

POWER QUALITY AND HARMONICS ANALYSIS SERVICES



EXPANSEELECTRICAL.COM

The Expanse Advantage

- Experts in the field with advanced power quality tools such as power quality recorders for capturing comprehensive details of power disturbances, including waveforms and trend analysis
- In-house Professional Engineers
- Comprehensive Approach to Electrical System Evaluations
- Over 9,000 Power System Studies Conducted
- Utilizes SKM Systems Analysis Program "PowerTools for Windows"(PTW)
- Utilizes Operational Technologies' "Electrical Transient Analyzer Program"(ETAP)

Power Quality and Harmonics Analysis Services from Expanse

Poor power quality can negatively impact your production and systems. The Expanse team performs power quality analysis, monitoring and measurement services for full power systems, as well as individual loads. The team utilizes the most advanced power metering equipment to identify any issues.

Expanse conducts in-depth monitoring of your electrical system, and provides Harmonic Analysis Services. Harmonics can disturb the correct working nature of machines and equipment, especially those with microprocessors. The Expanse team helps identify the level and effect of any harmonic distortions, determine if the harmonic voltages and currents are within acceptable limits, and implement mitigation or suppression techniques.

Capabilities & Solutions

EXPANSE POWER QUALITY CAPABILITIES

Our field service engineers use the most advanced power quality metering equipment available. After identifying critical monitoring points, we conduct in-depth monitoring of your electrical system.

POWER QUALITY FEATURES:

- Power Interruptions as defined by IEEE-519™

Momentary	Temporary	Sustained
0.5cy - 3sec	3sec - 1 min	>1min
- Undervoltage, Overvoltage, Sags, and Swells
- Flicker, Transient, and Noise
- Power Factor
- Unbalance
- Harmonics
- Power Quality Meters are capable of recording a large number of power measurements at extremely high speeds. These measurements may include minimum, average, and maximum values for parameters such as:
 - Current and voltage RMS
 - Active power (kW), reactive power (kVAr) and apparent power (kVA)
 - Harmonic spectrum, Total Harmonic Distortion (THD) and Total Demand Distortion (TDD)
 - Power factor and frequency
- Once power quality problems have been identified, our Engineering team will develop a comprehensive recommendation and mitigation plan to address the issues.

HARMONIC ANALYSIS CAPABILITIES

ExpansE can model harmonic current and voltage sources, identify harmonic problems, reduce nuisance trips, design and test filters, and report harmonic voltage and current distortion limit violations.

KEY FEATURES:

- Harmonic load flow
- Harmonic frequency scan
- Capacitor stress analysis
- Voltage and current total harmonic distortion analysis (THD)
- Calculate telephone interference factors (TIF)
- User defined distortion limits or as per IEEE 519™
- Filter design and sizing
- Graphical results for voltage and current wave distortion
- Graphical results for voltage and current frequency spectrum
- Graphical results for impedance frequency scan analysis
- Detailed reports for distortion and frequency scan



Why ExpansE?

- 24/7 Emergency Response
- 70 Years of Experience
- Turnkey Services & Solutions
- Experienced Craftsmen
- Local Expertise on National Scale
- Customer Support Across Geographical & Operational Spectrums