

# Fluke Power Quality Analyzer

## Model 43B

Specifications	
Input Characteristics	Input impedance 1 MΩ, 20 pF Voltage rating 600V rms, CAT III
V/A/Hz Display	<p>True-rms voltage (ac + dc)</p> <p>Ranges: 5.000 V, 50.00 V, 500.0 V, 1250 V*</p> <p>Accuracy: ±(1% + 10 counts)</p> <p>True-rms current (ac + dc)</p> <p>Ranges: 50.00 A, 500.0 A, 5.000 kA, 50.00 kA, 1250 kA</p> <p>Accuracy: ±(1% + 10 counts)</p> <p>Frequency</p> <p>Ranges: 10.0 to 15.0 kHz</p> <p>Accuracy: ± ([% of reading] + [counts]): 0.5% + 2</p> <p>CF Crest factor</p> <p>Ranges: 1.0 - 10.0</p> <p>Accuracy: ±(5% + 1 count)</p>
Power Display	<p>Watts, VA, VAR</p> <p style="text-align: right;">1-phase and 3-phase, 3 conductor balanced loads</p> <p>Ranges: 250 W - 1.56 GW</p> <p>Accuracy: ±(4% + 4 counts) Fundamental Power</p> <p>Accuracy: ± (2 % + 6 counts) Total Power</p> <p>PF Power Factor</p> <p>Range: 0 - 1.0</p> <p>Accuracy: ±0.04</p> <p>DPF Displacement Power Factor, Cos .F</p> <p>Range: 0.25 - 0.9</p> <p>Accuracy: ±0.04</p> <p>Range: 0.90 - 1.0</p> <p>Accuracy: ±0.03</p> <p>H2 Frequency Fundamental</p> <p>Ranges: 40.0 to 70.0 Hz</p> <p>Accuracy: ± ([% of reading] + [counts]): 0.5% + 2</p>

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

Transient Capture	<p>Minimum pulse width: 40 ns</p> <p>Useful bandwidth input 1: DC to 1 MHz</p> <p>Number of transients: 40</p> <p>Voltage threshold settings: 20%, 50%, 100%, 200% above or below reference</p> <p>Reference signal: After START, the Vrms and frequency of the signal are measured. From these data a pure sinewave is calculated as reference for threshold setting.</p> <p>Vpeak min, Vpeak max at cursor: 10 V, 25 V, 50 V, 125 V, 250 V, 500 V, 1250 V Accuracy: <math>\pm 5\%</math> of full scale</p>
R, C, Diode, Continuity	<p>Resistance ranges: 500.0 <math>\Omega</math>, 5.000 k<math>\Omega</math>, 50.00 k<math>\Omega</math>, 500.0 k<math>\Omega</math>, 5.000 M<math>\Omega</math>, 30.00 M<math>\Omega</math></p> <p>Resistance accuracy: <math>\pm(0.6\% + 5 \text{ counts})</math></p> <p>Capacitance ranges: 50.00 nF, 500.0 nF, 5.000 <math>\mu\text{F}</math>, 50.00 <math>\mu\text{F}</math>, 500.0 <math>\mu\text{F}</math></p> <p>Capacitance accuracy: <math>\pm(2\% + 10 \text{ counts})</math></p> <p>Diode Ranges: 0 to 3.000 V</p> <p>Diode voltage: Accuracy: <math>\pm(2\% + 5 \text{ counts})</math></p> <p>Continuity: Beeper on at <math>&lt; 30 \Omega \pm 5 \Omega</math></p> <p>Max current: 0.5 mA</p> <p>Temperature: <math>^{\circ}\text{C}</math> or <math>^{\circ}\text{F}</math></p>
Inrush Current	<p>Inrush times: 1 s, 5 s, 10 s, 50 s, 100 s, 5 min</p> <p>Current ranges: 1 A, 5 A, 10 A, 50 A, 100 A, 500 A, 1000 A</p> <p>Cursor readings: A peak max at cursor 1 and cursor 2</p> <p>Accuracy: <math>\pm 5\%</math> of full scale</p> <p>Time between cursors: 4 to 235 pixels (1 pixel = inrush time/250) Accuracy: <math>\pm(0.2\% + 2 \text{ pixels})</math></p>
Temperature (with accessory)	<p>Range: <math>-100^{\circ}\text{C} - 400^{\circ}\text{C}</math></p> <p>Accuracy: <math>\pm(0.5\% + 5 \text{ counts})</math></p>

Scope Display	<p>Measurements: dc, ac, ac+dc, peak, peak-peak, frequency, duty cycle, phase, pulse width, crest factor</p> <p>Time ranges: 20 ns/div to 60 s/div</p> <p>Max sampling rate: 25 MS/s</p> <p>Bandwidth</p> <p>Voltage channel [1]: 20 MHz at inputs, 1 MHz with TL24 Leads</p> <p>Current channel [2]: DC to 15 kHz at inputs, 10 kHz with i400s Current Clamp</p> <p>Coupling: AC, DC (10 Hz - 3 dB)</p> <p>Vertical sensitivity: 5 mV/div to 500V/div</p> <p>Vertical resolution: 8 bit (256 levels)</p> <p>Record length: 512 samples per channel</p> <p>Base ranges: 60 S/div to 20 nS/div <math>\pm</math> (0.4% + 1 pixel)</p> <p>Timebase modes: Normal, roll, single</p> <p>Pre-trigger: Up to 10 divisions</p> <p>Trigger Source: Input 1 or Input 2 or automatic selection</p> <p>Trigger Mode: Automatic Connect-and-View™, Free Run, and Single Shot</p> <p>Connect-and-View™: Advanced automatic triggering that recognizes signal patterns Automatically adjusts triggering, timebase and amplitude and displays stable pictures</p>
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. &amp; Harmonic), Ampères (F&amp;H) Watts(F&amp;H) Frequency (H), %(H) of total, Phase(H), KF Temperature</p> <p>Resistance: 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 EN 61010-1 600 V CAT III CSA
<b>Environmental Specifications</b>	
Operating Temperature	0°C to +50°C

Safety Specifications	
Electrical Safety	EN 61010-1 CAT III, 600V. CSA listed
Mechanical & General Specifications	
Size	232 x 115 x 50 mm
Weight	1.1 kg
Warranty	3 years
Battery Life	Rechargeable NiMH pack (charger included), 6.5 hrs extended operating time (continuous)
Shock & Vibration	Mil 28800E, Type 3, Class III, Style B
Case	IP51 (dust, drip, waterproof)