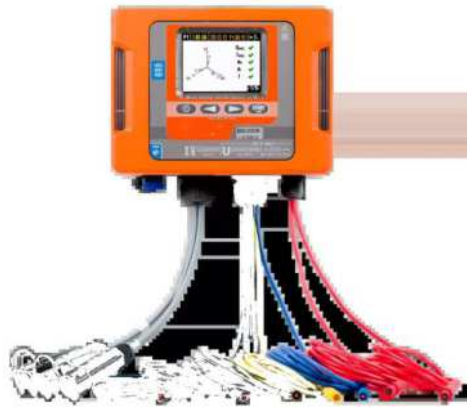


APQM-711

Power quality analysers



± 8000 V transients at 10 MHz and remote operation over Wi-Fi or 4G

APQM-711

Class A power quality analyser

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Class A analysis for every network from 110 to 1000 V, operated entirely from a distance.

Product overview



The APQM-711 operated from a tablet next to the machine

Class A, with evidential value

The APQM-711 measures per class A of IEC 61000-4-30: voltage to $\pm 0.1\% U_{nom}$, frequency to ± 0.01 Hz, flicker in class A per IEC 61000-4-15 and unbalance to $\pm 0.15\%$. Five voltage inputs and four current inputs — up to 6 kA depending on the clamp — cover networks from 64/110 V to 480/830 V, in DC and from 40 to 70 Hz.

Transients and harmonics under the microscope

The transient recorder samples at 10 MHz and captures ± 8000 V phenomena from 650 ns. Harmonics and interharmonics up to the 50th order, THD, the K factor of transformers, control signals up to 3000 Hz and powers after Budeanu and IEEE 1459 complete the analysis, with event waveforms up to 1 s and 30 s half-cycle RMS graphs.

Main features

- Built-in GSM 4G LTE modem for remote reading.
- Wi-Fi module for local operation without cables.
- GPS receiver: synchronised clock and anti-theft SMS alert.
- Four-quadrant analysis for producers and consumers.
- Voltage and current events with oscillograms.
- EN 50160, IEEE 519 and NEC 220.87 reports.



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Applications and operation

Applications

- Certifiable analyses and disputes with the distributor.
- Unattended measurement campaigns at substations and networks.
- Photovoltaic and wind farms in four quadrants.
- Investigation of switching and lightning transients.

Operated from anywhere

With no display of its own, the APQM-711 is commanded from the PC analysis software (Windows) or the mobile application (Android): configuration, real-time viewing of waveforms, phasors and harmonics, and download of the records over Wi-Fi or the mobile network — the user supervises the measurement far from the disturbance zones.



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The analysis software operates the instrument locally over Wi-Fi or remotely over the mobile network.

Software & applications



Time plots of the recorded voltages and currents with zoom over any interval

The screenshot shows a software window with a light-colored background. It displays a table of events, including dips, swells, and interruptions. Each event is linked to its waveform, which is shown as a small icon next to the event name. The table has columns for event type, name, start time, end time, and duration. The interface includes various toolbars and a legend on the left side.

Event list with dips, swells and interruptions, each linked to its waveform

Operated from the office

The PC analysis software configures the APQM-711, follows the measurement in real time and downloads the records over Wi-Fi or the integrated GSM 4G LTE modem; the Android mobile application does the same from a tablet next to the machine.

The event and its waveform

Time plots, harmonics and interharmonics up to the 50th order, flicker and unbalance are examined in interactive graphs; dips, swells, interruptions and ± 8000 V transients appear in an event list, each linked to its oscillogram, and the EN 50160 report documents compliance.

What the software provides

- Remote reading over Wi-Fi or the 4G LTE modem.
- Mobile application for monitoring on Android.
- Event list with the waveform of each disturbance.
- EN 50160, IEEE 519 and NEC 220.87 reports.

APQM-711 – MEASUREMENT DATA

Analyser parameters

Parameter	Measuring range	Max. resolution	Accuracy
Alternating voltage (TRMS)	0.0...1000.0 V (U_{L-N})	4 significant digits	$\pm 0.1\% U_{nom}$
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*	4 significant digits	$\pm 0.1\% I_{nom}$
Frequency	40.00...70.00 Hz	0.01 Hz	± 0.01 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 ϕ and power factor (PF)	-1.00...1.00	0.01	± 0.03
tan ϕ	-10.00...10.00	0.01	depends on P and Q error
Voltage harmonics	DC, 1...50	as voltage TRMS	$\pm 0.05\% U_{nom}$ ($< 1\% U_{nom}$); $\pm 5\%$ m.v. ($\geq 1\%$)
Current harmonics	DC, 1...50	as current TRMS	$\pm 0.15\% I_{nom}$ ($< 3\% I_{nom}$); $\pm 5\%$ m.v. ($\geq 3\%$)
THD (U and I)	0.0...100.0%	0.1%	$\pm 5\%$
K factor	1.0...50.0	0.1	$\pm 10\%$
Flicker P_{ST}/P_{LT}	0.20...10.00	0.01	$\pm 5\%$
Unbalance (U and I)	0.0...20.0%	0.1%	$\pm 0.15\%$
Control signals (voltage)	$\leq 15\% U_{nom}$; 5.00...3000.00 Hz	4 significant digits	$\pm 0.15\% \pm 5\%$
Transients (voltage)	± 8000 V	4 significant digits	$\pm (5\% + 25$ V)

Measurements in class A per IEC 61000-4-30; flicker in class A per IEC 61000-4-15. Transients: PQM-711 only, 10 MHz sampling, minimum 650 ns.

* 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-711 – TECHNICAL SPECIFICATIONS

Measurement class	Class A per IEC 61000-4-30
Voltage inputs	5; networks from 110 to 1000 V
Current inputs	4; up to 6 kA depending on the clamp
Rated networks	64/110...480/830 V; DC; 40...70 Hz; WYE, Delta and Aron systems
Recording	Events with waveforms up to 1 s and RMS1/2 graphs of 30 s
Communications	GSM 4G LTE modem, Wi-Fi, GPS (anti-theft SMS alert)
Operation	PC software (Windows) and mobile app (Android)
Software	Analysis software with EN 50160, IEEE 519 and NEC 220.87 reports
Quality standard	ISO 9001



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