Quick Start Guide
ENGLISH

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

Power & Energy Logger
Models
PEL 112 & PEL 113

POWER & ENERGY LOGGERS

Measure Up
WITH AEMC INSTRUMENTS®

Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments
15 Faraday Drive • Dover, NH 03820 USA
Phone: (603) 749-6434 or (800) 343-1391 • Fax: (603) 742-2346

Statement of Compliance

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 the instrument's 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. Refer to our repair and calibration section at **www.aemc.com/calibration**.

Serial #: _____

Catalog #: **2137.53, 2137.54 / 2137.63, 2137.64**

Model #: **PEL 112 / PEL 113**

Please fill in the appropriate date as indicated:

Date Received: _____

Date Calibration Due: _____

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

Chauvin Arnoux®, Inc.
d.b.a AEMC® Instruments
www.aemc.com

PRODUCT PACKAGING

Power & Energy Logger
Model PEL 112
Cat. #2137.53 / 2137.63

Power & Energy Logger
Model PEL 113
Cat. #2137.54 / 2137.64

Small Classic Tool Bag
Cat. #2133.72

(4) Black Test Leads in
Cable Reeling Box
with (4) Black Alligator Clips
Cat. #2140.44
Replacement reeling box is sold separately (Qty 1)
Cat. #5000.77

Power Cord
5 ft, 115 V
Cat. #5000.14

(3) MiniFlex®
MA 193-10-BK Sensors
Cat. #2140.48
Replacement is Qty of (1)
(Only Shipped with PEL 112 Cat. #2137.53 & PEL 113 Cat. #2137.54)

Cable - USB Type A to
Type B
Cat. #2136.80

(1) Set of (12) Color
Input ID Markers
Cat. #2140.45

USB SD - card reader
Cat. #5000.45
SD-card (8 GB)
(Formatted & Installed)

(1) USB Drive
(DataView® and
User Manual)

Also Included:

- NiMH AAA 8.4 V Rechargeable Battery Pack (Installed)
- Measuring Instrument Safety Data Sheet (Multilingual)
- Declaration of Conformity
- Safety data sheet for electrical measurment and testing probes
- Reeling Box User Manual
- Test Report
- Quick Start Guide

Thank you for purchasing an AEMC® Instruments **Power & Energy Logger Model PEL 112 or Model PEL 113**. The user manual is included on the provided USB Drive along with the DataView® software. It is also available on our website at **www.aemc.com**.

For best results from your instrument and for your safety, read the enclosed operating instructions carefully and comply with the precautions for use. Only qualified and trained operators should use this product.

⚠ PRECAUTIONS BEFORE USE

This instrument complies with safety standard IEC/EN 61010-2-030, the leads comply with IEC/EN 61010-031 for voltages of 1000 V in measurement CAT IV and the current sensors comply with IEC/EN 61010-2-032.

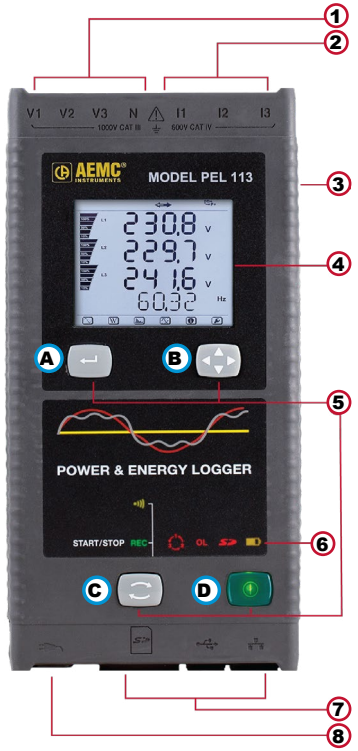
Carefully read and understand all required precautions when using this instrument. Failure to comply with these safety instructions can create a risk of electric shock, fire, and explosion; resulting in destruction of the instrument, injury to the user, and damage to the facility. If the instrument is used other than as specified in this manual, the protection provided by the instrument may be impaired.

- Do not use the instrument in an explosive atmosphere or in the presence of flammable gas or smoke.
- Do not use the instrument on electrical networks with a rated voltage or category higher than those listed for the instrument.
- Respect the maximum rated voltages and currents between terminals and in relation to ground/earth.
- Do not use the instrument if it seems to be damaged, incomplete, or poorly closed.
- Before each use, check the condition of the insulation of the leads, the instrument, and all accessories. Any insulation that appears damaged (even partially) must be taken out of service for repair or disposal.
- Use leads and accessories for voltage according to IEC 61010-031 and measurement categories at least equal to those of the instrument. An accessory with a lower category reduces the category of the combined instrument/accessory combination to that of the accessory.
- Respect the environmental conditions of use listed in this manual.
- Do not modify the instrument or replace components using substitute parts. Repairs and adjustments must be performed by AEMC® Instruments.
- Use personal protection equipment when conditions require it.
- Keep hands and fingers away from unused terminals and behind the physical guard when handling the leads, test probes, and alligator clips.

