



Power supply quality in data centers

Data security and zero data loss are not possible without a stable electrical power supply

Faults in the power supply at data centers cause costly domino effects in IT and telecommunications networks.

In order to achieve availability of their data centers in conformance with Six-Sigma specifications and higher, IT and telecoms service providers depend on a stable and reliable power supply. But the stability of a system is only as secure as its weakest link. Redundancy systems need to ensure an uninterrupted, constant power supply, otherwise even minor problems can have major repercussions. To take one example: Inadequate protection of its systems against transients and voltage dips costs one telephone company about €24 million annually*.

Poor voltage quality can lead to far-reaching consequences:

- **Costly customer claims**
Perfect service is expected from IT and telephone companies. Every voltage interruption results in expensive demands from and refunds to customers.
- **Poor reputation**
A power outage can seriously damage the reputation of a company and lead to a loss of customers. Winning back trust is a lengthy and expensive process.

- **Cross-location downtime**
An IT company's computer center supplies numerous computers worldwide with data from a central location. During downtime, no data are available on a global scale. Revenue is lost as is employees' work time.
- **High cost of experts**
The problem frequently has to be solved by external specialists. This results in high, unbudgeted costs.
- **Expensive customer support**
The cost of a single customer call is considerable. For a telephone company with broad geographical coverage, these costs increase exponentially.
- **Rebuilding the electrical system**
A voltage incident may make it necessary to rebuild your electrical system, either partially or totally. Prevention is more cost-efficient than restoration!
- **High repair costs**
Repairing damage to devices like servers, switchboards, and hubs is costly. Additionally replacing IT or telecommunications equipment can severely stretch a company's budget – especially if it wasn't planned.

Resilience and robustness are the key factors for operating data centers and telecommunications networks. Enormous importance is therefore attached to monitoring voltage quality and controlling and measuring electrical power.

Power monitoring with SICAM Power Quality and Measurement helps you monitor your power system as effectively as possible.

Siemens can provide more operating security and predictability in your computer center too. Our SICAM solution guarantees simple, continuous checking of the power supply and voltage characteristics at the monitoring interval of your choice. All data and events like dips, swells, interruptions, harmonics, and voltage changes are reported, documented in real time, and archived. By appropriately analyzing the measured data, you can foresee potential problems, initiate countermeasures immediately, and avoid any resulting damage. You'll make your data secure and also protect against data loss.

* Source: Leonardo Energy, www.leonardo-energy.org




Power Quality (PQ) solutions from Siemens

The SICAM product family

Many users employ our proven Class A devices SICAM Q100 and SICAM Q200 to test and document their suppliers' voltage quality.

If the incoming voltage quality is already known, and the priority is to compare different feeders, loads, and production lines, our Class S device SICAM P855 is the first choice. Other application examples include internal measurement of the voltage quality and continuous monitoring of systems to ensure an uninterrupted power supply (UPS).

Our software products SICAM PQS and SICAM PQ Analyzer evaluate the archived PQ variables and fault records. This means that they play a crucial role in providing transparency of the power supply and make the job of identifying and rectifying power network faults easier.

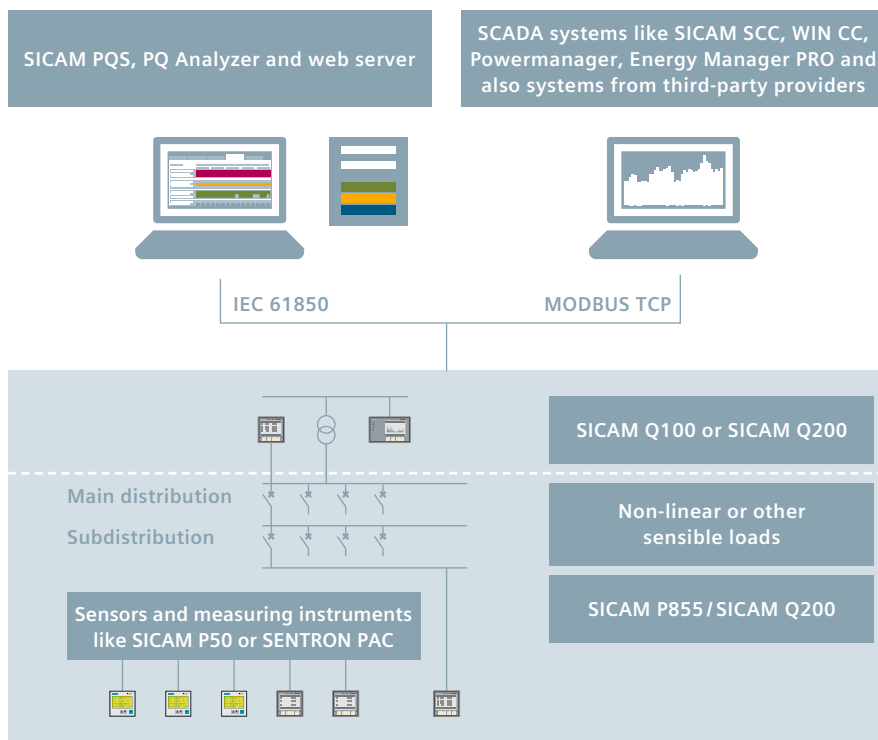
 SICAM P855	 SICAM Q100	 SICAM Q200
Device to record, display and analyze electrical variables in accordance with IEC 61000-4-30: Class S , EN 50160	Device to record, display and analyze electrical variables in accordance with IEC 61000-4-30: Class A , EN 50160	Device to record, display and analyze electrical variables in accordance with IEC 61000-4-30: Class A , EN 50160, recording and evaluation of high-frequency disruptions (2–150 kHz) and high-resolution transients
SICAM PQS/SICAM PQ Analyzer Software to evaluate archived PQ variables and fault records – makes the job of rectifying power grid faults easier and faster		

Power quality monitoring in data centers with Siemens – how you benefit

- Maximum power availability and voltage quality around the clock means less downtime
- Better data transparency for identifying vulnerabilities and measures to rectify them

- Improved energy efficiency through identification of savings potentials
- Comprehensive documentation of all voltage quality parameters for clarifying possible claims against the power supplier
- Compliance with all relevant standards

Siemens lets you comprehensively analyze both supply and power quality in data centers



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