XCELERATE TRAINING INSTITUTE

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ELECTRICAL ENGINEERING

# Electrical Power Distribution Management

| DURATION | LANGUAGE | FORMAT |
|---|---|---|
| **10 days** | **English** | **Classroom / Online** |

## Upcoming dates

| Dates | Venue | Format | Fee |
|---|---|---|---|
| 3 – 14 May 2027 | Live online | Online (live) | **€1,800** |
| 14 – 25 Jun 2027 | Boston | Classroom | **€7,200** |
| 8 – 19 Nov 2027 | Live online | Online (live) | **€1,800** |

### Register or ask a question

Online: x8ti.com/course/electrical-power-distribution-management/

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# Electrical Power Distribution Management

## Introduction

This Certification in Electrical Power Distribution Management course covers essential topics such as power distribution, power cables, power convertors, voltage fluctuations, and guidelines for earthing and lightning protection. The primary goal of this course is to educate, evaluate, and certify participants' skills and competencies to enhance their work output through extensive training.

## Learning Objectives

Upon completing this course by Xcelerate Training Course, participants will be able to:

- Understand the essentials of practical power distribution.
- Resolve short-circuit issues efficiently.
- Select the appropriate equipment for specific applications.
- Measure the impact of fault levels on switchgear ratings.
- Identify various functions of different types of cable protection.
- Use and protect power transformers effectively.
- Evaluate and ensure proper earthing across the electrical network.
- Assess the economic rationale for installing selected equipment.
- Appreciate the benefits of modern protection systems and preventive maintenance schedules.
- Establish accurate power cable installation methods and guidelines.

## Training Methodology

This interactive training program includes:

- Lectures
- Seminars
- Presentations
- Group Discussions
- Assignments
- Case Studies & Practical Exercises Following the ‘Do-Review-Learn-Apply’ model.

## Benefits for Your Organisation

Organizations can benefit from:

- Staying ahead with a comprehensive overview of power distribution systems.
- Gaining confidence in handling power distribution systems.
- Acquiring practical knowledge to provide a competitive edge in the workplace.
- Engaging in discussion-based sessions for networking and learning.
- Participating in interactive sessions to apply real-world examples in respective roles.
- Obtaining a professional qualification at a competitive cost through Zoe.

## Benefits for You

Participants will gain:

- Enhanced productivity through skill training.
- Updated knowledge of the latest trends and technologies in power systems.
- Access to a tailor-made academic program for technicians or equivalent workforce.
- Training, assessment, and certification by experts in the field.
- Improved skills for further training and qualification in this domain.

## Who Should Attend

This course is ideal for:

- Technicians or equivalent employees in the power or electricity sectors.
- Electrical technicians.
- Engineers, supervisors, and technical individuals requiring a fundamental understanding of power distribution systems.
- Stakeholders in the power industry, whether consumers, employees, or job seekers.

## Course Outline

### Introduction

- History and growth of power distribution
- Characteristics of an industrial distribution system
- Benefits of a 3-phase AC power system
- Voltage classification and expandability
- Types of distribution provisions

### Fundamentals of Protection

- Basic requirements for protection
- Need for protective apparatus
- Components of protection systems
- Protective relays for circuit breaker application
- Time and current grading
- Integration of protection into LV devices

### Distribution System Planning

- Data collection for planning
- Selection of appropriate equipment
- Need for system development
- Location of key assets
- Planning electrical system configuration
- Equipment ratings and sizing

## Transformers

- Transformer theory and installation
- Voltage control
- Power and distribution transformers
- Troubleshooting and construction
- Cooling and fire defense methods for large transformers

## Switchgear

- Major components of switchgear
- Indoor and outdoor construction
- Metal enclosed switchgear basics
- Switchgear ratings and examples
- Protection and safety features

## Circuit Breakers

- Fault detection in cable installations
- Key components and auxiliary systems
- Types and assessment of circuit breakers
- Assembly of typical circuit breakers

## Cables

- Basic design, selection, and sizing of cables
- Types and construction of cables
- Accessories for cable installation
- Insulating materials for LV and HV cables
- Fault detection in underground cable installations

## In-Plant Generation and Integration with Power Systems

- Types of in-plant generation
- Sources of in-plant power generation
- Operation with external sources
- Cost of power interruptions in critical processes
- Integrating in-plant generation with plant distribution

## Power Quality

- Understanding power quality
- Tackling voltage fluctuations and flicker
- Effect of power interruptions on equipment
- Equipment sensitivity and handling voltage irregularities
- Improving power quality and power factor

## Earthing and Safety

- Role of electrical insulation in safety
- Causes of electric shocks

- Earthing in outdoor installations
- Safety consequences of earthing power supplies
- Lightning safety and shielding buildings
- Avoiding electric shock and ensuring human safety

## Asset Management and Power System Automation

- Condition Based Maintenance (CBM)
- Reliability Centred Maintenance (RCM)
- Asset records and automation growth
- Introduction to SCADA systems
- Requirements for SCADA master and remote units
- SCADA deployment issues
- Insulation corrosion and diagnostic methods
- Fault management and power system automation functions

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# Registration Form

## Electrical Power Distribution Management

Preferred dates: ..... Venue or online: .....

Duration: 10 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

### Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

### Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

### Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Email: .....

### Payment

☐ Please invoice me ☐ Please invoice my company

Signature: ..... Date: .....

**Call**
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info@x8ti.com

**Register online**
Open the course page