

APQM-707

Power quality analysers



Measurement and recording per IEC 61000-4-30 on a 7-inch touchscreen

APQM-707

Class S power quality analyser

amperis

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A portable power quality analysis centre, self-contained and touchscreen-operated.

Product overview



The APQM-707 analysing a photovoltaic installation

Class S in the hand

The APQM-707 measures, analyses and records the parameters of DC and 50/60 Hz networks per class S of IEC 61000-4-30: voltages on five inputs up to 760 V ($\pm 0.5\% U_{nom}$), currents on four inputs up to 6 kA depending on the clamp, frequency, P, Q, D and S powers, energies, $\cos\phi$, $\tan\phi$ and power factor.

Watching the network live

The largest touchscreen in its class — 7 inches, 800 × 480 pixels — displays oscillograms, time plots, the phasor diagram, harmonics up to the 50th order, THD, P_{ST}/P_{LT} flicker, unbalance and inrush current. Dips, swells and interruptions are recorded with their oscillograms and half-cycle RMS graphs, and the supplied stylus allows work with dielectric gloves.

Main features

- More than 10 years of recording on a removable memory card.
- Li-Ion battery: measurement continues through interruptions.
- Powered from the measured network or the mains adapter.
- Networks from 58/100 V to 400/690 V, direct or via transducers.
- Built-in energy cost calculator.
- Four 3 kA flexible clamps in the standard set.



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Applications and safety

Applications

- Industrial maintenance and on-site diagnosis of disturbances.
- Energy audits and control of energy costs.
- Analysis of photovoltaic installations and their inverters.
- Professional power quality analysis services.

Ready for the harsh environment

The CAT IV 600 V measurement category and the IP51 housing with hinged lid protect the analyser on site. It works in single-phase, split-phase, star with or without neutral, delta and Aron networks, with voltage and current transducers, and its PC analysis software produces EN 50160, IEEE 519 and NEC 220.87 reports.



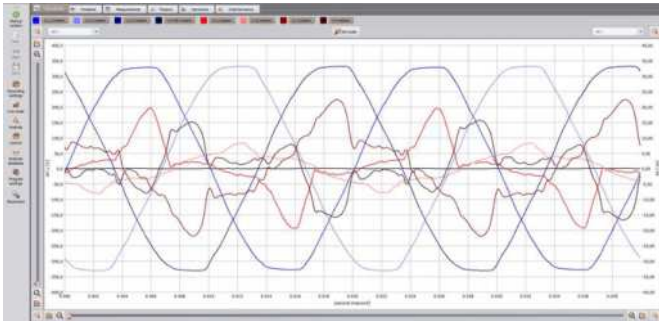
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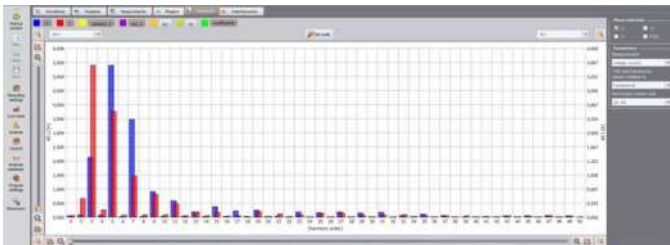
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The PC analysis software, supplied as standard, turns the records into reports.

Software & applications



Voltage and current waveforms of the three phases in the PC analysis software



Harmonic analysis of voltage and current with THD values and phase selection

The analyser and its software

The analysis software configures the APQM-707, reads the data from the memory card over USB and displays the network parameters in real time: oscilloscope, time plots, phasor diagram, multiple measurements, harmonics with their powers and interharmonics.

From recording to report

The data are presented in tables and interactive graphs, and reports are generated per EN 50160, IEEE 519, NEC 220.87 and other references — including photovoltaic micro-installations up to 50 kW, with the breakdown of active power states.

What the software provides

- Configuration of the analyser and card reading.
- Live view of waveforms and harmonics.
- EN 50160, IEEE 519 and NEC 220.87 reports.
- Support for several analysers and updates.



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APQM-707 – MEASUREMENT DATA

Analyser parameters

Parameter	Measuring range	Max. resolution	Accuracy
Alternating voltage (TRMS)	0.0...760.0 V	4 significant digits	$\pm 0.5\% U_{nom}$
Crest factor (voltage)	1.00...10.00 ($\leq 1.65 / 690$ V)	0.01	$\pm 5\%$
Crest factor (current)	1.00...10.00 ($\leq 3.6 / I_{nom}$)	0.01	$\pm 5\%$
Alternating current (TRMS)	depending on clamp*	$0.01\% I_{nom}$	$\pm 0.2\% I_{nom}$
Frequency	40.00...70.00 Hz	0.01 Hz	± 0.05 Hz
P, Q, D, S power	depending on configuration (transducers, clamps)	4 significant digits	depending on configuration (transducers, clamps)
Active/reactive/apparent energy	depending on configuration (transducers, clamps)	4 significant digits	as power error
$\cos\phi$ and power factor (PF)	0.00...1.00	0.01	± 0.03
$\tan\phi$	0.00...10.00	0.01	depends on P and Q error
Voltage harmonics	DC, 1...50	as voltage TRMS	$\pm 0.15\% U_{nom}$ ($< 3\% U_{nom}$); $\pm 5\%$ m.v. ($\geq 3\%$)
Current harmonics	DC, 1...50	as current TRMS	$\pm 0.5\% I_{nom}$ ($< 10\% I_{nom}$); $\pm 5\%$ m.v. ($\geq 10\%$)
THD (U and I)	0.0...100.0%	0.1%	$\pm 5\%$
Flicker P_{ST}/P_{LT}	0.40...10.00	0.01	$\pm 10\%$
Unbalance (U and I)	0.0...10.0%	0.1%	$\pm 0.15\%$
Inrush current	depending on clamp*	$0.01\% I_{nom}$	$\pm 4\%$ m.v. / $\pm 4\% I_{nom}$ (RMS1/2)

All parameters recorded in class S per IEC 61000-4-30.

* Depending on the clamp: F-xA1 0...1500 A, F-xA 0...3000 A, F-xA6 0...6000 A; C-4A/C-5A 0...1000 A (C-5A also 1400 A DC); C-6A 0...12 A; C-7A 0...100 A.

"m.v." = measured value



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APQM-707 – TECHNICAL SPECIFICATIONS

Measurement class	Class S per IEC 61000-4-30
Voltage inputs	5 (L1, L2, L3, N, PE); up to 760 V
Current inputs	4; up to 6 kA depending on the clamp
Rated networks	58/100...400/690 V; DC; 40...70 Hz; single-, split-, three-phase and Aron
Recording	Removable memory card; over 10 years of recording
Display	7" colour touchscreen, 800 × 480 px; stylus
Power supply	Li-Ion 11.1 V 3.4 Ah battery; measured network; Z-7 adapter
Data transmission	USB
Software	PC analysis software (EN 50160, IEEE 519, NEC 220.87 reports)
Measurement category	CAT IV 600 V
Ingress protection	IP51
Quality standard	ISO 9001



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