POWER QUALITY ANALYZERS

POWER QUALITY ANALYZERS





	PQA824	PQA823	VEGA78	PQA820	PQA819
MAIN MEASUREMENTS	**POWER QUALITY ANALYZERS**				
AC/DC voltage in single-phase/three-phase systems	•	•	•	•	•
AC/DC current in single-phase/three-phase systems	•	•	•	•	•
Cosphi, Power Factor	•	•	•	•	•
Voltage unbalance (NEG%, ZERO%)	•	•	•	•	-
Active, reactive, apparent power/energy and DC power	•	•	•	•	•
Voltage and current harmonics up to the 49th with calculation of THD%	•	•	•	•	• Only THD
Voltage anomalies (dips, peaks) with a resolution of 10ms (@ 50Hz)	•	•	•	•	-
Voltage spikes with a resolution of 5µs (200kHz)	•	-	-	-	-
Electric motor starting current (INRUSH)	•	•	-	-	-
Voltage flickers (Pst, Plt)	•	•	-	-	-
Full analysis EN50160	•	•	-	-	-
Phase sequence	•	•	•	•	•
Neutral-Ground Voltage	•	•	•	-	-
Neutral current	•	•	•	•	-
MEMORY AND RECORDING					
Max number of simultaneously selectable parameters	251	251	251	383	44
Recording with selectable integration period	1s-60m	1s-60m	1s-60m	5s-60m	5s-60m
Indicative memory duration (in days @ PI=10min @ max number of parameters)	90 days	90 days	90 days	30 days	153 days
Indication of recording duration	•	•	•	•*	•*
Internal memory capacity	15MB	15MB	15MB	8MB	8MB
External compact flash card	•	•	•	-	-
Default and custom recordings	•	•	•	-	-
Snapshot saving	•	•	•	•*	•*
REAL-TIME DISPLAY					
Summary table of main electric parameters	•	•	•	•*	•*
Voltage/current waveforms	•	•	•	•*	•*
Tables or histograms of Harmonics and THD%	•	•	•	•*	•*
Voltage/current vector diagram	•	•	•	•*	•*
ADDITIONAL CHARACTERISTICS					
Measurement category	CAT IV 600V	CAT IV 600V	CAT IV 600V	CAT IV 300V	CAT IV 300V
Measurement by means of external CT and VT	•	•	•	•**	•**
Touchscreen colour display	•	•	•	-	-
Power supply and rechargeable battery recharging	•	•	•	• Auto power supplied	• Auto power supplied
Auto power off	•	•	•	•	•
USB port for data download onto Pen Drive	•	•	•	• Only PC	• Only PC
Provided PC interface with software for Windows	• USB	• USB	• USB	• Wi-Fi / USB	• Wi-Fi / USB
Context help active on each screen	•	•	•	-	-
Protection password	•	•	•	-	-
Size (LxWxH) (mm)	235x165x75	235x165x75	235x165x75	235x165x75	235x165x75
Weight in kg (batteries included)	1	1	1	0,7	0,7
Reference standard for mains quality	EN50160	EN50160	-	-	-
Reference standard for safety	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1
Order code	**HV000824**	**HV000823**	**HV000078**	**HV000820**	**HV000819**

* Through App HTANALYSIS and software TOPVIEW.

** Adapter ACONBIN necessary.

ORDER CODE ***HV000824*** | ***HV000823*** | ***HV000078***

PQA824 | PQA823 | VEGA78

THREE-PHASE POWER QUALITY ANALYZERS

CAT III 600V

MAX 1000V BETWEEN INPUTS

YouTube

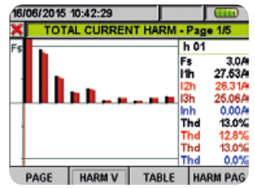
Functions

- Simultaneous measurement of power parameters on single-phase and three-phase 3-wire and 4-wire systems
- 5 input channels for voltages and 4 input channels for currents
- Numerical and graphic display (waveforms)
- Voltage and current vector diagram
- Voltage and current harmonic analysis up to the 49th with THD%
- Recording of voltage anomalies (dips, peaks) with 10ms resolution
- Flicker analysis in compliance with EN50160 ***(only PQA823 - PQA824)***
- Recording of fast transients (spikes) with resolution 5µs ***(only PQA824)***
- Recording of motor starting currents with resolution 10ms (INRUSH) ***(only PQA823 - PQA824)***
- Voltage unbalance (NEG%, ZERO%)
- Integration period selectable from 1s to 60min
- Preset and custom recordings
- Touchscreen colour display
- Power supply with rechargeable Li-ION battery
- Memory extension with external Compact Flash card
- Possibility of connecting an external pen drive
- PC interface with USB port

