PX ELECTRONICS

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DATASHEET

PXE SERIES POWER PRODUCTS

High Accuracy, High Precision Power Analysers

PXe-920/PXe910 Power

PXe-920/PXe-910 Power

PX Electronics' Most Powerful, Accurate & Flexible Electrical Power Analyser, Providing Ultra-High Accuracy (0.024%), Faster Sampling Rates, Bandwidth Performance and Greater Harmonic Frequencies, Yet Still Easy-To-Use and Affordable.

Industry's Easiest-To-Use Power Analyser - PX Electronics' PXe-920/PXe-910 Series power analyzers are the industry's easiest-to-use power analyser. Equipped with a full color touchscreen, the PXe-9xx enables users to quickly and easily setup configurations, custom screens and interface commands.

Maximize Flexibility - The PXe-920 power analyzer offers expanded power analysis capabilities. The PXe-920 offers 0.024% base power accuracy for the UT channel cards. PX Electronics channel cards are user friendly, store their calibration data and can be quickly swapped in the field to meet your latest testing requirements. In addition, the PXe-920/PXe-910 provides easy channel selection for the user while offering 100 full precision readings per second and measurement bandwidths sufficient to handle 5 MHz signals.

Maximum Results - For tackling tough power factor, low phase angle and high crest factor loads, the PXe-9xx power analyzers are unbeatable. Offering full performance for crest factors as high as 100:1, the PXe-9xx series provides superior power measurement capabilities for the toughest power measurement applications. The PXe-920 also offers improved voltage and current self-heating adders over those of the PXe-9xx series.

Maximum Performance in a Variety of Applications - Design engineers are under constant pressure to increase efficiency and reduce excess product power consumption down to the last mW. Challenging programs like LED and HID lighting, solar panel energy output, efficiency testing on inverters and PWM motor drive systems on electric vehicles—all require fast, precise, reliable power measurement. The unequaled performance of the PX Electronics PXe-920 gives you the competitive advantage—the ability to accurately capture the power data you need in a flexible, accurate, easy-to-use power analyzer.

Modular Design = Maximum Flexibility - The PXe-920 Series Power Analyzers are available in both pre-configured models or can be purchased in a custom configuration to provide the performance you need at a price that meets your budget

Quality and Reliability

PX Electronics, is the premier source of precision power testing and measuring equipment for industrial and consumer product development and manufacturing. PX Electronics' sophisticated technology provides companies the edge in design verification and product manufacturability.

PXe-920 Channel Cards for use with PXe-920 Mainframe (0.024% Accuracy UT Card)

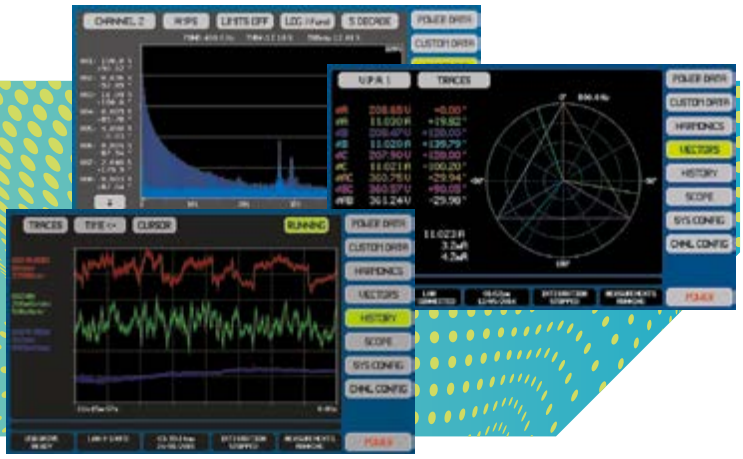
UT Channel Card - Ultra-Precision Dual Shunt (1, 32A) Channel Card
UX Channel Card - Ultra-Precision External Current Transducer Input Channel Card
BT Channel Card - High Bandwidth Dual Shunt (1, 32A) Channel Card
BX Channel Card - High Bandwidth External Current Transducer Channel Card
KT Channel Card - Kilovolt (1.6kVrms Continuous) Dual Shunt (1, 32A) Channel Card
KX Channel Card - Kilovolt (1.6kVrms Continuous) External Current Transducer Input
Channel Card MT Channel Card - Motor Transducer Channel Card (Slot 4 only)

PXe-910 Channel Cards for use with PXe-910 Mainframe (0.045% Accuracy)

VT Channel Card - High-Precision Dual Shunt (1, 30A) Channel Card
VX Channel Card - High-Precision External Current Transducer Input Channel Card
MT Channel Card - Motor Transducer Channel Card (Slot 4only)

