

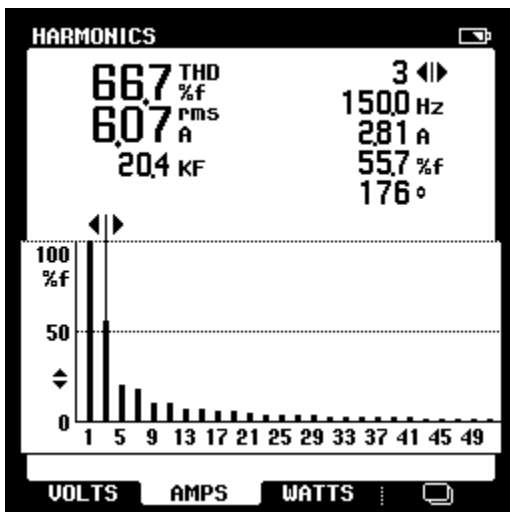
FLUKE.

Fluke 43B Power Quality Analyzer

Technical Data

General

- Calculates three-phase power on balanced loads from a single-phase measurement
- Measures power harmonics, and captures voltage sags, transients, and inrush currents
- Monitoring functions help track intermittent problems and power system performance
- Menus use familiar electrical terminology
- Toggle through the most commonly used power quality modes with a single keystroke
- Records two selectable parameters for up to 16 days
- 20 measurement memories to save/recall screens and data with cursor readings
- FlukeView Software can log harmonics and all other readings over time
- FlukeView Software provides a complete harmonics profile up to the 51st harmonic
- Measures resistance, diode voltage drop, continuity, and capacitance

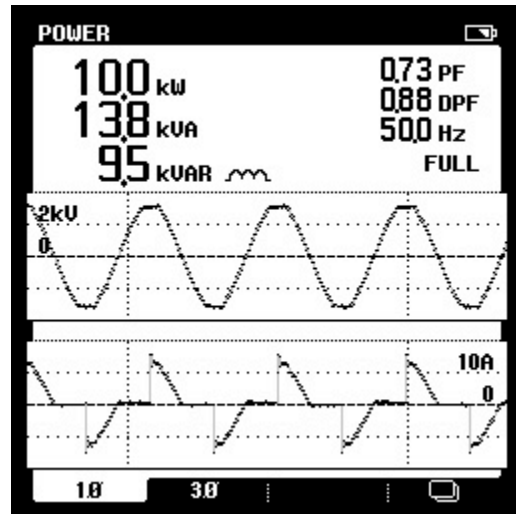
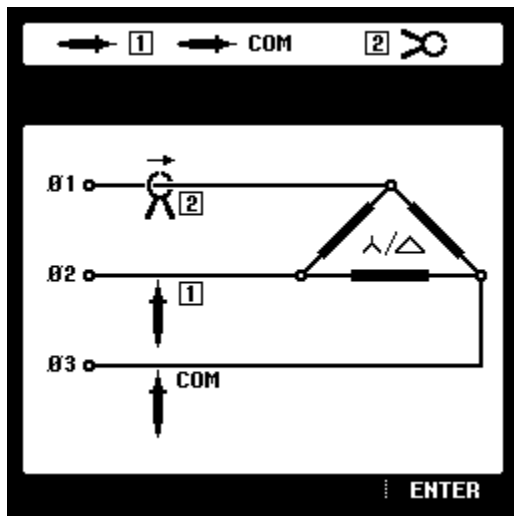


- Voltage, current, and power harmonics
- Up to 51st harmonic
- Total harmonic distortion (THD)
- Phase angle of individual harmonics



Power

- One and three phase power on balanced loads
- Watts, power factor, displacement power factor, VA and VAR
- Voltage and current waveforms

