



## Fluke 434/PWR Power Analyzer

The easy way to perform energy consumption studies



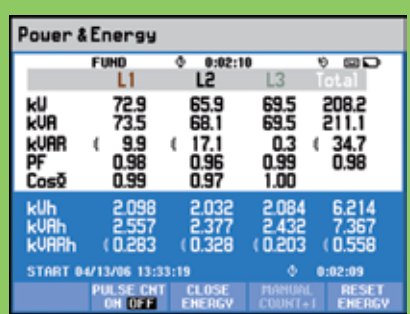
### Load studies and energy assessments

- Monitor maximum power demand over user-defined averaging periods
- Demonstrate the benefit of efficiency improvements with energy consumption tests
- Measure harmonic distortion caused by electronic loads
- Analyze reliability problems by capturing voltage dips and swells from load switching

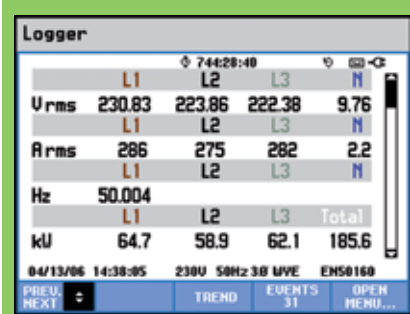
The Fluke 434/PWR power analyzer is the ideal tool for finding energy waste in commercial and factory buildings and equipment. Electricians, field service engineers and maintenance technicians can use this special edition instrument to conduct energy consumption studies and electrical load analysis, and to perform power quality logging and analysis according to EN 50160. Fluke's 434/PWR is a complete three-phase troubleshooting tool that measures virtually every power system parameter: voltage, current, frequency, power, energy consumption,  $\cos \phi$  or power factor, unbalance, and harmonics and inter-harmonics.

- Captures events like dips and swells, interruptions and rapid voltage changes, based upon  $\frac{1}{2}$  cycle rms values
- Unique AutoTrend gives you fast insight into changes over time.
- With a single push of a button, the unique System Monitor gives you an overview of power system performance. It also checks that incoming power complies to EN50160 limits or to your own custom specifications.
- Logger: detailed, user-configurable long-term recording gives you the MIN, MAX and AVG readings of up to 100 parameters on all four phases. Averaging time can be selected down to 0.5 seconds (or 1 minute for 1 day's recording, 10 minutes for 1 week, 30 minutes for 1 month or more.
- Two groups of four channels: simultaneously measure voltage and current on all three phases and neutral.
- Auto Scaling: easier trend analysis with automatic scaling of the vertical axis – so you will always view the waveforms on a full display.
- Meets the stringent 600 V CAT IV, 1000 V CAT III safety standard required for measurements at service entrance.
- Extensive data analysis: cursors and zoom can be used 'live' while taking the measurements, or 'offline' on stored measurement data. The stored measurements can also be transferred to Power Log software.

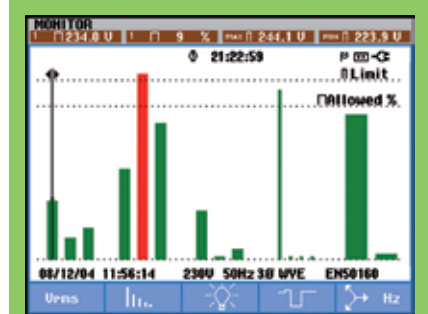
## Analyze all parameters on display



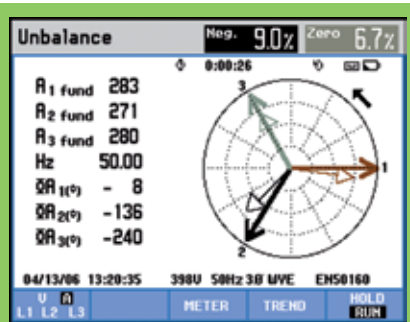
Measure and record power (W), VA and VARs. The Fluke 434/PWR adds the ability to record energy consumption



