

■ QUICK START  
USER GUIDE

# 8333

## PowerPad® III



**IMPORTANT WARRANTY NOTE:**

By registering online within 30 days from the date of purchase, your warranty will be extended to 3 years

## PRODUCT PACKAGING

### Shipping Contents:



(1) PowerPad® III Model 8333  
Cat. #2136.10 / Cat. #2136.11 / Cat. #2136.12



(1) Extra Large Classic Tool Bag  
Cat. #2133.73



(4) Black Test Leads and Alligator Clips  
Cat. #2140.44



(1) Soft Carrying Pouch  
Cat. #2140.15



(12) Color-coded ID Markers  
Cat. #2140.45

#### Also Includes:

- 4 GB USB Stick (DataView/User Manual)
- 9.6V NiMh Battery - installed
- 2 GB SD-Card - installed
- High Voltage Warning/Caution Card

#### Kit (Cat. #2136.11) also includes:

- (3) AmpFlex® Model A193-24-BK

#### Kit (Cat. #2136.12) also includes:

- (3) AC Current Probe Model MN193-BK



(1) Power Adapter 110/240V  
w/ Power Cord  
Cat. #5000.19



(1) 5 ft USB Cable  
Cat. #2140.46

**USB STICK:** DataView® software and complete user manual for the Model 8333 can be located on the USB stick supplied with the instrument.

# Statement of Compliance

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Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments certifies that this instrument has been calibrated using standards and instruments traceable to international standards.

We guarantee that at the time of shipping your instrument has met its published specifications.

**An NIST traceable certificate may be requested at the time of purchase, or obtained by returning the instrument to our repair and calibration facility, for a nominal charge.**

The recommended calibration interval for this instrument is 12 months and begins on the date of receipt by the customer. For recalibration, please use our calibration services.

**Serial #:** \_\_\_\_\_

**Catalog #:** 2136.10 / 2136.11 / 2136.12

**Model #:** 8333

Please fill in the appropriate date as indicated:

Date Received: \_\_\_\_\_

Date Calibration Due: \_\_\_\_\_



Thank you for purchasing an AEMC® PowerPad® III Model 8333.

For best results from your instrument and for your safety, read the enclosed operating instructions carefully and comply with the precautions for use. These products must be only used by qualified and trained users.



**WARNING**, risk of **DANGER!** The operator must refer to these instructions whenever this danger symbol appears.



**CAUTION!** Risk of electric shock. The voltage at the parts marked with this symbol may be dangerous.



Equipment is protected by double insulation.



Must not be applied to or removed from bare conductors carrying dangerous voltages. Type B current sensor as per EN 61010-2-032.



Application or withdrawal authorized on conductors carrying dangerous voltages. Type A current sensor per IEC 61010-2-032.



USB socket.



SD Card.



Ground/Earth.



Important instructions to read and to fully understand.



Useful information or hint to read.



The CE marking guarantees conformity with European directives and with regulations covering EMC.



The trash can with a line through it means that in the European Union, the product must undergo selective disposal for the recycling of electric and electronic material, in compliance with Directive WEEE 2002/96/EC.

## Definition of Measurement Categories (CAT)

**CAT IV** Measurement category IV corresponds to measurements taken at the source of low-voltage installations.

*Example: power feeders, counters and protection devices.*

**CAT III** Measurement category III corresponds to measurements on building installations.

*Example: distribution panel, circuit-breakers, machines or fixed industrial devices.*

**CAT II** Measurement category II corresponds to measurements taken on circuits directly connected to low-voltage installations.

*Example: power supply to domestic electrical appliances and portable tools.*



## Precautions for Use



This instrument is compliant with safety standard IEC 61010-2-030, the leads are compliant with IEC 61010-031, and the current sensors are compliant with IEC 61010-2-032, for voltages up to 600V in category IV or 1000V in category III. Failure to observe the safety instructions may result in electric shock, fire, explosion, and destruction of the instrument and/or other equipment.

