

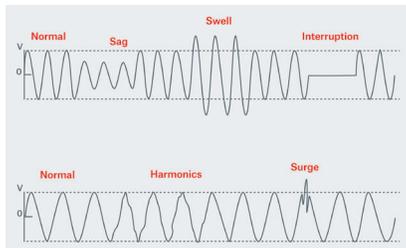


# Power Quality — Introduction

## Commercial Buildings

Power quality is a general term used to describe the degree of electrical abnormalities negatively affecting the intended electrical system supply. Power quality is a significant concern for all types of businesses. This includes hospitals, universities, commercial businesses and industrial facilities.

### Power Quality Related Issues



courtesy of Advanced Protection Technologies

- Voltage transients (surge)
- Harmonics

- Voltage sag
- Voltage swell
- Voltage interruptions

### Results of Poor Power Quality

The impact of poor power quality is based on the length, magnitude and timing of the abnormality as well as the sensitivity of the connected equipment. Poor power quality can result in process interruptions, data corruption, data loss, improper operation of computer-controlled equipment and overheating of electrical equipment.

### Conditions that Raise Power Quality Awareness

- History of power related issues
- Poorly maintained electrical system
- Weather and utility disturbances are common
- High concentration of electronic equipment

### Indications of Potential Power Quality Issues

- Repeated and random equipment failures, tripped breakers or blown fuses with no identified cause
- Lost data or data corruption issues
- Premature equipment failures

### Solutions

There are many types of power quality issues. Each power quality issue may need a different solution. A qualified power quality contractor will follow the IEEE Recommended Practice for Powering and Grounding Sensitive Electronic Equipment. Chapter 6 has detailed procedures for site surveys and site power analyses. The survey and monitoring results will identify the power quality problems. The contractor can then present appropriate corrective measures based on the survey and analyses results.

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