FRONT OF INSTRUMENT

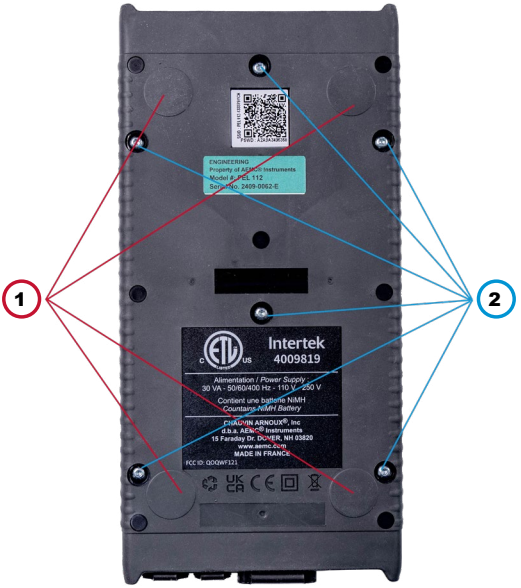
PEL 112

PEL 113



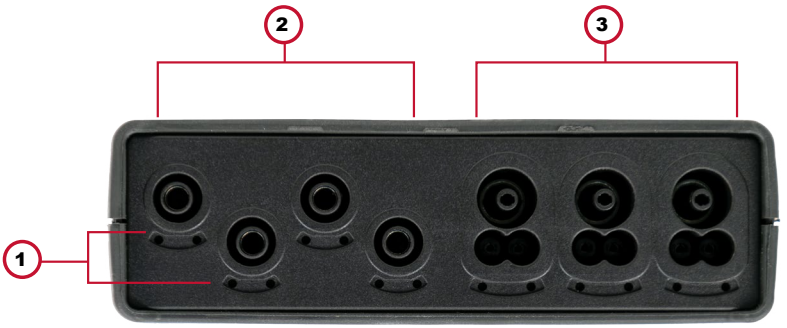
Item	Designation
1	Four voltage input terminals.
2	Three current input terminals.
3	Rigid molded casing over-molded with thermo-adhesive rubber.
4	Digital LCD displaying measured, calculated and parameterizing quantities **(PEL 113 only)**.
5	**PEL 112:** Two function buttons: (C) **Control** Button (D) **Power** Button **PEL 113:** Four function buttons: (A) **Enter** Button (B) **Navigation** Button (C) **Control** Button (D) **Power** Button
6	Nine LEDs for status information.
7	USB and Ethernet connectors, and SD memory card slot.
8	Standard (IEC C7 figure 8 terminal – non polarized) power connector for 110/250 VAC power source.

BACK OF INSTRUMENT



Item	Designation
1	Four magnets (molded into the rubber casing).
2	Six recessed Torx® screws (for factory service use only).

INPUT TERMINALS

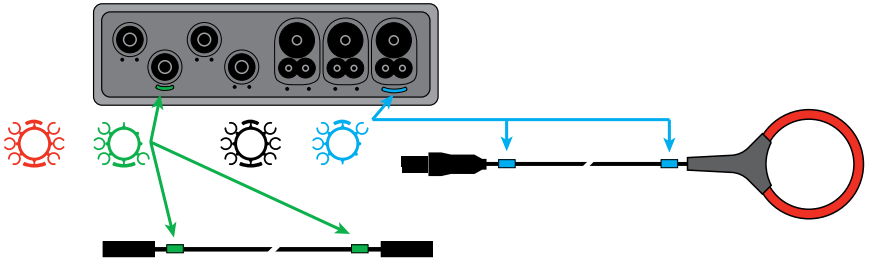


Item	Designation
1	Color-coded ID Marker Insertion Locations
2	Voltage Input Connectors (safety banana plug inputs)
3	Current Sensor Input Connectors

INSTALLING THE COLOR-CODED INPUT ID MARKERS

For multiple-phase measurements, start by marking the current sensors, voltage leads and terminals using the color-coded input ID markers supplied with the device.

- 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 you will be connecting to the terminal.



