SICAM PQS – Excellent fault record and power quality analysis

Answers for energy.

SIEMENS

The new dimension

Comprehensive fault record and power quality analysis is easier than ever

Siemens SICAM PQS allows all fault records and power quality data to be analyzed in one system.

The protection of power distribution equipment is a crucial part of assuring a reliable power supply. Customers expect maximum availability of electric power with a consistently high standard of quality. For example, in system protection it is becoming increasingly difficult to distinguish between critical load cases and short circuits with minimal fault currents. It is also becoming more and more difficult to meet the requirements for deploying protection equipment to optimal effect and setting corresponding parameters. An intensive evaluation of available information from secondary systems via fault recorders is therefore essential. These measures alone will make it possible to guarantee that today's high level of reliability and availability of electrical transmission and distribution networks continues into the future. There is also the concern that the growing use of power electronics often has a noticeable impact on voltage quality. The resulting inadequate voltage quality leads to interruptions, production losses, and high sequential costs.

Compliance with the generally valid quality criteria for power supply systems as defined in the European standard EN 50160 is therefore vital, and the foundation must be the reliable recording and assessment of all quality parameters. Weak spots and potential fault sources can be identified early on and systematically eliminated. Siemens is setting new benchmarks with its software solution SICAM PQS. For the first time, it is possible to evaluate and archive all power quality data from the field level centrally with an integrated software solution that is also vendor-neutral and gives you a quick and simple overview of the quality of your system. With SICAM PQS, you can keep an eye on all relevant data, including fault records as well as all power-quality measurement data. SICAM PQS can also be easily expanded to create a station control system for combined applications. Be sure to discover the unique advantages of SICAM PQS.

Simple, exact, intuitive, cost-saving

The compelling advantages of SICAM PQS at a glance

Full control over all fault records and power quality data

- Vendor-neutral integration of fault recorders, protection devices, and power quality equipment via standard protocols or COMTRADE/PQDIF import
- Quick overview of system quality through the chronological display of the PQ index
- Seamless documentation of system quality
- Automatic notification in case of violation of thresholds of a predefined Grid Code
- Automatic and precise fault location with parallel line compensation
- Structured, consistent, and permanent data documentation and archiving
- Automatic generation of weekly, monthly, and annual reports

Simple, user-friendly operation

- Automatic reporting and notification in the event of limit value violations
- Automatic data administration
- Simple, precise user prompting for analysis and generation of reports

Investment protection and cost savings

- Simplified definition of specific improvement measures through clear reconstruction of the fault history
- Improved availability and more efficient coordination of personnel deployment through fully automated, detailed fault location
- Central, vendor-neutral evaluation system for all fault recorders, protection devices, and power quality equipment reduces time and costs for training and maintenance for the entire system
- Individually adaptable Grid Code templates for continuous supervision of the power quality limit values, resulting in automatic creation of reports that are valid in a court of law
- Modular licensing of the software packages
- Potential for expansion to form a SICAM PAS station control system

The way to ensure real power excellence

Guaranteeing a power supply with the right quality is important. The answer is SICAM PQS.

Increasing importance is now attached to supply reliability and voltage quality in power supply networks. Power outages as well as voltage and frequency fluctuations, harmonics, and flicker can cause perceptible interference with the operation of modern electrical and electronic equipment in industrial plants and in private households. It is imperative to meet new requirements like compliance with power quality standards and so-called Grid Codes, and to react to complaints and inquiries from customers in the shortest possible time. Industrial customers in particular expect maximum reliability of the power supply and excellent voltage quality. At the same time, power supply networks are evolving into increasingly complex infrastructures that are becoming more and more complicated to monitor.

All fault records and power quality data plus station control technology in one system

Siemens SICAM PQS plays an important role in protecting the power supply even in complex systems, and quickly identifies the cause of a fault by means of automatic processes: for example, reliable fault location with detailed fault description, continuous monitoring of compliance with specified power quality limits (Grid Codes), and automatically generating power quality reports that are valid as evidence in a court of law. For the first time, it is possible with SICAM PQS to analyze and administer data from field equipment like fault recorders and power quality devices and from the station level with a central system. This data can be read out via standard interfaces and protocols regardless of the equipment manufacturer. The power quality analysis is based on the applicable standards EN 50160 and IEC 61000 or on user-defined Grid Codes, and uses an effective reporting tool that provides automatic information about any deviations from the defined limit value. SICAM PQS therefore makes it possible to gain full oversight of all fault records and power quality data, delivering seamless documentation of the power quality with a single system.

