

IEEE STANDARDS FOR ELECTRICAL POWER SYSTEMS IN BUILDINGS

"Ensuring Safety, Reliability, and Compliance in Building Electrical Systems"

Schedule

Date	Venue	Fees (Face-to-Face)
04 - 05 November 2026	Doha, Qatar	USD 1,995 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Electrical power systems in buildings must comply with internationally recognized standards to ensure safety, reliability, and operational efficiency. IEEE standards provide globally accepted guidelines for the design, installation, operation, and maintenance of electrical power systems in commercial, industrial, and institutional buildings.

This intensive 2-day training course provides participants with a practical understanding of key IEEE standards applicable to building electrical power systems. The program focuses on system design considerations, power quality, grounding, protection, and safety requirements, enabling professionals to apply IEEE best practices in real-world electrical and electronics projects.

Objectives

By the end of this course, participants will be able to:

- Understand the scope and purpose of major IEEE standards related to building power systems
- Apply IEEE guidelines in the design and operation of electrical systems in buildings
- Evaluate power quality issues and mitigation techniques
- Implement effective grounding, bonding, and protection schemes
- Enhance electrical safety and system reliability
- Align building electrical systems with international best practices

Why Attend

- Gain practical knowledge of IEEE standards used globally in building electrical systems
- Improve safety, efficiency, and reliability of electrical installations
- Reduce risks related to power quality and system failures
- Strengthen professional competence in electrical power system design
- Support compliance with international engineering and safety standards

Target Audience

This program is designed for:

- Electrical and electronics engineers
- Electrical design consultants
- Facility and maintenance engineers
- Project managers and construction engineers
- MEP professionals
- Technical supervisors and inspectors
- Professionals involved in building electrical power systems

Individual Benefits

Key competencies that will be developed include:

- Understanding of key IEEE electrical power system standards
- Ability to analyze and improve power quality in buildings
- Enhanced skills in grounding and protection design
- Improved electrical safety awareness
- Greater confidence in applying international standards

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved compliance with international electrical standards
- Reduced electrical faults, downtime, and safety incidents
- Enhanced system reliability and performance
- Better lifecycle management of building electrical systems
- Strengthened organizational technical capability

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Overview of IEEE standards and their application in building electrical systems
- Case Studies – Real-world examples of electrical system failures and best practices
- Workshops – Practical exercises on power quality, grounding, and protection
- Peer Exchange – Group discussions on challenges faced in building electrical systems
- Tools – Reference guides, standard excerpts, and technical checklists

Course Outline

Detailed 2-Day Course Outline

Training Hours: 07:30 AM – 03:30 PM Daily Format: 3–4 Learning Modules Coffee Breaks: 09:30 & 11:15 Lunch Buffet: 01:00 – 02:00

Day 1: Fundamentals of IEEE Standards and Building Power Systems

Module 1: Introduction to IEEE Standards (07:30 – 09:30)

- Role of IEEE in electrical engineering standards
- Overview of IEEE standards relevant to building power systems
- Relationship between IEEE, IEC, and NEC standards

Module 2: Electrical Power System Design in Buildings (09:45 – 11:15)

- Load analysis and system planning
- Distribution systems and equipment selection

Module 3: Grounding and Bonding (IEEE 142) (11:30 – 01:00)

- Principles of grounding and bonding
- Safety and fault current management

Module 4: Practical Discussion & Case Review (02:00 – 03:30)

- Common grounding and safety issues in buildings

Day 2: Power Quality, Protection, and Reliability

Module 1: Power Quality in Buildings (IEEE 1159) (07:30 – 09:30)

- Power quality disturbances and impacts
- Measurement and monitoring techniques

Module 2: Electrical Protection and Safety (09:45 – 11:15)

- Short-circuit analysis and protective coordination
- Arc flash hazards and mitigation

Module 3: Reliability and Maintenance of Power Systems (11:30 – 01:00)

- Reliability assessment and preventive maintenance
- System testing and commissioning

Module 4: Workshop & Course Review (02:00 – 03:30)

- Application of IEEE standards to building projects
- Key takeaways and best practice checklist

Certification

Participants will receive a Certificate of Completion in IEEE Standards for Electrical Power Systems in Buildings, validating their knowledge and practical understanding of IEEE standards and their application in the design, operation, and maintenance of building electrical power systems.

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