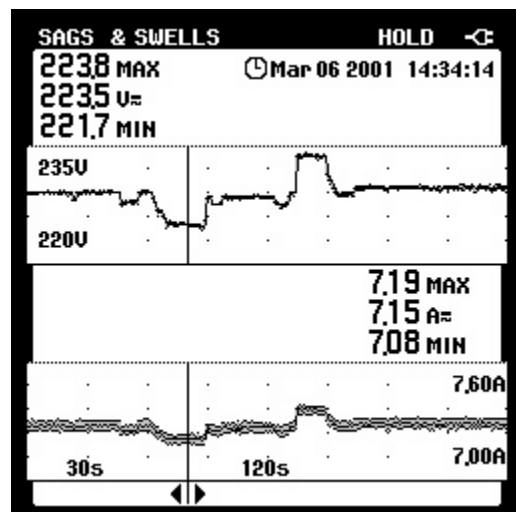


Three phase

- On-screen graphics show you how to set up 3-phase power measurements

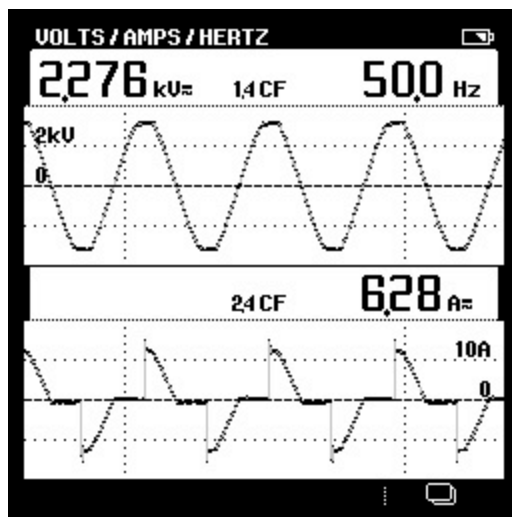
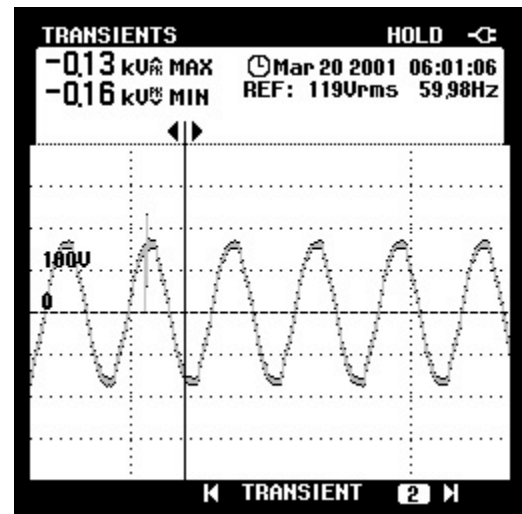
Sags and swells

- Continuously measure volts and current on a cycle-by-cycle basis for up to 16 days
- Use cursors to read time and date of sags and swells



Transients

- Catch voltage transients and waveform distortion
- Catch and save up to 40 transients
- Correlate the cause of transient with time and date stamps



Volts/Ampères/Hertz

- Voltage and current waveforms
- True RMS voltage and current
- Frequency

Specifications

Input Characteristics	Input impedance	1 M Ω , 20 pF
	Voltage rating	600V rms, CAT III
V/A/Hz Display	True-rms voltage (ac + dc)	
	Ranges:	5.000 V, 50.00 V, 500.0 V, 1250 V*
	Accuracy:	$\pm(1\% + 10 \text{ counts})$
	True-rms current (ac + dc)	
	Ranges:	50.00 A, 500.0 A, 5.000 kA, 50.00 kA, 1250 kA
	Accuracy:	$\pm(1\% + 10 \text{ counts})$
	Frequency	
	Ranges:	40.0 to 15.9 kHz
	Accuracy:	$\pm(0.5\% + 2 \text{ counts})$
	CF Crest factor	
	Ranges:	1.0 - 10.0
	Accuracy:	$\pm(0.5\% + 1 \text{ count})$
Power Display	Watts, VA, VAR	
		1-phase and 3-phase, 3 conductor balanced loads
	Ranges:	250 W - 1.56 GW
	Accuracy:	$\pm(4\% + 4 \text{ counts})$ Fundamental Power
	Accuracy:	$\pm(2\% + 6 \text{ counts})$ Total Power
	Power Factor	
	Range:	0 - 1.0
	Accuracy:	± 0.04
	Displacement Power Factor, Cos .F	
	Range:	0.25 - 0.9
	Accuracy:	± 0.04
	Range:	0.90 - 1.0
	Accuracy:	± 0.03
	Frequency Fundamental	
	Ranges:	40.0 to 70.0 Hz
	Accuracy:	$\pm(0.5\% + 2 \text{ counts})$

Specifications

Harmonics Display	Voltage, Current, Frequency Ranges: Fundamental to 51st harmonic Accuracy: Fundamental: VA $\pm(3\% + 2 \text{ counts})$ W $\pm(5\% + 2 \text{ counts})$ 2 to 31st harmonic: VA $\pm(5\% + 3 \text{ counts})$ W $\pm(10\% + 10 \text{ counts})$ 32 to 51st harmonic: VA $\pm(15\% + 5 \text{ counts})$ W $\pm(30\% + 5 \text{ counts})$ Frequency Fundamental Ranges: 40 Hz to 70 Hz Accuracy: $\pm 0.25 \text{ Hz}$ Phase Range: V, A (between Fundamental & Harmonics) Accuracy: $\pm 3^\circ$ to $\pm 15^\circ$ Range: W (between Voltage Fundamental & Current Harmonics) Accuracy: $\pm 5^\circ$ to $\pm 15^\circ$ K-factor (Current and Power) Range: 1.0 to 30.0 Accuracy: $\pm 10\%$ THD Total Harmonic Distortion Range: 0.00 - 99.99 Accuracy: $\pm(3\% + 8 \text{ counts})$
Sags and Swells	Recording times: 4 min to 16 days (selectable) Vrms Actual, Vrms max, min(AC + DC) Ranges: 5.000V, 50.00V, 500.0V, 1250V* Accuracy: Readings $\pm(2\% + 10 \text{ counts})$; Cursor readings $\pm(2\% + 12 \text{ counts})$ Arms Actual, Arms max, min (AC + DC) Ranges: 50.00A, 500.0A, 5.000 kA, 50.00 kA Accuracy: $\pm(2\% + 10 \text{ counts})$

