

MAINTENANCE AND ENGINEERING | ME-018

Electrical Power Distribution Systems

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Course content

Why Attend

Reliable electrical distribution is essential for industrial plants, buildings and infrastructure. Engineers must understand system design, equipment, protection and operation.

This Aractech course covers distribution system configurations, transformers, switchgear and cables, load calculations, voltage regulation, power quality, earthing, protection, energy efficiency and maintenance. Participants analyse and improve a distribution system design.

Course Methodology

- Technical lectures
- Calculation exercises
- Case studies
- Design review
- Group discussions

Course Objectives

- Explain distribution system configurations
- Select transformers, switchgear and cables
- Perform load and voltage drop calculations
- Understand power quality issues
- Apply protection and earthing principles
- Plan operation and maintenance

Target Audience

- Electrical engineers
- Facilities engineers

Course content

- Maintenance managers
- Project engineers

Course outline

Detailed course outline

Day-by-day outline for Electrical Power Distribution Systems.

Day 1 - Distribution Systems

- 09:00-09:45 | System configurations
- 09:45-10:30 | Voltage levels
- 10:30-11:00 | Reliability
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Reliability (continued)
- 11:45-12:30 | Standards
- 12:30-14:00 | Exercise: Single-line diagram review

Day 2 - Equipment

- 09:00-09:39 | Transformers
- 09:39-10:18 | Switchgear
- 10:18-10:57 | Cables
- 10:57-11:00 | Busbars
- 11:00-11:30 | Coffee break
- 11:30-12:05 | Busbars (continued)
- 12:05-12:43 | Selection
- 12:43-14:00 | Workshop: Equipment selection

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Day 3 - Calculations

- 09:00-09:45 | Load calculations
- 09:45-10:30 | Voltage drop
- 10:30-11:00 | Short circuit levels
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Short circuit levels (continued)
- 11:45-12:30 | Cable sizing
- 12:30-14:00 | Lab: Calculations

Day 4 - Power Quality and Protection

- 09:00-09:39 | Harmonics
- 09:39-10:18 | Voltage dips
- 10:18-10:57 | Power factor
- 10:57-11:00 | Protection
- 11:00-11:30 | Coffee break
- 11:30-12:05 | Protection (continued)
- 12:05-12:43 | Earthing
- 12:43-14:00 | Case study: Power quality problem

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Day 5 - Operation and Maintenance

- 09:00-09:54 | Operating procedures
- 09:54-10:48 | Maintenance
- 10:48-11:00 | Energy efficiency
- 11:00-11:30 | Coffee break
- 11:30-12:12 | Energy efficiency (continued)
- 12:12-13:06 | Upgrades
- 13:06-14:00 | Capstone: Distribution system improvement

Seminar dates

Available seminar dates

Live dates and pricing for Electrical Power Distribution Systems generated from the course details page.

Date	Location	Format	Fee
2 - 6 November 2026	London	Classroom	€2,315
21 - 25 December 2026	Barcelona	Classroom	€2,815
18 - 22 January 2027	Dubai	Classroom	€1,845
15 - 19 February 2027	London	Classroom	€2,315
15 - 19 March 2027	Munich	Classroom	€3,225
19 - 23 April 2027	London	Classroom	€2,315
17 - 21 May 2027	Barcelona	Classroom	€2,815
21 - 25 June 2027	Munich	Classroom	€3,225
19 - 23 July 2027	Geneva	Classroom	€4,315
16 - 20 August 2027	Barcelona	Classroom	€2,815

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