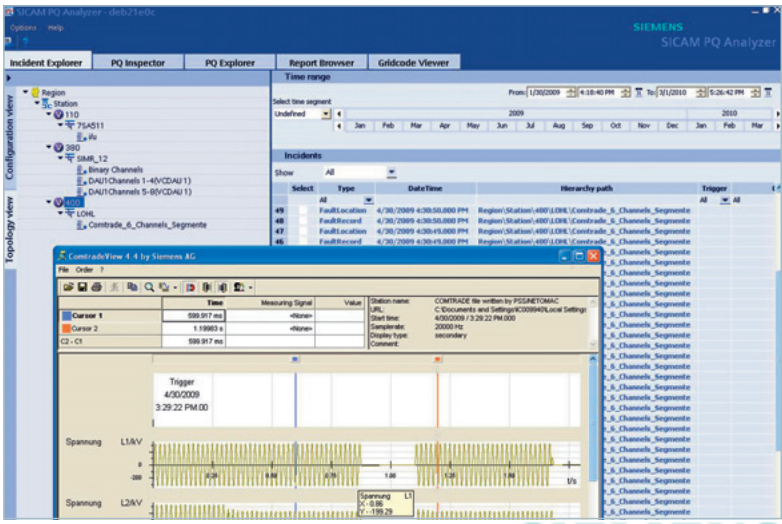
Modular structure, enormous scope of performance

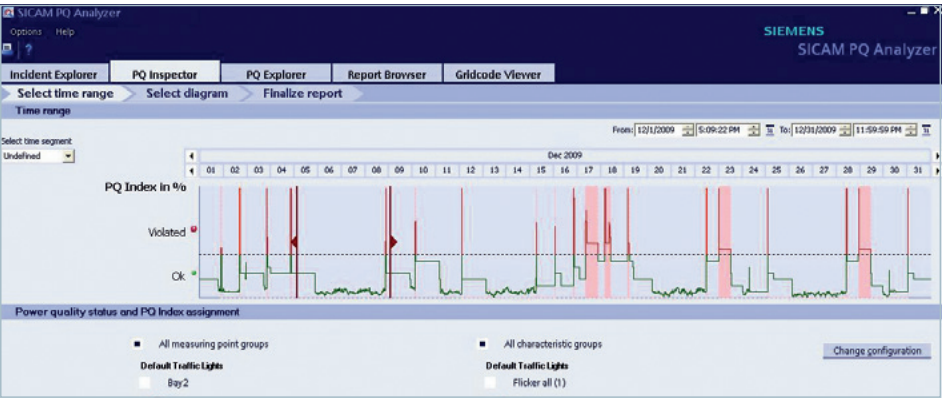
The modular structure of SICAM PQS permits the use of individual functional packages perfectly matched to the customer's requirements. As a result, the software solution as a whole can be kept as lean as possible and no unnecessary licensing costs are incurred for functions that are not needed.

SICAM PQS allows fast, meaningful reconstruction of fault histories. This makes it easier to accurately define effective improvement measures for the supply system.

Incident Explorer

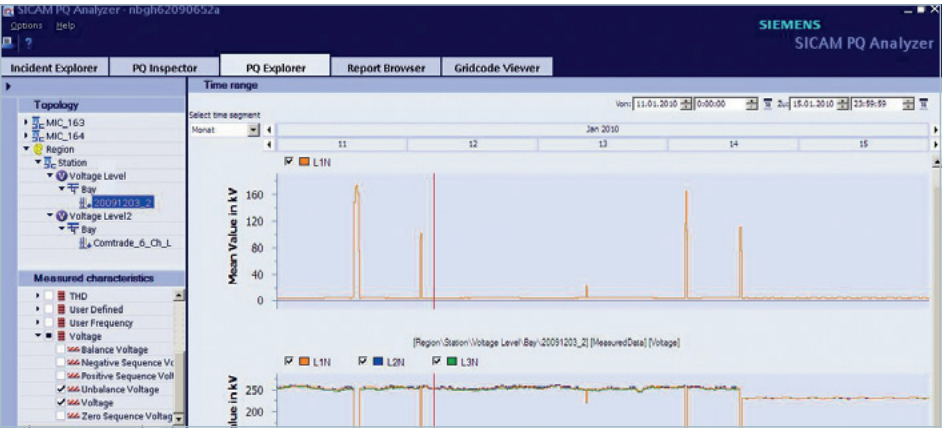
Incident Explorer is the central navigation interface of SICAM PQS. It acts as a cockpit for the user and delivers a structured overview of events throughout the whole system. It visualizes the contents of the entire power quality archive with fault records, fault locating reports, post-disturbance review reports, power quality reports, and the ability for manual fault location and manual import of Comtrade files. The Comtrade viewer, which is part of the scope of delivery, makes it possible to analyze the fault records. The SIGRA fault report analysis tool can also be integrated.





