

LiteWires

Primary Power Analyzer



The Ultimate Power Quality Tool from 120 volts to 40 kV

Captures: Volts/Amps/Hertz, Power, Harmonics,
Sags & Swells, Transients, and Inrush



Complete PPA System

The PPA system employs the Amp and Volt LiteWires, which transfer distribution voltage and current waveforms down to ground level through fiber-optic cables. The Fluke 43 analyzes these waveforms and performs the measurements needed to maintain power systems and troubleshoot power problems.

The LiteWire is a true RMS meter designed for use by electric utilities to sense currents or voltage waveforms from the primary side of their distribution networks. A fiber optic link transmits information as well as establishes isolation between the high voltage potential at the sensor and the display enclosure. The display enclosure has a digital display as well as an analog port that can download data to a scope or analyzer to conduct further analysis of the waveform. The LiteWire attached to a harmonics analyzer is an effective way to conduct harmonic studies on primary transmission and distribution lines.

The Fluke 43 combines the most useful capabilities of a power quality analyzer, multimeter and scope. Its monitoring functions help track intermittent problems and power system performance.

The combination of Volt LiteWire, Amp LiteWire, and Fluke 43 creates a system that has the ability to diagnose power quality problems on the primary side of a distribution circuit.

The system will capture harmonics on the primary voltage, individual voltage, current, and power harmonics up to 51st harmonic. It also displays the total harmonic distortion (THD), and the phase angle of individual harmonics. This allows the user to determine the directional flow and amplitude of current harmonics.

The PPA can display Watts, power factor, displacement power factor, VA and VAR including voltage and current waveforms even on the same screen. Because it has the capabilities of a scope,

it can capture and date/time stamp sags, swells, and transients. These features let the user diagnose power problems whether they are intermittent or repetitive in nature.

The package includes a copy of FlukeView Power Quality Analyzer Software. It can capture measurement screens for professional-looking reports and log readings to your computer hard drive. It operates with Windows word processing, spreadsheet and analysis software and runs on Windows 3.1, Windows 95 and Windows NT compatible computers.

The PPA set also includes a complete package with voltage and current probes to examine lower voltage (120 to 600 VAC) circuits as well. This package is the complete Power Quality tool that can examine and diagnose power problems from 120 volts to 40 kV.

Applications

- Determine the directional flow of current harmonics
- Analyze resonating capacitor banks
- Find faulty insulators and other EMI noise
- Find repetitive or intermittent arcing loads



Specifications



PPA Kit

LiteWires

Primary Power Analyzer

Model Number	6-112	6-212
Type	20kV PPA Kit	20kV Wide Jaw PPA Kit
	20KV Volt LiteWire & Accessories	20KV Volt LiteWire & Accessories
	Insulated Electrode	Insulated Electrode
	Amp LiteWire & Accessories	Wide Jaw Amp LiteWire & Accessories
	Fluke 43	Fluke 43
	Hard Carrying Case	Hard Carrying Case
Amp Sensor Opening	1.89 inches (4.8 cm)	3.86 inches (9.8 cm)
Note: 30 and 40 kV systems with minimum operating voltages of 10kV are available. Consult Fluke 43 Power Quality Analyzer Data Sheet for its specific specifications.		
Voltage (Using Volt LiteWire)		
Range	1kV to 20kV	
Basic Accuracy	± 2%	
Frequency Range (Fundamental)	60 Hz or 50 Hz Models Available	
Current (Using Amp LiteWire)		
Range	1 to 2000 Amps	
Accuracy	± 2%	
Frequency Range (Fundamental)	6 Hz – 65 Hz (Useable to 99.9 Hz)	
Watts (Using Amp LiteWire)		
Range	0.0kW – 40MW or 0.0kVA – 40MVA	
Accuracy	± 2%	
Frequency Range (Fundamental)	6 Hz – 65 Hz (Useable to 99.9 Hz)	
Harmonics		
Voltage Accuracy	± 2% (6 Hz – 65 Hz)	
Current Accuracy	± 3% (6 Hz – 65 Hz)	
Current Maximum Harmonic	51st (odd & even on screen)	
Freq. Measurement Range	6.0 Hz – 99.9 Hz (Fundamental)	
Freq. Measurement Accuracy	± 0.3Hz	
Mechanical		
Operating Temperature	-22 to +140 degrees F (-30 to +60 degrees C)	
Housing	Shock & water resistant molded urethane	
Hotstick mounting	Universal chuck adapter (Hotstick not included)	
LiteWire Batteries	9 volt alkaline	



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