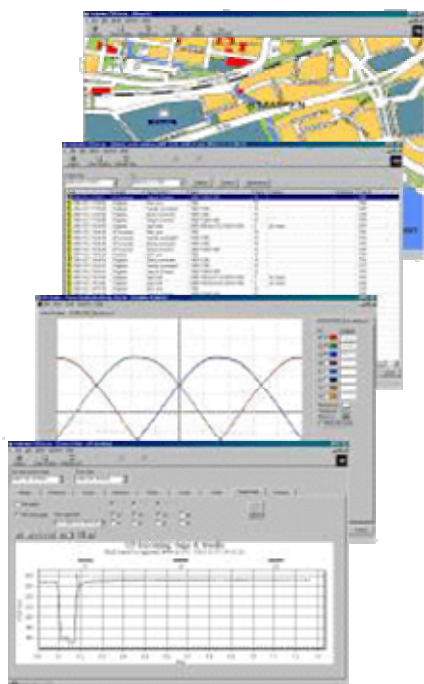


PQ SECURE SYSTEM UNIPOWER

Un Sistema de Gestión de la Calidad de la Potencia

Power Quality Management System



Measure quality – with quality. PQ Secure Power Quality Management System.

Comply with standards:

EMC:

EN 50081-1,2

EN 50082-1,2

Voltage characteristics:

EN 50160

SS 421 18 11

Harmonics:

IEC 61000-4-7

Flicker:

IEC 61000-4-15

Testing and measurement techniques:

IEC 61000-4-30

The **PQ Secure** system is a perfect solution for remote supervision of electric grids and power quality. The system is very user-friendly and provides continuous, norm-compliant (IEC 61000-4-30 Class A) monitoring of all the power quality parameters in the entire network. The advantage of a fixed system is the continuous collecting and permanent possession of measured data. With the help of these data you can trace different disturbances and at the same time determine their direction in the network.

Main functions

- Power quality monitoring
- Transient monitoring
- Load monitoring
- Station control
- Works simultaneously
- Automatic analysis
- Automatic generation of reports

Performance

The PQ Secure Power Quality Management System consists of the following main parts:

The PQ Secure software, a powerful and effective means to present and analyse the PQ status and pinpoint occurred PQ phenomena. The software is an extremely powerful management platform based on an open SQL database, offering scheduling functions and event viewing in addition to analysis and norm evaluation capability to national or international standards such as EN 50160.

Communication equipment: there are several options for implementing communication between the measure units and the head office database. The measure units can be equipped with RS-232, RS-485, built-in modems and Ethernet ports. This means that communication is possible using a range of media, such as standard telephone lines, signal cables, GSM phones, local computer networks etc. Different

measure units can use different communication options within the same system, creating a highly flexible communication solution.

Measure units, e.g. the UP-2210 Power Quality Monitor, an IEC 61000-4-30 Class A reference instrument, which are permanently installed at site and continuously measure all power quality parameters in the network, automatically detecting all PQ problems. Much of the measure data processing is also performed directly in the UP-2210's, keeping the data transfer times to a minimum, an important and cost-saving advantage for the user.

It is also possible to integrate the portable meters Unilyzer 902 / 901 into the PQ Secure system. This gives more points for measurement and by that an improved and more complete view of the power quality in the network.

Evaluation

The evaluation software is integrated in the platform of the database and covers the following:

- Analysis functions
- Event viewers (global/local)
- Trend diagrams
- Wave form diagrams
- Duration analysis (ITIC/CBEMA)
- Automatic report function
- Real-time window



PQ Secure

PQ Secure - Power Quality Management System

The PQ Secure system provides continuous, norm-compliant (IEC 61000-4-30 Class A) supervision of power quality and disturbances in the electric grid, in accordance with national and international power quality standards, e.g. EN 50160.

Algunas de las instalaciones de PQ SECURE SYSTEM UNIPOWER AB en el mundo entero

Some of the PQ Secure installations around the world are shown below.



Sweden - Alingsås Utility

Sweden - Alingsås Utility

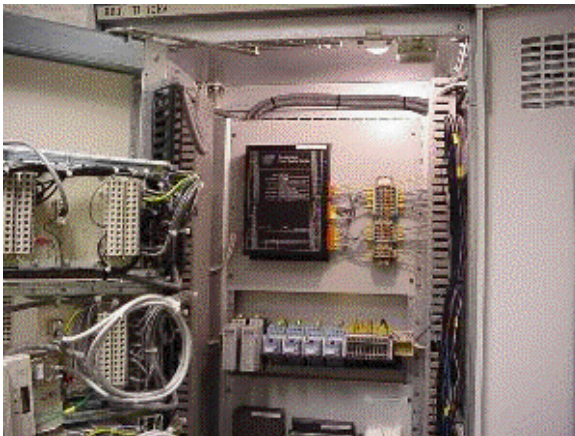
Installation of a UP-2210 measuring unit in a substation, voltage level 40/10 kV. Alingsås Utility is measuring in all main receiver transformer stations and also for specific industrial customers.



Germany - München Airport

Germany - München Airport

The PQ Secure system is installed at München Airport for continuous supervision of the power quality in the main substations.



Sweden - Gothenburg Utility

Sweden - Gothenburg Utility

Gothenburg Utility have installed the PQ Secure system and permanent UP-2210 units in all main receiver stations (130/10 kV) and are also measuring for some specific industrial customers.



Ireland - ESB

Ireland - ESB

Installation of the PQ Secure system for supervision of several wind power plants at different voltage levels.



Sweden - Vattenfall Utility

Sweden - Vattenfall Utility

Vattenfall utility uses the PQ Secure system for continuous supervision of the power quality in the electric grid and also for specific industrial customers.



Denmark - Copenhagen Utility

Denmark - Copenhagen Utility

Copenhagen Utility uses the PQ Secure system and several UP-2210 units to evaluate the power quality and disturbances that are spread from their wind power plants. Measurements from 690 V up to 130 kV level.



Sweden - Swedish National Grid

Sweden - Swedish National Grid

The "Svenska Kraftnät" (transmission) use the PQ Secure system to measure power quality in the transmission network at 400 kV level.



PQ Secure supervision central

The PQ Secure supervision central

The PQ Secure system is built as a client/server system. With this solution the system can be used both in office, operation centrals and at site in the substations



Czech Republic - Oprima Paper

Czech Republic - Paper and Pulp Industry

Several paper manufacturers use the PQ Secure system for the supervision of power quality. One company is Oprima that use UP-2210 units to measure in their main substation and inside the factory.



Sweden - Fortum Distribution

Sweden - Fortum Distribution (Utility)

Fortum Distribution uses the PQ Secure system and several UP-2210 units in their main feeding transformer stations, at 130/50 and 10 kV levels.



England - Powergen

England - Powergen

Powergen uses the PQ Secure system and UP-2210 units to measure in their electrical grid and for some specific industrial customers.

Munich Airport expands their PQSecure system

Noticia acerca del equipo instalado en Munich.

Unipower's PQSecure system has helped to ensure the operation of Munich Airport since 2001.



PQSecure has helped Munich Airport to amend and prevent various faults and problems in the airport's technical infrastructure. They have now decided to expand their PQSecure system further.

Munich Airport has the capacity to handle ca 45 million passengers annually and in order for this to function without problems, all technical installations need to function 24 hrs per day. Unipower's PQSecure system is a part of the work done to ensure this.