



## CONDITION MONITORING SOLUTIONS

In Utilities Facilities, Industries, Plants, Shopping Malls, Hotels and Buildings



**SACHU TECHNOLOGIES**

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Sachu Technologies with more than one decade of experience, is encouraged by qualified and experienced professionals to offer Preventive and Predictive Maintenance solutions that meet the demanding customer's requirements. Professional management with thrust on customer satisfaction enable the company to uninterruptedly specialize and innovate in Thermography , Power Quality, Harmonic Study, Electrical safety Audit ,Energy Audit, Earthing Audit ,Insulation Resistance Measurement Services&Solutions. Our team of engineers offers multi-disciplinary capabilities to manage the Audit,safe operation, Reporting of Electrical, Mechanical and other systems. They employ state-of-the art technology, combined with exceptional analytical and technical expertise to help customers resolve today's complex issues

SachuTechnologies have been providing Thermgraphy Inspection Audit, Thermovision Hotspot Scanning services, Power Quality Analysis ,Harmonic Study, Electrical Safety Audit, Energy Audit, Insulation Resistance Measurement and Earth Audit as a means of identifying damaged or failing idlers for many years for our clients reached more than 200 Customers in India . SachuTechnologies and operate a number of high end Thermographic cameras , Power Quality Analysers ,Harmonic Analysers , Earth Testers,IR Testers and others have developed a systematic approach to reporting which provides consistent results.

### Expertise

Our Prevention is better than cure approach consists of range of approaches with the best technical & analytical expertise to help you get clean power. This integrated approach frees your organization to focus on your core business activity & helps you stay competitive.

### Services

Our Team of service Engineers support customer 24X7 Thermography assessment –Thermography Audit –Thermovision Scanning –Power Quality Analysis,Harmonic Audit, Electrical Safety Audit, Energy Audit, Earthing Audit and many others

### Our Policy

We, at SachuTechnologies strongly believe in providing state of the art integrated solutions to Electrical, Mechanical and other system problems. We aim to achieve the same by working in close interaction with our customer and are keen to understand expectations, requirements and apprehensions involved. We prefer to view the problems from customer's perspective and suggest solutions accordingly.

### Our Vision

Our vision for the future is supported by an integrated set of core values and business principles. The values and principles inform every aspect of our organization and define the way we work.



### Our Mission

Sachu Technologies to establish and maintain leadership in the preventive maintenance services Thermography Inspection Audit, Power Quality Analysis, Harmonic Study, Electrical Safety Audit Energy Audit, Earth Audit & Insulation Resistance measurement, Thermovision Hotspot Scanning businesses. Our strong commitment is not just limited to providing solutions, In fact it's lifelong partnership with customers, with the focus on performance & excellence to meet demands.



## Sachu Technologies offering services to support Ensure uptime at all levels Thermography Services

Thermal Imaging Cameras provide high-quality Thermographic images and temperature data to help find energy loss, locate moisture damage, detect mechanical wear, check energized equipment and justify repairs. Thermography Inspection and Thermovision scanning ensures to avoid short circuits ,Hotspots, Fire accidents, Improve the Energy Efficiency & establishment of green environment.



## Power Quality Analysis and Harmonic Study

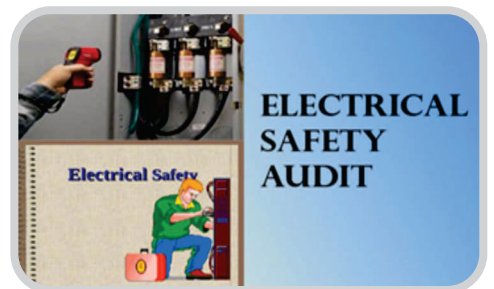
Power Quality is a measure of how well a system supports reliable operation of its loads. Power Quality is a measure of how well a source of electric power meets the energy supply needs of connected loads. Through the analysis of your Power Quality, we can diagnose where you have problems with excessive harmonics, and can put in place solutions to eradicate the problem. A build-up of harmonics can reduce the life expectancy of electronic equipment, meaning that you will have to replace expensive equipment



earlier than expected. Harmonics in power systems can result in undesirable influence such as Capacitor heating/failure, Rotating equipment heating, Relay misoperation, Transformer heating, Switchgear failure, Fuse blowing. The main sources of harmonics in power system are static power converters, arc furnaces, discharge lighting and any other load that requires non-sinusoidal current. In order to limit the harmonic current propagation in to the network, harmonic filters are placed close to the source of the harmonic currents

## Electrical Safety Audit

Electrical safety audit assists in identifying loop holes, non conformities and deficiencies in the plant electrical system and recommend ways and means to ensure electrical safety. Identified potential electrical hazards during the audit when eliminated or reduced would ensure human and plant safety of human and plant equipment and building. The audit can be used to ensure that the plant and its O & M practices match the design intent and construction standards. A well conducted audit report will assist management in formulating Emergency Preparedness Plan.