Main features

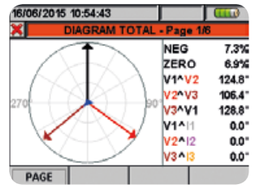
Display:	TFT, 65536 colours, (320x240pxl) with high contrast, touch screen
Power supply:	1x3.7V rechargeable Li-ION battery, with external adapter, duration >3h, auto power of after 5 minutes' idling
Internal memory:	15Mbyes (duration approx. 3 months @ IP=15min and 251 selectable parameters)
Memory extension:	external Compact Flash card (ca. 32Mb)
PC interface:	USB 2.0
Safety:	IEC/EN61010-1
Insulation:	double insulation
Measurement category:	CAT IV 600V (Phase - Neutral) CAT IV 1000V (between inputs)
Power quality and Flicker:	EN50160
Electric energy quality:	EN61000-4-30, class B
Unbalance:	EN61000-4-7, EN50160
Size:	235x165x75mm
Weight (battery included):	approx 1kg

PQA824, **PQA823** and **VEGA78** are **three-phase and single-phase power analyzers**. They allow for the analysis of **all electric parameters which can be measured nowadays**, elaborating them easily and quickly.
These devices can be easily programmed thanks to the **new colour touchscreen display** with icon menu, which guarantees the selection of internal parameters in a simple and intuitive way.
The **Help online** function **available on each screen** is a valid and concrete help for the operator in understanding how the devices are used. Each internal parameter is easily reached through the typical tree structure, widely known to Windows system users.
The devices allow **displaying** the parameters in **numerical and graphic** mode, both for **periodical analysis** and for **harmonic analysis**.
The graphic function "**vector diagram**" allows, among other things, to immediately evaluate the **phase angle between input voltage and current signals**, thus defining the loads' nature.
The **15MB internal memory** allows saving recorded data for a remarkable number of consecutive days.
Model **PQA824**, compared to PQA823 and VEGA78, **also allows detecting spikes on input voltages with a minimum resolution of 5µs (200kHz)**, setting different trigger thresholds which are very useful when solving typical problems on installations (monitoring atmospheric charges, commutations of switching suppliers, disturbance frequencies, etc.)

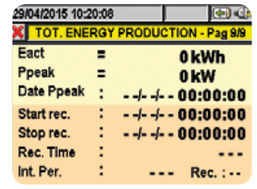


Current harmonics' display in real time.

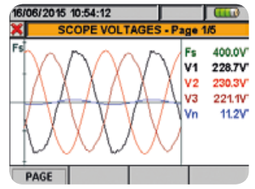
Display of recorded power graph.



Voltage and current vector diagram.



Energy consumption display.



Waveform display (voltage).

General Menu.

Included accessories

HTFLEX33E	Flex clamp 3000A, diameter 174mm, 4 pieces
KIT800	Set of 5 cables + alligator clips
A0055	AC/DC battery charger power supply 230V 50/60Hz*
YABAT0003HT1	Rechargeable 3.7V Li-ION battery
PT400	Touch-screen pen
TOPVIEW2007	Windows software + USB cable
VA500	Rigid Soft carrying bag
	User manual on CD-ROM
	Quick user guide
	ISO9000 calibration certificate

(*) Please check accessory line to find the correct power adapter for your country

Optional accessories

HTFLEX35	Flex 3000A AC clamp, diameter 274mm
HT96U	Standard 1-100-1000A AC clamp, diameter 54mm
HT97U	Standard 10-100-1000A AC clamp, diameter 54mm
HT98U	Standard 1000A DC clamp, diameter 50mm
HP30C2	Standard 200-2000A AC clamp, diameter 70mm
HP30C3	Standard 3000A AC clamp, diameter 70mm
HT4005N	Standard 5-100A AC clamp, diameter 20mm
HT903	3x1-5A/1V box for external TA connection
A0056	External power supply 110VAC-60Hz /12VDC
CF800	1GB Compact Flash Card
MCR800	Compact flash card reader
606-IECN	Connector with magnetic terminal
SP-0400	Set of straps for slinging the instrument over one's shoulder

