



# SICAM PQS Fault Recorder and Power Quality Analysis System

Energy Automation

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The products and systems described in this catalog are manufactured and sold according to a certified management system (acc. to ISO 9001, ISO 14001 and BS OHSAS 18001). DNV Certificate No.: 92113-2011-AHSO-GER-TGA and Certificate No.: 87028-2010-AHSO-GER-TGA.

### Description

Siemens SICAM PQS allows all fault records and power quality data to be analyzed in one system. The protection of power distribution equipment is crucial in assuring a reliable power supply. Customers expect maximum availability of electrical power, reflecting a consistently high standard of quality. For example, in power system protection, it is becoming increasingly difficult to distinguish between critical load cases and short circuits with minimal fault currents. The demands on optimum use and the corresponding parameterization of protective devices are rising. Intensive evaluation of available information from secondary equipment (using fault recorders) is therefore essential. Only this way can today's high levels of reliability and availability in power transmission and distribution networks be ensured for the future as well. There is also 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 consequential costs. Compliance with the generally valid quality criteria for power supply systems as defined in the European standard EN 50160 is therefore vital. The basis must be reliable recording and assessment of all quality parameters. Weak spots and potential fault sources can be identified early on and systematically eliminated. With the software solution SICAM PQS, Siemens is setting new benchmarks here: For the first time, it is now possible with an integrated software solution to evaluate and archive centrally and vendor-neutral all power quality data from the field. This gives you a quick and uncomplicated 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.

### Benefit

- Secured voltage quality for the supply of your station
- Fast, transparent analysis of the cause and development of a network fault
- Efficient deployment of troubleshooting personnel
- User-friendliness
- Evidence of compliance with normalized standards in utilities
- Online comparison of captured PQ data with standard-specific and customer-specific grid code templates
- Immediate notification of power quality criteria violations
- Automatic determining of the fault location
- Automatic analysis and reporting of power quality criteria violations
- Structured representation and structured access to archived data
- Cumulative summary of all PQ data to a state criterion (PQ index)
- Spatially distributed options for the monitoring and evaluation of PQ measuring data
- Archiving of PQ data (measured values, fault records, PDR records)

- Different communication standards and interfaces for device connection and for detection of process data (Ethernet TCP/IP, serial interfaces)
- Automatic import of third-party devices in PQDIF and COMTRADE format
- Ethernet network monitoring, e.g. based on SNMP
- Data exchange via OPC for the connection to office desktop computers
- Secured data access via a user administration tool
- Redundant structure of the system on different levels
- Test and diagnostic functions.

### Function overview

- Central PQ archive for:
  - Fault records
  - PQ data
  - Reports
- Variety of protocols
  - IEC 61850
  - IEC 61850-103
  - SIMEAS R Master
  - SIMEAS Q80 Master
- Third-party devices connected via COMTRADE / PQ DIF import
- Single or double-end fault locator with option of double or parallel line compensation
- Grid code evaluation: Online evaluation of recorded PQ data with limits of grid code templates:
  - Standards: EN 50160 MV, EN 50160 LV, IEC 61000
  - User-defined
- Automatic generation of daily, weekly, monthly or yearly PQ reports accurately describing the network quality
- Server/client structure for centralized and flexible evaluation.

### Applications

The following is an overview of the individual components and their tasks.

#### *SICAM PQS UI – Configuration*

The system component SICAM PQS UI – Configuration supports you in the following tasks:

- Configuration and parameterization of your station
- Exchange of configuration data.

In the different views, you can specify the type and the transmission modes of your communication links. Additionally, you can define which devices, substations, control centers or HMIs are connected. For each of the connected system components, you can specify what information is evaluated in SICAM PAS/PQS. Furthermore, you can define what information is available for communication with higher-level control centers and for system management via SICAM PAS CC or SICAM DIAMOND. You can individually structure your system data in a topological view to map your operating conditions, and also assign individual switching permissions. In this view, you can also define parameters for fault location calculation, e.g. the line data, double line, maximum load current or the starpoint position.

# Products – SICAM PQS

## Applications

### SICAM PQS UI – Configuration (cont.)

In addition, you select the measuring channels whose PQ measuring data must be used for the fault locator. In order to be able to evaluate the quality of PQ measuring data, so-called grid codes must be assigned to the individual topological levels. Predefined device-specific and project-specific templates, templates for scheduled reports and grid codes, along with import/export and copy functions, facilitate and accelerate the configuration and parameterization of your system.

### Configuration

In this view (Fig. 7/1), you specify the components of your SICAM PQS system. These include:

- Systems
  - Full server
  - DIP
- Applications
  - IED protocols, e.g. IEC 61850, IEC 60870-5-103
  - SIMEAS Q80, SIMEAS R
  - PQS automatic import
  - Archive
  - PQS scheduled reports
  - PQS automatic fault location
  - PDR recorder
  - OPC
  - Network monitoring via SNMP
- Interfaces
  - Serial interfaces
  - Ethernet TCP/IP
  - PROFIBUS
- Devices
  - PQ devices
  - Fault recorders
  - Protection devices

