

PQA-8000

The perfect power quality analyser for engineers looking for high-quality versatile instruments.

The PQA-8000 Power Quality Analyzer is a state-of-the-art solution designed to provide precise and comprehensive power quality measurements for industrial, commercial, and utility environments. Equipped with advanced technology, the PQA-8000 ensures accurate detection and analysis of key electrical parameters, helping to maintain optimal system performance and prevent costly downtime.

The PQA-8000 is capable of capturing and detecting instantaneous changes in the voltage and current parameters of the power grid. Including voltage and current fluctuations, voltage and current dips, sudden drops, short interruptions, transient overvoltage, inrush current, current and voltage transient distortion.

Whether you need to troubleshoot power disturbances or optimize energy consumption, the PQA-8000 Power Quality Analyzer provides the essential insights needed to ensure your electrical system is operating at peak performance.







Key Features

- Real-time waveform display (4 channels voltage & current)
- True-RMS values for voltages and currents
- Display the DC components of voltage
- Peak current and voltage values
- Minimum and Maximum half-cycle RMS current and voltage values
- Pharos diagram display
- Measurement of harmonics of each phase up to the 50th
- Bar charts display harmonic ratios of current and voltage of each phase
- Total harmonic distortion (THD)
- Active, reactive, apparent power by phase and cumulative
- Active, reactive, apparent energy y phase and cumulative
- Transformer K factor
- Power factors (PF) and displacement factors (DPF)
- Short-term voltage flicker (PST)
- 3-phase unbalance (current and voltage)

Technical Specifications

PQA-8000 Power Quality Analyser			
Current Test	See current clamps listed below (optional accessories)		
Voltage Test	Line voltage: 1.0V ~ 2000V; Phase voltage: 1.0V ~ 1000V		
Electricity Energy Parameter	W, VA, var, PF, DPF, $\cos\phi$, $\tan\phi$; Wh, Varh, Vah		
Test modes (6)	Waveform, Harmonic, Power & Energy, Trend, Alarm, Capture		
Number of Channels	4 voltages, 4 currents	Voltage Flicker	Yes
Frequency	40Hz ~ 70Hz	Three-Phase Unbalance	Yes
Harmonic Wave	Yes, 0 ~ 50 times	Start Current Mode	Yes, 100 seconds
Total Harmonic Distortion	Yes, 0 ~ 50 times, each phase	Peak Value	Yes
Expert Mode	Yes	Phasor Diagram Display	automatic
Transient Record Groups	150 groups	Screenshot Capacity	60 screens
Record	300 days (record 20 parameters simultaneously, every 5 seconds record 1 point)		
Min/Max Recorded Value	Yes, the max/min value can be measured for a certain time		
Alarm	40 different types of parameter selection, 12800 group alarm logs		
Automatic Shut Down	In the alarm/trend graph recording/transient capture mode (waiting or in progress), the instrument does not automatically shut down. In other test modes, if there is no button operation within 15 minutes, prompting to automatically shut down after 1 minute.		
Display Mode	High-definition LCD colour screen, 640dots x 480dots, 5.6 inches, display field 116mm x 88mm with backlight function		
Standard Accessories	Instrument Bag: 1pcs; Test Cable: 5PCS (yellow, green, red, blue, black); Alligator Clip: 5PCS; Probe: 5PCS; Charger 1PC; Software CD: 1COPY; 2G Memory Card: 1PC;		
Optional Accessories	Current clamps/sensors (see below), supplied in sets of 4		

Current Clamps (optional)

Current Sensor Model	Current Clamp	Current True RMS	Current True RMS Max Error	Phase Angle ϕ Max Error
008 (CT : Φ 8mm)		10mA~99mA	\pm [1 % + 3dgt]	\pm [1.5°], Arms \geq 20mA
		100mA~10.0A	\pm [1 % + 3dgt]	\pm [1°]
020 (CT : Φ 20mm)		0.10A~0.99A	\pm [1 % + 3dgt]	\pm [1.5°]
		1.00A~100A	\pm [1 % + 3dgt]	\pm [1°]
050 (CT : Φ 50mm)		1.0A~9.9A	\pm [2 % + 3dgt]	\pm [3°]
		10.0A~1000A	\pm [2 % + 3dgt]	\pm [2°]
300R (CT : Φ 300mm)		10A~99A	\pm [1 % + 3dgt]	\pm [3°]
		200A~6000A	\pm [1 % + 3dgt]	\pm [2°]