ORDER CODE ***HV000820*** | ***HV000819***

PQA820 | PQA819

THREE-PHASE AND SINGLE-PHASE POWER QUALITY ANALYZERS

CAT IV 300V
MAX 415V BETWEEN INPUTS

PQA820 e PQA819 are the **innovative** proposal by HT to **easily analyze** all involved components on a **three-phase** or **single-phase** electric system.
When designing them, HT has taken particular care of three aspects: **setting**, the operating or storage environment and data transfer.

- PQA820 and PQA819 **do not need to be set**. They simply need to be connected, started and they respectively record 383 and 44 quantities simultaneously.
- They are provided with a comfortable **IP65** case, which allows working **in any kind of environment**.
- When recording has finished, **thanks to the WI-Fi connection**, the devices are capable of transferring all data onto a **tablet**, **smart phone** or **PC**.

Further to the Wi-Fi connection, PQA devices are provided with USB connection for transferring data via cable to the PC through **the provided TopView software**.
They do not need any batteries since they are **auto power-supplied** from the power they are analyzing.
The **internal battery is automatically recharged** by the input voltage and will provide the necessary energy to **go on recording in case power supply is interrupted**.

To make the most of the technology used by PQA820 and PQA819 we recommend using the **HTanalysis App** (**available for free download** on AppStore and Google Play) on a tablet or smart phone.

Here are some of the functions of HTanalysis:

- Display of measured data on high-definition screen.
- Possibility of "scrolling" through a determined waveform and immediately detecting its critical "moments": it will be sufficient to "touch" a certain spot of the screen in which the measured signal is proposed to immediately obtain all necessary information in order to understand what happened in that spot and in that particular moment!

PQA820 and PQA819 respectively record 383 and 44 quantities which can be **recalled and dragged onto the screen** to be **compared between each other**; for example, if you are displaying the trend of voltages and **you want to check for the possible presence of harmonic distortion**, it will be sufficient to scroll through the list of recorded measures and **drag the one relevant to harmonics to the screen**.
The same can be done for all other quantities: **power, cosphi, current, energy,** etc.
Everything can then be shared on **HT Cloud**, the web database created by HT to **archive** recordings and **share them** quickly with anyone around the world. Through HTCLOUD™ you will be able to **share all measurements with you colleagues** and/or download them from **any PC/Mobile device connected on the web**.

IP65 - Waterproof and resistant to extreme conditions.

Functions

- AC TRMS voltage in single-/three-phase systems
- AC TRMS current in single-/three-phase systems
- Active, Reactive and Apparent Power/Energy
- Cosphi and Power Factor
- Voltage, Current, DC Power
- Neutral current ***(only PQA820)***
- Voltage dips and peaks on 10ms ***(only PQA820)***
- Voltage unbalance (NEG%, ZERO%) ***(only PQA820)***
- Measurements using external CT and VT
- Voltage/current waveforms
- Histograms of voltage/current harmonics and THD%
- Voltage/current vector diagram
- Periodical recording with selectable PI
- Maximum number of simultaneously recorded quantities
  PQA820: 383 ***PQA819:*** 44
- Voltage and current harmonic analysis up to the 49th
- Calculation and recording of voltage/current THD%
- Indication of recording duration

Main features

Power supply:	rechargeable Li-ION battery
External power supply:	100 ÷ 415V, 50/60Hz
Recording duration	> 30 days (@ PI = 10min) ***(PQA820)***
	> 230 days (@ PI =15min) ***(PQA819)***
Recording period:	5, 10, 30s, 1, 2, 5, 10, 15, 60min)
PC interface:	USB 2.0 and Wi-Fi
Safety:	IEC/EN61010-1, double insulation
Mechanical protection:	IP65 (closed case)
Measurement category:	CAT IV 300V, max 415V between inputs
Reference standards:	EN50160
Operating temperature:	0 ÷ 40°C
Operating humidity:	<80%RH
Storage temperature:	-10 ÷ 60°C
Storage humidity:	<80%RH
Size:	235x165x75mm
Weight (battery included):	approx 0.7 kg

