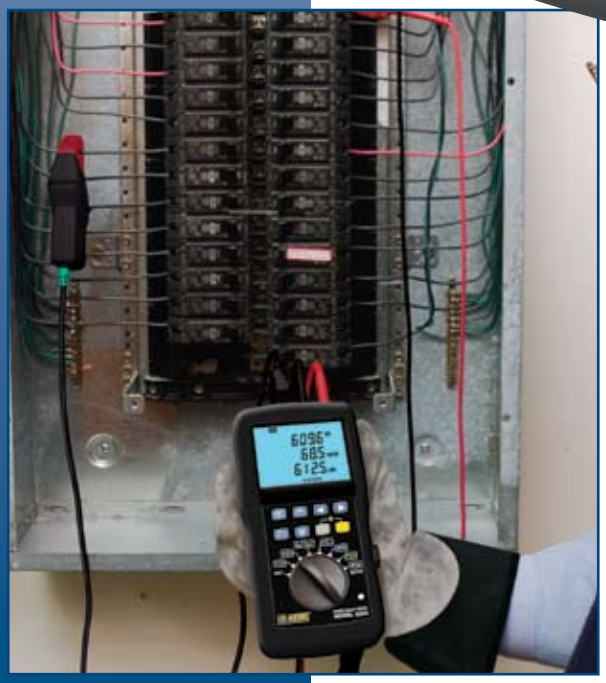
POWER QUALITY ANALYZER & METER
Models 8230 & 8220



- Measures up to 660Vrms or VDC
- Measures current up to 6500AAC or 1400ADC
- Measures inrush current
- Energy metering (kAh, VARh, kWh)
- Displays Min, Max and Average Volts and Amps, Crest Factor, Peak value and K-Factor
- Calculates and displays Watts, Wh, VARs and VA, Power Factor and Displacement Power Factor for single-phase and balanced three-phase
- Individual Volt and Amp harmonics are displayed in value and % to the 50th
- Stores up to eight screen captures (Model 8230)
- Displays temperature in both °F and °C (Model 8220)
- Includes DataView® software FREE for data storage, real-time waveform display, analysis and report generation
- Displays and records up to 17 different power quality parameters (Model 8230)
- Captures and displays in RUSH Waveforms and statistics
- Displays and verifies phase rotation sequence
- Captures and displays rotational speed (RPM) – model 8220 only

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

Single-Phase Power Quality Analyzer PowerPad® Jr. Model 8230

Model 8230

The PowerPad® Jr. Model 8230 is a single-phase power quality analyzer that is easy-to-use, compact and shock-resistant. It is intended for technicians and engineers to measure and carry out diagnostic work and power quality work on single-phase systems and three-phase balanced load networks. Users are able to obtain instant waveforms of an electrical network's characteristics, and also monitor their variation over a period of time.
The multi-tasking measurement system simultaneously handles all the measurement functions and waveform display of the various parameters, detection, continuous recordings and their display without any constraints.

APPLICATIONS

- Verification of power distribution circuits
- Measures and records power systems (kW, VA, kVAR)
- Energy metering (kAh, VARh, kWh)
- Determine harmonic content and its origins
- Motor analysis

