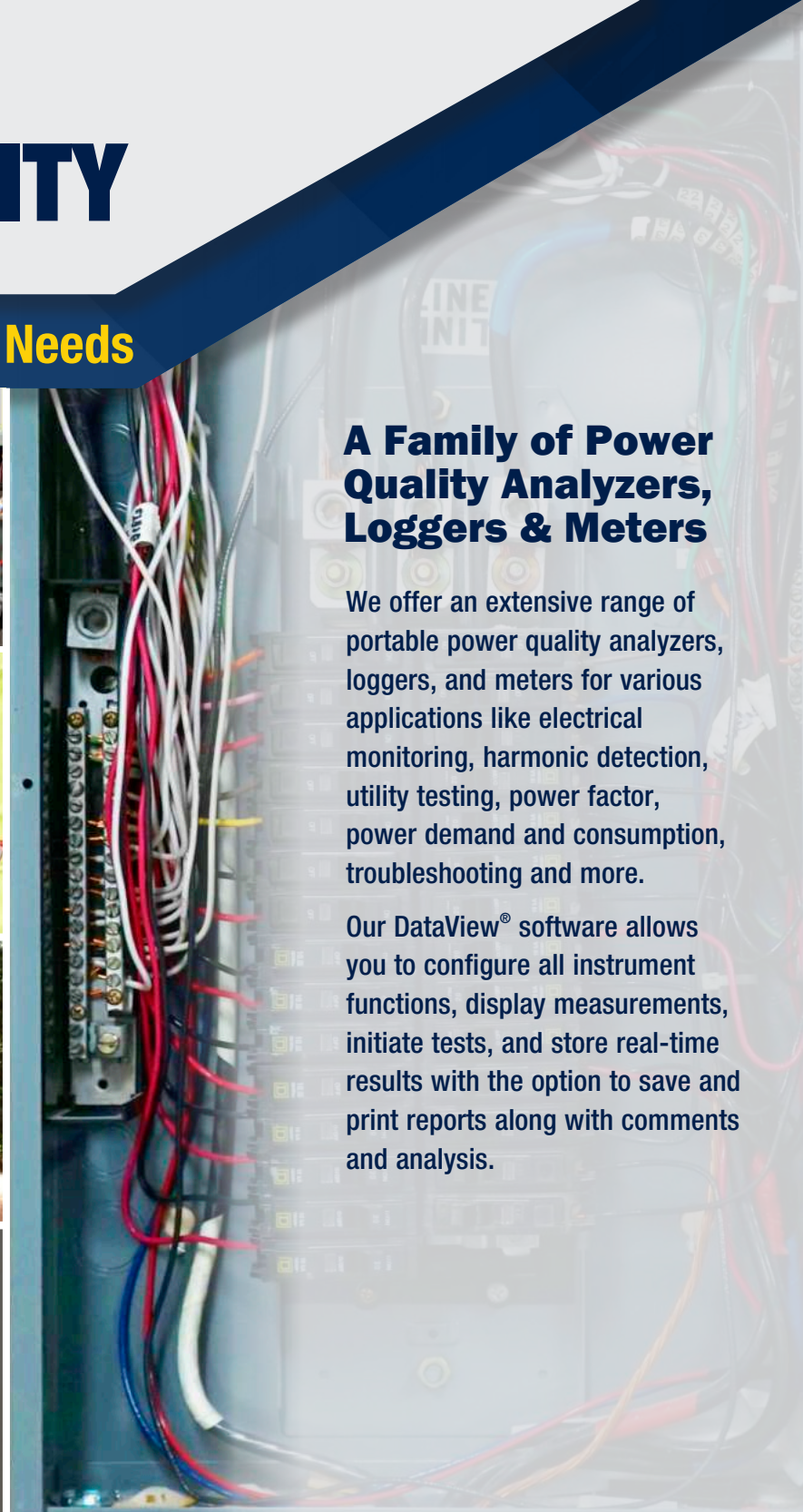


POWER QUALITY

For All Your Power Quality Needs



A Family of Power Quality Analyzers, Loggers & Meters

We offer an extensive range of portable power quality analyzers, loggers, and meters for various applications like electrical monitoring, harmonic detection, utility testing, power factor, power demand and consumption, troubleshooting and more.

Our DataView[®] software allows you to configure all instrument functions, display measurements, initiate tests, and store real-time results with the option to save and print reports along with comments and analysis.

Our products are backed by over 130 years of experience in test and measurement equipment, and encompass the latest international standards for quality and safety.

Technical Hotline: (800) 343-1391
www.aemc.com

 **AEMC[®]**
INSTRUMENTS
CHAUVIN ARNOUX GROUP

POWER & ENERGY LOGGER Model PEL 52



**Introducing the Compact Powerhouse:
Smaller in Size but Equal in Performance!**

MODEL	PEL 52		
GENERAL			
Inputs	2V / 2I		
Types of installations	Single phase, split phase or 2 single-phase channels		
Recording / Data Storage Rate	Unlimited duration (4 GB max recording size) / 1 s to 1 h (Min/Avg/Max)		
Network Frequency	(45 to 65) Hz		
Voltage	(10 to 600) V		
ELECTRICAL			
VOLTAGE	RANGE	RESOLUTION	ACCURACY
Vrms	(10 to 600) V P to N	0.1 V	± 0.2 % Reading ± 0.2 V
Urms	(20 to 1200) V P to P	0.1 V	± 0.2 % Reading ± 0.4 V
CURRENT MEASUREMENT @ (50 and 60) HZ	RANGE	RESOLUTION	ACCURACY
Amps (1 V nominal) (excluding clamp accuracy)	Probe dependent (0.2 % < I < 120 % Inom)	Probe dependent	± 0.2 % Reading ± 0.02 Inom
POWER	RANGE	RESOLUTION	ACCURACY
Watts P-Q-S (W-var-VA)	V = (10 to 600) V I = (5 to 120) % Inom	Probe dependent	± 0.3 % R ± 0.003 % Pnom ± 1 % R ± 0.01 % Qnom ± 0.3 % R ± 0.003 % Snom
Power Factor	-1 to 1	0.001	± 0.02 %
Cos φ (DPF)	-1 to 1	0.001	± 0.05 %
ENERGY	RANGE	RESOLUTION	ACCURACY
Ep-Eq-Es (Wh, varh, VAh)	V = (10 to 600) V I = (5 to 120) % Inom	0.001 and ± 0.02%	± 0.5 % Reading ± 1.5 % Reading ± 0.5 % Reading
MECHANICAL			
Communication	Wi-Fi (access point and hot spot)		
Data Storage	8 GB SD-Card (included); expandable to 32 GB		
Dimension	(7.08 x 3.46 x 1.45) in (180 x 88 x 37) mm		
Weight	14.10 oz (400 g)		
Case	Compact and rugged, shock and vibration IEC 61010		
Display Type	LCD with blue backlight		
Real-Time Clock	Time and date stamp for Trend mode		
Power Supply	From phase 1 (90 to 660) V battery backup when power OFF		
Battery Life	3 h without Wi-Fi, 1 h typical with Wi-Fi enabled		
ENVIRONMENTAL			
Operating Temperature	(-4 to 122) °F (-20 to 50) °C		
Relative Humidity	(10 to 75) % RH		
Storage Temperature	(-40 to 158) °F (-40 to 70) °C / (45 to 75) % RH w/out battery		
SAFETY			
Electro-Magnetic-Compatibility (EMC)	EN 61326-1 for emission and immunity		
Safety Rating	IEC/EN 61010-2-30 (600 V CAT III)		
IP Rating	IP54 per IEC 60529		

* Minimum and maximum values are current probe dependent.
Consult factory for NIST Calibration prices



**DataView®
DataViewSync®**

PRODUCT INCLUDES

CATALOG #2137.69 (WITH PROBES)

Soft carrying bag, (2) MiniFlex® MA193-10-BK sensors, (3) black test leads and alligator clips, 110 V US power Cord, (1) adapter for power cord, 8 GB SD card, USB SD card reader, (2) AAA rechargeable batteries, quick start guide, and USB drive with DataView® software and user manual.

CATALOG #2137.71 (NO PROBES)

Soft carrying bag, (3) black test leads and alligator clips, 110 V US power Cord, (1) adapter for power cord, 8 GB SD card, USB SD card reader, (2) AAA rechargeable batteries, quick start guide, and USB drive with DataView® software and user manual.



Download the user manual for complete specifications

CATALOG NO.	DESCRIPTION
2137.69	Power & Energy Logger Model PEL 52 (w/LCD, w/2 MA193-10-BK sensors)
2137.71	Power & Energy Logger Model PEL 52 (w/LCD, no sensors)

POWER & ENERGY LOGGER Model PEL 52

FEATURES

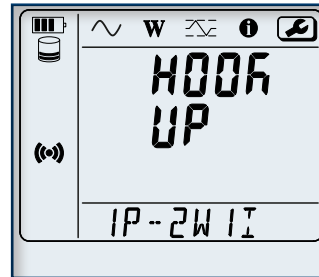
- Low cost, simple-to-use, portable, single- and dual- (split-phase) power & energy data logger
- Wide backlit LCD display
- Install without cutting off the electrical network being monitored
- Vital energy data is easily measured, recorded and analyzed
- TRMS voltage and current measurement up to 600 V
- Powered via the measuring phase
- Measurement of the AC phase currents (I1, I2) (dependent on sensor)
- RMS AC measurements (50 Hz and 60 Hz), aggregation every second without missing measurements
- Easy to use, automatic recognition of current sensors
- W, VA and var (P, Q, S, N and D) power measurements
- Calculation of the Cos ϕ and Power Factor (DPF)
- Aggregation measurements over a period from 1 minute to 1 hour
- Storage of the 1 s and aggregated measurements on SD/SDHC card; data can be read directly on a PC
- Remote connectivity via DataViewSync™
- Integrated web server for remote viewing (Android™, iOS, Windows, etc.)
- Wi-Fi offers accessibility to diagnose problems in real-time and/or multi-station operation.
- Data saved on SD card for easier transport
- Includes FREE DataView® software for configuring, data retrieval, real-time measurement display, data analysis and report generation
- Compact casing with built-in magnets to facilitate mounting for easier implementation in electrical cabinets
- 2-year warranty
- ECO-DESIGN - environmental aspects considered during product development to make the lowest possible environmental impact throughout the product life cycle

