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SICAM Q100

Class-A power quality measuring device combining functions for acquisition, visualization, evaluation and transmission of data

www.siemens.com/powerquality

Power quality - supply quality

Quality is generally regarded as an important aspect of any power supply. Insufficient power supply quality has a negative impact on operational processes and operational safety of consumers connected to the network and can entail serious consequences, ultimately resulting in increased costs for the user and supply utility.

The EN 50160 power quality standard describes the main voltage characteristics at customer's supply terminals in public low, medium and high-voltage systems. Comprehensive acquisition and documentation of parameters relevant to the supply quality is a necessary step required to identify possible weak points and initiate appropriate measures to eliminate them.

Device description

The SICAM Q100 multifunctional measuring device is used for acquisition, visualization, evaluation and transmission of electrical measured variables such as alternating current, alternating voltage, frequency, power, harmonics etc. The acquisition, processing and accuracy of measured variables and events are performed according to the IEC 61000-4-30 Class A power quality measurement standard.

The measured variables can be output to a PC or system control via communication interfaces or shown on a display. In addition to the monitoring function, the SICAM Q100 all-in-one device provides a combined recording and evaluating function: measured values can be recorded in parameterizable time intervals with various recorders such as power quality and fault recorders.

Long-time data and events are evaluated directly in the device and displayed as a report according to the power quality standards (e.g., EN 50160).



Application

The SICAM Q100 device is used in single-phase as well as in three-wire and four-wire systems (with neutral conductor). The device is applied wherever comprehensive measurement of supply quality is necessary - at power utilities as well as in industry and trade sectors.

Customer benefit

- Comprehensive acquisition of relevant network parameters for early identification of supply quality problems
- Manufacturer-independent, comparable measured values obtained by using the IEC 61000-4-30 Class A standard measurement methods
- PQ reporting according to EN 50160 direct in web server
- Easy operation via integrated web server for parameterization, diagnosis, evaluation and reporting
- Interoperability is guaranteed by using standard interfaces and standard protocols (IEC 61850, MODBUS TCP) and data formats (PQDIF, Comtrade and CSV)

Multifunctional and flexible

Device characteristics

Input measuring circuits

- 4x alternating voltage, 4x alternating current

Binary input / outputs

- 2 individually programmable binary inputs / outputs
- Binary expansion (up to additional 12 inputs and 12 outputs) by using SICAM I/O Unit devices

Measured variables

- Measured value acquisition according to the IEC 61000-4-30 Class A power quality measurement standard
- Mean value, event and fault recorder functionality
- Load Profile and TOU (Time of use, 2 x Tariffs)
- Power frequency, active, reactive and apparent power, power factor and active power factor, phase angle
- Alternating voltage and alternating current harmonic up to the 63rd order

Communication interfaces and protocols

- Ethernet: MODBUS TCP, IEC 61850 Edition 2
- MODBUS Master and Gateway function for RS485 devices (as Switcher 3WL, PAC3x00, SICAM P50)

Operation and display

- Full graphic display, operation via 4 function keys
- Integrated web server to interact with PC via HTML pages

Time synchronization

- Via Ethernet: NTP client (Network Time Protocol)

Auxiliary voltage

- DC 24 - 250 V and
- AC 110 - 230 V, 50/60 Hz

Housing specification

- Compact dimensions: 96 x 96 x 100 mm (W / H / D)

Special features

- PQ reporting according to EN 50160 and CBEMA direct over HTML web server
- Evaluation of events directly in HTML via COMTRADE Viewer/SIGRA Plugin
- Flexible data export in the PQDIF, COMTRADE and CSV format
- Memory capacity of 2 GB for storage of the recorder data for years of power quality data
- MODBUS Master and Gateway function



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For all products using security features of OpenSSL, the following shall apply:

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (www.openssl.org) and cryptographic software written by Eric Young (ey@cryptsoft.com).