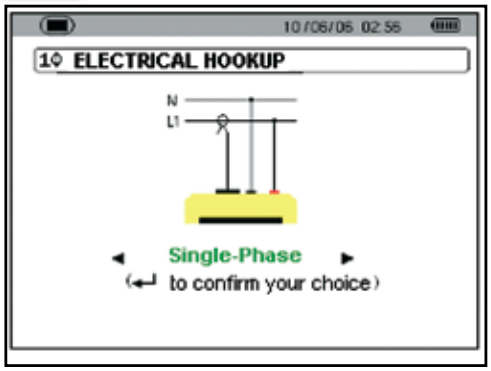
FEATURES

- Measures up to 660Vrms or VDC
- Measures up to 6500AAC or 1400ADC (probe dependent)
- Displays Min, Max and Average Volts and Amps, Crest Factor, Peak value and K-Factor
- Calculates and displays Watts, VARs, kWh, and VA, Power Factor and Displacement Power Factor for single-phase and balanced three-phase
- Displays total harmonic distortion (THD-F and THD-R) for voltage and current
- Individual Volt and Amp harmonics are displayed in value and % to the 50th
- Captures, displays and stores inrush current waveforms and statistics
- Displays and records up to 17 different power quality parameters
- Determines phase rotation
- Stores up to eight screen captures
- Stores up to 1MB of trend recorded data
- Captures up to 4096 alarm events using up to 10 different thresholds
- Configurable from DataView® software or front panel
- Download stored data to DataView® software via optical with isolated USB port
- Includes FREE DataView® software for data storage, real-time waveform display, analysis and report generation

All models include current probe with 10 ft lead (MN93 example shown), black and red 10 ft voltage leads and alligator clips, optical USB cable, NiMH battery, 120V US wall charger, DataView® software, carrying bag and user manual.

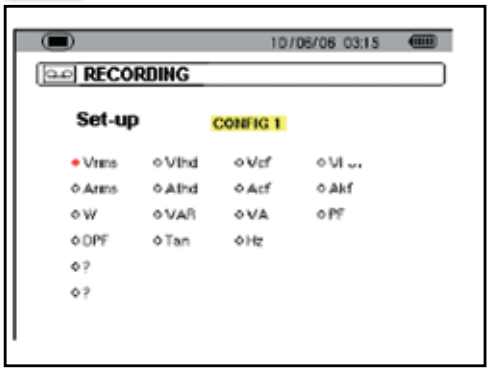
Large Color Display!

Configuration



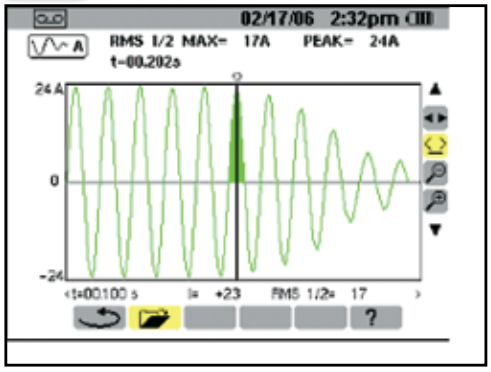
Easily select and configure all system set up functions.

Recording Setup



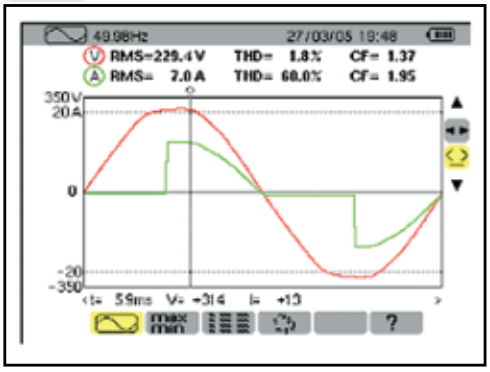
Quickly select which parameters are to be recorded.

Inrush Mode



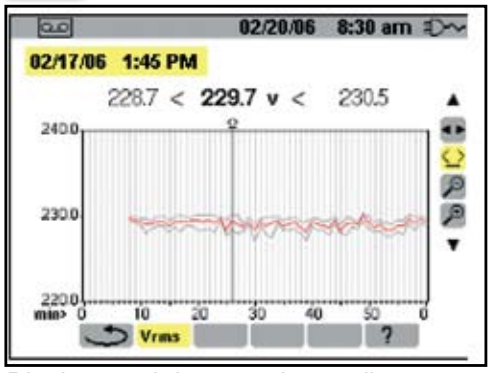
Displays inrush current waveforms and statistics all on one screen.

