



POWER AND ELECTRICAL TRAINING

Electrical Power System Protection: Devices and Design

5 day course

Classroom, online or in-house

Course overview

A focused course on protection devices and the design decisions around them. Delegates cover instrument transformers and their errors, relay technology from electromechanical through to numerical, the main protection functions and their settings, tripping and auxiliary supplies, and the design of a protection scheme for a defined part of a network. Practical attention is given to current transformer saturation and its consequences, to setting calculations that engineers must be able to defend, and to the documentation a protection scheme needs so that the reasoning survives the departure of whoever designed it.

What you will learn

- Specify current and voltage transformers and account for their errors
- Compare relay technologies and their practical implications
- Calculate settings for the main protection functions and defend them
- Assess current transformer saturation and design around it
- Design tripping, auxiliary supply and trip circuit supervision
- Produce a protection scheme design for a defined part of a network
- Document a scheme so the reasoning outlasts its designer

Who should attend

- Protection and design engineers
- Electrical engineers in utilities and industry
- Consulting engineers
- Commissioning and testing engineers
- Technical staff reviewing protection designs

Course outline

- 01 Instrument transformers, accuracy classes and errors
- 02 Current transformer saturation and its consequences
- 03 Relay technology from electromechanical to numerical
- 04 Overcurrent, earth fault and directional functions
- 05 Differential and distance functions
- 06 Setting calculations and how to defend them
- 07 Tripping, auxiliary supplies and trip circuit supervision
- 08 Scheme design and documentation

Upcoming dates

Dates	Venue	Format	Fee per delegate
28 December 2026 to 1 January 2027	Lagos, Nigeria	Classroom	USD 1,325
1 to 5 February 2027	Online	Online	R8,500
15 to 19 February 2027	Nairobi, Kenya	Classroom	USD 1,325
22 to 26 March 2027	Mbabane, Eswatini	Classroom	R19,950



Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriScience.co.za, or WhatsApp us on **+27 63 479 1136**.

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