POWER QUALITY ANALYZERS

- **Fluke 434-II and 435-II Power Quality and Energy Analyzers**

  Analyze power quality issues, calculate the costs of wasted energy and prevent downtime with the Fluke 434-II Energy Analyzer and Fluke 435-II Power Quality and Energy Analyzer.

Power Quality Analyzer

1. **434-II & 435-II Power Quality and Energy Analyzers**

➢ **Key Features**

Analyze power quality issues, calculate the costs of wasted energy and prevent downtime with the Fluke 434-II Energy Analyzer and Fluke 435-II Power Quality and Energy Analyzer.

- **Advanced power quality health**—At-a-glance power quality health data in real time so you can make better maintenance decisions
- **Energy loss calculator**—Discover the costs of energy loss specifically caused by poor power quality

- **Highest safety Key Features**

- **rating in industry**—CAT III 1000 V / CAT IV 600 V

- Specifications: Fluke 434-II and 435-II Power Quality and Energy Analyzers

Volt				
	Model	Measurement Range	Resolution	Accuracy
Vrms (AC + DC)	434-II	1 V to 1000 V phase to neutral	0.1 V	±0.1% of nominal voltage[1]
	435-II	1 V to 1000 V phase to neutral	0.01 V	±0.1% of nominal voltage[1]

Vpk		1 Vpk to 1400 Vpk	1 V	5% of nominal voltage
Voltage Crest Factor (CF)		1.0 > 2.8	0.01	±5%
Vrms½	434-II	1 V to 1000 V phase to neutral	0.1 V	± 1 % of nominal voltage
	434-II and 435-II		0.1 V	±0.2% of nominal voltage
Vfund	434-II	1 V to 1000 V phase to neutral	0.1 V	± 0.5 % of nominal voltage
	435-II		0.1 V	± 0.1 % of nominal voltage
Amps (accuracy excluding clamp accuracy)				
Amps (AC + DC)	i430-Flex 1x	5 A to 6000 A	1 A	±0.5% ±5 counts
	i430-Flex 10x	0.5 A to 600 A	0.1 A	±0.5% ±5 counts
	1mV/A 1x	5 A to 2000 A	1A	±0.5% ±5 counts
	1mV/A 10x	0.5 A A to 200 A (AC only)	0.1 A	±0.5% ±5 counts
Apk	i430-Flex	8400 Apk	1 Arms	±5%
	1mV/A	5500 Apk	1 Arms	±5%
A Crest Factor (CF)		1 to 10	0.01	±5%
Amps½	i430-Flex 1x	5 A to 6000 A	1 A	±1% ±10 counts

	i430-Flex 10x	0.5 A to 600 A	0.1 A	±1% ±10 counts
	1mV/A 1x	5 A to 2000 A	1 A	±1% ±10 counts
	1mV/A 10x	0.5 A A to 200 A (AC only)	0.1 A	±1% ±10 counts
Afund	i430-Flex 1x	5 A to 6000 A	1 A	±0.5% ±5 counts
	i430-Flex 10x	0.5 A to 600 A	0.1 A	±0.5% ±5 counts
	1mV/A 1x	5 A to 2000 A	1 A	±0.5% ±5 counts
	1mV/A 10x	0.5 A A to 200 A (AC only)	0.1 A	±0.5% ±5 counts
Hz				
Hz	Fluke 434 @ 50 Hz Nominal	42.50 Hz to 57.50 Hz	0.01 Hz	±0.01 Hz
	Fluke 434 @ 60 Hz Nominal	51.00 Hz to 69.00 Hz	0.01 Hz	±0.01 Hz
	Fluke 435 @ 50 Hz Nominal	42.500 Hz to 57.500 Hz	0.001 Hz	±0.01 Hz
	Fluke 435 @ 60 Hz Nominal	51.00 Hz to 69.00 Hz	0.001 Hz	±0.01 Hz
Power				
Watts (VA, var)	i430-Flex	max 6000 MW	0.1 W to 1 MW	±1% ±10 counts