Summary of Functions

Measurement Functions

- ✓ The RMS values of AC voltages up to 1000 V between devices.
- ✓ The RMS values of AC currents up to 6000A (neutral included).
- ✓ Sustaining voltages and currents (neutral included).
- ✓ Minimum and maximum half-cycle RMS voltage and current.
- ✓ Peak voltages and currents (neutral included).
- ✓ Frequency of 50 Hz and 60 Hz networks.
- ✓ Current and voltage peak factor (excluding neutral).
- ✓ Calculation of the K factor (KF) (application to transformers when current harmonics are present).
- ✓ Current and voltage distortion factor (DF) (excluding neutral).
- ✓ Current and voltage total harmonic distortion (excluding neutral).
- ✓ Active, reactive [capacitive and inductive], apparent power of each phase (excluding neutral).
- ✓ Power factors (PF) and displacement power factors (DPF) (excluding neutral).
- ✓ Short-term flicker (PST) (excluding neutral).
- ✓ Active, reactive [capacitive and inductive], and apparent energy (excluding neutral).
- ✓ Current and voltage harmonics (excluding neutral) up to order 50: harmonic ratio, RMS value, minimum and maximum, and sequence harmonics.
- ✓ Apparent power of each harmonic up to order 50: harmonic ratio, RMS value, minimum and maximum.
- ✓ The motor starting current and inrush currents.

Main Functions

- ✓ Display of waveforms (voltages and currents).
- ✓ Inrush Current function: displays parameters useful for study of the starting of a motor:
 - Instantaneous current at the instant designated by the cursor.
 - Maximum instantaneous current (over the entire starting time).
 - RMS value of the half-cycle of the current on which the cursor is positioned.
 - Maximum half-cycle RMS current (over the entire starting time).
 - Time at which starting of motor commenced.
- ✓ Screen captures (60 maximum).
- ✓ Transients function. Detection and recording of transients (up to 150) between user-defined start and stop dates and times. Recording of 4 complete cycles (one before the triggering event and three after).
- ✓ Trend recording function (2GB memory with date-stamping and user-defined start and stop dates for recording, with a maximum of 100 recordings). Display, in bar chart or curve form, of the means of many parameters vs. time, with or without minima and maxima.
- ✓ Alarm function. List of recorded alarms (up to 12,800) exceeding thresholds defined in the configuration menu. User-defined alarm monitoring start and stop times. Display the alarm trigger channel, minimum and maximum values after trigger, duration.

Configuration Functions

- ✓ Date and time settings.
- ✓ Screen brightness and contrast settings.
- ✓ Choice of curve colours.
- ✓ Choice of reactive power and reactive energy calculation mode (with or without harmonics).
- ✓ Choice of connection (single-phase, split-phase, 3- or 4-wire three-phase, 5-wire three-phase).
- ✓ Choose current sensors and voltage ratio.
- ✓ Trigger threshold values setting (voltage and current).
- ✓ Monitoring parameters of trend diagram settings.
- ✓ Choice of alarm monitoring parameters.
- ✓ Erasure of data (total or partial).
- ✓ Display of software and hardware version numbers.

General Specifications

Power Supply

Rechargeable lithium battery 9.6V, 4500mAH, external charger; working current about 490mA, battery can continuously work for 8 hours

Battery Indicator

Battery symbol shows dump energy. When the voltage is too low, automatic shutdown after the 1 minute

Input Impedance

Input impedance of test voltage: 1MΩ

Withstand Voltage

Withstand 3700V/50Hz sinusoidal AC voltage for 1 minute between instrument wiring and shell

Insulation

Between instrument wiring and shell $\geq 10M\Omega$

Structure

Double insulation, with insulation vibration-proof sheath

Safety Standard

IEC 61010 1000V Cat III / 600V CAT IV, IEC61010-031, IEC61326, Pollution Degree 2

Length of Voltage Test Wire

3m

Length of Current Sensor Wire

2m

Part Numbers / Optional Accessories		
Code	Item	Part Number
PQA-8000	Intelligent Multifunctional Power Quality Analyzer 3-Phase 4-Channel Harmonic Detector with 5.6-inch LCD	478000

Dimensions

277 x 227 x 153mm / 10.9 x 8.9 x 6.0" (w x d x h) approx.

Mass

2.4kg/5.3lbs approx. (main unit with battery)

008 small sharp current clamp: 168g each

020 circle current clamp: 252g each

050 circle current clamp: 463g each

300R Flexible Coil Current Sensor (with integrator): 280g each

Test wires and power adapter: 800g

Total package weight: 10.8kgs

Operating

10°C ~ 40°C (working)
-10°C ~ 60°C (storage)

80%RH (working)

70%RH (storage)

Services

1-year warranty (subject to product registration with GPS Ltd)

Visit www.gpslimited.com/register-product
Service and calibration available.

Please contact for more information

