

Electrotek Power Quality Data Analysis of PQ Monitoring Data

What's in a Field PQ Disturbance? A Mixture of PQ Phenomena

Utilities, manufacturers, and end users can have monitoring data captured by any monitor. With this need arising from utilities in the 1990s, Electrotek produced a system allowing customers to upload (via PQWeb®) their monitoring files to us for detailed data analysis. Customers may also send the

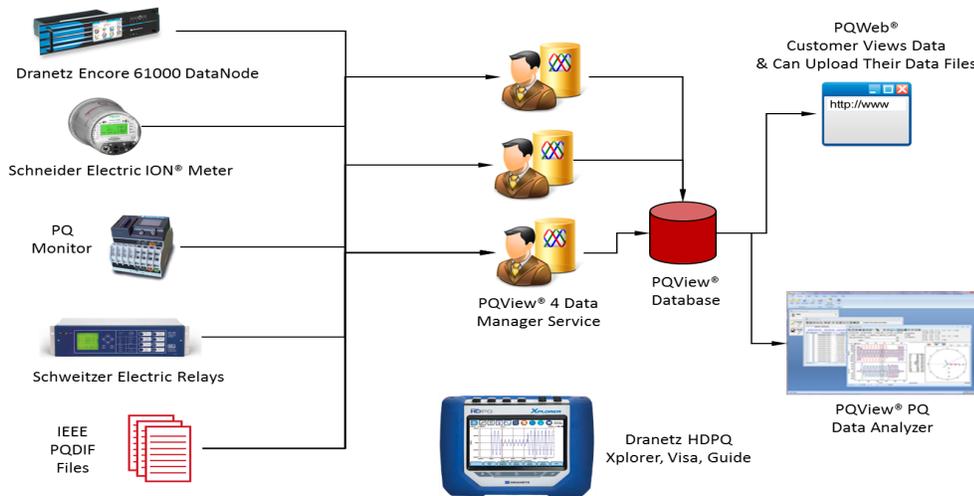
files to us directly via email, or cloud data transfer systems like DropBox. Multiple files from different monitoring periods can be submitted for analysis simultaneously.

When a data file is in our system, we perform a detailed analysis. Depending on utility, customer, and

failed load characteristics, up to 600 PQ parameters are made available for review. PQView® provides us with analysis results, allowing us to determine the PQ problem and why end-use loads failed. It also provides us PQ performance regarding the facility's wiring and grounding system.

The overall analysis allows us to recommend the next step towards solving the PQ problem for the utility, manufacturer, or end user.

One of the key benefits is that any number of data files from any number of monitoring periods for multiple sites, voltages, and situations can be used to build an overall synopsis of PQ for whatever purpose. Manufacturers may want to more clearly understand PQ in industrial facilities at a specific line voltage. Utilities may want to understand more about solar PV performance for PV plants operating at a specific medium-voltage level. The options are endless!



Getting Your PQ Monitoring Data to Electrotek

Each PQ monitor produces its own data file format. PQView® accepts formats from most PQ monitors. Electrotek can create a data handler for other formats. Another option is to use the monitor's software to convert the data file into the PQDIF format.

Electrotek, leading the development of IEEE Std 1159.3-2003: Recommended Practice for the Transfer of Power Quality Data (PQDIF), defined the PQDIF format for transferring data between PQ monitoring systems, and software.

Customers may convert their

PQ data into PQDIF format and upload it through PQWeb®, or send it directly to Electrotek via email or DropBox, for example. Once the data is received, a new PQView® database is created specifically for the customer. Then, the extensive and detailed analysis of the data starts.

Once the analysis is complete, Electrotek either determines the next step towards solving the problem, or requests data be captured at an additional monitoring point. The PQView® report specifies options for resolving the problem, so the customer may select an option for solving the PQ problem with their problematic equipment.

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Electrotek's Power Quality Engineering Services Center is a world-renowned center for power systems and power quality engineering. Our Center includes an Advanced Power Quality Testing & Research Laboratory.

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Benefits of Using Electrotek's Power Quality Data Analysis Service

Electrotek was the first to develop a PQ data analysis system (PQView) which can analyze data from many different data sources (e.g., monitors, relays, recorders, etc.). Our system offers financial and technical benefits including:

- Getting an professional expert PQ data analysis within a few days for a low-cost investment.
- Capability of providing multiple monitoring files from various monitoring periods, and monitoring at different points on an electrical system, without having to invest in multiple visits to a customer site.
- Start building a PQView database from monitoring at different customer sites that will define expected PQ across multiple customer sectors. This will enable manufacturers to understand the PQ a specific product is expected to see when installed in different facilities types, utility PQ conditions, and plant PQ conditions.
- Position Electrotek as a professional expert in PQ anytime a manufacturer needs representation regarding PQ prior to closing a sales order, ensuring proper development of installation requirements, guidelines, or when having to explain to a customer that their internal PQ caused premature equipment failures instead of, design and manufacturing defects.

About Electrotek

Founded in 1984, Electrotek Concepts, Inc. is world renowned for its research, developmental, applications and problem-solving work in understanding, identifying, analyzing and preventing power quality (PQ) problems. Our expertise extends from the utility generators to inside the electrical/electronic load inside a customers' facility. The experience of Electrotek's team of PQ engineers extends from experts in utility power systems, participants on IEEE and IEC standards boards regarding PQ standards, and designers of end-use electronic equipment. Our engineers are armed to address any PQ problem at any level. The future of reliable, available power and customer equipment in today's modern technological society depends on compatibility between utility power, the customer's facility electrical system and the end-use equipment customers depend on to carry out their day-to-day business activities.

