

APQM-700

Power quality analysers



Recording and diagnostics in all conditions, up to 1100 parameters

APQM-700

Class S power quality analyser

amperis

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Class S logging to IEC 61000-4-30 with IP65 protection, internal heater and 6-hour battery.

Product overview



The APQM-700 power quality analyser

Recording and diagnostics in all conditions

The APQM-700 records up to 1100 network parameters — average, minimum, maximum and instantaneous values — in accordance with class S of IEC 61000-4-30. Its four voltage inputs measure L1, L2, L3 and N up to 760 V and work with voltage transformers, while four current inputs reach 6 kA depending on the clamp, with physical measurement of the neutral current.

Built for harsh environments

The IP65 housing allows operation in rain, snow and high humidity, the built-in heater keeps measurements stable down to -20 °C, and the internal battery maintains the recording for at least 6 hours during power failures. Data goes to a removable 2 GB microSD card, expandable to 32 GB, downloaded over USB or an external reader and analysed in the Amperis Analysis software with EN 50160 reports.

Main features

- Up to 1100 recorded parameters in class S of IEC 61000-4-30.
- Four voltage inputs up to 760 V and four current inputs up to 6 kA.
- Powers by Budeanu and IEEE 1459; harmonics to the 40th; THD; flicker.
- Event detection with waveforms and half-period RMS graphs.
- IP65, internal heater down to -20 °C and 6-hour battery.
- Removable microSD card of 2 GB, expandable to 32 GB.



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Applications and design

Applications

- Load parameter recording in industry and maintenance services.
- Four-quadrant power analysis in wind and solar farms.
- Supply quality audits in accordance with EN 50160.
- Diagnostics of disturbances in substations and LV switchboards.

Compact and autonomous design

The analyser measures $200 \times 180 \times 77$ mm and weighs about 1.6 kg, with a CAT IV 300 V measuring category and an internal power adapter of 100...415 V AC or 140...415 V DC, so it can be installed directly at the measuring point, including networks of 64/110 V to 400/690 V and DC systems.



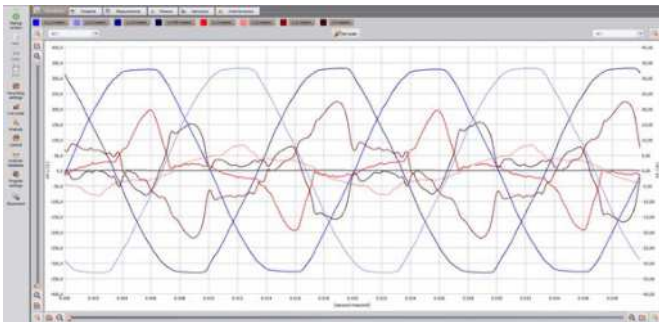
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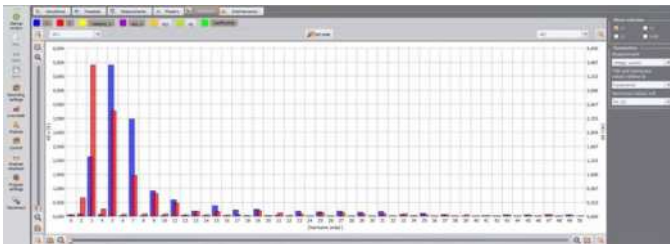
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Every recording of the analyser is configured, read and turned into reports in the analysis software included.

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

One program for the whole cycle

The Amperis Analysis software, included with the APQM-700, configures the analyser, starts and stops the recording and downloads the data stored on the microSD card through the USB port or an external card reader, on any Windows computer.

From raw data to the EN 50160 report

The live mode shows waveforms, time plots, phasor diagrams and harmonics while the analyser measures. The recorded data opens as interactive graphs and tables — voltage and current trends, harmonic analysis with THD, and dips, swells and interruptions with their waveforms — and the built-in report checks the supply against the EN 50160 limits, with export of data and charts to popular formats.

What the software provides

- Configuration, live preview and download in one program.
- Interactive graphs, tables and event lists.
- EN 50160 compliance reports of the measured supply.
- Export of data and charts to popular formats.



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APQM-700 – TECHNICAL SPECIFICATIONS

Measurement class	Class S per IEC 61000-4-30; EN 50160 reports
Voltage inputs	4 (L1, L2, L3, N); up to 760 V; $\pm 0.5\%$ Unom
Current inputs	4; up to 6 kA depending on clamp; neutral measured
Frequency	40.00...70.00 Hz; accuracy ± 0.05 Hz
Recording	Up to 1100 parameters: avg, min, max, instantaneous
Power and energy	P, Q, D, S; Budeanu and IEEE 1459; EP, EQ, ES
Harmonics	Up to the 40th in voltage and current; THD
Flicker and unbalance	PST and PLT; voltage and current unbalance
Events	Detection with waveforms and half-period RMS
Memory	Removable microSD 2 GB; expandable to 32 GB
Communication	USB or external reader; Amperis Analysis
Power supply	100...415 V AC / 140...415 V DC; battery min. 6 h
Environment	IP65; internal heater; -20...+55 °C
Measuring category	CAT IV 300 V / CAT III 600 V
Dimensions and weight	200 × 180 × 77 mm; approx. 1.6 kg



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APQM-700 – MEASUREMENT DATA

Measured parameters – EN 61000-4-30 class S

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 (up to 1.65 at 690 V)	0.01	$\pm 5\%$
Crest factor – current	1.00...10.00 (up to 3.6 for I_{nom})	0.01	$\pm 5\%$
Alternating current (TRMS)	depending on the clamp*	4 significant digits	$\pm 0.2\% I_{nom}$
Frequency	40.00...70.00 Hz	0.01 Hz	± 0.05 Hz
Active, reactive, apparent and distortion power	depending on the configuration (transducers, clamps)	4 significant digits	depending on the configuration (transducers, clamps)
Active, reactive and apparent energy	depending on the configuration (transducers, clamps)	4 significant digits	as the 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 the P and Q errors
Voltage harmonics	DC, orders 1...50	as for voltage (TRMS)	$\pm 0.15\% U_{nom}$ (m.v. < 3% U_{nom}); $\pm 5\%$ m.v. (m.v. $\geq 3\% U_{nom}$)
Current harmonics	DC, orders 1...50	as for current (TRMS)	$\pm 0.5\% I_{nom}$ (m.v. < 10% I_{nom}); $\pm 5\%$ m.v. (m.v. $\geq 10\% I_{nom}$)
THD of voltage and current	0.0...100.0% (relative to RMS)	0.1%	$\pm 5\%$
Flicker P_{ST} , P_{LT}	0.40...10.00	0.01	$\pm 10\%$
Unbalance factor (U and I)	0.0...10.0%	0.1%	$\pm 0.3\%$ (absolute error)

* F-1A1/F-2A1/F-3A1 clamps: 0...1500 A AC; F-1A/F-2A/F-3A: 0...3000 A AC; F-1A6/F-2A6/F-3A6: 0...6000 A AC; F-2AHD/F-3AHD: 0...3000 A AC; C-4A: 0...1000 A AC; C-5A: 0...1000 A AC / 0...1400 A DC; C-6A: 0...12 A AC; C-7A: 0...100 A AC. The current accuracy does not include the clamp error.

All parameters are recorded in compliance with class S acc. to EN 61000-4-30; data analysis and reports acc. to EN 50160.

"m.v." – measured value.



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