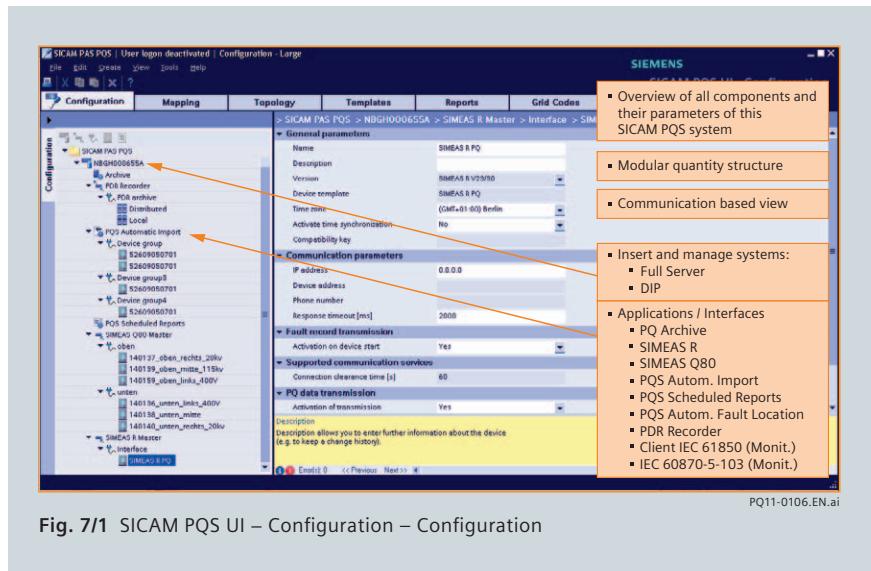


Fig. 7/1 SICAM PQS UI – Configuration – Configuration

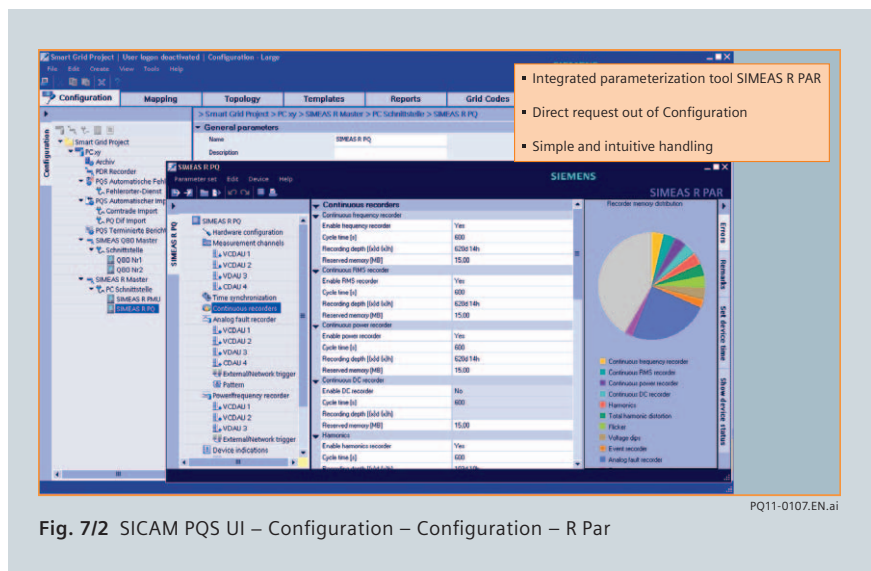


Fig. 7/2 SICAM PQS UI – Configuration – Configuration – R Par

The configured components are represented in a tree structure; the parameters of the selected component are displayed in the input area. Additionally, a description of permissible setting options is displayed for the parameter currently selected. Erroneous inputs are marked and explained in an error field. The two parameterization tools for SIMEAS R and SIMEAS Q80 can also be opened directly from this view and the devices parameterized.

### Mapping

In the mapping view (Fig. 7/2), which is mainly for expansion into a substation automation system, all the status/process information for each device are mapped in the monitoring and command directions, for forwarding to the control center/SICAM PAS CC or SICAM Soft PLC.

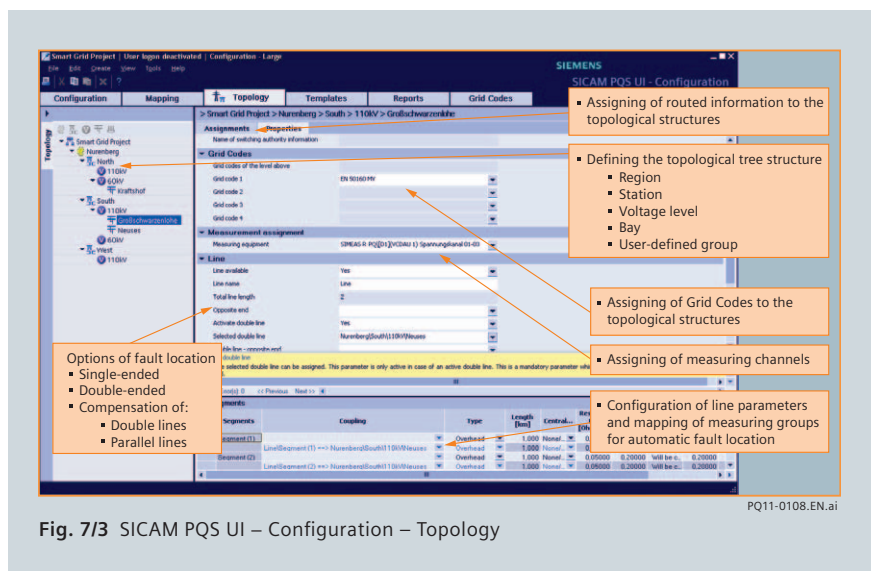


Fig. 7/3 SICAM PQS UI – Configuration – Topology

### Topology

The Configuration view focuses on your station's communication requirements, but you can create a system view focusing on the primary technological topology in the Topology view (Fig. 7/3). The topological structure consists of different levels, including the region, station, voltage level, bay and user-defined groups. You assign these structure levels to the corresponding items of information. You can also assign the measuring channels to the topological structure here, for subsequent more targeted analysis of the PQ measured data (via the topology) in the PQ Analyzer. And you can assign one or more grid codes to the individual structure levels in order to validate the PQ measured data and define your power system.

In this view, you also parameterize the line data for fault location. For the PQS Automatic Fault Location function, you assign the measuring groups to those devices whose measuring data is used for calculating the fault location. The measuring groups specify e.g. the assignment of the measuring channels and phases of the fault records used.

### Templates

In this view (Fig. 7/4), you can also define the measuring groups and recording channels for import of PQDIF and COMTRADE data from the virtual devices. Virtual devices are used for the connection of third-party devices which do not communicate via a protocol supported by SICAM PQS.

### Reports

In the Reports view (Fig. 7/5), you insert the templates for scheduled reports. The reports contain measured data for determining the power quality. Their content is freely configurable. For each template, you can define when the report is to be created (for example daily, weekly, monthly or yearly).

You can also insert various diagrams of measured and evaluated PQ data, and assign the measuring groups and grid codes required for evaluation.

### Grid codes

In this view (Fig. 7/6), the grid codes are imported and adapted where necessary. The grid codes include standardized or customer-defined limit values for checking measured data.

