GF438II

Three Phase Power Quality Analyzer

GF438II handheld three phase power quality analyzer offer the best ability in power quality analysis, GF438II handheld power quality analyzer help locate, predict, prevent and troubleshoot power quality problems in three phase and single phase power distribution systems. Additionally, GFUVE patented energy loss algorithm, unified power measurement, measuring and counting energy losses due to harmonics and unbalance issues, allowing the user to pinpoint the origin of energy losses in the system.

Features

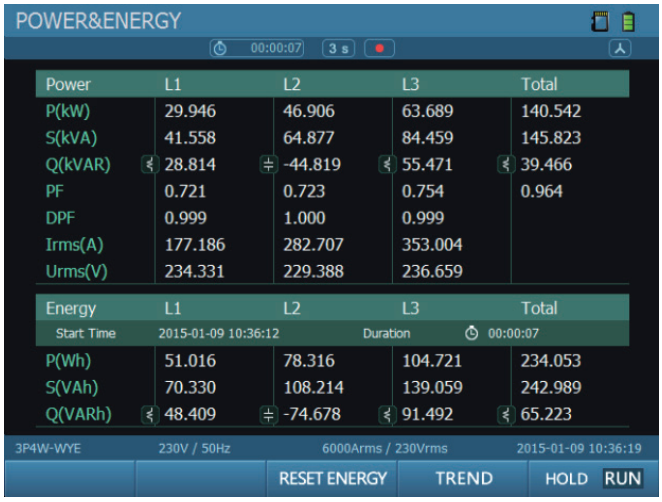
1. 3s statistical interval, continuously record 168h
2. Support multi-brand current transformer
3. Up to 32G data storage space
4. Record up to 461 power energy parameters simultaneously
5. Up to 10000 screenshots saved
6. Support periodic recording function
7. Up to 3.9M/s USB high-speed transfer
8. Recording wave

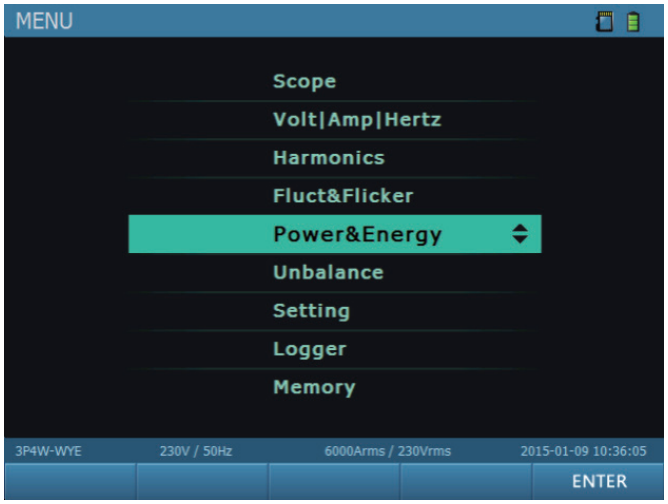
Functions

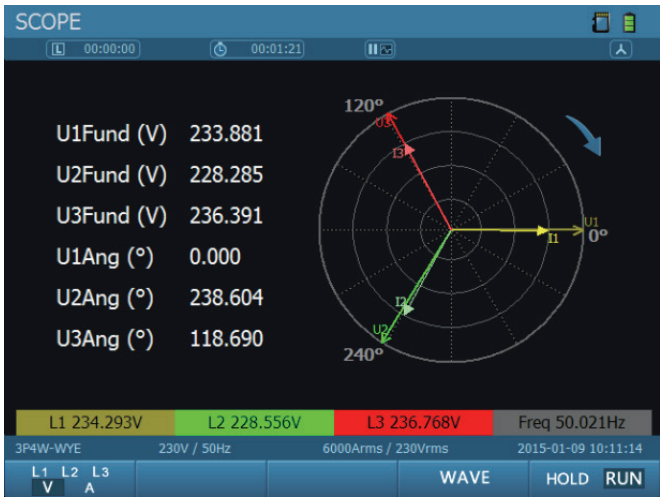
1. Energy loss calculator: classic active and reactive power measurements, unbalance and harmonic power, are quantified to pinpoint true system energy losses in dollars (other local currencies available).
2. Power inverter efficiency: simultaneously measure AC output power for power electronics systems.
3. Power wave data capture: GF438II analyzers capture fast RMS data, show half-cycle and waveforms to characterize electrical system dynamics (generator start-ups, UPS switching etc.).
4. Waveform capture: GF438II capture 50/60 cycles (50/60Hz) of each event that is detected in all modes, without set-up.
5. Automatic transient GF438II analyzers capture 200 kHz waveform data on all phases simultaneously up to 1000V.
6. Fully class-A compliant: GF438II analyzers conduct tests according to the stringent international IEC 61000-4-30 class-A standard.
7. Mains signaling: GF438II analyzer measure interference from ripple control signals at specific frequencies.
8. Troubleshoot: analyze the trends using the cursors and zoom tools.
9. Highest safety rating in the industry: 600 V CAT IV/1000 V CAT III rated for use at the service entrance.