CONNECTIONS

Item	Designation
1	Power Cord Connector
2	SD-card Slot
3	USB Connector
4	Ethernet RJ 45 Connector

STATUS INDICATORS

Indicator	Color	Status
REC	Red	**Recording** - Indicator OFF: not recording - Indicator blinking red: recording session programmed - Indicator lit red: recording session in progress
	Green	**Wi-Fi** - Indicator OFF: Wi-Fi link de-activated - Indicator lit: Wi-Fi link activated but not transmitting - Indicator blinking: Wi-Fi link transmitting
	Red	**Phase Order** - Indicator OFF: phase order - Indicator blinking: phase order incorrect
	Red	**Overload of the Measurement Range** - Indicator lit red: load is outside of limits - Indicator OFF: no input overload **Note: Other conditions show OL as well. For example, no current sensors connected.**
	Red / Green	**SD-card** - Indicator lit green: the SD-card is OK - Indicator blinking red: SD-card being reset - Indicator blinking red and green: the SD-card is full - Indicator blinking light green: the SD-card will be full before the recording in progress ends - Indicator lit red: the SD-card is missing or locked
	Orange/ Red	**Battery** - Indicator OFF: battery fully charged - Indicator lit orange: battery charging - Indicator blinking orange: battery being recharged - Indicator blinking red: battery low (and no power supply)
	Green	**Power Supply** - Indicator lit: the instrument is supplied by a mains voltage - Indicator off: the instrument is supplied by the battery
	Green/ Yellow (built into the connector)	**Ethernet** <u>Green Indicator</u> - Indicator OFF: no activity - Indicator blinking: activity <u>Yellow Indicator</u> - Indicator OFF: the stack or the Ethernet controller is not initialized - Slow blinking (once per second): the stack is correctly initialized - Rapid blinking (10 times per second): the Ethernet controller is correctly initialized - (2) rapid blinks followed by a pause: DHCP error - Indicator lit: network initialized and ready to be used

SD MEMORY CARD

Data recording sessions are stored on an SD-card. The PEL accepts SD and SDHC cards, FAT32 formatted up to a capacity of 32 GB.

The PEL 112 and PEL 113 are delivered with a formatted and installed SD-card.

To install a different SD-card:

- Check the new SD-card to verify that it is not locked.
- Format the SD-card using the PEL Control Panel (recommended), or using a PC.
- Open the elastomer cap marked SD which is located on the front panel.

NOTE: DO NOT remove the SD-card if a recording is in progress.

- Press existing SD-card further inward to release it from the card slot and remove.
- Insert the new SD-card into the card slot with the metal contacts facing up.
- Press the protective elastomer cap back onto the card slot to ensure the instrument is waterproof.

INSTALLING DATAVIEW® SOFTWARE

NOTE: DO NOT connect the instrument to the computer before installing the software and drivers.

- DataView software is included on the supplied USB Drive. Insert the USB Drive into an available USB port (wait for driver to be installed).
- If Autorun is enabled, an AutoPlay window appears on your screen. Click **Open folder to view files** to display the DataView folder. If Autorun is not enabled or allowed, use Windows Explorer to locate and open the USB Drive labeled **DataView**.
- When the DataView folder is open, find the file **Setup.exe** in the USB Drive root directory and **double-click** it to run the installation program.
- The DataView setup screen appears. In the upper left section of the screen, choose **the language for the setup program UI**. Then select **DataView** in the Options list and click **Install**.
- Click **OK** at the Confirm Setup screen. The InstallShield Wizard welcome screen appears. The InstallShield Wizard leads you through the installation process. As you complete these screens, be sure to click **Power Energy Logger** when prompted to select the Control Panel(s) to install.
- When you have completed all screens, click **Finish** to leave the InstallShield Wizard. Then close the DataView Setup screen. The DataView folder now appears on your computer desktop, within this folder is the **PEL** Control Panel icon  .

NOTE: For more information on DataView or the PEL Control Panel refer to the PEL 112/113 user manual which is included on the supplied USB Drive or refer to the Help file within the software.

CONNECTING TO COMPUTER

Before you can use the PEL Control Panel to communicate with your PEL 112 or PEL 113, you must establish a connection between the instrument and the computer.

To begin, ensure that you have installed DataView with the PEL Control Panel. Also **ensure that the required communication and connection drivers are installed** on your computer. These drivers are installed as part of the DataView installation process.

NOTE: For connection options and more information on connecting to the computer, refer to the PEL 112/113 user manual which is included on the supplied USB Drive or refer to the Help file within the software.

CONFIGURING INSTRUMENT

To configure your PEL, select the **instrument** in the PEL Network directory. Open the **Configure the instrument** dialog box by clicking on the **Configure** icon in the toolbar, in the **Instrument** menu, or in the **Status** zone.

This dialog box has several tabs:

- **General:** Contains fields used to assign a name to the instrument, along with auto-off command, LCD unit command, operating button, clock setting, and SD-card formatting options.
- **Communication:** Options concerning the Wi-Fi link and the Ethernet network.
- **Measurement:** Selection of the distribution system, voltage ratio, and frequency.
- **Current sensor:** Detection of the current sensors and choice of the nominal primary current.
- **Recording:** Parameter options.
- **Meters:** Reset of the meters and partial energy meter reset options.
- **Alarms:** Programming of the alarms.
- **Nominal values:** Define the nominal values .
- **Report:** Configure reports and send them by email.