Specifications

Transient Capture	<p> Minimum pulse width: 40 ns Useful bandwidth input 1: DC to 1 MHz Number of transients: 40 Voltage threshold settings: 20%, 50%, 100%, 200% above or below reference Reference signal: After START, the Vrms and frequency of the signal are measured. From these data a pure sine wave is calculated as reference for threshold setting. Vpeak min, Vpeak max at cursor: 10 V, 25 V, 50 V, 125 V, 250 V, 500 V, 1250 V Accuracy: $\pm 5\%$ of full scale </p>
R, C, Diode, Continuity	<p> Resistance ranges: 500.0 Ω, 5.000 kΩ, 50.00 kΩ, 500.0 kΩ, 5.000 MΩ, 30.00 MΩ Resistance accuracy: $\pm(0.6\% + 5 \text{ counts})$ Capacitance ranges: 50.00 nF, 500.0 nF, 5.000 μF, 50.00 μF, 500.0 μF Capacitance accuracy: $\pm(2\% + 10 \text{ counts})$ Diode Ranges: 0 to 3.000 V Diode voltage: Accuracy: $\pm(2\% + 5 \text{ counts})$ Continuity: Beeper on at $< 30 \Omega \pm 5 \Omega$ Max current: 0.5 mA Temperature: $^{\circ}$C or $^{\circ}$F </p>
Inrush Current	<p> Inrush times: 1 s, 5 s, 10 s, 50 s, 100 s, 5 min Current ranges: 1 A, 5 A, 10 A, 50 A, 100 A, 500 A, 1000 A Accuracy: $\pm 5\%$ of full scale Time between cursors: 4 to 235 pixels (1 pixel = inrush time/250) Accuracy: $\pm(0.2\% + 2 \text{ pixels})$ </p>
Temperature (with accessory)	<p> Range: -100 $^{\circ}$C - 400 $^{\circ}$C Accuracy: $\pm(0.5\% + 5 \text{ counts})$ </p>
Scope Display	<p> Measurements: dc, ac, ac+dc, peak, peak-peak, frequency, duty cycle, phase, pulse width, crest factor Time ranges: 20 ns/div to 60 s/div Max sampling rate: 25 MS/s Bandwidth Voltage channel [1]: 20 MHz at inputs, 1 MHz with TL24 Leads Current channel [2]: 15 kHz at inputs, 10 kHz with 80i-500s Current Clamp Coupling: AC, DC (10 Hz - 3 dB) Vertical sensitivity: 5 mV/div to 500V/div Vertical resolution: 8 bit (256 levels) Record length: 512 samples per channel Timebase modes: Normal, roll, single Pre-trigger: Up to 10 divisions Trigger Source: Input 1 or Input 2 or automatic selection Trigger Mode: Automatic Connect-and-View™, Free Run, and Single Shot Connect-and-View™: Advanced automatic triggering that recognizes signal patterns Automatically adjusts triggering, timebase and amplitude and displays stable pictures </p>

Specifications	
Memories	20 (screens, settings, data)
Recording	<p>Recording times: 4 min to 16 days (selectable)</p> <p>Parameters: Choose one or two parameters from one of the groups below: Volts/Ampères/Hertz</p> <p>Power: Watts, VA, VAR, PF, DPF, Frequency Harmonics, THD, Volts (Fund. & Harmonic), Ampères (F&H) Watts(F&H) Frequency (H), %(H) of total, Phase(H), KF</p> <p>Resistance: Temperature Resistance, Diode, Continuity, Capacitance</p> <p>Scope: DC Voltage, DC Current, AC Voltage, AC Current, Frequency, Pulse Width + or -, Phase, Duty cycle + or -, Peak max, Peak min, Peak min-max, Crest Factor</p>
Note	*Rated 600V CAT III

Environmental Specifications

Operating temperature	0°C to +50°C
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Safety Specifications

Electrical Safety	EN 61010-1 CAT II, 600V. UL and CSA listed
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Mechanical & General Specifications

Size	232 x 115 x 50 mm
Weight	1.1 kg
Warranty	3 years
Battery life	Rechargeable Ni-Cd pack (charger included), 4 hrs typical (continuous)
Shock & Vibration	Mil 28800E, Type 3, Class III, Style B
Case	IP51 (dust, drip, waterproof)