

ORDER CODE **HV000819**

PQA819

THREE-PHASE AND SINGLE-PHASE POWER QUALITY ANALYZERS

技术咨询和询价：010-68940148



康高特-HT PQA819/PQA820电能质量分析仪 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

康高特-HT PQA819/PQA820电能质量分析仪 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

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.



Included accessories

KITMPACW	Set of 4 measuring cables
KITMPACC	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

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1 - ELECTRICAL SPECIFICATIONS

Accuracy indicated as $\pm$ [%rdg + (no. dgts * resolution)] at 23°C $\pm$ 5°C, <75%HR

DC Voltage

Range [V]	Resolution [V]	Accuracy
10.0 ÷ 265.0	0.1	$\pm(0.7\% \text{ rdg} + 0.4\text{V})$

Voltage values <10.0V are zeroed

AC TRMS Voltage – Phase to Neutral

Range [V]	Frequency [Hz]	Resolution [V]	Accuracy
10.0 ÷ 265.0	42.5 ÷ 65.0	0.1	$\pm(0.5\% \text{ rdg} + 0.2\text{V})$

Max Crest Factor =1.5, Voltage values <10.0V are zeroed

AC TRMS Voltage – Phase to Phase

Range [V]	Frequency [Hz]	Resolution [V]	Accuracy
50.0 ÷ 460	42.5 ÷ 65.0	0.1	$\pm(1.0\% \text{ rdg} + 0.2\text{V})$

Max Crest Factor =1.5, Voltage values <10.0V are zeroed

DC TRMS Current by external clamp transducer – STD clamps

Range [mV]	Resolution [mV]	Accuracy	Overload protection
5.0 ÷ 219.9	1	$\pm(0.7\% \text{ rdg} + 1\text{mV})$	10V
220.0 ÷ 999.9		$\pm 0.7\% \text{ rdg}$	

Current values correspondent to a voltage < 5mV are zeroed

AC TRMS Current by external clamp transducer – STD clamps

Range [mV]	Frequency [Hz]	Resolution [mV]	Accuracy	Overload protection
5.0 ÷ 219.9	42.5 ÷ 65.0	1	$\pm(0.5\% \text{ rdg} + 0.6\text{mV})$	10V
220.0 ÷ 999.9			$\pm 0.5\% \text{ rdg}$	

Current values correspondent to a voltage < 5mV are zeroed

AC TRMS Current by external clamp transducer – Flex (100A AC range – 85uV/A)

Range [mV]	Frequency [Hz]	Resolution	Accuracy	Overload protection
0.085 ÷ 8.50	42.5 ÷ 65.0	8.5μV	$\pm(0.5\% \text{ rdg} + 0.007\text{mV})$	10V

Max Crest Factor =1.5, Current values <1A are zeroed

AC TRMS Current by external clamp transducer – Flex (1000A AC range – 85uV/A)

Range [mV]	Frequency [Hz]	Resolution	Accuracy	Overload protection
0.425 ÷ 85.0	42.5 ÷ 65.0	85μV	$\pm(0.5\% \text{ rdg} + 0.15\text{mV})$	10V

Max Crest Factor =1.5, Current values <5A are zeroed

Frequency

Range [Hz]	Resolution [Hz]	Accuracy
42.5 ÷ 65.0	0.1	$\pm(0.2\% \text{ rdg} + 0.1\text{Hz})$

DC Power – (Vmeas>200V)

Clamp FS [A]	Range [W] [Wh]	Resolution [W] [Wh]	Accuracy
1 < FS ≤ 10	0.000k ÷ 9.999k	0.001k	$\pm(1.0\% \text{ rdg} + 5\text{W})$
	10.00k ÷ 99.99k	0.01k	$\pm(1.0\% \text{ rdg} + 50\text{W})$
10 < FS ≤ 200	0.00k ÷ 99.99k	0.01k	$\pm(1.0\% \text{ rdg} + 50\text{W})$
	100.0k ÷ 999.9k	0.1k	$\pm(1.0\% \text{ rdg} + 500\text{W})$
200 < FS ≤ 1000	0.0k ÷ 999.9k	0.1k	$\pm(1.0\% \text{ rdg} + 0.5\text{kW})$
	1000k ÷ 9999k	1k	$\pm(1.0\% \text{ rdg} + 5\text{kW})$