Waveform Mode



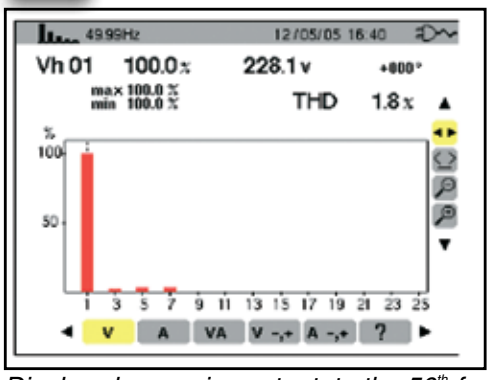
Displays voltage and current waveforms and statistics, min/max data, power and phase rotation.

Trend Recording



Displays real-time trend recording.

Harmonics Mode



Displays harmonic content to the 50th for volts, amp and power including direction.

CONSTRUCTION

PowerPad® Jr. Model 8230

- One button direct access to all major functions with immediate display of real-time data
- Simple to use navigation and selection buttons
- Clean, easy-to-read color display

SPECIFICATIONS

MODEL	8230	
ELECTRICAL		
Voltage (TRMS)	MN-2 Probes: 240A 6A/120A	Phase-to-Phase: 660V Phase-to-Neutral: 600V
Current (TRMS)	**MN Probe**: 5mA to 6A/120A or 2 to 240A **MR Probe**: 10 to 1000AAC, 10 to 1400ADC	**SR Probe**: 3 to 1200A **AmpFlex®**: 10 to 6500A(1)
Frequency (Hz)	40 to 70Hz	
Other Measurements	kW, kVAR, PF, DPF, kWh, kVARh, kVAh, K-Factor, Flicker, Harmonic Phase Shift, Phase Rotation, in RUSH	
Harmonics	THD-R, THD-F, V, A, VA 1st to 50th, Direction, Sequence	
In-Rush	Displays and records duration, 1/2 cycle max, peak and displays waveforms	
Sampling Frequency	256 samples/cycle	
Data Storage	1.5MB partitioned for waveforms, alarms and trend recording	
Alarms	Stores up to 2096 events showing time, duration and value	
Power Source	NiMH rechargeable battery pack AC Supply: 120/230VAC (50/60Hz)	
Battery Life	≥ Eight hrs with display on ≥ 40 hrs with display off (recording mode)	
MECHANICAL		
Communication Port	Optically isolated USB	
Display	1/4 VGA (320 x 240) color LCD	
Dimensions	8.3 x 4.3 x 2.4" (211 x 108 x 60mm)	
Weight	1.9 lbs (0.88kg)	
Safety Rating	EN 61010, 600V CAT III, Pollution Degree 2	
DISPLAY		
Display Type	Color LCD	
ENVIRONMENTAL		
Operating Temperature	32° to 122°F (0° to 50°C)	
Storage Temperature	(<30 days) -4° to 122°F (-20° to 50°C) with batteries	
SAFETY		
Safety Rating	EN 61010-31: 2002, EN 61010-1: 2001, EN 61010-2: 1995, 600V CAT III, Pollution Degree 2	
Double Insulation ⧈	Yes	
CE Mark	Yes	

(1)*Crest factor at 6500 = 1*

Choose from a variety of current probe options:

SR193 (1200A) current probe

AmpFlex®193 (6500A) flexible current probe

MN93 (240A) current probe or MN193 (6A/120A) current probe

Power Quality Meter
Model 8220

Model 8220

The Model 8220 is a single-phase AC + DC power meter with an electroluminescent backlit digital display and is rated to 600V CAT III. It is a measurement tool for electrical parameters and distribution network disturbances, enabling the user to obtain instant measurements of the main characteristics of a single-phase network (voltage, current, power, voltage and current harmonics, etc.) and to monitor machinery in operation (temperature, inrush current and duration of operation, resistance of windings and rotational speed).

