

# Power Quality Audits

PQA

## Analyze your power network and save electricity cost!!

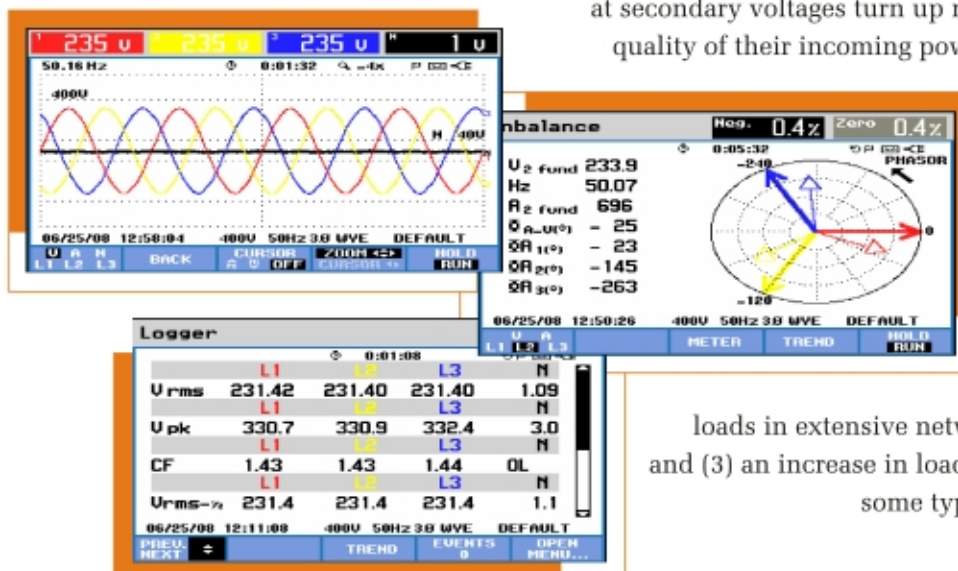
In industry, healthcare and business -in fact wherever electrical and electronic equipment is indispensable -power quality plays a critical role in maintaining continuity. Non-linear loads, switching, load changes and equipment problems can result in poor power quality. Poor power quality is not only costly in terms of wasted energy and unnecessary downtime, it's also dangerous and increases risk of equipment failure.

We analyze virtually every power system parameter: voltage, current, frequency, power, power consumption (energy), unbalance and flicker, harmonics and inter-harmonics. Captures events like dips and swells, transients, interruptions and rapid voltage changes.



## Financial Impact and Risk Assessment

Electrical power quality problems associated with interactions between distribution and user systems can be prevented. While power quality is a well used (almost over- used) term surveys of large users that buy power at transmission and distribution voltages of small users connected at secondary voltages turn up numerous complaints about the quality of their incoming power. Three major changes in the characteristics of customer loads and power distribution systems have altered the nature of the power quality equation: (1) greater sensitivity of devices and equipment to power quality variations, (2) the interconnection of sensitive loads in extensive networks and automated processes and (3) an increase in loads that use power electronics in some type of power conversion process.



## Power Quality areas of financial losses

What is a power quality problem? It is any deviation of electricity applied to the equipment that results in damage or mis-operation of electronic equipment or other electrical devices. Some common symptoms of power quality problems in facilities are:

- \*Unexplained equipment trips or shutdowns
- \*Occasional equipment damage or component failure
- \*Erratic control of process performance
- \*Random lockups and data errors
- \*Power system component overheating



Power quality problems can be complicated, involving the facility wiring natural phenomena such as lightning, interacting facility equipment, and equipment connectors to the electric power system. Most commercial and industrial production machinery is typically designed to operate with flawless electricity as it travels from the utility to a customer's equipment that produces revenue creating products and or services. A review of some of the work targeted to quantify the financial losses and risk of power quality problems indicates that a significant number of rupees are spent annually. Investigated data confirms that PQ cost deviate widely among users.

How much it costs depend on a variety of factors. For example research on the effect of interruptions in the agricultural sector showed that different type of farms including large and small operations had significant variations in cost s due to interruptions in service.

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|-------------------|---------------------|------------------------|
| ■ Inputs          | ■ Power and Energy  | ■ Inrush mode          |
| ■ Volt/Amps/Hertz | ■ Flicker           | ■ Auto Trend recording |
| ■ Dips and swells | ■ Unbalance         | ■ Memory               |
| ■ Harmonics       | ■ Transient capture | ■ Standards            |

