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SICAM P85x

Compact 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 P85x 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 and processing of measured variables and events are performed according to the IEC 61000-4-30 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 P855 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 P85x 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 measure-



ment 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
- PQ reporting according to EN 50160
- Easy operation via integrated web server for parameterization, diagnosis, evaluation and reporting
- Manufacturer-independent, comparable measured values obtained by using the IEC 61000-4-30 standard measurement methods
- Interoperability is guaranteed by using standard interfaces and standard protocols (IEC 61850, Modbus, IEC 60870-5-103) and standard data (PQDiff, Comtrade).

Compact and reliable

Device characteristics

Input measuring circuits

- 4x alternating voltage, 3x alternating current (max. 10A)

Measured variables

- True RMS alternating voltage and alternating current
- Power frequency, active, reactive and apparent power, power factor and active power factor, phase angle
- Alternating voltage and alternating current unbalance
- Alternating voltage and alternating current harmonic up to the 40th order
- THD (total harmonic distortion) of alternating voltage and alternating current

Communication interfaces and protocols

- Ethernet: MODBUS TCP, IEC 61850 Edition 2
- Serial: Modbus RTU, IEC 60870-5-103

Operation and display

- Full graphic display including operation via 4 function keys
- 4 LEDs for state and system messages
- Integrated web server to interact with PC via HTML pages

Time synchronization

- Via Ethernet: SNTP client (Simple Network Time Protocol)
- Via fieldbus
- Internal Real Time Clock (RTC)

Auxiliary voltage

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

Housing specification

- Plastic housing for DIN rail mounting, optional panel mounting, protection class max. IP51
- Dimensions: 96 x 96 x 100 mm (W / H / D)

Special features

- Measured value acquisition according to the IEC 61000-4-30 power quality measurement standard including flicker
- Automatic PQ reporting according to EN 50160
- Mean value, event and fault recorder functionality
- Data export in the PQDIF and COMTRADE format
- Memory capacity of 2 GB for storage of the recorder data
- Evaluation of events directly in HTML via the integrated web server



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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).