Compact and shock resistant, its ergonomic design and straightforward interface make it user friendly and intuitive. Within seconds you will be gathering the measurements you want.

The Model 8220's accuracy is better than 1% (excluding current sensors). It has a great flexibility due to AEMC®'s range of current sensors, measuring from a few hundred milliamps to several thousand amps.

The Model 8220 is designed for technicians, control and maintenance engineers, as well as, electrical contractors and educators.

APPLICATIONS

- Monitor all power quantity variables (V, A, W, VAR, VA)
- Monitor motor performance (inrush, RPM, temperature)
- Energy metering (kAh, VARh, kWh)
- Troubleshoot connections with resistance/continuity measurements
- Determine proper system wiring with phase rotation function
- And much more

FEATURES

- Measures up to 660Vrms or VDC
- Measures up to 6500AAC or 1400ADC (probe dependent)
- Displays Min, Max and Average Volts and Amps, Crest Factor, and Peak value
- Calculates and displays Watts, Wh, VARs and VA, Power Factor and Displacement Power Factor for single-phase and balanced three-phase
- Displays total harmonic distortion (THD-F and THD-R) for voltage and current
- Displays individual harmonic values and % for Volts and Amps to the 50th harmonic
- Captures and displays inrush current
- Calculates and displays phase rotation and RPM
- Displays temperature in either °F or °C
- Displays resistance up to 2000Ω
- Conducts continuity and diode tests
- Stores up to nine complete sets of readings for all volt, amp, power, harmonics and other measurements
- Configurable from DataView® software or front panel
- Download stored data to DataView® software via optically coupled USB port
- Operates off batteries or AC adapter (optional)
- Includes FREE DataView® software for data storage, real-time waveform display, analysis and report generation

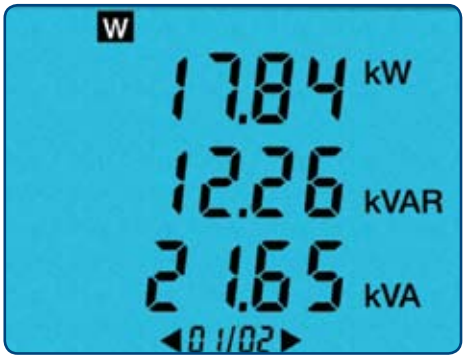
All models include current probe with 10 ft lead (MN93 example shown), black and red 10 ft voltage leads and alligator clips, optical USB cable, six 1.5V batteries, two safety test probes, DataView® software, carrying bag and user manual. An optional AC Power adapter is available.

FUNCTIONAL DISPLAYS

Voltage

Displays volts, amps and frequency on one screen.

Power



Displays all power measurements on one screen.

Inrush

Displays inrush current and duration including max and peak values.

Harmonics

Displays THD, % and value for each harmonic to the 50th with one screen for each harmonic.

RPM

Display of rotational speed.

Temperature

Displays temperature in both °F and °C.

CONSTRUCTION

Model 8220

- Rotary selection of variables to be measured with easy-to-read icons
- Large easy-to-read multi-line electroluminescent display
- Direct access buttons for saving, printing, viewing and discarding data

