

Power Quality Analyzer (PQA)

Power quality is one of the key parameter in maintaining the productivity of manufacturing line. Its impact and meeting the challenges in the present day digital technology in energy distribution is very important. With the integration of Renewable energy sources and distributed energy generation in the grid makes power quality monitoring and its maintenance is essential

A perfect power supply would be one that is always available, always within voltage and frequency tolerances, and has a pure noise free sinusoidal wave shape.

Naturally, long power interruptions are a problem for all users, but many operations are very sensitive to even very short interruptions, harmonics, transients and unbalance. Voltage sags and power interruptions lasting a few hundredths of a second can be costly.

Analysis of power being received is hence very important particularly in industries. Poor quality of power may result in breakdowns and consequent production loss.

The industry needs to know its power supply quality by means of a tool, which takes the inputs and quantifies the power quality parameters at an affordable cost.

PQA will help to take corrective steps for improving the power quality of the supply, which in turn will reduce the down time and increase the productivity.

CSIO developed Power Quality Analyser (PQA) based on the latest ARM & DSP with simultaneous sampling of the three phase voltages and currents.

This technology is of particularly relevant and affordable for industrial and commercial establishments, which can records the power quality parameters in the system and also helps to maintain the power quality parameter like harmonics generated in the utility side can be kept within the prescribed limits.

The Features of developed PQA are

PQA can record power quality events like harmonics up-to 63rd, transients to the order of 10 nanoseconds, sags, swells, impulse transients, phase sequence and imbalance. PQA monitors and measures the basic electrical parameters such as voltage, current, PF, frequency, power and energy. The designed product is IoT enabled. PQA based on high speed data collection, data storage, user friendly touch graphics display.



Utility

PQA helps to provide valid data and real time monitoring for justifying the investor while improving the power quality of the distribution system.

Also safeguarding the industries from penalties by taking appropriate steps like mitigation of power quality problems.

It is also useful for identifying the causes of equipment failures in critical sectors such as health, energy, IT, ceramic/ glass industries etc.

In the smart grid environment, PQA is an essential part of the Energy Management System to monitor the power quality and events from generation to endpoint of distribution.

Continuous monitoring of the power quality parameters provides valid data for justifying the investment in improving the power quality of the distribution system.

This helps to maintain the good qualities to reduce the energy consumption and evaluation of energy efficient equipment