



POWER AND ELECTRICAL TRAINING

Motor Current Signature Analysis

3 day course

Classroom, online or in-house

Course overview

Current signature analysis detects faults inside a motor from measurements taken at the starter, without stopping the machine or opening it, which makes it the most practical diagnostic for motors that cannot be taken out of service. This course covers it properly. Delegates work through the theory linking a mechanical or electrical fault to a sideband in the current spectrum, data capture including sampling and resolution requirements, and the diagnosis of broken rotor bars, air gap eccentricity, stator winding faults and coupled mechanical problems. Substantial attention goes to false positives, since load variation and supply distortion produce features that resemble faults. The course closes on integrating the technique with vibration and thermography.

What you will learn

- Explain how a fault inside a motor appears in the current spectrum
- Capture data with adequate sampling, resolution and duration
- Diagnose broken rotor bars and rotor faults
- Detect air gap eccentricity and stator winding faults
- Identify coupled mechanical faults visible in the current
- Distinguish a genuine fault from load variation and supply distortion
- Integrate current signature analysis with vibration and thermography

Who should attend

- Condition monitoring technicians and analysts
- Reliability and maintenance engineers
- Electrical technicians and engineers
- Rotating equipment specialists
- Plant engineers responsible for critical motors

Course outline

- 01 Why a fault appears in the current, and where
- 02 Data capture: sampling, resolution and duration
- 03 Spectrum interpretation fundamentals
- 04 Broken rotor bars and rotor faults
- 05 Air gap eccentricity
- 06 Stator winding faults
- 07 Coupled mechanical faults
- 08 False positives from load and supply, and combining techniques

Upcoming dates

Dates	Venue	Format	Fee per delegate
21 to 23 October 2026	Kigali, Rwanda	Classroom	USD 995
10 to 12 March 2027	Harare, Zimbabwe	Classroom	USD 995
24 to 26 March 2027	Online	Online	R6,500

Fees and how to register

This 3 day course is **R6,500** per delegate online, **R14,950** in the classroom in South Africa, Botswana, Namibia,



Lesotho and Eswatini, and **USD 995** 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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