SPECIFICATIONS

MODEL	8220	
ELECTRICAL		
Voltage (TRMS)	MN-2 Probes: 240A 6A/120A	Phase-to-Phase: 660V Phase-to-Neutral: 600V
Current (TRMS)	**MN Probe**: 5mA to 6A/120A or 2 to 240A **MR Probe**: 10 to 1000AAC, 10 to 1400ADC	**SR Probe**: 3 to 1200A **AmpFlex®**: 10 to 6500A[1]
Frequency (Hz)	40 to 70Hz	
Other Measurements	kW, kVAR, PF, DPF, VA, Phase Rotation Temperature, RPM, Resistance, Continuity, Diode Test	
Harmonics	1st to 50th	
Sampling Frequency	256 samples/cycle	
Inrush	Displays max, peak and duration	
RPM	6 to 120,000 RPM	
Temperature	-328° to 1532°F (-200° to 850°C)	
Data Storage	Stores nine sets of readings for volts, amps, power and harmonics	
Power Source	Six 1.5V AA Alkaline batteries AC Supply: 120/230VAC (50/60Hz) — optional	
Battery Life	≥ Eight hrs with display on	
MECHANICAL		
Communication Port	Optically isolated USB	
Display	Three-line backlit digital display with custom icons	
Dimensions	8.3 x 4.3 x 2.4" (211 x 108 x 60mm)	
Weight	1.9 lbs (0.88kg)	
Safety Rating	EN 61010, 600V CAT III, IP 54, Pollution Degree 2	
DISPLAY		
Display Type	Electroluminescent backlit digital display	
ENVIRONMENTAL		
Operating Temperature	32° to 122°F (0° to 50°C)	
Storage Temperature	(<30 days) -4° to 122°F (-20° to 50°C) with batteries 50° to 104°F (10° to 40°C) with rechargeable batteries	
SAFETY		
Safety Rating	EN 61010-31: 2002, EN 61010-1: 2001, EN 61010-2: 1995, 600V CAT III, Pollution Degree 2	
Double Insulation ⧈	Yes	
CE Mark	Yes	

[1]Crest factor at 6500 = 1

Choose from a variety of current probe options:

SR193 (1200A) current probe

AmpFlex®193 (6500A) flexible current probe

MN93 (240A) current probe or MN193 (6A/120A) current probe

DataView®

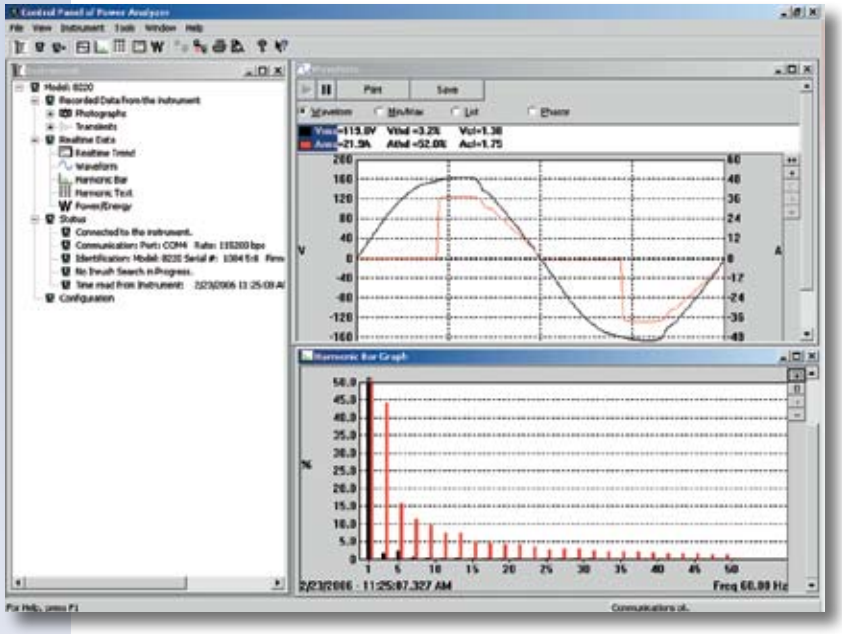
Data Analysis and Reporting Software for Power Quality Meters

Configure all functions of the PowerPad®

- Display and analyze real-time data on your PC
- Configure all PowerPad® functions and parameters from your PC
- Customize views, templates and reports to your exact needs
- Create and store a complete library of configurations that can be uploaded to the PowerPad® as needed
- Zoom in and out and pan through sections of the graph to analyze the data
- Download, display and analyze recorded data
- Display waveforms, trend graphs, harmonic spectrums, text summaries, transients, event logs and stored alarms
- Print reports using standard or custom templates you design
- Free updates are available on our website **www.aemc.com**

AUTOMATIC REPORT GENERATION

DataView® software



Clear and easy setup of all functions from one tabbed dialog box.

