

GE's Digital Diagnostic Management Solutions (DDMS) is a plant maintenance management program that utilizes the latest in predictive, assessment and maintenance technologies. DDMS offers digital diagnostics for condition assessment and correction of electrical apparatus and associated equipment.

### DDMS Process

Digital data will be collected in the field, synchronized under a unique identification, and transmitted to GE Energy's global database/WAN Network for data analysis, trending and reporting of your critical equipment. This feature also offers our customers comparative trending of all similar equipment in the entire GE network.

DDMS provides condition monitoring by establishing practical evaluation criteria and routine monitoring to confirm equipment condition, detect developing problems, and to determine their nature and severity. The program is also "solution based" and provides solutions and recommendations to equipment exceeding alarm limits.

### Vibration Analysis

GE Energy offers a comprehensive condition monitoring program and extensive vibration troubleshooting services for your equipment. Our vibration analysis detects the following:

- Mechanical misalignment
- Excessive clearances
- Bearing defects
- Base and structural issues
- Belt issues
- Mechanical looseness
- Bent shaft/ thermal bows
- Resonance issues
- Gear defects
- Rotor bar issues

### Thermography Services

GE offers infrared services to detect thermally related issues on your power distribution systems. This infrared scanning technology allows our service technicians to scan and store up to 500 images per visit. By utilizing GE's uncooled camera, the speed of scanning and collecting data has increased dramatically. The lightweight camera has voice annotation, which permits 30 seconds of verbal notes per image.

Infrared services from GE allow you to manage your electrical switchgear, transformers or any other application where heat could be troublesome. Our infrared surveys are conducted by skilled, certified technicians who detect direct and indirect temperature issues. Upon completion of an infrared survey, a pictorial report will be generated to indicate all the areas of concern with recommendations for repairs. Issues detected in our survey include:

- Localized heating
- Electrical overloads
- Corona tracking
- Defective electrical components
- Arcing
- Loose connections
- Dirty connections

### Motor Circuit Testing

GE performs on-line monitoring of power circuits to determine the health of a motor. Our motor circuit testing instrument is low voltage, battery operated, highly portable and capable of full remote monitoring from the Motor Control Center. Data is collected, stored, trended and recalled to provide you with comprehensive reports.

### On-Line Motor Circuit Testing

GE provides on-line monitoring testing services including:

- Power condition tests - voltage level, un-balance, total harmonic distortion
- Motor performance tests - service factor, power factor, motor current, motor speed
- Motor efficiency studies



- Load condition test - load torque, torque ripple and profile
- Motor condition test - rotor bar test
- Trending - tracks all data over time
- Installation of a EP-1 Option, which is a port installed on the outer door of the MCC.

## Off-Line Motor Circuit Testing

Off-Line motor circuit testing provides you with consistent testing in a safe, simple and cost-effective manner. It also is in a single box with a temperature recorder, DLRO, Megger, DC Hi-pot set and surge tester. Additional pieces of equipment to perform this type of testing are no longer required. This testing offers the following advantages:

- Current testing technology
- Winding Condition - lead-to-lead resistance
- Winding Insulation Condition - resistance to ground (megger), insulation integrity (polarization index), insulation strength (hipot)
- Turn-to-Turn Condition - detects potential turn-to-turn short before it causes costly winding failure.
- Non-destructive testing

## Oil Analysis

Another highly useful tool in determining the condition of bearings, gearboxes and transformers. GE provides oil analysis services with comprehensive reports to include detailed results and trending.

- Water Content
- Metals
- PCB fluids
- Dissolved gasses
- Silicone
- D1816 dielectric
- Furans
- DBCP contents
- Flash point
- Corrosive sulfur

## Benefits

- Solution-based program
- Increase plant uptime and productivity
- Reduce maintenance costs
- Minimize equipment-parts inventory
- Improve plant safety
- Increase equipment life
- Organize maintenance activity
- Increase equipment life

## GE Advantage

Trust GE for top-quality reliable service, including:

- Experienced engineering and technical support
- Condition Forecaster™ monitoring system
- Predictive Analysis Tools
- Advanced on-line monitoring and failure analysis
- Industry-specific application expertise
- Six Sigma quality process
- Global service center network
- Emergency service available

## Service Offerings

- Vibration analysis
- Current signature analysis
- Thermography (infrared imaging)
- Oil analysis (mechanical and electrical)
- Ultrasonic analysis
- Visual inspection
- Partial discharge testing
- Laser alignment
- Onsite balancing
- Motor circuit testing
- Motor efficiency testing



To learn more about this offering, contact your GE Energy sales representative or visit [ge.com/energy](http://ge.com/energy).