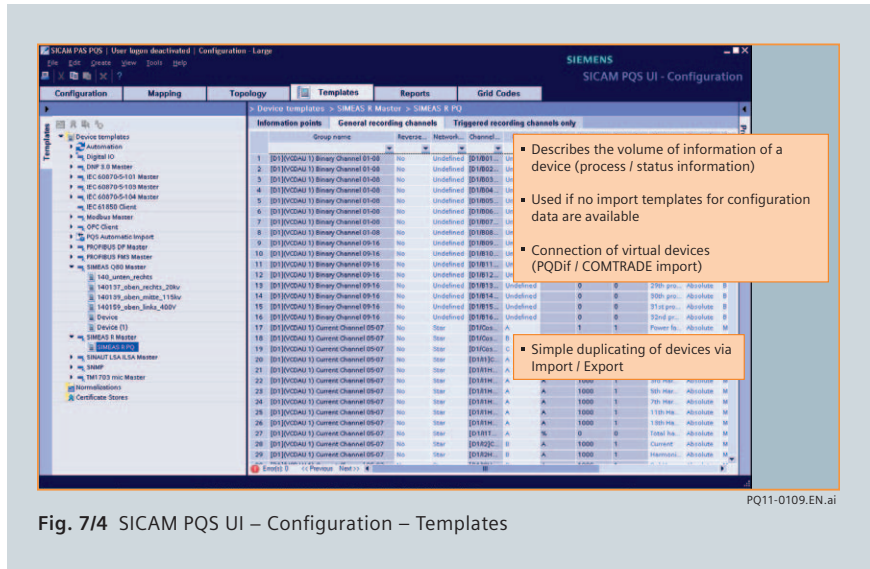


Fig. 7/4 SICAM PQS UI – Configuration – Templates

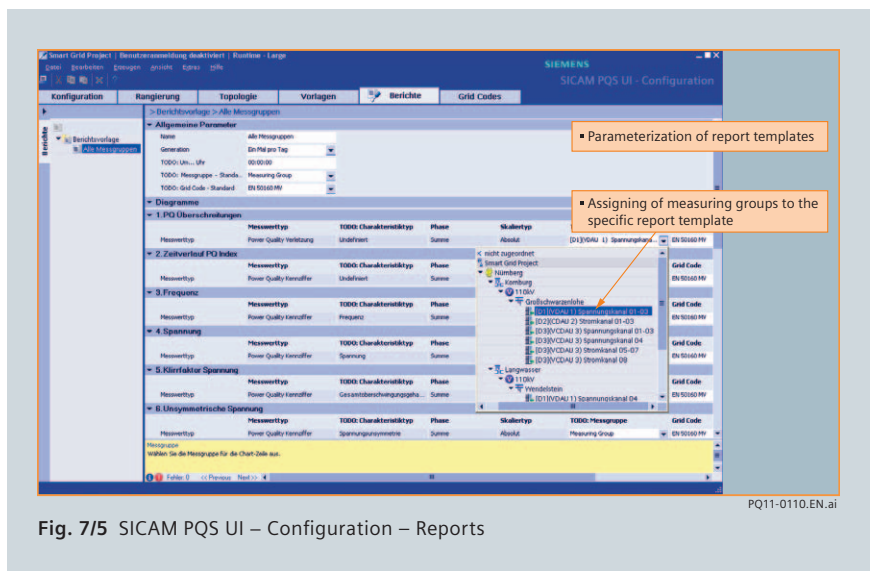


Fig. 7/5 SICAM PQS UI – Configuration – Reports

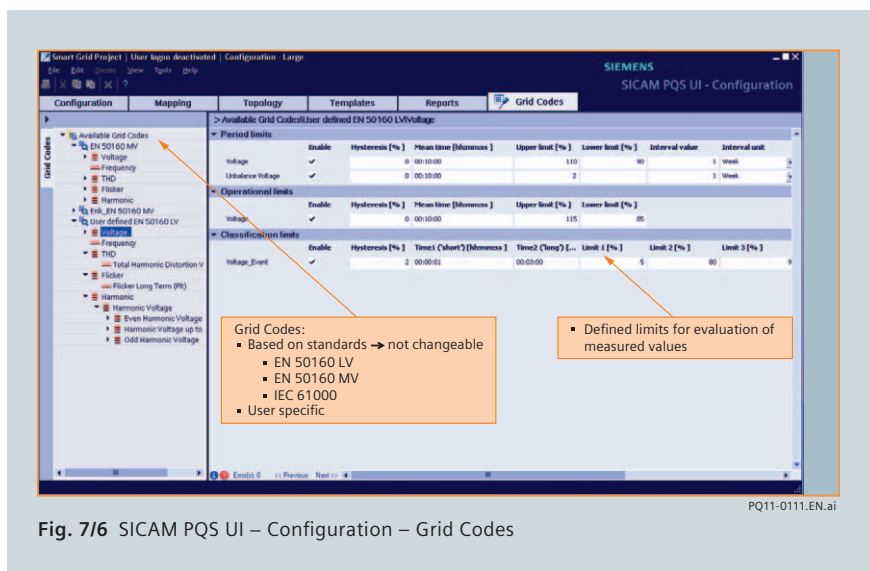


Fig. 7/6 SICAM PQS UI – Configuration – Grid Codes

# Products – SICAM PQS

## Applications

### Grid codes (cont.)

The grid codes included in the scope of delivery and based on standards (e.g. EN50160LV, EN50160MV) cannot be modified. For grid codes which can be altered to meet customer-specific requirements, however, the scope of delivery includes a template which can be edited in this view. By monitoring compliance with these limits, SICAM PQS ensures a fast, compact overview of the power network quality.

### SICAM PQS UI – Operation

SICAM PQS UI – Operation provides you with an overview of the runtime status of your station (Fig. 7/7). The configuration is displayed in tree structure. The different colors show the status of interfaces, devices or other applications.

