

Model 8220

A measurement tool for electrical parameters and distribution network disturbances

SPECIFICATIONS

| MODEL | 8220 |
|--------------------|---|
| ELECTRICAL | |
| Voltage (TRMS) | Phase-to-Phase: 660V; Phase-to-Neutral: 600V |
| Current (TRMS) | MN Clamp: 0.2 to 6A/120A or 2 to 240A MR Clamp: 10 to 1000Aac, 10 to 1400Adc SR Clamp: 3 to 1200A MiniFlex®: 10 to 1000A AmpFlex®: 10 to 6500A ⁽¹⁾ |
| Frequency (Hz) | 40 to 70Hz |
| Other Measurements | kW, kvar, PF, DPF, kVA, kWh, kvarh, VAh, Phase Rotation, Temperature, RPM, Resistance, Continuity, Diode Test |
| Harmonics | 1 st to 50 th |
| Sampling Frequency | 256 samples / cycle |
| Data Storage | Stores nine sets of readings totaling up to 99 snapshots for volts, amps, power and harmonics |
| Power Source | Six 1.5V AA Alkaline batteries (included) |
| Battery Life | ≥8 hrs with display on ≥40 hrs with display off (recording mode) |
| MECHANICAL | |
| Communication Port | Optically isolated USB |
| Display | Three-line backlit color LCD digital display with custom icons and adjustable brightness & contrast |
| Dimensions | 8.3 x 4.3 x 2.4" (211 x 108 x 60mm) |
| Weight | 1.9lbs (0.88kg) |
| Safety Rating | EN 61010, 600V CAT III, IP54, Pollution Degree 2 |

⁽¹⁾Crest factor at 6500 = 1

KIT OPTION INCLUDES

8220 Kit

Current probe with 10ft lead and black connector, black and red 10ft voltage leads and alligator clips, optical USB cable, six 1.5V batteries, two safety test probes, carrying bag, and USB drive supplied with DataView® software and user manual.



8230 Kit (Model 8230 product details on next page)

Current probe with 10ft lead and black connector, black and red 10ft voltage leads and alligator clips, optical USB cable, NiMH battery, 110V US wall charger, carrying bag, and USB drive supplied with DataView® software and user manual.



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 and VA, Power Factor and Displacement Power Factor for single-phase and balanced three-phase
- Measures and records power systems (kW, kVA, kvar)
- Energy metering (kAh, kvarh, kWh)
- Displays total harmonic distortion (THD-F and THD-R) for voltage and current
- Displays individual harmonic values and % for volts and amps through the 50th harmonic
- The Max and Min RMS measurements are calculated every half-period
- Captures and displays inrush current
- Calculates and displays phase rotation and RPM
- Displays temperature in both °F and °C
- Displays resistance up to 2000Ω
- Conducts continuity and diode tests
- Stores up to nine complete sets of readings for all volt, amp, power and harmonic measurements
- Operates on batteries or optional power adapter
- Download stored data snapshots to DataView® software via optical USB port (included)
- Includes FREE DataView® software for configuring data storage, real-time waveform display, analysis and report generation

See last page for more optional accessories

| CATALOG NO. | DESCRIPTION |
|-------------|---|
| 2130.90 | Power Quality Meter Model 8220 (no probes) |
| 2130.91 | Power Quality Meter Model 8220 w/MN93-BK |
| 2130.93 | Power Quality Meter Model 8220 193-24-BK (AmpFlex®) |
| 2130.96 | Power Quality Meter Model 8220 w/MN193-BK |



PowerPad® Jr. Model 8230

Measure and carry out diagnostic work and power quality work on single- or three-phase balanced load networks

