



In 2015, Power-Tronics, Inc. began offering a new program for our customers that is designed to improve understanding of our products, increase awareness of available applications, and provide troubleshooting and training for voltage regulating systems on a wide variety of electrical generators.

Few generator servicemen today are able to quickly and efficiently troubleshoot or repair a generator on the spot or under pressure from the customer or time constraints. We feel that if technicians are well versed in repair and troubleshooting techniques as well as possessing a large amount of knowledge of our products they will be able to better communicate

with us at a technical level and will also be able to communicate more clearly with the customer. All of this means more profit for your company, a better reputation for your service staff, and a simpler supply solution with a minimum of stocked items in your inventory.

#### **Factory Certified Technician Candidates:**

- Must have a minimum of 5 years of “Hands-On” experience working on generators, have a basic understanding of electrical theory, and understand how to read an electrical schematic.
- Must attend a factory product and troubleshooting school once every 5 years for renewal of certification.
- Must pass a written exam at the end of the Factory Certified Technical course.
- Certification is issued only to the person attending and completing the product and troubleshooting school.
- Companies that employ factory certified technicians are eligible for special additional discounts on our products.
- Certified technicians are given priority for troubleshooting and engineering assistance from Power-Tronics.

#### **Benefits for Factory Certified Technicians:**

- Fixed discount on all purchased products during certification period.
- Referral of customers in the technician’s service area.
- Listing of employing company, contact info, and service area on Power-Tronics’ website
- Priority technical and application assistance.
- Updates on new products or product revisions.
- Technical service newsletter containing tips, tricks, or case-studies.

- Private website dedicated only to certified service shops.
- Minimize stock kept on service trucks and on shelves in the office by having a streamlined supply with a minimum of required service parts.

### **Goals of the Program:**

- Increase sales and customer satisfaction by training technicians to understand how to size and properly fit our products to their applications.
- Improve technicians' understanding and troubleshooting ability of electrical generators and voltage regulation systems thereby reducing downtime and improving the accuracy of the troubleshooting process.
- Direct consumers and end-users to service companies and electric motor shops for application assistance and product installation.
- Reduce returns and repairs from misapplication or installation mistakes.
- Increase name recognition of both Power-Tronics and the company employing Factory Certified Service Technicians.
- Increase sales and brand awareness by offering a blanket discount to participating companies.
- Encourage repeat business through referrals of non-professional and end-user customers to certified technicians.
- Reduce assistance calls from non-professionals and end-users by offering a network of trained service personnel to refer them to for equipment service and assistance.
- Build a positive reputation for both Power-Tronics and the companies participating in the Factory Certified Service Technician program.



# Factory Certified Technician School

Day 1 (Friday, April 21, 2023)

Introduction and Purpose of the Factory Trained Program

Overview of the optional test and benefits of the certification.

## Covered Topics:



- **Basics of Electrical Generators**
  - What is a generator and how does it work.
  - Common types of generators.
  - Basic troubleshooting of generators.
- **Voltage Regulators**
  - Basic principles of voltage regulators (How do they work?)
  - History of voltage regulators
  - Types of voltage regulators.
  - Voltage regulator troubleshooting.
- **Installing and sizing Power-Tronics Products**
  - Nameplate pitfalls
  - Information needed for correct sizing
  - Sizing formulas
  - Sizing charts
  - Special sizing considerations
  - Choosing the correct hookup connection on the generator
- **Voltage regulators**
  - XC4
  - XC14/XC15
  - XR8
  - XR5 Series
  - Specialty Series
- **Static Exciter Modules**
  - SEM250A Series
  - SEM250B Series

- **Static Exciters (Single phase rectified)**
  - SE300 Series
  - SE500 Series
  - SE1000 Series
  - SE2000 Series
  - SE3000B
  - SE6000B
- **Static Exciters (Three phase rectified)**
  - SE1125B-3P
  - SE1250B-3P
  - SE2125B-3P
  - SE2250B-3P
  - SE3125B-3P
  - SE3250B-3P
  - SE6125B-3P
  - SE6250B-3P
- **Accessories**
  - ABF10
  - ABF40
  - HVD2
  - EIM1020VM
  - MOP1224HD
- **Phase Controls**
  - PC5B
  - PC300B
  - PC500B
  - PC1000B
  - PC2000B
  - PC3000B
  - PC6000B
- **Troubleshooting A New Installation**
  - No voltage buildup
  - Poor regulation control
  - Voltage varies with frequency
  - Voltage Instability
  - Blowing fuses
  - High and uncontrollable voltage
  - Voltage collapsing under load

## **Question and Answer Session**

## Day 2 (Saturday, April 22, 2023)

### Review and Question and Answer Session

- **Class Exercises**

- Identifying a generator's configuration
- Calculating excitation requirements
- Sizing a new regulator system
- Troubleshooting the generator
- Case studies

- **Group Exercises**

- Identifying a generator's configuration
- Sizing a new regulator system
- Troubleshooting the generator
- Determining load-related problems
- Perform a bench test of a voltage regulator

- **Optional Certification Test**



	Friday, April 21	Saturday, April 22
8:00 AM	Introduction	Review
8:15 AM		
8:30 AM	Generator Basics	Class Exercises
8:45 AM		
9:00 AM		
9:15 AM		
9:30 AM		
9:45 AM		
10:00 AM	Break	Break
10:15 AM	Generator Basics (Continued)	Class Exercises (Continued)
10:30 AM		
10:45 AM		
11:00 AM		
11:15 AM		
11:30 AM		
11:45 AM	Lunch (Catered)	Lunch (Catered)
12:00 PM		
12:15 PM		
12:30 PM		
12:45 PM		
1:00 PM		
1:15 PM	Overview of Power-Tronics Product Line	Group Exercises
1:30 PM		
1:45 PM		
2:00 PM		
2:15 PM	Break	Break
2:30 PM	Troubleshooting a New Installation	Group Exercises (Continued)
2:45 PM		
3:00 PM		
3:15 PM		
3:30 PM		
3:45 PM		
4:00 PM	Break	Questions & Answers
4:15 PM		
4:30 PM	Questions & Answers	<u>Optional Certification Test</u>
4:45 PM		
5:00 PM		
5:15 PM		
5:30 PM		
5:45 PM		

# Power-Tronics, Inc. Factory Certified Service Technician School Application Form

Our next Factory Certified Service Technician School will be held at **Inn of the Hills Hotel & Conference Center in Kerrville, Texas on Friday and Saturday, April 21-22, 2023.**

The class is limited to 30 participants to ensure that the instructor will be able to answer questions as the class is presented and to ensure that all that attend will be given personal attention and their specific questions answered.

Because these classes are limited, we do not offer an open registration but instead we will choose from submitted applications from attendees for each school. We ask that you meet the prerequisites shown below before registering.

Prerequisites:

Attendees for the school must have a mid-level or above skill level and experience with service and repair of electrical generators and be able to interpret electrical schematics. This includes senior technicians and engineers.

To register, please fill out the following application form and either fax, email, or mail it to Power-Tronics, Inc. P.O. Box 291509, Kerrville, Texas 78029. You will be notified if we will have an opening at this school available for you.

Date:

Name:

Company:

Position:

Email:

Phone:

Address:

City:

State:

Zip:

Years of experience with electrical generators:

**Cost for the school: \$425.00 per attendee.**

**\*Note: Payment is not requested until you are accepted for the class.**

**Registration fees are non-refundable after Friday, April 7, 2023**