ACCESSORIES/REPLACEMENTS

- CATALOG #2140.32** AC Current Probe Model MN93-BK
- CATALOG #2140.33** AC Current Probe Model SR193-BK
- CATALOG #2140.81** AC Current Probe Model MN94 (200 AAC)
- CATALOG #2140.34** AmpFlex® Sensor 24 in Model 193-24-BK
- CATALOG #2140.35** AmpFlex® Sensor 36 in Model 193-36-BK
- CATALOG #2140.36** AC Current Probe Model MN193-BK
- CATALOG #2140.48** MiniFlex® Sensor 10 in Model MA193-10-BK
- CATALOG #2140.50** MiniFlex® Sensor 14 in Model MA193-14-BK
- CATALOG #2140.80** MiniFlex® Sensor 24 in Model MA194-24-BK
- CATALOG #2140.44** (1) 10 ft (3 M) Black Lead w/(1) Black Alligator Clip (Lead rated 1000 V CAT IV 15 A, Clip rated 1000 V CAT IV 15 A, UL)
- CATALOG #2140.45** Set of (12), color-coded Input ID Markers
- CATALOG #5000.14** Power Cord 115 V
- CATALOG #5000.43** Magnetized Voltage Probe Set of (2) color-coded (Red/Black) magnetized voltage probes (Rated 600 V CAT IV, 1000 V CAT III)
- CATALOG #5000.99** Clip - Safety Alligator, Black (1000 V CAT IV, 15A, UL V2)

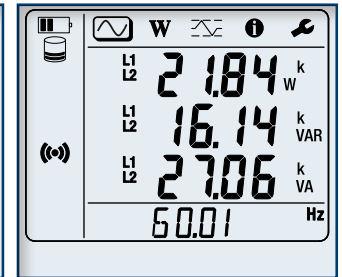
LARGE FUNCTIONAL DISPLAYS

INFORMATION MODE



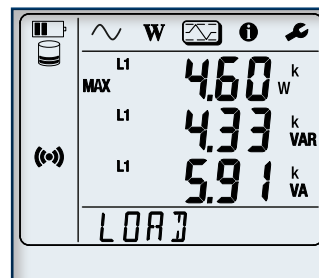
Hook up, Wi-Fi, aggregation period, can be configured from the front panel of the PEL 52. Current ratios and number of turns need to be configured via the PEL Transer software based on the current sensor type.

MEASUREMENT MODE (2P-3W2I)



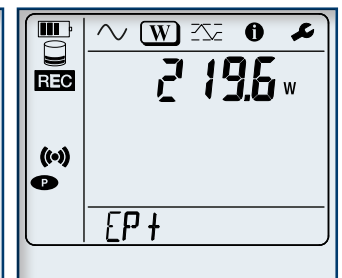
Real-time updates are displayed for voltage (V), current (A) active power (P), fundamental reactive power (Qf), apparent power (S), frequency (Hz), power factor (PF).

MAX MODE (1P-2W1I)



Max aggregated values of measurements and energy.

ENERGY MODE



Active energy (Wh), reactive energy (varh), apparent energy (VAh). The energies displayed are the total energies, of the source or of the load. (The "h" symbol is not displayed on the screen. You will see W, VA, var for Wh, VAh and varh. Downloaded recordings will show the "h")

Effortlessly Perform Load Study Analysis Meeting the NEC 220.87 Requirements with the new DataView® Control Panel Feature!

APPLICATIONS

- Load surveys - Find out how much energy each item of equipment consumes operating at its min/max power level.
- Energy analysis - Estimate energy consumption before and after the improvements.
- Energy surveys - The measurements for energy surveys must be performed at several locations on the evaluation site. Starting with the main power, compare the power and energy measurements on the electricity meter and bills. Sub metering can then be performed on downstream of the installation.

POWER & ENERGY LOGGERS PEL 110 SERIES



for all PEL 110 Models



for Model PEL 115



for Models PEL 112 & PEL 113

MODEL PEL 112, PEL 113 & PEL 115 Three-Phase Power and Energy Loggers

Monitor your power & energy usage and costs locally or from anywhere in the world!



DataView®



FEATURES

- Simple-to-use, single-, dual- (split-phase) and three-phase (Y, Δ) power & energy logger
- Ability to capture and store recordings extending over several months
- Works on (50, 60 and 400) Hz networks
- 3 voltage and 3 current channels with auto recognition of connected current sensors and probes
- Designed to work in 1000 V CAT III and 600 V CAT IV environments
- DataView® software for data storage, real-time display, analysis and report generation with custom templates
- Measure and log factorized harmonic content to the 50th
- Multiple connectivity options including USB, Ethernet, Wi-Fi, and remote access with DataViewSync®
- Assesses motor speed, efficiency, and torque without mechanical sensors via the Android™ App
- Supports USB, Ethernet, Wi-Fi access points (up to 5 users), and remote access with DataViewSync™
- Set up to 32 alarms, and when alarms occur during a recording, send email reports via DataViewSync™
- Supports SD cards up to 32 GB
- Can be powered directly from the phases with the PEL Adapter (sold separately)

PEL 112 & PEL 113 INCLUDE

Small classic tool bag, (3) MiniFlex® MA193-10-BK sensors (included in CAT #2137.53 and #2137.54 only), (4) 10 ft black test leads in cable reeling box, (4) black alligator clips, set of (12) color-coded ID markers, 8 GB SD-Card (installed), USB-SD-Card reader, 5 ft USB type A to type B cable, 5 ft 115 V power cord, NiMH AAA 8.4 V battery (installed), safety and compliance sheets, printed Quick Start Guide, and USB drive with DataView® software and user manual.



Download the user manual for complete specifications

PEL 115 INCLUDES

Extra large carrying bag with rubber bottom, (4) AmpFlex® sensors 24 in (waterproof - IP67) Model 196A-24-BK (included in CAT #2137.58 only), (5) 10 ft (3 m) black leads (with watertight cap), (5) black alligator clips, power adapter (110/230) V with US power cord, 5 ft USB cable, 8 GB SD-Card (installed), USB-SD-Card reader, set of (12) color-coded input ID markers, (1) 9.6 V NiMH battery (installed), set of (4) large and (5) small caps (watertight) (stored in instrument case inside cover), printed quick start guide, and USB drive with DataView® software and user manual.



Download the user manual for complete specifications

POWER ADAPTER FOR PEL 112 & 113

CAT. # 2137.90

Powers from phase to neutral (110 to 277) V_{ac} or phase to phase (110 to 480) V_{ac}

ADAPTER SOLD SEPARATELY



POLE MOUNTING KIT FOR PEL 115

CAT. # 2137.82

Set of (2) with hardware

SOLD AS AN ACCESSORY



POWER & ENERGY LOGGERS PEL 110 SERIES

ANDROID™ APP AVAILABLE!

- Configure measurements and recordings
- Display data in real-time
- For use on devices with Android™ platform
- **New** software sensors offer complete and immediate data on various electrical parameters of motors, including rotational speed, efficiency, and torque.

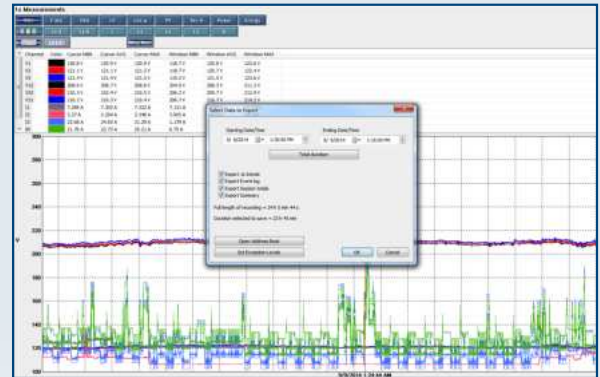


SCAN TO
LEARN
MORE

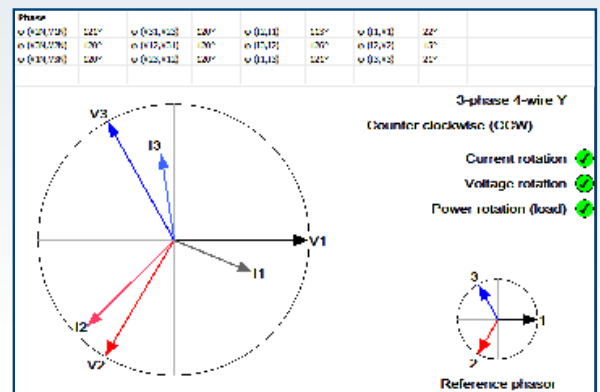


Android is a trademark of Google Inc. The Android robot is reproduced or modified from work created and shared by Google and used according to terms described in the Creative Commons 3.0 Attribution License.

PEL 113 & 115 can be configured directly from the front panel, DataView® control panel or the Android™ App



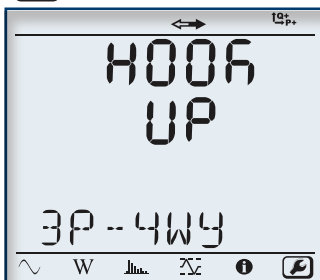
Export 1 Second Data: Create DataView® reports from 1 s data (200 ms for PEL 115), as well as aggregate data



Updated Phasor Diagram Screen: Now shows actual and reference diagrams and indicates whether voltage, current and/or power orientations are as expected

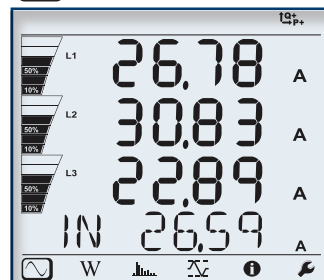
PEL 113 LARGE FUNCTIONAL DISPLAYS

INFORMATION MODE



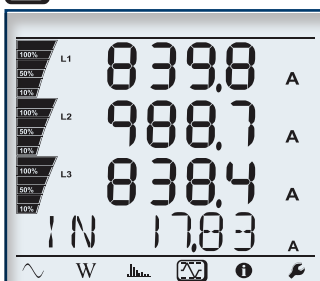
Hook up, voltage and current ratios and aggregation period can be configured from the front panel of the PEL 113

MEASUREMENT MODE



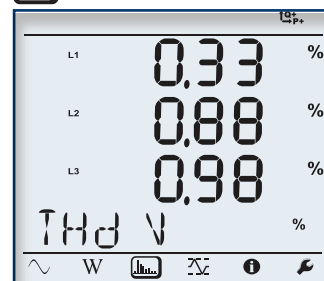
Real-time updates are displayed for voltage, current, power, frequency, power factor and tangent

MAX MODE

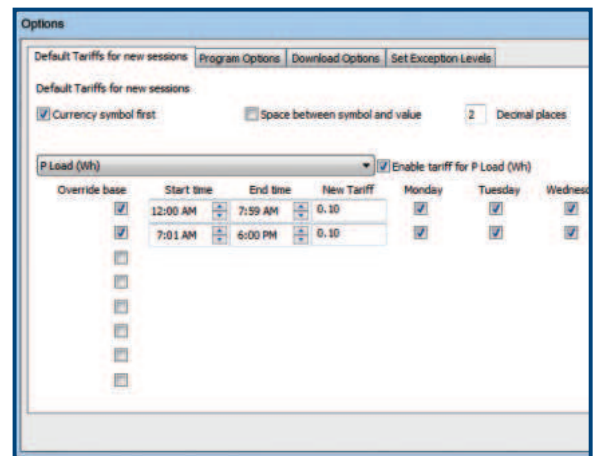


Max values for voltage, current (including neutral current), power and harmonics

HARMONIC MODE



Total Harmonic Distortion (THD) can be displayed by phase or phase to phase Neutral current THD can also be displayed



Time of Use Selection: Program up to 8 different tariffs for energy cost based on day of week and time of day

Effortlessly Perform Load Study Analysis Meeting the NEC 220.87 Requirements with the new DataView® Control Panel Feature!