SPECIFICATIONS

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| ELECTRICAL | |
| Voltage (TRMS) | Phase-to-Phase: 660V; Phase-to-Neutral: 600V |
| Current (TRMS) | MN Clamp: 0.2 to 6A/120A or 2 to 240A MR Clamp: 10 to 1000Aac, 10 to 1400Adc SR Clamp: 3 to 1200A MiniFlex®: 10 to 1000A 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 |
| Harmonics | THD-R, THD-F, V, A, VA, 1 st to 50 th , Direction, Sequence |
| Sampling Frequency | 256 samples/cycle |
| Data Storage | 1.5MB partitioned for waveforms, alarms and trend recording |
| Power Source | NiMH rechargeable battery pack (included) AC Supply: 120/230VAc (50/60Hz) |
| Battery Life | ≥8 hrs with display on ≥40 hrs with display off (recording mode) |
| MECHANICAL | |
| Communication Port | Optically isolated USB |
| Display | ¼ VGA (320 x 240) full color LCD digital & graphical display with adjustable brightness & contrast |
| Dimensions | 8.3 x 4.3 x 2.4" (211 x 108 x 60mm) |
| Weight | 1.9lbs (0.88kg) |
| Safety Rating | EN 61010, 600V CAT III, IP54, Pollution Degree 2 |

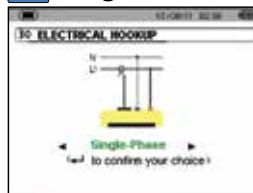
⁽¹⁾Crest factor at 6500 = 1



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 and VA, Power Factor and Displacement Power Factor for single-phase and balanced three-phase
- Measures and records power systems (kW, kVA, kvar)
- Energy metering (kAh, kvarh, kWh)
- Displays total harmonic distortion (THD-F and THD-R) for voltage and current
- Displays individual harmonic values and % for Volts and Amps through the 50th harmonic
- Captures, displays and stores inrush current waveforms and statistics
- Stores up to eight screen captures
- Stores up to 1MB of trend recorded data
- Configurable from DataView® software or front panel
- Download stored data to DataView® software via optical USB port (included)
- Captures up to 4096 alarm events from up to 10 different thresholds
- Displays and records up to 17 different power quality parameters
- Includes FREE DataView® software for configuring data storage, real-time waveform display, analysis and report generation
- The Max and Min RMS measurements are calculated every half-period

Configuration



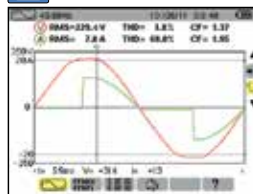
Recording Setup



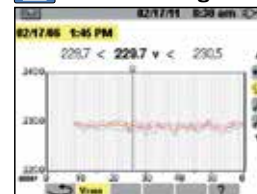
Inrush Mode



Waveform Mode



Trend Recording



Harmonics Mode



CATALOG NO.

DESCRIPTION

| | |
|---------|--------------------------------------|
| 2130.81 | PowerPad® Jr. Model 8230 (no probes) |
| 2130.82 | PowerPad® Jr. Model 8230 w/MN93-BK |
| 2130.87 | PowerPad® Jr. Model 8230 w/MN193-BK |



DataView®

Data Analysis and Reporting Software



Configure all functions of the Power & Energy Loggers

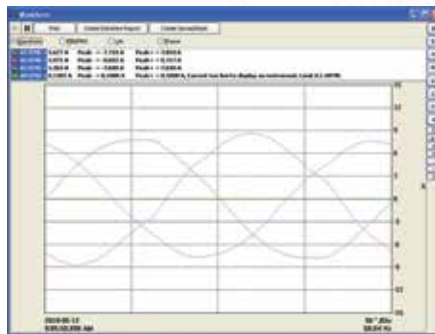


- Display and analyze real-time data on your PC
- Configure functions and parameters from your PC
- Customize views, templates and reports to your exact needs
- Create and store a complete library of configurations that can be uploaded as needed
- Zoom in and out and pan through sections of the graph 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

Typical DataView® Functional, Digital & Graphical Displays



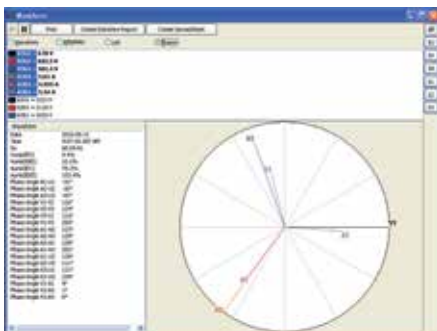
Clear and easy setup of all functions from one tabbed dialog box.