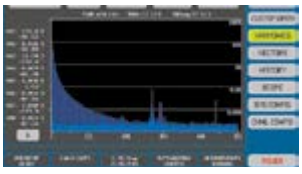
PXe-920/PXe-910 Power

High Accuracy, High Precision Power Analysers



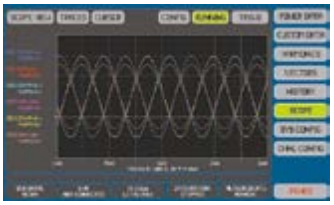
CONDENSED FEATURES & BENEFITS

- Easy-to-use color touchscreen for quicksetup, mesaurement configu-ration,channel selection and use.
- High Accuracy and frequency range0.024% Power Accuracy, PA920 with UTcard.
- Supports a variety of compliance andenvironmental performance standards including:
- EN60034-2-1:2014 (motor drives)
- EN50564:2011 (standby power)
  EN61000-3-2 and 3-12 and 4-7 (harmonics emissions)
- RTCA DO-160/E/F/G (avionics)
- Boeing 787B3-0147
- Airbus ABD0100.1.8 (A380) and
- ABD0100.1.8.1 (A350)
- Harmonics Screen displays up to 500harmonics, even at aviation powerfrequencies. The chart can be set toshow linear, relative linear, logarithmicor relative logarithmic amplitudes.

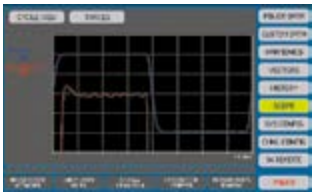


- Power Data Screen is available withone touch to display V, A, W, VA, VARand PF for any selected channel orgroup of channels. In ad-dition, peakreadings, phase, CF and otherparameters are also available.

- Scope Screen offers waveform acquisition and analysis similar to adigital scope. Up to six signals can bedisplayed each having user selectablescaling, offset and color.



- Cycle View represents a single cycle ofthe voltage and/or current periodic waveforms. User selectable amplitudeand scaling provides almost unlimiteddetail and visibility.



- History Screen (bottom screen shown above) is amaintained continuous historical record of all non-harmonic measurement re-sults and selectedharmonics. Up to four user selectable parameterscan be graphically displayed using the historyscreen.
- Additional Screens are available, visit www.pxelectronics.com to view additional specificationsand display screens.

For complete specifications visit **www.pxelectronic.com**

PXe-920 ORDERING INFORMATION

PART #	DESCRIPTION
PXe-920	Ultra-Precision Power Analyzer Mainframe 4-channel capacity 0.024% Accuracy (UT Card)
UT	UT Channel Card - Dual Shunt (1, 30A)
UX	UX Channel Card - External Current Transducer Input Channel Card
BT	BT Channel Card - High Bandwidth Dual Shunt (1, 30A)
BX	BX Channel Card - High Bandwidth External Current Transducer Input Channel Card
KT	KT Channel Card - Kilovolt (1.6kVrms Continuous) Dual Shunt (1, 30A)
KX	KX Channel Card - Kilovolt (1.6Vrms Continuous) External Current Transformer Input Channel Card
MT	Motor Transducer Channel Card (Slot 4 only)

* For pre-configured models visit us online at www.pxelectronics.com

PXe-910 ORDERING INFORMATION

PART #	DESCRIPTION
PXe-910	Ultra-Precision Power Analyzer Mainframe 4-channel capacity 0.045% Accuracy
VT	VT Channel Card - Dual Shunt (1, 30A)
VX	VX Channel Card - External Current Transducer Input Channel Card
MT	MT Channel Card - Motor Transducer Channel Card (slot 4 only)

Accuracy specifications are valid for a period of two years after calibration in normal use. Consult operating manual for full specifications.

Voltage Input Capability and Characteristics

Specification		V Channel Type	K Channel Type	B Channel Type	U Channel Type
Voltage Input Burden		1.201MΩ ± 3kΩ	2MΩ ± 5kΩ	801.5kΩ ± 2kΩ	1.201MΩ ± 3kΩ
Maximum Measurable Voltage (pk, dc or rms)		2kV	3.3kV	1350V	2kV
Max. Specified Continuous Voltage (within maximum measurable peak)	PXe-910	$1000V_{RMS}$	Not Available	Not Available	Not Available
	PXe-920	Not Available	$1625V_{RMS}$	$800V_{RMS}$	$1250V_{RMS}$
No Damage Voltage	<1ms	<3kV$_{RMS}$ and V_{PK}	<4kV$_{RMS}$ and V_{PK}	<3kV$_{RMS}$ and V_{PK}	<3kV$_{RMS}$ and V_{PK}
	<100ms	<2kV$_{RMS}$	<2.5kV$_{RMS}$	<2kV$_{RMS}$	<2kV$_{RMS}$
	<5s	<1.5kV$_{RMS}$	<2kV$_{RMS}$	<1.5kV$_{RMS}$	<1.5kV$_{RMS}$
Mains Safety Rating		1000V/CAT II, 600V/CAT III, 300V/CAT IV		600V/CAT II or III 300V/CAT IV	1000V/CAT II, 600V/CAT III, 300V/CAT IV
Transient Isolation Voltage (to ground)		>4.5kVpk			
Voltage Accuracy (DC, 20Hz-1kHz) ± Self-Heating Adder	PXe-910	±0.03%±0.02% per kV^2	Not Available	Not Available	Not Available
	PXe-920	Not Available	±0.03%±0.006% per kV^2	±0.03%±0.015% per kV^2	±0.015%±0.0075% per kV^2
DC Voltage Floor		±0.9mV	±1.35mV	±1.8mV	±0.9mV
AC Voltage Floor (10kHz BW)		$450\mu V + \frac{100\mu V}{Vrdg}$	$750\mu V + \frac{200\mu V}{Vrdg}$	$300\mu V + \frac{75\mu V}{Vrdg}$	$450\mu V + \frac{100\mu V}{Vrdg}$
3dB Voltage Bandwidth (typical)		2MHz	850kHz	4.5MHz	2MHz
Maximum Harmonic Frequency		<590kHz and <500 harmonics			
Effective Sampling		24bits @ 384MSPS			
Physical Sampling		6bits+18bits @ >1.2MSPS combined			

