

■ AC/DC CURRENT PROBE

MR6292



ENGLISH

User Manual

 **AEMC**[®]
INSTRUMENTS

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 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. Refer to our repair and calibration section at www.aemc.com.

Serial #: _____

Catalog #: 2129.86

Model #: MR6292

Please fill in the appropriate date as indicated:

Date Received: _____

Date Calibration Due: _____



AEMC®
INSTRUMENTS

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

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INTRODUCTION



These safety warnings are provided to ensure the safety of personnel and proper operation of the instrument.

- Read this instruction manual completely and follow all the safety information before attempting to use or service this instrument.
- Use caution on any circuit: Potentially high voltages and currents may be present and may pose a shock hazard.
- Read the safety specifications section before using the Model MR6292. Never exceed the maximum working voltage ratings given.
- Safety is the responsibility of the operator!
- Never open the back of the instrument while connected to any circuit or input.
- ALWAYS connect the Model MR6292 to the Micro-Ohmmeter Model 6292 instrument before clamping the probe onto the sample under test.
- Always inspect the probe and lead prior to use. Replace any defective parts immediately.
- NEVER use the Model MR6292 on electrical conductors rated above 600V.

1.1 International Electrical Symbols



This symbol signifies that the instrument is protected by double or reinforced insulation. Use only specified replacement parts when servicing the instrument.



This symbol on the instrument indicates a WARNING and that the operator must refer to the user manual for instructions before operating the instrument. In this manual, the symbol preceding instructions indicates that if the instructions are not followed, bodily injury, installation/sample and product damage may result.



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



This is a type A current sensor. This symbol signifies that application around and removal from HAZARDOUS LIVE conductors is permitted.

1.2 Definition of Measurement Categories

- CAT IV:** For measurements performed at the primary electrical supply (<1000V) such as on primary overcurrent protection devices, ripple control units, or meters.
- CAT III:** For measurements performed in the building installation at the distribution level such as on hardwired equipment in fixed installation and circuit breakers.
- CAT II:** For measurements performed on circuits directly connected to the electrical distribution system. Examples are measurements on household appliances or portable tools.

1.3 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.

1.4 Ordering Information

AC/DC Current Probe Model MR6292
(for use with Micro-Ohmmeter Model 6292 only) **Cat. #2129.86**

Includes user manual.

Order Accessories and Replacement Parts Directly Online

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

PRODUCT FEATURES

2.1 Description

The AC/DC Current Probe Model MR6292 is an accessory for the AEMC® Micro-Ohmmeter Model 6292. The Model MR6292 probe is required for using the Model 6292 to take measurements in BSG (both sides grounded) mode.

The probe is designed to meet the latest safety and performance standards. The probe's hook-shaped jaws enable you to "pry" into or "hook" onto cables (it will accept 2 x 500 MCM) or small bus bars.

The Model MR6292 uses Hall effect technology. All electronics are self-contained in the handle. The output of the probe is 10mV/A. No battery is required; the probe operates via voltage provided by the Model 6292.

The probe has a proportional mV output for direct reading on the Model 6292.