POWER & ENERGY LOGGERS PEL 110 SERIES

MODEL	PEL 112 & PEL 113		PEL 115	
	Description ¹	Meter Only	Meter with MA193-10-BK Sensors	Meter Only
GENERAL				
Number of Voltage Channels	3- (V1, V2, V3)		4- (V1, V2, V3, Earth/Ground)	
Number of Current Channels	3 - (L1, L2, L3)		4 - (L1, L2, L3, Earth/Ground)	
Distribution Systems	Single-/Split-/3-Phase, DC, etc. (17 choices)			
MEASUREMENTS				
Voltage Range - Phase-Neutral (V) ²			(10 to 1000) V _{AC/DC} ²	
Voltage Range - Phase-Phase (U) ²	(10 to 1000) V _{AC}		(17 to 1000) V _{AC}	
Typical Accuracy - Voltage	±0.2 % R ±0.2 V			
Current Range AC	5 mA to 12 kA _{AC} ³	200 mA to 12 kA _{AC}	5 mA to 12 kA _{AC} ³	200 mA to 12 kA _{AC}
Current Range DC	50 mA to 1300 A _{DC} ³			
Typical Accuracy - Current (Meter Only) ⁴	±0.4 % R ± 0.04 % I _{nom}	–	±0.4 % R ± 0.04 % I _{nom}	–
Network Frequencies	DC/50/60/400 Hz (VFD/PWM not available)			
CALCULATED MEASUREMENTS				
Voltage Ratios	up to 650 kV			
Current Ratios	Up to 25 kA (MN193 probe, 5 A range)	Not available with Ampflex®/ Miniflex® sensors	Up to 25 kA (MN193 probe, 5 A range)	Not available with Ampflex®/ Miniflex® sensors
Power (P, P+ , P _{unb} , Qf, N, D, S)	up to 10 GW/Gvar/GVA ⁵			
Energy	up to 4 EWh/EVAh/Evarh ⁵			
Phase	cos φ, tan φ, PF			
Phase Order / Phasor Diagram	Yes/Yes (with DataView® or App for Android™)			
Harmonics	THD for V, A and Harmonics to 50 th order for V, A			
RECORDING				
Aggregations (Fixed)	200 ms/1 s trends			
Aggregations (Selectable)	(1 to 60) min (12 choices)			
Min/Max Values	Yes			
Alarms	Up to 32 separate alarms			
Emailed Reports	Yes, Alarms and Periodical Min/Max data through DataViewSync®			
Storage Media	SD Card (32 GB Max)			
Recording Length	Several Weeks to Years (Configuration Dependent)			
OTHER FEATURES				
Communication	USB, Ethernet/Wi-Fi LAN, Ethernet/Wi-Fi Direct, DataViewSync®			
Software	DataView® included, free App for Android™			
NEC Article 220.87 Load Study Compliant	Yes, DataView® configuration button and report templates			
Mounting	Embedded Magnets in Case		Pole Mounting Kit (Cat. #2137.82)	
Powered from Phase	Phase Power Adapter (Cat. #2137.90)		Yes	
External Power Supply	120 / 240 V Line Power Cord		Power Adapter	
SAFETY AND MECHANICAL				
Electrical Safety (IEC 61010)	600 V CAT IV / 1000 V CAT III		1000 V CAT IV	
Ingress Protection ⁶	IP 54 / IP 20		IP 67	
Weight	<2.2 lb (1 kg)		7.5 lb (3.4 kg)	

¹ Please see user manual for complete technical specifications

² 400 Hz - Phase-Neutral-V (5 to 600) V ; Phase-Phase-U (10 to 600) V

³ Probe dependent

⁴ Accuracy of connected current probe must be added to this value

Consult factory for NIST Calibration prices

⁵ (G = Giga = 10⁹), (E = Exa = 10¹⁶)

⁶ (PEL 115) IP 67 with included waterproof accessories;

(PEL 112/113) IP 54 instrument disconnected (de-energized) / IP 20 instrument connected (energized and operating)

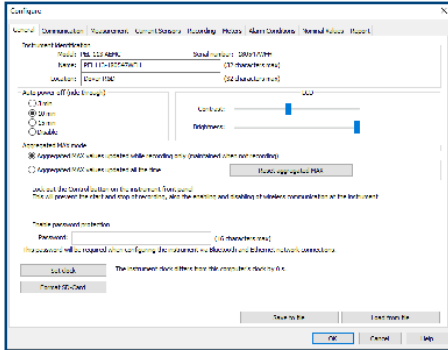
CATALOG NO.	DESCRIPTION
2137.53	Power & Energy Logger Model PEL 112 (No LCD, w/3 MA193-10-BK Sensors)
2137.63	Power & Energy Logger Model PEL 112 (No LCD, No Sensors)
2137.54	Power & Energy Logger Model PEL 113 (w/LCD, w/3 MA193-10-BK Sensors)
2137.64	Power & Energy Logger Model PEL 113 (w/LCD, No Sensors)
2137.56	Power & Energy Logger Model PEL 115 (No sensors, Waterproof IP67, DataView® Software)
2137.58	Power & Energy Logger Model PEL 115 (w/4 196A-24-BK AmpFlex® Sensors (Waterproof IP67, DataView® Software)

DATAVIEW® SOFTWARE INCLUDED

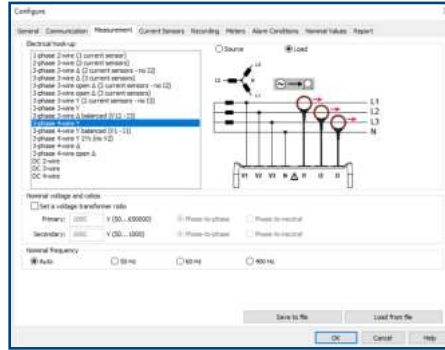
DataView® Data Analysis and Reporting Software



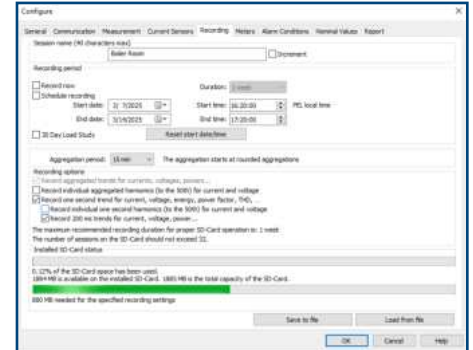
DataView® software, user manual and quick start guide are included on the USB



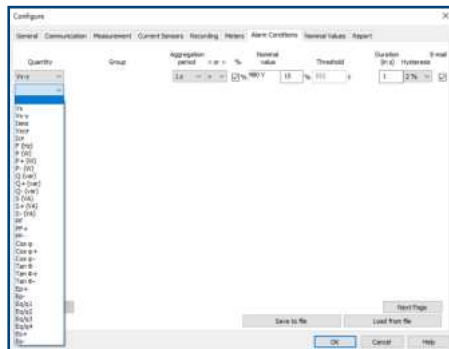
The **General** tab provides easy access to basic settings, including Auto Power Off, instrument name and location, display brightness and contrast (PEL 113 and PEL 115), real-time clock configuration, and SD card formatting.



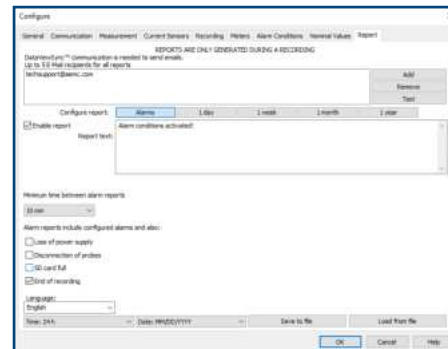
The **Measurement** tab specifies the electrical distribution system, voltage ratios, nominal frequency and current probe options and ratios.



In the **Recording** tab, configure the instrument to measure (and record) over a user selectable recording period. Select demand intervals and view available memory for data storage.



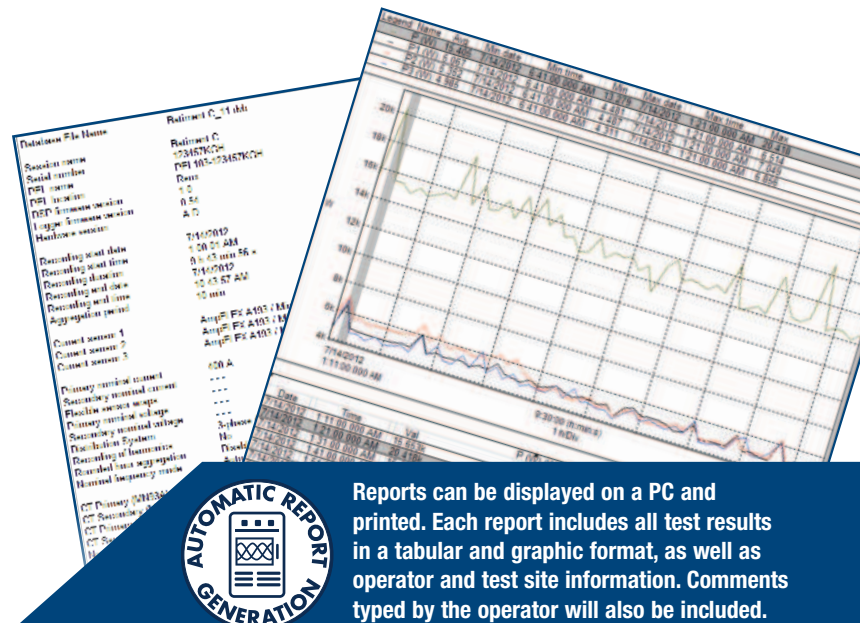
The **Alarm Conditions** tab sets parameters for alarm monitoring during recording sessions on the instrument, allowing configuration of up to 32 alarms.



