Global Horizon
TRAINING CENTER

Training Course:
Uninterruptible Power Supply Systems

29 December 2024 - 2 January 2025
Sharm El-Sheikh (Egypt)
Sheraton Sharm Hotel

Training Course:
Uninterruptible Power Supply Systems

Training Course code: EN234656 From: 29 December 2024 - 2 January 2025 Venue: Sharm El-Sheikh (Egypt) - Sheraton Sharm Hotel Training Course Fees: 4200 Euro

Introduction

This Uninterruptible Power Supply Systems training seminar will explore the various types of static and dynamic UPS. Power outages are detrimental to the electrical network and installation systems. Thus, efficient uninterruptible power supply systems are needed to ensure their security, integrity, and reliability. They are also used as power conditioners to enhance the power quality of the modern demanding electronic equipment and control centers.

Improvements in the main components of the uninterruptible power supply systems like the batteries, rectifiers, battery chargers, and inverters, now incorporate new technologies and high-end power electronics components. The uninterruptible power supply systems have become essential equipment in most electrical installations.

The superior dynamic uninterruptible power supply DUPS or diesel rotary uninterruptible power supply DRUPS systems are now making waves where reliable and clean AC supply which are critical and in high demand to power the data centers and critical equipment. The many salient merits of the DUPS/DRUPS are gaining popularity as it eliminates the use of batteries.

This Training Course will highlight:

- The importance and essentials of a UPS system
- Power electronics components in the UPS
- Characteristics, types, care, and maintenance of batteries
- Construction and operation of dynamic uninterruptible power systems
- Battery monitoring system and power quality

Objectives

The training seminar will elaborate on the similarities and between the static and dynamic uninterruptible power systems. This will include the types and care of batteries

At the end of this training seminar, participants will learn to:

- Understand the different static UPS topologies
- Comprehend the importance of continuous power supply for critical and sensitive loads during power outages
- Analyze the characteristics of batteries
- Understand the operations and construction of the dynamic UPS or the diesel rotary UPS
- Appreciate the merits of battery monitoring systems and power quality

Methodology

This Electrical Engineering course will offer a manual to each seminar participant. The presenter will outline and discuss the topics using computer displays, videos and PowerPoint presentations. The seminar is designed to have an interactive format to maximize delegate participation. Questions and answers are encouraged throughout and in the daily sessions. Needs-Based case-studies and examples will be discussed in problem-solving workshop sessions.

Organizational Impact

Upon completion of the training course, the organizational impact would be:

- Technical training and up-skilling to improve and realize the full potential of a competent workforce
- Productivity increase through minimization of project time acceptance/design and testing
- Identification for opportunities for improvements due to deep understanding of the presented state-of-the-art UPS and battery technologies
- Networking of personnel with technology leaders and other engineers and technicians with substantial field experience
- Attitude change of workforce, as continuous follow up of new technologies and they're up to taking could otherwise create a workforce with high resistance to change due to lack of understanding
- Ensure safety practices adhered to when carrying out maintenance activities

Personal Impact

On successful completion of this training course, the delegate will be able to:

- Understand the basis for the use of a UPS
- Understand Critical Load Applications
- Have an appreciation of Power Problems
- Be prepared to review the installation and maintenance requirements of a UPS and Stand-by power installation
- Be ready to improve reliability by improving the resilience of an electrical installation

Outlines

The technicians and maintenance staff will be able to comprehend the types, construction, operations, the function of UPS and batteries. This will enable them to carry out effective maintenance activities.

This training seminar is suitable for a wide range of professionals but will greatly benefit:

- Electrical Engineers
- Maintenance Technicians
- Electrical Supervisors
- Engineering Professionals
- Project Engineers

Outlines

DAY 1

Uninterruptible Power Supply Technologies

- Primary Types of Uninterruptible Power Supply Systems
- Single Source and Dual Source Uninterruptible Power Supply Systems
- Migration of Batteries and Uninterruptible Power Supply Systems
- Critical Loads and Equipment Categories
- Power Quality and Mains Failure
- Uninterruptible Power Supply Protection Systems
- Automatic Transfer Switch Functionalities
- Standby Generator Set Characteristics

DAY 2

Static UPS Technologies and Characteristics

- Merits and Characteristics of Online and Offline UPS
- Double Conversion UPS
- Delta Conversion UPS
- Transformer Based and Transformerless UPS
- UPS Operation Modes
- UPS components Functionality and Filters
- UPS Rating and Power Factor
- Parallel Systems and Redundancy

DAY 3

Dynamic Uninterruptible Power System Architecture and Merits

- Overview and Features of a Dynamic UPS System
- Operations of a Dynamic UPS System
- Kinetic Energy Storage in a Dynamic UPS System
- Batteries and Flywheels of a Dynamic UPS System

- Reliable Solutions by Installing the Dynamic UPS System
- Merits of a Dynamic UPS System
- Kinolt former Euro Diesel System Description
- Uniblock Diesel Rotary Uninterruptible Power Supply System

DAY 4

Dynamic and Diesel Rotary Uninterruptible Power Supply System Components Functionalities

- HiTec Diesel Rotary UPS System Description
- Four Basic Principles of HiTec DRUPS
- Types and Configuration of DRUPS
- The Induction Coupling Functionalities
- The Synchronous Machine Operations
- The Freewheel Clutch and The Flywheel
- The Diesel Engine and The Auxiliary Components
- Merits of the Diesel Rotary Uninterruptible Power Supply Systems

DAY 5

Automated Battery Monitoring System, Battery Types and Chargers

- Benefits of a Battery Monitoring System and Architecture
- Lead-acid AGM Battery Characteristics
- Nickel-cadmium Maintenance-free Battery Characteristics
- Condition Monitoring for UPS System and Batteries
- Charging Methods and Type of Chargers

Registration form on the Training Course: Uninterruptible Power Supply Systems

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

Delegate Information

Full Name (Mr / Ms / Dr / Eng): .....
Position: .....
Telephone / Mobile: .....
Personal E-Mail: .....
Official E-Mail: .....

Company Information

Company Name: .....
Address: .....
City / Country: .....

Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): .....
Position: .....
Telephone / Mobile: .....
Personal E-Mail: .....
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Payment Method

- ☐ Please find enclosed a cheque made payable to Global Horizon
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Telephone: +201095004484 to provisionally reserve your place.	Fax your completed registration form to: +20233379764	E-mail to us : info@gh4t.com or training@gh4t.com	Complete & return the booking form with cheque to:Global Horizon 3 Oudai street, Aldouki, Giza, Giza Governorate, Egypt.