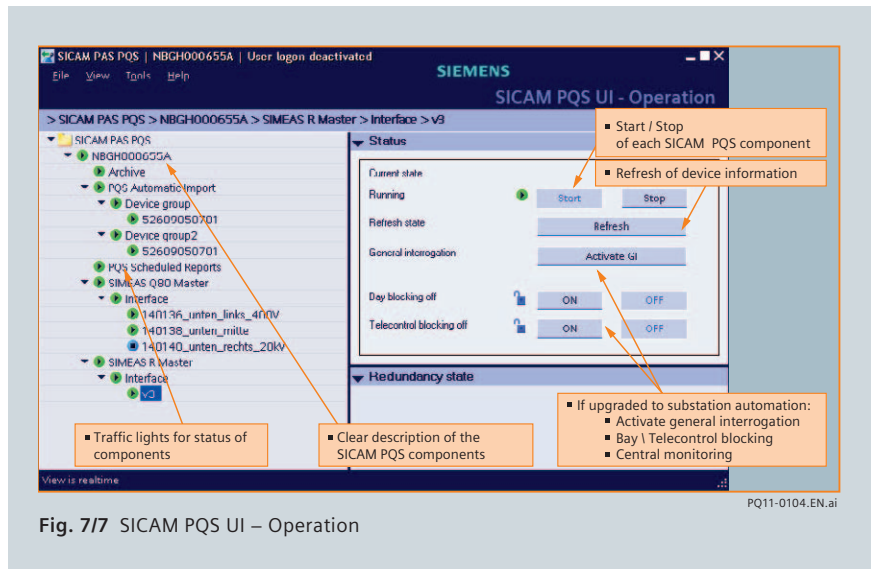


Fig. 7/7 SICAM PQS UI – Operation

### SICAM PQS – Value Viewer

The SICAM PQS Value Viewer (Fig. 7/8) is an important tool for the project phases of configuration, testing, commissioning and operation. Without any additional configuration expenditure, it enables the visualization of process and system information, and informs you on the current status of your station.

### SICAM PQS – User Administration

Via a User Administration tool you can assign passwords in order to define which persons can access individual working areas and functions. Users can be assigned one of the following roles: Administrator / System Engineer / Data Engineer / Switch Operator / Guest User

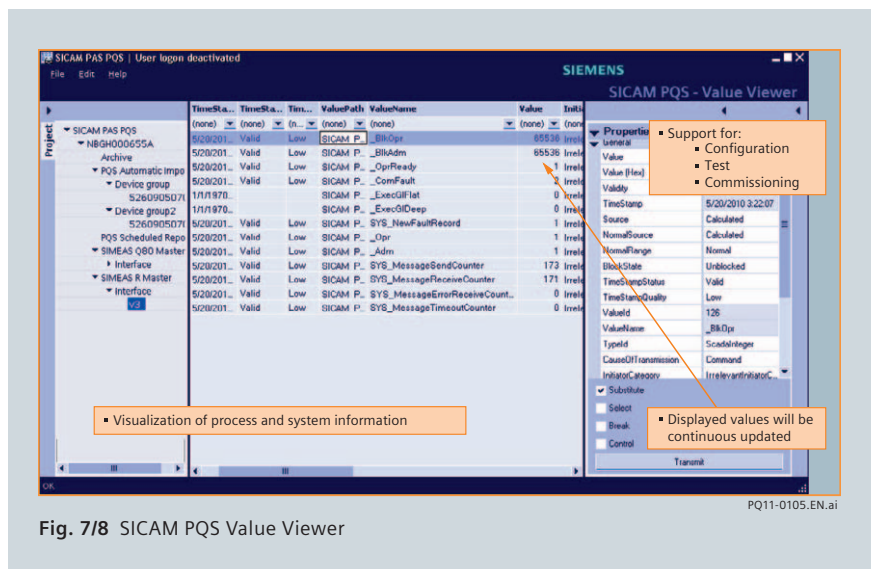


Fig. 7/8 SICAM PQS Value Viewer

### SICAM PQS – Feature Enabler

Use the SICAM PQS Feature Enabler to enable SICAM PQS system components which you require in your project or on the corresponding computer.

### SICAM PQ – Analyzer

The SICAM PQ Analyzer provides comprehensive evaluation options for archived PQ measuring data and fault records. In addition to clearly structured fault record analysis, the fault locator facilitates and accelerates the elimination of faults in the power network. PQ violation reports provide a quick and comprehensive overview of limit value violations. Scheduled reports provide an overview of the development of measuring data over selectable time ranges (Fig. 7/9).

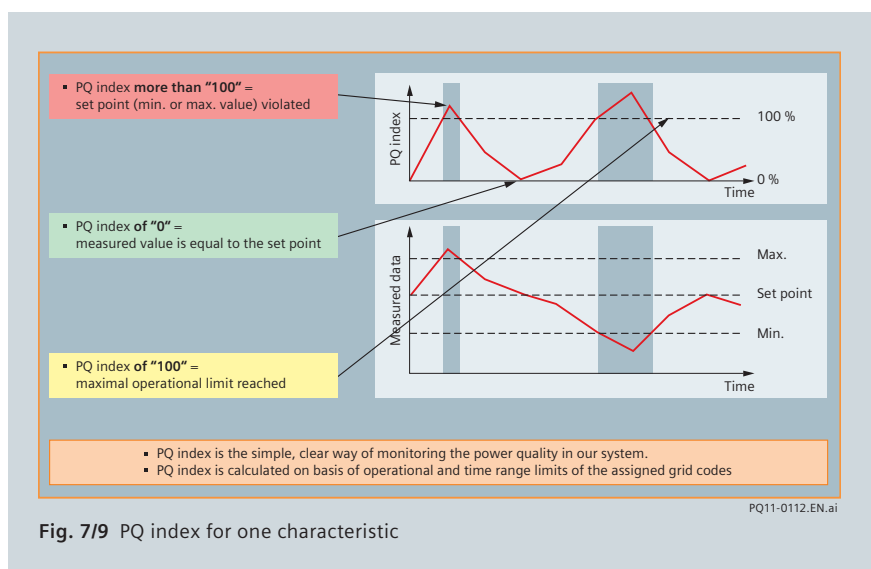


Fig. 7/9 PQ index for one characteristic

### SICAM PQ – Analyzer (cont.)

With the aid of a calendar tool available in all views, you can quickly and easily select any time range over which data is to be displayed in a diagram. The calculated PQ index delivers concise information on the quality of your network (Fig. 7/10). The following various views of the SICAM PQ Analyzer provide the means for evaluation of PQ measuring data and system disturbances.

