

# Motor Circuit Analysis

Motor circuit analysis takes the guess work out of understanding the electrical health of motors. As a comprehensive field test, customers have the most accurate diagnosis available of developing faults.

As an offline test, ABB takes measurements from the isolator, contactor or Variable Frequency Drive to determine:

- Winding resistance, impedance and inductance
- Phase angle
- Current frequency response
- Insulation resistance

Through understanding the relationship between these parameters, ABB can diagnose faults such as:

- Turn-to-turn, coil-to-coil, and phase-to-phase faults
- Open phases
- Burned or contaminated windings
- Poor connections
- Broken/cracked rotor bars and rotor casting voids
- Rotor eccentricity
- Grounded windings
- Cable faults

ABB's field service recommend the use of motor circuit analysis on a six monthly basis for all:

- Critical motors in service
- Critical spares
- Motors performing frequent starts via Direct On Line starter
- Motors in running in adverse environments

As motor circuit analysis is effective in assessing any electrical windings, it can be used for all types of motors and generators, even transformers:

- Induction



- Synchronous
- DC
- Wound rotor
- Single phase motors
- Single and Three phase transformers

Like all ABB service reports, our motor assessments are comprehensive, emphasising fault severity and the previous history of each unit.

# Contact us

## **ABB Limited**

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