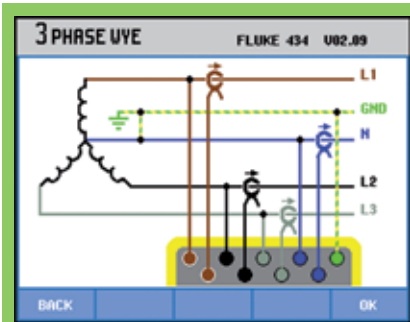
Logging function allows you to customize measurement selections and provides analysis of user-selectable parameters to find intermittent problems or relate PQ issues to other phenomena/events.



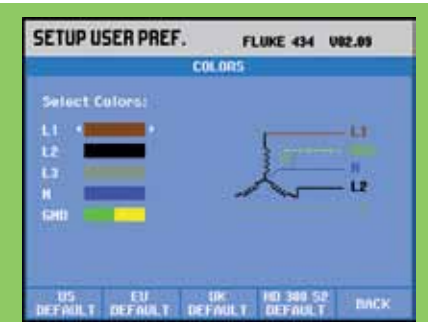
The System-Monitor overview screen gives instant insight into whether the voltage, harmonics, frequency, and the number of dips and swells fall outside the set limits.



Phasor diagram shows voltage and current unbalance, and helps verify connections.

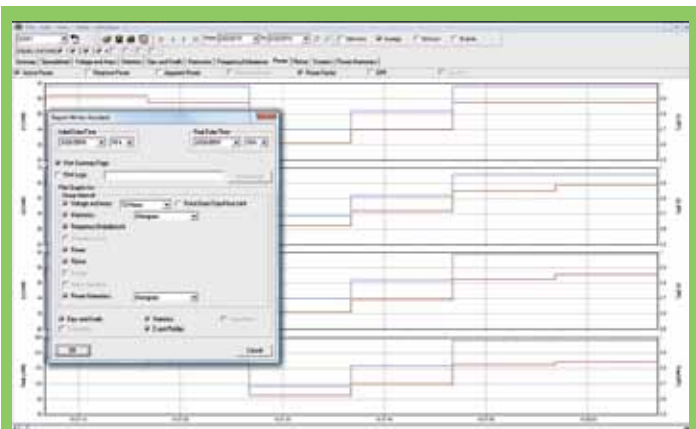


The full color display allows the use of industry-standard color-coding (user selectable) to correlate measurements with actual wiring



## Fluke Power Log Software

Designed to quickly view recorded data, the built-in Power Log software displays all recorded parameters on interactive trends. Generate a professional looking report with the 'PRINT' function or copy and paste images into a report document manually. Customize the report generator to easily create your own formats.



Print reports and view graphics with Power Log software.

