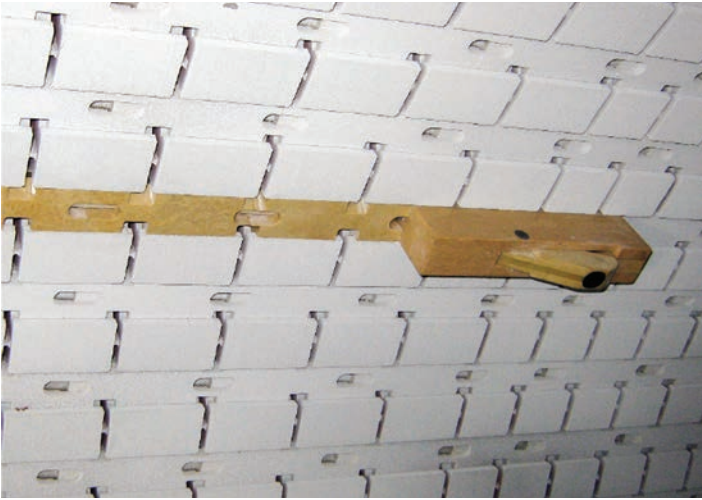




Generator Health Monitoring Rotor Flux

for Online Rotor Winding Condition Monitoring



In today's competitive environment, plant operators need to continuously enhance power plant reliability and availability. Because generators often are operated in extreme conditions, costly failures and plant unavailability loom as ever-present possibilities. A major source of those failures: inter-turn short circuits of the rotor winding.

Supporting your maintenance strategy

As part of GE's GHM condition monitoring portfolio, our GHM Rotor Flux solution supports cost-effective generator maintenance through the effective monitoring of the generator's rotor flux. Designed to accurately detect, localize, and track rotor winding inter-turn short circuit problems in real time, this innovative solution allows operators to identify failures at an early stage and, thus, take the actions needed to extend the generator's safe and efficient operation.

Customer benefits

- Reduced risk. Protect your generator assets and avoid critical damages leading to high repair costs.
- Greater reliability. Receive unambiguous automatic detection and localization of rotor winding short circuits for reliable maintenance planning.
- Improved availability. Avoid forced outages with precise condition-based monitoring and trend analysis.

Application

All types of generators, independent if they operate in industrial plants or power utilities, OEM and other OEMs

Scope

Generator monitoring using GHM hardware and software modules

Requirements

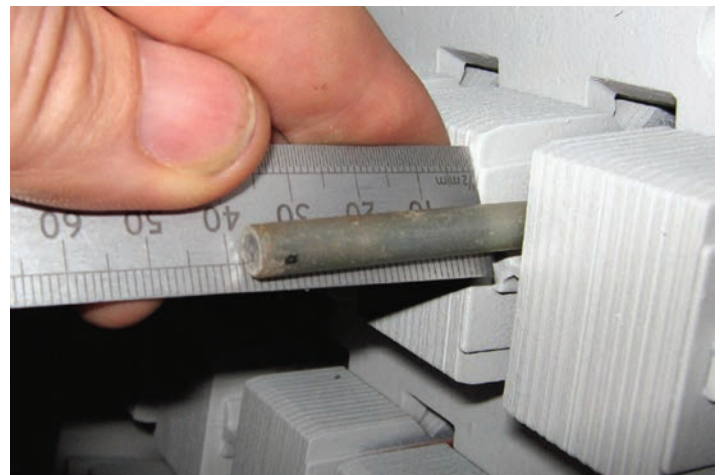
- GE's probes, or compatible device
- GHM Box to host the GHM Rotor Flux module
- GHM Center server for long-term data storage (optional)

Smart real-time rotor winding short circuit diagnostics

GE's GHM Rotor Flux is able to automatically detect the occurrence, magnitude, and location of rotor inter-turn shorts in real time.

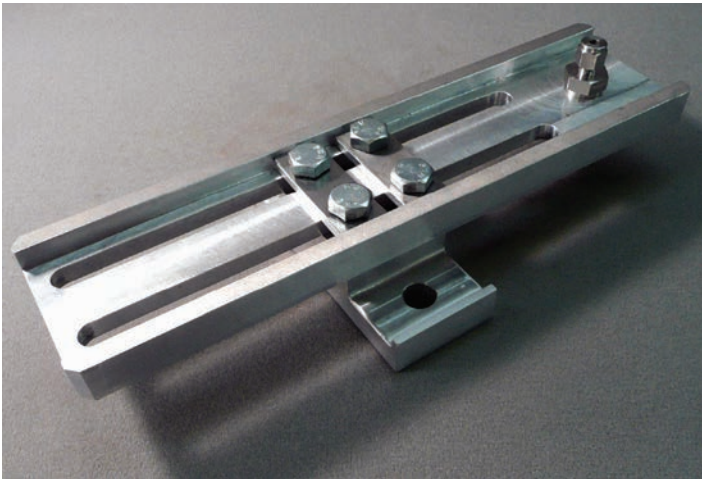
Simplified display

A clear and concise user interface displays rotor maps, leakage flux waveform comparisons, bar graphs, quantitative tables, and other fault representation data.



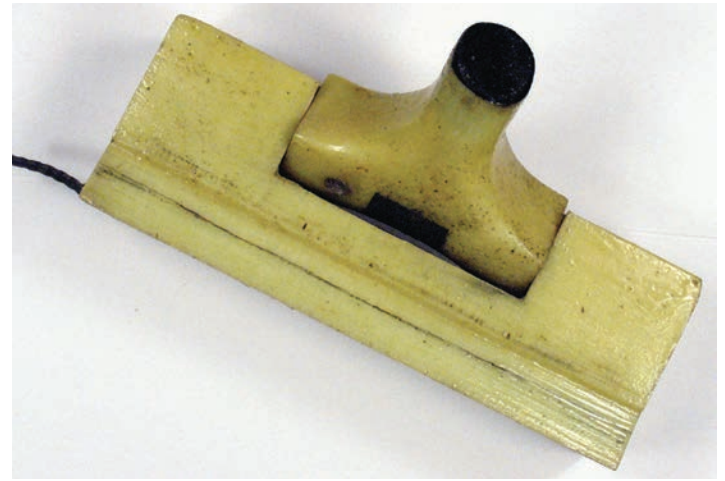
Highly accurate fault analysis

This robust solution supports your fault analysis efforts by enabling comparison between current data and historical data acquired under similar rotor load conditions.



Proven solutions

GE offers a range of availability and performance boosting solutions, covering all cooling technologies, all generator sizes, and all OEMs. Local presence, global expertise and a strong heritage are the basis of our universal portfolio of generator service solutions.



A simple and complete rotor winding monitoring solution

A single air gap search probe supports the inter-turn short circuit detection capabilities of GHM Rotor Flux.

To meet your specific needs, GE provides rod-type probes that can be installed without removing the rotor, as well as “flip-up” and “pop-up” style probes that better preserve generator integrity.

About inter-turn short circuits

The rotor field windings of large turbine generators consist of mutually insulated copper conductors. Inter-turn short circuits between adjacent conductors can occur due to the following causes:

- Electrical or mechanical breakdown of inter-turn insulation
- Contamination of the winding by carbon and oil
- Copper dusting due to excessive barring
- Turn-to-turn contact as a result of coil shortening, end strap elongation, and distortion or inadequate end winding blocking



To find out more about GHM Rotor Flux, please contact your local GE representative or visit gepower.com.

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GEA33589 (03/2018)