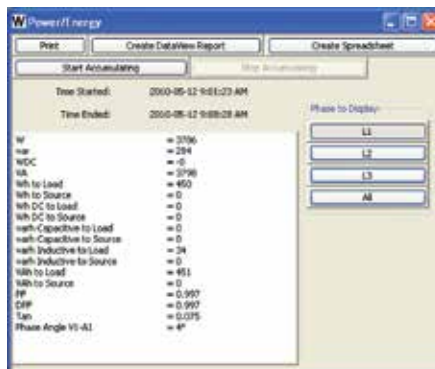
Display real-time waveforms by phase, parameter or total.



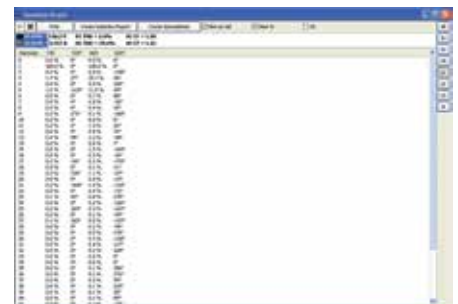
Display all harmonics from 1st to 50th in bargraph form for voltage, current and power.



Display real-time Phasor diagrams. Includes unbalance for both voltage and current.



Display power and energy parameters – both instantaneous and total.



Display harmonics in a text table from harmonic 0 (DC) through the 50th.

POWER QUALITY ANALYZERS, METERS & LOGGERS

Selection Chart

| AEMC MODEL NUMBER | AEMC CATALOG NUMBER | INPUT TERMINALS | CHANNELS | RMS VOLTAGE MAX PHASE-TO-NEUTRAL | RMS VOLTAGE MAX PHASE-TO-PHASE | PEAK VOLTAGE MAX PHASE-TO-NEUTRAL | PEAK VOLTAGE MAX PHASE-TO-PHASE | DC VOLTAGE MAX | AC CURRENT MAX (PROBE DEPENDENT) | DC CURRENT MAX (PROBE DEPENDENT) | RATIOS VOLT | RATIOS AMPERE |
|-------------------|---------------------|-----------------|----------|----------------------------------|--------------------------------|-----------------------------------|---------------------------------|----------------|----------------------------------|----------------------------------|-------------|---------------|
| 8220 | 2130.90 | 1V/1A | 1V/1A | 600Vrms | 660Vrms | 850Vpk | 935Vpk | 600Vdc | 6500Aac | 1400Adc | Yes | No |
| 8230 | 2130.81 | 1V/1A | 1V/1A | 600Vrms | 660Vrms | 850Vpk | 935Vpk | 600Vdc | 6500Aac | 1400Adc | Yes | No |
| 8333 | 2136.10 | 4V/3I | 3V/4I | 1000Vrms | 2000Vrms | 1414Vpk | 2828Vpk | 1200Vdc | 10,000Aac | 5000Adc | Yes | Yes |
| 8336 | 2136.30 | 5V/4I | 4V/4I | 1000Vrms | 2000Vrms | 1414Vpk | 2828Vpk | 1200Vdc | 10,000Aac | 5000Adc | Yes | Yes |
| 8435 | 2136.41 | 5V/4I | 4V/4I | 1000Vrms | 2000Vrms | 1697Vpk | 3394Vpk | 1697Vdc | 10,000Aac | 5000Adc | Yes | Yes |
| PEL 102 | 2137.51 | 4V/3I | 3V/3I | 1000Vrms | 1700Vrms | 1414Vpk | 2400Vpk | 1000Vdc | 10,000Aac | 5000Adc | Yes | Yes |
| PEL 103 | 2137.52 | 4V/3I | 3V/3I | 1000Vrms | 1700Vrms | 1414Vpk | 2400Vpk | 1000Vdc | 10,000Aac | 5000Adc | Yes | Yes |
| PEL 105 | 2137.57 | 4V/3I | 3V/3I | 1000Vrms | 1000Vrms | 1414Vpk | 2400Vpk | 1000Vdc | 10,000Aac | 5000Adc | Yes | Yes |

