

# Spend Some Time with Mike and Get it Right

## Grounding versus Bonding Seminar



### About Your Presenter

Mike is nationally recognized as one of America's foremost experts and knowledgeable electrical trainers. His instruction has helped tens of thousands of electrical professionals ensure the proper design and installation of electrical systems in accordance with the *NEC*. His dynamic and animated teaching style is relaxed, direct and enjoyable. Perhaps Mike's best quality is his ability to communicate technical topics in an easy-to-understand manner.



## November 2-3, 2005

**Antigua Bay Resort & Conference Center**  
**Wisconsin Dells (800) 543-3557 • Exit 87 off I-90/94 Hwy 13**

### Day 1: Dinner and Program

**Dinner: 6 P.M. Program: 7 P.M. (Mike will be available to sign books)**

### Day 2: Full-Day Seminar

**Seminar: 8 A.M. – 5 P.M.**

**Group Discount: Register 5 or more from your company  
 and save as much as \$45 each!**

**\*\* Apprentices and Instructors pay the group fee regardless of numbers**

**Sponsored By**



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WAYS TO REGISTER

**Phone: (608) 244-6056**

**Mail: ABC of Wisconsin, Inc. • 5330 Wall Street • Madison, WI 53718**

**Fax: 608-244-2401 • Website: [www.abcwi.org](http://www.abcwi.org) (download PDF to fax)**

NAME _____			
COMPANY _____		TITLE _____	
MAILING ADDRESS _____		CITY _____	STATE _____ ZIP _____
PHONE _____		FAX _____	
E-MAIL ADDRESS _____		WEB SITE _____	
<i>For more than one registration, add a sheet with above information for each registrant.</i>			
<input type="checkbox"/> CHECK	<input type="checkbox"/> VISA	<input type="checkbox"/> MASTER CARD	<input type="checkbox"/> MONEY ORDER
CREDIT CARD # : _____ Security Code* _____ Exp. Date: _____			
<small>*3- or 4-digit security number on front for AmEx and on back for all others</small>			

Grounding versus Bonding Seminar		ABC W/WBA Member pricing	
<b>Qty Single Registration</b>			
___ Day 1 Only Dinner/Program		\$ 75	\$ _____
___ Day 2 Only Grounding versus Bonding Seminar		\$195	\$ _____
___ Both Day 1 and 2		\$245	\$ _____
<b>Qty Group Registration (5 or more from one company)</b>			
___ Day 1 Only Dinner/Program		\$ 75/ea	\$ _____
___ Day 2 Only Grounding versus Bonding Seminar		\$145/ea	\$ _____
___ Both Day 1 and 2		\$200/ea	\$ _____
<b>Total Registration Fee</b>			\$ _____
<b>Early Bird Discount</b> (by October 3, 2005)		25% of Total	- _____
		<b>TOTAL DUE</b>	\$ _____

Non-members contact ABC WI for pricing.

# Confused about Grounding? Who's Not!

Grounding and Bonding of electrical systems, sensitive electronic, and communications equipment is the most important and least understood activity in the electrical, data processing and communications industry. Mike will explain the following topics in an informal and relaxed style using PowerPoint full-color graphics and examples that apply to today's electrical installations. Those attending this high-energy program will learn the basics as well as the advance concepts necessary to understand the practical grounding and bonding rules in the *NEC* for systems not over 600V.



## Do you need to attend this seminar? Take this quiz and find out!

- Q. When electrical current is provided with multiple conductive paths on which to flow, current will always take the path of least resistance?
- Q. Grounding ensures that dangerous voltage on metal parts from a ground fault can be removed or be reduced to a safe level?
- Q. If an electrical system is properly installed, the voltage between the neutral terminal and the ground terminal at a receptacle should be near zero?
- Q. Grounding premises wiring to a low resistive grounding grid can help reduce stray voltage?

If you answered true to any of the above questions, then you need to attend this seminar! For a more comprehensive quiz, please visit [www.mikeholt.com/MHGVVB/](http://www.mikeholt.com/MHGVVB/)

## Seminar Topics

### Evening Program

**Introduction to Grounding versus Bonding**

### Full-Day Seminar

#### Grounding Fundamentals

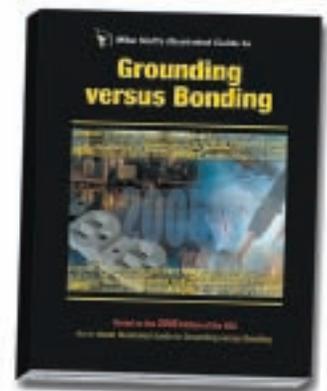
Purpose of Grounding and Electrical Fundamentals  
Lightning Protection and TVSS Protection  
Earth Grounding versus Equipment Grounding  
Effective Fault-Current Path  
Stray Voltage and Current  
Proper Neutral-to-Ground connections  
Ground Loops  
Objectionable Currents (Net Current)  
EMI and RF Interference

#### System Grounding

Services Equipment – Section 250.24  
Transformers – 250.30  
Generators – Section 250.30  
Separate Buildings and Structures – Section 250.32  
Portable and Vehicle Generators – Section 250.34

#### Grounding Sensitive Electronic and Communications Equipment

The Grounding Electrode System  
Ufer Ground  
Grounding Sensitive Electronic Equipment  
(Isolated and Signal Reference Ground)  
Grounding of Communications Systems  
(Telephone, CATV, Satellite Dishes, Antennas)  
Grounding Data and Instrumentation Cables



Get Mike's *Grounding versus Bonding* book FREE when you attend this seminar, or order the home-study course which includes the textbook, DVDs or videos

**For More Information Please Contact: Ellie Hein [ehain@abcwi.org](mailto:ehain@abcwi.org) 608-244-6056**