



*News From
Your Machine
Condition
Monitoring
Partner*



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ATEX Certification For VibroSystM Optical Technology



**VibroSystM Fiber Optic Accelerometer
Extended Frequency Range**

We are proud to announce that our FOA™ optical accelerometer, and our FOT fiber optic temperature sensor are now ATEX certified. TÜV of Germany has provided VibroSystM with its ATEX certification this past summer. The tests have shown that these (2) fiber optic sensors meet the requirements in potentially explosive atmospheres. FOA™ sensors are widely used by the generation industry to monitor stator end-winding vibration. FOT sensors are the perfect tool for specialized temperature monitoring such as end-windings, brush gear, circuit breakers, air temperature between baffles, and equipment in other hazardous environments where direct contact temperature measurement is required.



VibroSystM Fiber Optic Temperature Sensor (FOT)



**ZOOM® 6 Platform:
the most advanced
monitoring software
available on
the market**

When creating the ZOOM® 6 Platform, our designers and field engineers gathered 25 years of machine monitoring experience to assure that utility engineers get the most knowledge from the system.

Learn more about ZOOM® 6 amazing features, compatibility, and its easy application.

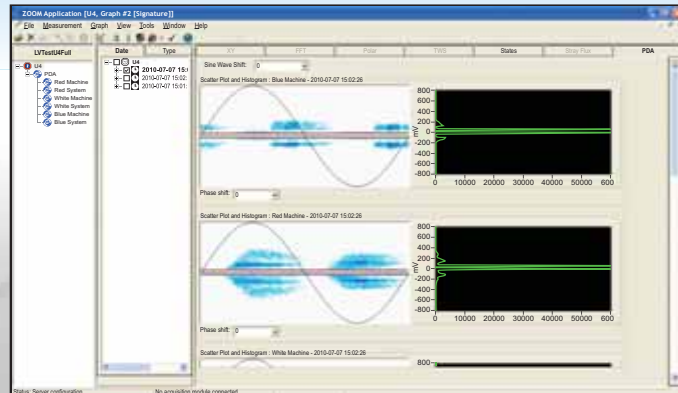
(see pages 2 & 3)



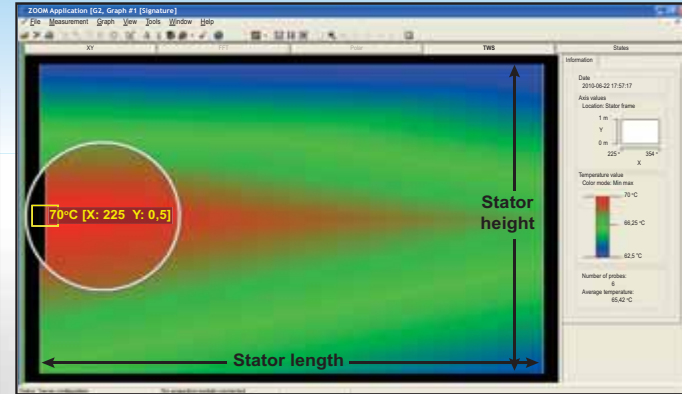
DISCOVER THE MOST ADVANCED MONITORING SOFTWARE: ZOOM® 6 PLATFORM

An open architecture software for on-line monitoring of large rotating machines

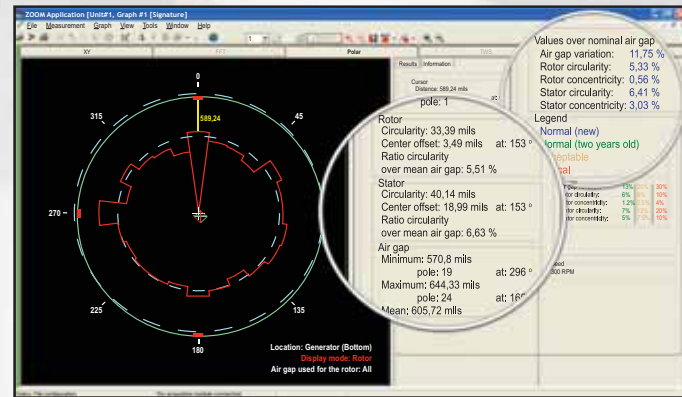
ZOOM® 6 Platform is based on 25 years of machine monitoring experience and constitutes the most powerful tool available for condition monitoring of large rotating machines



