WHITE PAPER

Extreme Power Electric Motor Monitor

EMI resistant electric motor temperature monitoring

ACCUMETRICS INC.
A PCB GROUP COMPANY

030515-NR

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Application: Extreme Power Electric Motor Monitor

EMI Resistant Electric Motor Temperature Monitoring

Industry: High Energy Physics

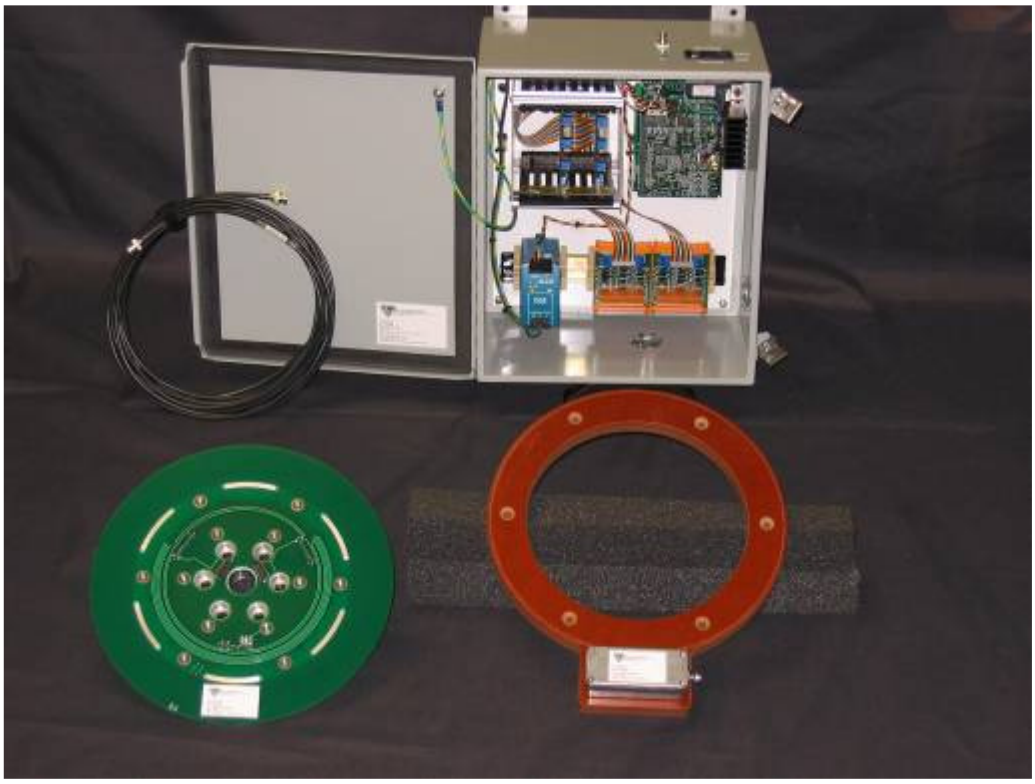
Product: AT-7000, Motor Monitor

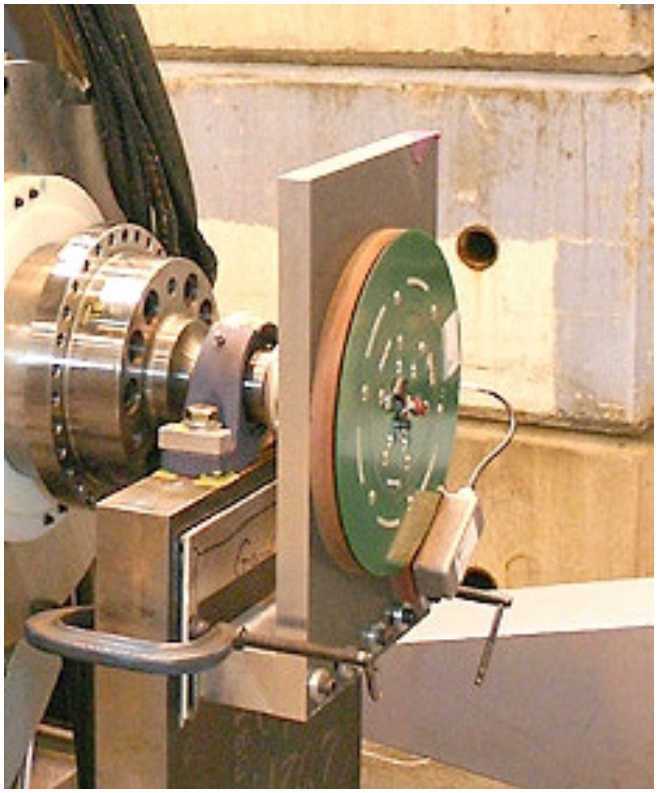
Parameters measured: Temperature

When a major university wanted to monitor the temperature of an experimental motor generator set used to produce well over 100 megajoules of energy, Accumetrics was selected to supply wireless telemetry to monitor RTD temperature data in an extremely noisy EMI environment (18 pole motor, variable frequency drive). The Accumetrics digital telemetry system was immune to this EMI, and furthermore was able to provide proprietary sampling techniques to successfully and accurately capture the RTD data without aliased signal contamination, thereby providing clean, dependable analog temperature information from our Receiver to the university.

Benefits:

- EMI resistant digital telemetry
- Anti-aliased data
- Precision measurements
- No slip rings; nothing to wear or maintain





The picture above-left shows the rotating Transmitter for the 8 RTD's on the lower left, the stationary induction power/data Pickup on the lower right, and the Receiver (digital to analog output device) in the background. The above-right picture shows the system in action. The unit was able to operate properly despite extreme EMI from high energy 18 pole variable frequency drive electronics.

The AT-7000 Motor Monitor can also be configured to measure rotor voltages and currents, detect ground faults, and monitor shaft torque and torsional vibration. The Motor Monitor is a specific variation of the AT-7000 product line.

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