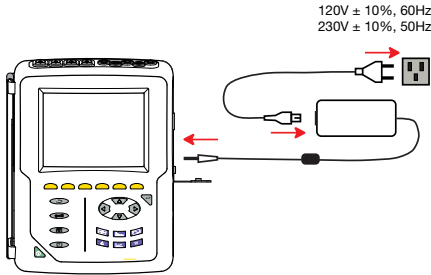
- The operator and/or the responsible authority must carefully read and clearly understand the various precautions for use of the instrument. Sound knowledge and a keen awareness of electrical hazards are essential when using this instrument.
- If you use this instrument other than as specified, the protection it provides may be compromised, thereby endangering you.
- Do not use the instrument on networks on which the voltage or category exceeds those mentioned.
- Do not use the instrument if it appears damaged or otherwise compromised.
- Before each use, check the condition of the insulation on the leads, housing, and accessories. Any item on which the insulation is deteriorated (even partially) must be set aside for repair or scrapping.
- Before using your instrument, check that it is perfectly dry. If it is wet, it must be thoroughly dried before being connected or being operated in any way. This includes the terminals and keypad.
- Use only the leads and accessories supplied. Using leads (or accessories) of a lower voltage or category reduces the voltage or category of the combined instrument and leads (or accessories) to that of the leads (or accessories).
- Always use personal protection equipment.
- Keep your hands away from the terminals of the instrument.
- When handling the leads, test probes, and alligator clips, keep your fingers behind the physical guard.
- Use only the AC power cord and battery pack supplied by the manufacturer. They include specific safety features.
- Some current sensors must not be placed on or removed from bare conductors at hazardous voltages: refer to the manual and comply with the handling instructions.

# Charging the Battery

Fully charge the battery before the first use.



**NOTE:** A full recharge of a completely discharged battery takes approximately 5 hrs.



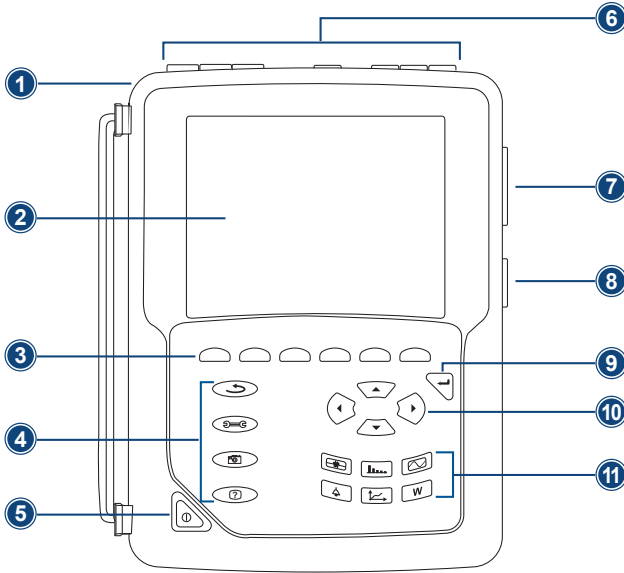
To recharge the battery:

- Remove the cover of the battery charging connector.
- Connect the supplied power cord to the instrument and AC power.
- The button lights and will go out when the power cord is disconnected.

## Button Functions

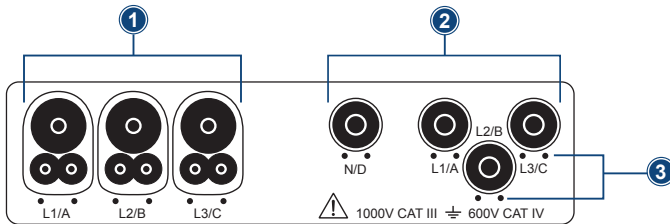
BUTTON	DESCRIPTION
	Returns to previous menu.
	Configures the PowerPad® (SET-UP).
	Takes a snapshot of the current screen or access screens already stored in the memory. Records associated waveform and power measurement data.
	Gets help on the current display functions, in the language chosen by the user.
	<b>Transients:</b> <ul style="list-style-type: none"> <li>• Sets and views transient current waveforms associated with rapid changes in input</li> </ul>
	<b>Harmonics Mode:</b> <ul style="list-style-type: none"> <li>• Displays the harmonics in percent and value ratios for voltage, current and power for each harmonic through the 50th</li> <li>• Determines harmonic current produced by non-linear loads</li> <li>• Analyzes the problems caused by harmonics according to their order (heating of neutrals, conductors, motors, etc.)</li> </ul>
	<b>Waveforms Mode:</b> <ul style="list-style-type: none"> <li>• Displays voltage and current waveforms or vector representation</li> <li>• Identifies signal distortion signatures</li> <li>• Displays of amplitude and phase unbalance for voltage and current</li> <li>• Checks connections for correct phase order</li> </ul>
	<b>Alarm Events:</b> <ul style="list-style-type: none"> <li>• Provides a list of the alarms recorded according to the thresholds programmed during configuration</li> <li>• Logs interruption with half-cycle resolution</li> <li>• Determines energy consumption exceedances</li> <li>• Stores value, duration, date, time and set point for up to 4096 events</li> </ul>
	<b>Trend Mode:</b> <ul style="list-style-type: none"> <li>• Lists all recording trends and views them on the display (Urms, Vrms, Arms, etc.)</li> </ul>
	<b>Power / Energy:</b> <ul style="list-style-type: none"> <li>• Displays power levels and the associated parameters (power factor, displacement and tangent)</li> <li>• Energy monitoring</li> <li>• Four quadrant measurement to discern source/load active energy and inductive/capacitive reactive energy</li> </ul>