Minimum System Requirements

- ▶ Windows 2000/XP/Vista® operating system
- ▶ 128MB of RAM for Windows 2000 (256MB recommended)
  256MB of RAM for Windows XP
  512MB of RAM for Windows Vista®
- ▶ 80MB of hard disk space (200MB recommended)
- ▶ CD-ROM drive

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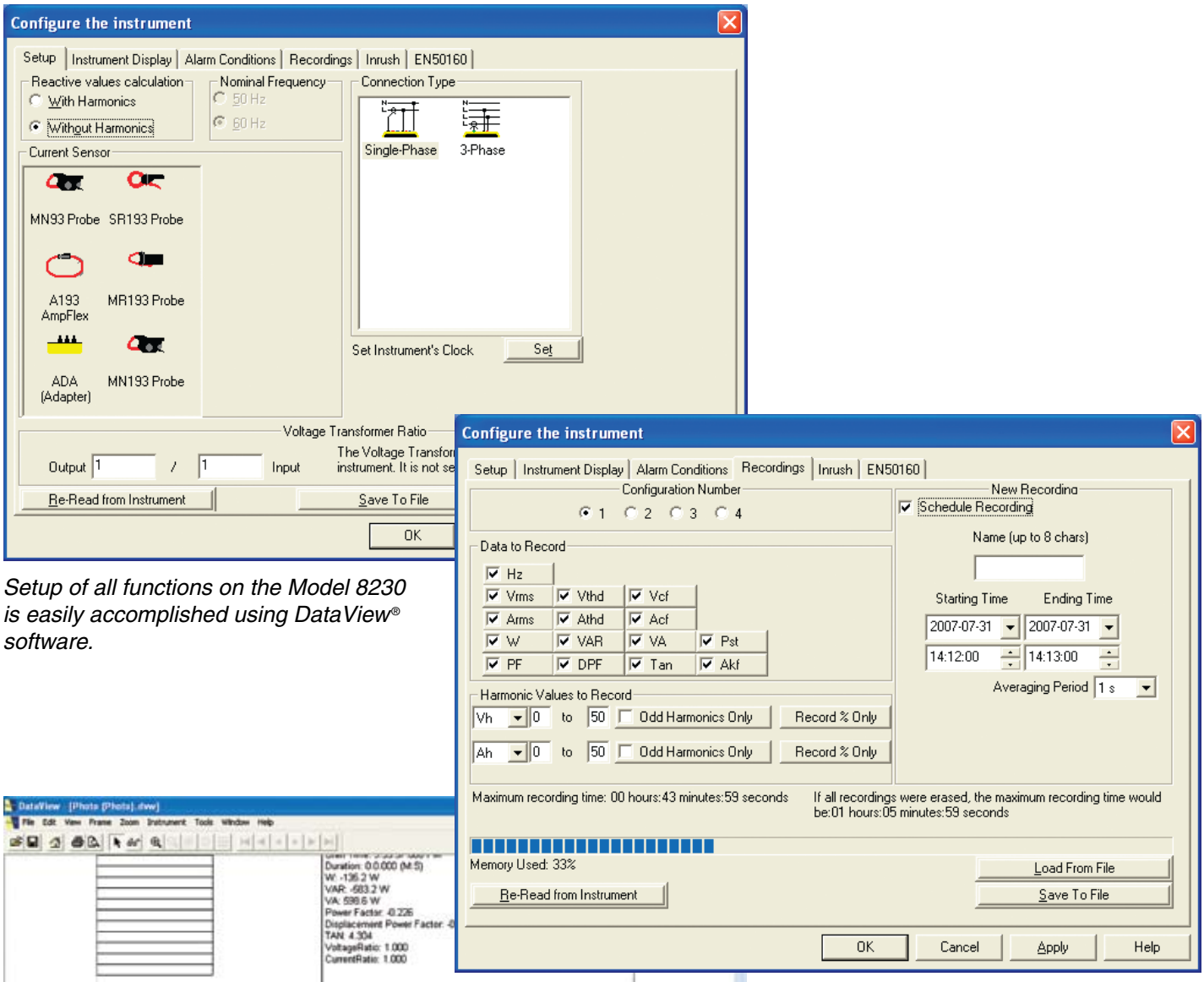
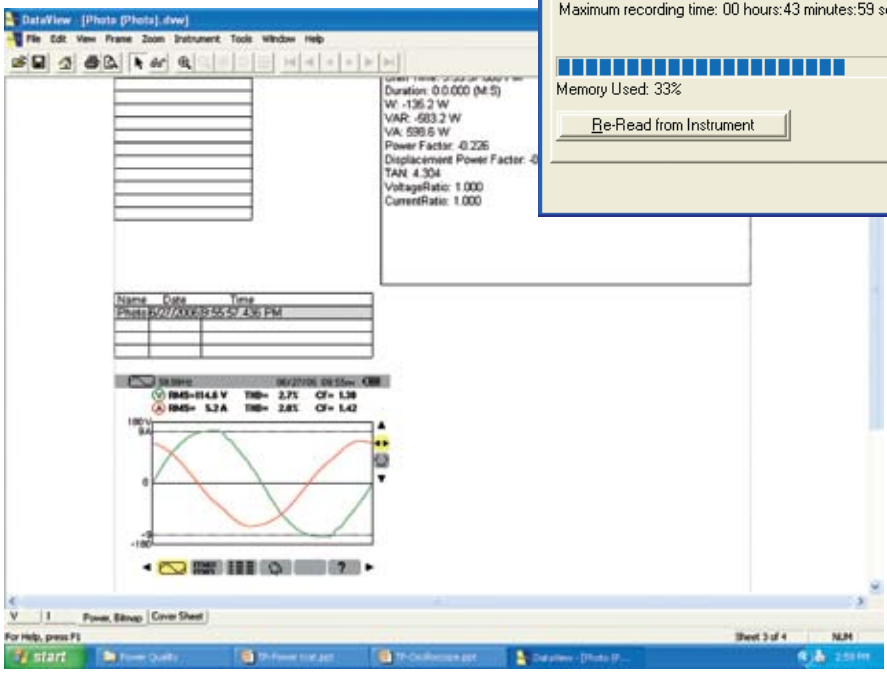
DataView® software provides a convenient way to configure and control power quality from your computer. Through the use of clear and easy-to-use tabbed dialog boxes, all PowerPad® functions can be configured and tests can be initiated. Results can be displayed in real time and stored in your PC. Reports may be printed along with the operator's comments and analysis.

