ROTOR GROUND FAULT PROTECTION

ACCUMETRICS
AN AMPHENOL COMPANY

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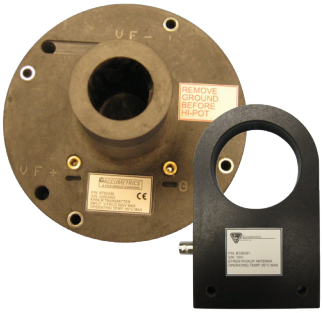
REAL-TIME WIRELESS DATA

EARTH FAULT RESISTANCE MONITOR: AT-8000

The AT-8000 Earth Fault Resistance Monitor (EFREM) provides continuous wireless monitoring of insulation fault resistance and field voltage on brushless exciter generator or motor field windings.



HIGHLIGHTS

- Continuous online monitoring of faults while rotating or at a standstill
- Fault resistance trending Location Indicator
- Continuously monitors field excitation voltage

APPLICATIONS

- Rotor protection through condition-based maintenance
- Predictive maintenance for large generators and motors

ROTOR HEALTH MONITOR: AT-8300

The AT-8300 Rotor Health Monitor provides predictive maintenance trending data for temperature measurements and rotor field ground fault resistance for condition-based monitoring.

HIGHLIGHTS

- Continuous ground fault resistance measurements
- Dual alarm relay outputs
- 4/20 mA output log of ground fault resistance and other parameters
- Fault location indication

APPLICATIONS

- Rotor protection through condition-based maintenance
- Predictive maintenance for large motors and generators
- Increasing production throughput control by improved over-temperature monitoring

ROTOR GROUND DETECTION SYSTEM: AT-8600

The AT-8600 Rotor Ground Detection System provides continuous wireless detection of insulation faults on the field windings of brushless generators and motors.

HIGHLIGHTS

- Online monitoring of faults while rotating or at standstill
- End of shaft mounting
- Alarm threshold of 10K ohm
- Built-in self-diagnostics, malfunction alarm, and open-wire detection

APPLICATIONS

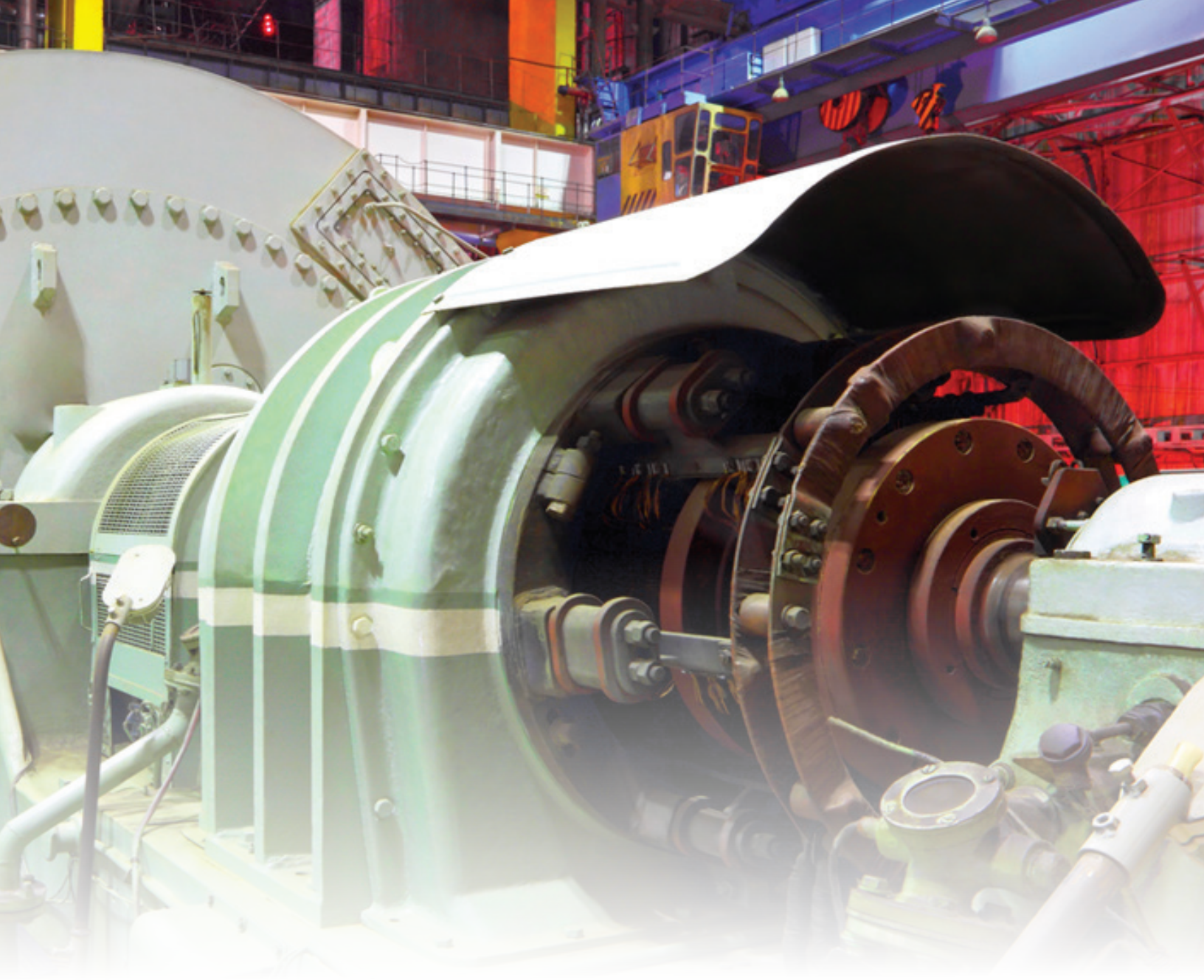
- Allows for scheduled maintenance when ground fault is detected