## Control Features



1. Over molded protective housing
2. LCD Display
3. Six function buttons (yellow)
4. Four function buttons (see chart, left)
5. ON/OFF button
6. Three current inputs and four voltage inputs
7. USB port
8. Input for external power supply and battery charging
9. Confirm/Enter button
10. Navigation buttons
11. Six mode buttons (see chart, left)

## Connection Terminals




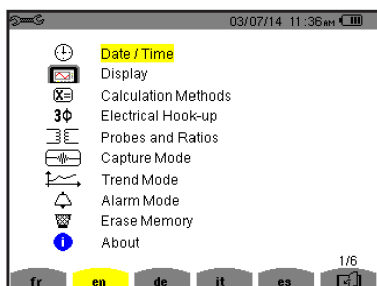
1. Three (3) current inputs on the top of the instrument to enable the use of current sensors (MN, SR, AmpFlex®, MiniFlex®, MR, SL and J93 probes).
2. Four (4) voltage inputs.
3. Insertion locations for the current and voltage color-coded ID markers.



## Instrument Configuration

**NOTE:** Instrument configuration can also be modified through DataView® software.

**i NOTE:** The instrument must be configured the first time it is used. The configuration is saved in memory when the instrument is turned OFF.

Press the  button to configure the unit. The following sub-menus appear:



- Set the display language by pressing the yellow button corresponding to the screen language icons.
- The parameter that is ready to be configured will be highlighted in yellow. To move to a different parameter, use the ▲ and ▼ buttons.
- Press the Enter  button to select a parameter.
- Use the ◀ and ▶ buttons to change a value or setting.
- When finished, return to the Configuration menu by pressing the  button.


PARAMETER	FUNCTION
<b>Date / Time</b>	Sets the date and time format
<b>Display</b>	Adjusts the contrast and brightness of the display; Defines the color of the voltage and current curves
<b>Calculation Methods</b>	Determines if harmonics are used or not used in calculations of reactive quantities (power and energy) <ul style="list-style-type: none"> <li>• <b>With harmonics:</b> Harmonics are taken into account when calculating reactive parameters.</li> <li>• <b>Without harmonics:</b> Only the fundamental part is used for the calculation of reactive parameters</li> </ul>
<b>Electrical Hook-up</b>	Determines the type of connection to the network <ul style="list-style-type: none"> <li>• Single-Phase</li> <li>• Split-Phase</li> <li>• 3-Phase 4-Wire</li> <li>• 3-Phase 5-Wire</li> </ul>
<b>Probes and Ratios</b>	Defines the type of current probe to connect <ul style="list-style-type: none"> <li>• MN93: 200A<sub>AC</sub></li> <li>• MN193: 100A or 5A<sub>AC</sub> (with variable ratio)</li> <li>• SR193: 1000A<sub>AC</sub></li> <li>• J93: 3500A<sub>AC</sub>/5000A<sub>DC</sub></li> <li>• AmpFlex® Sensors: 100A/6500A/10,000A<sub>AC</sub></li> <li>• MiniFlex® Sensors: 100A/6500A<sub>AC</sub></li> <li>• MR193: 1000A/1200A<sub>AC/DC</sub></li> <li>• SL261: 10A and 100A</li> <li>• 5A three-phase adapter (3-channel only)</li> </ul>
<b>Capture Mode</b>	Configures the voltage and current thresholds
<b>Trend Mode</b>	Selects the parameters to record (up to 4 configurations)
<b>Alarm Mode</b>	Defines the parameters of an alarm
<b>Erase Memory</b>	Deletes configurations, alarm settings, snapshots and recordings
<b>About</b>	Displays the serial number, software and hardware version




## Getting Started

**i** **NOTE:** Make sure the PowerPad® is fully charged before use.

### Connecting:

- Start the instrument by pressing the  button.
- Configure the instrument to obtain the required results and type of network.
- Connect the current leads and sensors to the PowerPad®.
- Connect the ground and/or neutral lead to the network ground and/or neutral (when distributed), as well as the corresponding current sensor.
- Connect the L1 phase lead to the network L1 phase, as well as the corresponding current sensor.
- Repeat the procedure for phases L2, L3 and N.