## Energy Audit

Energy audit is a technique used to establish pattern of energy use; identify how and where losses are occurring; and suggest appropriate economically viable engineering solutions to enhance energy efficiency in the system studied. Instrumented and diagnostic energy audits (with aims ranging from identifying ways of conserving energy to evolution of a new blue print for the energy system) provide insight into the modes of better utilization of fossil resources and high-grade energy and exploration of renewable energy options.

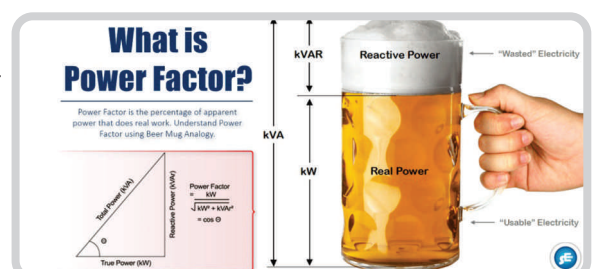


## Power Audit

Power Audit Process includes variety of analysis, assessment, and reporting using Power quality, harmonics and Thermography Inspection Walkthrough Assessment, Safety Assessment, Redundancy Assessment, Threat/Risk Analysis, Monitoring Power Parameters, Harmonic Assessment Detailed Report

## Power Factor Study

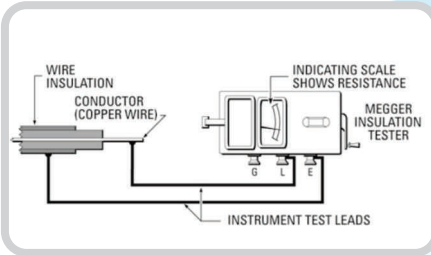
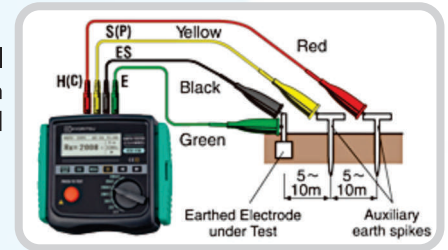
A power factor study is a key to properly determining a system's power factor correction requirements. A study determines capacitor size and location as well as the number of steps and incremental sizes to be switched. A study also provides an economic analysis of the proposed installation based on the forecast reduction in electric utility bills.





## Earthing/Grounding Audit

Earthing System Audits are designed to test your protection systems to ensure that they will operate effectively during a fault. Such audits are essential to comply with current health and safety legislation, including standards as well as to protect your assets and personnel.



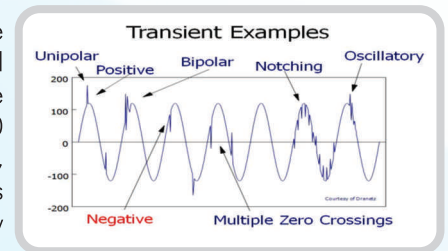
## Insulation Resistance Measurement

Megger enable us to measure electrical leakage in wire, results are very reliable as we shall be passing electric current through device while we are testing. The equipment basically use for verifying the electrical insulation level of any device such as motor, cable, generator winding, etc.

The insulation resistance (IR) test is a spot insulation test which uses an applied DC voltage (typically either 250Vdc, 500Vdc or 1,000Vdc for low voltage equipment < 600V and 2,500Vdc and 5,000Vdc for high voltage equipment) to measure insulation resistance in either k $\Omega$ , M $\Omega$  or G $\Omega$

## Transient study

Caused by switching devices, start- and stop of high power equipment. Transients are power quality disturbances that involve destructive high magnitudes of current and voltage or even both. It may reach thousands of volts and amps even in low voltage systems. However, such phenomena only exist in a very short duration from less than 50 nanoseconds to as long as 50 milliseconds. This is the shortest among PQ problems, hence, its name. Transients usually include abnormal frequencies, which could reach to as high as 5 MHz. Several thousand volts and last from less than a microsecond up to a few hundredths of a second.



## Power Flow study & Load flow studies

Determine if system voltages remain within specified limits under normal or emergency operating conditions, and whether equipment such as transformers and conductors are overloaded. A load flow study should be performed during the planning design stages of a power system and when evaluating changes to an existing system. A load flow study calculates the voltage drop on each feeder, the voltage at each bus, and the power flow and losses in all branch and feeder circuits

## Flicker Analysis

Flicker Analysis and it refers to variations in brightness due to small voltage fluctuations. They are known in form of spikes, swells and surges. Flicker has been a problem in electrical networks from their inception. It is very common power quality problem in a network. It can cause lot of software and hardware problems. They are normally very hard to detect as occur for very short period. Voltage flicker or fluctuation is again a very common phenomenon witnessed in many networks causing damage to equipment in Network. Studies are conducted to check the level of these in network and subsequently to offer solutions and remedy for the same. UPS Study networks causing damage to equipment in Network. Studies are conducted to check the level of these in network and subsequently to offer solutions and remedy for the same.

## UPS Study

Before selecting a generator system, it is crucial to have an accurate understanding of your standby power requirements. We offer technical consultation services to help determine which system is best suited to your specific application. Our highly-trained team can perform generator load studies to evaluate your power capacity requirements and recommend appropriate generator sizing to ensure your equipment can adequately meet your needs in the event of a power loss.