RANGE OF SOLUTIONS

GROUND FAULT PROTECTION FAMILY

Accumetrics' EFREM – Earth Fault Resistance Monitor, RHM – Rotor Health Monitor, and GDS – Ground Detection System offer superior ground fault protection of motors and generators. Systems monitor for insulation faults on the field windings of generators and synchronous motors with brushless exciters. They employ advanced wireless techniques to transmit measurement data from the rotor to a stationary receiver unit.

SYSTEMS COMPARISON			
	AT-8000	AT-8300	AT-8600
Monitors for Ground Fault	Yes	Yes	Yes
Monitors for Temperature (RTD's)	No	Yes	No
Current Shunt	No	Yes	No
Records Trends Over Time	Yes	Yes	No
Archiving Capability	Yes	Yes	No
Transmitter Mounting	End-of-shaft / split clamp collar	End-of-shaft	End-of-shaft
Field Voltage			
Measurement Range	0–500 VDC	0–500 VDC	0–750 VDC
Maximum Transient without Damage	1000 V for 5 seconds	1000 V for 5 seconds	1500 V for 5 seconds
Ambient Temperature	32–185 °F (0–85 °C) at Rotor Module; 32–122 °F (0–50 °C) at Receiver Unit	32–185 °F (0–85 °C) at Rotor Module; 32–122 °F (0–50 °C) at Receiver Unit	-40–194 °F (-40–90 °C) at Rotor Module; -40–140 °F (-40–60 °C) at Receiver Unit
Rotor Speed	0–3600 RPM nominal; 4320 RPM max	0–3600 RPM nominal; 4320 RPM max	0–3600 RPM nominal; 4320 RPM max
Receiver Power	85–250 VAC 50 / 60 Hz or 125–375 VDC <20 W	85–250 VAC 50 / 60 Hz or 125–375 VDC <20 W	100–240 VAC 50 / 60 Hz or 24 VDC
Power to Transmitter	Induction	Induction	Induction
Machine Connections	Positive Field Voltage; Negative Field Voltage; Rotor Ground	Positive Field Voltage; Negative Field Voltage; Rotor Ground; Channel 1 Shunt current + and –; Channel 2 Shunt current + and –; RTDs	Field Negative Terminal; Rotor Ground
Outputs	Alarm Relays; 4-20 mA; Voltage	Alarm Relays; 4-20 mA; Voltage	Alarm Relays



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