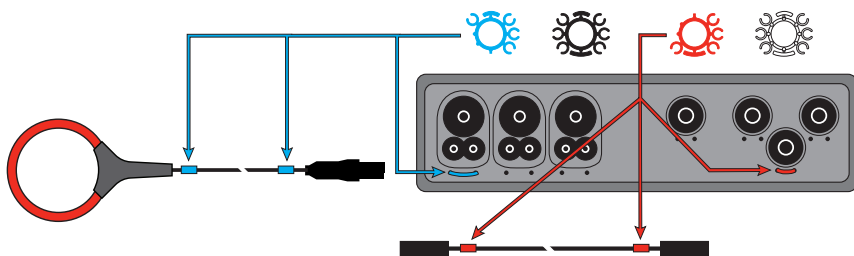
### Disconnecting:

- Proceed in the reverse order to connecting, always finishing by disconnecting the ground and/or neutral (when distributed).
- Disconnect the leads and press the  button to turn the instrument off.
- Recharge the battery, if necessary.

## Installation of the Leads and Current Sensors

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

- Detach the appropriate inserts from the color-coded marker and place them in the holes provided under the terminals (larger inserts for current terminals, smaller inserts for voltage terminals).
- Clip the rings of the same color to the ends of the lead that will connect to the terminal.



## SD-Card

SD-Cards (up to 2GB only) are supported.

### To Access the SD-Card:

- Make sure that the instrument is disconnected and off.
- Use a screwdriver or coin to unscrew the two screws of the battery compartment cover.
- Remove the cover and withdraw the battery from its compartment without disconnecting it.
- Press on the SD-Card to release it then press on the protecting tab to withdraw it from its slot.
- When replacing the SD-Card, the contacts must be on the left side, and the locator down.
- Slide it into its slot until it snaps into place. The protecting tab is at the top of the card.
- Put the battery back in its compartment and screw the cover back on.

## Replacing the Battery



**TO ELIMINATE ALL RISK OF ELECTRIC SHOCK, DISCONNECT THE POWER SUPPLY CORD AND MEASUREMENT LEADS FROM THE INSTRUMENT.**

1. Turn the instrument over, raise the stand, and prop it up.
2. Use a coin to unscrew the two quarter-turn screws on the back of the housing.
3. Using a flat screwdriver, remove the cover from the compartment.
4. Turn the instrument over and hold the battery as it slides out of its compartment.
5. Disconnect the battery connector without pulling on the wires.
6. Connect the new battery. The connector is error-proofed to prevent reversals of polarity.
7. Place the battery in its compartment and arrange the wires so that they do not protrude.
8. Put the battery compartment cover back in place and screw the two screws back in.

**NOTE:** If the battery is disconnected, it must then be fully recharged, even if it is not replaced, so that the instrument will know the battery charge condition (this information is lost when the battery is disconnected).

## Installing DataView®



**DO NOT CONNECT THE INSTRUMENT TO THE PC BEFORE INSTALLING THE SOFTWARE AND DRIVERS.**

1. Insert the USB stick into an available USB port (wait for driver to be installed).
2. If Autorun is enabled, an AutoPlay window should appear. If Autorun is disabled, it will be necessary to open Windows Explorer, then locate and open the USB stick drive labeled "DataView" to view the files on the drive.
3. In the AutoPlay window, select "Open folder to view files."
4. Double-click on Setup.exe from the opened folder view to launch the DataView® setup program.

**NOTE:** For more information on using DataView®, refer to the product user manual that is supplied on the USB stick.

## Updating Software & Firmware

To provide our customers the best possible service in terms of performance and technical upgrades, AEMC® offers free software and firmware updates on our website.

DataView® can also be updated by selecting "Update" from the Help menu within the software.



**WARNING:** Updating the firmware will erase all stored data in the instrument. It is recommended to download all stored data before performing any firmware updates.

## Repair and Calibration

To ensure that your instrument meets factory specifications, we recommend that it be scheduled back to our factory Service Center at one-year intervals for recalibration, or as required by other standards or internal procedures.

**NOTE:** You must obtain a CSA# before returning any instrument.

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## Technical and Sales Assistance

If you are experiencing any technical problems, or require any assistance with the proper operation or application of your instrument, please call, fax or e-mail our technical support team.

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## Limited Warranty

The Model 8333 is warranted to the owner for a period of one year from the date of original purchase against defects in manufacture. This limited warranty is given by AEMC® Instruments, not by the distributor from whom it was purchased. This warranty is void if the unit has been tampered with, abused or if the defect is related to service not performed by AEMC® Instruments.

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