

PXe-PA900

Precision Multi-Channel Harmonic Power Analyser

Modular power, harmonic and waveform analysis for demanding conversion, efficiency and compliance measurements.

The PXe-PA900 combines up to four power measurement channels with harmonic, waveform and efficiency analysis in one instrument. Standard, High Accuracy and Wideband channel cards can be mixed with direct-current or external transducer inputs to suit general testing, precision efficiency work and high-frequency switching applications.



7-inch touchscreen operation

Up to 4

measurement channels

0.1%

standard accuracy class

100

harmonics per channel as standard

1 MHz

bandwidth, 5 MHz option

Designed for real measurements, not ideal waveforms

Maintains useful accuracy on low power factor, high crest factor and PWM-derived signals.

Key capabilities

- Up to four Standard, High Accuracy or Wideband measurement channels.
- Up to 100 full-precision readings per second with continuous signal coverage.
- Crest factor capability up to 30:1 for difficult non-linear loads.
- Three Virtual Power Analysers for multi-stage efficiency tests.
- Power, harmonic, scope, cycle, vector and history views from the front panel.
- Built-in logging, inrush maximum hold and automated test connectivity.

Typical applications

- Static frequency converter and AC power source testing.
- 400 Hz avionics and ground power equipment verification.
- Inverter, converter and motor drive efficiency measurement.
- Harmonic emissions and compliance testing.
- Standby power, lighting and product energy assessment.
- Power electronics development, production test and FAT systems.

Efficiency testing

Group input, intermediate and output channels in one mainframe.

Harmonic compliance

Analyse up to 500 harmonics and apply imported limit profiles.

Waveform capture

Inspect switching waveforms, inrush events and phase relationships.

Measurement and analysis functions

Core results are available directly from the front panel. The same data can be logged or transferred for automated analysis and reporting.

Power and efficiency measurement

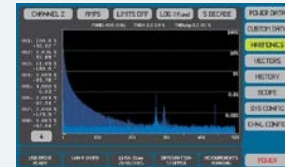
Measures voltage, current, watts, VA, VAR, power factor, phase, crest factor and integrated energy. Results can be shown for an individual channel or Virtual Power Analyser. Up to three VPAs support input, intermediate and output efficiency measurements.



Power data

Harmonic analysis

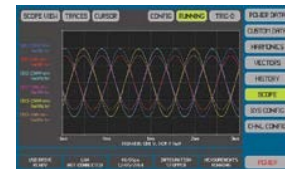
Analyses up to 100 harmonics per channel as standard, or 500 with the H500 option. Harmonic amplitude, phase and THD can be shown numerically or as a bar chart. Imported limits identify out-of-tolerance results directly on the display.



Harmonic analysis

Waveforms and transient events

Scope View captures voltage and current waveforms with selectable timebase, trigger, scale and offset. Cycle View provides detailed single-cycle inspection. Maximum hold supports inrush and other transient measurements.



Scope view

Vector display and phase relationships

The vector display shows voltage and current phase relationships across the selected channels. It is useful for confirming phase sequence, phase angle, load balance and multi-phase system behaviour.



Vector display

History and data logging

The instrument maintains a continuous internal history of non-harmonic results and selected harmonics, automatically extending up to 397 days. Up to 16 selected measurements can be logged to a USB drive at intervals from 10 ms to 100 hours.

Front-panel views

View	What it shows
Power Data	V, A, W, VA, VAR, PF and related measurements
Harmonics	Amplitude, phase, THD and user-defined limits
Scope / Cycle	Waveform capture and single-cycle detail
Vectors	Voltage and current phase relationships
History	Long-term measurement trends and stored results

Built-in compliance support

- EN 60034-2-1 motor efficiency
- EN 50564 standby power
- EN 61000-3-2, EN 61000-3-12 and EN 61000-4-7
- RTCA DO-160E/F/G avionics power
- Boeing 787B3-0147 and Airbus ABD0100.1.8 / 1.8.1

Connectivity and automated test

Ethernet, RS232, USB client and front-panel USB host are standard. Configurations, screenshots, measurement data and harmonic limits can be imported or exported without opening the instrument.

Configuration and key specifications

Select the channel accuracy, bandwidth and current input required for the application. Mixed configurations are available where one test needs more than one measurement class.

1. Measurement channels and accuracy		2. Voltage, current and sampling	
Channel count	1 to 4, mixed configurations available	Voltage input, S/A	0 to +/-1000 VDC; 0.1 to 1000 Vrms AC
S Standard	0.1% of reading; 1 MHz bandwidth	Voltage input, W	0 to +/-700 VDC; 0.1 to 700 Vrms AC
A High Accuracy	0.03% of reading; 1 MHz bandwidth	D Dual Shunt	Automatic ranges; direct input up to 20 Arms
W Wideband	0.1% of reading; 5 MHz bandwidth	H High Current	Single direct-current range up to 30 Arms
Virtual analysers	Up to 3 synchronous or asynchronous VPAs	X External Input	Low and high voltage inputs for transducers
Typical use	General power, precision efficiency and PWM measurement	Sampling / resolution	245 kS/s nominal; 900 kS/s W; 22-bit S/W, 24-bit A Effective sampling rate: 384 MSPS
3. Harmonic, waveform and logging		4. Display, interfaces and mechanical	
Harmonics	100 standard; 500 with H500 option	Display	7-inch, 800 x 480 colour touchscreen
Crest factor	Up to 30:1	Interfaces	Ethernet, RS232, USB client and USB host
Power results	V, A, W, VA, VAR, PF, phase and integrated energy	Safety	CAT I/II 1000 V; CAT III 600 V; CAT IV 300 V
Waveform views	Scope View, Cycle View and Vector display	Dimensions	133 x 240 x 280 mm
Transient capture	Maximum hold for inrush and short-duration events	Mass	Approx. 3.2 kg
Data logging	Up to 16 measurements; 10 ms to 100 hour intervals	Warranty / calibration	2 years; ISO 17025 accredited calibration option

Common model families

Model family	Channels	Accuracy class	Typical configuration
PXe-PA901 to PA904-SD	1 to 4	0.1%	Standard channels with Dual Shunt input
PXe-PA901 to PA904-AD	1 to 4	0.03%	High Accuracy channels with Dual Shunt input
PXe-PA911 to PA914-VT	1 to 4	0.045%	Voltage transducer configuration
PXe-PA921 to PA924-UT	1 to 4	0.024%	High-precision transducer configuration

Available options

H500 500-harmonic analysis; EN 61000 computations; LPA-1 load power adaptor; HC-7 case; RM-7 rack kit; motor torque and speed input.

Calibration and traceability

ISO 17025 accredited calibration with data is available. Detailed accuracy adders and uncertainty calculations are provided in the full technical specification.

Configuration and support

Channel mix, current inputs and accessories are confirmed for the application. PX can assist with test planning, FAT integration and automated measurement requirements.

Rear-panel configuration



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