



GDPQ-5000 Three Phase Power Quality Analyzer



Product Description

GDPQ-5000 Power Quality Analyzer is a comprehensive test instrument carefully developed by our company and specially designed for field test of three phases, multi-functional and intelligent, concise man-machine operation. It is easy to use, large LCD screen display, high resolution, interface in both Chinese and English, shock-proof shell structure and so on. Can simultaneously measure the 4-channel current (ABC three phase and neutral wire current), 4-channel voltage (ABC three-phase voltage and neutral line voltage to ground), the peak value of current voltage, maximum/minimum value over a period, three-phase imbalance factor, short-time voltage flicker, transformer K factor, active power, reactive power, apparent power, power factor and displacement power factor, active power, reactive power, apparent power, total harmonic distortion and harmonic, etc; Display real-time waveform, harmonic ratio bar charts of current voltage; Dynamically capture instantaneous change of voltage current, monitoring starting current, monitoring the power parameters and generate the alarm list, generate the trend chart for a long time record test data.

Features

2.1. Measurement function

- Waveform real-time display (4 channels voltage/4 channels current).

- True RMS values of voltages and currents.
- The DC components of voltages.
- Peak current and voltage values.
- Minimum and maximum half-cycle RMS current and voltage values.
- Phasor diagram display.
- Measurement of each harmonic up to order 50.
- Bar charts show 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, by phase and cumulative.
- Transformer K factor.
- Power factors (PF) and displacement factors (DPF or $\text{COS}\Phi$).
- Short-term voltage flicker (PST).
- Three phase unbalance(current and voltage).

2.2. Transient capture function

Monitoring instantaneous change of power grid voltage current parameters, including the voltage current fluctuations, voltage current surge, sag and short supply interruption, temporary overvoltage, impact current and Current voltage instantaneous distortion. Instruments can store 150 sets of transient waveform at the same time.

2.3. Starting current monitoring

Monitoring surge current of line and the startup current when electrical equipment is starting, help to correctly design capacity. Can be display the RMS rising / falling curve In the startup process, the envelope curve of startup current, waveform of 4 channels current and 4 channels voltage.

Recording about 100s after trigger, storage the current /voltage instantaneous and waveform curve of each cycle in 100s.

2.4. Trend chart recording and storing function

Store all the test parameters of basic test functions (Urms, Uthd, Ucf, Uunb, Hz, Vrms, Vthd, Vcf, Vunb, PST, Arms, Athd, Acf, Aunb, KF,W, VAR, VA, PF, $\text{COS}\phi$, $\text{TAN}\phi$),50 voltage harmonics, 50 current harmonics. And create the trend curve. Record data for a long time according to need(concurrent selection 20 parameters to record data for once every five seconds, you can record about 300 days.).

2.5. Alarm function

Set the limit values according to need, monitoring the values whether overshoot, if overshoot will generate an alarm log, such as: voltage, current, unbalance, harmonic ratio, frequency, active power, total harmonic distortion. You can configure 40 different alarms, each group can set different monitoring parameters (including 50 harmonics, total of 123 different parameters) and limit values, also can set the shortest time of overshoot. The log can contain up to 12,800 alarms.

2.6. Snapshot function

Any screen can be saved(screen snapshot), at the same time automatically records the time and test mode. Such as can save voltage and current waveform, harmonic bar chart, phasor diagram etc. It can save a maximum of 60 screen snapshot.

2.7. Communication function

Communicate with computer via USB, Monitoring software can display waveform of power quality analysis, read of the transient waveform, trend chart recording, alarm log, screenshots, and display on the computer.

2.8. Setting function

The user can configuration of the time and date, configuration of the screen contrast and brightness, definition of each phase curve colours.

Choice of type of connection to the network.

Configuration of the type of the current sensors and voltage ratios.

2.9. Help menu

Every stage of operation can press the "help" key to obtain relevant information.

Specifications

Influence factor	Test item	Base condition	Working condition
Environment temperature	All parameters	(23±2)°C	-10°C~ 40°C

Relative humidity	All parameters	40%~ 60%	<80%
Phase-to-neutral voltage	All parameters	(100±1%)V	1.0V~ 1000V
Phase-to-phase voltage	True RMS phase-to-phase voltage	(200±1%)V	1.0V~ 2000V
Current	True RMS current	(5±1%)A	10mA~ 10A
Network frequency	All parameters	50Hz±0.1Hz	40Hz~ 70Hz
Phase shift	Active power and active energy	Cosφ=1	Cosφ: 0.2~ 1.0
	Reactive power and reactive energy	Sinφ=1	Sinφ: 0.2~ 1.0
Harmonic	All parameters	<0.1%	0.0%~ 100%
Voltage unbalance	All parameters	<10%	0.0%~ 100%
Working voltage of device	All parameters	DC9.8V±0.1 V	DC9.5V~ 10.5V
External electric field, magnetic field	All parameters	Should be avoided	
Test position	Measured related parameters of current	Tested wire at the center of clamp.	