



POWER AND ELECTRICAL TRAINING

Testing, Commissioning and Maintenance of Electrical Systems

5 day course

Classroom, online or in-house

Course overview

An electrical installation is only as good as the tests that proved it before energisation, and most latent defects are ones a test would have found. This course covers the full test regime. Delegates work through pre commissioning checks and the documentation that must exist first, insulation resistance, continuity, polarity and earth loop testing, and the functional testing of protection, interlocks and control circuits. Primary and secondary injection are covered as the means of proving protection actually operates. The course then moves to periodic maintenance testing, condition assessment and the records that let a later engineer see how a system has changed over its life.

What you will learn

- Plan a commissioning test regime and the documentation it requires
- Carry out insulation resistance, continuity, polarity and earth loop tests
- Functionally test protection, interlocks and control circuits
- Apply primary and secondary injection to prove protection operates
- Interpret results against acceptance criteria
- Plan periodic maintenance testing and condition assessment
- Keep records that show how a system has changed over its life

Who should attend

- Commissioning and testing engineers and technicians
- Electrical maintenance staff
- Project engineers accepting electrical installations
- Consulting and design engineers
- Contractors handing over electrical works

Course outline

- 01 Why latent defects survive to energisation
- 02 Pre commissioning checks and required documentation
- 03 Insulation resistance and continuity testing
- 04 Polarity, phasing and earth loop impedance
- 05 Functional testing of protection and interlocks
- 06 Primary and secondary injection
- 07 Acceptance criteria and interpretation
- 08 Periodic testing, condition assessment and records

Upcoming dates

Dates	Venue	Format	Fee per delegate
26 to 30 October 2026	Cape Town, South Africa	Classroom	R19,950
16 to 20 November 2026	Pretoria, South Africa	Classroom	R19,950
23 to 27 November 2026	Accra, Ghana	Classroom	USD 1,325
21 to 25 December 2026	Kigali, Rwanda	Classroom	USD 1,325



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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