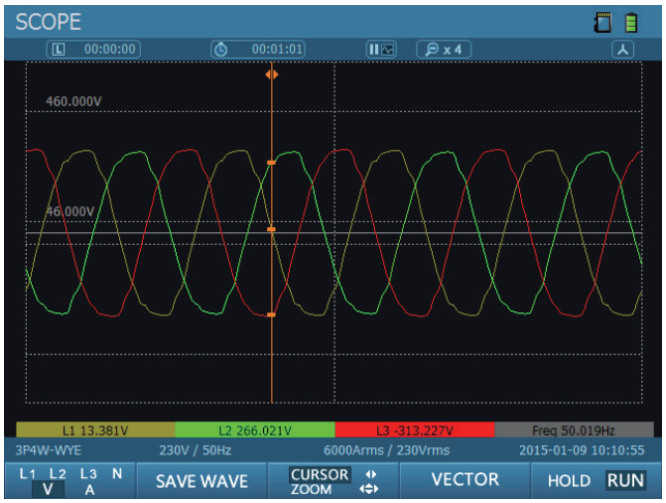
10. Measure all three phases and neutral: with included four flexible current probes with enhanced thin flex designed to fit into the tightest places.
11. Automatic trending: every measurement is always automatically recorded, without any set-up.
12. System-monitor: ten power quality parameters on one screen according to EN50160 power quality standard.
13. Logger function: configure for any test condition with memory for up to 600 parameters at user defined intervals.
14. View graphs and generate reports: with included analysis software.
15. Battery life: up to 5 hours operating time per charge on Li-ion battery pack.

Display









Parameters

Name	Measurement type
Voltage	rms, ava, pk+, pk-, rms-1/2, CF
Frequency	Freq
Current	rms, ava, pk+, pk-, rms-1/2, CF
Power & energy	P, S, Q, PF, DPF, W
Computation	THD, DC, 1-63 Harm, 1-62 InHarm, 1-35 HiHarm, 1-62
Voltage harmonic	THD, DC, 1-63 Harm, 0-62 InHarm, 1-35 HiHarm, 1 62-SubHarm , KF
Current harmonic	THD, DC, 1-62 Harm
Harmonic power	Ia, Ib, Ic, ΣPtotal, ΣQtotal, ΣStotal, 15 minutes
Fluctuation and flickering	PST, PLT, Fluct, Fluct Max
Unbal	V Pos, A pos , V neg , A neg , V zero, A zero, Unbal
Event log	Voltage swell, voltage sags, DIP, surge current, voltage and current distortion out of limit, odd harmonics containing rate out of limited, unbalanced voltage current out of limit, frequency out of limit, PST out of limit, PLT out of limit, long-term voltage interruption, voltage fluctuation deviation, voltage harmonics out of limit, 2-25st harmonics out of limit
P, Q, S name	**Measurement type**
Measurement types	P: Calculate by every 10 cycles S: Calculated by the effective value of voltage and current Q: Calculated by the apparent power, active power
Display	Table charts, trend chart
Measuring range	According to the range of the voltage and current
Resolution	0.001W
Accuracy	±0.5%
Urms	**Measurement type**
Mode	Calculated by the square root value of 10/12 cycle
Measuring circuit	1P2W/ 2P3W /3P3W/ 3P4W
Basic frequency of the measuring circuit	50Hz, 60Hz
Input channels	4 phase voltage, 4 phase current
Display mode	Effective current value of each channel
Range	120V, 230V, 400V, 1000V, Max 1000V instantaneous voltage
Resolution	0.001V
Accuracy	0.1% RG