### Incident Explorer

The Incident Explorer provides an overview of all faults stored in the archive. It enables time-related evaluation, and provides a topological and communication view of:

- Fault records
- Fault location reports
- PQ violation reports
- PDR records

The topological structure of the archive data corresponds to the structure which you defined when configuring the SICAM PQS station.

The Incident Explorer serves for the following tasks:

- Reading the events (confirm)
- Calling up the evaluation programs
- Deleting the events from the archive overview

Various filter options are available for the selection of events in the power network

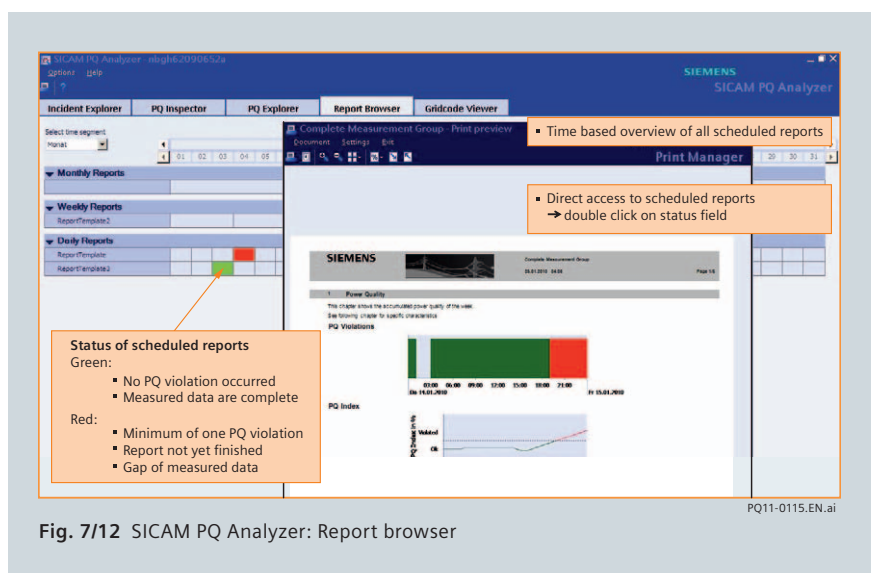
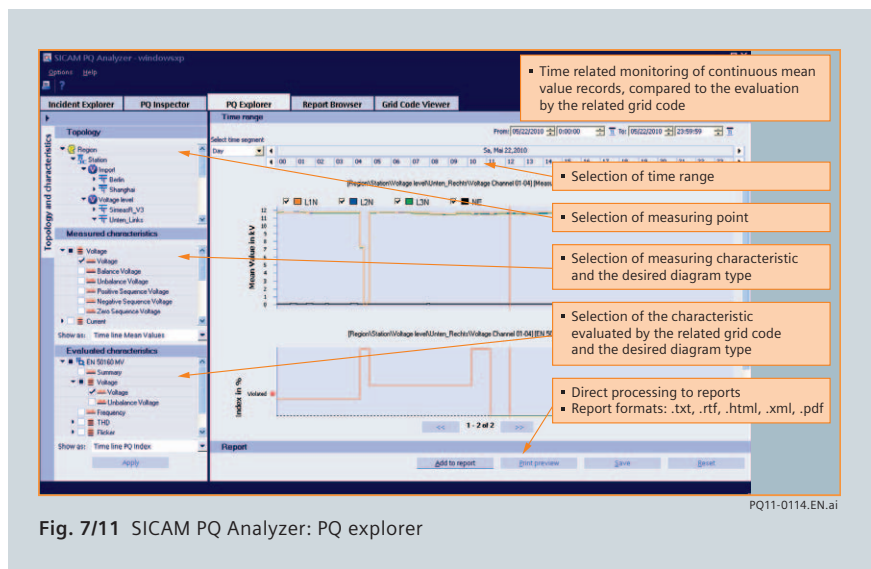
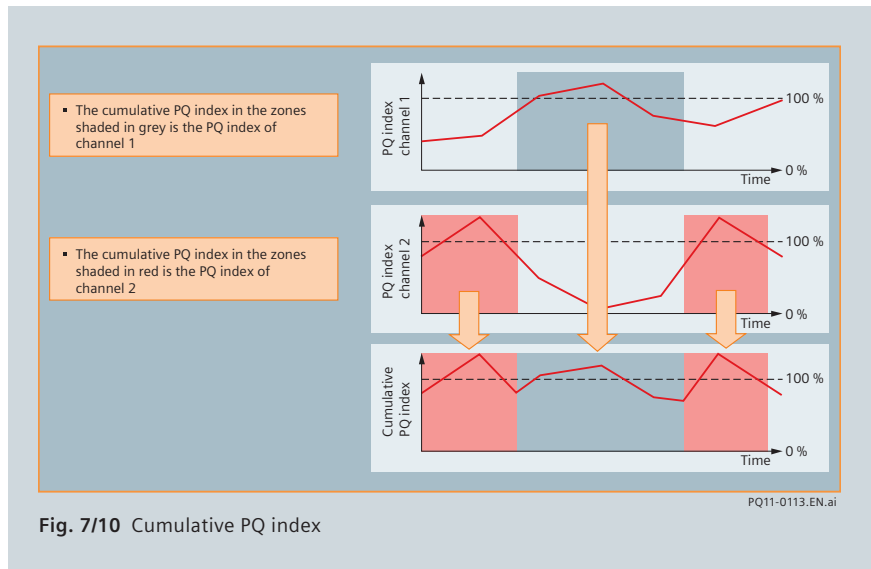
- Selecting the time range from the archive
- Filtering for events

### PQ Inspector

The PQ Inspector provides the operator with a quick overview of the station's power network quality based on the PQ index. Archived data is analyzed over freely selectable time ranges, and the operator can immediately detect the causes for discrepancies between measured values and grid codes.

The PQ Inspector is subdivided into the following 3 views:

- Select time range  
Definition of the period under observation and identification of influencing factors for deviations from the specifications via a stoplight model of the self-defined measurements/ characteristics groups
- Select diagrams  
Selection of the characteristics of a measuring point and definition of the diagram for data representation



# Products – SICAM PQS

## Applications, SICAM PQ collector

### PQ Inspector (cont.)

- Finalize report  
Finalization of the report. These views assist you in the step-by-step creation of a manual report.