The **Report** tab allows configuration of the instrument to send periodic email reports to up to five users and to send email reports when alarms occur during a recording.

Configure all functions of the PEL

- 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



Reports can be displayed on a 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.



THREE PHASE POWER QUALITY ANALYZERS

POWERPAD® III MODELS 8333 & 8336

SD card for trend recordings and data storage, extensive memory for high snapshot quantity, captured transients/inrush and alarm events

MODELS	8333	8336
MECHANICAL		
Input Terminals	4 voltage / 3 current	5 voltage / 4 current
Inputs	3 voltage / 3 current	4 voltage / 4 current
Voltage (TRMS AC+DC)	(2 to 1000) V	
Voltage Ratio	up to 500 kV	
Current (TRMS AC+DC)	MN93: 500 mA to 200 A _{AC} ; MN193: (0.005 to 100) A _{AC} SR193 Clamp: (1 to 1000) A _{AC} AmpFlex® or MA193 Clamps: 100 mA to 10,000 A _{AC} MR193 Clamp: (1 to 1000) A _{AC} /1300 A _{DC} SL261 Clamp: 50 mA to 100 A _{AC/DC} Current Ratio: up to 60 kA	
Frequency (Hz)	(40 to 69) Hz	
Distribution Systems	1P 2W, 1P 3W, 2P 2W, 2P 3W, 2P 4W, 3P 3W, 3P, 4W, Split-Phase 2W & 3W and Aron meters	1P 2W, 1P 3W, 2P 2W, 2 P 3W, 2P 4W, 3P 3W, 3P, 4W and 3P 5W, 2 ½ Element and Aron meters
Power Values	W, VA, var, VAD, PF, DPF, cos φ, tan φ	
Energy Values	Wh, varh, VAh, VADh	
Harmonics	1 st to 50 th , Direction, Sequence; THD: 0 to 50, phase	
Transients	up to 50	up to 210
Flicker (Pst/Pit)	Yes/No	Yes/Yes
Unbalance		Yes
Recording		Yes
Alarm Mode	10 types; 4000 recorded	40 types; 16,000 recorded
Peak		Yes
Phasor Display		Automatic
Display	Color ¼ VGA TFT screen (320 x 240) diagonal 5.82 in (148 mm)	
Snapshots	12	50
Languages		> 27
Communication Interface		USB
MECHANICAL		
Battery Life	≤ 10 h, ≥ 15 h in Record mode	
Power Supply	9.6 V NiMH rechargeable battery pack (included) External AC supply: (110/230) V _{AC} ± 10 % (50/60) Hz	
Dimensions / Weight	(9.8 x 7.8 x 2.6) in (249 x 198 x 66) mm / 4.3 lb (1.95 kg)	
SAFETY		
Safety Rating / IP	IEC 61010, 1000 V CAT III; 600 V CAT IV / IP53	

Consult factory for NIST Calibration prices

PRODUCT INCLUDES

CAT. # 2136.10 MODEL 8333 (NO PROBES)

Extra large carrying bag, soft carrying pouch, (4) 10 ft black voltage leads with alligator clips, 5 ft USB cable, (12) color-coded input ID markers, 110/240 V power adapter with US power cord, 9.6 V NiMH battery, SD card, printed quick start guide and USB drive with DataView® software and user manual.

CAT. # 2136.30 MODEL 8336 (NO PROBES)

Extra large carrying bag, soft carrying pouch, (5) 10 ft black voltage leads with alligator clips, 5 ft USB cable, (12) color-coded input ID markers, 110/240 V power adapter with US power cord, SD card, 9.6 V NiMH battery, printed quick start guide, and USB drive with DataView® software and user manual.



DataView®



8333



8336

FEATURES

- True RMS single-, two- and three-phase measurements at 256 samples/cycle, plus DC
- Real-time color waveforms
- Easy-to-use on-screen setup
- Automatic current probe recognition and scaling
- True RMS voltage and current measurement
- Measures DC volts, amps and power
- Displays and captures voltage, current and power harmonics to 50th order, including direction, in real-time
- Captures transients down to 1/256th of a cycle
- Stores comprehensive data base of logged data
- Phasor diagram display
- kVA, kvar and kW per phase and total
- kVAh, kvarh and kWh per phase and total
- Neutral current calculated and displayed for three-phase
- Transformer Factor K display
- Power Factor, displacement PF display
- Captures up to 210 transients (8336)
- Short term (8333) and Long term (8336) flicker display
- Phase unbalance (current and voltage)
- Harmonic Distortion (total and individual) from 1st to 50th
- Alarms, surges and sags
- Screen snapshot function captures waveforms or other information on the display
- Includes FREE DataView® software for configuring, data retrieval, real-time display, analysis and report generation



8333



8336

Download the user manuals for complete specifications

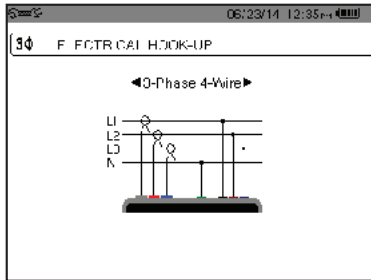
* 3 YEAR WARRANTY ONLY APPLIES WHEN METER IS REGISTERED WITHIN 30 DAYS OF PURCHASE

THREE PHASE POWER QUALITY ANALYZERS

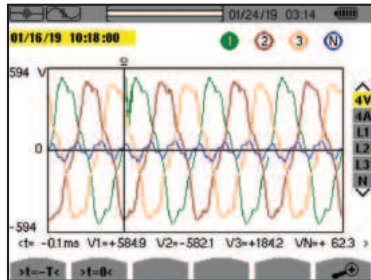
MODELS 8333 & 8336

LARGE FUNCTIONAL DISPLAYS

CONFIGURATION



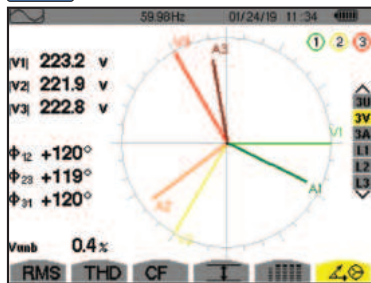
TRANSIENT MODE



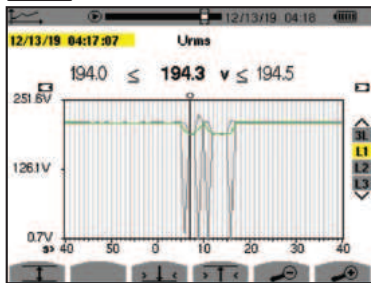
POWER AND ENERGY MODE



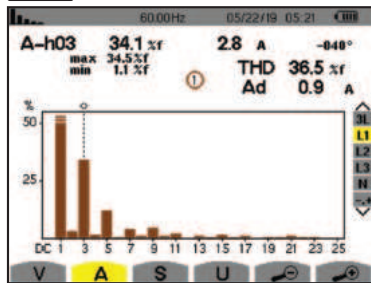
PHASOR DIAGRAM



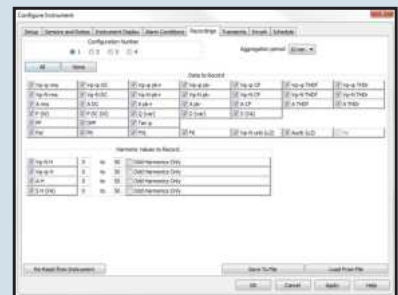
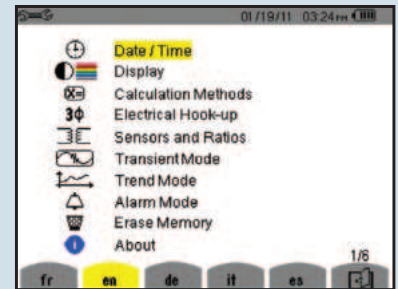
RECORDING MODE



HARMONICS MODE



Quick & Easy Set Up
From Device Front Panel
or a PC Computer



Configuration menu provides direct access to all configurable parameters on the screen or from a computer.



SCAN TO
LEARN
MORE

ACCESSORIES/REPLACEMENTS

- CATALOG #2133.73** Extra Large Classic Tool Bag (18 x 9 x 12) in
- CATALOG #2140.19** Replacement - 9.6 V NiMH Rechargeable Battery
- CATALOG #2140.28** AC/DC Current Probe Model MR193-BK
- CATALOG #2140.32** AC Current Probe Model MN93-BK
- CATALOG #2140.33** AC Current Probe Model SR193-BK
- CATALOG #2140.34** AmpFlex® Sensor 24 in Model 193-24-BK
- CATALOG #2140.35** AmpFlex® Sensor 36 in Model 193-36-BK
- CATALOG #2140.36** AC Current Probe Model MN193-BK
- CATALOG #2140.40** BNC Adapter for AC/DC Current Probe Model SL261 and models for use with 8333, 8336, 8435, 8436 & PEL Series

- CATALOG #2140.44** (1) 10 ft (3 M) Black Lead w/(1) Black Alligator Clip (Lead rated 1000 V CAT IV 15 A, Clip rated 1000 V CAT IV 15 A, UL)
- CATALOG #2140.48** MiniFlex® Sensor 10 in Model MA193-10-BK
- CATALOG #2140.50** MiniFlex® Sensor 14 in Model MA193-14-BK
- CATALOG #2140.80** MiniFlex® Sensor 24 in Model MA194-24-BK
- CATALOG #2140.77** Phase Power Adapter (8333 & 8336)
- CATALOG #5000.14** Power Cord 115 V
- CATALOG #5000.99** Clip - Safety Alligator, Black (1000 V CAT IV, 15A, UL V2)

SEE CHART ON PAGE 18 FOR MORE PROBES AND SENSORS

CATALOG NO. DESCRIPTION

2136.10	PowerPad® III Model 8333 (no probes)
2136.11	PowerPad® III Model 8333 w/3 193-24-BK Sensors
2136.12	PowerPad® III Model 8333 w/3 MN193-BK Probes
2136.30	PowerPad® III Model 8336 (no probes)
2136.31	PowerPad® III Model 8336 w/4 193-24-BK Sensors
2136.32	PowerPad® III Model 8336 w/4 MN193-BK Probes