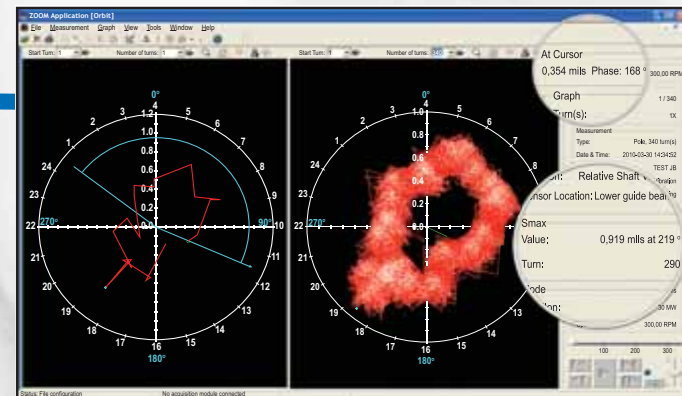
Scatter plots: a histogram facilitates evaluation of partial discharge levels. Representations of phase help identify possible deficiencies



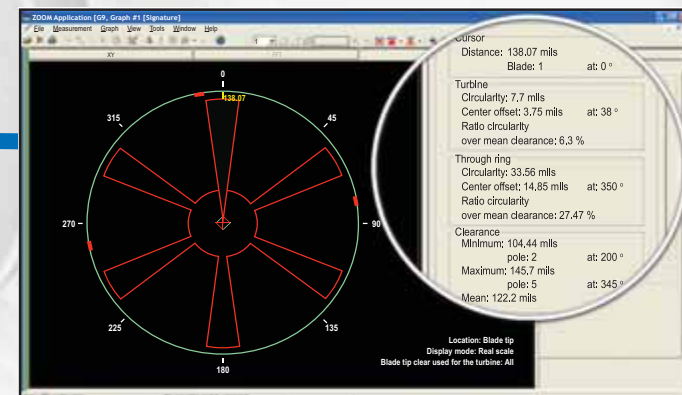
Stator Thermal Mapping: for easy assessment of stator thermal behavior



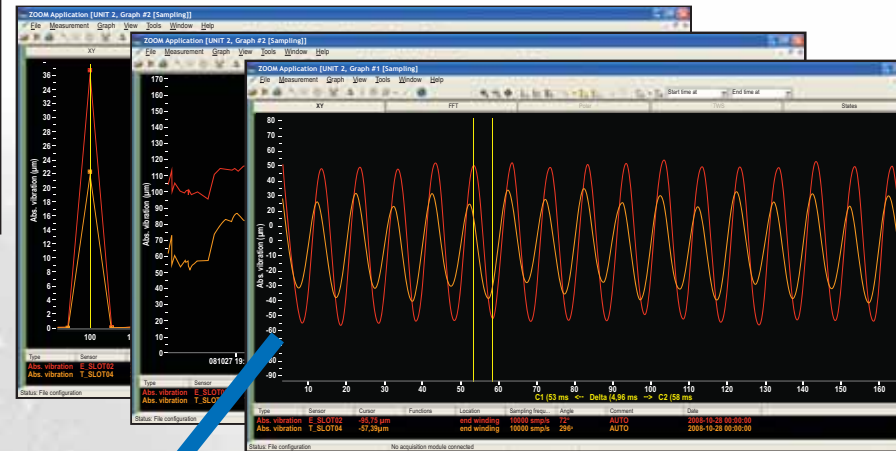
Air Gap Monitoring: polar view of rotor shape inside stator shape



Shaft Orbit Graph: shows shaft behavior and exact location of rotor imbalance (heavy spot)



Blade Tip Clearance: polar view of each blade inside turbine throat area



End-winding vibration monitoring on a turbogenerator: helps to prevent deterioration of support and insulation systems



ZOOM® 6 Platform is an open architecture software platform dedicated to on-line monitoring of large rotating machines, including hydrogenerators, turbogenerators and large SAG mills motors. Its collection of task modules (plug-ins) allows users to tailor the software to meet their unique monitoring and analysis needs.

ZOOM® 6 Platform provides all the tools necessary for quick and easy diagnostics of machine vibration, air gap, partial discharge, magnetic flux, temperature, flow, etc. ZOOM® 6 Platform can perform local and remote monitoring of multiple machines and power plants. The modules are designed to configure and control the system, take automatic and conditional measurements, manage database, perform graphical data analysis, interface with various sub-systems

and provide specific analysis capabilities. It operates on a single server or over a shared network of workstations (LAN and WAN). Parameter correlation, advanced analyses and graphic displays show the true dynamic condition and behavior of the machines.

Our plug-ins, such as ZOOM® Orbit, Polar Plots, Stator Thermal Mapping and FFTs, are developed to take full advantage of the sensors to which they are connected. Our software environment allows the user to make quick and easy analyses without getting lost in a confusion of useless data.

The parameters commonly monitored in all large rotating machines are:

- Vibration
- Partial Discharge
- Temperature
- Air Gap (for Hydro machines)
- Stray Flux (for Turbo machines)

VibroSystM is the only company offering a comprehensive platform that integrates both typical and application specific parameters into one tool for both hydro and turbo generating industries. Measurements such as magnetic/stray flux, air gap, rotor pole face temperature, partial discharge and many other parameters are seamlessly integrated into the system's powerful software and hardware platform. With its easy-to-use interface, ZOOM® 6 Platform is the industry leader. It is the most advanced tool on the market for condition monitoring of large rotating machines.

