



MAINTENANCE AND ENGINEERING | ME-016

Earthing, Grounding and Lightning Protection

Contact

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Course content

Why Attend

Correct earthing and lightning protection protect people from electric shock, equipment from damage and facilities from fire. Faults in earthing systems are often hidden until an incident occurs.

This Aractech course covers earthing principles and system types, earth electrode design and testing, equipotential bonding, earthing for sensitive electronics, static electricity, lightning protection system design, surge protection and inspection and testing. Participants assess earthing systems and test results.

Course Methodology

- Technical lectures
- Calculation exercises
- Test result interpretation
- Case studies
- Group discussions

Course Objectives

- Explain earthing principles and system types
- Design and test earth electrodes
- Apply equipotential bonding
- Protect sensitive equipment and control static
- Understand lightning protection and surge protection
- Inspect, test and maintain earthing systems

Target Audience

- Electrical engineers
- Electrical technicians

Course content

- Maintenance supervisors
- Facilities engineers

Course outline

Detailed course outline

Day-by-day outline for Earthing, Grounding and Lightning Protection.

Day 1 - Earthing Fundamentals

- 09:00-09:39 | Purpose of earthing
- 09:39-10:18 | System types
- 10:18-10:57 | Fault currents
- 10:57-11:00 | Touch and step voltages
- 11:00-11:30 | Coffee break
- 11:30-12:05 | Touch and step voltages (continued)
- 12:05-12:43 | Standards
- 12:43-14:00 | Exercise: System identification

Day 2 - Earth Electrodes and Testing

- 09:00-10:17 | Electrode design
- 10:17-10:56 | Soil resistivity
- 10:56-11:00 | Earth resistance testing
- 11:00-11:30 | Coffee break
- 11:30-12:05 | Earth resistance testing (continued)
- 12:05-12:43 | Improvement methods
- 12:43-14:00 | Lab: Test interpretation

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Day 3 - Bonding and Sensitive Equipment

- 09:00-09:39 | Equipotential bonding
- 09:39-10:18 | Signal earthing
- 10:18-10:57 | Noise
- 10:57-11:00 | Static electricity
- 11:00-11:30 | Coffee break
- 11:30-12:05 | Static electricity (continued)
- 12:05-12:43 | Hazardous areas
- 12:43-14:00 | Workshop: Bonding design

Day 4 - Lightning and Surge Protection

- 09:00-09:45 | Lightning phenomena
- 09:45-10:30 | Risk assessment
- 10:30-11:00 | Protection systems
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Protection systems (continued)
- 11:45-12:30 | Surge protection devices
- 12:30-14:00 | Case study: Lightning damage

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Day 5 - Inspection and Maintenance

- 09:00-09:54 | Inspection
- 09:54-10:48 | Testing
- 10:48-11:00 | Records
- 11:00-11:30 | Coffee break
- 11:30-12:12 | Records (continued)
- 12:12-13:06 | Common defects
- 13:06-14:00 | Capstone: Earthing assessment

Seminar dates

Available seminar dates

Live dates and pricing for Earthing, Grounding and Lightning Protection generated from the course details page.

Date	Location	Format	Fee
2 - 6 November 2026	Istanbul	Classroom	€1,978
21 - 25 December 2026	Vienna	Classroom	€3,225
18 - 22 January 2027	London	Classroom	€2,315
15 - 19 February 2027	Munich	Classroom	€3,225
15 - 19 March 2027	Rome	Classroom	€3,460
19 - 23 April 2027	Munich	Classroom	€3,225
17 - 21 May 2027	Amsterdam	Classroom	€2,830
21 - 25 June 2027	Geneva	Classroom	€4,315
19 - 23 July 2027	Istanbul	Classroom	€1,978
16 - 20 August 2027	Vienna	Classroom	€3,225

Seminar dates

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Date	Location	Format	Fee
20 - 24 September 2027	London	Classroom	€2,315
18 - 22 October 2027	Munich	Classroom	€3,225
15 - 19 November 2027	Rome	Classroom	€3,460
20 - 24 December 2027	Munich	Classroom	€3,225
2 - 6 November 2026	Online / Live	Online / Live	€1,815
21 - 25 December 2026	Online / Live	Online / Live	€1,815
18 - 22 January 2027	Online / Live	Online / Live	€1,815
15 - 19 February 2027	Online / Live	Online / Live	€1,815
15 - 19 March 2027	Online / Live	Online / Live	€1,815
19 - 23 April 2027	Online / Live	Online / Live	€1,815

Seminar dates

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Date	Location	Format	Fee
17 - 21 May 2027	Online / Live	Online / Live	€1,815
21 - 25 June 2027	Online / Live	Online / Live	€1,815
19 - 23 July 2027	Online / Live	Online / Live	€1,815
16 - 20 August 2027	Online / Live	Online / Live	€1,815
20 - 24 September 2027	Online / Live	Online / Live	€1,815
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