THREE PHASE POWER QUALITY ANALYZER Model 8436

POWERPAD® III MODEL 8436

Supplied with an 8 GB SD card for storing up to 2 GB trend recordings

(4) current and (5) voltage input terminals

MODEL	8436
ELECTRICAL	
Sampling Frequency	256 samples / cycle
Data Storage	SD card for trend recording; Additional separate 12.5 MB partitioned memory for snapshots, transient / Inrush & alarms
Voltage (TRMS)	Phase-to-Phase: 2000 V Phase-to-Neutral: 1000 V Voltage Ratio: up to 500 kV
Current (TRMS)	MN Clamp: (0 to 6) A/120 A or (0 to 240) A SR Clamp: (0 to 1200) A MR Clamp: (0 to 1000) A _{AC} , (0 to 1400) A _{DC} MiniFlex®: (10 to 3000) A AmpFlex®: (10 to 10) kA ⁽¹⁾ SL261 Clamp: 50 mA to 100 A _{AC/DC} J93: (50 to 3500) A _{AC/DC} Current Ratio: 10 mA to 60 kA
Frequency (Hz)	(40 to 69) Hz
Other Measurements	kW, kvar, kVA, PF, DPF, kWh, kvarh, kVAh, Factor K, Flicker
Harmonics	1 st to 50 th , Direction, Sequence
Power Supply	9.6 V NiMH rechargeable battery pack (included) (110 to 1000) V DC to 400 Hz
Battery Life	≤ 10 h with display on; ≥ 15 h with display off (record mode)
MECHANICAL	
Communication Port	Optically isolated USB
Display	¼ VGA (320 x 240) color LCD display with adjustable brightness & contrast
Dimensions	(10.6 x 9.8 x 7.1) in (270 x 249 x 180) mm
Weight	8.2 lb (3.7 kg) with batteries
SAFETY	
Safety Rating	EN 61010, 600 V CAT IV ⁽²⁾ , 1000 V CAT III

(1) Crest factor at 6500=1

(2) When used with SR193 or AmpFlex® probes 600 V CAT III with MN193 or MR193 probes

Consult factory for NIST Calibration prices



Download the user manual for complete specifications

PRODUCT INCLUDES

8436 KIT CATALOG #2136.44

Extra large tool bag, accessory pouch, 5 ft USB cable, (5) 10 ft black voltage leads with alligator clips, 110 V US power cord, line power cord 110-1000 V DC to 400 Hz, (12) color-coded input ID markers, (4) water-tight AmpFlex® 196A-24-BK sensors (2136.44 only), 9.6 V NiMH battery, SD card, printed quick start guide, high-voltage warning card, and a USB drive with DataView® software and user manual.



Captures & Records Transients, Events & Waveforms Simultaneously



DataView®

FEATURES

- Measurement of TRMS voltages up to 1000 V_{rms} AC/DC for two-, three-, four- or five-wire systems
- Measurement of TRMS currents up to 10,000 A_{rms} (sensor dependent)
- 65 µs sample rate
- Direct measurement of neutral current and voltage
- Record and display trend data as fast as once per second for one month for up to 25 variables
- Transient detection on all V and I inputs (up to 210)
- Selectable PT and CT ratios
- Inrush current measurement
- Calculation of Crest Factors for V and A
- Calculation of Factor K for transformers
- Calculation of short and long term flicker and three-phase voltage unbalance
- Measures harmonics (referenced to the fundamental or RMS value) for voltage, current or power, up to 50th harmonic
- Displays of harmonic sequencing and direction and calculation of overall harmonics
- Real-time display of phasor diagrams including values and phase angles
- Measurement of active, reactive and apparent power per phase and their respective sum total
- Calculation of power factor, displacement power factor and tangent factor
- Recording, time stamping and characterization of disturbance (swells, sags and interruptions, exceedance of power and harmonic thresholds)
- 2 GB Trend Recording memory; Alarm, Snapshot and Transient/Inrush memories are separate
- Measurement of energy kVAh, kvarh & kWh
- The Max and Min RMS measurements are calculated every half-period
- Includes DataView® software for configuring, real-time display, analysis and report generation

* 3 YEAR WARRANTY ONLY APPLIES WHEN METER IS REGISTERED WITHIN 30 DAYS OF PURCHASE

THREE PHASE POWER QUALITY ANALYZER Model 8436

MODEL 8436

LARGE COLOR FUNCTIONAL DISPLAYS

INSTALLATION OF THE LEADS AND CURRENT SENSORS

Color-coded ID markers are supplied with the PowerPad® III to identify the leads and input terminals.



The voltage and current inputs, as well as the power cord connection are constructed with screw on, watertight connectors rated to IP67.



LEAD & ALLIGATOR CLIP
Catalog #2140.73



POWER CORD
Catalog #5000.63



AMPFLEX® SENSORS
Catalog #2140.75
(Included with
Cat. #2136.44 only)

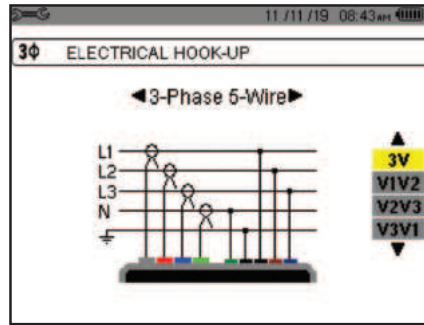


LINE POWER ADAPTER
Catalog #5000.89

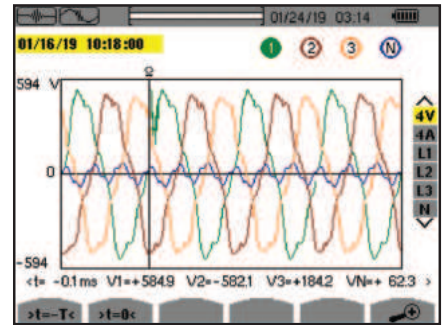


POLE MOUNTING KIT
Catalog #2137.82
Set of (2) with hardware

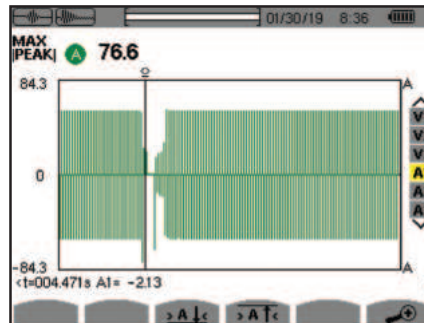
CONFIGURATION



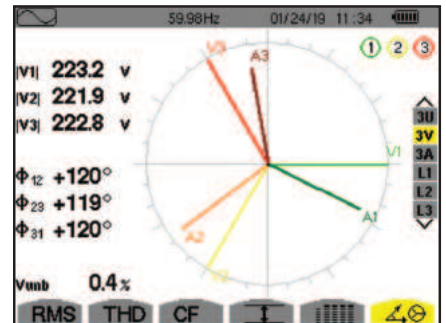
TRANSIENT MODE



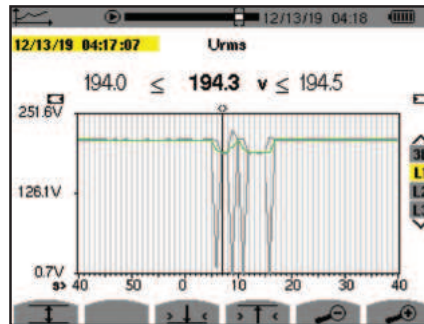
INRUSH PEAK



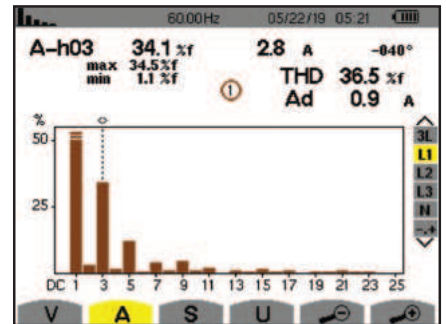
PHASOR DIAGRAM



TREND ANALYSIS



HARMONICS MODE



ACCESSORIES/REPLACEMENTS

CATALOG #2133.73 Extra Large Classic Tool Bag (18 x 9 x 12) in

CATALOG #2137.82 Pole Mounting Kit

CATALOG #2140.19 Replacement - 9.6 V NiMH Rechargeable Battery

CATALOG #2140.45 Set of (12) color-coded Input ID Markers

CATALOG #2140.73 (1) 10 ft (3 M) Black Lead (Waterproof cap) (Rated

1000 V CAT IV) and (1) Black Alligator Clip (Rated 1000 V CAT IV, 15 A, UL)

CATALOG #2140.75 AmpFlex® Sensor 24 in Model 196A-24-BK

(Waterproof - IP67)

CATALOG #2140.79 MiniFlex® Sensor 14 in Model MA196-14-BK
(Waterproof - IP67)

CATALOG #5000.14 Power Cord 115 V

CATALOG #5000.43 Probe - Set of (2) Color-coded (Red/Black) Magnetize
Voltage Probes (Rated 600 V CAT IV, 1000 V CAT III)

CATALOG #5000.63 Power Cord 110 V for use only with Models 8435 and 8436

CATALOG #5000.77 Cable Reeling Box

CATALOG #5000.89 Line Power Adapter 110-1000 V DC to 400 Hz

(Replacement - for use only with Model 8436)

CATALOG NO.	DESCRIPTION
2136.43	PowerPad® III Model 8436 (No Sensors - Waterproof IP67)
2136.44	PowerPad® III Model 8436 w/4 196A-24-BK (AmpFlex® - Waterproof IP67)

POWER & ENERGY QUALITY ANALYZER Model 8345

PowerPad® IV Model 8345

The PowerPad moves up a grade - Class A!

