User Manual
ENGLISH

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

PA32ER

Power Adapter & Battery Charger

POWER ADAPTER

Measure Up
WITH AEMC INSTRUMENTS®

Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments
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1. INTRODUCTION

Thank you for purchasing an AEMC® Instruments **PA32ER Power Adapter and Battery Charger**. This accessory is designed to be used with the PowerPad® IV Model 8345, the Oscilloscope 9000 Series and the CA6116N and CA6117 Multi-Function Installation Testers.

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.

1.1 INTERNATIONAL ELECTRICAL SYMBOLS

	Signifies that the instrument is protected by double or reinforced insulation.
	**CAUTION - Risk of Danger!** Indicates a **WARNING**. Whenever this symbol is present, the operator must refer to the user manual before operation.
	Suitable for indoor use.
	Indicates Important information to acknowledge
	USB socket
	This product complies with the Low Voltage & Electromagnetic Compatibility European directives.
	In the European Union, this product is subject to a separate collection system for recycling electrical and electronic components in accordance with directive WEEE 2012/19/EU.
 	Chauvin Arnoux® and AEMC® Instruments have adopted an Eco-Design approach in order to design this instrument. Analysis of the complete lifecycle has enabled us to control and optimize the effects of the product on the environment. In particular this instrument exceeds regulation requirements with respect to recycling and reuse.

1.2 DEFINITION OF MEASUREMENT CATEGORIES (CAT)

CAT IV: Corresponds to measurements performed at primary electrical supply (< 1000 V).

Example: primary overcurrent protection devices, ripple control units, and meters.

CAT III: Corresponds to measurements performed in the building installation at the distribution level.

Example: hardwired equipment in fixed installation and circuit breakers.

CAT II: Corresponds to measurements performed on circuits directly connected to the electrical distribution system.

Example: measurements on household appliances and portable tools.

1.3 PRECAUTIONS FOR USE

For personal safety and for the safety of the environment of use, you must read and comply with the precautions for use. If you do not comply with these safety instructions, there is a risk of electric shock, explosion, or fire. If you use the instrument in an unspecified manner or do not observe elementary safety rules, the protection that they provide could be compromised and endanger you.

This instrument complies with safety standard IEC/EN 61010-1 and the leads are compliant with IEC/EN 61010-031, for voltages up to 1000 V in overvoltage CAT IV. The protection provided by the instrument may be impaired if it is used other than as specified by the manufacturer.

- Comply with the rated maximum voltage and current and the overvoltage category.
- Never exceed the protection limits stated in the specifications (§ 4.2).
- Observe the environmental conditions of use (§ 4.3).
- Use only the leads and accessories supplied. The use of leads (or accessories) of a lower voltage or category limits the voltage or category of the combined instrument and leads (or accessories) to that of the leads (or accessories).
- Before each use, check the condition of the insulation for the cables, case, and accessories. Anything that appears damaged (even partially) must be reported for repair or scrapping.
- Do not expose the housing to a source of heat or to direct sunlight. Let air flow freely around it to ensure sufficient cooling.
- When handling the alligator clips, keep your fingers behind the physical guard.
-  Use protective equipment when required.
- Do not modify the instrument and use only original replacement parts. Repairs or adjustments must be performed by authorized personnel.
- If hazardous voltages are present at the location of measurement, use suitable personal protective equipment.

1.4 RECEIVING YOUR SHIPMENT

Upon receiving your shipment, make sure that the contents are consistent with the packing list. Notify your distributor of any missing items. If the equipment appears to be damaged, file a claim immediately with the carrier and notify your distributor at once, giving a detailed description of any damage. Save the damaged packing container to substantiate your claim.

1.5 ORDERING INFORMATION

Adapter - 1000 V PA32ER Power Adapter & Battery Charger for use with Model 8345, Oscilloscope 9000 Series and CA6116N & CA6117 Multi-Function Installation Testers ..... **Cat. #5100.15**

Includes Power Adapter, (2) 1000 V CAT IV safety leads, (2) 600 V CAT IV 10 ft black leads, (2) 1000 V CAT IV black alligator clips, (1) power plug adapter with banana jacks, (1) 115 V power cord, and user manual.

