

# Remote Power Quality Monitoring for Customer LED Installations

## Electrotek's Remote PQ Monitoring System for LED Suppliers

Remote PQ monitoring provides the shortest to characterize the quality of voltage and current in a customer facility. Proactive monitoring helps ensure LED installations are successful. Reactive monitoring occurs when installations become problematic when customers need to see a response from their supplier or a supplier needs to act soon to solve a problem.

Our PQ Monitoring System offers the most flexible, manageable and in-depth analysis of PQ data in the industry. Our system manages 1,000's of monitors in the US and internationally. We can download data from over 50 different data sources (monitors, relays, recorders, etc.).

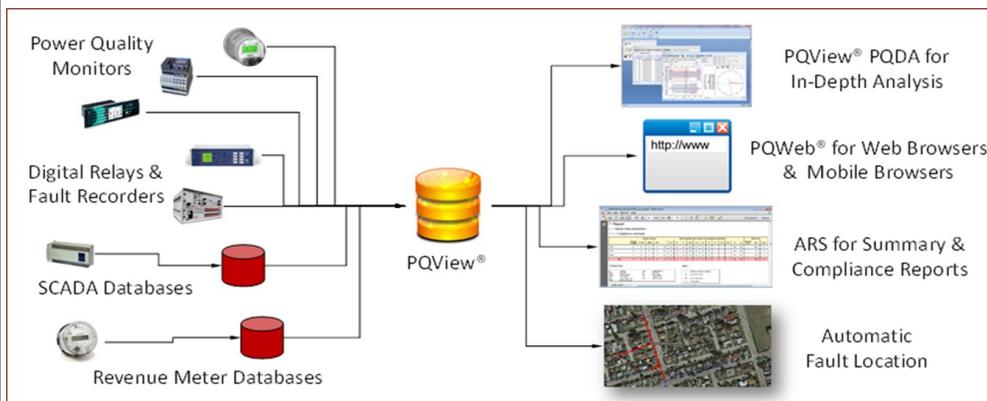
Growing industries like LED lighting should understand the electrical environments

where their products are being installed. This can be accomplished by having Electrotek use its PQView software to aggregate and analyze data from past and new monitoring efforts.

Analysis results determine if a customer is managing their internal PQ prior to making a significant investment in LED lighting. Remote proactive monitoring significantly lowers the risk of expensive

clean-up costs should failures occur. This is vital to the success of the driver and fixture manufacturers as disappointed customers are eager to blame suppliers. Most customers do not understand their responsibility in managing their internal PQ.

We provide a comprehensive analysis on any number or size of data files from monitors. Manufacturers and customers desire results in a timely manner so critical decisions can be made. Our system provides Internet-based viewing of results with Electrotek expert engineers in order to identify the cause of the problem, mitigation measures and other options to solve the problem.



## Using Electrotek's Remote PQ Monitoring Service

Providing the customer with a monitor to collect voltage and current data is the right thing to do, especially if they've already had driver failures. Driver and fixture manufacturers that implement remote PQ monitoring to reduce risks and control costs, should supply a monitor to customers who operate

typically PQ-problematic facilities.

Advanced, yet simple to hook up, monitors with network connectivity should be used to ensure the proper data representative of the environment monitored. Electrotek uses the Dranetz monitors. Co-designed by Elec-

tratek and Dranetz, these monitors record the data required to characterize all PQ-related aspects of voltage and current as well as include network connectivity.

If network connectivity cannot be provided, Electrotek supplies a cellular-based

data modem which allows Electrotek to download data as often as needed. Remote monitoring also provides for on-the-spot modification of monitoring thresholds when trigger levels must be revised. Customers are not asked to intervene in the monitoring process. Monitoring periods typically range from two to four weeks.

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## Benefits of Remote Power Quality Monitoring at Customer Sites

Electrotek was the first to develop and implement Remote PQ monitoring (RPQM) for its customers. Electrotek's RPQM Program offers financial and technical benefits including:

- Lowers the risk of costly re-works in the event of failure within the warranty period, whether the failure is caused by a design or manufacturing defect, unmanaged customer PQ or change in utility PQ conditions.
- Avoid sending an engineer or technician to the site just to install a monitor. (An Electrotek engineer may need to visit the site to conduct a detailed PQ investigation in some situations.)
- The remote monitor can be moved from point to point on the customer's electrical system by a facility electrician (if available) as data analysis and investigative efforts progress at Electrotek's Engineering Services Center, especially in reactive situations.
- Allows customers to understand how they can create their own internal PQ problems and the importance of engaging in monitoring to manage their own PQ environment.
- Electrotek manages all monitoring functions including, starting/stopping, threshold adjustment, data downloading, data analysis, and setting up email notifications to customer engineers or driver manufacturers in the event of severe disturbances occurring at the facility.

## 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 to participants on IEEE and IEC standards boards regarding PQ standards and to designers of end-use electronic equipment. Our engineers are armed to address any PQ problem at any level. The future of reliable and 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.