POWERPAD IV
Class A



MODEL	8345	
ELECTRICAL		
Measurement Frequency	Measurement Range without Ratio (with unity ratio)	
	Min	Max
	42.50 Hz	69.00 Hz
Inputs	5 voltage / 4 current, isolated	
Voltage	(5 to 1000) V _{AC} / 1200 V _{DC}	
Harmonics Mode	DC to 127 th order; < 3% U _{din}	
Interharmonics Mode	0 to 126 th order; < 0.5% U _{din}	
Inrush / Transient Capture (number)	No maximum (limited by SD card) / 1000 ct	
Shockwaves (Fast transient)	Up to 12 kV sampled every 500 ns	
Flicker (P _{st})	< 0,1	
Voltage Unbalance (u0,u2)	(0.5 to 5) % (absolute); ± 0.15 % (absolute)	
Trend Recording (recommended)	> 900 parameters	
	3 days with a sampling period of 200 ms	
	15 days with a sampling period of 1 s	
	45 days with a sampling period of 3 s	
Sampling Rate	Voltage 400 kSps / Current 200 kSps / Surge 2 MSps	
Alarm Mode	40 / 20,000	
Types / Number	with Email notifications	
Real-time / Power / Energy Modes	Yes / Yes / Yes	
Unbalance Mode	Composite	
Screenshots	No maximum (limited by SD card)	
Power Supply	Power from phase from 100 to 1000 V _{AC} /DC with external supply block (included)	
Carrier Current Detection	Yes	
Battery	5.8 Ah Li-ion battery pack (included) ≤ 6 hrs w/ display on; ≤ 10 hrs w/ display off	
MECHANICAL		
Data Storage	16 GB SD-Card (included) for snapshot, transients, alarms and trend recording	
Display	7 in color LCD touch screen: 800 x 480 (WVGA)	
Clock / GPS	Yes, built-in	
Operating Temperature	(32 to 104) °F (0 to 40) °C	
Communication	USB, Ethernet/Wi-Fi LAN, Ethernet/Wi-Fi Direct, DataViewSync™, Web Server	
Dimensions	(7.87 x 11.22 x 2.17) in (200 x 285 x 55) mm	
Weight (meter only)	4.19 lbs (1.9 kg)	
COMPLIANCE & STANDARDS		
Safety / IP	IEC 61010 1000 V CAT IV / IP54	
Environmental	IEC 61557-12 & IEC 62586	
Measurement Standard	IEC 61000-4-30 (Ed 3) Class A (Full)	
EN50160 Monitoring Mode	With DataView® software	
Warranty	*3 years (registration must be done within 30 days of the date of purchase)	



DataView

PRODUCT INCLUDES

CAT. # 2136.36 - POWERPAD® IV MODEL 8345
W/4 MA194-24-BK MINIFLEX® SENSORS

Meter, extra-large tool bag, internal carrying pouch, hand strap, (4) MA194-24-BK sensors, USB cable, (5) 10 ft black voltage leads with alligator clips, (12) color-coded input ID markers, power adapter (PA32ER) with US power cord, (2) 6 ft stackable leads, (2) 10 ft black voltage leads with alligator clips for power adapter PA32ER, (1) power plug adaptor for PA32ER, SD card, 5.8 Ah Li-ion battery pack, quick start guide, and a USB drive with DataView® software and user manual.



Download the user manual for complete specifications



* 3 YEAR WARRANTY ONLY APPLIES WHEN METER IS REGISTERED WITHIN 30 DAYS OF PURCHASE

POWER & ENERGY QUALITY ANALYZER Model 8345

FEATURES

- Full compliance with IEC 61000-4-30 ed. 3.0 Class A functions
- Voltage quality diagnostics
- Records and stores hundreds of parameters in memory every 10/12 periods
- Measurements on all network types: three-phase, Aron connection, single phase, etc.
- Electrical network monitoring with setting of alarms
- Real-time display of color waveforms (5 voltage/4 current) from 1 cycle to 10/12 cycles
- Measurement of Power Parameters (P, N, Q₁, S and D)
- Harmonics (amplitude/phase shift) from DC to the 127th order
- Built-in GPS for precise synchronization and accurate timestamping of data
- Webserver, Wi-Fi and Ethernet communication for data transfer and remote monitoring
- Trend recording period from 200 ms to 2 h for flexible and long-term recording and analysis
- Intuitive, user-friendly, and multilingual graphical interface with 7-inch color touch screen functionality
- Automatic current sensors recognition to simplify setup and reduce errors
- Data Export and communication with DataView[®] software for analysis and reporting
- Waveforms at 512 samples per cycle, with Min/Max 2.5 μ s
- True InRush[®] current measurements to study and understand load characteristics
- True RMS voltage and current measurement
- Capture shockwaves up to 12 kV with a resolution of 500 ns to diagnose power quality issues
- Display of phasor diagrams to visualize power characteristics
- USB and external flash drive support for data storage and transfer
- Comprehensive variety of calculations for thorough electrical system analysis
- 2 carrier current frequencies monitored

ACCESSORIES/REPLACEMENTS

CATALOG #2133.76 Carrying Bag

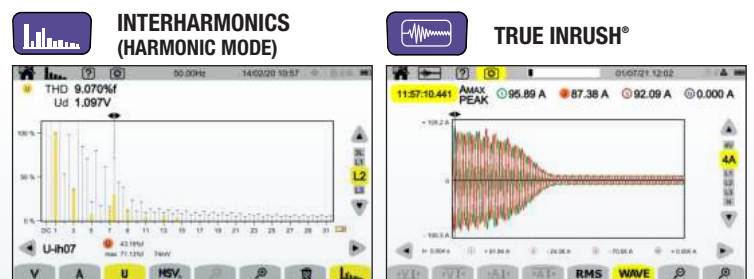
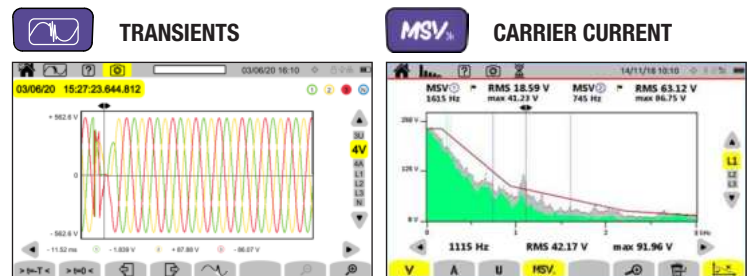
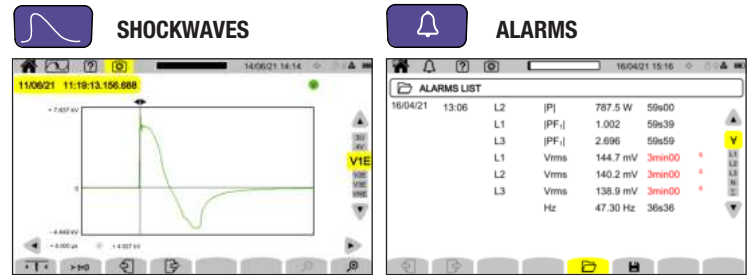
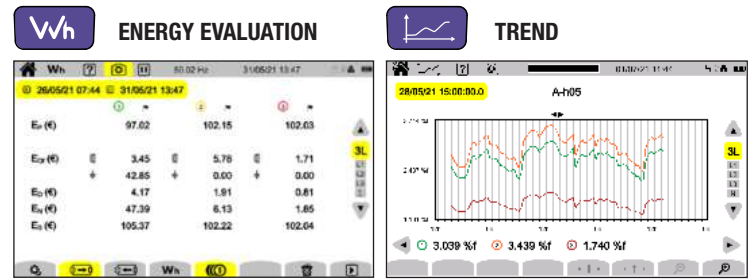
CATALOG #5100.16 Magnetic Hook

CATALOG #2140.43 Lead - Set of 5, 10 ft (3M) Black Leads w/ (5) Black Alligator Clips (Leads rated 1000 V CAT IV 10 A, Clips rated 1000 V CAT IV 15 A, UL)

CATALOG #2140.44 (1) 10 ft (3 M) Black Lead w/(1) Black Alligator Clip (Lead rated 1000 V CAT IV 15 A, Clip rated 1000 V CAT IV 15 A, UL)

CATALOG #2140.81 AC Current Probe Model MN94

LARGE FUNCTIONAL DISPLAYS



CATALOG #2140.82 AC/DC Current Probe Model E94

CATALOG #2136.80 Cable - Replacement 10 ft USB Cable

CATALOG #2960.47 Battery - Replacement 5.8 A-h 61.9 W-h Li-ion Battery Pack

CATALOG #5000.14 Power Cord 115 V

CATALOG #5000.99 Clip - Safety Alligator, Black (1000 V CAT IV, 15A, UL V2)

CATALOG #5100.14 Adapter - Replacement Power Plug Adapter for PA32ER

CATALOG #5100.15 Adapter - Replacement 1000 V PA32ER Power Supply

SEE CHART ON PAGE 18 FOR MORE PROBES AND SENSORS

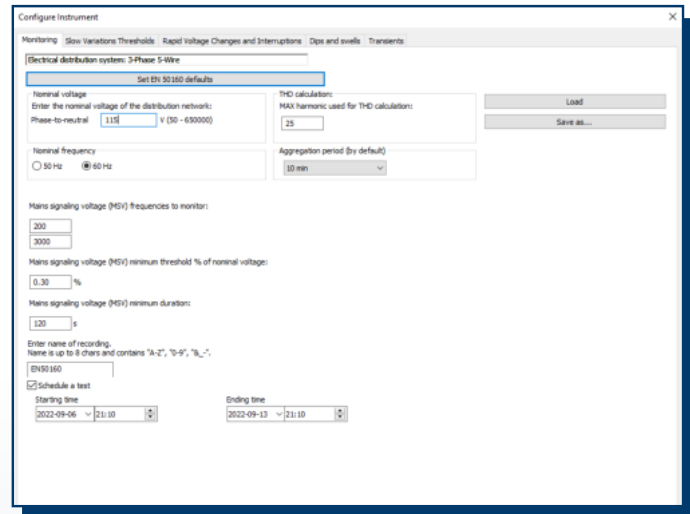
CATALOG NO.	DESCRIPTION
2136.35	PowerPad [®] IV Model 8345 (no probes)
2136.36	PowerPad [®] IV Model 8345 w/4 194-24-BK MiniFlex [®] Sensors
2136.37	PowerPad [®] IV Model 8345 w/4 193-24-BK Sensors (regular AmpFlex [®])

DATAVIEW[®] SOFTWARE INCLUDED

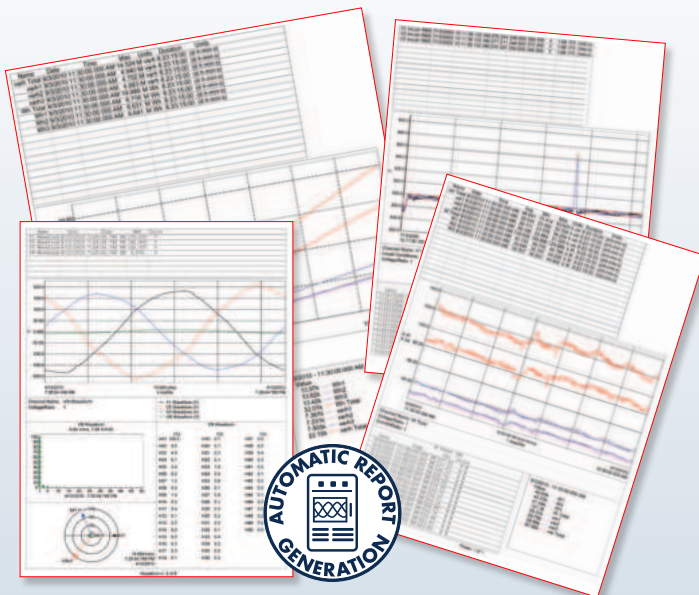
DataView[®] Data Analysis and Reporting Software

Configure all functions of the PowerPad[®] IV Model 8345

- ▶ Display and analyze real-time data on a PC
- ▶ Configure all PowerPad[®] functions and parameters from your PC
- ▶ Record trend data directly to the PC
- ▶ Customize views, templates and reports to meet specific 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
- ▶ Display waveforms, trend graphs, harmonic spectrums, text summaries, transients, event logs and stored alarms
- ▶ Print reports using standard or user designed custom templates
- ▶ Selectively review individual channels, phases on total network recordings
- ▶ Keep track of accumulated energy over time
- ▶ Create user-specific cover sheets for reports identifying specific data that includes operator, tests site and narrative associated with the data



Monitoring tab allows complete control of Monitoring conditions.