VibroSystM products are supported by a team of experienced field and development engineers, complete with representatives, who travel worldwide installing our systems. We, at VibroSystM, are proud to offer a full suite line of products and services that speaks directly to the maintenance challenges you may face. Our team is at your disposal, should you need further information. We invite you to contact us.

At left: VibroSystM complete monitoring solution powered by ZOOM® 6.

- ZPU-5000 ZOOM® Processing Unit
- PDA-100 Partial Discharge Analyzer Unit
- PDI-100 Partial Discharge Interface Unit
- SFA-100 Stray Flux Analyzer Unit

One rack, from one supplier, monitoring all critical parameters.





Highlights From Around The World

■ UNITED STATES: VIBROSYSTEM CHOSEN FOR THE OHIO RIVER PROJECT

VibroSystM is involved in the Ohio River project, where construction of hydroelectric facilities Smithland, Willow Island and Cannelton began last August. These dams will constitute (3) of the (5) stations that will be part of the Ohio River project, totaling 344 MW of power. The operator Amp Ohio chose the patented air gap monitoring system (AGMS®), developed by VibroSystM, to equip their (8) machines.

■ RUSSIA: VIBROSYSTEM ATEX CERTIFIED ACCELEROMETERS, AT THE BALAKOVO NPP, VOLGODONSK AND KALININ NUCLEAR POWER PLANTS

Nuclear power plants Balakovo, Volgodonsk and Kalinin in Russia are protected by VibroSystM's FOA accelerometers, designed to collect measurements in (2) different axes, are optical, and now ATEX certified. The project uses (6) FOA-200 in each of (8) units.



Source: fcpi-energie.com

■ BRAZIL: 72 BULB MACHINES EQUIPPED BY VIBROSYSTEM

VibroSystM will provide ZOOM® 6 Platform monitoring software and ZPU-5000 acquisition units for the (28) bulb unit Jirau plant, and the (44) bulb unit Santo Antonio plant in Brazil. Both plants will be totaling over 6300 MW of capacity. These systems will be used to monitor partial discharge, air gap, vibration, and turbine clearance.

■ SOUTH AFRICA: ZPU-5000, PDA/PDI-100 AND SFA-100 MONITORING CABINETS

Turbo electric plants Lethabo (3708 MW), Tutuka (3654 MW) and Komati (1000 MW), totaling (21) units, have chosen the ZPU-5000 (ZOOM® acquisition unit), the PDA/PDI-100 (partial discharge monitoring), and SFA-100 (stray flux monitoring) systems to monitor 14 of their generating machines.



Source: eskom.co.za

■ CHINA: VIBROSYSTEM PARTICIPATES IN ONE OF THE LARGEST HYDRO POWER PROJECTS IN CHINA

The Guangxi Changzhou hydropower project, the largest bulb unit project in China, has equipped (2) of its (15) generators with the Air Gap Monitoring System (AGMS®). In all, this plant has a capacity of 630 MW.

■ MYANMAR: FIRST EXPORT PROJECT TO MYANMAR VIA VOITH-SIEMENS SHANGHAI, CHINA

VibroSystM has provided (4) TWR-100 "Temperature Measuring Sensors" for non-contact temperature monitoring of rotor poles, to the Yeywa Hydro Power Plant. The sensors will be installed on the (4) 200 MW units. This is the largest hydro power plant in the country.



Source: myanmar.gov.mm

Sharing 25 years of expertise

In addition to its annual workshop on machine condition monitoring via HydroVision conference, VibroSystM offers a series of courses, continually adapted to meet your training needs. With 25 years of data analysis expertise, the professionals like Mr. Tétreault are ready to visit your facilities for on-site training of personnel. This training is done through the interpretation of results/readings obtained from various case studies in order to enable a deeper understanding of the machines' performance in addition to maximizing your investment. These courses are offered to you: Air Gap Monitoring (advanced), Vibration Monitoring (advanced), End Winding Vibration Monitoring, Partial Discharge Monitoring, Stray Flux Monitoring, etc. For more information, please contact VibroSystM.



André Tétreault
Director of
Software Department
and Data Analysis



Mathieu Cloutier
Director of Operations

Our team is growing

To better serve our customers, and to meet the ever growing market demands, we have increased our staff in most of our departments in the past year.

We are pleased to announce recent promotions: Mathieu Cloutier, Director of Operations and Alain Fiola, Director of Technical Support department.

We would also like to take this opportunity to thank all those who have contributed to VibroSystM in the past.



Alain Fiola
Director of
Technical Support



VIBROSYSTEM



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