Factory Certified Technician School

Day 1 (Friday, December 6, 2024)

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
  - KFR3

- **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

<u>Day 2 (Saturday, December 7, 2024)</u>

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**

POWER-TRONICS™
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	Friday, December 6		Saturday, December 7
8:00 AM	Introduction		Review
8:15 AM	Generator Basics		
8:30 AM			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			
12:00 PM	Lunch (Catered)		Lunch (Catered)
12:15 PM			
12:30 PM			
12:45 PM			
1:00 PM	Overview of Power-Tronics Product Line		Group Exercises
1:15 PM			
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			Questions & Answers
4:15 PM	Break		
4:30 PM	Questions & Answers		***Optional Certification Test***
4:45 PM			
5:00 PM			
5:15 PM			
5:30 PM			
5:45 PM			