When finished, **click** on **OK** to transfer the new configuration to the instrument.

MOUNTING

As a logger, the PEL is designed to be installed for an extended period of time in a utility room.

The PEL Model 112 and Model 113 can be mounted to a flat ferromagnetic surface using the four molded-in magnets located on the back side of the instrument.

STARTING RECORDING (START/STOP)

To START recording, do one of the following:

- **In the PEL Control Panel:** Select the appropriate option from the Recording tab of the Configuration dialog box. The instrument can be configured to start recording either at a future date and time or immediately after recording is configured on the instrument.
- **On the Instrument:** Press and hold down the **Control** button  until the green LED lights, then release. This starts the instrument recording using the previous configuration settings.

To STOP recording, do one of the following:

- **In the PEL Control Panel:** From the menu, select **Instrument > Stop recording**  .
- **On the Instrument:** Press and hold down the **Control** button until the green LED lights, then release.

VEIWING RECORDING

The recorded data can be transfered to the PC in two ways and then be displayed there and used to create reports:

- The SD-card can be withdrawn from the instrument and connected to the PC using the SD-card reader provided.
  - Start the PEL Control Panel, select the **Open** command in the File menu, **point to the ICP file** bearing the desired session number on the SD-card, and select **Open**.
- Direct connection between the PC and the PEL (USB, Ethernet or Wi-Fi).
  - Start the PEL Control Panel, open a connection to the instrument, select the instrument (make sure that it is connected) in the tree, then select Recorded sessions. Double-click on the desired recorded session.When the download is over, select the downloaded test and click on the **Open** button in the Download dialog box.

In both cases, the session is added to **My open sessions** in the tree. The data can then be displayed.

REPAIR AND CALIBRATION

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

For instrument repair and calibration:

You must contact our Service Center for a Customer Service Authorization Number (CSA#). Send an email to **repair@aemc.com** requesting a CSA#, you will be provided a CSA Form and other required paperwork along with the next steps to complete the request. Then return the instrument along with the signed CSA Form. This will ensure that when your instrument arrives, it will be tracked and processed promptly. Please write the CSA# on the outside of the shipping container. If the instrument is returned for calibration, we need to know if you want a standard calibration or a calibration traceable to N.I.S.T. (includes calibration certificate plus recorded calibration data).

Ship To: Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments
15 Faraday Drive ▪ Dover, NH 03820 USA
Phone: (800) 945-2362 (Ext. 360) / (603) 749-6434 (Ext. 360)
Fax: (603) 742-2346
E-mail: **repair@aemc.com**

(Or contact your authorized distributor.)

Contact us for the costs for repair, standard calibration, and calibration traceable to N.I.S.T.

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

TECHNICAL ASSISTANCE

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

Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments
Phone: (800) 343-1391 (Ext. 351)
Fax: (603) 742-2346
E-mail: **techsupport@aemc.com**
www.aemc.com

LIMITED WARRANTY

The instrument is warrantied to the owner for a period of two years 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.

Full warranty coverage and product registration is available on our website at www.aemc.com/warranty.html.

Please print the online Warranty Coverage Information for your records.

What AEMC® Instruments will do:

If a malfunction occurs within the warranty period, you may return the instrument to us for repair, provided we have your warranty registration information on file or a proof of purchase. AEMC® Instruments will repair or replace the faulty material at our discretion.

WARRANTY REPAIRS

What you must do to return an Instrument for Warranty Repair:

First, send an email to **repair@aemc.com** requesting a Customer Service Authorization Number (CSA#) from our Service Department. You will be provided a CSA Form and other required paperwork along with the next steps to complete the request. Then return the instrument along with the signed CSA Form. Please write the CSA# on the outside of the shipping container. Return the instrument, postage or shipment pre-paid to:

Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments
15 Faraday Drive, Dover, NH 03820 USA
Phone: (800) 945-2362 (Ext. 360) / (603) 749-6434 (Ext. 360)
Fax: (603) 742-2346
E-mail: **repair@aemc.com**

Caution: To protect yourself against in-transit loss, we recommend that you insure your returned material.

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

QUICK START GUIDE TRANSLATIONS

Visit our website to view and download a PDF version of this Quick Start Guide:

Español **Français**

NOTES:

CHAUVIN ARNOUX GROUP

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

05/25
99-MAN 100626 v00

AEMC® Instruments
15 Faraday Drive • Dover, NH 03820 USA
Phone: +1 (603) 749-6434 • +1 (800) 343-1391 • Fax: +1 (603) 742-2346
www.aemc.com