



MEDIUM & LOW VOLTAGE DRIVES

No One Anywhere is Better at Drives Than We Are!

# AC Drive Troubleshooting Seminar

October 5-6, 2021

Norcross, GA

## Attention ALL AC Variable Frequency Drive Users:

One of the most **common** inquiries we get here at EMA Inc. is for training on AC Solid-State Motor Drives. Often it isn't cost effective to teach on-site schools for a small # of people. **Here is a VERY cost effective solution.**  
**We're offering a 2-day, intensive seminar on AC Drives. (PWM)**

*This Course is also approved by the:*  
**GA State Board of Examiners**  
*for Certification of*  
**Water & Wastewater Treatment Plant Operators & Laboratory Analysts**



This Course is also approved by the **Georgia Water and Wastewater Institute** for continuing education required for **GAWP Maintenance Technologist License Renewal Points**

Organization	Course Number	Course Title	CE Points
GWWI	CE-12-MT-EMA-06302021-002	AC Electronic Motor Drive Seminar	12
GA State Board	CE-12-MS-0220-EMA-S-013122-0001	AC Drive Trouble Shooting Seminar	12

## Who should attend?

ANYONE troubleshooting, maintaining, applying or operating AC Drives. You'll leave this school with a clear & practical understanding of solid-state AC drives, motors and the mechanical/electrical interaction which takes place. You'll learn to recognize classic drive trouble symptoms and quickly resolve common problems. This seminar could easily return your investment with just one instance of reduced downtime due to your increased knowledge. An electronic background will be helpful, but not essential. We'll review the basic electrical laws and component operation you need to know.

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## Class Schedule

~ DAY ONE ~

### Safety

#### Drive Application Basics

- \*Horsepower/Torque
- \*Load Types
- \*Typical Applications, Pitfalls and Troubleshooting
- \*Harmonics and Noise

#### Test Equipment and Measuring Methods

- \*Component Testing
- \*Voltage/Current Measuring Methods, Problems and Considerations of Non-sinusoidal Waveforms
- \*Oscilloscope Basics and Safety Considerations

#### Discrete Components and Typical Circuits Overview

- \*Passive Components (capacitors, diodes)
- \*Active Components (transistors, IGBT's etc.) and Associated Circuits
- \*Inductors, Transformers

~DAY TWO ~

### AC Motors

- \*Construction & Theory of Operation (Induction)
- \*Connections & Testing
- \*Maintenance

### AC Drives

- \*Construction & Theory of Operation (PWM)
- \*Braking Types (Dynamic, DC Injection, Line Regenerative)
- \*Programming

\*User Interface (I/O)

\*Drive, Motor, and Load Data

- \*Faults & Troubleshooting
- \*Visual & Test Equipment Diagnosis
- \*Typical Application Problems
- \*Maintenance

Space is limited. Please call or email Tatyana and reserve your seat(s) today.

**(770) 448-4644**

**Tatyana@emainc.net**



Please fill out the form below and fax back to (770) 448-4823

Company Name: \_\_\_\_\_

Billing Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email Address: \_\_\_\_\_

Name of Attendee(s): \_\_\_\_\_

An EMA representative will contact you for payment.

**\$695.00 / Person**

*Cost covers tuition, School Materials and lunch both days.*

Students are encouraged to bring their own Multimeters to the seminar.

Classes start promptly @ 8:00AM and finish @ 4:30PM

*In order to assure registration, all class fees must be received prior to the scheduled seminar date.*

I would like to be informed of future classes: \_\_\_\_\_(✓)

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