1.5.1 Accessories and Replacement Parts

Adapter – 110 V Outlet Adapter w/ 4 mm Banana Plugs..... **Cat. #2118.49**

Lead – One 10 ft (3 m) Black Lead w/Black Alligator Clip (Lead rated 1000 V CAT IV 10 A, Clip rated 1000 V CAT IV 15 A,UL) for PowerPad® & PEL series..... **Cat. #2140.44**

Lead – Replacement 10 ft (3 m) Black Stackable 600 V CAT IV for PA31ER & PA32ER..... **Cat. #5000.88**

Adapter – Replacement Power Plug Adapter for PA32ER ..... **Cat. #5100.14**

Order Accessories and Replacement Parts Directly Online

Check our Storefront at **www.aemc.com/store** for availability

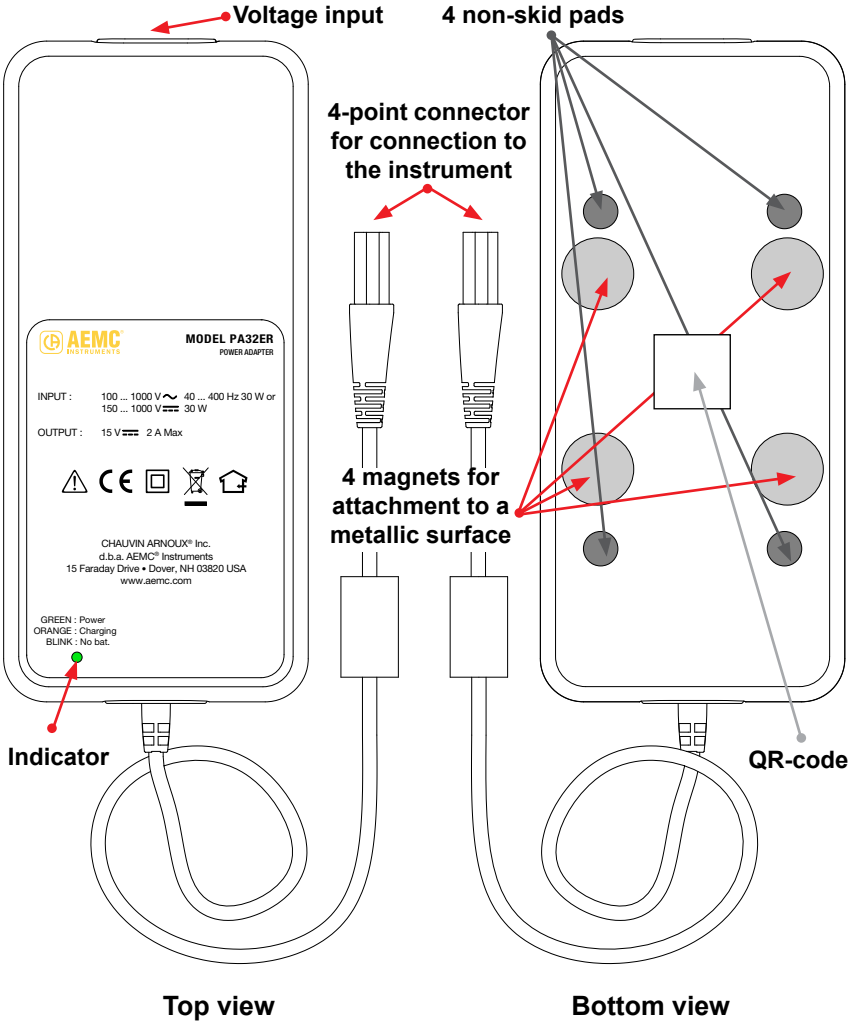
2. PRODUCT FEATURES

2.1 DESCRIPTION

The PA32ER Power Adapter and Battery Charger is used to power the attached instrument for long-term applications and thereby optimize the instrument's internal battery. It also serves to recharge the battery.

The power source may come from the measurement source or from the wall plug.

