Accessible version (HTML): amperis.com/en/accesible/catalogo-amperis-apqm-707-en/

# 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 (±0.5% $U_{nom}$), currents on four inputs up to 6 kA depending on the clamp, frequency, P, Q, D and S powers, energies, cosφ, tanφ 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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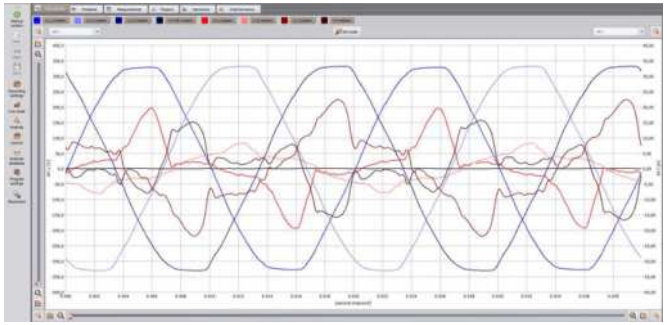
The PC analysis software, supplied as standard, turns the records into reports.

# 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 | ±0.5% $U_{nom}$ |
| Crest factor (voltage) | 1.00…10.00 (≤1.65 / 690 V) | 0.01 | ±5% |
| Crest factor (current) | 1.00…10.00 (≤3.6 / $I_{nom}$) | 0.01 | ±5% |
| Alternating current (TRMS) | depending on clamp* | 0.01% $I_{nom}$ | ±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 |
| cosφ and power factor (PF) | 0.00…1.00 | 0.01 | ±0.03 |
| tanφ | 0.00…10.00 | 0.01 | depends on P and Q error |
| Voltage harmonics | DC, 1…50 | as voltage TRMS | ±0.15% $U_{nom}$ (<3% $U_{nom}$); ±5% m.v. (≥3%) |
| Current harmonics | DC, 1…50 | as current TRMS | ±0.5% $I_{nom}$ (<10% $I_{nom}$); ±5% m.v. (≥10%) |
| THD (U and I) | 0.0…100.0% | 0.1% | ±5% |
| Flicker $P_{ST}/P_{LT}$ | 0.40…10.00 | 0.01 | ±10% |
| Unbalance (U and I) | 0.0…10.0% | 0.1% | ±0.15% |
| Inrush current | depending on clamp* | 0.01% $I_{nom}$ | ±4% m.v. / ±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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