### PQ Explorer

The PQ Explorer (Fig. 7/11) provides access to all PQ data stored in the archive. It provides a topological view of the measuring points in your station. Measured and calculated PQ data is evaluated via PQ diagrams. The following diagram types are supported in the process (see table 7/1).

### Report browser

The Report browser (Fig. 7/12) provides an overview of those scheduled reports and their status, which are created automatically at specified time intervals (daily, weekly, monthly or yearly). Any desired report can simply be selected for opening and subsequent printing.

### Grid code viewer

The grid code viewer provides the overview required for a supporting analysis:

- Which grid codes are available?
- To which elements in the topology have the grid codes been assigned?
- What characteristics do the grid codes contain?
- What limits have been defined?

### SICAM PQ collector

The SICAM PQ collector gathers the archive data from the individual (source) archives together in a central (collector) archive. Depending on the system configuration, the SICAM PQ analyzer accesses the data of the (source) archives or (collector) archives for archive evaluation.

The example illustrates the configuration with

- Full server with (source) archive
- Archive computer with (collector) archive and licenses for the SICAM PQ analyzer and collector
- 1 to 5 SICAM PQ analyzer clients

In redundant archive systems, the two SICAM PQ collectors are connected. In order to accelerate the determining of archive data, the data stored in the two archives is initially compared. The data from that partner archive is integrated which has already received this data from the connected devices. Afterwards, the SICAM PQ collector retrieves data from the connected devices, and only transfers data from those devices for which no data has been received via the partner computer.

### General data

Table/diagram type	Typical use
Properties	– Overview of the grid codes that are assigned to a PQ device – Overview of the PQ devices assigned to a particular node in the topology

### Tables and diagrams for measured characteristics

Table/diagram type	Typical use
Time characteristic minimum values, maximum values, average values	– Overview of the progress of a measured characteristic
Table minimum values, maximum values, average values	– Display of the values of a characteristic transferred by a PQ device
Bar graph P95 / min / average / max	– Fast detection of static outliers over a long period – Suitable for monthly reports
Fingerprint diagram	– Overview of static distribution of measured harmonic overvoltages of different orders
Fingerprint table	– View of the data that are used to create fingerprint diagrams
Harmonics spectrum	– Comparison of harmonic overvoltages of different orders

### Tables and diagrams for evaluated characteristics

Table/diagram type	Typical use
Fingerprint diagram	– Overview of the static distribution of the PQ index from several characteristics
Fingerprint table	– View of the data that are used to create fingerprint diagrams
Harmonics spectrum	– Comparison of the PQ index of different orders
Time characteristic PQ index	– Quick overview of the PQ index over a long period
Time characteristic power quality	– Title page of a monthly report (PQ violations are immediately recognizable)
Time characteristic measurement gaps	– Title page of monthly report (measurement gaps are immediately detectable)
Bar graph PQ statistics	– Comparison of the PQ index of several characteristics over longer period

### Diagram for measured events

Table/diagram type	Typical use
Time characteristic event values	– Overview of measured events that have occurred

### Table and diagram of evaluated events

Table/diagram type	Typical use
Time characteristic event values	– Overview of events that have occurred
ITI (CBEMA)	– Overview of voltage rises, voltage dips and voltage interruptions acc. to ITI/CBEMA requirements
ESKOM	– Overview of voltage dips and voltage interruptions acc. to ESKOM requirements
Voltage event list	– Overview of voltage-specific events

Table 7/1 Diagram types



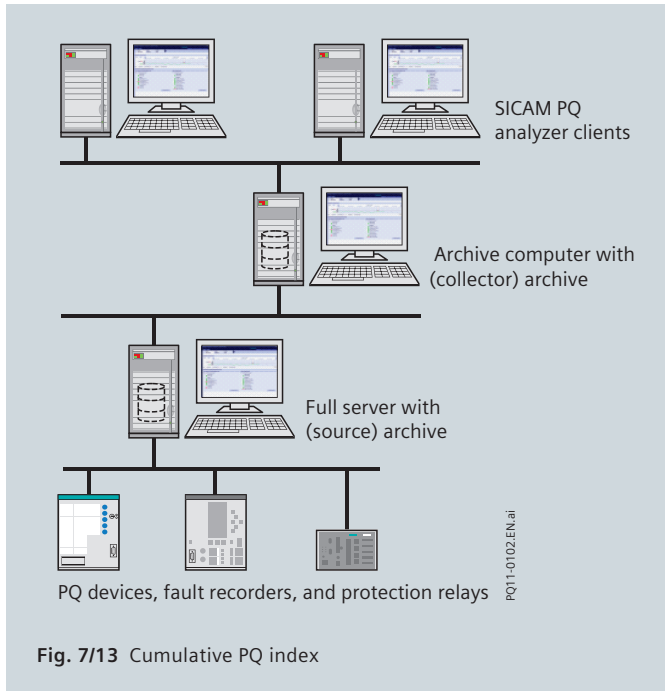


Fig. 7/13 Cumulative PQ index

### Architecture

Thanks to its modular system structure, SICAM PQS is suitable for multiple use in power supply utilities or industrial facilities.

SICAM PQS can be set up in many variants:

- Full server with (source) archive and SICAM PQ analyzer
- System with
  - Full servers with (source) archive
  - SICAM PQ analyzer clients
- System with
  - Full servers
  - Archive computers with (collector) archive
  - SICAM PQ analyzer clients

The number of components which can be used in a system depends on the individual license.

#### (Source) archive

The full server collects PQ measuring data and fault records from connected devices, and stores them in its local (source) archive. This archive data can be directly evaluated by one or more SICAM PQ analyzers.

#### (Collector) archive

In distributed systems with one or more full servers, the data of the (source) archives is collected by the SICAM PQ collector and stored in a central (collector) archive on an archive computer.

This archive data is evaluated by one or more SICAM PQ analyzer(s).