2.2 MR6292 Features

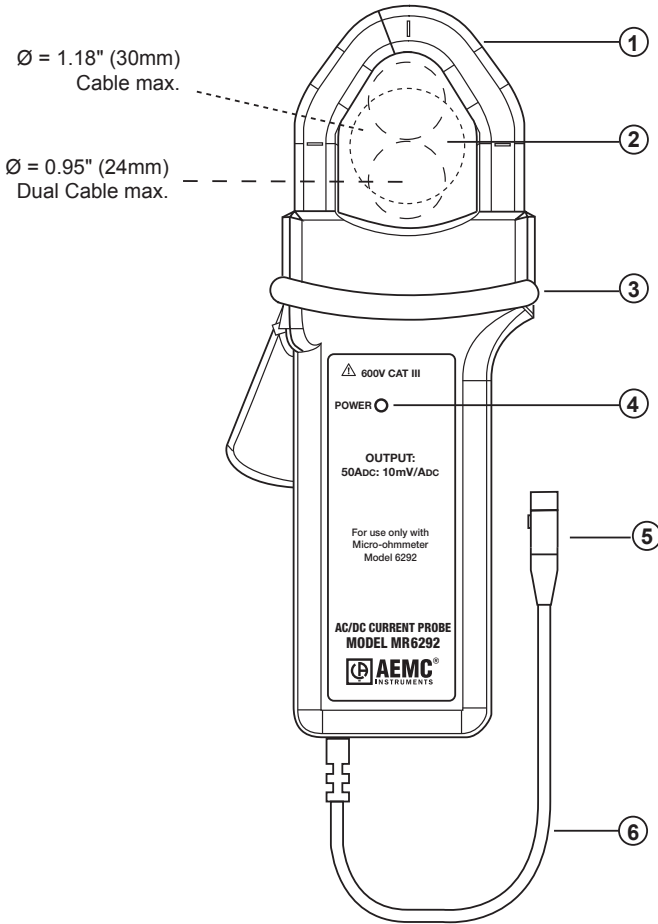


Figure 1

1. Jaws
2. Conductor
3. Protective non-slip guard
4. Green light (ON when connected to the Model 6292)
5. Lead, 5 ft (1.5m)
6. 5-pin XLR connector

SPECIFICATIONS

3.1 Electrical

Measurement Range: 1 to 50ADC

Accuracy: 1 to 50ADC: 1.5% reading \pm 0.2A

Output Signal: 10mV/ADC

Load Impedance: >100k Ω /100pF

Insertion Impedance: 0.39m Ω @ 50Hz, 58m Ω @1000Hz

Working Voltage: 600Vrms

Common Mode Voltage: 600Vrms

Influence of Adjacent Conductor:
< 10mA/A at 50Hz at 23mm from the probe

Influence of Conductor in Jaw Opening: 0.5% reading

Power Source: Powered by Micro-Ohmmeter Model 6292

3.2 Mechanical

Jaw Opening: 1.2" (31mm)

Maximum Cable Diameter: One 1.18" (30mm) or two 0.95" (24mm) or two bus bars 1.2 x 0.4" (31.5 x 10mm)

Dimensions: 8.8 x 3.82 x 1.73" (224 x 97 x 44mm)

Weight: 15 oz (440g)

Output: 4-conductor shielded cable with 5-pin XLR connector

Zero Adjustment: Automatic zero by Model 6292

Case Protection: IP30 per IEC 529

Drop Test: 1.0m on 38mm of oak on concrete; test according to EN 61010

Mechanical Shock: 100G, test per IEC 68-2-27

Vibration: Test per IEC 68-2-6

Handle: UL 94 V0

Jaws: UL 94 V0

3.3 Environmental

Operating Temperature Range: 14° to 131°F (-10° to +55°C)

Storage Temperature Range: -40° to 176°F (-40° to +80°C)

Temperature Influence: $\leq 300^\circ \text{ ppm}/^\circ\text{K}$ or $1\%/10^\circ\text{K}$
 $\leq 0.2A/^\circ\text{K}$ on Zero

Operating Relative Humidity:

10° to 35°C: $90 \pm 5\%$ RH (without condensation)

40° to 55°C: $70 \pm 5\%$ RH (without condensation)

Humidity Influence: 10 to 90% RH @ reference temperature $\leq 0.1\%$ R

Altitude: Operating: 0 to 2000m
Non-operating: 0 to 12,000m

3.4 Safety

Electrical:

EN 61010-2-32, 600V CAT III, Pollution: 2



Electromagnetic Compatibility:

EN 50081-1 Class B

EN 50082-2 Electrostatic discharge IEC 1000-4-2

Radiated field IEC 1000-4-3

Fast transients IEC 1000-4-4

Magnetic field at 50/60 Hz IEC 1000-4-8

OPERATION

The Model MR6292 probe is used in conjunction with the Micro-Ohmmeter Model 6292 to perform measurements in BSG (both sides grounded) mode. For additional information about using the Micro-Ohmmeter Model 6292, refer to the user manual on the USB Stick that ships with the instrument.