Current Input Capability and Characteristics

Specification		T Current Option		X Current Option	
		HI Range	LO Range	HI Range	LO Range
Current Input Burden		8mΩ nominal	505mΩ nominal	153kΩ ± 0.5kΩ	100.5kΩ ± 0.3kΩ
Maximum Measurable Current (pk, dc or rms)		150A	1.5A	15V	0.6V
Specified Continuous Current (within measurable peak)	PXe-910	$30A_{RMS}$	$1.25A_{RMS}$	$12V_{RMS}$	$0.5V_{RMS}$
	PXe-920	$32A_{RMS}$			
No Damage Current	<8ms	<200A$_{RMS}$ and <300A$_{PK}$	<150A$_{RMS}$ and <200A$_{PK}$	<1kV$_{RMS}$ and V_{PK} (fuse protected above 18V)	
	<40ms	<75A$_{RMS}$	<40A$_{RMS}$		
	<1s	<50A$_{RMS}$	<5A$_{RMS}$		
Mains Safety Rating (Isolation)		1000V/CAT II, 600V/CAT III, 300V/CAT IV			
Transient Isolation Voltage (to ground)		>4.5kVpk			
Current Accuracy (DC, 20Hz-1kHz) ± Self-Heating Adder	UT or UX	±0.018%±0.000025% per A^2	±0.018%		
	Other	±0.03%±0.00005% per A^2	±0.03%		
DC Current Floor	BT or BX	±438µA	±3.25µA	±126µV	±6.15µV
	Other	±188µA	±1.25µA	±46µV	±5.15µV
AC Current Floor (10kHz BW)		$38\mu A + \frac{1.5\mu A}{Ardg}$	$0.25\mu A + \frac{0.1nA}{Ardg}$	$6\mu V + \frac{35nV}{Vrdg}$	$0.15\mu V + \frac{0.02nV}{Vrdg}$
3dB Current Bandwidth (typical)	BT or BX	5MHz		2.5MHz	
	Other	2MHz			
Maximum Harmonic Frequency		<590kHz and <500 harmonics			
Effective Sampling		24bits @ 384MSPS			
Physical Sampling		6bits+18bits @ >1.2MSPS combined			

Power (W) Input Capability and Characteristics

Specification		V Channel Type	K Channel Type	B Channel Type	U Channel Type
Power Accuracy (DC, 20Hz-1kHz)	PXe-910	±0.045%	Not Available	Not Available	Not Available
	PXe-920	Not Available	±0.045%	±0.045%	±0.024%
Power Floor Adder		±0.000025% * ((maximum measurable V*Ardg) + (maximum measurable A*Vrdg)).			
Self-Heating Adder		± (V and A self-heating)			
DC Power Floor (Apply to DC Only)		(Vrdg*DC current floor) ± (Ardg*DC voltage floor) ± (DC voltage floor*DC current floor)			
Phase Floor		±0.005° per kHz		±0.003° per kHz	±0.005° per kHz

Note: Specifications subject to change.

Dimensional:

Nominal Dimensions 137mmH x 248mmW x 284mmD (5.4" x 9.75" x 11.2") with feet not extended
Nominal Weight 3.2kg (7lb) net, 5kg (11lb) shipping

Environmental

Storage Environmental -20to75C(-4to167F)(non-condensing)
Operating Environment 0 to 40C (32 to 104F), <85% RH (non-condensing), Pollution
Operating Altitude Degree 2 0 to 2000m (6560ft) ASL

Power Supply

Line Power Installation Category II; 85-264Vrms, 45 to 65Hz, 40VA max. Internally fused with a non-user serviceable fuse
Interfaces LAN (Ethernet), Serial (RS232), USB (Client) and USB (Host – Front Panel) for mass data storage
Display 7" 800x480px 18bpp color LCD with resistive touch panel.

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