| AEMC MODEL NUMBER | AEMC CATALOG NUMBER | DISTRIBUTION SYSTEMS | PHASE ROTATION | WAVEFORM MODE | TRANSIENT MODE | TRUE INRUSH MODE/ TYPE/ DURATION | ALARM MODE | SNAPSHOT MODE | HARMONIC MODE | TYPE LCD | POWER SOURCE |
|-------------------|---------------------|---|-----------------------|---|----------------|--|---|---------------|---------------|--|---|
| 8220 | 2130.90 | 1P-2W 3P-3W DB | Yes, 2-Wire Method | Yes, Realtime through DataView® (recordable to PC) | No | Yes (RMS) duration: unspecified | No | Yes (9) | Yes | Backlit LCD | 6 x AA batteries or external adapter |
| 8230 | 2130.81 | 1P-2W 3P-3W DB | Yes, 2-Wire Method | Yes | No | Yes (RMS) <15 seconds at 60Hz | 18 types/ up to 10 active/ 4096 recorded | Yes (8) | Yes | Color LCD | External adapter with internal NiMH battery pack |
| 8333 | 2136.10 | 1P-2W, 2P-3W, 3P-3W, 3P-4W | Yes | Yes | Yes | No | 10 types/ up to 2 active/ 4662 recorded | Yes (12) | Yes | TFT - 5.7" diagonal 320 x 240 resolution | External adapter with internal NiMH battery pack |
| 8336 | 2136.30 | 1P-2W, 1P-3W, 2P-2W, 2P-3W, 2P-4W, 3P-3W, 3P-4W, 3P-5W | Yes | Yes | Yes | Yes (RMS+PEAK & RMS) up to 1 & 10 mins | 40 types/ up to 7 active/ 16,362 recorded | Yes (50) | Yes | TFT - 5.7" diagonal 320 x 240 resolution | External adapter with internal NiMH battery pack |
| 8435 | 2136.41 | 1P-2W, 1P-3W, 2P-2W, 2P-3W, 2P-4W, 3P-3W, 3P-4W, 3P-5W | Yes | Yes | Yes | Yes (RMS+PEAK & RMS) up to 1 & 10 mins | 40 types/ up to 7 active/ 16,362 recorded | Yes (50) | Yes | STN | External adapter with internal NiMH battery pack |
| PEL 102 | 2137.51 | 1P-2W, 1P-3W, 3P-3W D2, 3P-3W Y2, 3P-3W D3, 3P-3W O3, 3P-3W Y, 3P-3W DB, 3P-4W Y, 3P-4W YB, 3P-4W Y2 1/2, 3P-4W D, 3P-4WOD, DC-2W DC-3W, DC-4W | Yes | No | No | No | No | No | Yes | None | External adapter with internal NiMH battery pack |
| PEL 103 | 2137.52 | 1P-2W, 1P-3W, 3P-3W D2, 3P-3W Y2, 3P-3W D3, 3P-3W O3, 3P-3W Y, 3P-3W DB, 3P-4W Y, 3P-4W YB, 3P-4W Y2 1/2, 3P-4W D, 3P-4WOD, DC-2W DC-3W, DC-4W | Yes | No | No | No | No | No | Yes | Monochrome LCD | Power phase input or external adapter with internal NiMH battery pack |
| PEL 105 | 2137.57 | 1P-2W, 1P-3W, 3P-3W D2, 3P-3W Y2, 3P-3W D3, 3P-3W O3, 3P-3W Y, 3P-3W DB, 3P-4W Y, 3P-4W YB, 3P-4W Y2 1/2, 3P-4W D, 3P-4WOD, DC-2W DC-3W, DC-4W | Yes | No | No | No | No | No | Yes | | |