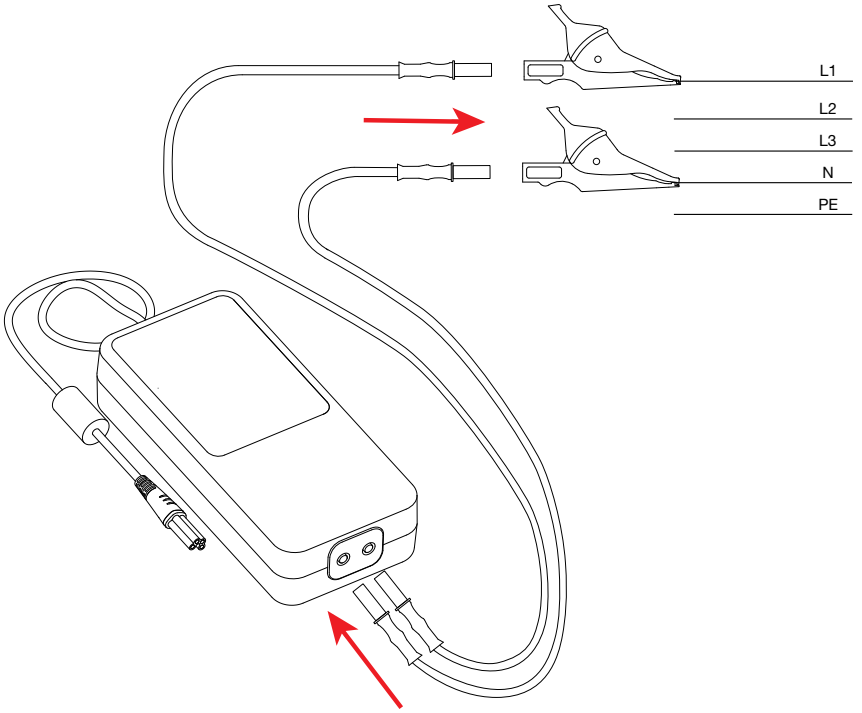
2.2 OVERALL VIEW



3. OPERATING INSTRUCTIONS

3.1 POWER FROM THE MEASUREMENT SOURCE

Using the leads provided and alligator clips, connect the adapter to a line voltage. Either between a phase (L1, L2, or L3) and neutral or between 2 phases.



In the image above, the adapter is connected between the neutral (N) and phase L1.

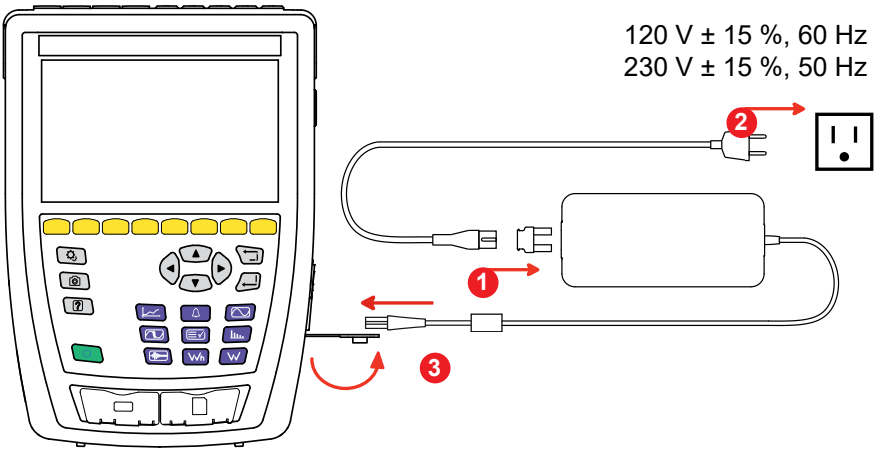
- Open the elastomer cap and connect the 4-point connector to the external power supply input of the instrument.

The indicator light on the front of the adapter displays:

- A steady green when the power is on
- A steady orange when the battery is charging
- If it blinks, the battery is missing and the instrument is powered by the external power supply alone.

3.2 CHARGE DIRECTLY FROM THE WALL PLUG

1. Connect the adapter banana plug to the PA32ER power adapter.
2. Connect the plug adapter cord between the adapter and the power socket.
3. Open the elastomer cap on the instrument and connect the 4-point connector of the power adapter to the instrument.



The indicator light on the front of the adapter displays:

- A steady green when the power is on
- A steady orange when the battery is charging
- If it blinks, the battery is missing and the instrument is powered by the external power supply alone.

