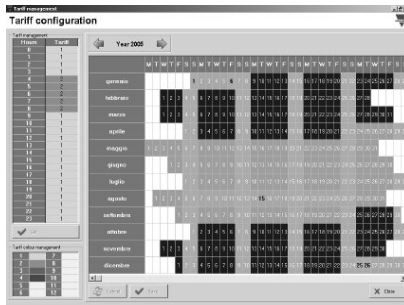
The different tariffs during the day and the distribution of the typical-days among the year can be set according to the supplier tariff regulations in a very easy and extremely flexible way. It can manage:
- up to 12 tariffs;
- up to 24 tariff change per day;
- up to 365 different typical-days per year.

Analysis support

It allows to carry out statistical analysis on the power trends and energy consumption by extrapolating:
- simple mean, median and standard deviation of the energy consumption, removing from the computation, if needed, the week-ends, holidays and days with anomalous consumption due to external reasons;
- week-based consumption trends;
- consumption trend of each day of the week;
- estimation of the ideal installed power for each tariff, calculated with a selectable confidence level.

General Specifications, cont.

Costs estimation
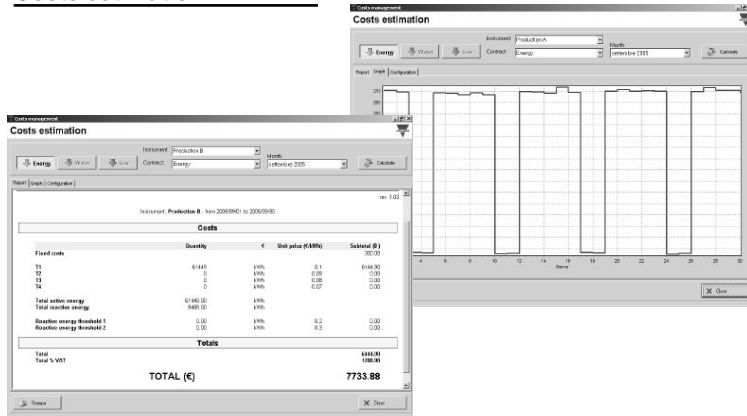
According to the utility contract parameters, it allows to:
- estimate the costs, relevant to a selected month, due to the energy, water and gas consumption;
- build a summarizing table with the consumptions data of programmable groups of instruments.
- perform the cost allocation among the monitored lines;
- display the daily trend of the consumption;
- identify the reason of any penalty.

Automatic E-mailing
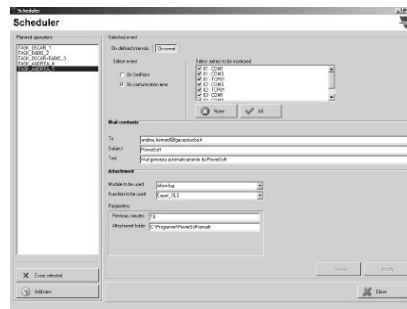
It manages the automatic e-mailing, able to notify the electrical system status to one or more e-mail addresses. The e-mailing can be carried out on regular basis and/or as a consequence of a defined alarm or event.

It is also possible to send via e-mail a weekly or monthly report of the consumptions measured by an instrument or one or more groups of instruments or any report defined with the relevant module.

Web server
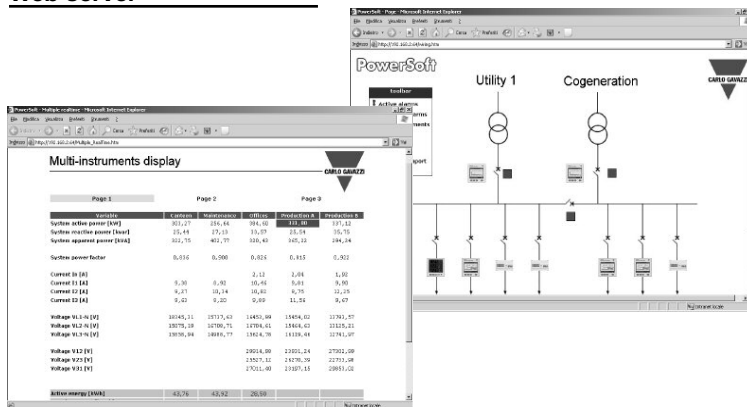
It allows to remotely access PowerSoft, using a standard browser. It allows to display:
- the synoptics;
- the single-instrument real time data;
- the multi-instrument real time data;
- the active alarms;
- the logged data in graphical format;
- the logged data in analytical format.