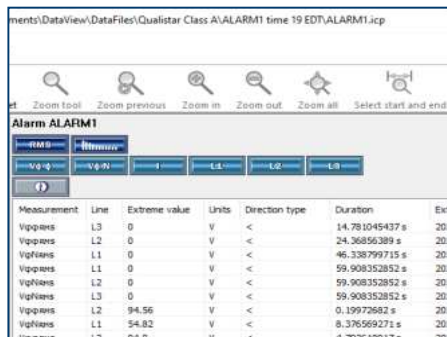


The Control Panel Makes it Easy to:

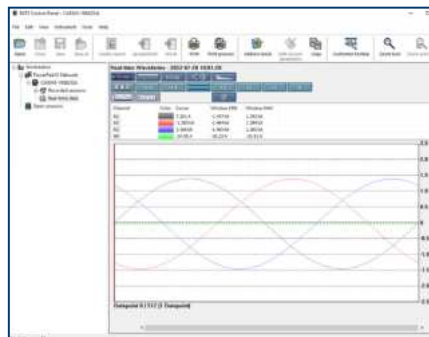
- ▶ Name the Monitoring
- ▶ Select Aggregation period from 0.0 s to 2 hrs
- ▶ Schedule Monitoring by selecting Start and Stop Date/Time
- ▶ Load Parameters from a file
- ▶ Save all the Parameters to re-load later
- ▶ Edit Power Ratios
- ▶ Add to the Parameter list
- ▶ Edit conditions for any Parameter
- ▶ Delete a given Parameter from the list
- ▶ Monitor an active recording session or a saved session

DATAVIEW[®] SOFTWARE INCLUDED

DataView[®] Data Analysis and Reporting Software



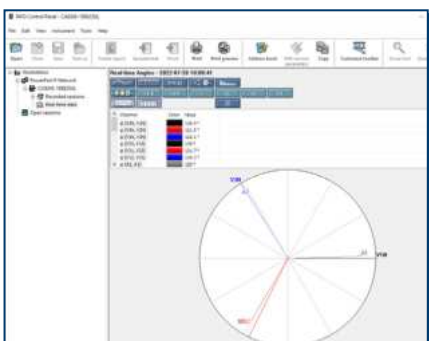
Configure and display alarm parameters, thresholds and tests results.



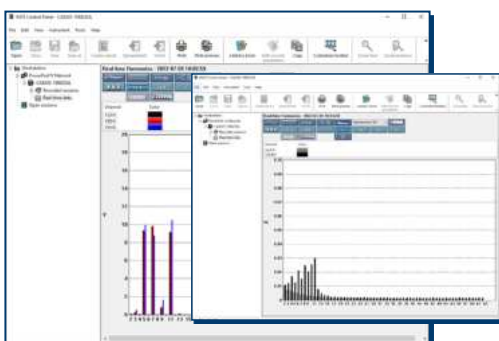
Display real-time waveforms by phase, parameter or total.



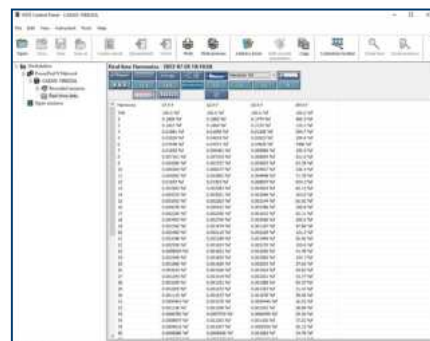
Display power and energy parameters – both instantaneous and total.



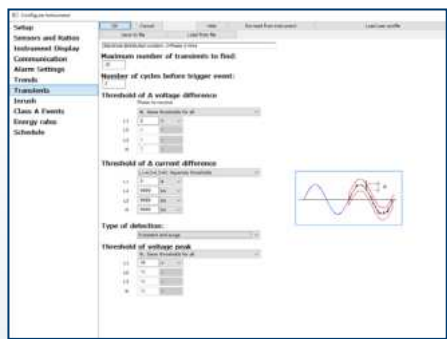
Display real-time phasor diagrams. Includes unbalance for both voltage and current.



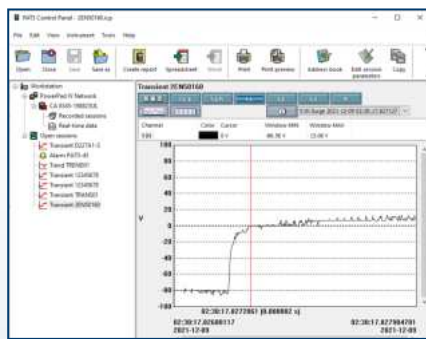
Display all harmonics from 1st to 63rd or interharmonics from 1st to 62nd in bar graph form for voltage, current and power.



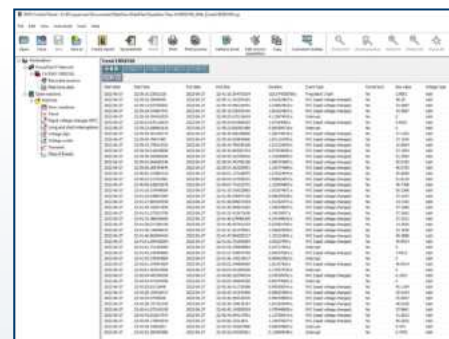
Display harmonics in a text table from harmonic 0 (DC) through the 63rd.



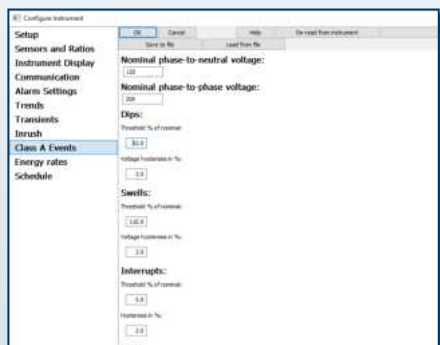
Configure transient voltage peaks and current waveforms.



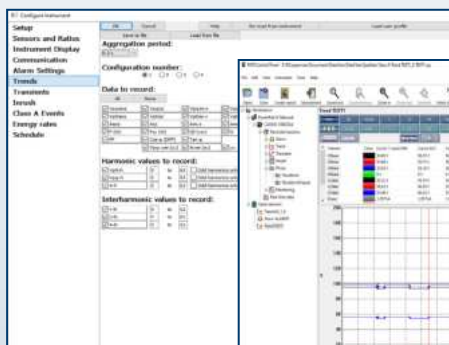
Display surge transient.



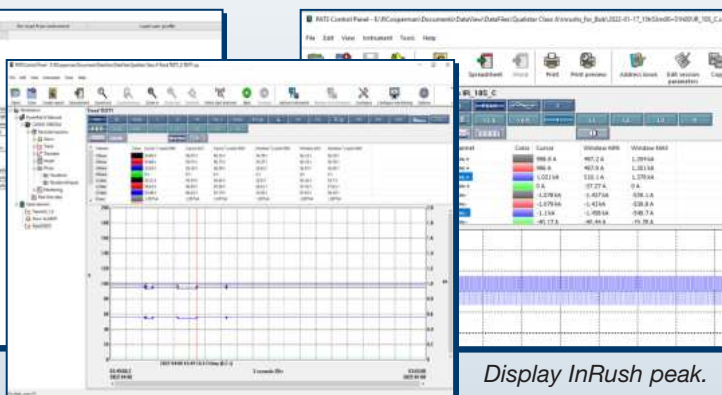
Display Class A list.



Configure Class A events.



Configure trends.



Trend Results.

Display InRush peak.

Power Clamp-On Meters Models 407 & 607

Measures single- and three-phase power (real, reactive and apparent) up to 3 MW with resolution to 1 W



MODELS	407	607
ELECTRICAL		
Measurement Method	TRMS AC/AC + DC/DC	TRMS AC/AC + DC/DC
Autorange	Yes	Yes
Automatic AC/DC Detection	Yes	Yes
A AC	(0.15 to 1000) A (1500 A peak)	(0.15 to 2000) A (3000 A peak)
A DC	(0.15 to 1500) A	(0.15 to 3000) A
A AC+DC	(0.15 to 1000) A (1500 A peak)	(0.15 to 2000) A (3000 A peak)
Best Accuracy	1 % of Reading + 3 cts	
V _{AC}	(0.15 to 1000) V (1400 V peak)	
V _{DC}	(0.15 to 1400) V	
V _{AC+DC}	(0.15 to 1000) V (1400 V peak)	
Best Accuracy	1% of Reading + 3 cts	
Hz	Current: (5.0 to 2000) Hz Voltage: (5.0 to 20.00) kHz	Current: (5.0 to 2000) Hz Voltage: (5.0 to 20.00) kHz
Ohm	0.1 Ω to 99.99 kΩ	
Open Circuit Voltage	≤ 8 V	
Measurement Current	≤ 680 μA	
Audible Continuity	Yes	
Continuity Threshold	40 Ω	
Diode Test (semiconductor junction)	-	
Single-phase and Total Three-phase Power Values	Yes	
Active Power	1 W to 1000 kW	1 W to 2000 kW
Reactive Power	1 var to 1000 kvar	1 var to 2000 kvar
Apparent Power	1 VA to 1000 kVA	1 VA to 2000 kVA
FP / DPF	Yes / Yes	
Harmonic Analysis	Yes	
THDf / THDr	Yes / Yes	
Frequency Analysis	25 th order	
Phase Rotation (2-wire method)	-	
True InRush [®] (overcurrent measurement)	Yes	
Motor InRush Load Change	Yes	
Hold	Yes	
Min / Max	Yes	
Peak+ / Peak	Yes	
RELative ΔX / Differential ΔX/X (%)	Yes	
MECHANICAL		
Jaw Opening	1.89 in (48 mm)	2.36 in (60 mm)
Display Resolution	10,000 cts	
Display Backlighting	Backlit LCD	
Number of Values Displayed	3	
Auto Power Off	Yes	
Data Recording	Yes	
Communication Interface	Bluetooth [®] communication	
Electrical Safety as per IEC 61010	1000 V CAT IV	
Power Supply	Four 1.5 V AA	
Dimensions & Weight	10.70 x 3.62 x 1.61 in (272 x 92 x 41) mm / 600 g	11.65 x 4.37 x 1.61 in (296 x 111 x 41) mm / 640 g