4. SPECIFICATIONS

4.1 REFERENCE CONDITIONS

Quantity of Influence	Reference Values
Ambient temperature	20 °C ± 3 °C

4.2 ELECTRICAL SPECIFICATIONS

4.2.1 Input voltage characteristics

- Voltage range: (100 to 1000) V at a frequency from (40 to 400) Hz
  150 V to 1000 VDC
- Overload tolerance: ± 10 % permanent, ± 15 % temporary
- Frequency range: DC, (40 to 70) Hz, (340 to 440) Hz
- Input current: 0.5 ARMS max
- No-load consumption:

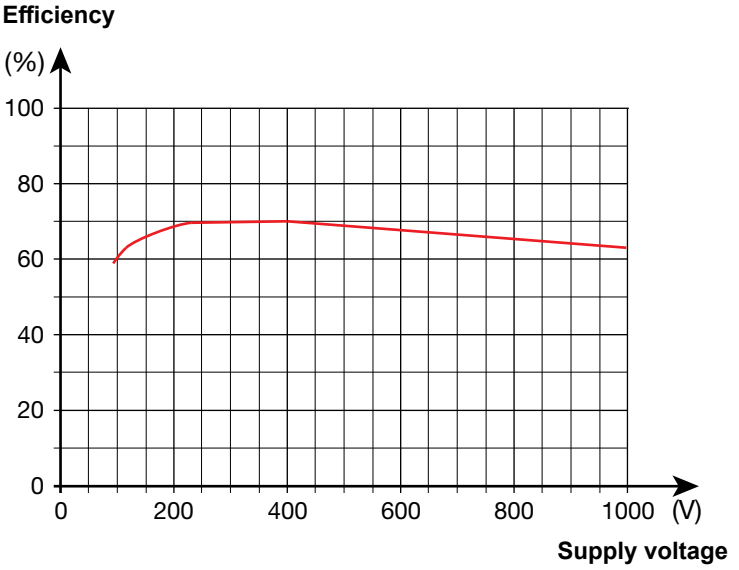
Supply Voltage (V)	Input Current (mA)	Apparent Power (VA)	RMS Power (W)
115	11.5	0.92	0.65
230	6	1.265	0.6
400	5.3	1.920	1
1,000	3.5	3.3	1.4

4.2.2 Ouput voltage characteristics

Characteristics	Values
Permanent output power	23 W
Output voltage @ 30 W	15 V ± 8 %
Maximum no-load output voltage	16.2 V
Ripple of the output voltage	550 mVRMS
Maximum short-circuit duration	Permanent
Starting-up time at 110 V	< 13 s

4.2.3 Efficiency

The efficiency depends on the supply voltage and the load. In general, it is 68 %.



4.2.4 Charger

Charging current: 1 A

4.3 ENVIRONMENTAL CONDITIONS

Range of operation: from (-4 to 113) °F (-20 to +45) °C, from (30 to 95) % RH without condensation

Range of storage: from (-13 to 158) °F (-25 to +70) °C, from (10 to 90) % RH without condensation

Electric field: < 1 V/m

Magnetic field: < 40 A/m

Indoor use

Altitude : < 6500 ft (2000 m)

Degree of pollution: 3

4.4 MECHANICAL CHARACTERISTICS

Dimensions (L x D x H): (8.7 x 4.4 x 2.1) in (220 x 112 x 53) mm

Lead: 5 ft (1.50 m), terminated by a specific 4-point connector

Weight: Approximately 2 lbs (930 g)

Inrush protection:

IP54 when not in operation

IP50 in operation per IEC 60529

IK08 per IEC 62262

Drop Test: 3.3 ft (1 m) per IEC 60068-2-31

4.5 COMPLIANCE WITH INTERNATIONAL STANDARDS

4.5.1 Electrical Safety

The instrument is compliant with IEC/EN 61010-1 and IEC/EN 61010-031 or BS EN 61010-031 for a voltage of 1000 V CAT IV, degree of pollution 3.

The instruments are compliant with FCC Rules part 1 under number 83TD07571.

4.5.2 Electromagnetic compatibility (EMC)

The instrument is compliant with standard IEC/EN 61326-1.

5. MAINTENANCE

The instrument contains no parts that can be replaced by untrained or unaccredited personnel. Any unapproved work or part replacement using equivalents may gravely compromise safety.

5.1 CLEANING

1. Disconnect the unit completely.
2. Use a soft cloth, moistened with soapy water.
3. Rinse with a damp cloth.
4. Dry rapidly with a dry cloth or forced air.

NOTE: Do not use alcohol, solvents, or hydrocarbons to clean.

5.2 REPAIR

For instrument repair:

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.

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.)

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

5.3 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

5.4 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 their discretion.

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.

REGISTER ONLINE AT: www.aemc.com/warranty.html

5.5.1 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 prepaid 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.

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