



MAINTENANCE AND ENGINEERING | ME-017

Power System Protection and Relay Coordination

Contact

+31 85 7444446
info@aractech.com
<https://aractech.com>

Address

Waarderweg 50, 2031PB Haarlem - Netherlands.

Course content

Why Attend

Protection systems detect faults and isolate them quickly to protect people, equipment and system stability. Poor coordination leads to unnecessary outages or equipment damage.

This Aractech course covers fault types and calculations, protection principles, instrument transformers, overcurrent, earth fault, differential and distance protection, numerical relays, coordination studies, testing and commissioning. Participants perform coordination exercises.

Course Methodology

- Technical lectures
- Fault calculation exercises
- Coordination studies
- Case studies
- Group discussions

Course Objectives

- Explain power system faults and protection principles
- Understand current and voltage transformers
- Apply overcurrent, earth fault and differential protection
- Understand distance and feeder protection
- Perform relay coordination studies
- Test and commission protection systems

Target Audience

- Electrical protection engineers
- Power system engineers

Course content

- Substation engineers
- Electrical maintenance engineers

Course outline

Detailed course outline

Day-by-day outline for Power System Protection and Relay Coordination.

Day 1 - Faults and Protection Principles

- 09:00-09:45 | Fault types
- 09:45-10:30 | Fault calculations
- 10:30-11:00 | Protection requirements
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Protection requirements (continued)
- 11:45-12:30 | Zones of protection
- 12:30-14:00 | Exercise: Fault calculation

Day 2 - Instrument Transformers and Relays

- 09:00-09:39 | CTs and VTs
- 09:39-10:18 | Saturation
- 10:18-10:57 | Numerical relays
- 10:57-11:00 | Settings
- 11:00-11:30 | Coffee break
- 11:30-12:05 | Settings (continued)
- 12:05-12:43 | Communication
- 12:43-14:00 | Workshop: CT selection

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Day 3 - Protection Schemes

- 09:00-09:54 | Overcurrent and earth fault
- 09:54-10:48 | Differential protection
- 10:48-11:00 | Distance protection
- 11:00-11:30 | Coffee break
- 11:30-12:12 | Distance protection (continued)
- 12:12-13:06 | Transformer and motor protection
- 13:06-14:00 | Busbar protection

Day 4 - Coordination

- 09:00-09:45 | Time-current curves
- 09:45-10:30 | Grading
- 10:30-11:00 | Coordination studies
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Coordination studies (continued)
- 11:45-12:30 | Software tools
- 12:30-14:00 | Lab: Coordination study

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Day 5 - Testing and Commissioning

- 09:00-09:54 | Testing methods
- 09:54-10:48 | Commissioning
- 10:48-11:00 | Maintenance
- 11:00-11:30 | Coffee break
- 11:30-12:12 | Maintenance (continued)
- 12:12-13:06 | Incident analysis
- 13:06-14:00 | Capstone: Protection review

Seminar dates

Available seminar dates

Live dates and pricing for Power System Protection and Relay Coordination generated from the course details page.

Date	Location	Format	Fee
2 - 6 November 2026	London	Classroom	€2,315
21 - 25 December 2026	Amsterdam	Classroom	€2,830
18 - 22 January 2027	Istanbul	Classroom	€1,978
15 - 19 February 2027	Geneva	Classroom	€4,315
15 - 19 March 2027	Munich	Classroom	€3,225
19 - 23 April 2027	Barcelona	Classroom	€2,815
17 - 21 May 2027	Rome	Classroom	€3,460
21 - 25 June 2027	Munich	Classroom	€3,225
19 - 23 July 2027	London	Classroom	€2,315
16 - 20 August 2027	Amsterdam	Classroom	€2,830

Seminar dates

Available seminar dates

Live dates and pricing for Power System Protection and Relay Coordination generated from the course details page.

Date	Location	Format	Fee
20 - 24 September 2027	Istanbul	Classroom	€1,978
18 - 22 October 2027	Cape Town	Classroom	€1,625
15 - 19 November 2027	Munich	Classroom	€3,225
20 - 24 December 2027	Barcelona	Classroom	€2,815
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

Available 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
18 - 22 October 2027	Online / Live	Online / Live	€1,815
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