# Technical Specifications

Inputs		
Number of inputs	4 voltage and current (3 phases + neutral)	
Maximum input voltage	1000 Vrms (6 kV peak)	
Maximum sampling speed	200 kS/s on each channel simultaneously	
Volts/Amps/Hertz	Measurement range	Accuracy
Vrms (AC+DC)	1 ... 1000 V	0.5% of Vnom
Vpeak	1 ... 1400 V	5% of Vnom
Voltage Crest Factor (CF)	1.0 ... > 2.8	±5%
Arms (AC + DC)	0 ... 20 kA	±0.5% ± 5 counts
Apeak	1.4x rms value	5%
Crest factor, A	1 ... 10	±5%
Hz 50 Hz nominal	40 ... 70 Hz	±0.01 Hz
Dips and swells		
Vrms (AC+DC) <sup>2</sup>	0.0% ... 100% of Vnom	±0.2% of nominal voltage
Arms (AC+DC) <sup>2</sup>	0 ... 20 kA	±1% ± 5 counts
Harmonics		
Harmonic (interharmonic)	DC, 1..50; (Off, 1..49) measured according to IEC 61000-4-7	
Vrms	0.0 ... 1000 V	±0.05% of nominal voltage
Arms	0.0 ... 4000 mV x clamp scaling	±5% ± 5 counts
Watts	Depends on clamp scaling and voltage	±5% ± n x 2% or reading, ± 10 counts
DC voltage	0.0 ... 1000 V	±0.2% of nominal voltage
THD	0.0 ... 100.0%	±2.5% V and A (± 5% Watt)
Hz	0 ... 3500 Hz	± 1 Hz
Phase angle	-360° ... +360°	± n x 1.5°
Power and energy		
Watt, VA, VAR	1.0 ... 20.00 MVA <sup>1</sup>	±1% ± counts
kWh, kVAh, kVARh	00.00 ... 200.0 GVAh <sup>1</sup>	±1.5% ± 10 counts
Power Factor/ Cos Φ / DPF	0...1	±0.03
Unbalance		
Volts	0.0 ... 5.0%	±0.5%
Current	0.0 ... 20%	± 1%
Autotrend recording		
Sampling	5 readings/sec continuous sampling per channel	
Memory	1800 min, max and avg points for each reading	
Recording time	Up to 450 days	
Zoom	Up to 12x horizontal zoom	
Logging		
Sampling	5 readings/sec continuous sampling per channel	
Readings	User selectable up to 100 readings on 3 phases and neutral simultaneously	
Averaging	2 hr down to 0.5s user selectable	
Recording time	User selectable up to 7 MB of shared memory	
Zoom	Yes	
Memory		
Screens & data	50, shared memory divided between logging, screens and data sets	
General Specifications		
Operating Temperature	0 °C to +50 °C	
Safety	EN61010-1 (2nd edition) pollution degree 2; 1000 V CAT III / 600 V CAT IV ANSI/ISA S82.01	
Size	256 x 169 x 64 mm	
Weight	2 kg	
Battery Life	Rechargeable NiMH pack (installed): > 7 hours Battery charging time: 4 hours typical	
Shock	30 g	
Vibration	3 g according to MIL-PRF-28800F Class 2	
Case	Rugged, shock proof with integrated protective holster, IP51 (drip and dust proof)	
Warranty	3 years	

1) Depending on clamp scaling

2) Value is measured over 1 cycle, commencing at a fundamental zero crossing, and refreshed each half-cycle





## Complete package

Fluke 434/PWR Power Quality Analyzer  
 i430-Flexipack 4 current clamps  
 5 Test leads, 4 black, 1 green  
 5 Alligator clips, 4 black, 1 green  
 BC430 Battery charger eliminator  
 Power Log Software OC4USB  
 Optical cable for USB  
 WC100 Color localization set  
 Getting Started (booklet)  
 User Manual (CD-ROM)



## Ordering information

Fluke 434/PWR  
 Power Quality Analyzer  
 (special edition for energy analysis)

**Fluke.** *Keeping your world up and running.*®

**Fluke Corporation**  
 P.O. Box 9090  
 Everett, WA USA 98206  
 Web: [www.fluke.com](http://www.fluke.com)

**Fluke Europe B.V.**  
 P.O. Box 1186  
 5602 BD Eindhoven  
 The Netherlands  
 Web: [www.fluke.eu](http://www.fluke.eu)

For more information call:  
 In the U.S.A. (800) 443-5853  
 or Fax (425) 446 -5116  
 In Europe/M-East/Africa +31 (0)40 2 675 200  
 or Fax +31 (0)40 2 675 222  
 In Canada (905) 890-7600  
 or Fax (905) 890-6866  
 From other countries +1 (425) 446 -5500  
 or Fax +1 (425) 446 -5116

**Fluke (UK) Ltd.**  
 52 Hurricane Way  
 Norwich  
 Norfolk  
 NR6 6JB  
 United Kingdom

Tel.: (020) 7942 0700  
 Fax: (020) 7942 0701  
 E-mail: [industrial@uk.fluke.nl](mailto:industrial@uk.fluke.nl)  
 Web: [www.fluke.co.uk](http://www.fluke.co.uk)