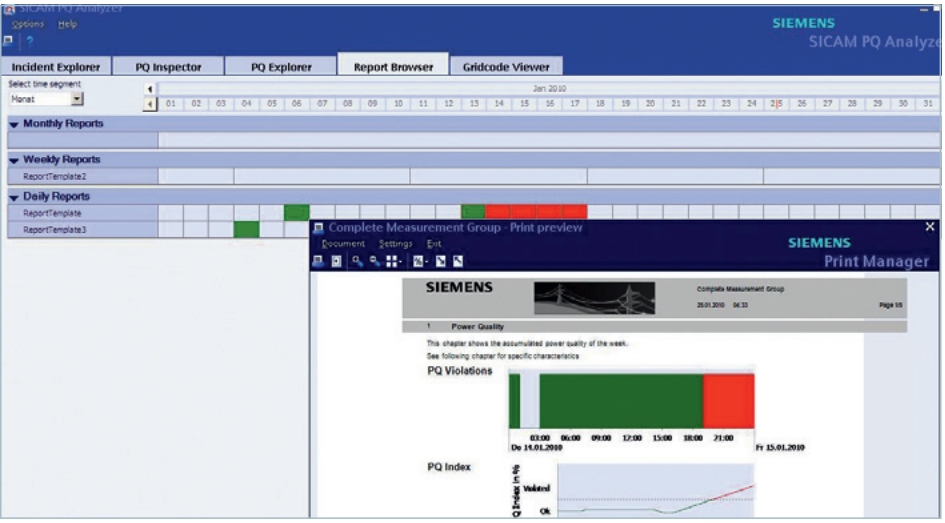
PQ Inspector

The PQ Inspector is a supplementary module that shows at a glance the power quality condition of the entire network for a selected period. This allows for quick identification of the origin and type of violation. Another feature of PQ Inspector is the option of generating power quality reports through step-by-step user prompting and on the basis of the existing information.



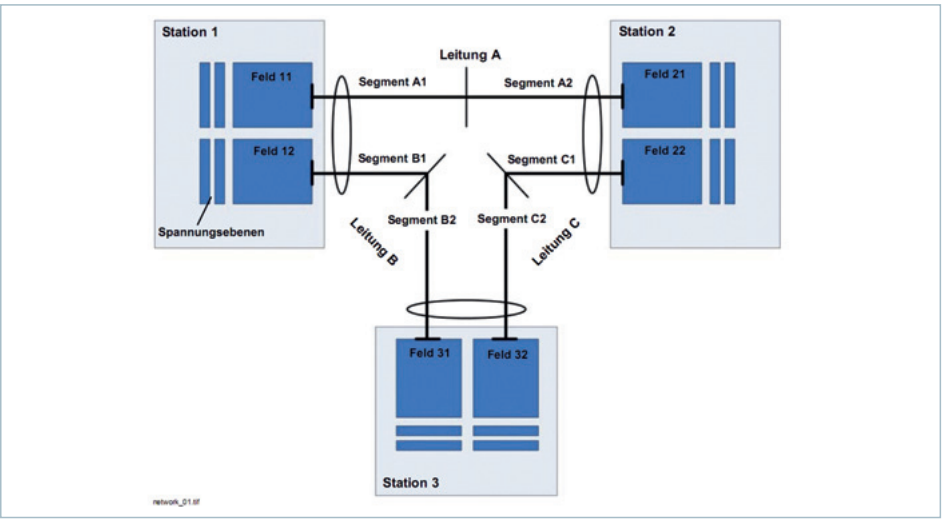
PQ Explorer

PQ Explorer makes detailed analyses possible based on comparing the measured power quality data directly with the Grid Codes. This comparison and the large number of different diagrams available for displaying power quality data make it possible to understand the nature and extent of a power quality violation very quickly and to initiate adequate countermeasures.



Report Browser

Reports are created automatically at weekly, monthly, and annual intervals and in the event of a violation of the Grid Code. The Report Browser shows an overview of these automatically generated reports in selected time ranges and the assessment of the results. The individual reports can be opened directly in the Report Browser.



Fault location with parallel line compensation

Single- or two-sided fault location allows precise pinpointing of the fault, and this can be refined even more through the inclusion of parallel line compensation. The report generated for each fault location computation contains all the important data required. Fast, reliable localization of the fault allows more efficient coordination of personnel deployment and thus helps minimize downtimes.

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