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
24 to 26 September 2026	Windhoek, Namibia	Classroom	R11,995
22 to 24 October 2026	Online	Online	R7,500
20 to 22 November 2026	Dubai, UAE	Classroom	R11,995

Fees and how to register

Online **from R6,500** per delegate, classroom **from R11,995** per delegate, 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**.

AfriScience Group | +27 61 536 6531 | info@afriscience.co.za | Pretoria, Gauteng, South Africa