Vmeas = Voltage in which the power is measured



PQA819

Rel. 1.03 of 26/05/14

Basic power quality recorder

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Power/Energy – (Vmeas>200V, Pf=1)

Clamp FS [A]	Range [W] [Wh]	Resolution [W] [Wh]	Accuracy
1 < FS ≤ 10	0.000k ÷ 9.999k	0.001k	±(0.7%rdg + 3W/Wh)
	10.00k ÷ 99.99k	0.01k	±(0.7%rdg+30W/Wh)
10 < FS ≤ 200	0.00k ÷ 99.99k	0.01k	±(0.7%rdg+30W/Wh)
	100.0k ÷ 999.9k	0.1k	±(0.7%rdg+300W/Wh)
200 < FS ≤ 1000	0.0k ÷ 999.9k	0.1k	±(0.7%rdg+0.3kW/kWh)
	1000k ÷ 9999k	1k	±(0.7%rdg+3kW/kWh)

Vmeas = Voltage in which the power is measured

Power factor (Cosφ)

Range (cosφ)	Resolution	Accuracy (°)
0.20 ÷ 0.50	0.01	0.6
0.50 ÷ 0.80		0.7
0.80 ÷ 1.00		1.0

Voltage/Current harmonics (Real time values available only)

Range	Maximum resolution	Base accuracy
DC ÷ 25 th	0.3V / 0.1% FS clamp	±(5.0% rdg + 2dgt)
26 th ÷ 33 th		±(10% rdg + 2dgt)
34 th ÷ 49 th		±(15% rdg + 2dgt)

Harmonics will be zeroed:

- DC harmonics: DC value <0.5% 1st Harmonic value or if DC value < 0.5% FS clamp
- 1st Harmonic: 1st Harmonic value <0.5% FS clamp
- 2nd ÷ 49th Harmonics: 2nd ÷ 49th values <0.5% 1st Harmonic value or <0.5% FS clamp



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2. GENERAL SPECIFICATIONS

ELECTRICAL SYSTEMS

- Single Phase,
- 3 Phase without Neutral
- 3 Phase with Neutral

CHANNELS RECORDED SIMULTANEOUSLY

- Phase to Neutral and Phase to Phase voltages
- Phase currents
- THD% voltages and currents
- Phase and total active and reactive power
- Phase and total power factor and $\cos\phi$
- Phase and total active and reactive energy
- Number of recorded parameters: 44 (fixed)
- Integration Period: 5, 10, 30s, 1, 2, 5, 10, 15, 60min.
- Recording autonomy: > 230 days with integrated period of 15 minutes
- Memory capacity: 8Mbyte

POWER SUPPLY:

Internal power supply: Rechargeable battery, battery life approx. 1 hour
External power supply: By mean Red/Yellow plugs, 100V ÷ 415V, 50/60Hz
45mA@100V, 30mA@230V, 20mA@415V

COMMUNICATION INTERFACE

PC (Windows), Tablet/Smartphone(iOS, Android): USB (PC only) / WiFi

MECHANICAL FEATURES:

Dimensions (L x W x H): 245 x 210 x 110mm
Weight: 1.5kg

WORKING ENVIRONMENTAL CONDITIONS:

Reference temperature: $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Working temperature: $0^{\circ} \div 40^{\circ}\text{C}$
Allowed relative humidity: <80%HR
Storage temperature: $-10 \div 60^{\circ}\text{C}$
Storage humidity: <80%HR

POWER/ENERGY MEASUREMENTS REFERENCE GUIDELINES:

Features of voltage supplied by public utilities: EN50160 (only voltage and THDV%)

GENERAL REFERENCE GUIDELINES:

Safety of measuring instruments: IEC/EN61010-1
Insulation: double insulation
Pollution degree: 2
Encapsulation: IP65 (case board closed)
Measurement category: CAT IV 300VAC to ground, max 460V between Inputs
Max height of use: 2000m

This instrument complies with the prescriptions of the European directive on low voltage 2006/95/EEC (LVD) and EMC directive 2004/108/EEC