


















MONITORING SOLUTIONS FOR LARGE ROTATING MACHINES

SECTION*	PARTS/LOCATIONS	PARAMETERS	PRODUCTS	PICTURES	MAIN FEATURES	
Generator	Exciter	Air Gap	AGMS®		<ul style="list-style-type: none"> • Immune to carbon deposits, oil, and strong magnetic fields • Easy to install, non contact, non intrusive • On-line air gap measurement • On-line proximity measurement • Thousands of systems installed over the world since 1986 	
		Offset				
		Rotor/Stator Shape				
		Rotor Bowing				
		Rotor Rim Movement				
		Rotor Mechanical Balance				
		Rotor/Stator Air Gap	Magnetic Flux	MFM™		<ul style="list-style-type: none"> • Adaptable to hydrogen-cooled environment • Easy to install • Gives an effective diagnostic of generator magnetic field
		Slow Rotor Motion (Creep)		DM		<ul style="list-style-type: none"> • Detection of creep on generators with salient poles • Can easily be upgraded to a creep and speed detector
			Speed	DMV		<ul style="list-style-type: none"> • Detection of creep and speed on generators with salient poles • Front-panel display of rotor status and real-time rotational speed
		Rotor Pole <i>Rotor pole face, rotor pole circuit, and/or amortisseur windings, rotor pole joints</i>		THERMAWATCH ROTOR™		<ul style="list-style-type: none"> • On-line monitoring of each rotor pole • Easy to install, non intrusive • Rugged solution
	Isolated Phase Bus	Temperature	FOT		<ul style="list-style-type: none"> • Up to 200°C/392°F • Designed for hazardous environments - Non-metallic • High voltage isolated • Rugged patented solution 	
	Exciter Brushgear					
	End-Windings					
	Slip-ring		TWIR		<ul style="list-style-type: none"> • Non contact measurement in hard to reach places and in harsh environments. 	
	End-Windings	Vibration	FOA™		<ul style="list-style-type: none"> • Up to class H (180°C/356°F) • <u>Non-metallic</u> • Electrically <u>non-conductive</u> • Rugged solution for harsh environments • Robust design • High voltage isolated • Dual-axis available • Bandwidth up to 1000 Hz 	

SECTION*	PARTS/LOCATIONS	PARAMETERS	PRODUCTS	PICTURES	MAIN FEATURES			
Generator	Stator Core	Temperature	THERMAWATCH STATOR™		<ul style="list-style-type: none"> Up to 100 temperature sensors per serial line Individually addressable measurements points and alarms 			
	Stator Windings			Vibration	BTV		<ul style="list-style-type: none"> Temperature and vibration devices in a single sensor Real-time multi-point temperature and absolute vibration monitoring 	
	Stator Bars/ Windings	In-Slot Vibration	SBV ¹ ™				<ul style="list-style-type: none"> Immune to carbon deposits, oil, and strong magnetic fields Non contact High sensitivity 	
Shaft	Thrust Bearing	Oil Film Thickness	TBC		<ul style="list-style-type: none"> On-line non contact measurement Continuous monitoring of oil film thickness Easy to install Mesuring ranges: (with Lin-200 Series) 0.3-2.3 mm/11.8-90.6 mils 			
	Bearings	Vibration (relative and absolute vibration sensors)	VIBRAWATCH™		<ul style="list-style-type: none"> Proximity, velocity & acceleration On-line non contact measurement Built-in 4 to 20 mA output Immunity to false measurement signals caused by electrical runout, strong magnetic fields, minor target surface irregularities No burnishing or degaussing required in manufacturing process or on-site after repairs 			
Turbine	Head Cover			Turbine Clearance (proximity sensor)	SPES		<ul style="list-style-type: none"> Built-in 4 to 20 mA output Underwater non contact proximity measurement Built-in protection against short circuits, induced over-voltage and voltage reversal 	
	Runner/Blade Tip	Broken Shear Pin Detection	BROKEN SHEAR PIN DETECTOR					<ul style="list-style-type: none"> Fast identification of broken shear pin Protection of wicket gates
	Wicket Gates							


*SOME OF OUR PRODUCTS ARE ALSO RELIABLE SOLUTIONS FOR SWITCH GEARS, TRANSFORMERS, SAG MILL MOTORS AND OTHER APPLICATIONS.


VIBROSYSTEM INC.

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PRODUCTS	SOFTWARE	MAIN FEATURES
AGMS® MFM™ DM DMV THERMAWATCH™ ROTOR FOT TWIR FOA™ THERMAWATCH™ STATOR BTV SBV™ TBC VIBRAWATCH™ SPES BROKEN SHEAR PIN DETECTOR	<p><i>The ZOOM software is the universal platform for all our on-line monitoring products.</i></p>  <p><i>Individual plug-ins provide system specific controls, acquisition, analysis, and graphic functionalities.</i></p>	<ul style="list-style-type: none"> • Its open architecture <u>facilitates integration of existing instrumentation FROM ANY SOURCE.</u> • Backed by over 20 years of continuous development, the ZOOM® software is a powerful solution for on-line monitoring, data analysis, and diagnostics of large rotating machinery. • Mimic based interface showing real-time condition and trending evolution of critical machine components, such as rotor shape inside the stator, rotor poles, and stator wall temperature maps, orbits, shaft vibration and much more.

SERVICES		MAIN FEATURES
RIS™ RESULTS INTERPRETATION SERVICE		Extensive ZOOM® test report obtained from various machine operating and transitory conditions: <ul style="list-style-type: none"> • Unit start-up and shutdown • Speed no load • Field excitation • 25% to 100% voltage increments • Synchronized to grid • 25% to 100% load increments • Full load – hot • Load rejection (optional) • Overspeed (optional)

• INSTALLATION • SUPERVISION • TRAINING • STATOR WEDGING VERIFICATION
 • PRE-INSTALLATION VISIT • INSTALLATION DRAWINGS

ON-LINE REMOTE MONITORING		<ul style="list-style-type: none"> • We offer our customers worldwide daily verification and analysis of their machines. • 3 levels of services* are available: <ul style="list-style-type: none"> - Level 1 - Maintenance of systems - Level 2 - Alarm management - Level 3 - Results analysis • Connectivity is made safe and secure via a VPN host located in our office. <p><i>* Also included: Automatic software upgrades, data storage at VibroSystM in case of loss data, technical support in regards to data interpretation, annual visit of a service representative for maintenance, swift shipping of replacement parts in case of failure.</i></p>
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