Arms	Measurement type
Mode	Calculated by the square root value of 10/12 cycle
Display mode	Effective current value of each channel
Range	Current: according to the current clamps Option Current clamps:5A/50A/100A/500A/1000A Flexible Current probe: 1000A/3000A/6000A
Resolution	0.001A
Accuracy	0.1% + accuracy of the current clamps
Frequency	**Measurement type**
Measurement mode	Calculate by 10 cycles (50Hz) or (60Hz)
Display mode	Measurement by 10 cycles
Nominal frequency/resolution	50.000Hz/0.001Hz or 60.000Hz/0.001Hz
Bandwidth measurement	42.5-57.5Hz or 52.5-67.5Hz
Accuracy	±0.001Hz
Half-wave RMS current/voltage	**Measurement type**
Measurement mode	Calculate by every 2 cycles. Each cycle ,1/2 cycle made up of a waveform calculation
Measuring range/resolution	Voltage: 120V/0.01V, 230V/0.01V, 400V/0.01V, 1000V/0.01V,Current: According to the current clamps
measurement accuracy	±0.1%
Power factor	**Measurement type**
Measurement mode	The ratio of average power to apparent power
Display mode	Real-time data showed
Measurement range/resolution	-1.000-1.000/0.001
Accuracy	±0.1%
Vfund, Afund, Harmonic power	**Measurement type**
Measurement mode	Meet IEC61000-4-7,Analysis time window is ten cycles
Window points	5120 points
Display mode	Form figure, trend charts, histograms
Number of measurement	1-50 Times
Measurement accuracy	Vfund >1%: Error<1% Vfund <1%: Error<0.05% Rated Voltage Afund >3%: Error<1% Afund <3%: Error<0.05% Current range
InHarm Voltage, InHarm current	**Measurement type**
Measurement mode	Meet IEC61000-4-7, Analysis time window is ten cycles
Window points	5120 points
Display mode	Form figure, trend charts, histograms
Numbers of measurement	1-16 groups

InHarm Voltage, InHarm current	Measurement type
Measurement accuracy	Vfund >1%: Error<1% Vfund <1%: Error<0.05% Rated Voltage Afund >3%: Error<1%
Voltage/current Unbal (pos, neg)	**Measurement type**
Measurement mode	3P3W or 3P4W, using three phase of fundamental wave components to calculate
Display mode	Form figure, trend charts, histograms
Measurement accuracy	Voltage unbal: ±0.2% Current unbal: ±0.5%
Voltage fluctuation	**Measurement type**
Measurement mode	Calculate by the quadratic mean of half wave.
Display mode	Form figure, trend charts
Measurement accuracy	±1%
IEC Flickering	**Measurement type**
Measurement	P short term (Pst) , P long term (Plt)
Measurement mode	According to IEC61000-4-15 Standard to calculate Pst (10 mins) Plt (2 hours)
Display mode	Form figure, trend charts
Measurement range	0-20
Measurement accuracy	±5%
Surge current	**Measurement type**
Measurement mode	Half-wave RMS of current is higher than set value and sustain time is 10ms-1min
Display mode	Maximum of the surge current and surge current wave
Measurement accuracy	0.10%
Voltage swell, Voltage sags, DIP	**Measurement type**
Measurement mode	Swell: When half-wave RMS of voltage is higher than set value and sustain time is 10ms-1min, judged as swell. Sags: When half-wave RMS of voltage is lower than set value and sustain time is 10ms-1min, judged as sags. DIP: half-wave RMS of voltage is higher than set value and sustain time is 10ms-1min, judged as DIP
Display mode	Swell, sags, DIP wave sustain time, extent and so on.
Measurement accuracy	0.10%
Machinery	
Size	263mm x 168mm x 65mm
Key	21PCS
Binary	binary input:1 ; binary output:1
Comunication Port	USB, 10/100M port

Machinery - continued	
Weight	2KG
Power supply	
Voltage input	110V-240V
Adapter output	15V, 3A
Battery	Rechargeable nickel metal hydride, 5500mAh
Battery working time	≥ 6h
Battery recharging time	5h (Environment temperature 25°C)
Power saving facility	LCD backlight brightness is adjustable, standby time is adjustable
Display	
Size	112.8 x 84.6mm
Color	260000 color
Resolutions	640 x 480
Brightness	Max 350 cd/m2 (Typ), brightness is adjustable
Contrast	500:1 (Typ)
Visual angle	70/70/50/70 (Typ.)(CR ⩾10) (Left/ Right/ UP/Down)
Environment	
Working environment	0°C to +45°C, humidity below 90rh%
Storing environment	-20°C to +50°C, humidity below 95rh% (non-condensing)
Store	
Type	TF card (inbuilt)
Size	32G
Standards	
Measurement method	IEC 61000-4-30
Measurement performance	IEC 61000-4-30 A LVL
Flickering	IEC 61000-4-15
Harmonic	IEC 61000-4-7
Safety	
Standard	GB 4793.1-2007/IEC 61010-1:2001: "Measurement, control and laboratory electrical equipment safety requirements", first part: general requirements.
MAX voltage of phase angle input	CAT III 1000 V/ CAT IV 600 V.

Current clamp(option)

MODEL	Q8A2	HQ15	P18	P50	P50	FQ-RCT02	FQ-RCT03
Appearance							
Range	5A	5A(max 100A)	100A(max 120A)	500A	1000A	3000A	6000A
Measurement Range	5mA-10A	10mA-100A	10mA-120A	10mA-600A	10mA-1000A	1A-3000A	1A-6000A
Output Voltage	10mV/A	10mV/A	10mV/A	1mV/A	1mV/A	100mV/kA	58mV/kA
Accuracy	0.1%RG	0.1%RG	0.1%RG	0.1%RG	0.1%RG	1%RG	1%RG