XiTRON TECHNOLOGIES

- 18-bit, 500 kHz sampling speed provides 0.05% basic accuracy
- Ultrafast FFT's per channel produce measurements in 10ms
- 3000 V Peak, 50 Amp Peak measurable with internal shunt and optional internal Hall effect CTs*
- Pre-configured for ballast, motor, power supply and appliance tests
- Real-time, ultra-fast, harmonic analysis
- Application specific configurations
- External CT and PT capability ratio: 0.000001-1000000 to 1, for A/V, A/A or V/V
- Frequency Measurement: 500 µHz to 170kHz, 0.01% of reading
- Measurement Period: User defined from 1 mSec to 27.8 hours
- Watt, VA & VAR accuracy highest of V* Amp error or Amp* V error yields max. error for either Watts, VA, or VAR
- Accumulation accuracy WHr, VAHr, AHr up to 9999.9 GWHr/GVAHr
- Timing Accuracy: 0.01% + 10 mSec. start/stop error

2503AH Series High Performance Power Analysis System

2503AH high performance Power Analyzers are among the most accurate available. Perfect for motor lighting, power conversion, and appliance test and development applications.

The 2503AH Analyzers measure power, voltage, and current up to 500 kHz with premier precision. Available parameters include V, A, W, Power Factor, Crest Factor, K Factor, THD, Harmonics, Phase, VA, VAR, W.Hr, Triplens, Impedance, Inrush, Mean-Peak Values, Efficiency-Loss, etc.

XiTRON power analysis instruments have set the standard for production testing. Independent channel control and unparalleled flexibility and speed have made the 2503AH-3CH the instrument of choice in 3-phase power analysis. The 2503AH-1CH/2CH offers cost effective solutions for single or two-phase application such as power supply and appliance testing.

Quality and Reliability

XiTRON Technologies, founded in 1990, is the premier source of precision power testing and measuring equipment for industrial and consumer product development and manufacturing. XiTRON's sophisticated technology provides companies the edge in design verification and product manufacturability. XiTRON is ISO 9001:2008 certified. CE

INDUSTRIES SERVED

Lighting » Consumer Products » Medical » Automotive » Regulatory Agencies » Process Control » Power Supply » Power Quality Monitoring » HVAC » Military » Aerospace

XiTRON TECHNOLOGIES
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INPUT RANGES
User may select fixed or autorange.
Voltage: 15-30-60-150-300-600-1200 Vrms
Current: Shunt: 0.05-0.1-0.2-0.5-1-2-5-10-20 Arms
*Int. CT: 7.5-15-30-60 Arms
Bypass: 12.5-25-50-125-250-500 mV RMS, 1.25-2.5-5V RMS
All ranges allow for up to 2.5X range peak

RESOLUTION
Better than 0.05% of range

VOLTAGE & CURRENT ACCURACY
DC Volts: 0.05% +/- 0.15% range +/- 50 mV
DC Amp: 0.05% +/- 0.15% range +/- 200 µA

AC Volts/Amp:

0.001Hz-10 kHz	0.05%	10kHz-20kHz	0.10%
20kHz-50kHz	0.33%	50kHz-100kHz	0.55%
100kHz-200kHz	1.00%	200kHz-500kHz	2.35%

For voltage add 0.05% of range + 20 mV
For internal shunt add 0.05% of range + 100 µA
For shunt bypass add 0.05% of range + 10 µV
Min input > 10% of range (1% with filter on)

HIGH ACCURACY OPTION
0.05% of reading for freq. 40-400 Hz, and input >25% of range

HALL EFFECT CT* ACCURACY
DC Amp: 0.15% +/- 0.15%, range +/- 25mA
AC Amp: 0.1Hz-10kHz: 0.25%
10kHz-20kHz: 0.65%
20kHz-50kHz: 2.25%
50kHz-100kHz: 4.25%
For AC add 0.05% of range + 10 mA

CREST FACTOR
Better than 2.5 at full scale input, linearly increasing to 250:1 at 1% of full scale. For max. inputs of 50 Apk, 3000 Vpk

VOLTAGE PROTECTION
Up to 3000 Vpk. Max slew rate 2500 V/uSec

CURRENT PROTECTION
Max 500 Amp peak via HALL effect CT*
Max 15V peak using shunt bypass input
Max. 50 Amp peak using internal shunt

CONDENSED SPECIFICATIONS

(Contact XiTRON for complete specifications)

ISOLATION
Inputs are isolated from each other and ground for voltages up to 3000 Vpk

SETTING TIME
0.0015 mSec (low pass filter disabled)

LOW PASS FILTERS
User definable 5 Hz - 250 kHz, or disabled

FILTER AMPLITUDE ACCURACY
Add 0.01%kHz for signal frequencies >5kHz, Filter rejection > 40 dB @ 3x selected filter frequency, current and voltage accuracy specifications apply for input signals <0.05x selected filter frequency

HARMONIC & SPECTRUM ANALYSIS
Bandwidth: 0.001 Hz to 170 kHz
Max. Harmonic: 2047
Max FFT size: 4096 point complex FFT, Typical THD, harmonic and phase accuracy at line frequencies of 50/60 Hz
THD Accuracy: +/- 0.3%
Harmonic Accuracy: 0.03% of range
Phase Accuracy: 0.1° for freq., <5 kHz, linearly increasing to 5° @ 170 kHz

POWER FACTOR ACCURACY
Approximately 0.001 for freq. 10kHz (5 kHz w/filter) increasing linearly to 0.01@200kHz (20kHz w/filter)

PHYSICAL SPECIFICATIONS
Power input: 85-265 Vrms autoselect, 40-400 Hz @ 100VA max
Size: 17.71" wide by 7" high by 14" deep
Weight: 28 lbs
Operating range: 0ºC to 50ºC, <85% RH @ 40ºC non-condensing
Storage range: -30ºC to 65ºC <95% RH @ 40ºC non-condensing
Configuration: Benchtop or optional 19" rack mount

DIGITAL INTERFACES (standard)
IEEE488 (1), RS-232 (2), Parallel Printer

OPTIONS
HA: High accuracy calibration 40-400Hz, 0.05% all parameters
HE 1CH: Internal Hall effect for single channel analyzer*
HE 2CH: Internal Hall effect for two channel analyzer*
HE 3CH: Internal Hall effect for three channel analyzer*
RE: 19" Rack Adapter
*Internal Hall effect CT options not available on CE market units

WARRANTY
Two years

ORDERING INFORMATION

ITEM#	DESCRIPTION
822-2503AH-1CH	Single channel analyzer
822-2503AH-2CH	Two channel analyzer
822-2503AH-3CH	Three channel analyzer

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