SCAN TO LEARN MORE

FEATURES

- 1000 V CAT IV Rated
- UL 94 VI flame retardant self-extinguishing
- 10,000-count blue electroluminescent backlit display
- Measures up to 1000 V_{AC} (1400 V peak), 1000 V_{DC} and AC+DC with resolution to 10 mV
- Measures up to 2000 A_{AC} and 3000 A_{DC} (Model 607)
- Measures W, VA, var and PF for 1 Φ & 3 Φ balanced systems
- Measures single- and three-phase power (real, reactive and apparent) up to 3 MW with resolution to 1 W
- Measures frequency to 20 kHz with 0.1 Hz resolution
- Auto selects AC or DC measurement
- True InRush[®] current measurement with 1mS capture
- Measures harmonics up to the 25th
- Records up to 1000 measurements
- Bluetooth communication (communicates up to 30 ft)
- Includes FREE DataView[®] software for download and report generation
- Jaw opening up to 1.89 in (48 mm) (Model 407) and up to 2.36 in (60 mm) (Model 607)

PRODUCT INCLUDES

Hard carrying case, set of two color-coded silicone test leads, test probes and alligator clips, Bluetooth USB adapter, four 1.5 V AA batteries, safety information sheet, and USB drive supplied with DataView[®] software and user manual.

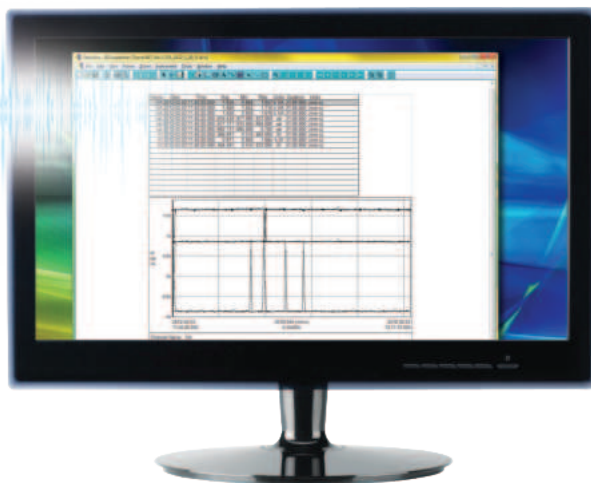
*Three-phase measurements assume balanced load
Consult factory for NIST Calibration prices

SOFTWARE & REPORTS

DataView® Data Analysis and Reporting Software

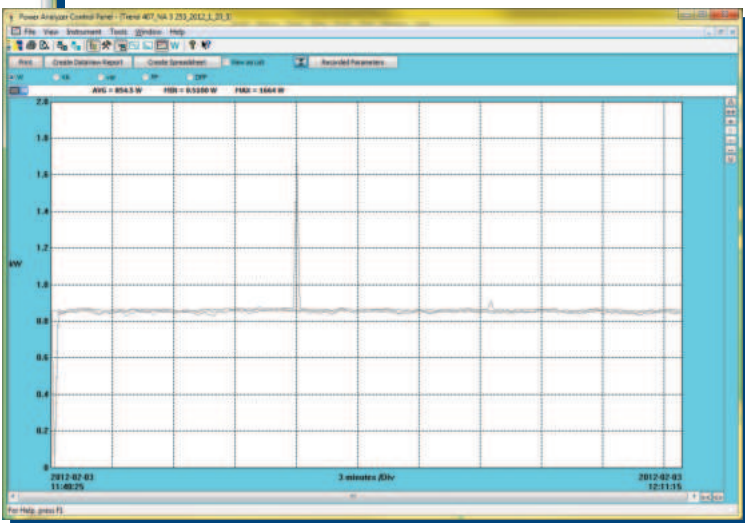
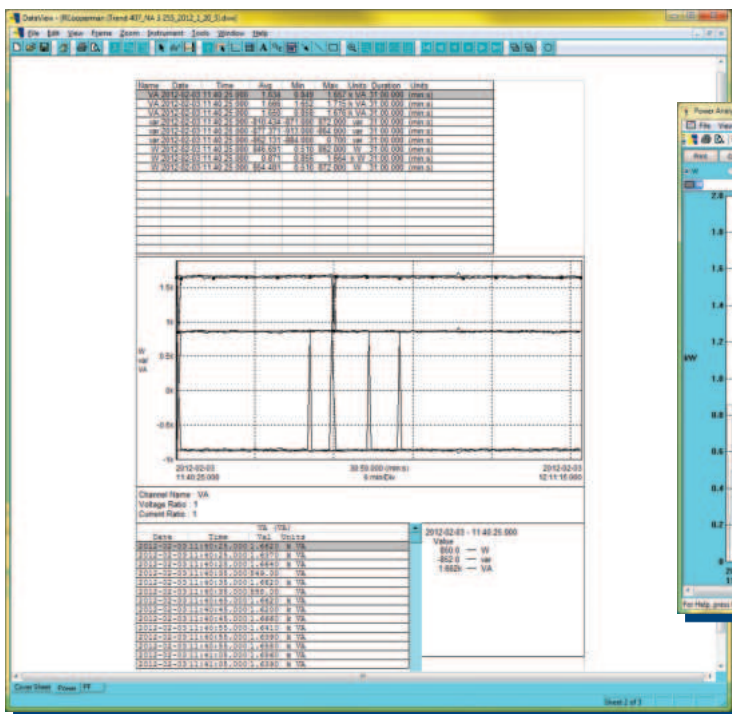


 **Bluetooth®**



FEATURES

- Download and store recorded data
- Wireless Bluetooth communication
- Print reports using the included default templates or custom templates that you design



Clean, easy-to-read report of test results.

DataView® software report.

CATALOG NO.	DESCRIPTION
2139.51	Power Clamp-On Meter Model 407 (TRMS, 1000 V _{AC/DC} , 1000 A _{AC} /1500 A _{DC} , Ohms, Continuity, Energy, Harmonics, Power, THD, Recording)
2139.61	Power Clamp-On Meter Model 607 (TRMS, 1000 V _{AC/DC} , 2000 A _{AC} /3000 A _{DC} , Ohms, Continuity, Energy, Harmonics, Power, THD, Recording)



PROBES & SENSORS

MODEL	MAX CONDUCTOR SIZE	ACCURACY (TYPICAL)	TYPICAL ERROR ON \odot AT (50/60) HZ	CURRENT RANGE	USED WITH MODEL	CATALOG NUMBER
MiniFlex® Model MA193-10-BK* & MiniFlex® Model MA194-24-BK*  10, 14 & 24 in Sensor	2.75 in (70 mm) (10 in sensor)	± 1 %	0.5 °	100 mA to 12,000 A _{AC} ⁽¹⁾	PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345	2140.48 (10 in sensor)
	3.94 in (100 mm) (14 in sensor)					2140.50 (14 in sensor)
	7.64 in (194 mm) (24 in sensor)					2140.80 (24 in sensor)
AC/DC Current Probe Model MR193-BK 	1.6 in (41 mm)	± 2.5 %	-0.80 °	(1 to 1000) A _{AC} (1 to 1300) A _{AC}	PEL 112 PEL 113 PEL 115 8333 8336 8436 8345	2140.28
AC Current Probe Model MN93-BK 	0.78 in (20 mm)	± 1 %	0.8 °	(0.5 to 240) A _{AC}	PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345	2140.32
AC Current Probe Model SR193-BK 	2.05 in (52 mm)	± 0.3 %	0.2 °	(1 to 1200) A _{AC}	PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345	2140.33
AmpFlex® Sensor 24 in Model 193-24-BK* 	7.64 in (194 mm) (24 in sensor)	± 1.2 %	0.5 °	100 mA to 12,000 A _{AC} ⁽¹⁾	PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345	2140.34
AmpFlex® Sensor 36 in Model 193-36-BK* 	11.64 in (291 mm) (36 in sensor)	± 1.2 %	0.5 °	100 mA to 12,000 A _{AC} ⁽¹⁾	PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345	2140.35

PROBES & SENSORS

MODEL	MAX CONDUCTOR SIZE	ACCURACY (TYPICAL)	TYPICAL ERROR ON ϕ AT (50/60) HZ	CURRENT RANGE		USED WITH MODEL	CATALOG NUMBER
AC Current Probe Model MN193-BK 	0.78 in (20 mm)	± 1 %	0.75 °	100 A	200 mA to 120 Aac	PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345	2140.36
			1.7 °	5 A	5 mA to 6 Aac		
AmpFlex® Sensor 24 in Model 196A-24-BK* (Waterproof - IP67) 	7.64 in (194 mm) (24 in sensor)	± 1 %	0 °	100 mA to 12,000 AAC ⁽¹⁾		PEL 115 8436	2140.75
MiniFlex® Sensor 14 in Model MA196-14-BK* (Waterproof, IP67) 	3.9 in (99 mm) (14 in sensor)	± 1 %	0 °	100 mA to 12,000 Aac ⁽¹⁾		PEL 115 8436	2140.79
AC Current Probe Model MN94 	0.25 in	± 0.2 %	0.1 °	50 mA to 200 Aac		PEL 52 8345	2140.81
AC/DC Current Probe Model E94 	.464 in (11.8 mm)	± 3 %	1.5 °	10 A	100 mA to 10 Aac	8345	2140.82
		± 4 %	1 °	100 A	500 mA to 100 Aac		
AC/DC Current Probe Model SL261 	0.46 in (12 mm)	± 3 %	± 1 °	10 A	50 mA to 10 Aac/DC	PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345	1201.51
		± 4 %	± 0.5 °	100 A	(5 to 100) Aac/DC		

* Maximum current reduced by a factor of 2 for 400 Hz fundamental frequency.

All current sensors can be used with Models PEL 115, 8435 and 8436. However, only the MA196-14-BK and 196A-24-BK flexible sensors are waterproof.

(1) Current range may be limited by sensor size or meter type.

Consult factory for NIST Calibration prices



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