### Configuration information

#### Operating systems

The following operating systems are supported:

- Windows XP Professional SP3
- Windows Server 2003
- Windows 7 Professional (in classic Windows design only)
- Windows Server 2008 Standard Edition (32-Bit) without Hyper-V
- Windows XP Embedded
- Windows Embedded Standard

#### Hardware requirements

Computer with

- Processor
  - At least Intel Pentium Celeron 1.86 GHz
  - Recommended for SICAM PQS Intel Core Duo 2 GHz
  - Engineering for large installations Intel Core 2 Duo 3 GHz
- RAM size
  - At least 2 GB
  - Recommended for SICAM PQS 4 GB
  - Engineering of large installations 4 GB
- Hard disk capacity
  - At least 2 GB not including archive size
- Graphics card:
  - At least SVGA (16 MB), 1024 × 768
  - Recommended SXGA (32 MB), 1280 × 1024
- Monitor matching graphics card
- DVD drive
- Keyboard
- Mouse
- USB port for dongle
- Network interface

#### Note:

Computers with multi-core processors are supported. Computers with multi-processor main boards are only supported in single-processor operation.

# Products – SICAM PQS

## Selection and ordering data

Description	Order No.	Precondition
<b>SICAM PQS V7.0 Bundles</b>		
Base package plus one application. Base packages & Bundles will be delivered with USB dongles (MLFB position 8="1")		
<i>Supporting up to 4 devices</i>		
SICAM PQS (SIMEAS Q80)	7KE9000-1RA10-7BA0	
SICAM PQS (SIMEAS R)	7KE9000-1RA10-7CA0	
SICAM PQS (IEC61850 (monitoring direction))	7KE9000-1RA10-7DA0	
<i>Supporting up to 15 devices</i>		
SICAM PQS (SIMEAS Q80)	7KE9000-1MA10-7BA0	
SICAM PQS (SIMEAS R)	7KE9000-1MA10-7CA0	
SICAM PQS (IEC61850 (monitoring direction))	7KE9000-1MA10-7DA0	
<i>Supporting more than 15 devices</i>		
SICAM PQS (SIMEAS Q80)	7KE9000-1AA10-7BA0	
SICAM PQS (SIMEAS R)	7KE9000-1AA10-7CA0	
SICAM PQS (IEC61850 (monitoring direction))	7KE9000-1AA10-7DA0	
<b>SICAM PQS V7.0 upgrades</b>		
<i>Functional upgrades with respect to number of supported devices</i>		
"Full Server" (Runtime) (up to 15 devices)	6MD9004-0RA10-7AA0	7KE9000-1RA10-7.A0
"Full Server" (Runtime) (more than 15 devices)	6MD9004-0MA10-7AA0	7KE9000-1MA10-7.A0
<b>SICAM PQS V7.0 options &amp; addons</b>		
<i>Master protocols power quality</i>		
SIMEAS R Master	7KE9000-0CB11-7AA0	
SIMEAS Q80	7KE9000-0CB12-7AA0	
<i>Master protocols power automation (monitoring direction)</i>		
IEC 60870-5-103 master (monitoring direction)	6MD9000-0CB00-7MA0	
Client IEC 61850 (monitoring direction)	6MD9000-0CE00-7MA0	
<i>Applications power quality</i>		
Automatic comtrade import	7KE9000-0BA60-7AA0	
Automatic PQDIF import	7KE9000-0BA62-7AA0	
Automatic Fault Location	7KE9000-0BA65-7AA0	
Automatic grid code evaluation	7KE9000-0BA67-7AA0	
Scheduled PQ reports	7KE9000-0BA68-7AA0	
<b>Note:</b> The SICAM PQS system can be extended with SICAM PAS applications. For configuring such a system a configuration license is needed. Either the existing runtime license can be expanded with a configuration license [→ a)] or the configuration can be done on a separate configuration PC [→ b)]		

Table 7/2 Selection and ordering data

Description	Order No.	Precondition
<b>SICAM PAS base packages</b>		
<i>Configuration</i>		
b) Configuration (up to 15 devices or up to 2000 master information objects)	<u>6MD9000-1MA20-7AA0</u>	
b) Configuration (more than 15 devices)	<u>6MD9000-1AA20-7AA0</u>	
<b>SICAM PAS upgrades</b>		
<i>Functional upgrades – from “Runtime” to “Runtime &amp; configuration”</i>		
a) Configuration upgrade ≤ 15 (Runtime already available)	<u>6MD9004-0AA24-7AA0</u>	<u>7KE9000-1MA10-7.A0</u>
a) Configuration upgrade >15 (Runtime already available)	<u>6MD9004-0AA23-7AA0</u>	<u>7KE9000-1AA10-7.A0</u>
<i>Functional upgrades with respect to number of supported devices</i>		
“Full server” (Runtime & configuration) (more than 15 devices)	<u>6MD9004-0MA00-7AA0</u>	<u>7KE9000-1MA10-7.A0 and 6MD9004-0AA24-7AA0</u>
Configuration (more than 15 devices)	<u>6MD9004-0MA20-7AA0</u>	<u>6MD9000-1MA20-7AA0</u>
<b>SICAM PAS options &amp; addons</b>		
<i>Applications (power automation)</i>		
Automation	<u>6MD9000-0BA50-7AA0</u>	
PDR recorder (post disturbance review)	<u>6MD9000-0BA70-7AA0</u>	
<i>Addons (power automation)</i>		
SICAM PAS applications (f-based load shedding, GIS monitoring, transformer monitoring)	<u>6MD9000-0PA01-7AA0</u>	
Secure communication (for TCP/IP-based communication T104 Slave, DNP 3 Slave, DNP 3 Master)	<u>6MD9000-0SC00-7AA0</u>	
<i>Master protocols (bay devices, RTUs)</i>		
Client IEC 61850	<u>6MD9000-0CE00-7AA0</u>	
IEC 60870-5-101 Master	<u>6MD9000-0CD00-7AA0</u>	
IEC 60870-5-103 Master	<u>6MD9000-0CB00-7AA0</u>	
IEC 60870-5-104 Master	<u>6MD9000-0CD04-7AA0</u>	
DNP V3.00 Master (incl. over IP)	<u>6MD9000-0CB07-7AA0</u>	
MODBUS Master	<u>6MD9000-0CB05-7AA0</u>	
Driver module for PROFIBUS DP	<u>6MD9000-0CB01-7AA0</u>	
Driver module for PROFIBUS FMS (UPF)	<u>6MD9000-0CB02-7AA0</u>	
SINAUT LSA - ILSA	<u>6MD9000-0CB03-7AA0</u>	
OPC Client	<u>6MD9000-0BA40-7AA0</u>	
<i>Slave protocols for control center connection</i>		
IEC 60870-5-101 Slave	<u>6MD9000-0CC00-7AA0</u>	
IEC 60870-5-104 Slave	<u>6MD9000-0CC04-7AA0</u>	
DNP V3.00 Slave (incl. over IP)	<u>6MD9000-0CC07-7AA0</u>	
MODBUS Slave (serial or over IP)	<u>6MD9000-0CC05-7AA0</u>	
CDT Slave (serial)	<u>6MD9000-0CC08-7AA0</u>	
TG8979 Slave (serial)	<u>6MD9000-0CC10-7AA0</u>	
OPC XML-DA server	<u>6MD9000-0CA41-7AA0</u>	
<i>Functional upgrades for communication applications supporting just monitoring direction</i>		
IEC 60870-5-103 Master (support additionally control direction)	<u>6MD9004-0CB00-7AA0</u>	<u>6MD9000-0CB00-7MA0</u>
Client IEC 61850 (support additionally control direction)	<u>6MD9004-0CE00-7AA0</u>	<u>6MD9000-0CE00-7MA0</u>

