

UNDERSTANDING GROUND RESISTANCE TESTING

A One Day Training Seminar



THE COURSE: A One Day Training Seminar



In today's rapidly changing world of technological advances, good grounding is more important than ever to prevent costly damage and downtime due to service interruptions and inoperative surge protection caused by poor grounds. Grounding systems offer protection from natural phenomenon such as lightning by discharging the system of current, protecting personnel from injury, and system components from damage. In electric power systems with ground returns, grounds help ensure rapid operation of the protection relays by providing low resistance fault paths in the event of foreign potentials due to faults. Low ground resistance is required to meet NEC®, OSHA and other electrical safety standards.

Whether you're performing regular ground testing on existing systems, troubleshooting power quality problems, or designing grounding systems for new installations, a solid understanding of ground resistance and soil resistivity testing procedures and the equipment used in conducting these tests is essential.

AEMC® Instruments, the world leader in ground testing instruments, proudly offers *Understanding Ground Resistance Testing*, a one day technical training seminar (no sales pitch) taught by AEMC's staff of professional engineers and technical personnel. This course will give you all the information you need to understand testing of grounding systems. Through a combination of classroom instruction and hands-on demonstrations, you will learn the various types of ground resistance tests, the proper application for each test and how to correctly operate the equipment used in conducting these tests. Completing this course will give you all the information you need to conduct ground resistance testing correctly and efficiently, saving you substantial time and money in the future.

Classroom

This session will consist of classroom presentations and discussions on all aspects of soil resistivity and ground resistance testing as well as bonding. The 4-Point soil resistivity test and the 3-Point (62% method) Fall-of-Potential ground resistance testing methods will be presented along with the revolutionary clamp-on test method. Touch potential testing will also be covered.

References to the IEEE Green Book, IEEE standard 142-1991, IEEE standard 81-1983 and article 250 of the National Electrical Code will be referenced and discussed throughout the session.

APPLIED CONCEPTS

- When and how to use each test method
- When and where not to use a particular test method
- Proper placement of auxiliary rods to conduct each type of test.
- How to calculate the required ground electrode depth based on soil resistivity data
- How to distinguish ground resistance measurements from loop resistance
- How to use the Fall-of-Potential method when it is not practical to drive auxiliary rods
- How to test bonding resistance

Field Testing

This session will consist of on-site field tests demonstrating the different methods of ground resistance testing discussed during the first half of the day. Participants will have the opportunity for hands-on experience and demonstrations of proper testing procedures including measurement of soil resistivity, correct placement of test rods, using the 3-Point method and proper use of the clamp-on test method.



COURSE SCHEDULE

| LOCATION | COURSE DATES |
|--------------------------|---------------------------|
| Miami, Florida | Tuesday February 7 2012 |
| Phoenix, Arizona | Tuesday March 6 2012 |
| Kansas City, Kansas | Tuesday April 3 2012 |
| Baltimore, Maryland | Tuesday May 1 2012 |
| Cleveland, Ohio | Tuesday June 5 2012 |
| Spokane, Washington | Tuesday July 10 2012 |
| Burlington, Vermont | Tuesday September 11 2012 |
| San Antonio, Texas | Thursday October 4 2012 |
| Palm Springs, California | Tuesday November 6 2012 |



Eight Contact Hours will be awarded for the completion of this program



Level III & IV Technicians will be awarded

8 NETA CTD's (Certified Technical Development Credits) in Category Ground 15 for completion of an AEMC® Ground Seminar

All seminars will begin at 8:30 am.
Lunch will be served at noon and the seminar will end at approximately 4:30 pm.
Class locations and dates are subject to change, refer to our website (www.aemc.com) for updates.

COURSE FEE

\$475.00*
per person

Includes: Session One (Classroom), Lunch, Session Two (Field Tests)

- * A 15% **discount** is available for groups of three or more.
 - * A 10% **early bird discount** is available for registering 30 days prior to the seminar date.
- Only one discount may apply

All participants attending will receive:

- **\$50.00 REBATE CERTIFICATE** toward the purchase of an AEMC® ground tester
- AEMC® Instruments' *Understanding Ground Testing* binder and video set, useful tools to assist in ground resistance testing, **certification** on the use of AEMC® ground testers

REGISTRATION METHODS

Register by phone: **(800) 343-1391 • (508) 698-2115**
Register online: visit **www.aemc.com** and click on **Training Seminars**





CONTACT INFORMATION

Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments • 200 Foxborough Blvd. • Foxborough, MA 02035 USA
 Phone (800) 343-1391 • (508) 698-2115 • Fax (508) 698-2118 • E-mail seminars@aemc.com

Find us on the WEB at
WWW.AEMC.COM

Visit our website to find out more about our complete line of ground resistance testers and accessories.

www.aemc.com

AEMC ONE SOURCE®

For All Your Electrical Test & Measurement Instruments

UNDERSTANDING GROUND RESISTANCE TESTING

NAME _____
 TITLE _____
 COMPANY _____
 ADDRESS _____
 MAIL STOP _____
 CITY _____ STATE _____ ZIP _____
 TELEPHONE _____ EXT. _____
 FAX _____
 E-MAIL _____
 PROMO CODE _____ (if applicable)

NUMBER ATTENDING _____ x **\$475.00** per person = \$ _____
 15% discount for groups of three or more (X .85)
 10% discount for registering 30 days prior to the seminar date (X .90)

⇒ NOTE: Only one discount may apply TOTAL DUE = _____

NAMES OF ATTENDEES _____

T-SHIRT (FREE TO THOSE WHO ATTEND)

SIZES M L XL XXL

CHECK PAYMENTS Please make checks payable to: **Chauvin Arnoux, Inc.**

CREDIT CARD PAYMENTS:

CARD TYPE VISA MASTERCARD
 CARD NUMBER _____
 EXPIRATION DATE _____ CODE NUMBER _____
 CARDHOLDER NAME _____
 SIGNATURE _____

REGISTRATION FORM

Choose which session you plan to attend:

- **02/07/2012** Miami, FLORIDA
- **03/06/2012** Phoenix, ARIZONA
- **04/03/2012** Kansas City, KANSAS
- **05/01/2012** Baltimore, MARYLAND
- **06/05/2012** Cleveland, OHIO
- **07/10/2012** Spokane, WASHINGTON
- **09/11/2012** Burlington, VERMONT
- **10/04/2012** San Antonio, TEXAS
- **11/06/2012** Palm Springs, CALIFORNIA

Return this form (with check, if applicable) to:

GROUND RESISTANCE TESTING SEMINAR
AEMC Instruments
200 Foxborough Blvd.
Foxborough, MA 02035 USA

Acknowledgement of your registration and all pertinent information will be sent to you.

Please note: Applicants may cancel up to ten (10) working days before the day of the course for a full refund. Cancellations received later than ten days prior to the course are subject to a \$100 service charge. Those who have not cancelled two (2) days prior to the course and "no shows" are subject to the entire fee. Last date to register is fourteen (14) days prior to the seminar. AEMC® Instruments reserves the right to cancel within seven business days.