Included accessories

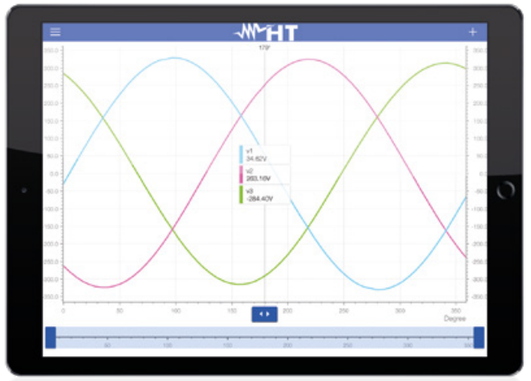
KITMPPACW	Set of 4 measuring cables
KITMPPACC	Set of 4 alligator clips
606-IECN	Adapters with magnetic terminal (4x)
HTFLEX33L	Flex 1000A AC clamp, diameter 174mm (4x)
TOPVIEW2007	PC Windows software + USB cable
BORSA2051	Soft carrying bag for accessories
	Quick user guide
	ISO9000 calibration certificate
	User manual on CD-ROM

Optional accessories

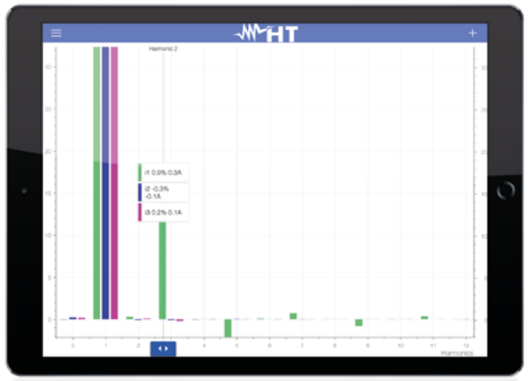
HT96U	AC clamp for leakage current, 1-100-1000A/1V, diameter 54mm
HT97U	Standard 10-100-1000A AC clamp, diameter 54mm
HT98U	DC clamp for leakage current, 1000A/1V, diameter 50mm
HP30C2	Standard AC 200-2000A/1V clamp, diameter 70 mm
HP30D1	Standard DC 1000A/1V clamp, diameter 83 mm
HT903	3x1-5A/1V box for connection to external CT
ACONBIN	Adapter for the connection of standard clamps

GSC60|PQA820|PQA819
WITH HTANALYSIS™

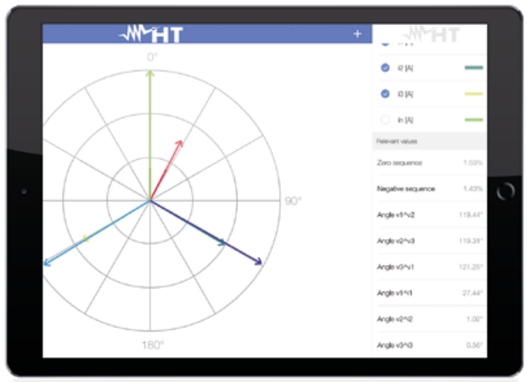
More information on **page 38**



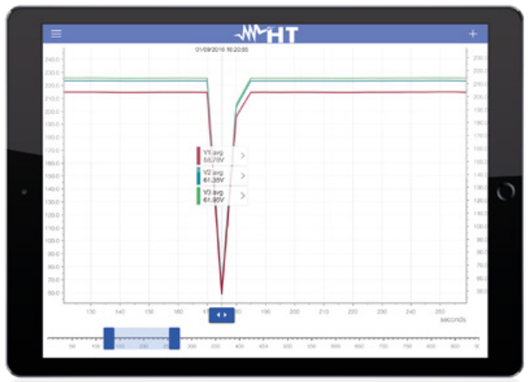
Voltage and current waveforms.



Current and voltage harmonics.



Voltage and current vector diagram.



Zoom on a voltage and current drop.

Jump function
1 Click on the arrow
next to the desired value.

Jump function
2 It switches to harmonic values in real-time.