Table 712 Selection and ordering data (cont.)

# Products – SICAM PQS

## Selection and ordering data

Description	Order No.
<b>SICAM PQ Analyzer V2.0</b>	
<b>Incident Explorer</b> for evaluation of fault records	
Usage on SICAM PAS fullserver	6MD5530-0AA10-2AA0
Up to 5 clients, archive transfer from 1 server/fullserver	6MD5530-0AA10-2BA0
Up to 5 clients, archive transfer from up to 5 server/fullserver	6MD5530-0AA10-2BB0
Up to 5 clients, archive transfer from more than 5 server/fullserver	6MD5530-0AA10-2BC0
More than 5 clients, archive transfer from 1 server/fullserver	6MD5530-0AA10-2CA0
More than 5 clients, archive transfer from up to 5 server/fullserver	6MD5530-0AA10-2CB0
More than 5 clients, archive transfer from more than 5 server/fullserver	6MD5530-0AA10-2CC0
<b>PQ Basic</b>	
including Incident Explorer for evaluation of fault records and <b>PQ Explorer</b>	
Usage on SICAM PAS fullserver	7KE9200-0BA10-2AA0
Up to 5 clients, archive transfer from 1 server/fullserver	7KE9200-0BA10-2BA0
Up to 5 clients, archive transfer from up to 5 server/fullserver	7KE9200-0BA10-2BB0
Up to 5 clients, archive transfer from more than 5 server/fullserver	7KE9200-0BA10-2BC0
More than 5 clients, archive transfer from 1 server/fullserver	7KE9200-0BA10-2CA0
More than 5 clients, archive transfer from up to 5 server/fullserver	7KE9200-0BA10-2CB0
More than 5 clients, archive transfer from more than 5 server/fullserver	7KE9200-0BA10-2CC0
<b>PQ Standard</b>	
including PQ Basic and <b>enhanced PQ Explorer and Report Browser</b>	
Usage on SICAM PAS fullserver	7KE9200-0CA10-2AA0
Up to 5 clients, archive transfer from 1 server/fullserver	7KE9200-0CA10-2BA0
Up to 5 clients, archive transfer from up to 5 server/fullserver	7KE9200-0CA10-2BB0
Up to 5 clients, archive transfer from more than 5 server/fullserver	7KE9200-0CA10-2BC0
More than 5 clients, archive transfer from 1 server/fullserver	7KE9200-0CA10-2CA0
More than 5 clients, archive transfer from up to 5 server/fullserver	7KE9200-0CA10-2CB0
More than 5 clients, archive transfer from more than 5 server/fullserver	7KE9200-0CA10-2CC0
<b>PQ Professional</b>	
including PQ Standard and <b>PQ Inspector</b>	
Usage on SICAM PAS fullserver	7KE9200-0DA10-2AA0
Up to 5 clients, archive transfer from 1 server/fullserver	7KE9200-0DA10-2BA0
Up to 5 clients, archive transfer from up to 5 server/fullserver	7KE9200-0DA10-2BB0
Up to 5 clients, archive transfer from more than 5 server/fullserver	7KE9200-0DA10-2BC0
More than 5 clients, archive transfer from 1 server/fullserver	7KE9200-0DA10-2CA0
More than 5 clients, archive transfer from up to 5 server/fullserver	7KE9200-0DA10-2CB0
More than 5 clients, archive transfer from more than 5 server/fullserver	7KE9200-0DA10-2CC0
<b>Functional upgrades</b>	
Power Quality – features	
From Incident Explorer to PQ Basic	7KE9200-4BA00-2AA0
From PQ Basic to PQ Standard	7KE9200-4CB00-2AA0
From PQ Basic to PQ Professional	7KE9200-4DB00-2AA0
From PQ Standard to PQ Professional	7KE9200-4DC00-2AA0
Number of clients	
Up to 5 clients	6MD5530-4AA0-2BA0
More than 5 clients	6MD5530-4AA0-2CA0
Number of fullserver	
Up to 5 fullserver	6MD5530-4AA0-2AB0
More than 5 fullserver	6MD5530-4AA0-2AC0
<b>Version upgrade</b>	
Version upgrade to SICAM PQ Explorer V2.0 (from SICAM Recpro V6.0)	6MD5530-3AA0-2AA0

Table 7/3 Selection and ordering data

### CE conformity



This product conforms to the directives of the Council of the European Communities on the approximation of the laws of the Member States relating to electromagnetic compatibility (EMC Council Directive

89/336/EEC) and concerning electrical equipment for use within specified voltage limits (low-voltage directive 73/23/EEC).

This product conforms to the international standard IEC 61000-4 and the European standard EN 50160 for voltage characteristics.

The product is designed for use in an industrial environment acc. to the EMC standard specification acc. to IEC 61326-1. Conformity is proved by tests performed by Siemens AG in line with article 10 of the Council Directives in accordance with the generic standard EN 50160 and IEC 61000-4-30 for Class A measurement.

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