DataView® Sample Reports



Setup of all functions on the Model 8230 is easily accomplished using DataView® software.



Reports can be displayed on your PC and printed. Each report includes all test results in a tabular and graphic format, as well as operator and test site information. Comments typed by the operator will also be included.

ORDERING INFORMATION — CATALOG NO.

PowerPad® Jr. Model 8230 ..... **Cat. #2130.81**
Includes set of two 10 ft (3m) color-coded leads (red/black) with alligator clips, optically isolated USB cable, US 110V power adapter, 1.2V NiMH rechargeable batteries, DataView® software, carrying bag, product warranty card and user manual.

PowerPad® Jr. Model 8230 with MN93-BK ..... **Cat. #2130.82**
Includes the PowerPad® Jr. Model 8230, one MN93 (240A) current probe (black connector), set of two 10 ft (3m) color-coded leads (red/black) with alligator clips, optical USB cable, US 110V power adapter, 1.2V NiMH rechargeable batteries, DataView® software, carrying bag, product warranty card and user manual.

PowerPad® Jr. Model 8230 with SR193-BK ..... **Cat. #2130.83**
Includes the PowerPad® Jr. Model 8230, one SR193 (1200A) current probe (black connector), set of two 10 ft (3m) color-coded leads (red/black) with alligator clips, optical USB cable, US 110V power adapter, 1.2V NiMH rechargeable batteries, DataView® software, carrying bag, product warranty card and user manual.

PowerPad® Jr. Model 8230 with 24" AmpFlex® 193-24-BK ..... **Cat. #2130.84**
Includes the PowerPad® Jr. Model 8230, one 24" AmpFlex® 193-24 (6500A) sensor (black connector), set of two 10 ft (3m) color-coded leads (red/black) with alligator clips, optical USB cable, US 110V power adapter, 1.2V NiMH rechargeable batteries, DataView® software, carrying bag, product warranty card and user manual.

PowerPad® Jr. Model 8230 with MN193-BK ..... **Cat. #2130.87**
Includes the PowerPad® Jr. Model 8230, one MN193 (6A/120A) current probe (black connector), set of two 10 ft (3m) color-coded leads (red/black) with alligator clips, optical USB cable, US 110V power adapter, 1.2V NiMH rechargeable batteries, DataView® software, carrying bag, product warranty card and user manual.

Power Quality Meter Model 8220 ..... **Cat. #2130.90**
Includes set of two 10 ft (3m) color-coded leads (red/black) with alligator clips, set of safety test probes (red/black), optically isolated USB cable, set of six 1.5V AA batteries, DataView® software, carrying bag, product warranty card and user manual.

Power Quality Meter Model 8220 with MN93-BK ..... **Cat. #2130.91**
Includes the Model 8220, one MN93 (240A) current probe (black connector), set of two 10 ft (3m) color-coded leads (red/black) with alligator clips, set of safety test probes (red/black), optically isolated USB cable, set of six 1.5V AA batteries, DataView® software, carrying bag, product warranty card and user manual.

Power Quality Meter Model 8220 with SR193-BK ..... **Cat. #2130.92**
Includes the Model 8220, one SR193 (1200A) current probe (black connector), set of two 10 ft (3m) color-coded leads (red/black) with alligator clips, set of safety test probes (red/black), optically isolated USB cable, set of six 1.5V AA batteries, DataView® software, carrying bag, product warranty card and user manual.

Power Quality Meter Model 8220 with 24" AmpFlex® 193-24-BK ..... **Cat. #2130.93**
Includes the Model 8220, one 24" AmpFlex® 193-24 (6500A) sensor (black connector), set of two 10 ft (3m) color-coded leads (red/black) with alligator clips, set of safety test probes (red/black), optically isolated USB cable, set of six 1.5V AA batteries, DataView® software, carrying bag, soft carrying pouch, product warranty card and user manual.

Power Quality Meter Model 8220 with MN193-BK ..... **Cat. #2130.96**
Includes the Model 8220, one MN193 (6A/120A) current probe (black connector), set of two 10 ft (3m) color-coded leads (red/black) with alligator clips, set of safety test probes (red/black), optically isolated USB cable, set of six 1.5V AA batteries, DataView® software, carrying bag, product warranty card and user manual.

Accessories (Optional)

AC Current Probe Model MR193-BK (1000AAC/1400ADC) ..... Cat. #2140.28
AC Current Probe Model MN93-BK (240A) ..... Cat. #2140.32
AC Current Probe Model SR193-BK (12000A) ..... Cat. #2140.33
AmpFlex® Sensor 24" 193-24-BK ..... Cat. #2140.34
AmpFlex® Sensor 36" 193-36-BK ..... Cat. #2140.35
AC Current Probe Model MN193-BK (6A/120A) ..... Cat. #2140.36

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