



POWER AND ELECTRICAL TRAINING

High and Medium Voltage Motors: Testing, Maintenance and Protection

5 day course

Classroom, online or in-house

Course overview

Large motors drive the equipment whose failure stops a plant, and their windings fail in ways that give warning to anybody testing for it. This course covers that testing. Delegates work through construction and the insulation systems used at these voltages, starting methods and their thermal consequences, and the diagnostic tests that reveal condition: insulation resistance and polarisation index, partial discharge, surge comparison and winding resistance. Protection receives full treatment, including thermal, differential, earth fault and locked rotor functions and the settings that follow from the motor's own thermal limits. The course closes on refurbishment decisions and interpreting a failed winding.

What you will learn

- Describe construction and insulation systems at these voltages
- Assess starting methods and their thermal consequences
- Carry out insulation resistance and polarisation index testing
- Apply partial discharge, surge comparison and winding resistance testing
- Set thermal, differential, earth fault and locked rotor protection
- Derive settings from the motor's own thermal limits
- Interpret a failed winding and decide on refurbishment

Who should attend

- Electrical maintenance and reliability engineers
- Protection engineers
- Testing technicians
- Plant engineers responsible for large drives
- Motor repair and refurbishment staff

Course outline

- 01 Construction and insulation at high and medium voltage
- 02 Starting methods and thermal consequences
- 03 Insulation resistance and polarisation index
- 04 Partial discharge testing
- 05 Surge comparison and winding resistance
- 06 Protection functions for large motors
- 07 Deriving settings from thermal limits
- 08 Failed windings, refurbishment and replacement

Upcoming dates

Dates	Venue	Format	Fee per delegate
28 December 2026 to 1 January 2027	Addis Ababa, Ethiopia	Classroom	USD 1,325
18 to 22 January 2027	Maseru, Lesotho	Classroom	R19,950
15 to 19 March 2027	Online	Online	R8,500



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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