More detailed power quality analysis capability, and a Fluke-patented energy monetization function

The new Fluke 434, 435 and 437 Series II models help locate, predict, prevent, and troubleshoot power quality problems in three-phase and single-phase power distribution systems. Additionally, the Fluke-patented energy loss algorithm, Unified Power Measurement, measures and quantifies energy losses due to harmonics and unbalance issues, allowing the user to pinpoint the origin of energy waste within a system.

- Energy loss calculator: Classic active and reactive power measurements, unbalance and harmonic power, are quantified to pinpoint true system energy losses in dollars.
- Power inverter efficiency: Simultaneously measure AC output power and DC input power for power electronics systems using optional DC clamp.
- PowerWave data capture: 435 and 437 Series II analyzers capture fast RMS data, show half-cycle and waveforms to characterize electrical system dynamics (generator start-ups, UPS switching etc.).
- Waveform capture: 435 and 437 Series II models capture 100/120 cycles (50/60Hz) of each event that is detected in all modes, without set-up.
- Automatic Transient Mode: 435 and 437 Series II analyzers capture 200 kHz waveform data on all phases simultaneously up to 6 kV.
- Fully Class-A compliant: 435 and 437 Series II analyzers conduct tests according to the stringent international IEC 61000-4-30 Class-A standard with 435 and 437 Series II analyzers.
- 400 Hz measurement: 437 Series II analyzer captures power quality measurements for avionic and military power systems.
- Troubleshoot real-time: Analyze the trends using the cursors and zoom tools.
- System-Monitor: Ten power quality parameters on one screen according to EN50160 power quality standard
- Logger function: Configure for any test condition with memory for up to 600 parameters at user defined intervals.

Unified Power Measurement
Fluke’s patented Unified Power Measurement (UPM) system provides the most comprehensive view of power available, measuring:

- Parameters of Classical Power (Steinmetz 1897) and IEEE 1459-2000 Power
- Detailed Loss Analysis
- Unbalance Analysis
- These UPM calculations are used to quantify in dollars the cost of energy loss caused by power quality issues.

Energy savings
The cost of power quality could only be quantified in terms of downtime caused by lost production and damage to electrical equipment. The Unified Power Measurement (UPM) method now goes beyond this to achieve energy savings by discovering the energy waste caused by power quality issues. Using the Unified Power Measurement, Fluke’s Energy Loss Calculator will determine how much money as facility is losing due to waste energy.

Unbalance
UPM gives a more comprehensive breakdown of the energy consumed in the plant. In addition to measuring reactive power (caused by poor power factor), UPM also measures the energy waste caused by unbalance; the effect of unevenly loading each phase in three-phase systems.

Harmonics
UPM also provides details of the energy wasted in your facility due to the presence of harmonics. The presence of harmonics in your facility can lead to:

- Overheating transformers and conductors
- Nuisance tripping of circuit breakers
- Early failures of electrical equipment
Fluke 430 Series II Three-Phase Power Quality and Energy Analyzers

Energy Loss Calculator

- Kilowatts made unusable by harmonics
- Kilowatts made unusable by unbalance issues
- Total billable kilowatt hours wasted
- Total cost of wasted kilowatt hours

Included Accessories
- TL430 test lead and alligator clip set, i430flex-TF, 61 cm, 4 clamps,
- BC430 power adapter,
- BP290 single capacity Li-ion battery,
- International plug adapter set,
- WC100 color coding clips and regional decals,
- 8 GB SD card,
- PowerLog on CD

Ordering information
- Fluke 434-II Three-Phase Energy Analyzer
- Fluke 435-II Three-Phase Power Quality and Energy Analyzer
- Fluke 437-II Three-Phase Power Quality and Energy Analyzer

Input characteristics

<table>
<thead>
<tr>
<th>Voltage inputs</th>
<th>Number of inputs</th>
<th>4 (2 phase + neutral) dc-coupled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum input voltage</td>
<td>3800 Vrms</td>
<td></td>
</tr>
<tr>
<td>Nominal voltage range</td>
<td>Interchangeable 1 V to 1000 V</td>
<td></td>
</tr>
<tr>
<td>Max. peak measurement voltage</td>
<td>5 kV (transient mode only)</td>
<td></td>
</tr>
<tr>
<td>Input impedance</td>
<td>4 MΩ/10 pf</td>
<td></td>
</tr>
<tr>
<td>Bandwidth</td>
<td>0.1 Hz to 10 kHz for transient mode</td>
<td></td>
</tr>
</tbody>
</table>

Current inputs

- Number of inputs: 4 (2 phase + neutral) dc- or ac-coupled

Recommended Accessories

- i430-FLEXI-TF-4PK

Battery life: 7 hours operating time per charge on Li-ion battery pack
Safety: EN61010-1 (2nd edition) pollution degree 2, 3000 V CAT III / 6000 V CAT IV
Case: Rugged, shock proof with integrated protective holster, IP51 (drip and dust proof)
Shock: 35 g, Vibration: 3g according to MIL-887-28000F Class 2
Operating temperature: 0°C to +50°C
Size (WxHxD): 265 mm x 190 mm x 70 mm, Weight: 2.1 kg
Three Years Warranty

See page 86 for power quality current clamps