	1 mV/A	max 2000 MW	0.1 W to 1 MW	±1% ±10 counts
Power Factor (Cos j/DPF)		0 to 1	0.001	±0.1% @ nominal load conditions
Energy				
kWh (kVAh, kvarh)	i430-Flex 10x	Depends on clamp scaling and V nominal		±1% ±10 counts
Energy Loss	i430-Flex 10x	Depends on clamp scaling and V nominal		±1% ±10 counts Excluding line resistance accuracy
Harmonics				
Harmonic Order (n)		DC, 1 to 50 Grouping: Harmonic groups according to IEC 61000-4-7		
Inter-Harmonic Order (n)		OFF, 1 to 50 Grouping: Harmonic and Interharmonic subgroups according to IEC 61000-4-7		
Volts %	f	0.0% to 100%	0.1%	±0.1% ±n x 0.1%
	r	0.0% to 100%	0.1%	±0.1% ±n x 0.4%
	Absolute	0.0 to 1000 V	0.1 V	±5%[1]
	THD	0.0% to 100%	0.1%	±2.5%
Amps %	f	0.0% to 100%	0.1%	±0.1% ±n x 0.1%
	r	0.0% to 100%	0.1%	±0.1% ±n x 0.4%
	Absolute	0.0 to 600 A	0.1 A	±5% ±5 counts

	THD	0.0% to 100%	0.1%	±2.5%
Watts %	f or r	0.0% to 100%	0.1%	±n x 2%
	Absolute	Depends on clamp scaling and V nominal	—	±5% ±n x 2% ±10 counts
	THD	0.0% to 100%	0.1%	±5%
Phase Angle		-360° to +0°	1°	±n x 1°
Flicker				
Plt, Pst, Pst (1 min) Pinst		0.00 to 20.00	0.01	±5%
Unbalance				
Volts %		0.0% to 20.0%	0.1%	±0.1%
Amps %		0.0% to 20.0%	0.1%	±1%
Mains Signaling				
Threshold Levels		Threshold, limits and signaling duration is programable for two signaling frequencies	—	—
Signaling Frequency		60 Hz to 3000 Hz	0.1 Hz	
Relative V %		0% to 100%	0.10%	±0.4%
Absolute V3s (3 second avg.)		0.0 V to 1000 V	0.1 V	±5% of nominal voltage

General Specifications	
Case	Design Rugged, shock proof with integrated protective holster Drip and dust proof IP51 according to IEC60529 when used in tilt stand position Shock and vibration Shock 30 g, vibration: 3 g sinusoid, random 0.03 g 2 /Hz according to MIL-PRF-28800F Class 2
Display	Brightness: 200 cd/m 2 typ. using power adapter, 90 cd/m 2 typical using battery power Size: 127 x 88 mm (153 mm/6.0 in diagonal) LCD Resolution: 320 x 240 pixels Contrast and brightness: user-adjustable, temperature compensated
Memory	8GB SD card (SDHC compliant, FAT32 formatted), up to 32GB optionally. Screen save and multiple data memories for storing data including recordings (dependent on memory size).
Real-Time Clock	Time and date stamp for Trend mode, Transient display, System Monitor and event capture
Environmental	
Operating Temperature	0°C ~ +40°C; +40°C ~ +50°C excl. battery
Storage Temperature	-20°C ~ +60°C
Humidity	+10°C ~ +30°C: 95% RH non-condensing +30°C ~ +40°C: 75% RH non-condensing +40°C ~ +50°C: 45% RH non-condensing
Maximum Operating Altitude	Up to 2,000 m (6666 ft) for CAT IV 600 V, CAT III 1000 V Up to 3,000 m (10,000 ft) for CAT III 600 V, CAT II 1000 V Maximum storage altitude 12 km (40,000 ft)
Electro-Magnetic-Compatibility (EMC)	EN 61326 (2005-12) for emission and immunity

Interfaces	Mini-USB-B, Isolated USB port for PC connectivity SD card slot accessible behind instrument battery
Warranty	Three years (parts and labor) on main instrument, one year on accessories

View full family specifications »

1. ±5% if ≥ 1% of nominal voltage ±0.05% of nominal voltage if < 1% of nominal voltage
2. 50Hz/60Hz nominal frequency according to IEC 61000-4-30
3. 400Hz measurements are not supported for Flicker, Mains Signaling and Monitor Mode
4. For nominal voltage 50 V to 500 V