4.1 Making Measurements

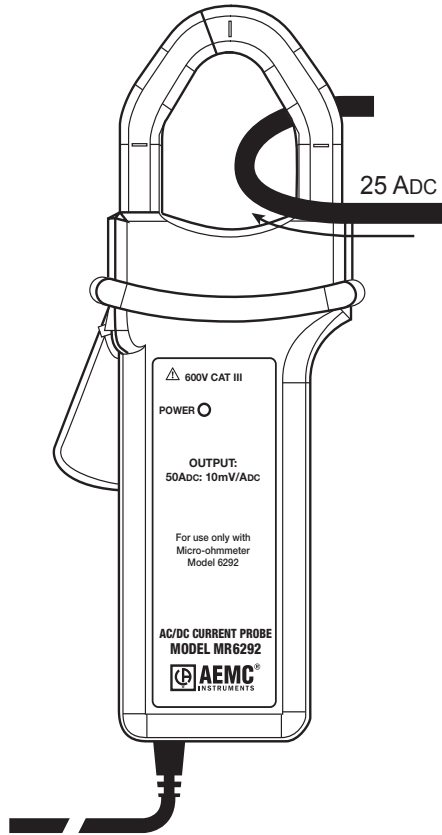
1. Plug the probe into the Model 6292.
3. Turn the power to the Model 6292 ON.
4. The green LED on the Model MR6292 should be lit. If the LED does not come ON or goes OFF after a few minutes; check to ensure that the Model 6292 instrument is still powered ON, and that the Model MR6292 is securely plugged into the instrument's socket.
5. Set up a test on the Micro-ohmmeter Model 6292, as instructed by the instrument's user manual (located on the USB stick).
6. Clamp the probe on the ground conductor to be tested, then start the test. The Model 6292 will display the measured ground conductor current as the "I_g" reading on the instrument's LCD display panel:

R=100.0uΩ	
I_t=142A	I_g=8.0A
DURATION:	015/060s
10/20/13	03:25 PM

In the preceding example, the I_g measurement provided by the MR6292 probe is 8.0A.

4.2 Operation Examples

- Conductor carrying 25ADC in the direction of the arrow.
- Model 6292 displays $I_g = 25A$.



MAINTENANCE



WARNING:

- For maintenance use only specified replacement parts.
- To avoid electrical shock, do not attempt to perform any servicing unless you are qualified to do so.
- To avoid electrical shock and/or damage to the instrument, do not get water or other foreign agents into the case. Turn the current probe OFF and disconnect the unit from all the circuits before opening the case.

5.1 Cleaning

- Clean the body of the clamp with a cloth lightly moistened with soapy water.
- Wipe clean with a cloth moistened with clean water and dry.
- Do not use solvent.

5.2 Repair and Calibration

To ensure that the Model MR6292 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.

For instrument repair and calibration:

You must contact our Service Center for a Customer Service Authorization Number (CSA#). 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 or (603) 749-6309
E-mail: repair@aemc.com

(Or contact your authorized distributor)

Costs for repair, standard calibration, and calibration traceable to N.I.S.T. are available.

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

5.3 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:

Contact: Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments
Phone: (800) 945-2362 (Ext. 351)
(603) 749-6434 (Ext. 351)
Fax: (603) 742-2346
E-mail: techsupport@aemc.com

5.4 Limited Warranty

The Model MR6292 probe is warranted 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, at its option, repair or replace the faulty material.

**REGISTER ONLINE AT:
www.aemc.com**

5.5 Warranty Repairs

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

First, request a Customer Service Authorization Number (CSA#) by phone fax or email from our Service Department (see address below), 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:

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 or (603) 749-6309
E-mail: repair@aemc.com

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

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



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